

CDP-M11C

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model*



CDP-M11C is the CD section
in CMT-M11C.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM42-5BD19
Base Unit Name	BU-5BD19
Optical Pick-up Name	KSS-213BA/S1NP

SPECIFICATIONS

System	Compact disc digital audio system
Laser	Semiconductor laser ($\lambda = 780 \text{ nm}$)
Laser output power	Less than 44.6 mW*
* 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	20 Hz - 20 kHz
Signal to noise ratio	More than 90 dB
Harmonic distortion	Less than 0.05%
Output	DIGITAL OUT (CD OPTICAL OUT): Square optical connector jack, -18 dBm, wave length 660 nm
Dimensions	Approx. 142 x 125 x 263.5 mm (w/h/d) (5 ⁵ / ₈ x 5 x 10 inches)
Mass	Approx. 2.6 kg (5 lb 4.7 oz)

Design and specifications are subject to change without notice.

COMPACT DISC PLAYER



SONY®

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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.

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.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

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.

CAUTION	: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	: USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTIINNA LASERSÄTELYLLE.
VARNING	: LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URÖPPPLAD.
ADVARSEL	: USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNEES UNNGÅ EKSPONERING FOR STRÅLEN.

SECTION 1 SERVICING NOTES

1-1. MECHANISM MOTOR DIRECT DRIVE MODE

- **Functional Overview**

A mechanism has three motors (M400, M401 and M402), and if a motor does not run, each motor can be driven during the time that the button is pressed.

- **Setting Method**

While pressing [DISC SKIP] button and [▲ OPEN/CLOSE 3] button, insert the AC plug cord into the AC outlet. (Disc LEDs are all blinking in green and orange.)

- **Button Input and Operation in Mechanism Motor Direct Drive Mode**

Table 1-1.

BUTTON	OPERATION	MOTOR
▶▶▶▶	Carrier UP	M400
◀◀◀◀	Carrier DOWN	
▶	Tray IN	M402
■	Tray OUT	
▲ OPEN/ CLOSE 1	Gear	M401
▲ OPEN/ CLOSE 2	Chucking	

- **Releasing Method**

Turn off the power switch, and this mode is reset.

1-2. AGING MODE

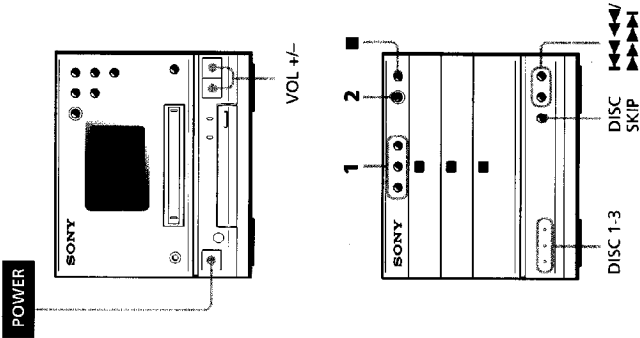
For the AGING MODE, refer to the CMT-M11C service manual (Parts No.: 9-960-794-11).

This section is extracted from instruction manual.

SECTION 2 GENERAL

Basic Operations Playing a CD

You can play up to three CDs continuously.



1 Press **▲** OPEN/CLOSE and place a CD on the disc tray.
Press the disc number button you want to place.



With the label side up. When you play a single CD, place it on the inner circle of the tray.
Press again to close the tray.

2 Press **▶** (or **▶** for CD on the remote).
Playing starts from the CD loaded on the tray whose button is lit green.

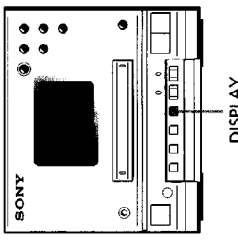


To	Do this
Stop play	Press ■ for CD.
Pause	Press ⏸ (or ⏸ for CD on the remote). Press again to resume play.
Select a track (AMS*)	Press ▶▶▶▶ (to go forward) or ◀◀◀◀ (to go back) (or ▶▶▶▶ or ◀◀◀◀ for CD on the remote).
Find a point in a track	Press ▶▶▶▶ or ◀◀◀◀ (or ▶▶▶▶ or ◀◀◀◀ for CD on the remote) and release it at the desired point.
Select a CD	Press DISC SKIP.
Play only the CD you have selected	Press CONTINUE on the remote repeatedly until "1 DISC" appears.
Play all CDs	Press CONTINUE on the remote repeatedly until "ALL DISCS" appears.
Remove or exchange the CD	Press ▲ OPEN/CLOSE you want to remove or exchange CD.
Exchange the CD during play	Press ▲ OPEN/CLOSE. Press again to close the tray.
Adjust the volume	Press VOL + or -.

- * AMS: Automatic Music Sensor.
- Tips**
- Pressing **▶** (or **▶** for CD on the remote) when the power is off automatically turns the power on and starts CD playback if there is a CD on the tray (One Touch Play).
 - You can switch from another source to the CD player and start playing a CD just by pressing **▶** (or **▶** for CD on the remote) (Automatic Source Selection).
 - When the disc tray is selected or the CD loaded on the tray is playing, the DISC 1 - 3 indicator for the tray lights up green.

The CD player Using the display

You can check the remaining time of the current track or that of the CD.



To check the total playing time and the number of tracks on the CD

Press DISPLAY repeatedly during stop. They are displayed during normal or shuffle play. Each time you press the button, the display changes as follows:

- Disc number, total number of tracks, and total playing time on the selected CD.
- Disc number and disc name on the selected CD.

To check the remaining time

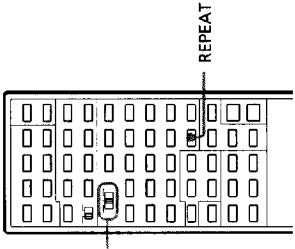
Press DISPLAY repeatedly during play/back. Each time you press the button, the display changes as follows:

- Playing time on the current track.
- Remaining time on the current track.
- Remaining time on the current CD*.

* The remaining time on the CD is not displayed during Program or Shuffle Play.

Playing the CD tracks repeatedly — Repeat Play

This function lets you repeat a single CD or all CDs in normal play, Shuffle Play and Program Play.
Set the MD/CD/TUNER switch on the remote to CD.



Press REPEAT during play until "REPEAT" appears.
Repeat Play starts. Do the following procedure to change the repeat mode.

To repeat	Press
All the tracks on the current CD	CONTINUE repeatedly until "1 DISC" appears in the display.
All the tracks on all CDs	CONTINUE repeatedly until "ALL DISCS" appears in the display.
Only one track*	REPEAT repeatedly until "REPEAT 1" appears in the display while playing the track you want to repeat.

* You can't repeat a single track during Shuffle Play and Program Play.

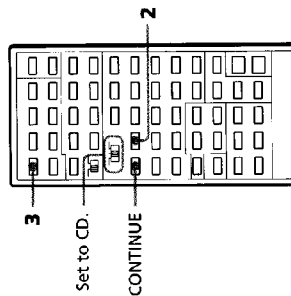
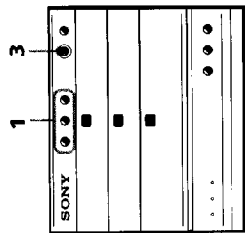
To cancel Repeat Play

Press REPEAT so that "REPEAT" or "REPEAT 1" disappears from the display.

Playing the CD tracks in random order

— Shuffle Play

You can play all the tracks on one CD or all CDs in random order. Set the MD/CD/TUNER switch on the remote to CD.



1 Press **▲** OPEN/CLOSE and place a CD on the disc tray.

2 Press SHUFFLE. Each time you press the button, the display changes as follows:

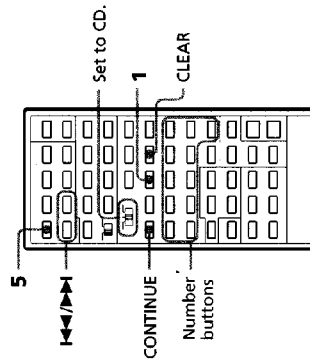
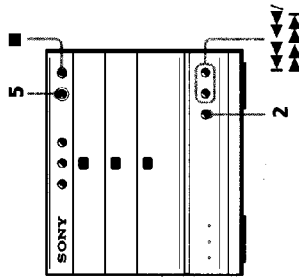
→ "1 DISC SHUFFLE"
(A single CD whose DISC 1 - 3 indicator lights up green play in random order.)

→ "ALL DISCS SHUFFLE"
(All the CDs play in random order.)

Programming the CD tracks

— Program Play

You can make a program of up to 32 tracks from all the CDs in the order you want them to be played. Set the MD/CD/TUNER switch on the remote to CD.



1 Press PROGRAM in stop mode. "TGM" appears in the display.

2 Press DISC SKIP to select a CD.

3 Do either **a**, **b**, or **c**.

a Selecting all tracks (All Program) Press PROGRAM.

b Selecting tracks with the number buttons on the remote Press the number buttons to enter the tracks you want to program in the order you want. To program a track with a number over 11, use the >10 button (see page 7).

If you've made a mistake

Press CLEAR, then press the correct number button.

c Selecting tracks while checking the total playing time

1 Press **◀◀◀** or **▶▶▶** (◀◀◀ or ▶▶▶ on the remote) until the track number you want appears in the display. The total playing time including the selected track flashes in the display.

2 Press PROGRAM.

The step number (number of the playing order) appears for about one second, then the total playing time lights up.

4 Repeat steps 2 and 3 to program additional tracks.

Skip step 3 if you select a track from the same disc.

5 Press **▶▶** (or **▶** for CD on the remote).

All the tracks play in the order you selected.

To cancel the program play

Press CONTINUE.

3 Press **▶▶** (or **▶** for CD on the remote). "TGM" appears, then all the tracks play in random order.

To cancel Shuffle Play

Press CONTINUE.

Tips

• You can start Shuffle Play during normal play by pressing SHUFFLE.

• To skip a track, press **▶▶** for CD on the remote. You cannot go back to the preceding track by pressing **◀◀**.

To change the program

To	Do this
Add a track at the end of the program*	Do steps 2 through 4 in stop mode.
Clear the entire program	Press ■ for CD in stop mode.
Clear the last program	Press CLEAR. Each time you press the button, the last track of the program is cleared.

* You can also add a track during playback when you select tracks with the number button on the remote (6 in step 3).

Tips

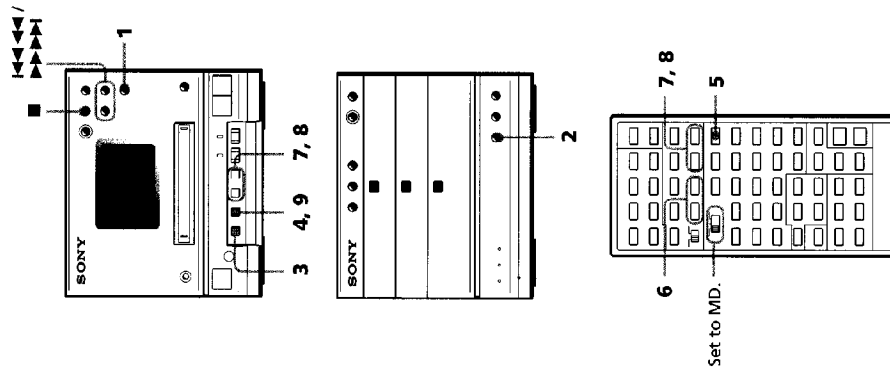
- The program you made remains after the Program Play has finished. To play the same program again, press **▶** for CD.
- The Step number appears in the display by pressing DISPLAY in stop mode.

Notes

- The total playing time is not displayed when the total program time exceeds 100 minutes.
- If you try to program more than 32 tracks, "CD FULL" is displayed.

Labeling a CD

You can label up to 30 CDs using up to 12 symbols and characters on each CD. Whenever you load the labelled CD, the label (disc name) appears in the display. If you label a CD and do a CD synchro recording on a brand-new MD, the CD's name is automatically recorded on the MD. When you using the remote set the MD/TAPE switch to MD.



1 Press FUNCTION repeatedly until "CD" appears, then place a CD.

2 Press DISC SKIP repeatedly until the desired DISC 1 - 3 indicator lights up green.

3 Press EDIT/NO until "Name in ?" appears.

4 Press YES.
The cursor starts flashing.



5 Press **◀◀◀** and **▶▶▶** on the MD deck at the same time (or CHARACTER on the remote) repeatedly until the desired type of character appears.
Each time you press the button, the display changes as follows:

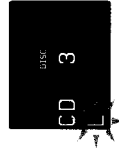
A (Upper cases) → a (Lower cases) → 0 (Numbers) → ! (Symbols)* → . / ; < = > ? @ → A...

*You can use the following symbols.

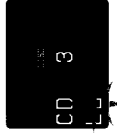
! " # \$ % & ' () * + , - . / : ; < = > ? @
_ ` _ (Space)

6 Press **◀◀◀** or **▶▶▶** on the MD deck (or until **◀◀◀** or **▶▶▶** for MD on the remote) the desired character appears.

The selected character flashes. To enter a blank space, press CURSOR → on the MD deck (or **▶▶▶** for MD on the remote) while the cursor is flashing.



-
- 7** Press **CURS** → on the MD deck (or ►► for MD on the remote). The character you selected in step 6 lights up and the cursor shifts to the right.



-
- 8** Repeat steps 5 through 7 to complete the entire title. If you make a mistake, press **CURS** ← or → on the MD deck (or ◀◀ or ▶▶ for MD on the remote) until the character you want to change flashes, then repeat steps 5 through 7. To erase the character, press **EDIT/NO** while the character is flashing.

-
- 9** Press **YES** to complete the labeling procedure. The disc name is displayed.
-

To cancel labeling

Press ■ on the MD deck.

To erase a disc name

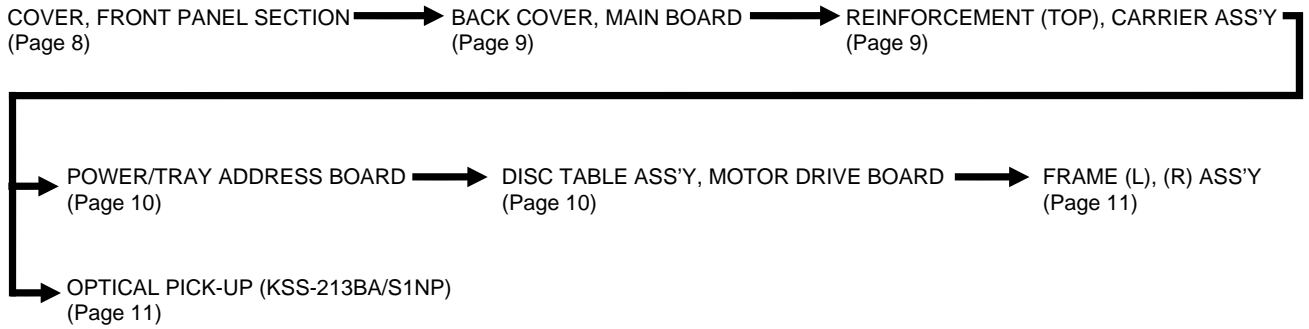
- 1 Press **EDIT/NO** until "Name Erase ?" appears.
- 2 Press **YES**. The disc name appears. "No Name" appears if no disc name is stored.
- 3 Press ◀◀ or ▶▶ for MD on the remote until the disc name you want to erase appears.
- 4 Press **YES** again. "Complete" appears and the disc name is erased.

Note

You can not label while recording on an MD.

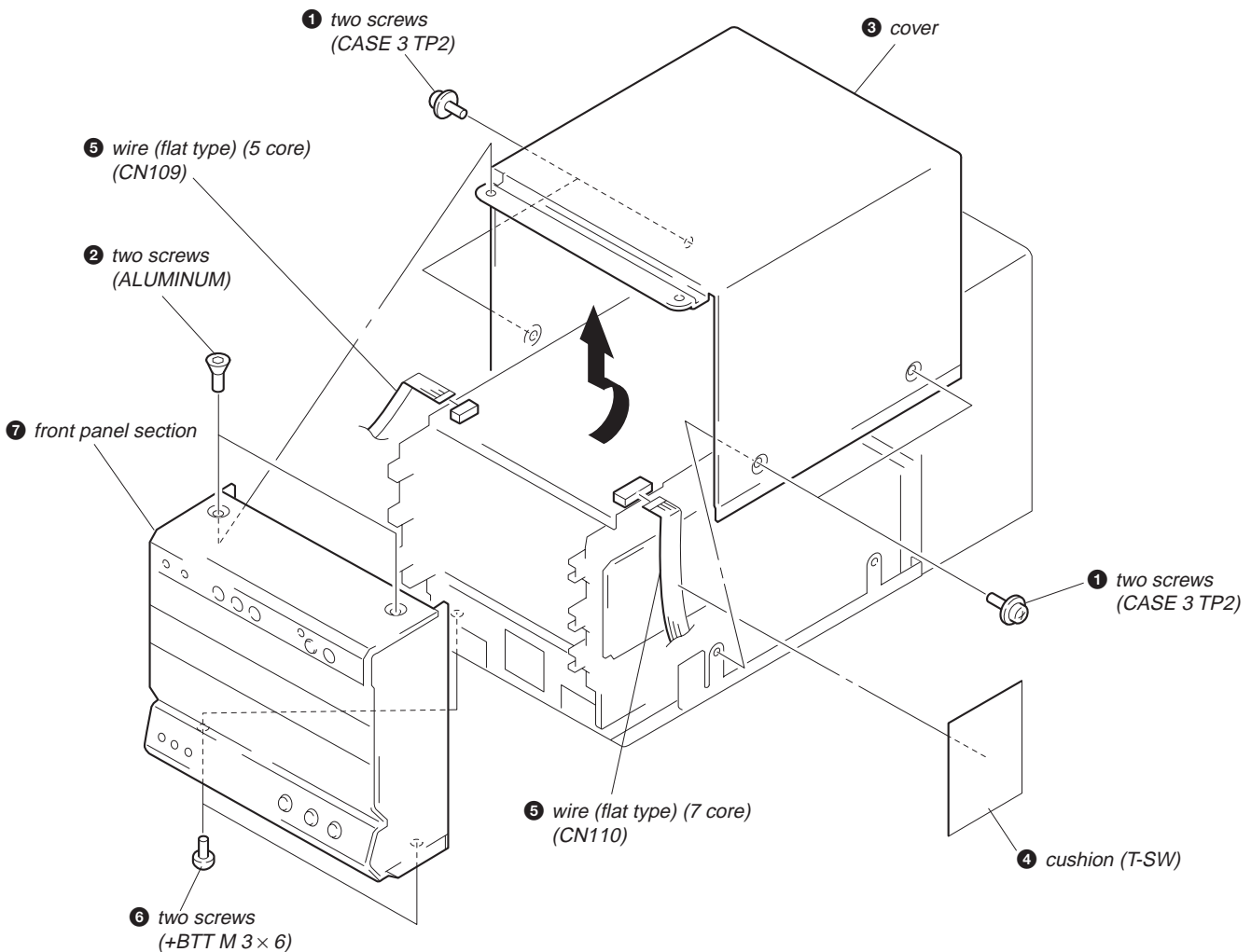
SECTION 3 DISASSEMBLY

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

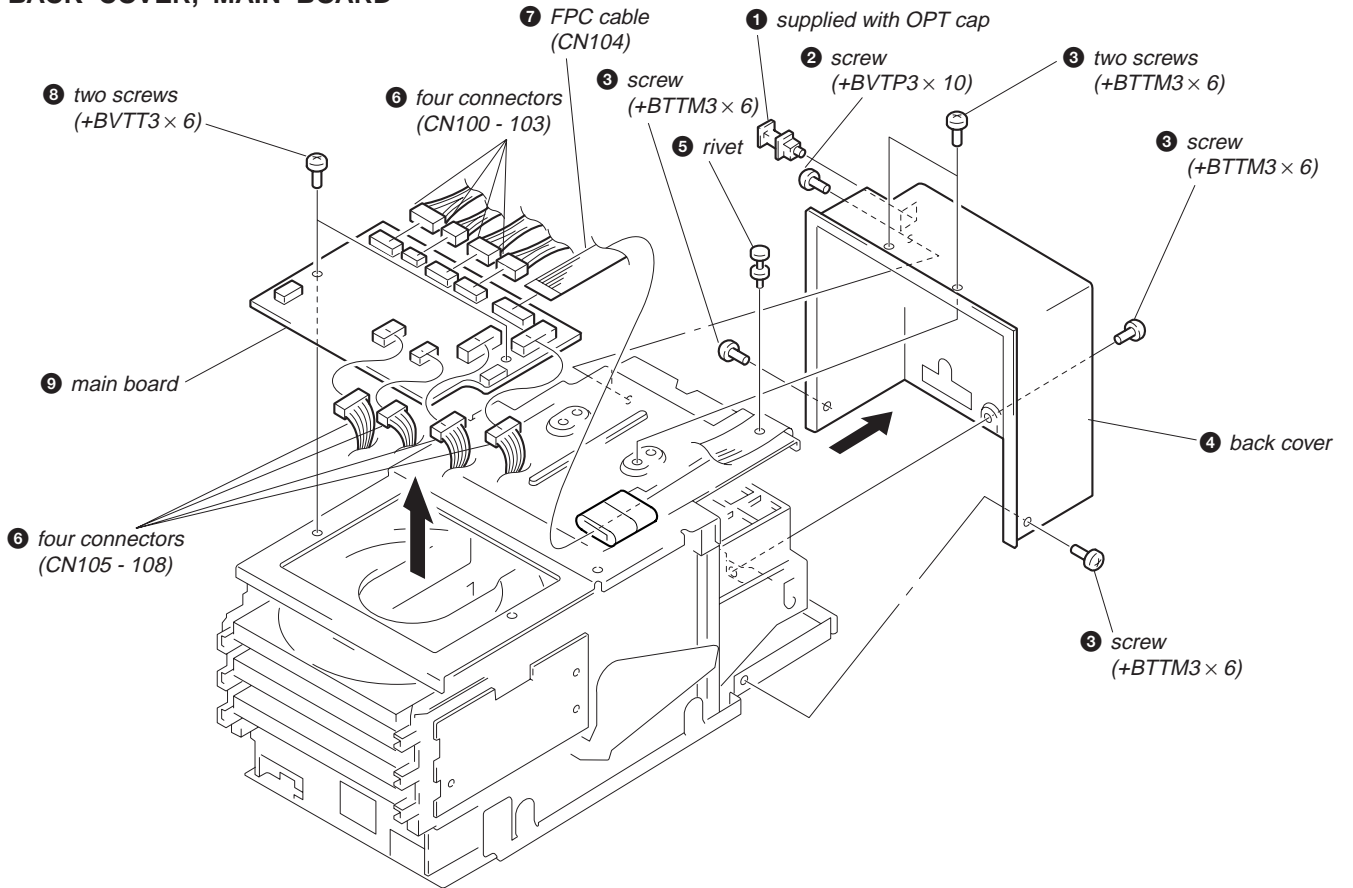


Note: Follow the disassembly procedure in the numerical order given.

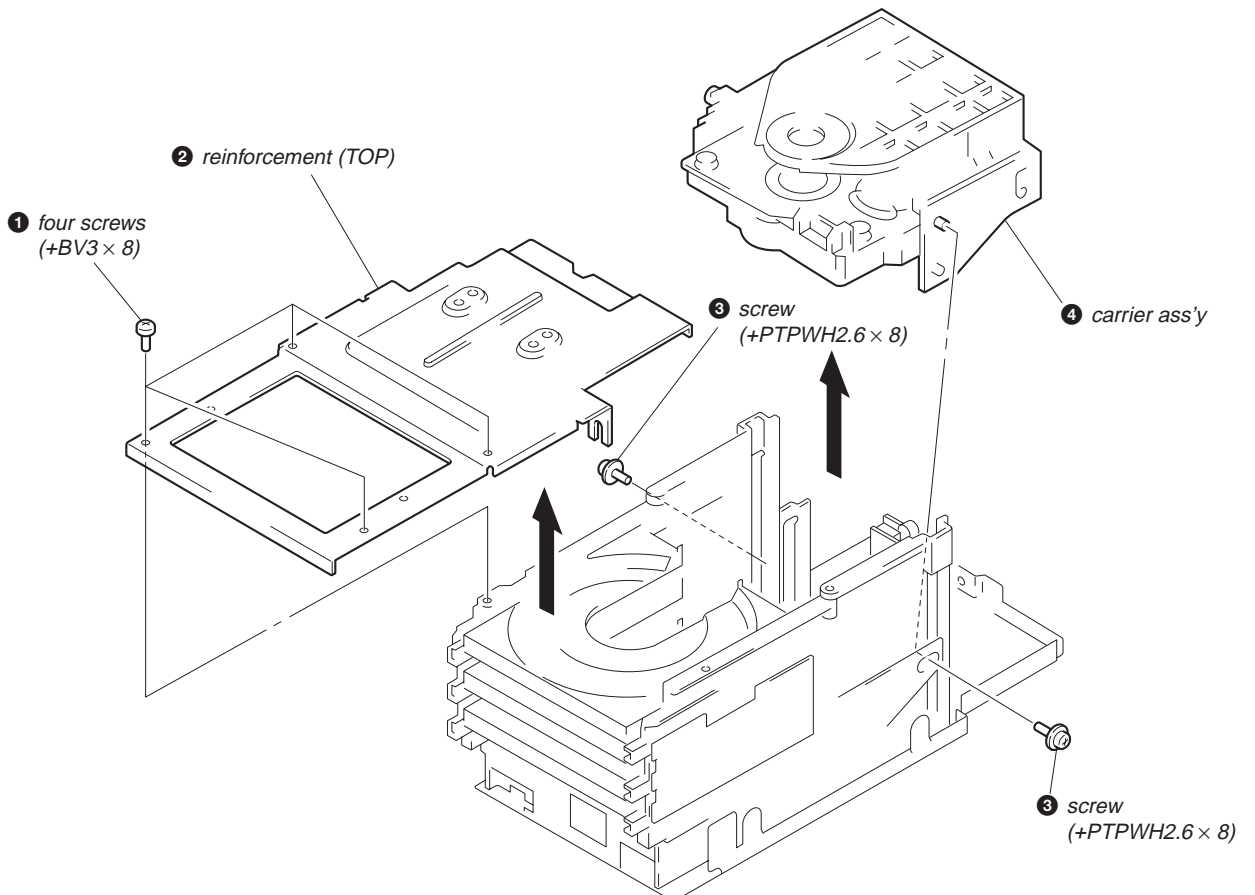
COVER, FRONT PANEL SECTION



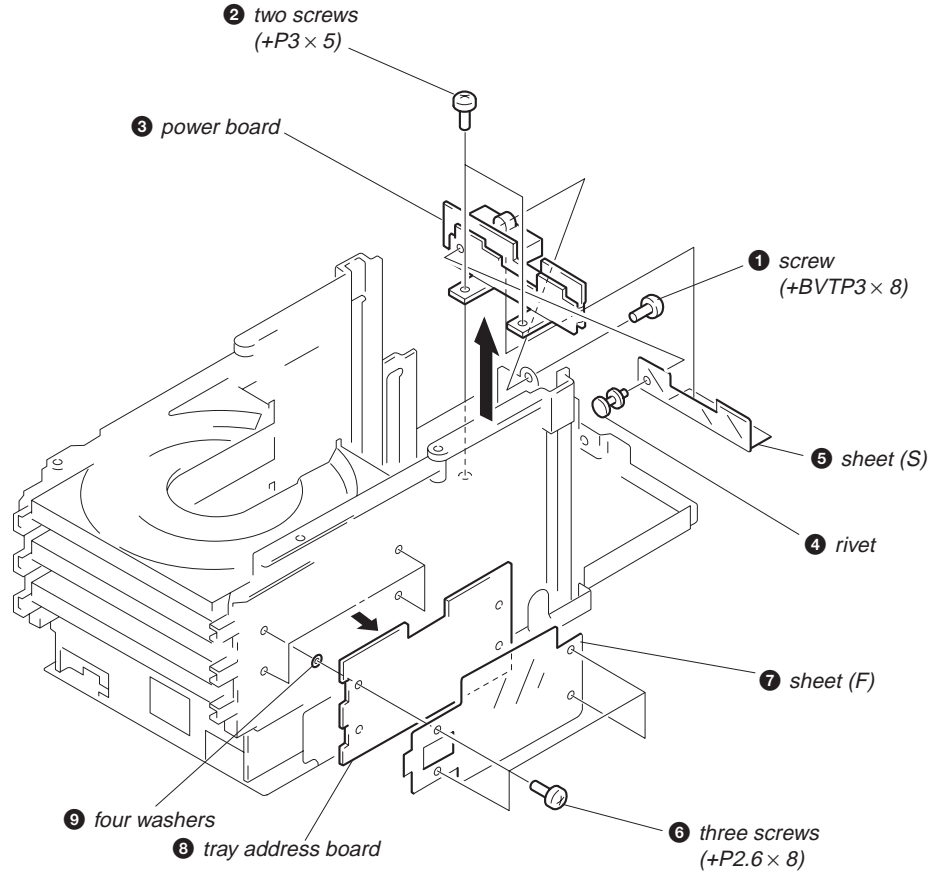
BACK COVER, MAIN BOARD



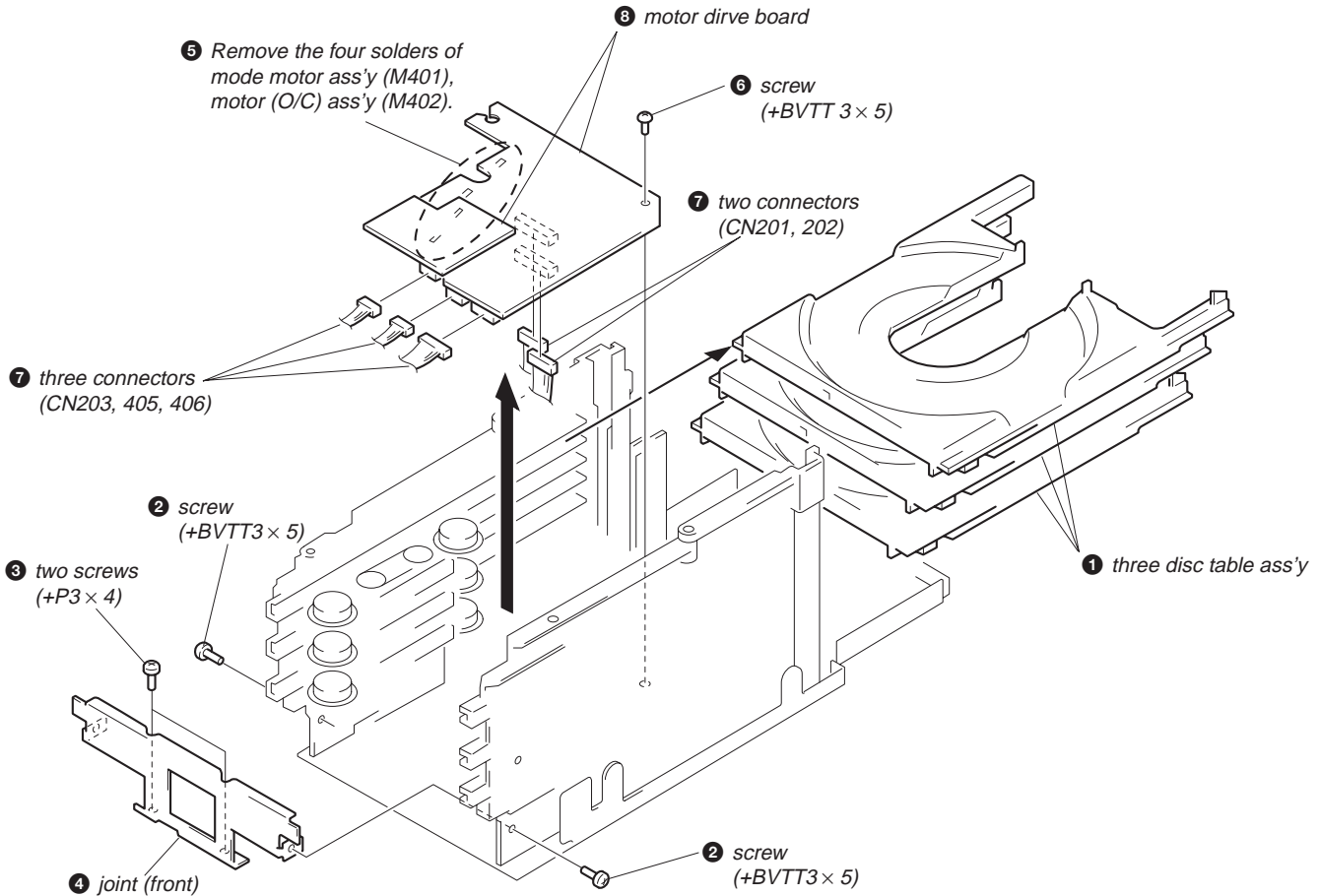
REINFORCEMENT (TOP), CARRIER ASS'Y



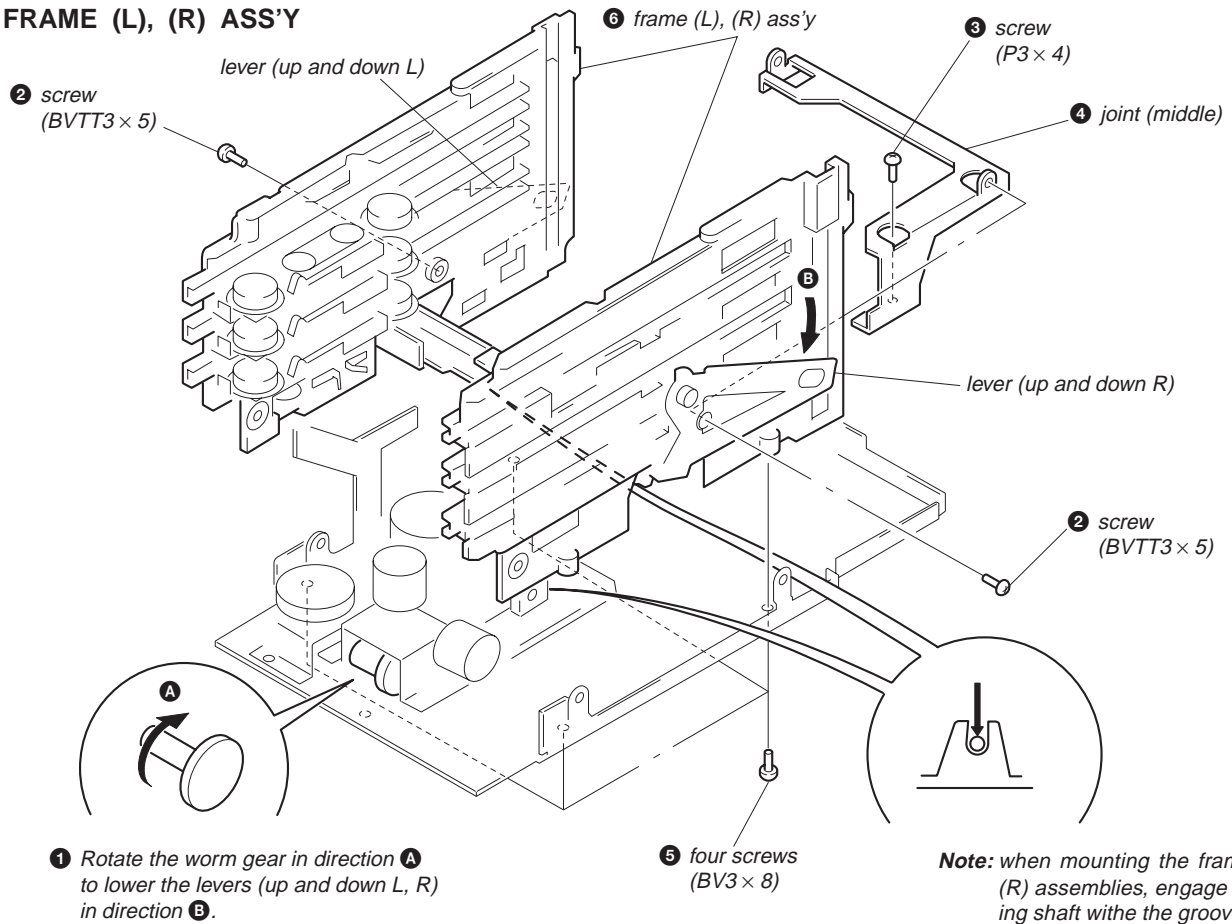
POWER/TRAY ADDRESS BOARD



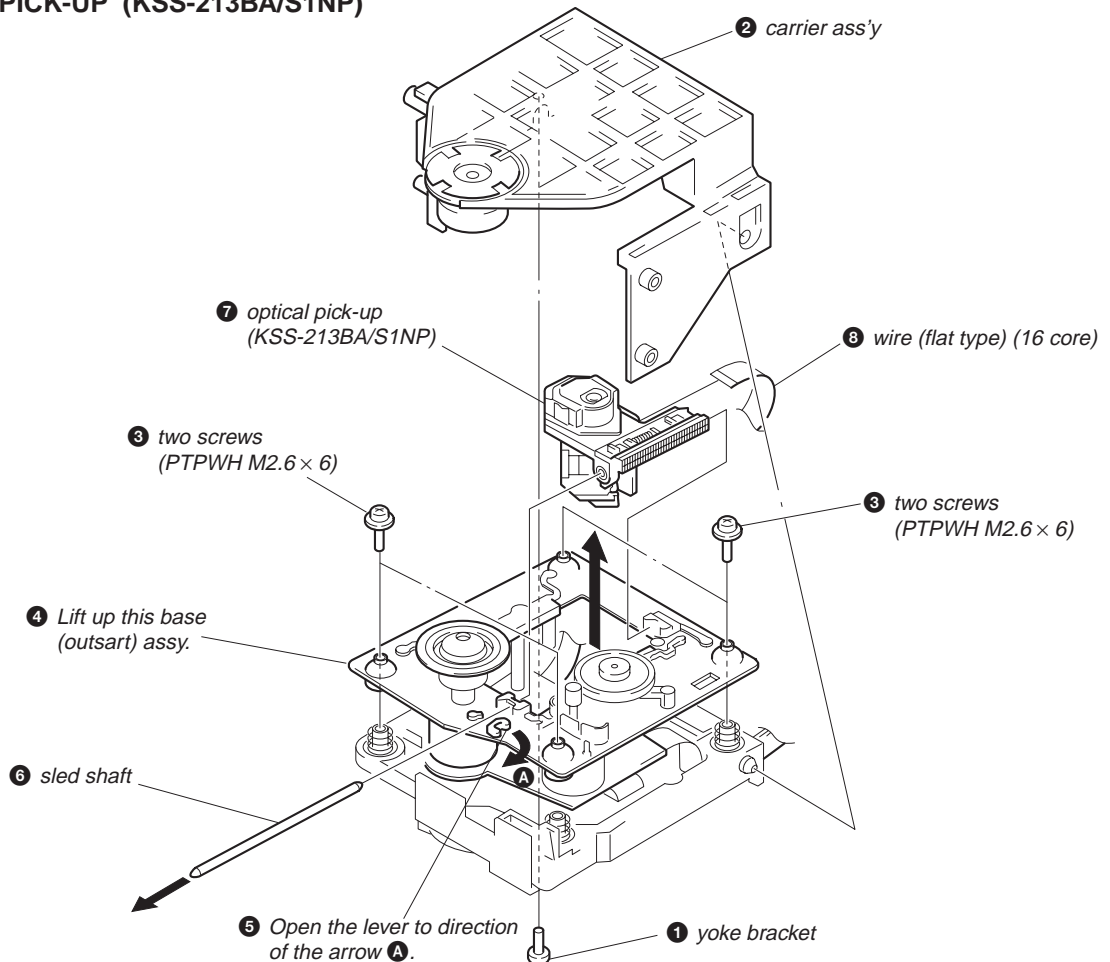
DISC TABLE ASS'Y, MOTOR DRIVE BOARD



FRAME (L), (R) ASS'Y



OPTICAL PICK-UP (KSS-213BA/S1NP)



SECTION 4 TEST MODE

BD TEST MODE

• Functional Overview

The BD test mode is used to check the BD block. When this mode is activated, a mechanism is kept in stop status and GFS is not monitored.

A checking status is displayed with disc LEDs.

• Setting the Test Mode

1. Load a disc on the tray of disc 1 and have a disc chucked.
2. Turn off the power switch once, and connect TP (TEST) and TP (GND) on MAIN board, then again turn on the power switch.
3. Thus, the test mode is activated.

Note: When the test mode is activated, disc LEDs are all turned off and GFS is not monitored.

• Button Input and Operation in Test Mode

Table 4-1.

BUTTON	OPERATION
▲ OPEN/ CLOSE 1	LED on DISC 1 turns on, normal focus gain is set, and CLV is fixed to 12 cm.
▲ OPEN/ CLOSE 2	LED on DISC 2 turns on, tracking servo and sled servo are turned off.
▲ OPEN/ CLOSE 3	LED on DISC 3 turns on, and tracking balance value is displayed.

• Releasing the Test Mode

1. Turn off the power switch, and disconnect a short wire between TP (TEST) and TP (GND) on MAIN board.
2. Thus, the set becomes ready for normal operation.

SECTION 5 ELECTRICAL ADJUSTMENTS

Notes:

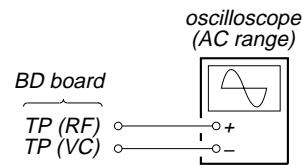
1. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
2. Use the oscilloscope with more than 10 MΩ impedance.
3. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
4. Adjust the focus bias adjustment when optical pick-up is replaced.

Focus Bias Adjustment

This adjustment is to be done when the optical pick-up is replaced.

Condition: This adjustment is performed with the set placed horizontally.

Connection:

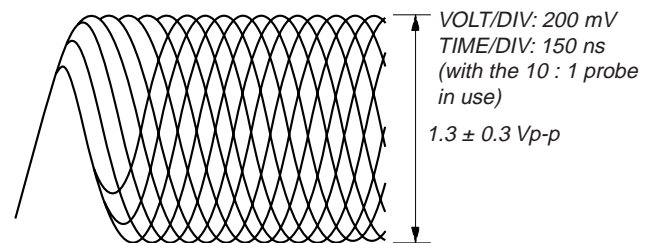


Adjustment Procedure:

1. Connect the oscilloscope to TP (RF) and TP (VC) on BD board.
2. Turned power switch on. (Stop mode)
3. Put disc (YEDS-18) in and press the button.
4. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).

A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

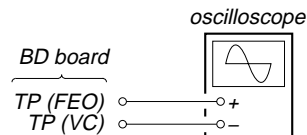
• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

S-Curve Check

Connection:

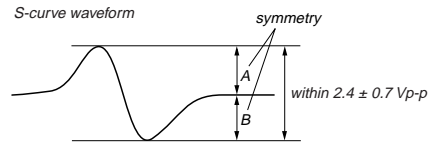


Procedure:

1. Connect the oscilloscope to TP (FEO) and TP (VC) on BD board.
2. Connect the TP (FOK) and TP (GND) with lead wire.
3. Turned power switch on.
4. Put disc (YEDS-18) in and turned power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)

SECTION 6 DIAGRAMS

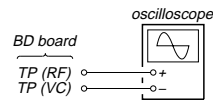
- Confirm that the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2.4 ± 0.7 Vp-p.



- After check, remove the lead wire connected in step 2.
- Note:**
- Try to measure several times to make sure that 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

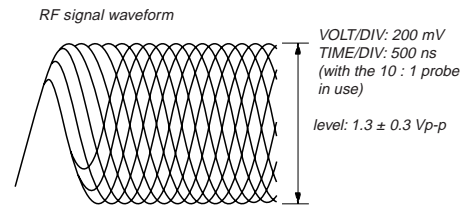
Connection:



Procedure:

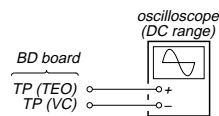
- Connect the oscilloscope to TP (RF) and TP (VC) on BD board.
- Turned power switch on. (stop mode)
- Put disc (YEDS-18) in and press the **▶▶** button.
- Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

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



E-F Balance (Traverse) Check

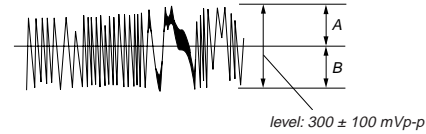
Connection:



Procedure:

- Connect the TP (TEST) and TP (GND) with lead wire. (Test mode)
- Connect the oscilloscope to TP (TEO) and TP (VC) on BD board.
- Turned power switch on.
- Put disc (YEDS-18) in and press the **▶▶** button.
- Press the **▶ OPEN/CLOSE 2** button. (Tracking servo and sled servo are turned off.)
- Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 Vdc, and check this level.

Traverse waveform



- After check, remove the lead wire connected in step 1.

Focus/Tracking Gain Adjustment (RV102, RV103)

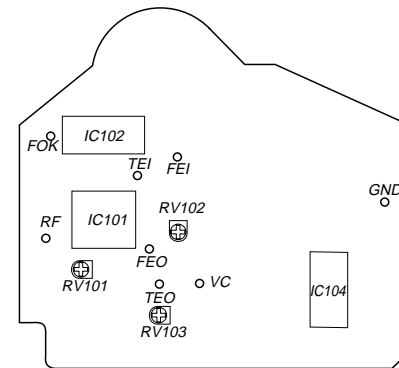
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

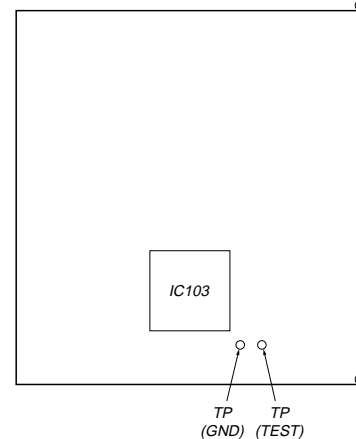
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

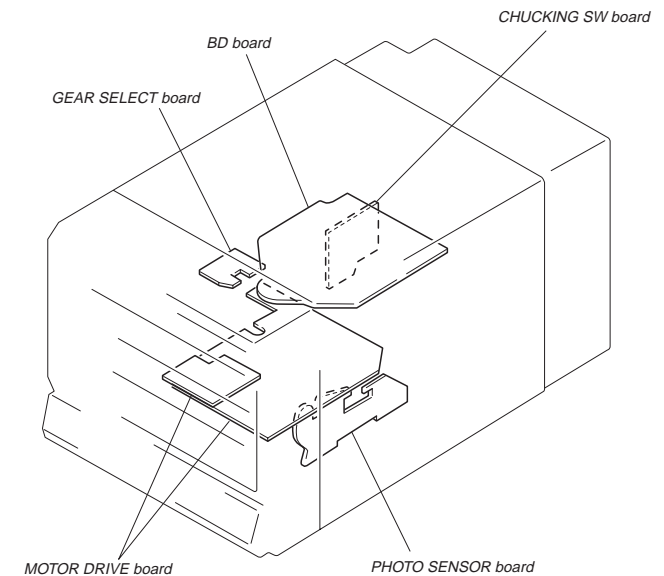
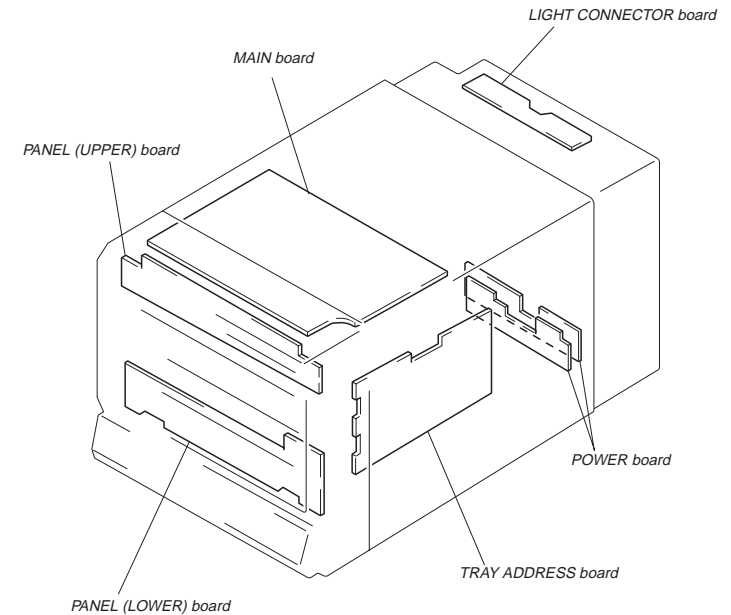
[BD BOARD] – Side B –



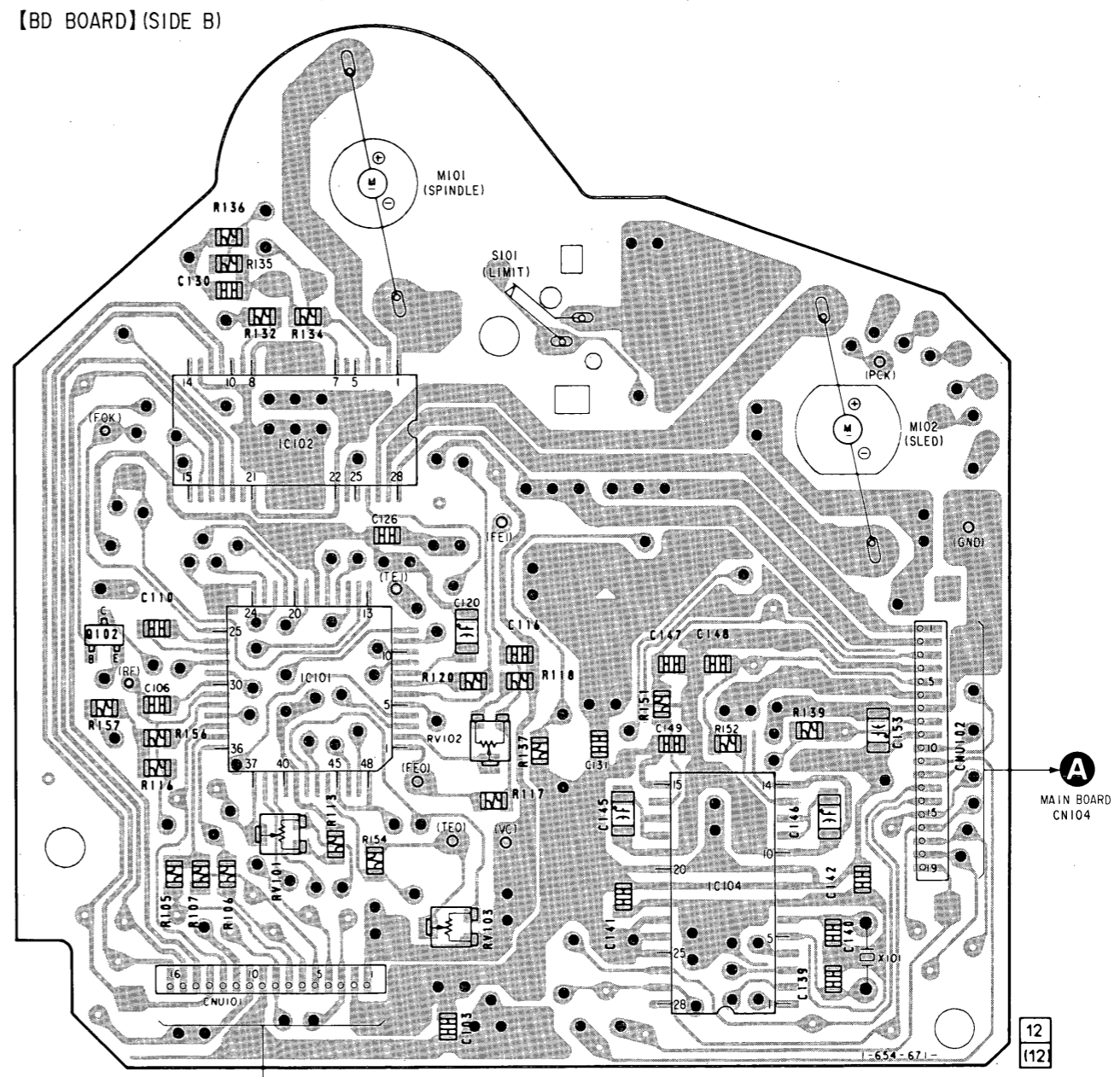
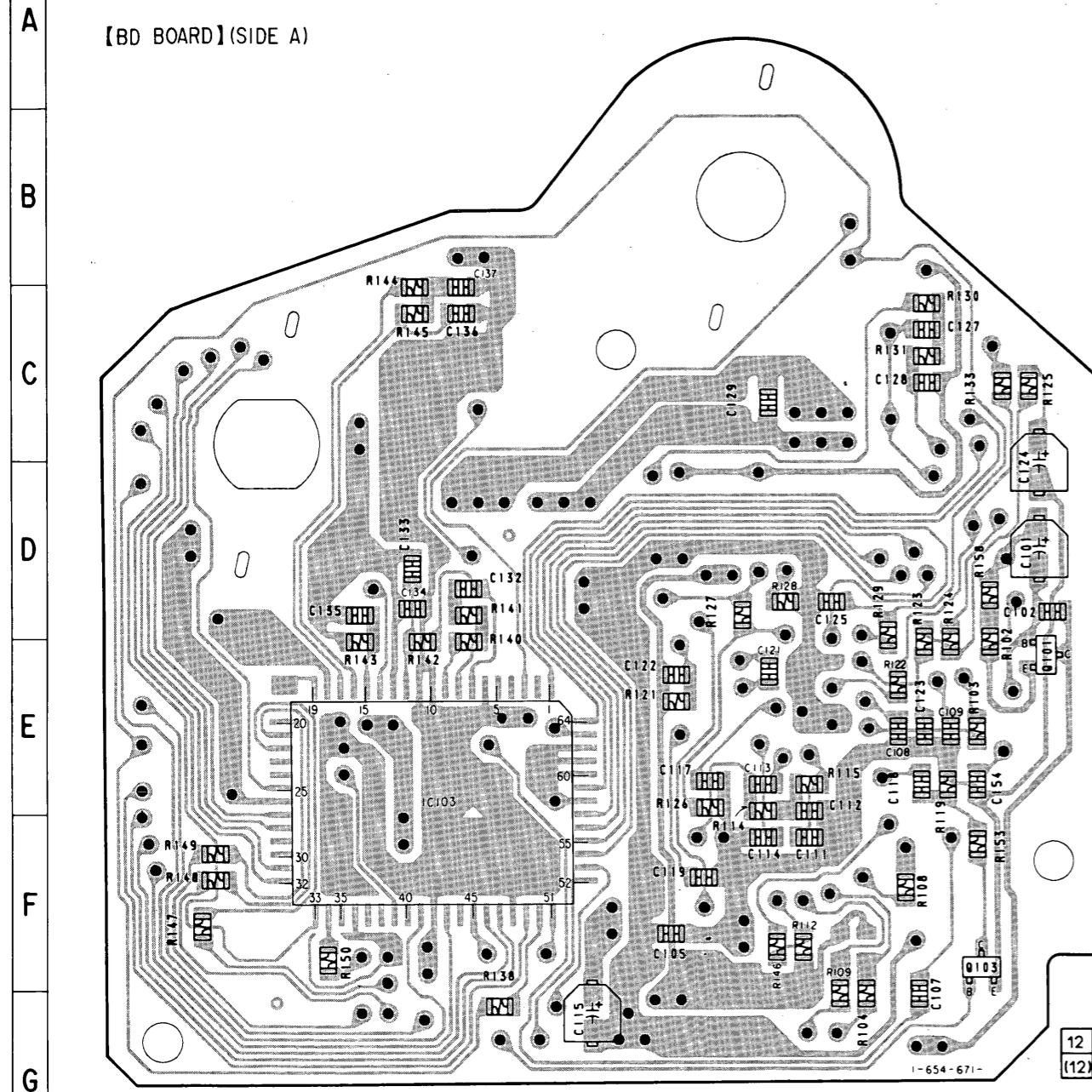
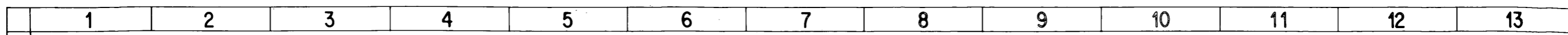
[MAIN BOARD] – Component Side –



• Circuit Boards Location



6-1. PRINTED WIRING BOARD -BD Section - • See page 14 for Circuit Boards Location.



A
MAIN BOARD
CN104

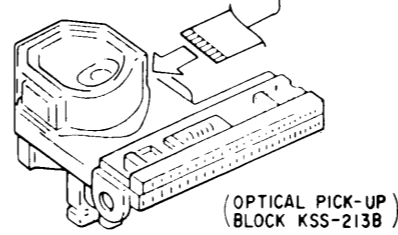
Note on Printed Wiring Board:

- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- ● : Through hole.
- [Pattern] : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:

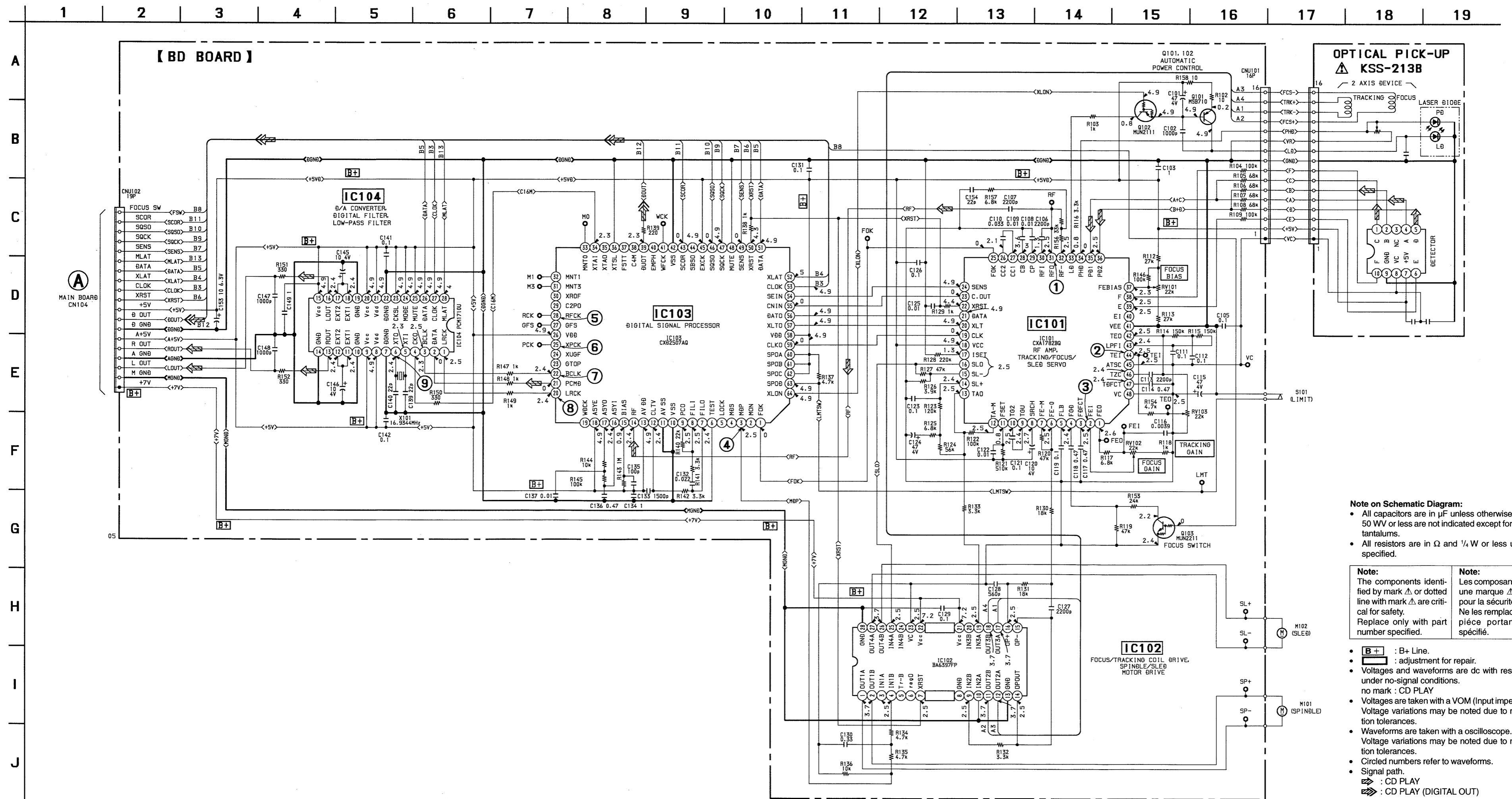
Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.

Parts face side: Parts on the parts face side seen from the parts face are indicated.



• **Semiconductor Location**

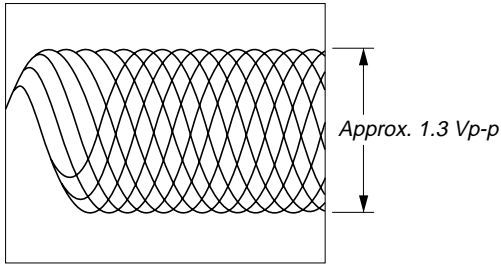
Ref. No.	Location
IC101	E-9
IC102	C-8
IC103	E-3
IC104	F-11
Q101	E-6
Q102	E-7
Q103	F-6



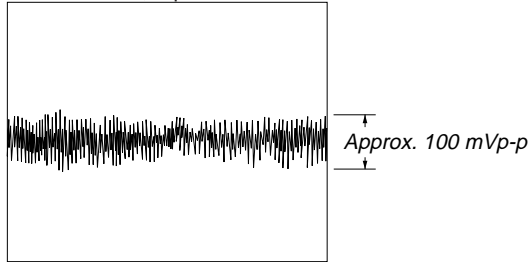
• Waveforms

– BD Section –

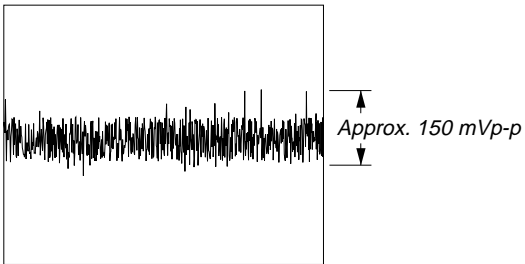
① IC101 ⑤ (RFO) (PLAY Mode)
500 mV/DIV, 500 ns/DIV



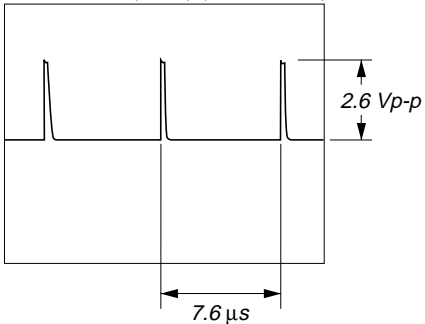
② IC101 ④ (TEI) (PLAY Mode)
50 mV/DIV, 1 μs/DIV



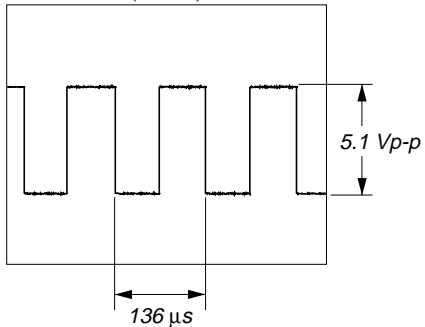
③ IC101 ② (FEI) (PLAY Mode)
50 mV/DIV, 1 μs/DIV



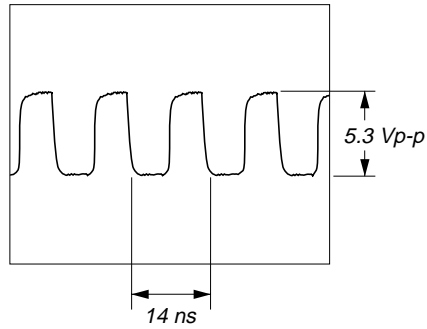
④ IC103 ③ (MDP) (PLAY Mode)



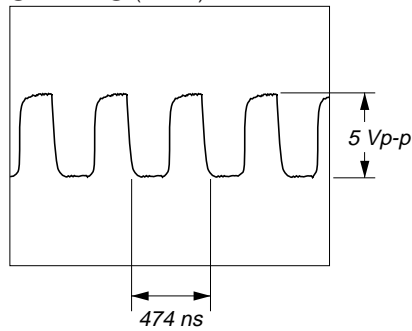
⑤ IC103 ⑧ (RFCK)



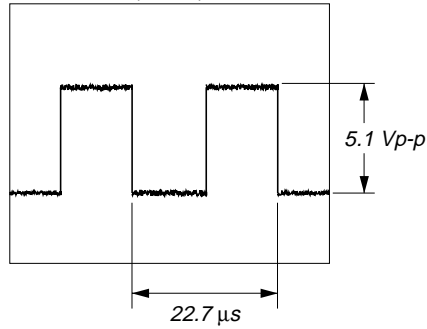
⑥ IC103 ⑤ (XPCK)



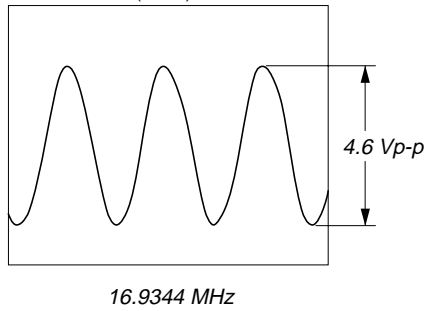
⑦ IC103 ② (BCLK)



⑧ IC103 ⑩ (LRCK)

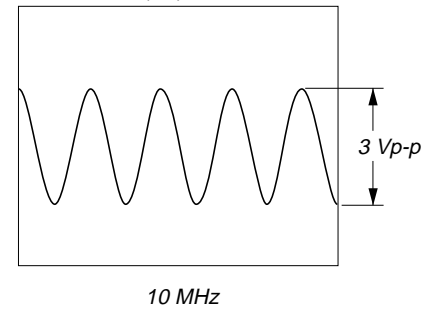


⑨ IC104 ⑥ (XTO)

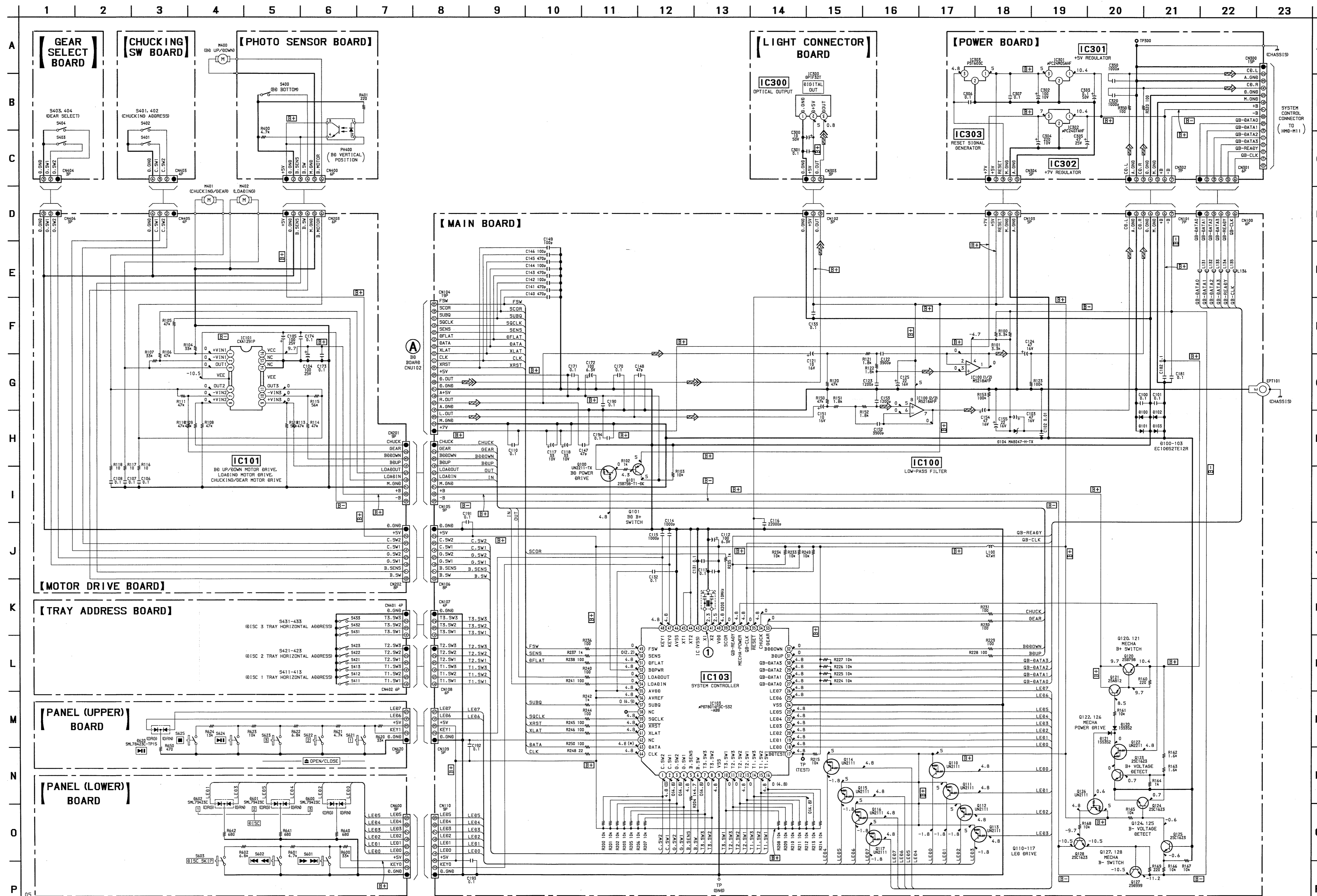


– MAIN/PANEL/MOTOR Section –

① IC103 ④ (X1)



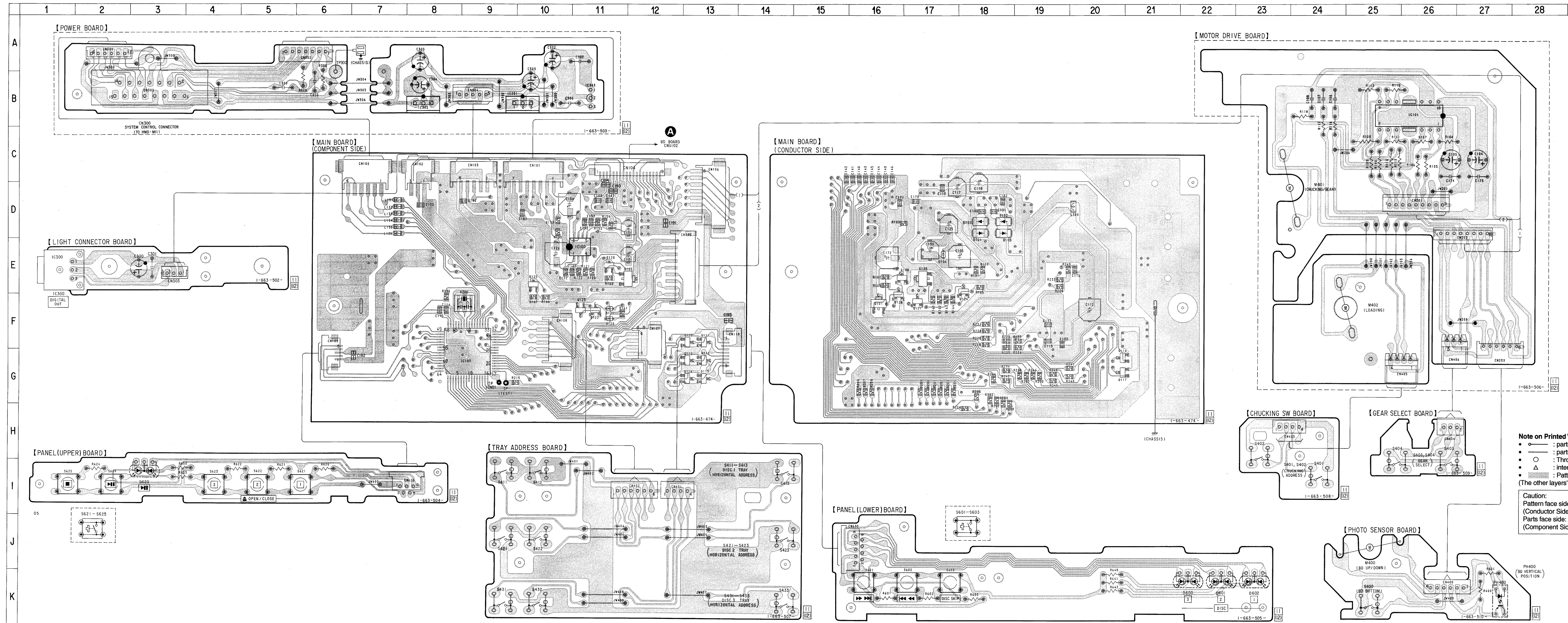
6-3. SCHEMATIC DIAGRAM - MAIN/PANEL/MOTOR Section -
• See page 20 for Waveforms, see page 31 for IC Block Diagrams, and see page 32 for IC Pin Function Description.



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- \square : B+ Line.
- \square : B- Line.
- Voltagess and waveforms are dc with respect to ground under no-signal conditions.
- no mark : STOP
- () : CD PLAY
- * : Impossible to measure
- Voltagess are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path
- \Rightarrow : CD PLAY
- \Rightarrow : CD PLAY (DIGITAL OUT)

6-4. PRINTED WIRING BOARDS - MAIN/PANEL/MOTOR Section - See page 14 for Circuit Boards Location.



• Semiconductor Location

Ref. No.	Location
D100	D-18
D101	D-18
D102	D-18
D103	D-18
D104	E-17
D120	F-11
D121	F-11
D600	K-22
D601	K-22
D602	K-23
D620	I-3
IC100	E-11
IC101	B-26
IC103	G-9
IC300	E-1
IC301	B-10
IC302	B-8
IC303	B-11
PH400	K-27
Q100	E-16
Q101	F-16
Q110	F-13
Q111	F-13
Q112	G-13
Q113	G-13
Q114	G-13
Q115	G-13
Q116	G-20
Q117	G-20
Q120	E-17
Q121	F-17
Q122	F-11
Q123	F-11
Q124	E-18
Q125	E-10
Q126	F-16
Q127	E-11
Q128	E-11

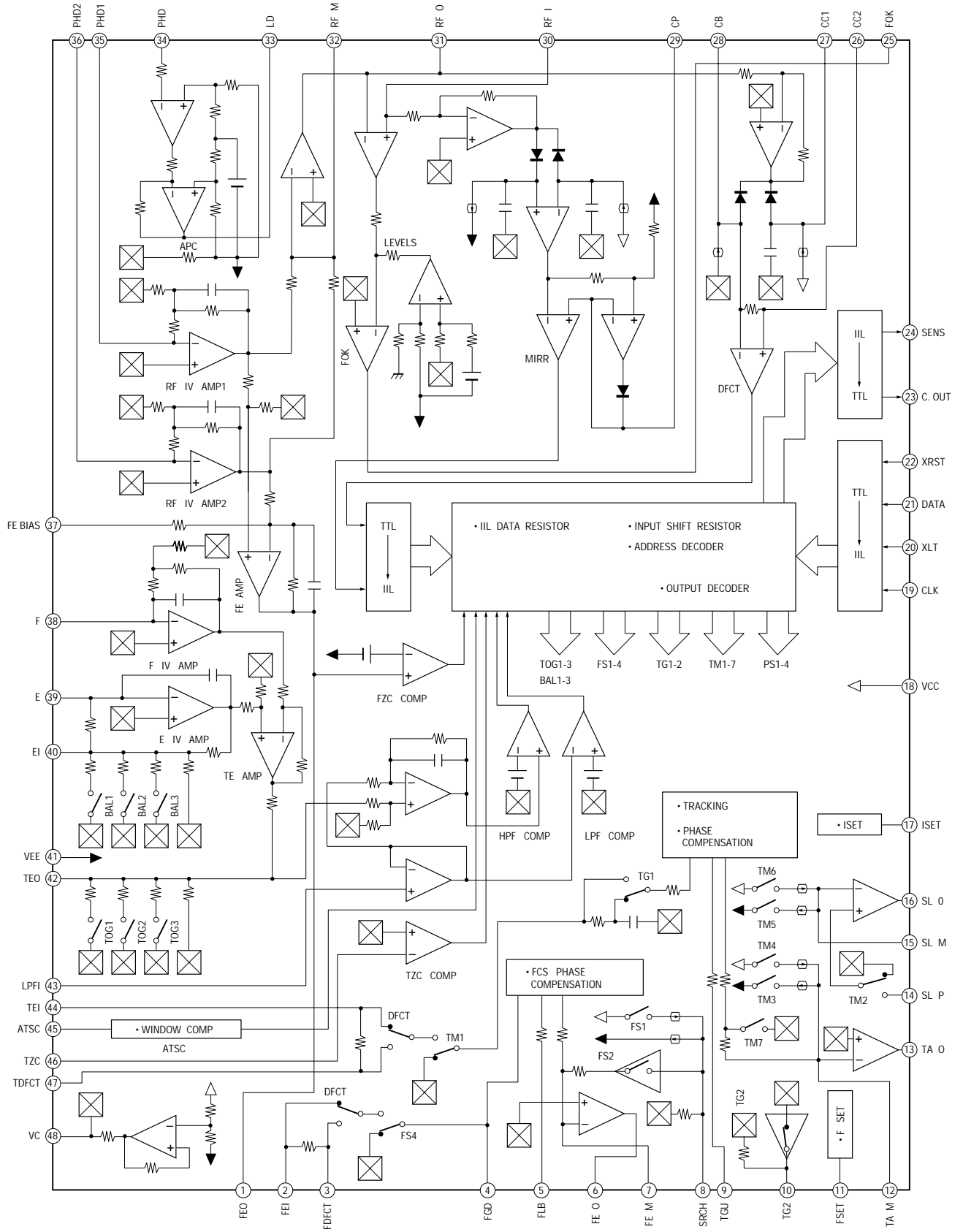
Note on Printed Wiring Board:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Through hole. (MAIN board only)
- △ : internal component.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

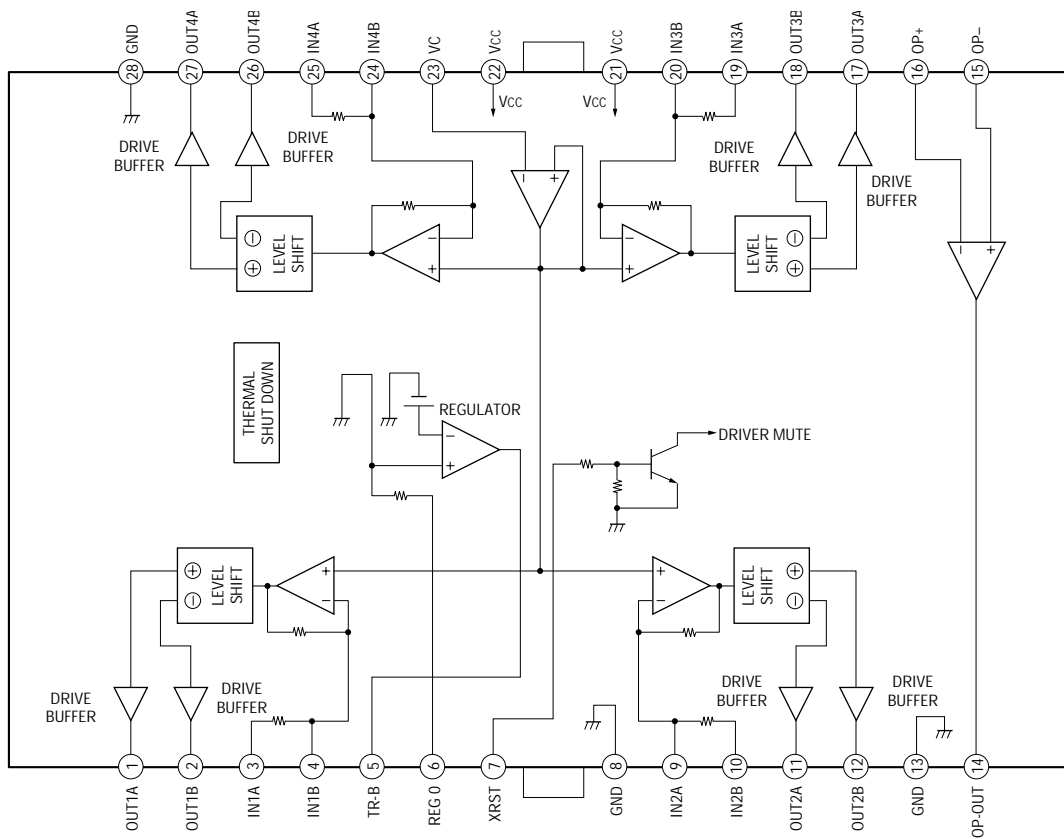
Caution:

Pattern face side:	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side:	Parts on the parts face side seen from the parts face are indicated.

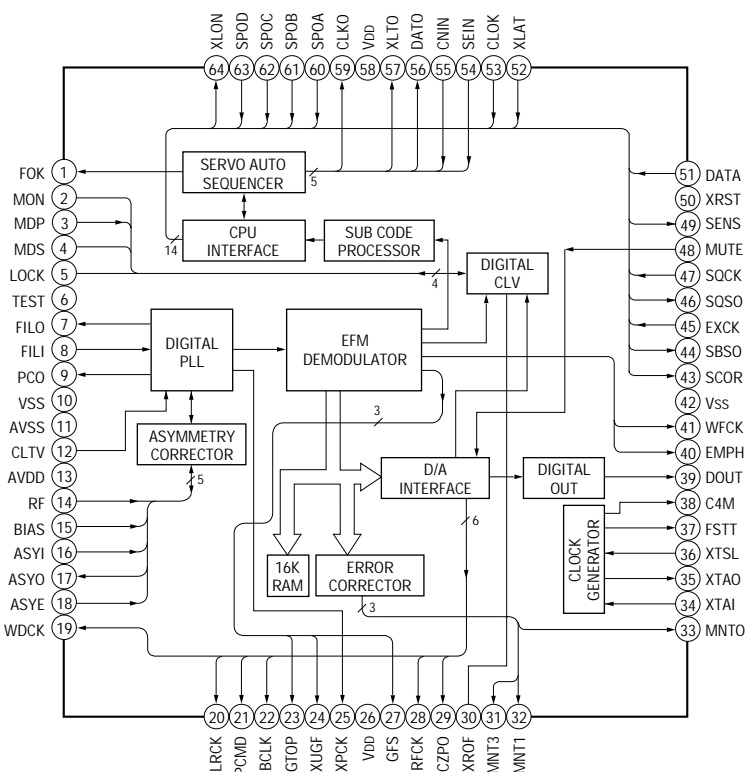
• IC Block Diagrams
 – BD Section –
 IC101 CXA1782BQ



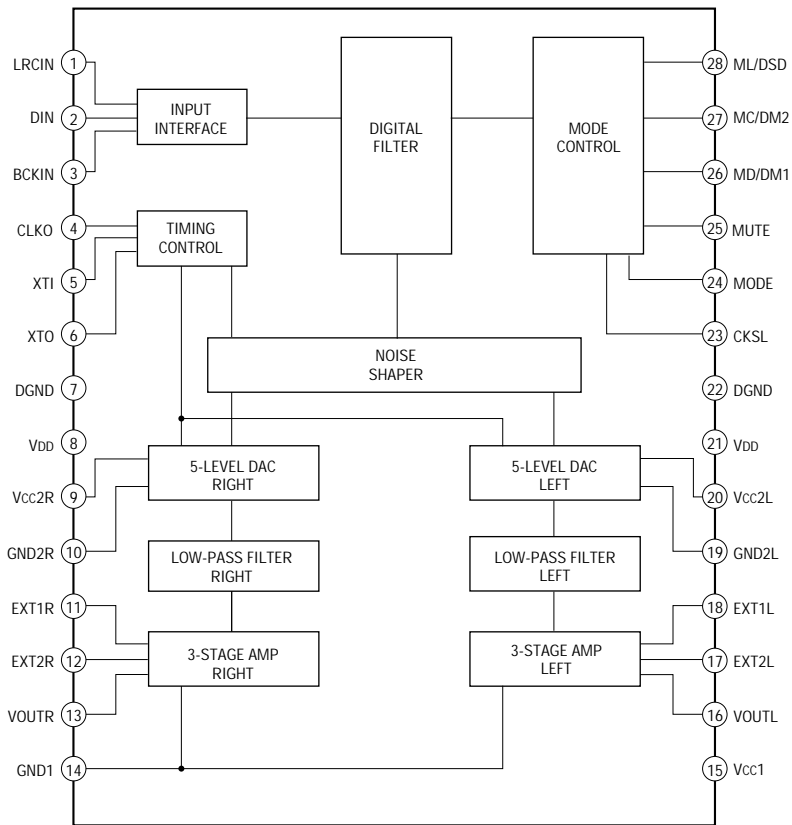
IC102 BA6397FP



IC103 CXD2507AQ

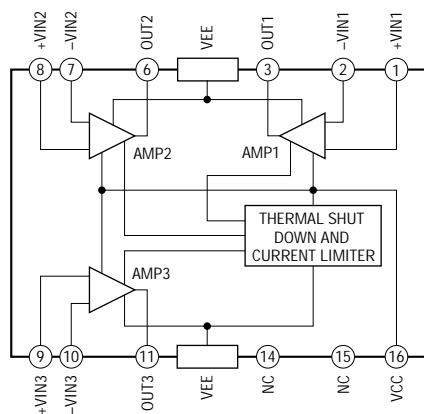


IC104 PCM1710U-B



- MAIN/PANEL/MOTOR Section -

IC101 CXA1291P



6-5. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC103 μ PD78014FGC-532-AB8 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	C.SW2	I	Detection input from the chucking address switch (S402)
2	C.SW1	I	Detection input from the chucking address switch (S401)
3	G.SW2	I	Detection input from the gear select switch (S404)
4	G.SW1	I	Detection input from the gear select switch (S403)
5	B.SENS	I	Detection input from the BD vertical position sensor (PH400)
6	B.SW	I	Detection input from the BD bottom switch (S400)
7	T3.SW3	I	Detection input from the disc 3 tray horizontal address switch (S433)
8	T3.SW2	I	Detection input from the disc 3 tray horizontal address switch (S432)
9	VSS	—	Ground terminal
10	T3.SW1	I	Detection input from the disc 3 tray horizontal address switch (S431)
11	T2.SW3	I	Detection input from the disc 2 tray horizontal address switch (S423)
12	T2.SW2	I	Detection input from the disc 2 tray horizontal address switch (S422)
13	T2.SW1	I	Detection input from the disc 2 tray horizontal address switch (S421)
14	T1.SW3	I	Detection input from the disc 1 tray horizontal address switch (S413)
15	T1.SW2	I	Detection input from the disc 1 tray horizontal address switch (S412)
16	T1.SW1	I	Detection input from the disc 1 tray horizontal address switch (S411)
17	$\overline{\text{BDTEST}}$	I	Setting terminal for BD test mode “L”: test mode, Normally: “H”
18	LED0	O	Drive signal output for the disc 3 pointer LED (D600; green) “L”: LED on
19	LED1	O	Drive signal output for the disc 1 pointer LED (D602; orange) “L”: LED on
20	LED2	O	Drive signal output for the disc 3 pointer LED (D600; orange) “L”: LED on
21	LED3	O	Drive signal output for the disc 1 pointer LED (D602; green) “L”: LED on
22	LED4	O	Drive signal output for the disc 2 pointer LED (D601; green) “L”: LED on
23	LED5	O	Drive signal output for the disc 2 pointer LED (D601; orange) “L”: LED on
24	VSS	—	Ground terminal
25	LED6	O	Drive signal output for the PAUSE LED (D620; orange) “L”: LED on
26	LED7	O	Drive signal output for the PLAY LED (D620; green) “L”: LED on
27	QB-DATA0	I/O	Two-way data bus with the master controller on HMD-M11 (mini-disc deck/tuner/preamp system)
28	QB-DATA1	I/O	
29	QB-DATA2	I/O	
30	QB-DATA3	I/O	
31	BDUP	O	BD block up/down motor drive signal output to the CXA1291P (IC101) *1
32	BDDOWN	O	
33	GEAR	O	Chucking/gear motor drive signal output to the CXA1291P (IC101)
34	CHUCK	O	
35	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC303) “L”: reset For several hundreds msec. after the power supply rises, “L” is output, then it changes to “H”
36	QB-CLK	I	Data transfer clock signal input from the master controller on HMD-M11 (mini-disc deck/tuner/preamp system)
37	MECHA-POWER	O	Power supply on/off control signal output of the CXA1291P (IC101) “H”: power on
38	QB-READY	I/O	Ready signal in/out terminal with the master controller on HMD-M11 (mini-disc deck/tuner/preamp system)
39	SCOR	I	Sub-code sync (S0+S1) detection signal input from the CXD2507AQ (IC103)
40	VDD	—	Power supply terminal (+5V)

Pin No.	Pin Name	I/O	Function
41	X2	O	Main system clock output terminal (10 MHz)
42	X1	I	Main system clock input terminal (10 MHz)
43	IC (VSS)	—	Not used (fixed at “L”)
44	XT2	O	Sub system clock output terminal Not used (fixed at “L”)
45	XT1	I	Sub system clock input terminal Not used (fixed at “L”)
46	AVSS	—	Ground terminal (for A/D converter)
47	KEY0	I	Key input terminal (A/D input) ►►►►, ◄◄◄◄, DISC SKIP keys (S601 to S603)
48	KEY1	I	Key input terminal (A/D input) ▲ OPEN/CLOSE 1 to 3 ►►, ■ keys (S621 to S625)
49	FSW	O	Focus gain selection signal output to the CXA1782BQ (IC101) “H”: normal mode, “L”: focus gain down mode
50	SENS	I	Internal status (SENSE) signal input from the CXD2507AQ (IC103)
51	DFLAT	O	Serial data latch pulse output to the PCM1710U (IC104)
52	BDPWR	O	Power supply on/off control signal output of the BD block “H”: power on
53	LOADOUT	O	Loading motor drive signal output to the CXA1291P (IC101) *2
54	LOADIN	O	
55	AVDD	—	Power supply terminal (+5V) (for A/D converter)
56	AVREF	I	Reference voltage input terminal (+5V) (for A/D converter)
57	SUBQ	I	Sub-code Q data signal input from the CXD2507AQ (IC103)
58	NC	O	Not used (open)
59	SQCLK	O	Sub-code Q data reading clock signal output to the CXD2507AQ (IC103)
60	XRST	O	Reset signal output for the BD block “L”: reset
61	XLAT	O	Serial data latch pulse output to the CXD2507AQ (IC103)
62	NC	I	Not used (fixed at “L”)
63	DATA	O	Serial data output to the CXD2507AQ (IC103) and PCM1710U (IC104)
64	CLK	O	Serial data transfer clock signal output to the CXD2507AQ (IC103) and PCM1710U (IC104)

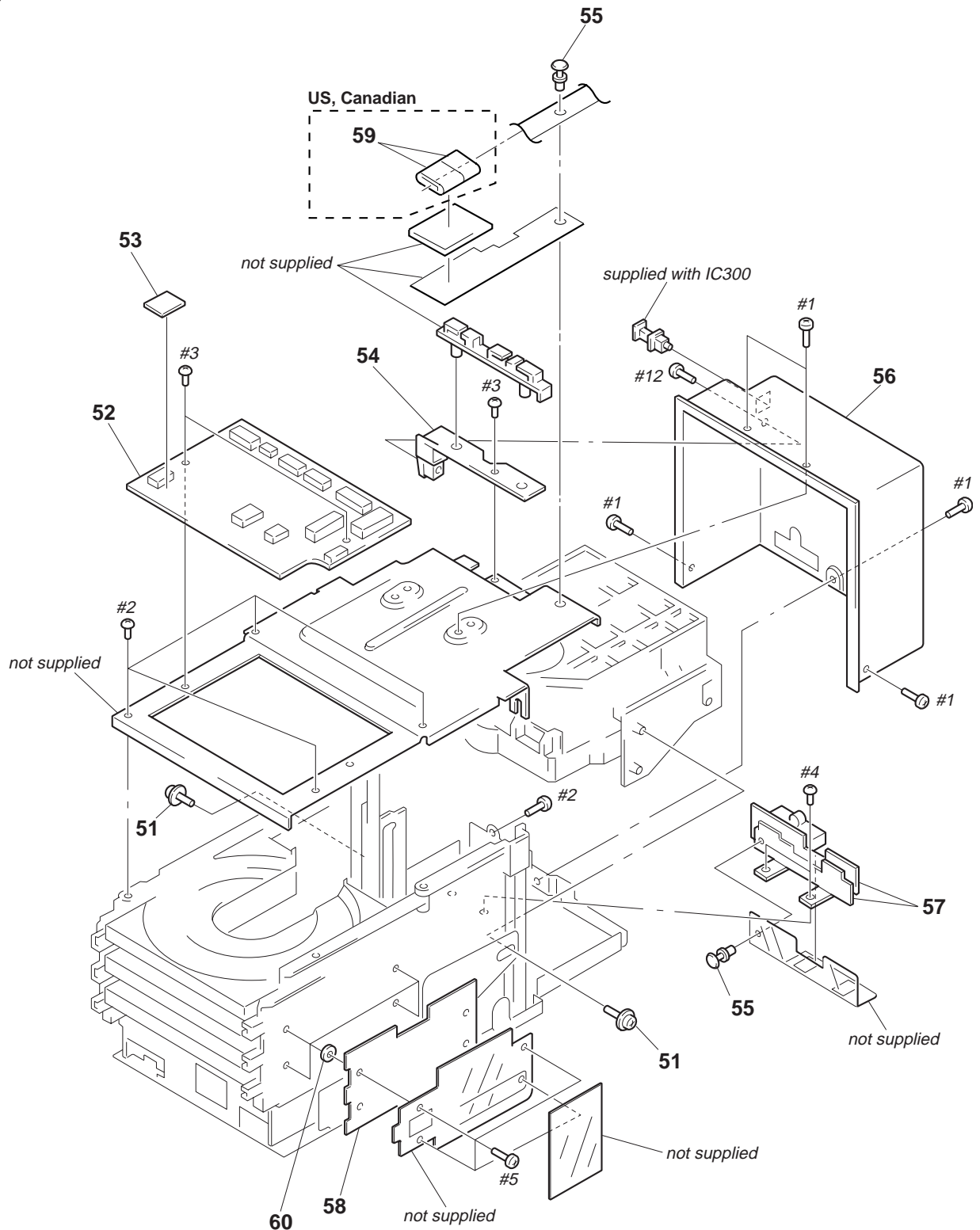
*1 BD block up/down motor control

Terminal \ Operation	OFF	UP	DOWN
	BDUP (pin ③①)	“L”	“H”
BDDOWN (pin ③②)	“L”	“L”	“H”

*2 Loading motor control

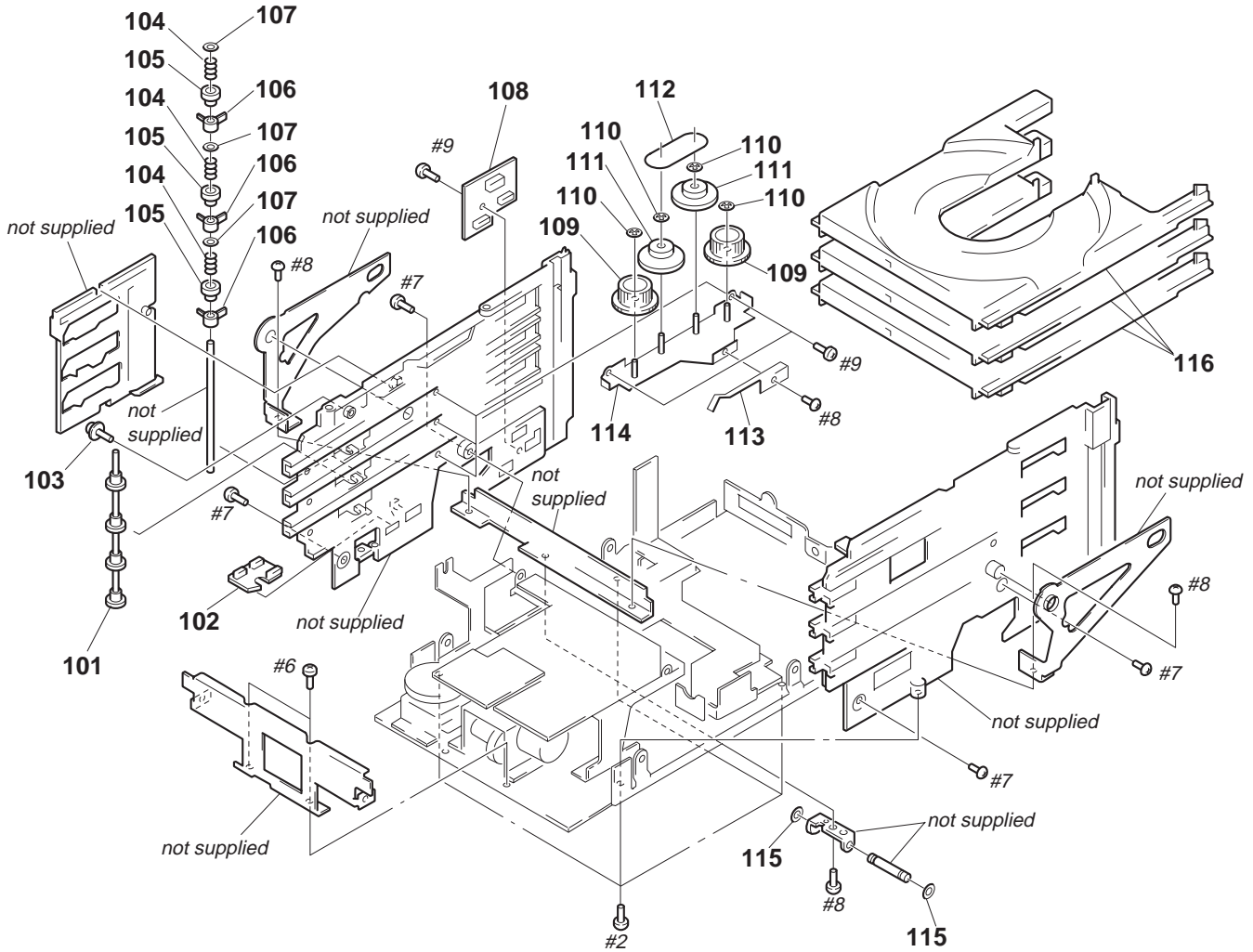
Terminal \ Operation	OFF	OUT	IN
	LOADOUT (pin ⑤③)	“L”	“H”
LOADIN (pin ⑤④)	“L”	“L”	“H”

(2) MAIN SECTION



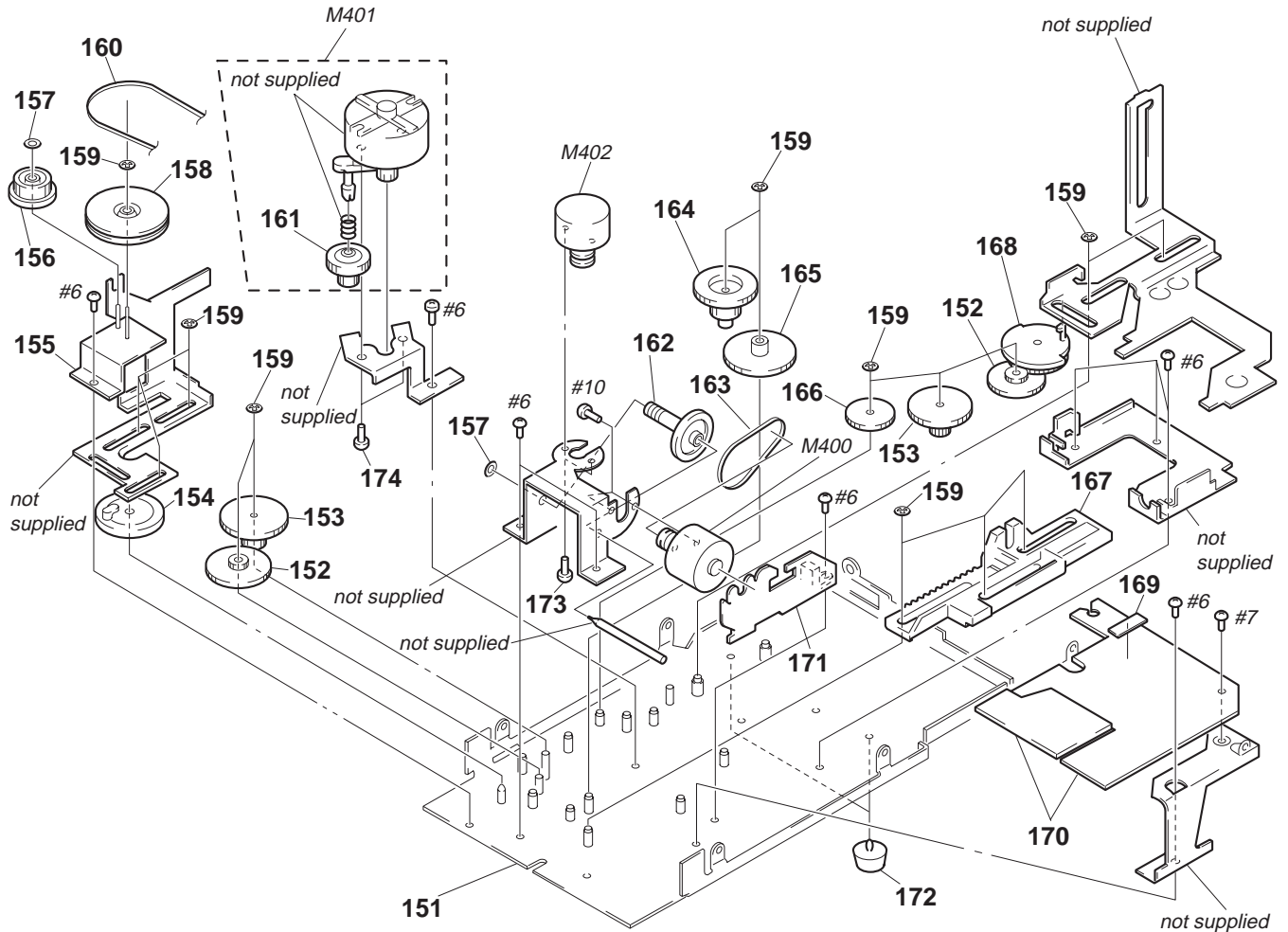
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-933-134-51	SCREW (+PTPWH 2.6X8)		* 56	4-986-532-11	COVER, BACK (US, Canadian, AEP, UK)	
* 52	A-4699-662-A	MAIN BOARD, COMPLETE (US, Canadian)		* 56	4-986-532-23	COVER, BACK (E, Hong Kong, Singapore, Malaysia)	
* 52	A-4699-664-A	MAIN BOARD, COMPLETE (EXCEPT US, Canadian)		* 57	1-663-503-11	POWER BOARD	
53	4-988-654-01	CUSHION (F)		* 58	1-663-507-11	TRAY ADDRESS BOARD	
* 54	1-663-502-11	LIGHT CONNECTOR BOARD		59	1-500-418-11	CORE (US, Canadian)	
55	3-531-576-11	RIVET		60	4-990-188-01	WASHER	

**(3) FRAME (L), (R) ASS'Y SECTION
(CDM42-5BD19)**



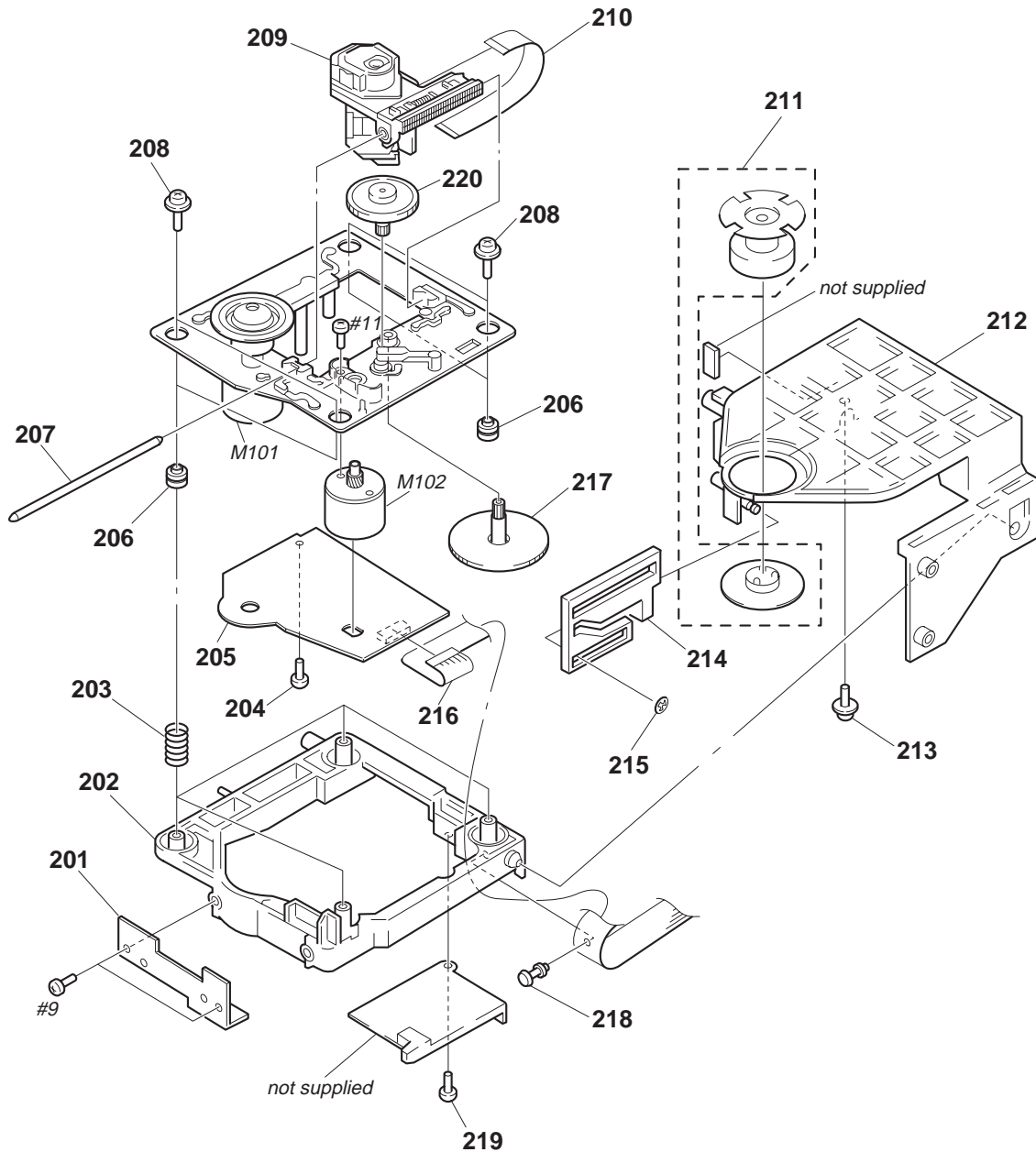
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4947-734-1	TRAIN ASSY, GEAR		109	4-986-319-01	GEAR (TRAY DRIVING)	
* 102	1-663-509-11	GEAR SELECT BOARD		110	3-669-595-00	WASHER (2), STOPPER	
103	4-933-134-51	SCREW (+PTPWH 2.6X8)		111	4-986-320-01	PULLEY (TRAY DRIVING)	
104	4-986-652-01	SPRING, COMPRESSION		112	3-359-466-01	BELT (FR), SQUARE	
105	4-986-321-01	GEAR		113	4-986-653-01	SPRING (CLICK), LEAF	
106	4-986-650-01	SLEEVE (ON/OFF)		* 114	X-4947-732-1	CHASSIS (TRAY DRIVING) ASSY, SUB	
107	3-533-073-01	WASHER		115	3-696-510-01	WASHER (3), STOPPER	
* 108	1-663-508-11	CHUCKING SW BOARD		116	X-4947-834-1	TABLE ASSY, DISC	

**(4) CHASSIS SECTION
(CDM42-5BD19)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 151	X-4947-730-1	CHASSIS ASSY		165	4-986-310-01	GEAR (RACK DRIVING)	
152	4-986-335-01	GEAR (MODE B)		166	4-986-347-01	GEAR (MODE C)	
153	4-986-336-01	GEAR (MODE A)		* 167	4-986-309-01	RACK (UP AND DOWN)	
154	4-986-334-01	GEAR (SELECT), CAM		168	4-986-345-01	GEAR (CHUCKING), CAM	
* 155	X-4947-731-1	BRACKET (LOADING PULLEY) ASSY		169	3-831-441-XX	CUSHION (B), CABINET	
156	4-986-324-01	GEAR (SHAFT DECELERATION)		* 170	1-663-506-11	MOTOR DRIVE BOARD	
157	3-669-595-00	WASHER (2), STOPPER		* 171	1-663-510-11	PHOTO SENSOR BOARD	
158	4-986-325-01	PULLEY (LOADING)		172	4-965-822-01	FOOT	
159	3-558-708-21	WASHER, STOPPER		173	3-317-552-61	SCREW (M1.7X2.0)	
160	3-319-030-01	BELT		174	3-343-251-01	SCREW (M2.6X2.5)	
161	3-359-412-01	GEAR (REEL MOTOR)		M400	A-4672-209-A	MOTOR (CARRIER U/D) ASSY (BD UP/DOWN)	
162	4-986-312-01	GEAR, WORM		M401	A-4672-211-A	MOTOR ASSY, MODE (CHUCKING/GEAR)	
163	3-359-466-01	BELT (FR), SQUARE		M402	A-4672-210-A	MOTOR (O/C) ASSY (LOADING)	
164	4-986-311-01	WHEEL, WORM					

(5) CARRIER ASS'Y, OPTICAL PICK-UP SECTION
(BU-5BD19)



<p>The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
---	--

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 201	4-986-348-01	PLATE (BU HOLDER), LOCK		* 212	X-4947-833-1	CARRIER ASSY	
* 202	X-4947-735-1	HOLDER ASSY, BU		* 213	4-917-583-21	BRACKET, YOKE	
203	4-982-447-01	SPRING (BU), COMPRESSION		214	4-986-341-01	SLIDER (CHUCKING CAM)	
204	4-951-620-01	SCREW (2.6X8), +BVTP		215	3-696-510-01	WASHER (3), STOPPER	
* 205	A-4673-402-A	BD BOARD, COMPLETE		216	1-777-631-11	FPC CABLE	
206	4-951-940-01	INSULATOR (BU)		217	4-917-564-01	GEAR (P), FLATNESS	
207	4-917-565-01	SHAFT, SLED		218	3-531-576-11	RIVET	
208	4-933-134-01	SCREW (+PTPWH M2.6X6)		219	4-951-620-31	SCREW (2.6), +BVTP	
\triangle 209	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S1NP		220	4-917-567-01	GEAR (M)	
210	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)		M101	X-4917-523-4	BASE (OUTSART) ASSY (SPINDLE)	
211	1-452-864-11	MAGNET (ASSY)		M102	X-4917-504-1	MOTOR ASSY (SLED)	

SECTION 8 ELECTRICAL PARTS LIST

BD

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.

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4673-402-A	BD BOARD, COMPLETE *****					
		< CAPACITOR >					
C101	1-126-607-11	ELECT CHIP	47uF 20% 4V				
C102	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V				
C103	1-164-346-11	CERAMIC CHIP	1uF 16V				
C105	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C106	1-164-695-11	CERAMIC CHIP	0.0022uF 5% 50V				
C107	1-164-695-11	CERAMIC CHIP	0.0022uF 5% 50V				
C108	1-164-232-11	CERAMIC CHIP	0.01uF 50V				
C109	1-164-232-11	CERAMIC CHIP	0.01uF 50V				
C110	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V				
C111	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C112	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C113	1-164-695-11	CERAMIC CHIP	0.0022uF 5% 50V				
C114	1-164-005-11	CERAMIC CHIP	0.47uF 25V				
C115	1-126-607-11	ELECT CHIP	47uF 20% 4V				
C116	1-163-016-00	CERAMIC CHIP	0.0039uF 10% 50V				
C117	1-164-005-11	CERAMIC CHIP	0.47uF 25V				
C118	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V				
C119	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C120	1-135-201-11	TANTALUM CHIP	10uF 20% 4V				
C121	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C122	1-164-232-11	CERAMIC CHIP	0.01uF 50V				
C123	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C124	1-126-607-11	ELECT CHIP	47uF 20% 4V				
C125	1-164-232-11	CERAMIC CHIP	0.01uF 50V				
C126	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C127	1-164-695-11	CERAMIC CHIP	0.0022uF 5% 50V				
C128	1-163-135-00	CERAMIC CHIP	560PF 5% 50V				
C129	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C130	1-164-336-11	CERAMIC CHIP	0.33uF 25V				
C131	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C132	1-163-037-11	CERAMIC CHIP	0.022uF 10% 25V				
C133	1-163-145-00	CERAMIC CHIP	0.0015uF 5% 50V				
C134	1-164-346-11	CERAMIC CHIP	1uF 16V				
C135	1-163-251-11	CERAMIC CHIP	100PF 5% 50V				
C136	1-164-005-11	CERAMIC CHIP	0.47uF 25V				
C137	1-164-232-11	CERAMIC CHIP	0.01uF 50V				
C139	1-163-235-11	CERAMIC CHIP	22PF 5% 50V				
C140	1-163-235-11	CERAMIC CHIP	22PF 5% 50V				
C141	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C142	1-163-038-00	CERAMIC CHIP	0.1uF 25V				
C145	1-135-201-11	TANTALUM CHIP	10uF 20% 4V				
C146	1-135-201-11	TANTALUM CHIP	10uF 20% 4V				
C147	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V				
C148	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V				
C149	1-164-346-11	CERAMIC CHIP	1uF 16V				
C153	1-135-259-11	TANTALUM CHIP	10uF 20% 6.3V				
C154	1-163-235-11	CERAMIC CHIP	22PF 5% 50V				
		< CONNECTOR >					
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P					
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P					
		< IC >					
IC101	8-752-069-56	IC CXA1782BQ					
IC102	8-759-291-06	IC BA6397FP					
IC103	8-752-372-94	IC CXD2507AQ					
IC104	8-759-185-29	IC PCM1710U-B					
		< TRANSISTOR >					
Q101	8-729-010-08	TRANSISTOR MSB710-R					
Q102	8-729-424-08	TRANSISTOR UN2111					
Q103	8-729-421-22	TRANSISTOR UN2211					
		< RESISTOR >					
R102	1-216-001-00	METAL CHIP	10 5% 1/10W				
R103	1-216-049-00	METAL CHIP	1K 5% 1/10W				
R104	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R105	1-216-093-00	METAL CHIP	68K 5% 1/10W				
R106	1-216-093-00	METAL CHIP	68K 5% 1/10W				
R107	1-216-093-00	METAL CHIP	68K 5% 1/10W				
R108	1-216-093-00	METAL CHIP	68K 5% 1/10W				
R109	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R112	1-216-083-00	METAL CHIP	27K 5% 1/10W				
R113	1-216-083-00	METAL CHIP	27K 5% 1/10W				
R114	1-216-101-00	METAL CHIP	150K 5% 1/10W				
R115	1-216-101-00	METAL CHIP	150K 5% 1/10W				
R116	1-216-061-00	METAL CHIP	3.3K 5% 1/10W				
R117	1-216-069-00	METAL CHIP	6.8K 5% 1/10W				
R118	1-216-049-00	METAL CHIP	1K 5% 1/10W				
R119	1-216-089-00	METAL CHIP	47K 5% 1/10W				
R120	1-216-089-00	METAL CHIP	47K 5% 1/10W				
R121	1-216-114-00	METAL CHIP	510K 5% 1/10W				
R122	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R123	1-216-099-00	METAL CHIP	120K 5% 1/10W				

BD

CHUCKING SW

GEAR SELECT

LIGHT CONNECTOR

MAIN

Ref. No.	Part No.	Description	Remark
R124	1-216-091-00	METAL CHIP 56K	5% 1/10W
R125	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R126	1-216-063-00	METAL CHIP 3.9K	5% 1/10W
R127	1-216-089-00	METAL CHIP 47K	5% 1/10W
R128	1-216-105-00	METAL CHIP 220K	5% 1/10W
R129	1-216-049-00	METAL CHIP 1K	5% 1/10W
R130	1-216-079-00	METAL CHIP 18K	5% 1/10W
R131	1-216-079-00	METAL CHIP 18K	5% 1/10W
R132	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R133	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R134	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R135	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R136	1-216-073-00	METAL CHIP 10K	5% 1/10W
R137	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R138	1-216-049-00	METAL CHIP 1K	5% 1/10W
R139	1-216-033-00	METAL CHIP 220	5% 1/10W
R140	1-216-081-00	METAL CHIP 22K	5% 1/10W
R141	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R142	1-216-061-00	METAL CHIP 3.3K	5% 1/10W
R143	1-216-121-00	METAL CHIP 1M	5% 1/10W
R144	1-216-073-00	METAL CHIP 10K	5% 1/10W
R145	1-216-097-00	METAL CHIP 100K	5% 1/10W
R146	1-216-097-00	METAL CHIP 100K	5% 1/10W
R147	1-216-049-00	METAL CHIP 1K	5% 1/10W
R148	1-216-049-00	METAL CHIP 1K	5% 1/10W
R149	1-216-049-00	METAL CHIP 1K	5% 1/10W
R150	1-216-037-00	METAL CHIP 330	5% 1/10W
R151	1-216-037-00	METAL CHIP 330	5% 1/10W
R152	1-216-037-00	METAL CHIP 330	5% 1/10W
R153	1-216-082-00	METAL CHIP 24K	5% 1/10W
R154	1-216-065-00	METAL CHIP 4.7K	5% 1/10W
R156	1-216-085-00	METAL CHIP 33K	5% 1/10W
R157	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
R158	1-216-001-00	METAL CHIP 10	5% 1/10W
		< VARIABLE RESISTOR >	
RV101	1-223-587-11	RES, ADJ, CARBON 22K	
RV102	1-223-587-11	RES, ADJ, CARBON 22K	
RV103	1-223-587-11	RES, ADJ, CARBON 22K	
		< SWITCH >	
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	
		< VIBRATOR >	
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344 MHz)	

*	1-663-508-11	CHUCKING SW BOARD	*****
		< SWITCH >	
S401	1-692-193-11	SWITCH, PUSH (1 KEY)	(CHUCKING ADDRESS)
S402	1-692-193-11	SWITCH, PUSH (1 KEY)	(CHUCKING ADDRESS)

Ref. No.	Part No.	Description	Remark
*	1-663-509-11	GEAR SELECT BOARD	*****
		< SWITCH >	
S403	1-762-847-11	SWITCH, PUSH (1 KEY) (GEAR SELECT)	
S404	1-762-847-11	SWITCH, PUSH (1 KEY) (GEAR SELECT)	

*	1-663-502-11	LIGHT CONNECTOR BOARD	*****
		< CAPACITOR >	
C300	1-126-964-11	ELECT 10uF	20% 50V
C301	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
CN303	1-506-468-11	PIN, CONNECTOR 3P	
		< IC >	
IC300	8-749-921-12	IC GP1F32T (DIGITAL OUT)	

*	A-4699-662-A	MAIN BOARD, COMPLETE (US, Canadian)	
*	A-4699-664-A	MAIN BOARD, COMPLETE	(EXCEPT US, Canadian)

*	4-870-539-00	PLATE, GROUND	
		< CAPACITOR >	
C100	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C101	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C102	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C103	1-126-204-11	ELECT CHIP 47uF	20% 16V
C110	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C112	1-126-206-11	ELECT CHIP 100uF	20% 6.3V
C113	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C114	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C115	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C116	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C117	1-126-393-11	ELECT 33uF	20% 10V
C118	1-126-393-11	ELECT 33uF	20% 10V
C121	1-124-779-00	ELECT CHIP 10uF	20% 16V
C122	1-113-503-11	CERAMIC CHIP 0.0039uF	5% 25V
C123	1-163-143-00	CERAMIC CHIP 0.0012uF	5% 50V
C124	1-126-204-11	ELECT CHIP 47uF	20% 16V
C125	1-126-395-11	ELECT 22uF	20% 16V
C131	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C132	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C133	1-107-725-11	CERAMIC CHIP 0.1uF	10% 16V
C140	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C141	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C142	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C143	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C144	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C145	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C146	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C147	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C148	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C149	1-163-251-11	CERAMIC CHIP 100PF	5% 50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C151	1-124-779-00	ELECT CHIP 10uF 20%	16V	Q114	8-729-424-08	TRANSISTOR UN2111	
C152	1-113-503-11	CERAMIC CHIP 0.0039uF 5%	25V	Q115	8-729-424-08	TRANSISTOR UN2111	
C153	1-163-143-00	CERAMIC CHIP 0.0012uF 5%	50V	Q116	8-729-424-08	TRANSISTOR UN2111	
C154	1-126-204-11	ELECT CHIP 47uF 20%	16V	Q117	8-729-424-08	TRANSISTOR UN2111	
C155	1-126-395-11	ELECT 22uF 20%	16V				
C170	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q120	8-729-101-07	TRANSISTOR 2SB798-DL	
C171	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q121	8-729-216-22	TRANSISTOR 2SA1162-G	
C172	1-126-206-11	ELECT CHIP 100uF 20%	6.3V	Q122	8-729-421-22	TRANSISTOR UN2211	
C181	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q123	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C182	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q124	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C190	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q125	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C191	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q126	8-729-424-08	TRANSISTOR UN2111	
C192	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q127	8-729-140-75	TRANSISTOR 2SD999-CLCK	
C193	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V	Q128	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C194	1-107-725-11	CERAMIC CHIP 0.1uF 10%	16V			< RESISTOR >	
		< CONNECTOR >		R100	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
CN100	1-774-180-11	PIN, CONNECTOR (PC BOARD) 6P		R101	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
CN101	1-774-297-21	PIN, CONNECTOR (PC BOARD) 7P		R102	1-216-049-00	METAL CHIP 1K 5%	1/10W
CN102	1-774-653-21	PIN, CONNECTOR (PC BOARD) 3P		R103	1-216-073-00	METAL CHIP 10K 5%	1/10W
CN103	1-774-731-21	PIN, CONNECTOR (PC BOARD) 5P		R120	1-216-089-00	METAL CHIP 47K 5%	1/10W
CN104	1-778-718-11	CONNECTOR, FFC/FPC 19P		R121	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
CN105	1-778-795-21	PIN, CONNECTOR (PC BOARD) 9P		R122	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
CN106	1-778-768-21	PIN, CONNECTOR (PC BOARD) 8P		R123	1-216-097-00	METAL CHIP 100K 5%	1/10W
CN107	1-770-217-11	PIN, CONNECTOR (PC BOARD) 4P		R150	1-216-089-00	METAL CHIP 47K 5%	1/10W
CN108	1-774-180-11	PIN, CONNECTOR (PC BOARD) 6P		R151	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
CN109	1-774-739-11	CONNECTOR, FFC/FPC 5P		R152	1-216-055-00	METAL CHIP 1.8K 5%	1/10W
CN110	1-778-719-11	CONNECTOR, FFC/FPC 9P		R153	1-216-097-00	METAL CHIP 100K 5%	1/10W
		< DIODE >		R160	1-216-033-00	METAL CHIP 220 5%	1/10W
D100	8-719-210-33	DIODE EC10DS2		R161	1-216-073-00	METAL CHIP 10K 5%	1/10W
D101	8-719-210-33	DIODE EC10DS2		R162	1-216-054-00	METAL CHIP 1.6K 5%	1/10W
D102	8-719-210-33	DIODE EC10DS2		R163	1-216-054-00	METAL CHIP 1.6K 5%	1/10W
D103	8-719-210-33	DIODE EC10DS2		R164	1-216-049-00	METAL CHIP 1K 5%	1/10W
D104	8-719-976-96	DIODE DTZ4.7C		R165	1-216-073-00	METAL CHIP 10K 5%	1/10W
D120	8-719-016-74	DIODE 1SS352		R166	1-216-073-00	METAL CHIP 10K 5%	1/10W
D121	8-719-016-74	DIODE 1SS352		R167	1-216-073-00	METAL CHIP 10K 5%	1/10W
		< IC >		R168	1-216-073-00	METAL CHIP 10K 5%	1/10W
IC100	8-759-636-55	IC M5218AFP		R169	1-216-033-00	METAL CHIP 220 5%	1/10W
IC103	8-759-458-30	IC uPD78014FGC-532-AB8		R200	1-216-073-00	METAL CHIP 10K 5%	1/10W
		< COIL >		R201	1-216-073-00	METAL CHIP 10K 5%	1/10W
L100	1-412-348-41	INDUCTOR 47uH		R202	1-216-073-00	METAL CHIP 10K 5%	1/10W
L131	1-414-386-11	INDUCTOR, FERRITE BEAD		R203	1-216-073-00	METAL CHIP 10K 5%	1/10W
L132	1-414-386-11	INDUCTOR, FERRITE BEAD		R204	1-216-049-00	METAL CHIP 1K 5%	1/10W
L133	1-414-386-11	INDUCTOR, FERRITE BEAD		R205	1-216-073-00	METAL CHIP 10K 5%	1/10W
L134	1-414-386-11	INDUCTOR, FERRITE BEAD		R206	1-216-073-00	METAL CHIP 10K 5%	1/10W
L135	1-414-386-11	INDUCTOR, FERRITE BEAD		R207	1-216-073-00	METAL CHIP 10K 5%	1/10W
L136	1-414-386-11	INDUCTOR, FERRITE BEAD		R208	1-216-073-00	METAL CHIP 10K 5%	1/10W
		< TRANSISTOR >		R209	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q100	8-729-421-22	TRANSISTOR UN2211		R210	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q101	8-729-101-07	TRANSISTOR 2SB798-DL		R211	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q110	8-729-424-08	TRANSISTOR UN2111		R212	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q111	8-729-424-08	TRANSISTOR UN2111		R213	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q112	8-729-424-08	TRANSISTOR UN2111		R214	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q113	8-729-424-08	TRANSISTOR UN2111		R215	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R224	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R225	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R226	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R227	1-216-073-00	METAL CHIP 10K 5%	1/10W
				R228	1-216-025-00	METAL CHIP 100 5%	1/10W
				R229	1-216-025-00	METAL CHIP 100 5%	1/10W

MAIN

MOTOR DRIVE

PANEL (LOWER)

PANEL (UPPER)

PHOTO SENSOR

Ref. No.	Part No.	Description		Remark
R230	1-216-025-00	METAL CHIP	100	5% 1/10W
R231	1-216-025-00	METAL CHIP	100	5% 1/10W
R233	1-216-073-00	METAL CHIP	10K	5% 1/10W
R234	1-216-073-00	METAL CHIP	10K	5% 1/10W
R235	1-216-049-00	METAL CHIP	1K	5% 1/10W
R236	1-216-025-00	METAL CHIP	100	5% 1/10W
R237	1-216-049-00	METAL CHIP	1K	5% 1/10W
R238	1-216-025-00	METAL CHIP	100	5% 1/10W
R240	1-216-025-00	METAL CHIP	100	5% 1/10W
R241	1-216-025-00	METAL CHIP	100	5% 1/10W
R242	1-216-049-00	METAL CHIP	1K	5% 1/10W
R244	1-216-025-00	METAL CHIP	100	5% 1/10W
R245	1-216-025-00	METAL CHIP	100	5% 1/10W
R246	1-216-025-00	METAL CHIP	100	5% 1/10W
R248	1-216-009-00	METAL CHIP	22	5% 1/10W
R249	1-216-073-00	METAL CHIP	10K	5% 1/10W
R250	1-216-025-00	METAL CHIP	100	5% 1/10W
		< VIBRATOR >		
X200	1-760-365-11	VIBRATOR, CERAMIC (10 MHz)		

*	1-663-506-11	MOTOR DRIVE BOARD		

		< CAPACITOR >		
C104	1-104-665-11	ELECT	100uF	20% 25V
C105	1-104-665-11	ELECT	100uF	20% 25V
C106	1-164-159-11	CERAMIC	0.1uF	50V
C107	1-164-159-11	CERAMIC	0.1uF	50V
C108	1-164-159-11	CERAMIC	0.1uF	50V
C173	1-164-159-11	CERAMIC	0.1uF	50V
		< CONNECTOR >		
* CN201	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P		
* CN202	1-568-935-11	PIN, CONNECTOR 8P		
* CN203	1-564-499-11	PIN, CONNECTOR 6P		
* CN405	1-568-942-11	PIN, CONNECTOR 4P		
* CN406	1-568-941-11	PIN, CONNECTOR 3P		
		< IC >		
IC101	8-759-821-32	IC CXA1291P		
		< RESISTOR >		
R104	1-249-435-11	CARBON	33K	5% 1/4W
R105	1-249-437-11	CARBON	47K	5% 1/4W
R106	1-249-437-11	CARBON	47K	5% 1/4W
R107	1-249-435-11	CARBON	33K	5% 1/4W
R108	1-249-437-11	CARBON	47K	5% 1/4W
R109	1-249-437-11	CARBON	47K	5% 1/4W
R110	1-249-437-11	CARBON	47K	5% 1/4W
R111	1-249-437-11	CARBON	47K	5% 1/4W
R112	1-249-438-11	CARBON	56K	5% 1/4W
R113	1-249-437-11	CARBON	47K	5% 1/4W
R114	1-249-437-11	CARBON	47K	5% 1/4W
R115	1-249-438-11	CARBON	56K	5% 1/4W
R116	1-249-393-11	CARBON	10	5% 1/4W
R117	1-249-393-11	CARBON	10	5% 1/4W

Ref. No.	Part No.	Description		Remark
R118	1-249-393-11	CARBON	10	5% 1/4W

*	1-663-505-11	PANEL (LOWER) BOARD		

		< CONNECTOR >		
CN600	1-778-720-11	CONNECTOR, FFC/FPC 9P		
		< DIODE >		
D600	8-719-056-13	LED SML79423C-TP15 (DISC 3)		
D601	8-719-056-13	LED SML79423C-TP15 (DISC 2)		
D602	8-719-056-13	LED SML79423C-TP15 (DISC 1)		
		< RESISTOR >		
R600	1-249-435-11	CARBON	33K	5% 1/4W
R601	1-249-425-11	CARBON	4.7K	5% 1/4W
R602	1-249-427-11	CARBON	6.8K	5% 1/4W
R640	1-249-415-11	CARBON	680	5% 1/4W
R641	1-249-415-11	CARBON	680	5% 1/4W
R642	1-249-415-11	CARBON	680	5% 1/4W
		< SWITCH >		
S601	1-554-303-21	SWITCH, TACTILE (▶▶▶▶)		
S602	1-554-303-21	SWITCH, TACTILE (◀◀◀◀)		
S603	1-554-303-21	SWITCH, TACTILE (DISC SKIP)		

*	1-663-504-11	PANEL (UPPER) BOARD		

		< CONNECTOR >		
CN620	1-778-721-11	CONNECTOR, FFC/FPC 5P		
		< DIODE >		
D620	8-719-057-29	LED SML78423C-TP15 (▶▶▶)		
		< RESISTOR >		
R620	1-249-435-11	CARBON	33K	5% 1/4W
R621	1-249-425-11	CARBON	4.7K	5% 1/4W
R622	1-249-427-11	CARBON	6.8K	5% 1/4W
R623	1-249-429-11	CARBON	10K	5% 1/4W
R624	1-247-858-11	CARBON	13K	5% 1/4W
R650	1-249-413-11	CARBON	470	5% 1/4W
		< SWITCH >		
S621	1-554-303-21	SWITCH, TACTILE (▲ OPEN/CLOSE 1)		
S622	1-554-303-21	SWITCH, TACTILE (▲ OPEN/CLOSE 2)		
S623	1-554-303-21	SWITCH, TACTILE (▲ OPEN/CLOSE 3)		
S624	1-554-303-21	SWITCH, TACTILE (▶▶)		
S625	1-554-303-21	SWITCH, TACTILE (■)		

*	1-663-510-11	PHOTO SENSOR BOARD		

		< PHOTO INTERRUPTER >		
PH400	8-759-071-52	IC ON1023-S (BD VERTICAL POSITION)		

PHOTO SENSOR

POWER

TRAY ADDRESS

Ref. No.	Part No.	Description	Remark		
		< RESISTOR >			
R400	1-249-425-11	CARBON	4.7K	5%	1/4W
R401	1-249-409-11	CARBON	220	5%	1/4W
		< SWITCH >			
S400	1-692-193-11	SWITCH, PUSH (1 KEY) (BD BOTTOM)			

*	1-663-503-11	POWER BOARD			
		< CAPACITOR >			
C302	1-124-994-11	ELECT	100uF	20%	10V
C303	1-124-463-00	ELECT	0.1uF	20%	50V
C304	1-126-923-11	ELECT	220uF	20%	10V
C305	1-126-022-11	ELECT	47uF	20%	25V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C320	1-162-294-31	CERAMIC	0.001uF	10%	50V
C350	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN300	1-580-739-11	SOCKET, CONNECTOR 15P			(SYSTEM CONTROL)
* CN301	1-568-955-11	PIN, CONNECTOR 6P			
* CN302	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CN304	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< IC >			
IC301	8-759-390-42	IC uPC24M05AHF			
IC302	8-759-390-58	IC uPC2407AHF			
IC303	8-759-165-80	IC PST600C-T			
		< RESISTOR >			
R320	1-247-807-31	CARBON	100	5%	1/4W
R350	1-247-807-31	CARBON	100	5%	1/4W
		< LEAD WITH CONNECTOR >			
TP300	1-690-880-11	LEAD (WITH CONNECTOR)			

*	1-663-507-11	TRAY ADDRESS BOARD			
		< SWITCH >			
S411	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 1 TRAY HORIZONTAL ADDRESS)
S412	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 1 TRAY HORIZONTAL ADDRESS)
S413	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 1 TRAY HORIZONTAL ADDRESS)
S421	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 2 TRAY HORIZONTAL ADDRESS)
S422	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 2 TRAY HORIZONTAL ADDRESS)
S423	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 2 TRAY HORIZONTAL ADDRESS)
S431	1-762-847-11	SWITCH, PUSH (1 KEY)			(DISC 3 TRAY HORIZONTAL ADDRESS)

Ref. No.	Part No.	Description	Remark
S432	1-762-847-11	SWITCH, PUSH (1 KEY)	(DISC 3 TRAY HORIZONTAL ADDRESS)
S433	1-762-847-11	SWITCH, PUSH (1 KEY)	(DISC 3 TRAY HORIZONTAL ADDRESS)

		MISCELLANEOUS	*****
12	1-777-814-11	WIRE (FLAT TYPE) (5 CORE)	
18	1-777-813-11	WIRE (FLAT TYPE) (9 CORE)	
59	1-500-418-11	CORE (US, Canadian)	
△ 209	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S1NP	
210	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
211	1-452-864-11	MAGNET (ASSY)	
216	1-777-631-11	FPC CABLE	
M101	X-4917-523-4	BASE (OUTSART) ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M400	A-4672-209-A	MOTOR (CARRIER U/D) ASSY (BD UP/DOWN)	
M401	A-4672-211-A	MOTOR ASSY, MODE (CHUCKING/GEAR)	
M402	A-4672-210-A	MOTOR (O/C) ASSY (LOADING)	

		HARDWARE LIST	*****
#1	7-682-547-09	SCREW (M3X6), S TITE, +BTT	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-871-01	SCREW +BVTT 3X6 (S)	
#4	7-682-546-09	SCREW +P 3X5	
#5	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#6	7-682-145-01	SCREW +P 3X4	
#7	7-685-870-01	SCREW +BVTT 3X5 (S)	
#8	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
#9	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#10	7-627-854-07	PRECISION SCREW +P 2X2.5 TYPE3	
#11	7-621-255-15	SCREW +P 2X3	
#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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