

CDX-605

SERVICE MANUAL

US Model



Model Name Using Similar Mechanism	CDX-505RF
CD Drive Mechanism Type	MG-250C-137
Optical Pick-up Name	KSS-521A/J2N

SPECIFICATIONS

System	Compact disc digital audio system
Frequency response	10 – 20,000 Hz
Wow and flutter	Below the measurable limit
Signal-to-noise ratio	94 dB
Outputs	BUS control output (8 pins) Analog audio output (RCA pin)
Current drain	800 mA (during CD playback) 800 mA (during loading or ejecting a disc)
Operating temperature	– 10 °C to + 55 °C (14 °F to 131 °F)
Dimensions	Approx. 262 × 90 × 181.5 mm (10 ³ / ₈ × 3 ⁵ / ₈ × 7 ¹ / ₄ in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 2.1 kg (4 lb 10 oz)
Power requirement	12 V DC car battery (negative ground)
Supplied accessories	Disc magazine (1) Parts for installation and connections (1 set)

Design and specifications subject to change without notice.

COMPACT DISC CHANGER

SONY®



SECTION 1

SERVICING NOTES

TABLE OF CONTENTS

1. SERVICING NOTE	2
2. GENERAL	
Installation	3
Connections	4
3. DISASSEMBLY	6
4. MECHANISMDECK ASSEMBLY	12
5. MECHANICAL ADJUSTMENTS	14
6. ELECTRICAL ADJUSTMENTS	15
7. DIAGRAMS	17
7-1. Notes for Printed Wiring Board and Schematic Diagram	18
7-2. Printed Wiring Boards – RF Section –	19
7-3. Schematic Diagram – RF Section –	21
7-4. Printed Wiring Boards – MAIN/JACK BOARD (Component side) –	23
7-5. Printed Wiring Boards – MAIN/JACK BOARD (Conductor side) –	25
7-6. Schematic Diagram – MAIN Section (1/2) –	27
7-7. Schematic Diagram – MAIN Section (2/2) –	29
7-8. IC Pin Function Description	34
8. EXPLODED VIEWS	36
9. ELECTRICAL PARTS LIST	41

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

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

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

Laser Diode Properites

- Material: GaAlAs
 - Wavelength: 780 nm
 - Emission Duration: continuous
 - Laser Output Power: less than 44.6 μ W*
- * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

CAUTION

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

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.

Notes on chip component replacement

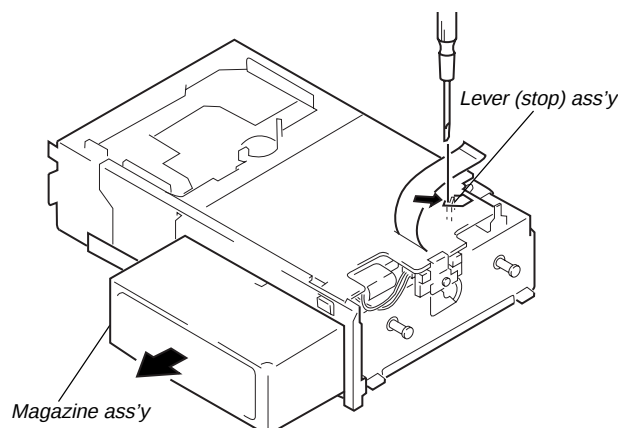
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

DISC MAGAZINE GETTING OUT PROCEDURE ON THE POWER SUPPLY IS OFF

Remove the CASE (LOWER) assembly beforehand

- 1) Press the lever (stop) ass'y to arrow direction.
- 2) Removal the magazine ass'y.

Note: Take out the magazine only when the tray is completely within the magazine. If the disk or tray is sticking out, turn on the power and eject the magazine.



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.

SECTION 2 GENERAL

This section is extracted from instruction manual.

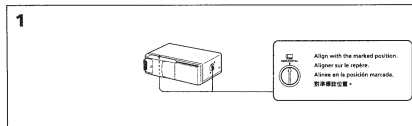
Installation

Precautions

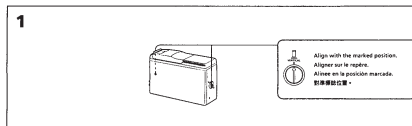
- Choose the mounting location carefully, observing the following:
 - The unit is not subject to temperatures exceeding 55°C (131°F) (such as in a car parked in direct sunlight).
 - The unit is not subject to direct sunlight.
 - The unit is not near heat sources (such as heaters).
 - The unit is not exposed to rain or moisture.
 - The unit is not exposed to excessive dust or dirt.
 - The unit is not subject to excessive vibration.
 - The fast task should not be damaged by the tapping screws.
 - There should be no wire harness or pipes under the place where you are going to install the unit.
 - The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
 - Be sure to use only the supplied mounting hardware for a safe and secure installation.
 - Use only the supplied screws.

How to install the unit

Horizontal installation

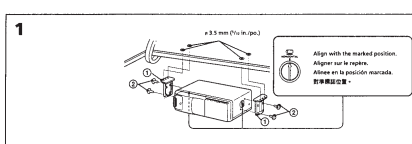


Vertical installation



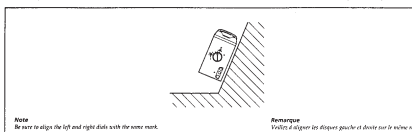
Suspended installation

- When the unit is to be installed under the rear tray etc. in the trunk compartment, make sure the following provisions are made:
 - Choose the mounting location carefully so the unit can be installed horizontally.
 - Make sure the unit does not hinder the movement of the torsion bar spring etc. of the trunk lid.



Inclined installation

- After installing the unit, align the dials with one of the marks so the arrows are as vertical as possible.



Note
Be sure to align the left and right dials with the same mark.

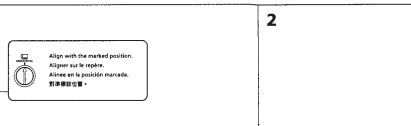
Installation

Précautions

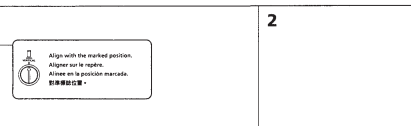
- Choisir l'emplacement de montage en tenant compte des observations suivantes:
 - Appareil non soumis à des températures dépassant 55°C (131°F) (comme dans une voiture garée au soleil).
 - Appareil non soumis au rayonnement solaire direct.
 - Appareil à l'écart de sources de chaleur (comme des radiateurs).
 - Appareil non exposé à la pluie ou à l'humidité.
 - Appareil non exposé à des poussières ou à des sautes en excès.
 - Appareil non exposé à des vibrations excessives.
 - Vérifier que le réservoir d'essence ne risque pas d'être endommagé par les vis taraudées.
 - Il ne doit pas y avoir de câbles de fils ou de tuyaux à l'emplacement du montage.
 - Vérifier que l'appareil ou les vis ne risquent pas d'endommager ou de gêner le voir de secours, les outils, ni autre objet dans le coffre.
 - Four garantir la sécurité de l'installation, utiliser uniquement le matériel de montage fourni.
 - Utiliser uniquement les vis fournies.

Installation de l'appareil

Installation horizontale

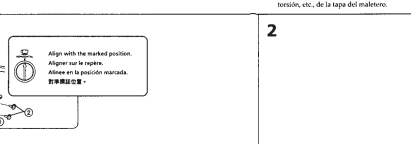


Installation verticale



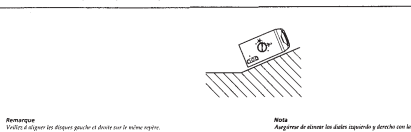
Installation suspendue

- Si l'appareil doit être installé sous le plateau arrière dans le coffre, par exemple, observer les précautions suivantes:
 - Bien choisir l'emplacement pour pouvoir installer l'appareil à l'horizontale.
 - Vérifier que l'appareil ne gêne pas les mouvements du ressort de fermeture du coffre, entre autres.



Installation inclinée

- Après avoir installé l'appareil, alignez les disques sur un repère de façon à ce que les flèches soient dans la position la plus verticale possible.



Remarque
Veillez à aligner les disques gauche et droite sur le même repère.

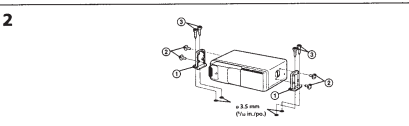
Instalación

Precauciones

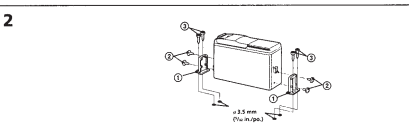
- Elija cuidadosamente el lugar de montaje y tenga en cuenta lo siguiente:
 - La unidad no queda sometida a temperaturas superiores a los 55°C (como en un automóvil estacionado a la luz solar directa).
 - La unidad no queda sometida a la luz solar directa.
 - La unidad no queda cercana a fuentes térmicas (como aparatos de calefacción).
 - La unidad no queda expuesta a la lluvia o a la humedad.
 - La unidad no queda expuesta a polvo o neblinas excesivas.
 - La unidad no queda sometida a vibraciones excesivas.
 - El depósito de combustible no deberá dañarse con los tornillos automontados.
 - No deberá haber masas de conductores ni tubos debajo del lugar donde vaya a instalar la unidad.
 - La rueda de repuesto, las herramientas, u otros equipos situados dentro o debajo del portaequipaje no deberán verse interferidos ni dañados por los tornillos ni por la propia unidad.
 - Para realizar una instalación segura, emplee adamente la herramienta de montaje suministrada.
 - Utilice solo los tornillos suministrados.

Instalación de la unidad

Instalación horizontal

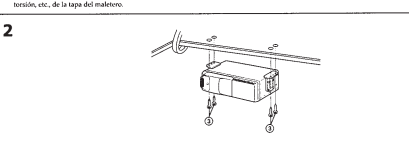


Instalación vertical



Instalación suspendida

- Si va a instalar la unidad debajo de la bandeja trasera, etc., del maletero, tenga en cuenta lo siguiente:
 - Elija el lugar de montaje cuidadosamente de forma que sea posible instalar la unidad horizontalmente.
 - Asegúrese de que la unidad no dificulte el movimiento del muelle de la barra de torsión, etc., de la tapa del maletero.



Instalación inclinada

- Una vez instalada la unidad, alinee los dials de forma que una de las marcas de las flechas se encuentre en la posición más vertical posible.



Note
Asegure de alinear los dials izquierdo y derecho con la misma marca.

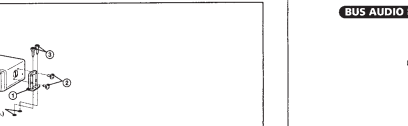
安裝

使用前請注意

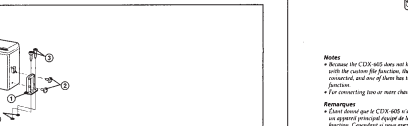
- 請參閱下列內容以選擇適當安裝位置:
 - 機器不能置於超過 55°C 的溫度 (例如停放在太陽下的汽車內)。
 - 機器不可直接受到陽光。
 - 機器不可靠近熱源 (例如加熱器等)。
 - 不可讓機器靠近任何濕氣或水。
 - 勿讓機器受到塵埃或灰塵的侵襲。
 - 勿讓機器受到過度震動的侵襲。
 - 行李架下方、腳踏墊、工具盒等處應避免存放任何可能受到機器安裝或造成損壞的物件。
 - 勿在安裝機器時使用螺絲刀等工具。
 - 勿在安裝機器時使用螺絲刀等工具。
 - 勿在安裝機器時使用螺絲刀等工具。

如何安裝機器

水平安裝

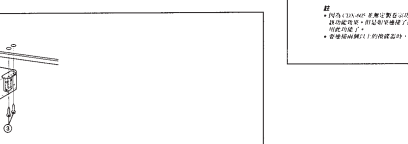


垂直安裝



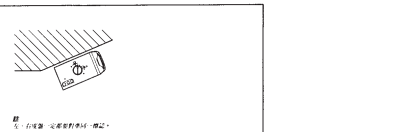
懸吊安裝

- 機器安裝於行李架下方或腳踏墊下方時，必須作如下之準備:
 - 小心選擇機器不能置於震動或濕氣的地方。
 - 避免機器受到任何濕氣或水。



傾斜安裝

- 安裝好機器之後，請使機器對準標記中之一個標記線並可能垂直方向的設置。

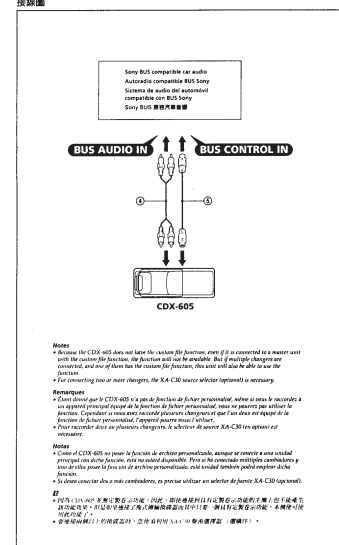


注意
左/右錶 必須對準同一個標記。

Connections/Connexions/ Conexiones/ 連接

For details, refer to the installation/Connections manual of the car audio.
Pour plus de détails, consultez le manuel d'installation/connexions de l'autosystème.
Con respecto a los detalles, consulte el manual de instalación/conexiones del sistema de audio del automóvil.

Connection diagram/Schema de connexions/Diagrama de conexión/ 接線圖



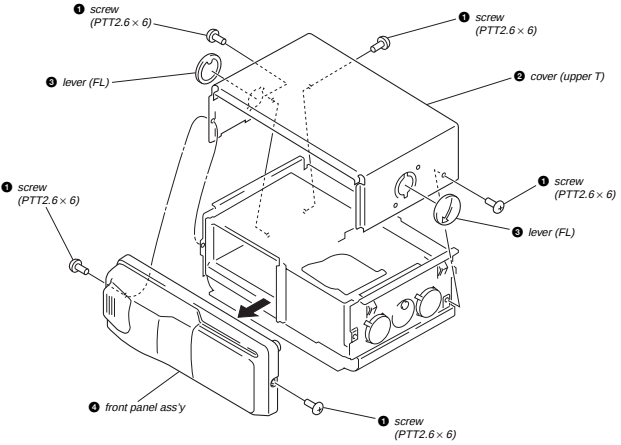
Notes
• Before the CDX-605, does not have the custom fit function, even if it is converted to a master unit with the custom fit function, the function will not be available. But if multiple changes are necessary, and one of them has the custom fit function, this unit will be able to use the function.
• For connecting line or more changes, the X.A.C.B.I. master receiver function is necessary.
Remarque
• Avant d'installer le CDX-605, n'a pas de fonction de fixation personnalisée, même si vous le convertissez à un appareil principal équipé de la fonction de fixation personnalisée, cette unité ne pourra pas utiliser la fonction. Cependant, si vous effectuez plusieurs changements et que l'un d'eux est équipé de la fonction de fixation personnalisée, l'appareil pourra alors l'utiliser.
• Pour connecter deux ou plusieurs changements, le récepteur de master X.A.C.B.I. est nécessaire.
Note
• Como el CDX-605 no posee la función de ajuste personalizado, aunque se convierta a una unidad principal con dicha función, esta unidad no podrá utilizarla. Pero si se convierten múltiples combinaciones y una de ellas posee la función de ajuste personalizado, esta unidad también podrá emplear dicha función.
• Si desea conectar dos o más combinaciones, es preciso utilizar un receptor de master X.A.C.B.I. (adaptador).
注意
• 本機 (CDX-605) 不具有專用安裝功能，即使將其轉換為具有專用安裝功能的主機，本機也不能使用該功能。但如果進行多次更改，其中一次更改具有專用安裝功能，則本機將可以使用該功能。
• 如需連接兩條或多條線路，必須使用 X.A.C.B.I. 主機接收器。
注意
• 本機 (CDX-605) 不具有專用安裝功能，即使將其轉換為具有專用安裝功能的主機，本機也不能使用該功能。但如果進行多次更改，其中一次更改具有專用安裝功能，則本機將可以使用該功能。
• 如需連接兩條或多條線路，必須使用 X.A.C.B.I. 主機接收器。

Precautions Moisture condensation On a rainy day or in a very damp area, moisture may condense on the lenses inside the unit. Should this occur, the unit will not operate properly. In this case, remove the disc magazine and wait for about an hour until the moisture has evaporated.	Précautions Remarque sur la condensation d'humidité Pur temps pluvieux ou dans des régions très humides, de la condensation peut se former sur les lentilles à l'intérieur de l'appareil. Dans ce cas, l'appareil ne fonctionnera pas correctement. Retirez alors le chargeur de disques et attendez environ une heure jusqu'à ce que la condensation se soit évaporée.	Precauciones Condensación de humedad En los días lluviosos o en zonas muy húmedas, puede condensarse humedad en las lentes del interior de la unidad. Si esto ocurre, ésta no funcionará correctamente. En este caso, retire el cargador de discos y espere durante una hora aproximadamente hasta que la humedad se evapore.
Inserting a disc 1 With the arrow side facing up Avec la partie fléchée tournée vers le haut Con la flecha de la flecha hacia arriba	Insertion d'un disque 1 Labelled surface up Disquette vers le haut Con la superficie de la etiqueta hacia arriba	Insertión de discos 1 Nota • Coloque los discos en (1) la ranura (2) con la etiqueta hacia arriba. • Coloque los discos en (1) la ranura (2) con la etiqueta hacia arriba. • Coloque los discos en (1) la ranura (2) con la etiqueta hacia arriba.
10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja 10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja	10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja 10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja	10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja 10 discs, one in each tray 10 disques, un par plateau 10 discos, uno en cada bandeja
3 Disc magazine Chargeur de disques Cargador de discos 3 Disc magazine Chargeur de disques Cargador de discos	3 Disc magazine Chargeur de disques Cargador de discs 3 Disc magazine Chargeur de disques Cargador de discs	3 Disc magazine Chargeur de disques Cargador de discs 3 Disc magazine Chargeur de disques Cargador de discs
Notes on the disc magazine Notes on the disc magazine	Remarques sur le chargeur de disques Remarques sur le chargeur de disques	Notas sobre el cargador de discos Notas sobre el cargador de discos
When the tray comes out Normally, the tray will not come out of the magazine. However, if they are pulled out of the magazine, it is easy to remove them. Quando le bandeja sort En principio, las bandejas no saldrán del cargador. Sin embargo, si se sacan del cargador, es fácil de sacarlas.	Si la bandeja se sale Normalmente, las bandejas no se salen del cargador. Sin embargo, si se sacan del cargador, es fácil de sacarlas. Quando le bandeja sort En principio, las bandejas no saldrán del cargador. Sin embargo, si se sacan del cargador, es fácil de sacarlas.	When the tray comes out Normally, the tray will not come out of the magazine. However, if they are pulled out of the magazine, it is easy to remove them. Quando le bandeja sort En principio, las bandejas no saldrán del cargador. Sin embargo, si se sacan del cargador, es fácil de sacarlas.
Notes on compact discs Notes on compact discs	Remarques sur les disques compacts Remarques sur les disques compacts	Notas sobre discos compactos Notas sobre discos compactos
Not this way Not this way Not this way Not this way	Not this way Not this way Not this way Not this way	Not this way Not this way Not this way Not this way

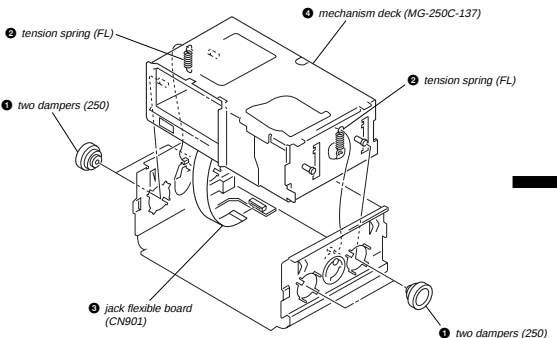
SECTION 3 DISASSEMBLY

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

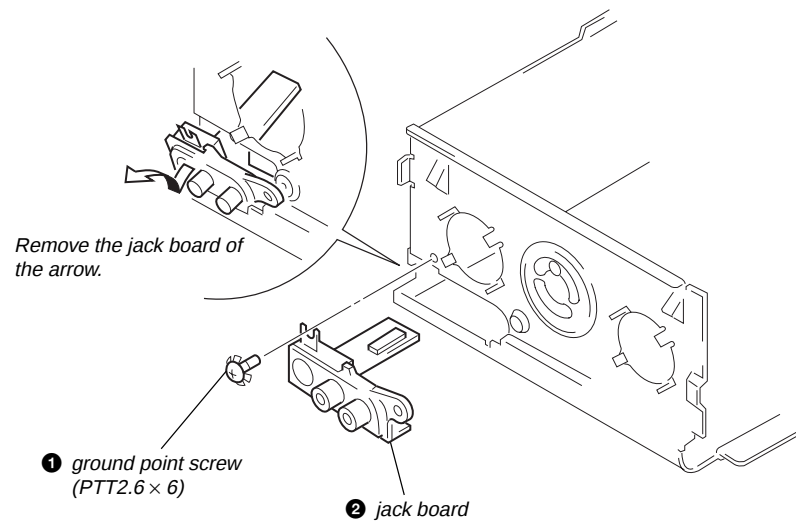
COVER (UPPER T), FRONT PANEL ASS'Y



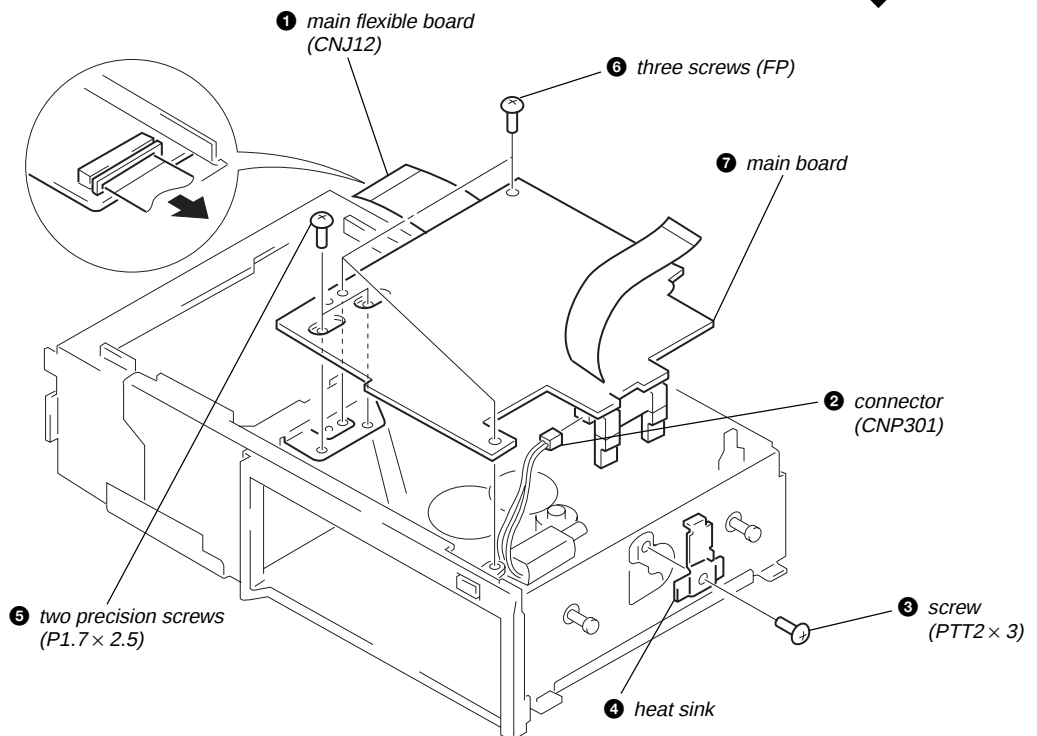
MECHANISM DECK (MG-250C-137)



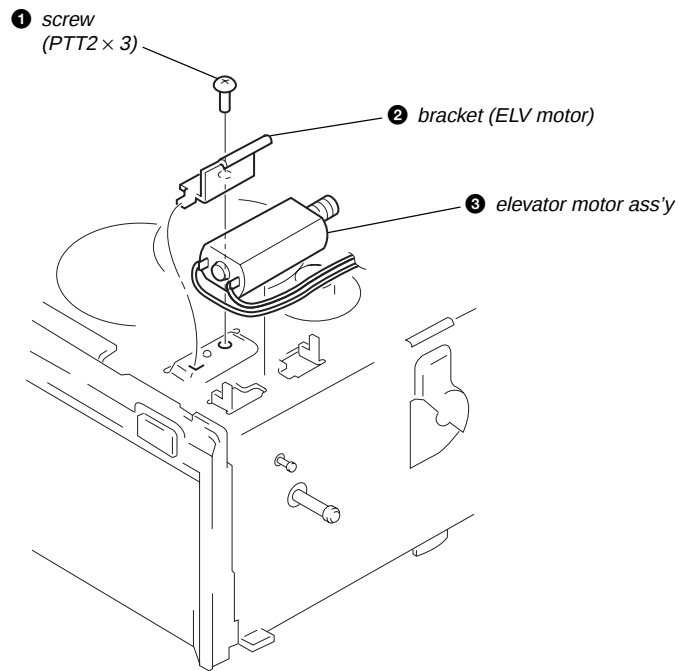
JACK BOARD



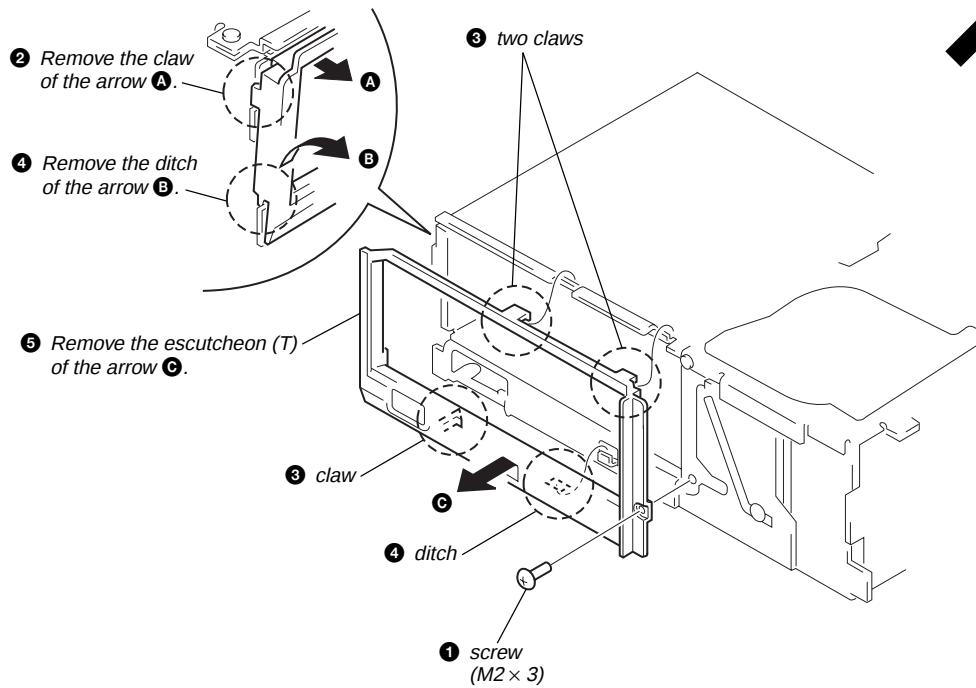
MAIN BOARD



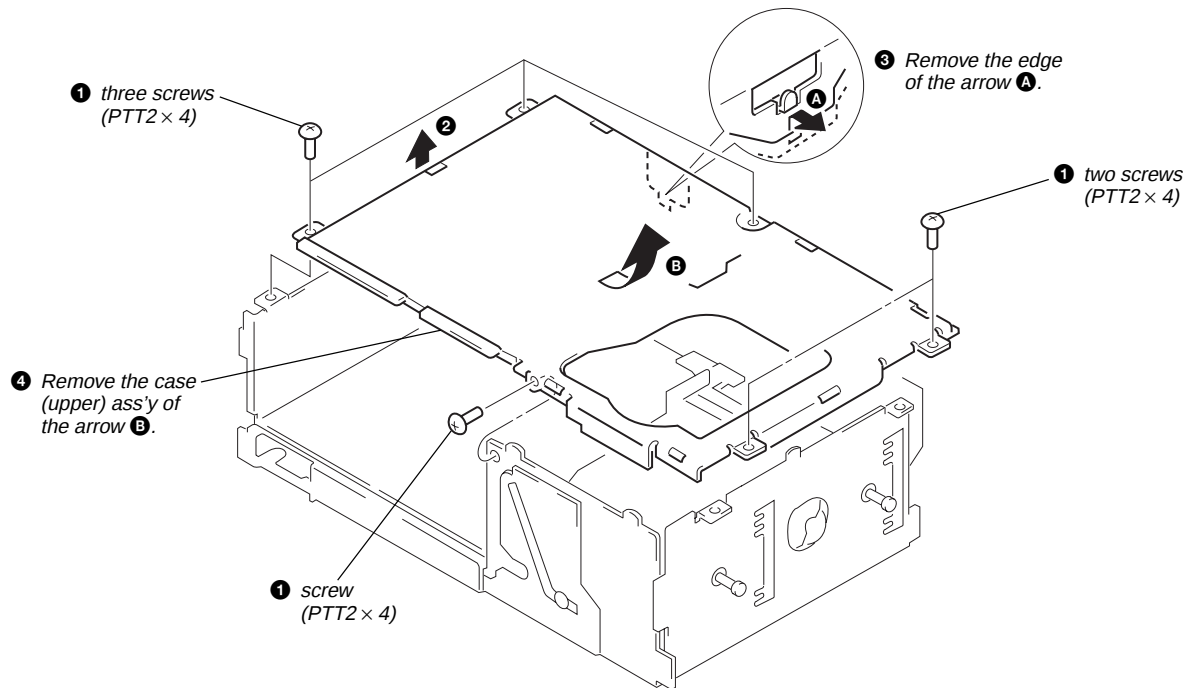
ELEVATOR MOTOR ASS'Y (M104)



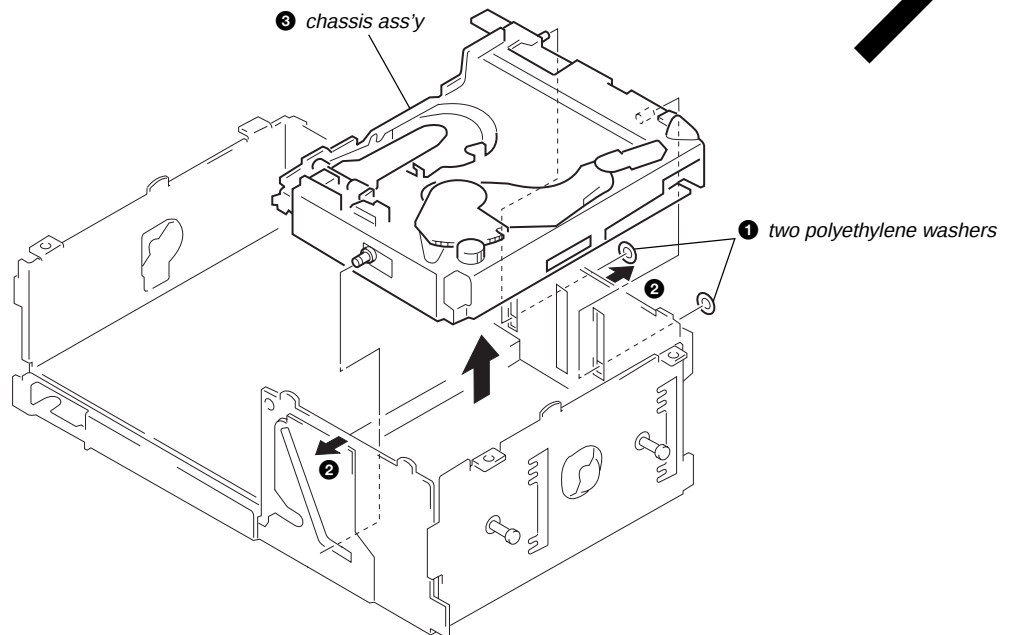
ESCUTCHEON (T)



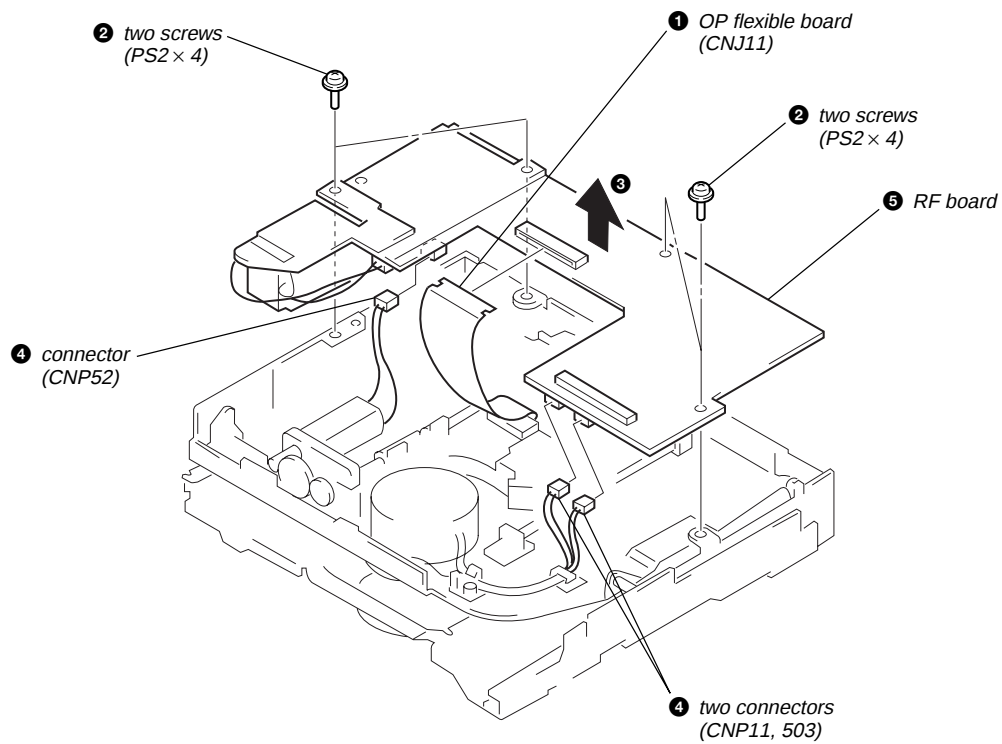
CASE (UPPER) ASS'Y



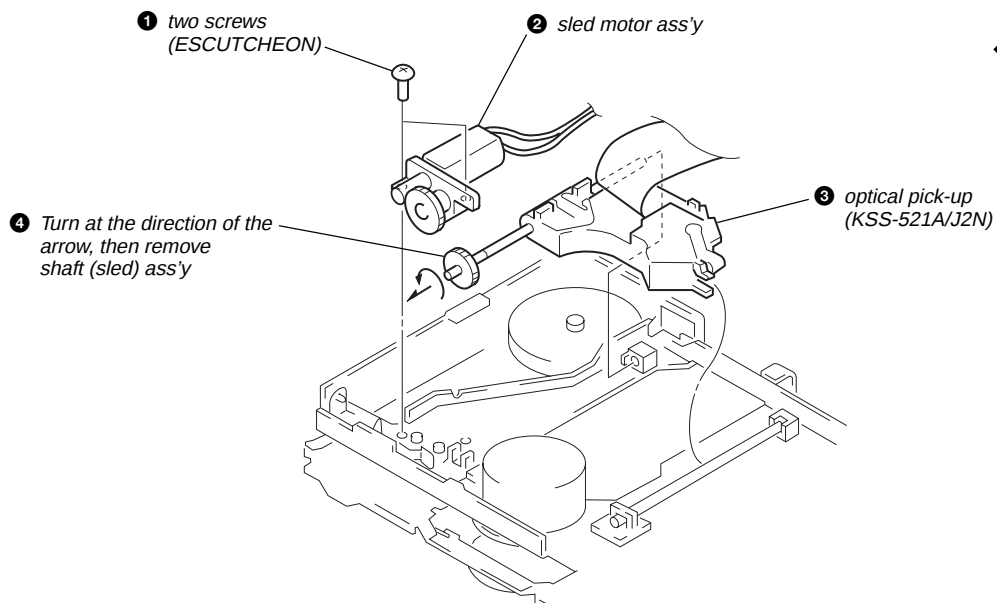
CHASSIS ASS'Y



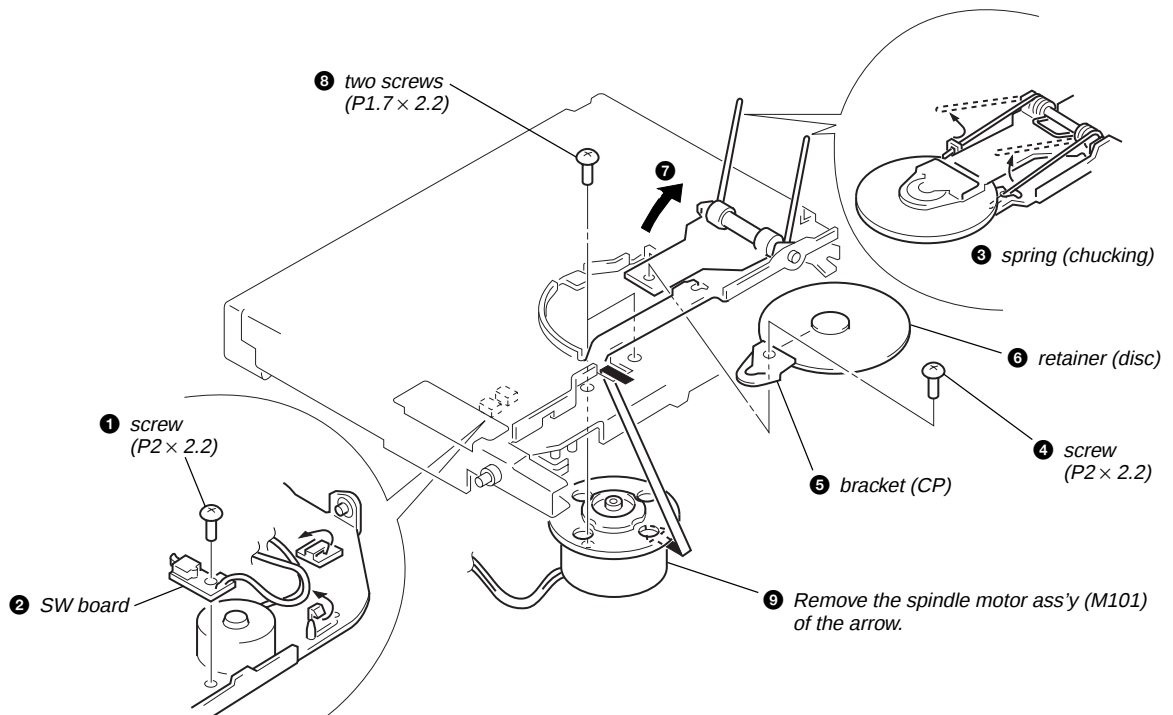
RF BOARD



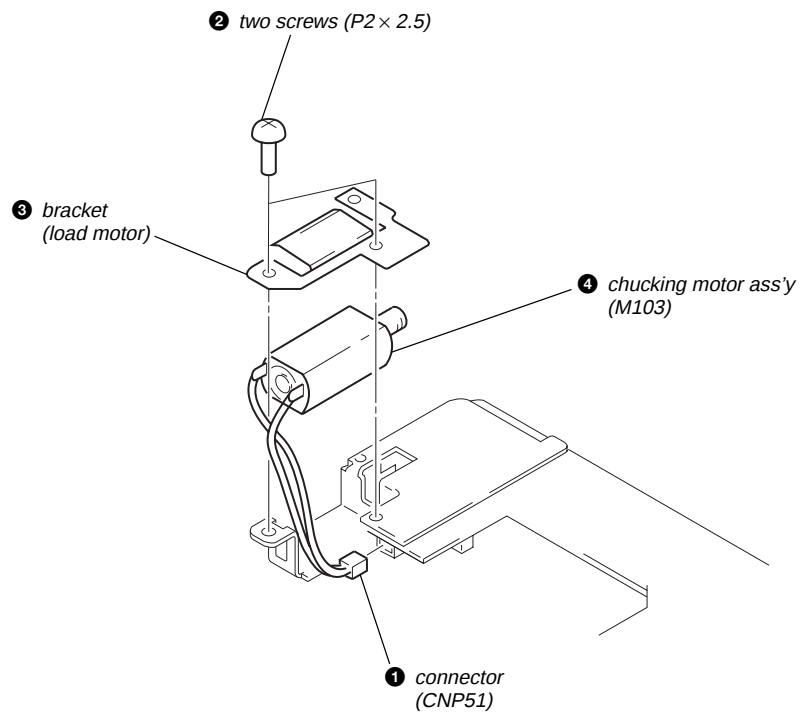
SLED MOTOR ASS'Y (M102), OPTICAL PICK-UP (KSS-521A/J2N)



SW BOARD, SPINDLE MOTOR ASS'Y (M101)



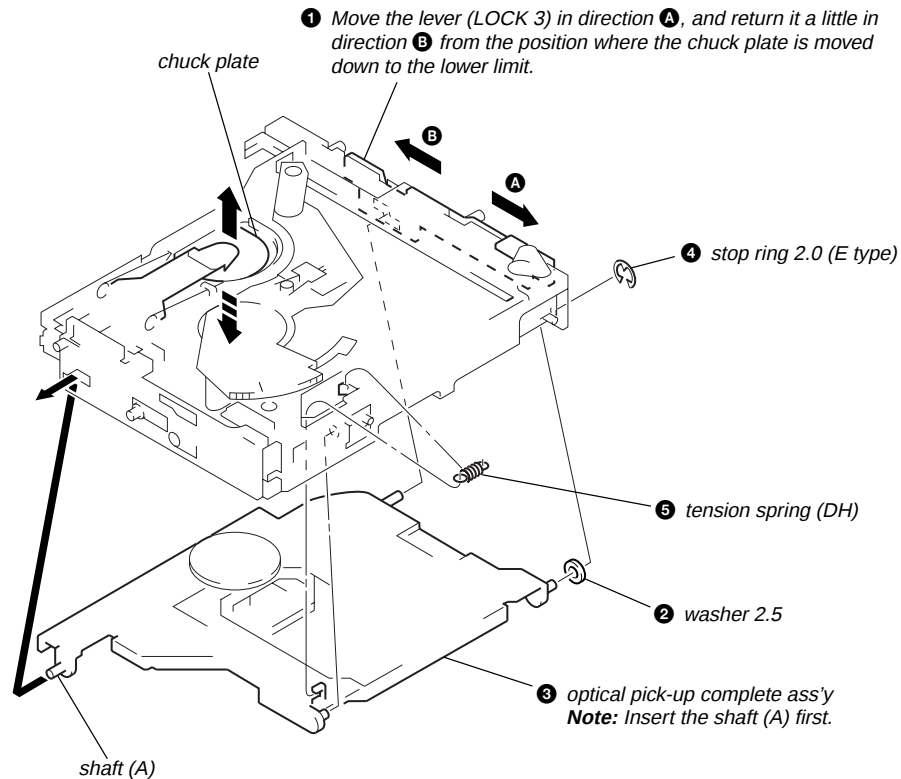
CHUCKING MOTOR ASS'Y (M103)



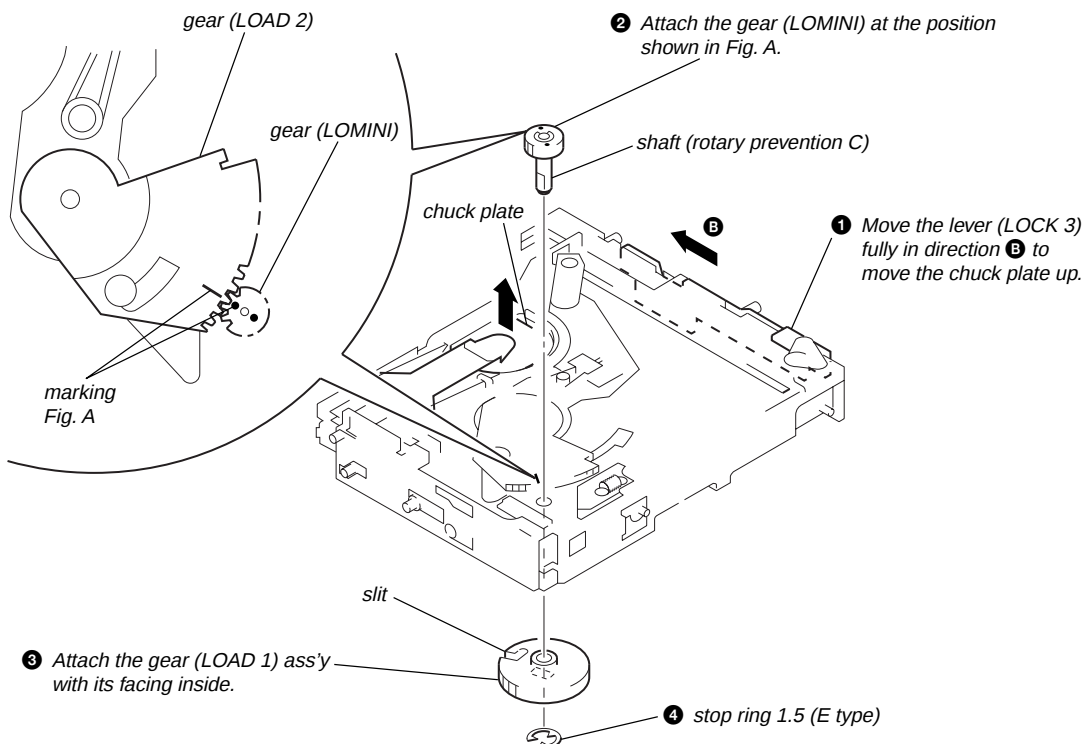
SECTION 4 MECHANISM DECK ASSEMBLY

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

OPTICAL PICK-UP COMPLETE ASS'Y

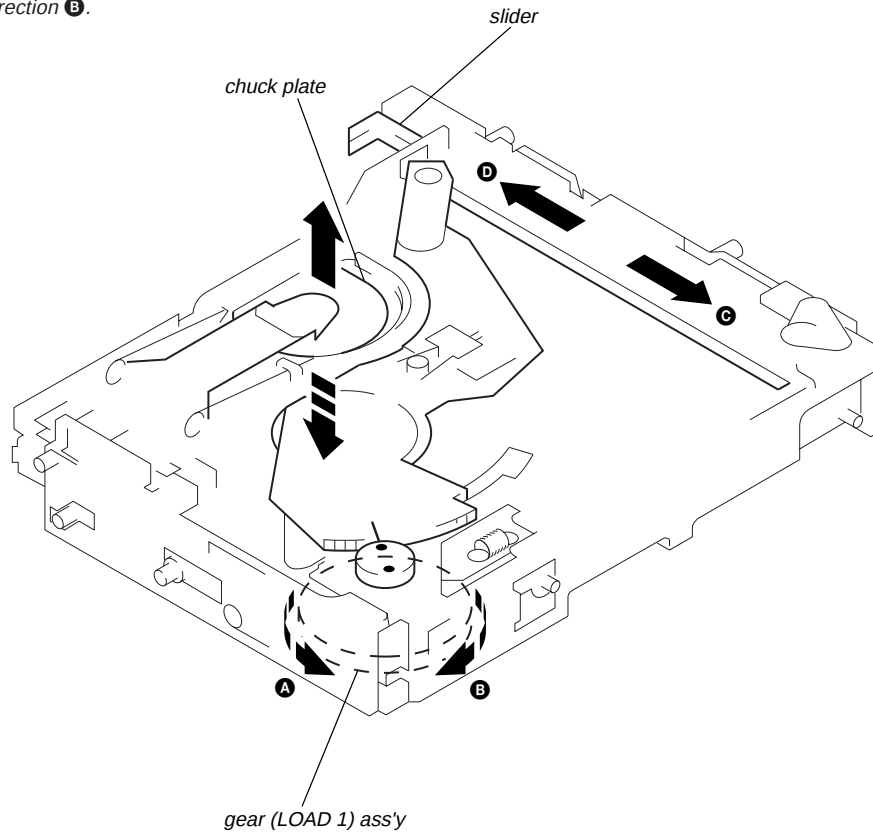


GEAR (LOMINI) / (LOAD 1) ASS'Y



OPERATION CHECK

- 1 Confirm that the slider moves in direction **C** to move down the chuck plate if the gear (LOAD 1) is rotated in direction **A** or the chuck plate moves up and the slider moves in direction **D** if the gear is rotated in direction **B**.

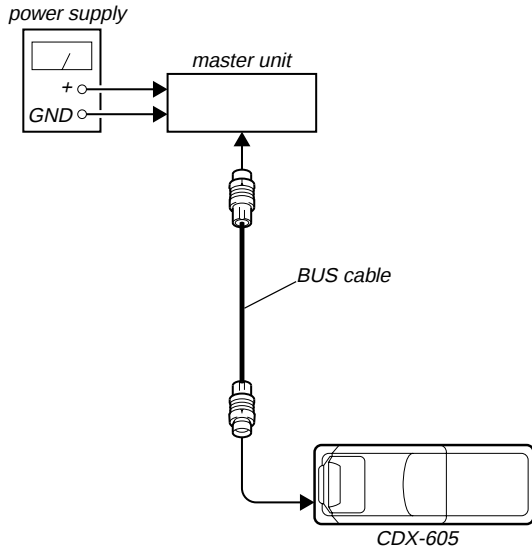


SECTION 5 MECHANICAL ADJUSTMENTS

• Elevator Height (Address) Adjustment

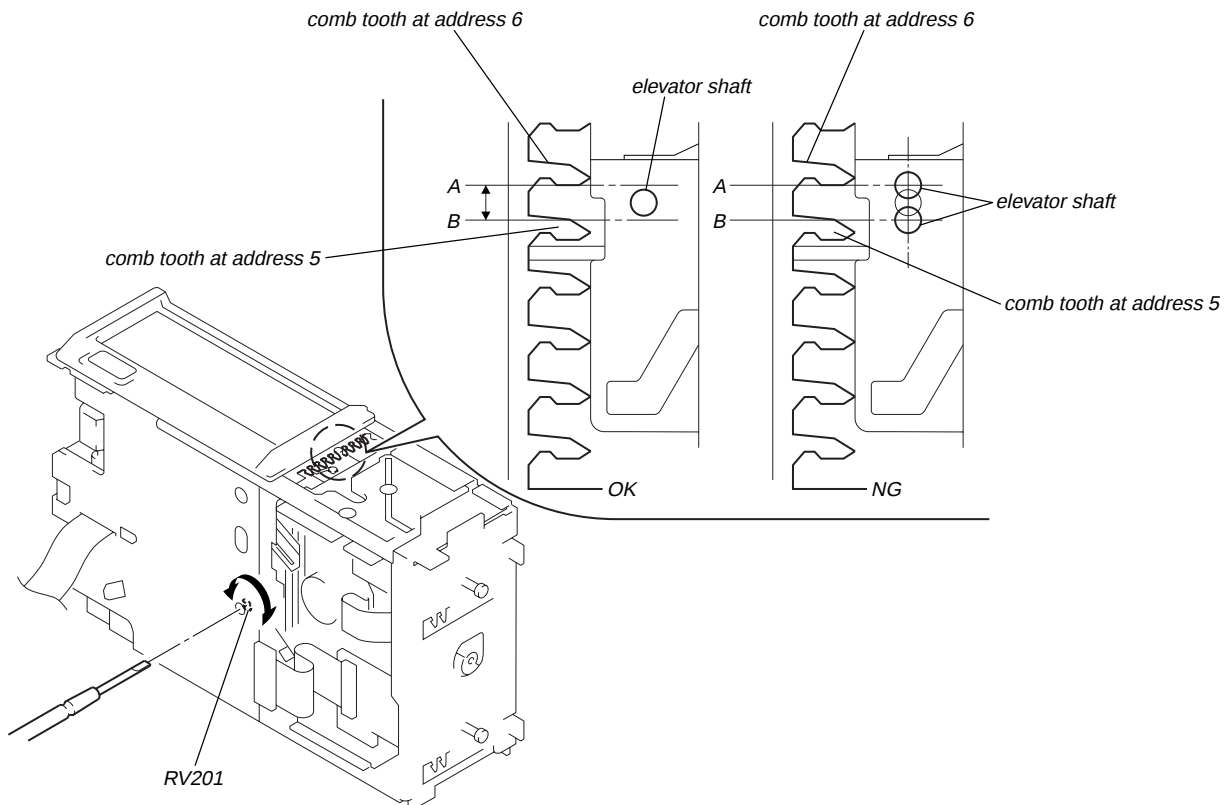
Note: This adjustments is necessary when the system controller (IC201), variable resistor (RV201), slider (R), slider (L), or chassis (ELV) was replaced for any repair.

Connection:



Adjustment Method:

1. Connect this set to the master unit (e.g. MDX-C670/C670RDS), load a disc magazine, and place the set vertically as shown below.
2. Connect the regulated power supply to the master unit, and turn the power on.
3. Press the DISC button on the master unit and select DISC 5.
4. At this time, if the elevator shaft does not position between comb teeth A and B at addresses 5 and 6 as shown below, adjust the following.
5. Press repeatedly the DISC + and – buttons on the master unit so that the elevator shafts moves from address 6 to address 5, or from 5 to 6. At this time, adjust RV201 on the main board so that the elevator shaft positions smoothly between comb teeth A and B.
6. Further, place the set horizontally and make same adjustment as mentioned above.
7. After adjustment at addresses 5 to 6 is finished, check all operations from addresses 1 to 10 with the set placed vertically and horizontally respectively to confirm that the elevator shaft positions in a range between comb teeth A to B.



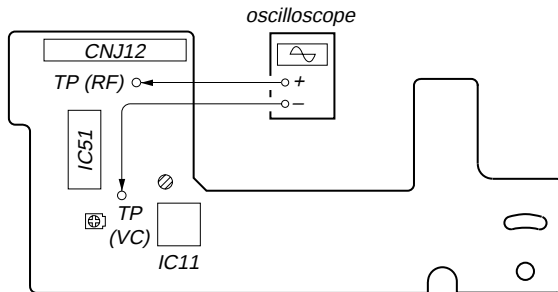
SECTION 6 ELECTRICAL ADJUSTMENTS

Note:

1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.
3. Power supply voltage: DC14.4 V (more than 3A).

• **FOCUS BIAS CHECK**

[RF BOARD] – Conductor Side –



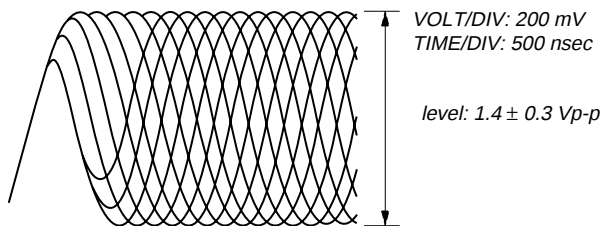
Procedure:

1. Connect the oscilloscope to RF board test point RF.
2. Put the set into play mode by loading the disc.
3. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note:

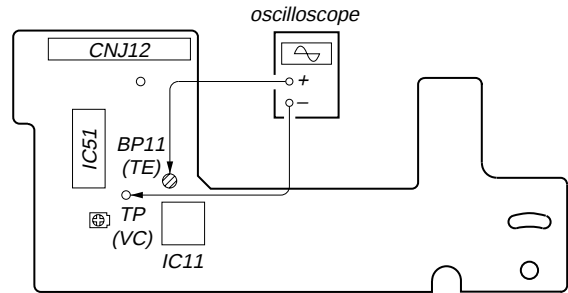
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



• **TRACKING OFFSET CHECK**

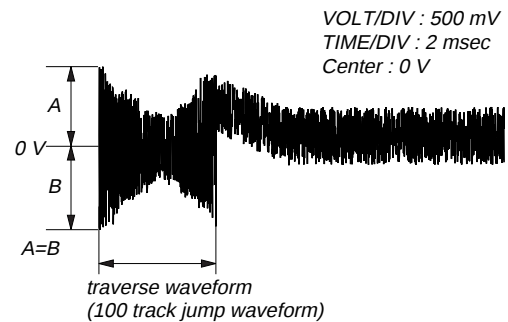
[RF BOARD] – Conductor Side –



Procedure:

1. Connect the oscilloscope to RF board bridge point TE.
2. Put the set into play mode by loading the disc.
3. Press the ◀◀ AMS ▶▶▶ button, then, check the traverse waveform.
4. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V dc, and check this level.

* Traverse waveform: This is the tracking error wave form appears when crossing the track.



• **FOCUS GAIN ADJUSTMENT
(COARSE ADJUSTMENT)**

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV14

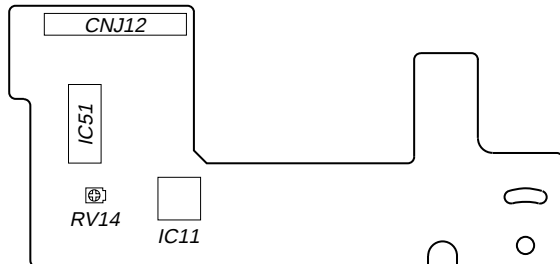
• **When gain is lowered...**

The set does not play because of no focus operation.

• **When gain is highered...**

Operation noise is heard due to a scratch or a dust, then operation will be unstable.

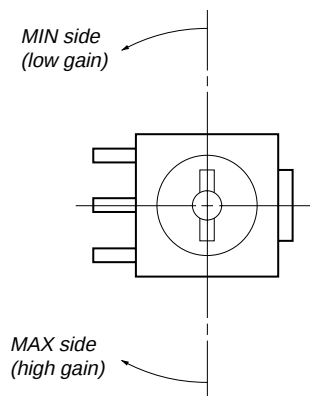
[RF BOARD] – Conductor Side –



Procedure:

1. Set RV14 (RF board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV14 slightly clockwise.

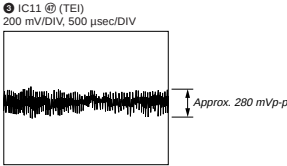
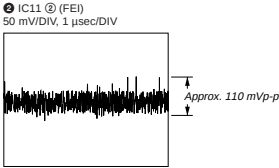
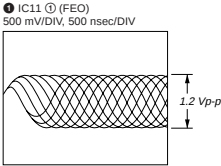
[RF BOARD] – Conductor Side –



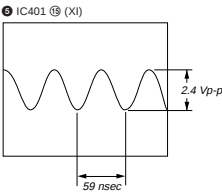
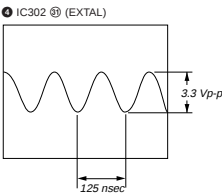
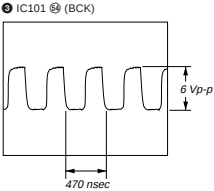
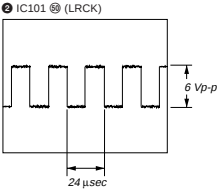
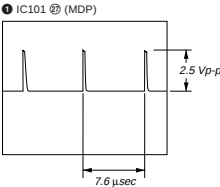
RV14 standard position

SECTION 7
DIAGRAMS

• Waveforms
– RF Section –



– MAIN Section –



7-1. NOTES FOR PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

Note on Schematic Diagram:

- All capacitors are in μ F unless otherwise noted. pF; μ F; 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.

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

- $\square$: B+ Line.
- $\square$: adjustment for repair.
- Power voltage is dc 14.4V and fed from CD changer controller.
- Voltages and waveforms are dc with respect to ground in playback mode.
- 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 an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- CD

Note on Printed Wiring Board:

- $\circ$: parts extracted from the component side.
- $\square$: parts extracted from the conductor side.
- $\bullet$: Through hole.
- Δ : internal component.
- $\square$: Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

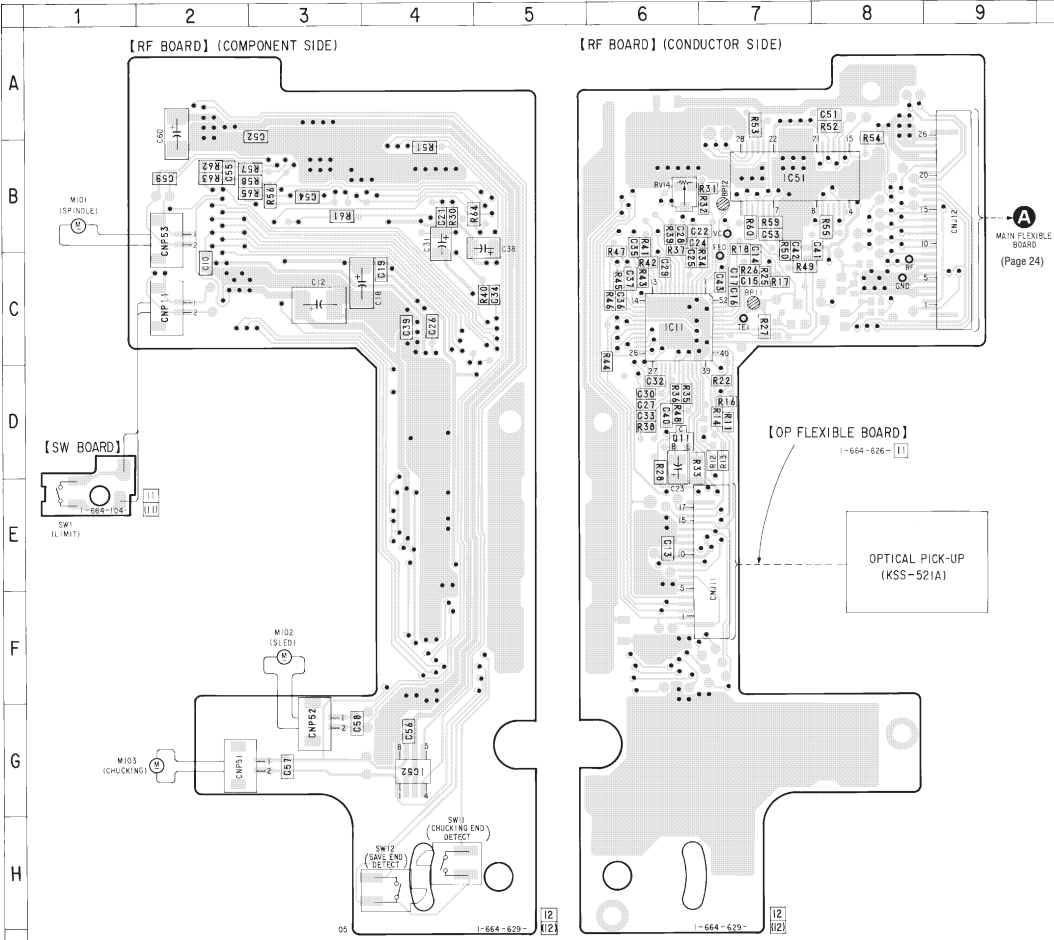
Caution:

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

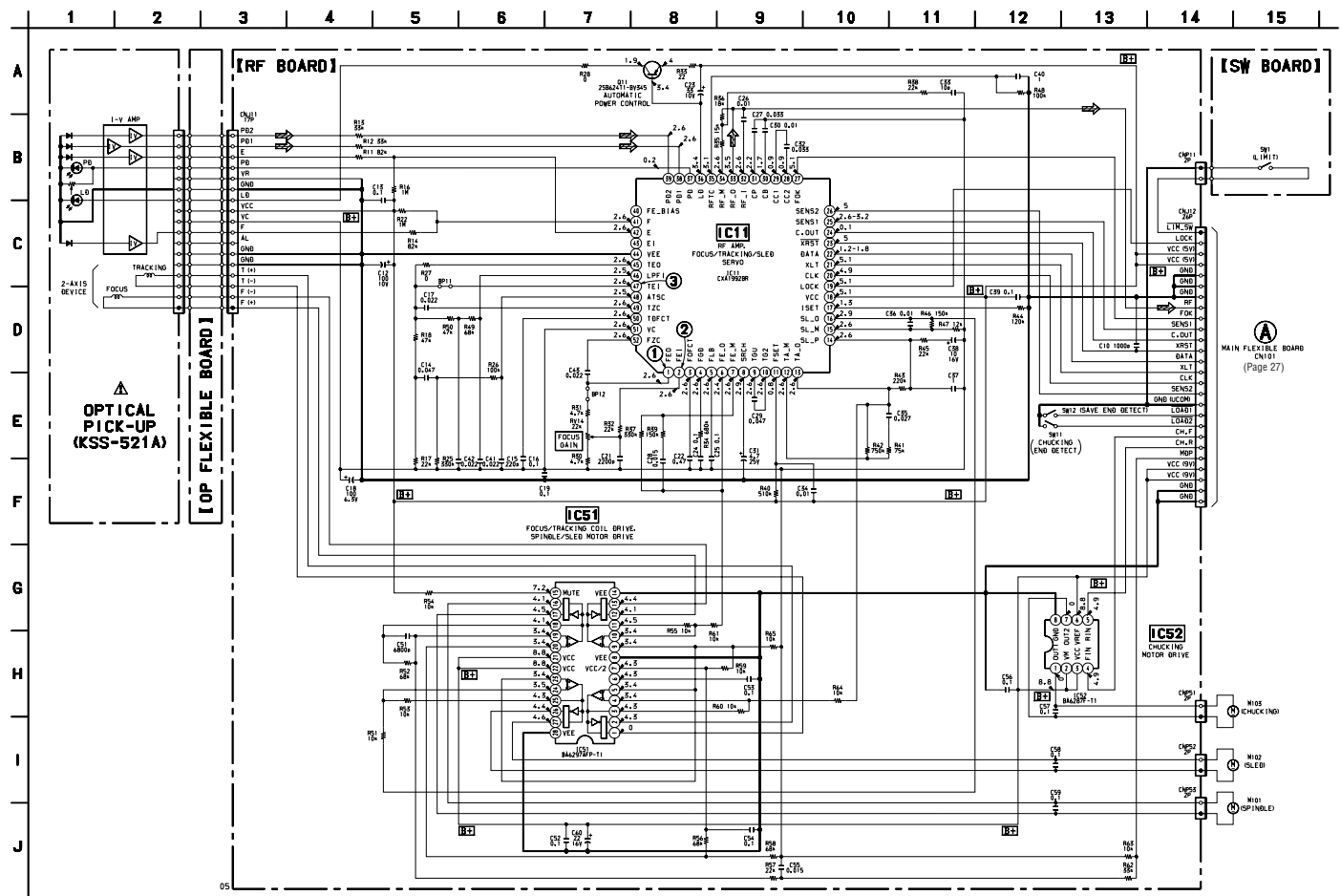
7-2. PRINTED WIRING BOARDS - RF Section -

• Semiconductor Location

Ref. No.	Location
IC11	C-6
IC51	B-7
IC52	G-4
Q11	D-6



7-3. SCHEMATIC DIAGRAM - RF Section - • See page 17 for Waveforms. • See page 31 for IC Block Diagrams.

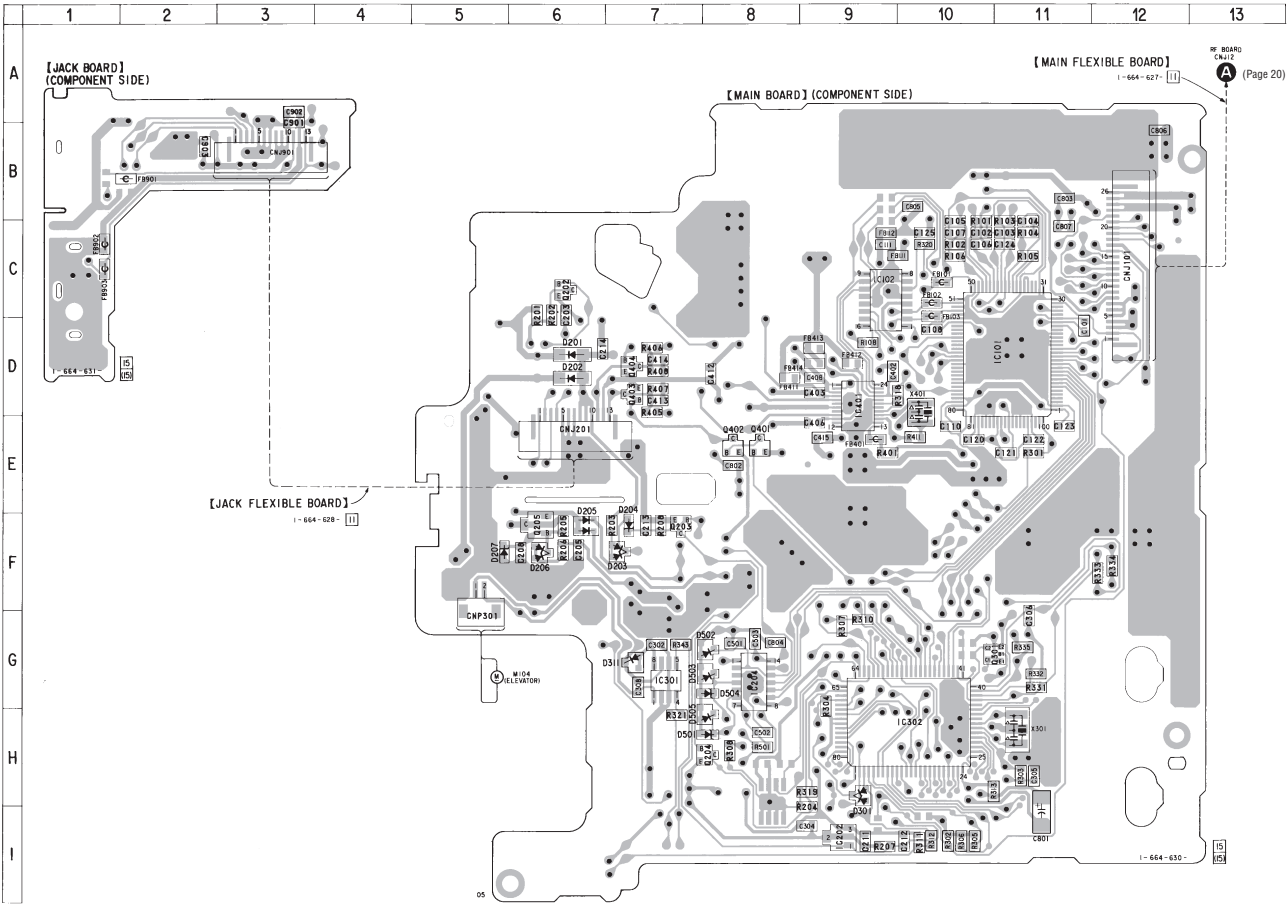


CDX-605

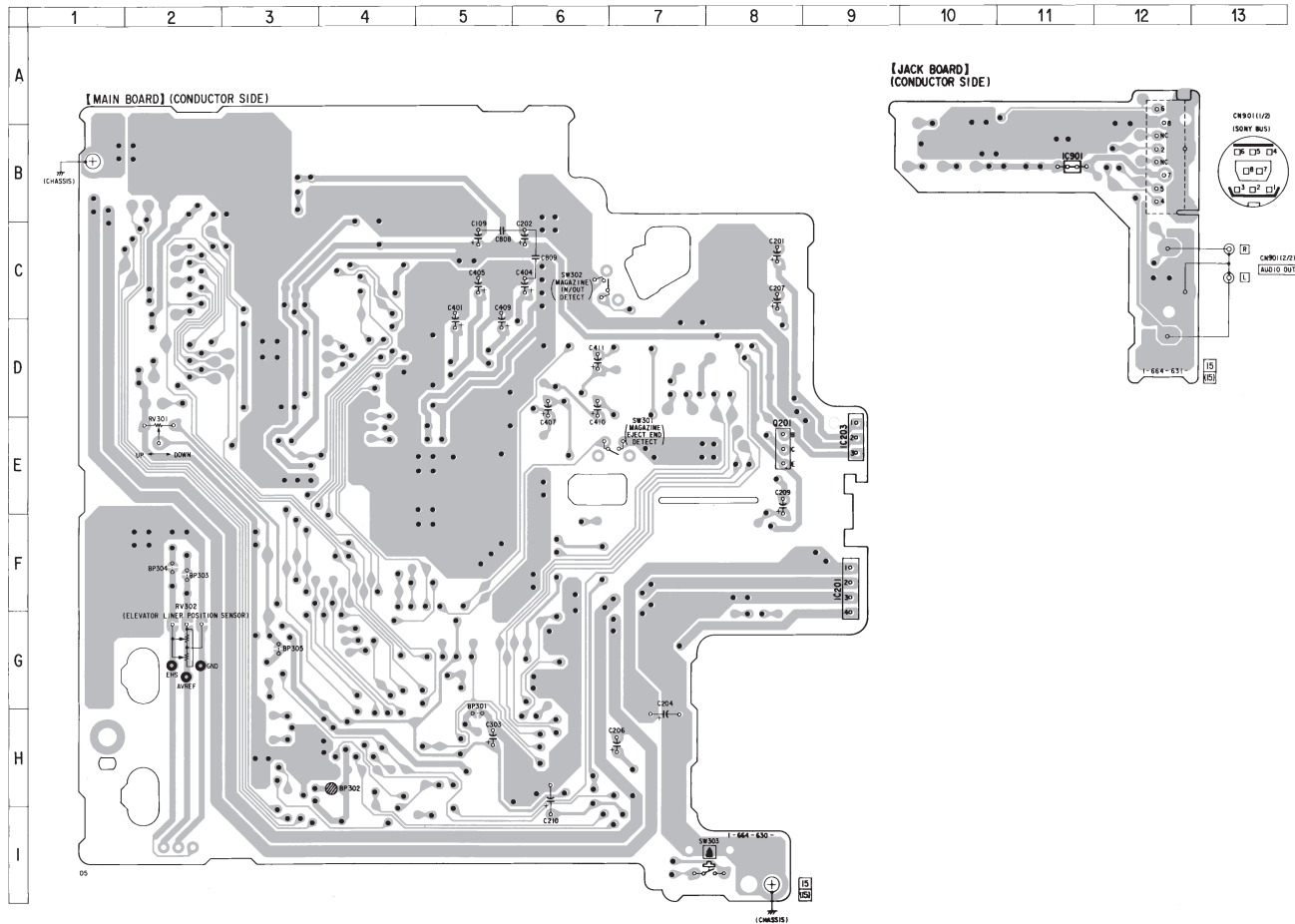
7-4. PRINTED WIRING BOARDS – MAIN/JACK BOARD (Component side) –

• Semiconductor Location

Ref. No.	Location
D201	D-6
D202	D-6
D203	F-7
D204	F-7
D205	F-6
D206	F-6
D207	F-5
D301	H-9
D311	G-7
D501	H-8
D502	G-8
D503	G-8
D504	G-8
D505	H-8
IC101	D-11
IC102	C-9
IC202	I-9
IC204	G-8
IC301	G-7
IC302	H-10
IC401	D-9
Q202	C-6
Q203	F-7
Q204	H-8
Q205	F-6
Q301	G-11
Q401	E-8
Q402	E-8
Q403	D-7
Q404	D-7

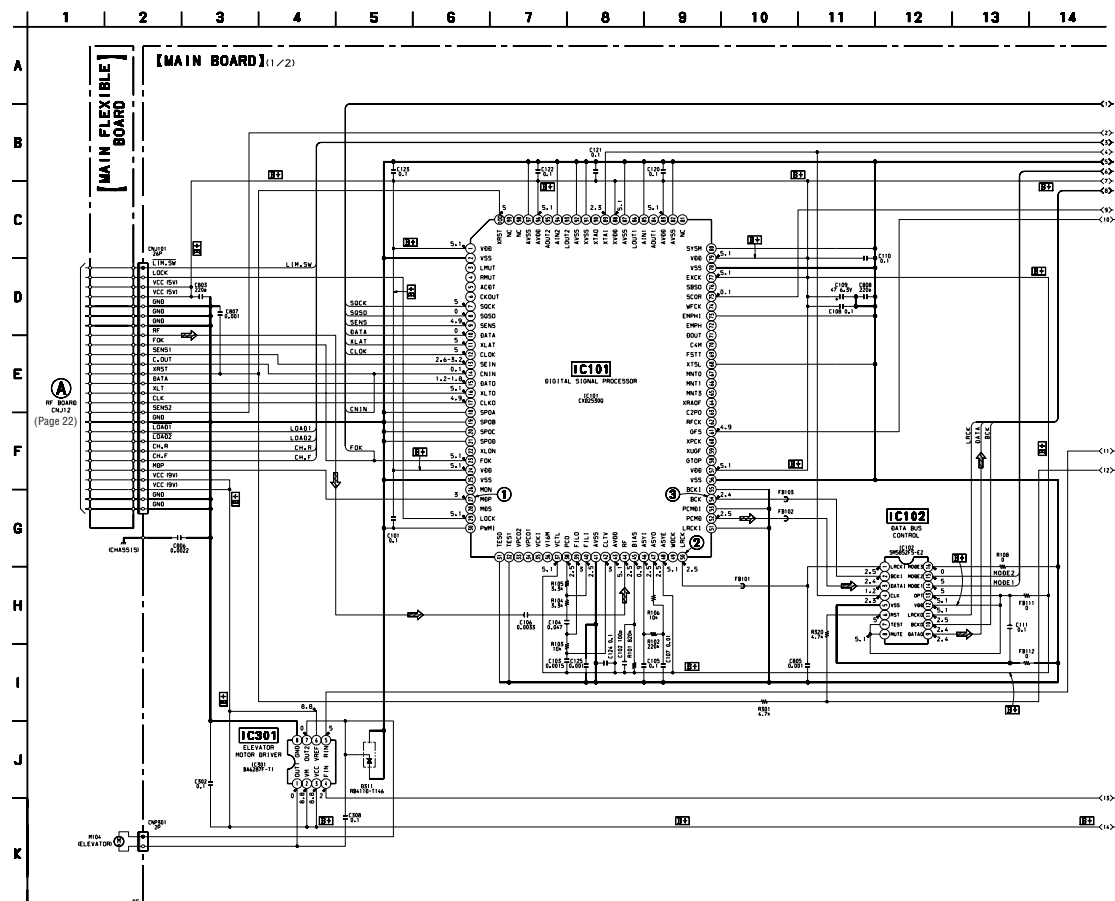


7-5. PRINTED WIRING BOARDS – MAIN/JACK BOARD (Conductor side) –

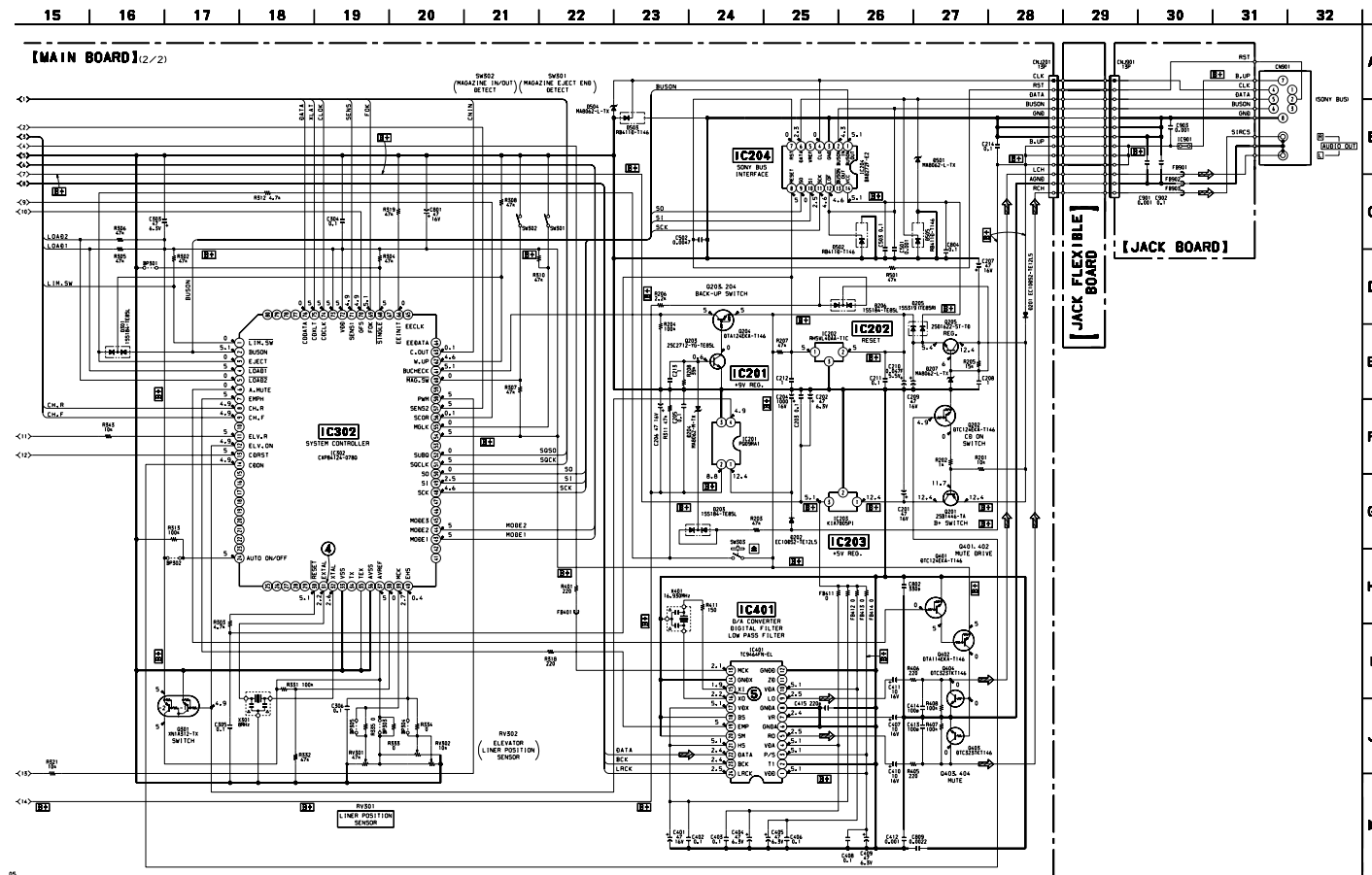


Ref. No.	Location
IC201	F-9
IC203	E-9
Q201	E-8

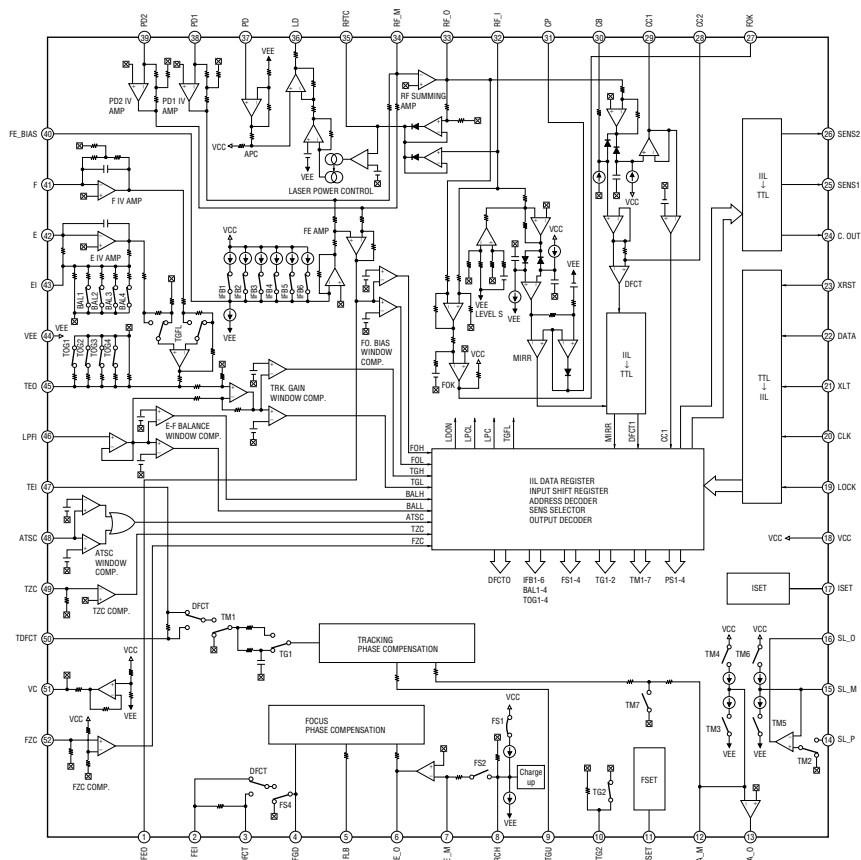
7-6. SCHEMATIC DIAGRAM – MAIN Section (1/2) – • See page 17 for Waveforms. • See page 31 for IC Block Diagrams.



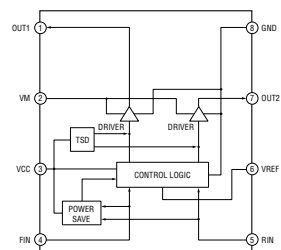
7-7. SCHEMATIC DIAGRAM – MAIN Section (2/2) – • See page 17 for Waveforms. • See page 31 for IC Block Diagrams.



IC11 CXA1992BR (RF BOARD)

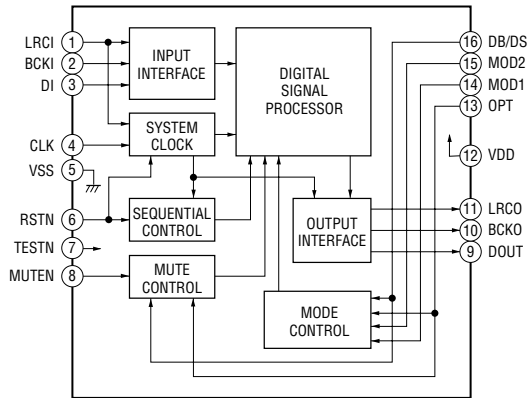


IC52 BA6287F (RF BOARD)
IC301 BA6287F (MAIN BOARD)

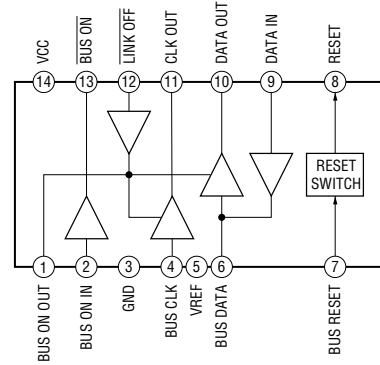


- 32 -

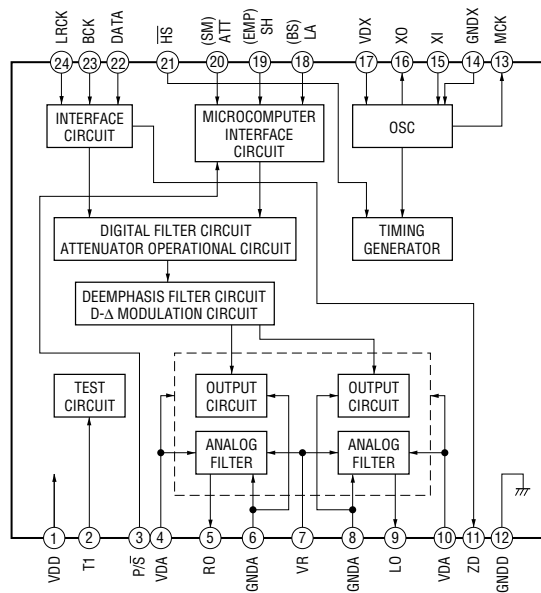
IC102 SM5852FS-E2 (MAIN BOARD)



IC204 BA8272F-E2 (MAIN BOARD)



IC401 TC9464FN-EL (MAIN BOARD)



7-8. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC302 CXP84124-078Q (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	<u>LIM.SW</u>	I	Sled limit in detect switch (SW1) input terminal “L”: When the optical pick-up is inner position
2	BUSON	I	Bus on/off control signal input from the SONY bus interface (IC204) “H”: bus on
3	EJECT	I	Eject switch (SW303) input terminal “H” active
4	<u>LOAD1</u>	I	Save end detect switch (SW12) input terminal “L”: When completion of the disc chucking operation
5	<u>LOAD2</u>	I	Chucking end detect switch (SW11) input terminal “L”: When completion of the disc chucking operation
6	A.MUTE	O	Audio line muting on/off control signal output terminal “H”: muting on
7	EMPH	O	Emphasis mode output to the D/A converter (IC401) “L”: emphasis on
8	CH.R	O	Motor drive signal (save direction) output to the chucking motor drive (IC52) “H” active *1
9	CH.F	O	Motor drive signal (load chucking direction) output to the chucking motor drive (IC52) “H” active *1
10	—	O	Not used (open)
11	ELV.R	O	Motor drive signal (elevator down direction) output to the elevator motor drive (IC301) “L” active *2
12	ELV.ON	O	Mechanism deck section power supply on/off control signal output “H”: power on
13	<u>CD RST</u>	O	System reset signal output to the CXA1992AR (IC11), CXD2530Q (IC101) and SM5852FS (IC102) “L”: reset
14	CDON	O	D/A converter and servo section power supply on/off control signal output “H”: power on
15 to 23	—	O	Not used (open)
24	AUTO ON/OFF	I	Setting terminal for the automatic adjustment “L”: automatic adjustment, “H”: manual adjustment (solder across the BP302 terminal) Normally: fixed at “L”
25 to 29	—	O	Not used (open)
30	<u>RESET</u>	I	System reset signal input from the reset signal generator (IC202) and SONY bus interface (IC204) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
31	EXTAL	I	Main system clock input terminal (8 MHz)
32	XTAL	O	Main system clock output terminal (8 MHz)
33	VSS	—	Ground terminal
34	TX	O	Sub system clock output terminal Not used (open)
35	TEX	I	Sub system clock input terminal Not used (fixed at “L”)
36	AVSS	—	Ground terminal (for A/D converter)
37	AVREF	I	Reference voltage (+5V) input terminal (for A/D converter)
38	ATRIBT	I	Selection input of the custom file, D-BASS, etc.
39	MCK	I	Input of signal for the fine adjustment (linear position sensor adjustment; RV301) of elevator position (A/D input)
40	EHS	I	Elevator height position detect input from the RV302 (elevator height sensor) (A/D input)
41	H.TEMP	I	High temperature sensor input terminal Not used (open)
42	—	O	Not used (open)
43	MODE1	O	D-BASS control signal output to the SM5852FS (IC102)
44	MODE2	O	D-BASS control signal output to the SM5852FS (IC102)
45	MODE3	O	D-BASS control signal output Not used (open)
46, 47	—	O	Not used (open)
48	SCK	I	Serial data transfer clock signal input from the SONY bus interface (IC204)
49	SI	I	Serial data input from the SONY bus interface (IC204)

Pin No.	Pin Name	I/O	Function
50	SO	O	Serial data output to the SONY bus interface (IC204)
51	SQCLK	O	Subcode Q data reading clock signal output to the CXD2530Q (IC101)
52	SUBQ	I	Subcode Q data input from the CXD2530Q (IC101)
53	—	O	Not used (open)
54	—	I	Not used (fixed at “H”)
55	MGLK	I	Magazine eject operation completion detect switch (SW301) input terminal “L”: eject completed
56	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD2530Q (IC101)
57	SENS2	I	Internal status signal (sense signal) input from the CXA1992AR (IC11)
58	PWM	O	Motor drive signal (elevator up direction) output to the elevator motor drive (IC301) “L” active *2
59	—	O	Not used (open)
60	MAG.SW	I	Magazine in/out detect switch (SW302) input terminal “L”: magazine detected
61	BUCHECK	I	Battery detection signal input terminal “H”: battery on
62	W.UP	I	Bus on or eject switch (SW303) input terminal “H”: bus on or eject switch pushing
63	C.OUT	I	Track number count signal input from the CXA1992AR (IC11)
64	EEDATA	I/O	Two-way data bus with the EEPROM Not used (open)
65	EECLK	O	Serial clock signal output to the EEPROM Not used (open)
66	EEINIT	I	Initialize signal input for the EEPROM “H”: format Fixed at “L” in this set
67	—	O	Not used (open)
68	SINGLE	I	Setting terminal for the single disc/multiple discs mode “L”: single mode, “H”: multiple discs mode (fixed at “H”)
69	FOK	I	Focus OK signal input from the CXA1992AR (IC11) “L”: NG, “H”: OK
70	GFS	I	Guard frame sync signal input from the CXD2530Q (IC101) “L”: NG, “H”: OK
71	SENS1	I	Internal status signal (sense signal) input from the CXD2530Q (IC101)
72	VDD	—	Power supply terminal (+5V)
73	NC (VDD)	—	Connected to the power supply (+5V)
74	CDCLK	O	Serial data transfer clock signal output to the CXD2530Q (IC101)
75	CDXLT	O	Serial data latch pulse signal output to the CXD2530Q (IC101)
76	CDDATA	O	Serial data output to the CXD2530Q (IC101)
77 to 80	—	O	Not used (open)

*1 chucking motor (M103) control

Terminal \ Mode	STOP	LOAD CHUCKING	SAVE	BRAKE
CH.F (pin ⑨)	“L”	“H”	“L”	“H”
CH.R (pin ⑩)	“L”	“L”	“H”	“H”

*2 elevator motor (M104) control

Terminal \ Mode	STOP	ELEVATOR UP	ELEVATOR DOWN	BRAKE
PWM (pin ⑤⑧)	“H”	“L”	“H”	“L”
ELV.R (pin ⑪)	“H”	“H”	“L”	“L”

SECTION 8 EXPLODED VIEWS

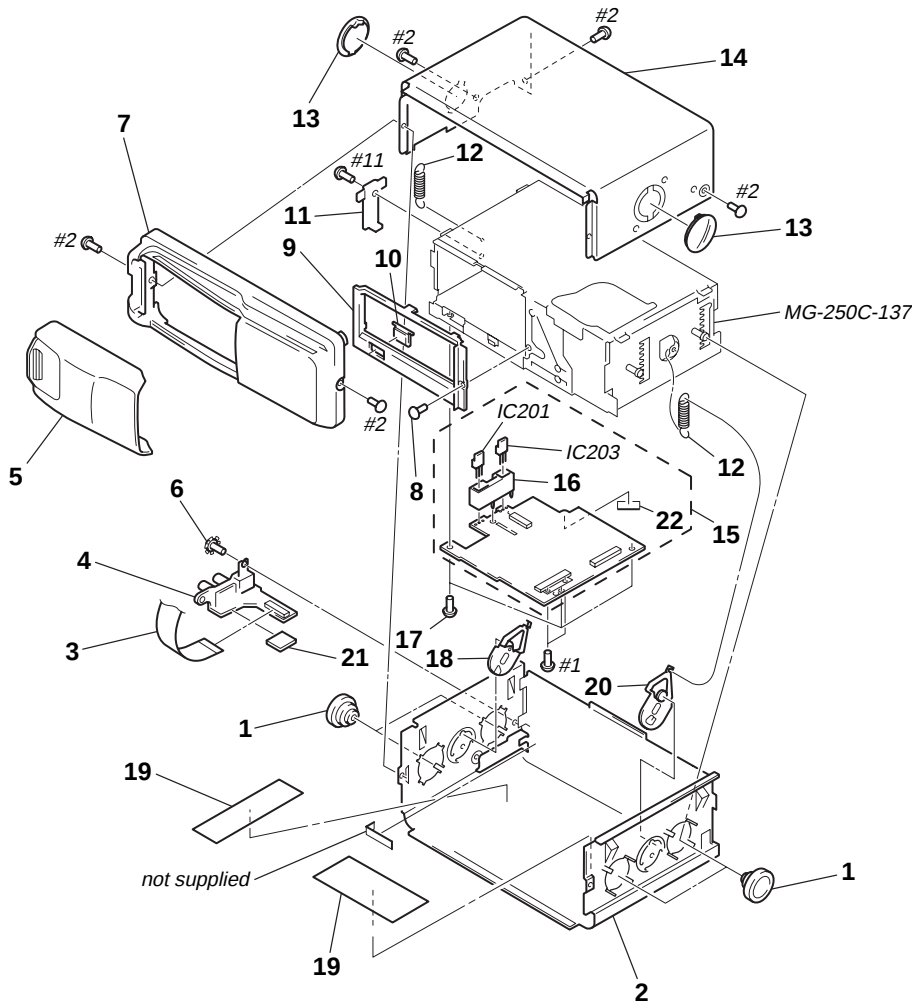
NOTE:

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

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

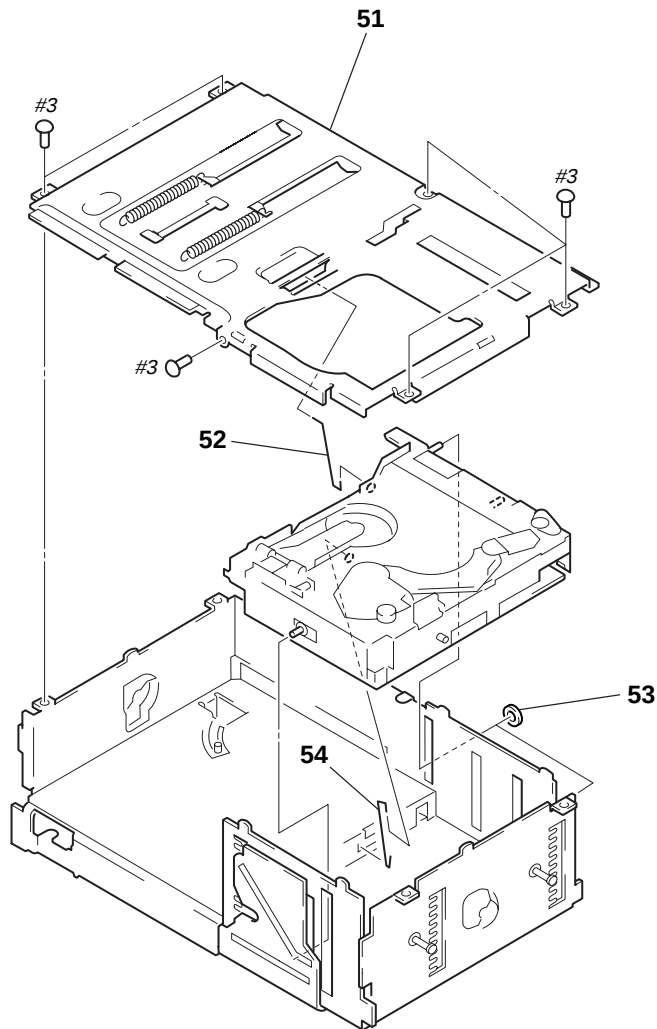
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

(1) COVER SECTION



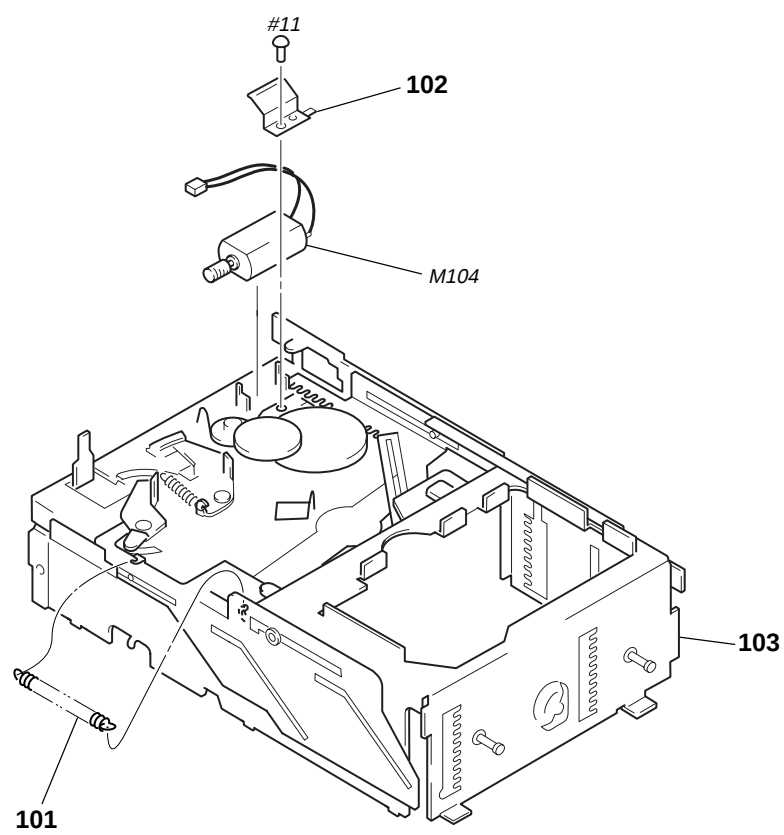
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-010-104-01	DAMPER (250)		13	3-010-101-11	LEVER (FLT)	
* 2	3-010-097-41	COVER (LOWER)		* 14	3-010-096-41	COVER (UPPER)	
3	1-664-628-11	JACK FLEXIBLE BOARD		* 15	A-3317-257-A	MAIN BOARD, COMPLETE	
* 4	1-664-631-15	JACK BOARD		* 16	3-022-694-01	HOLDER (TR3)	
5	X-3375-359-2	DOOR (T) ASSY		17	3-935-636-11	SCREW (FP)	
6	3-376-464-11	SCREW (+PTT 2.6X6), GROUND POINT		18	X-3375-357-1	ARM (FLT) ASSY	
7	3-022-002-01	PANEL (T), FRONT		19	3-013-658-01	SHEET (FJT), PROTECTION	
8	3-012-388-01	SCREW (M2X3)		20	X-3375-360-1	ARM (FRT) ASSY	
9	3-022-006-01	ESCUTCHEON (T)		21	3-350-124-01	CUSHION (EJECT)	
10	3-022-007-01	BUTTON (EJT) (Δ)		* 22	3-016-116-01	TAPE (D), MOUNT	
* 11	3-022-012-01	HEAT SINK (T)		IC201	8-759-054-12	IC PQ09RA1	
12	3-010-103-01	SPRING (FL), TENSION		IC203	8-759-324-40	IC KIA7805PI	

(2) MECHANISM DECK SECTION-1
(MG-250C-137)



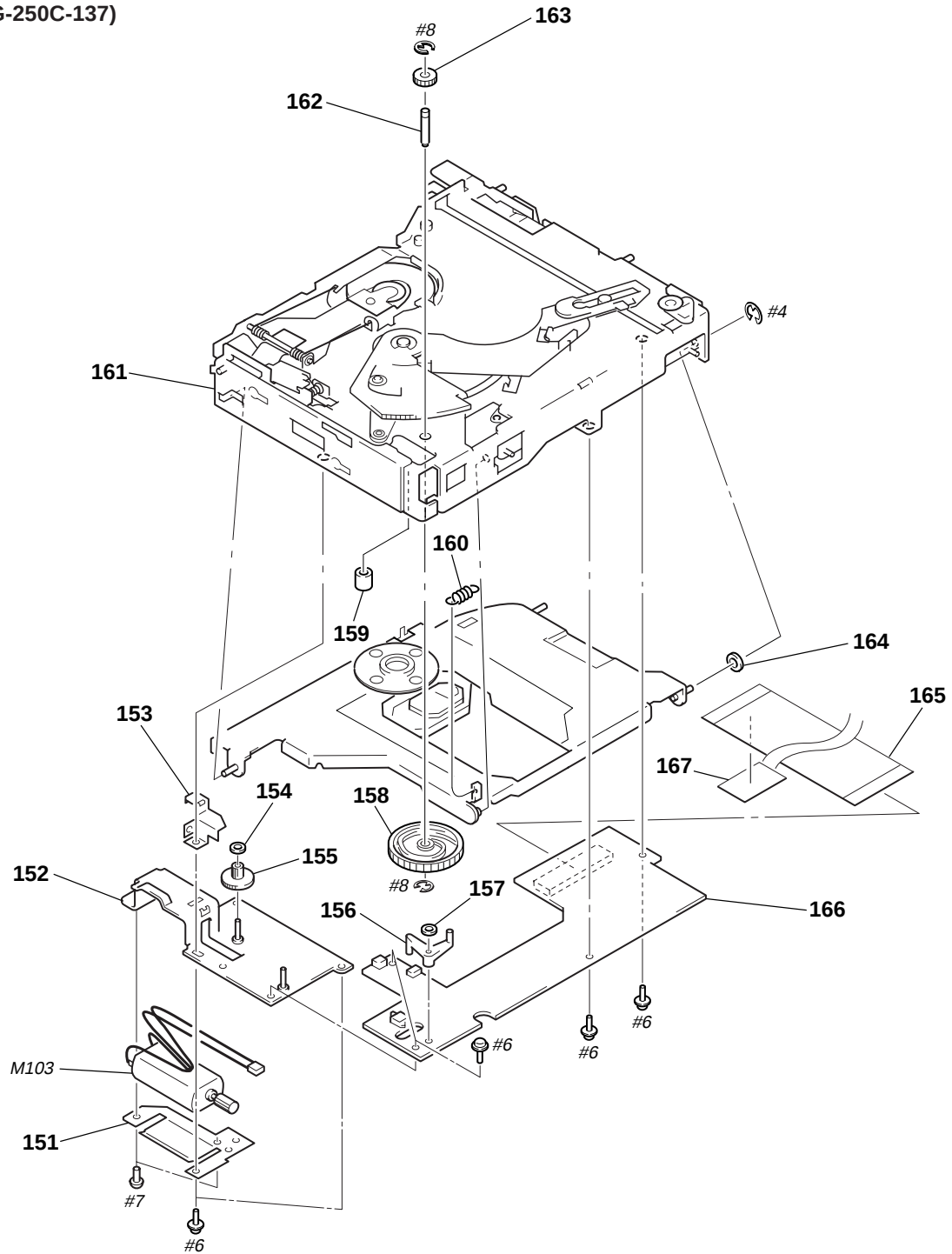
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3375-497-1	CHASSIS (U) SUB ASSY		53	4-965-759-01	WASHER, POLYETHYLENE	
52	3-024-161-01	SPRING (SUT)		54	3-011-997-01	SPRING (STOPPER. LOWER)	

(3) MECHANISM DECK SECTION-2
(MG-250C-137)



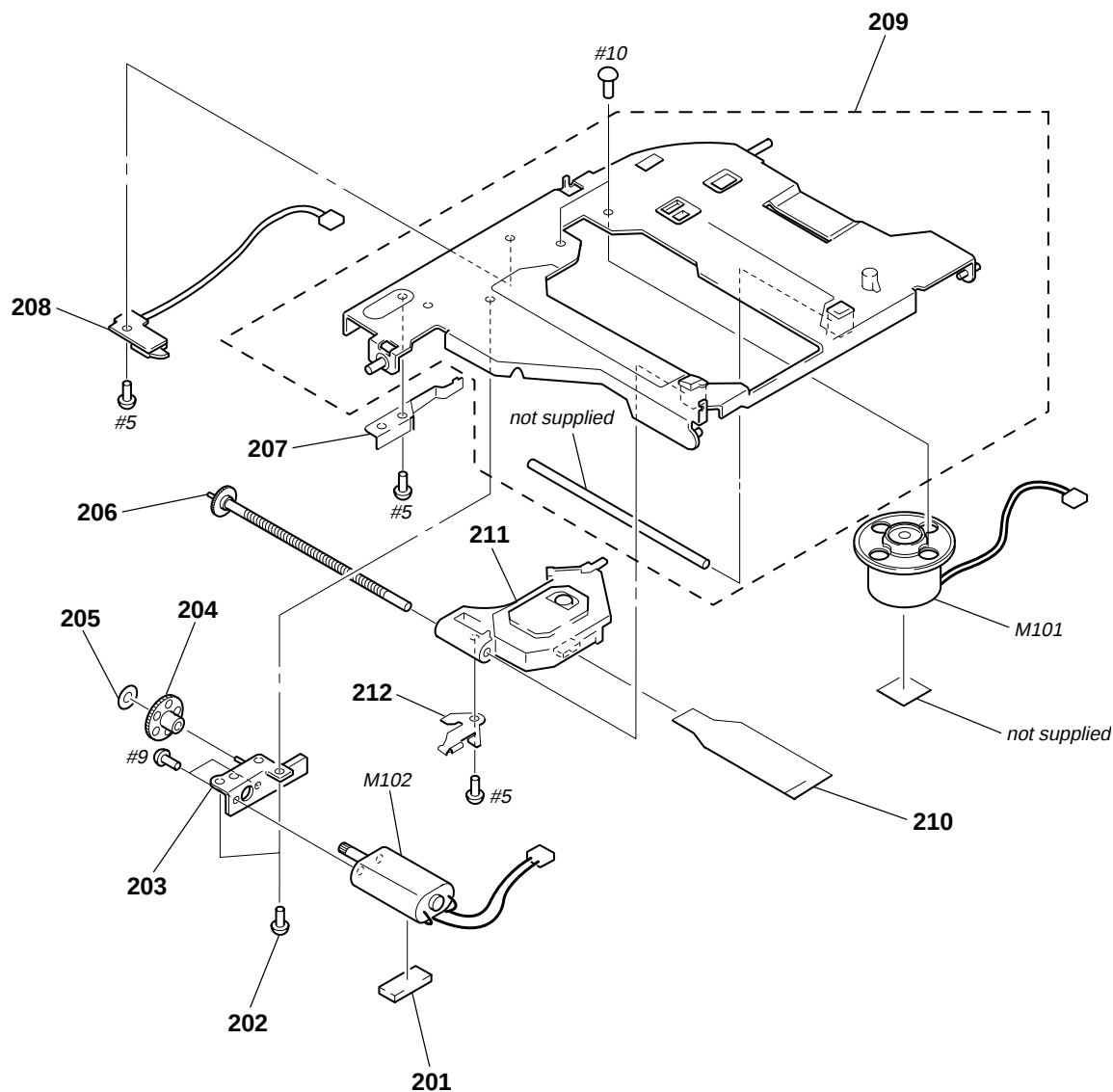
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-024-170-01	SPRING (SB), TENSION		103	X-3375-498-1	CHASSIS (D) SUB ASSY	
* 102	3-024-172-01	BRACKET (EVM)		M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)	

(4) MECHANISM DECK SECTION-3
(MG-250C-137)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 151	3-024-150-01	RETAINER (CHM)		160	3-010-268-01	SPRING (DH), TENSION	
* 152	X-3375-445-1	BRACKET (CHM) ASSY		* 161	A-3290-194-D	CHASSIS (EVY) (MAIN) ASSY	
153	3-010-270-01	COVER (CHM)		162	3-010-254-01	SHAFT (ROTARY PREVENTION C)	
154	3-321-813-01	WASHER, COTTER POLYETHYLENE		163	3-010-253-01	GEAR (LOMINI)	
155	3-017-139-01	GEAR (WORM LOAD A)		164	3-701-438-11	WASHER, 2.5	
156	3-010-255-01	ARM (LSW)		165	1-664-627-11	MAIN FLEXIBLE BOARD	
157	3-573-936-00	STOPPER, REEL		* 166	A-3313-586-A	RF BOARD, COMPLETE	
158	X-3373-552-1	GEAR (LOAD 1) ASSY		167	3-911-215-02	SHEET (LEAD RETAINER)	
159	3-010-252-01	ROLLER (CRE)		M103	A-3291-953-A	MOTOR ASSY, EL (CHUCKING)	

(5) MECHANISM DECK SECTION-4
(MG-250C-137)



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	3-911-215-02	SHEET (LEAD RETAINER)		* 208	1-664-104-11	SW BOARD	
202	3-920-362-01	SCREW (ESCUTCHEON)		* 209	A-3301-077-A	BASE (OPT) (J) ASSY	
203	X-3373-229-1	BASE (SLED) ASSY		210	1-664-626-11	OP FLEXIBLE BOARD	
204	3-010-258-01	GEAR (SLED MID)		Δ 211	8-820-010-05	OPTICAL PICK-UP KSS-521A/J2RP	
205	3-573-936-00	STOPPER, REEL		212	3-010-262-01	DETENT (SLED)	
206	A-3291-958-A	SHAFT (SLED) ASSY		M101	A-3291-956-A	MOTOR SUB ASSY, SPINDLE	
207	3-010-263-01	DETENT (SHAFT THRUST)		M102	A-3291-955-A	MOTOR SUB ASSY, SLED	

SECTION 9 ELECTRICAL PARTS LIST

JACK

MAIN

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
*	1-664-631-15	JACK BOARD					C125	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
		*****					C201	1-124-589-11	ELECT	47uF	20%	16V	
							C202	1-126-513-11	ELECT	47uF	20%	6.3V	
		< CAPACITOR >					C203	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C901	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C204	1-115-466-11	ELECT	1000uF	20%	16V		
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C205	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
C903	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C206	1-124-589-11	ELECT	47uF	20%	16V		
						C207	1-124-589-11	ELECT	47uF	20%	16V		
		< CONNECTOR >				C208	1-164-346-11	CERAMIC CHIP	1uF		16V		
CN901	1-779-077-41	PLUG, CONNECTOR (SONY BUS, AUDIO OUT)				C209	1-124-589-11	ELECT	47uF	20%	16V		
CNJ901	1-778-775-21	CONNECTOR, FPC 13P				C210	1-125-701-11	DOUBLE LAYER	0.047F		5.5V		
						C211	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
		< FERRITE BEAD >				C212	1-164-346-11	CERAMIC CHIP	1uF		16V		
						C213	1-164-346-11	CERAMIC CHIP	1uF		16V		
FB901	1-500-445-21	FERRITE	0uH				C214	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
FB902	1-500-445-21	FERRITE	0uH				C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
FB903	1-500-445-21	FERRITE	0uH				C303	1-126-513-11	ELECT	47uF	20%	6.3V	
						C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
		< IC LINK >				C305	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
IC901	1-532-686-21	LINK, IC											
*****							C306	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
						C308	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
*	A-3317-257-A	MAIN BOARD, COMPLETE				C401	1-124-589-11	ELECT	47uF	20%	16V		
		*****				C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
						C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
*	3-022-694-01	HOLDER (TR3)											
*	3-016-116-01	TAPE (D), MOUNT				C404	1-126-513-11	ELECT	47uF	20%	6.3V		
						C405	1-126-513-11	ELECT	47uF	20%	6.3V		
		< CAPACITOR >				C406	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
						C407	1-126-157-11	ELECT	10uF	20%	16V		
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C408	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
C102	1-163-251-11	CERAMIC CHIP	100PF	5%	50V								
C103	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	C409	1-126-513-11	ELECT	47uF	20%	6.3V		
C104	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	C410	1-126-157-11	ELECT	10uF	20%	16V		
C105	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	C411	1-126-157-11	ELECT	10uF	20%	16V		
						C412	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V		
C106	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	C413	1-163-251-11	CERAMIC CHIP	100PF	5%	50V		
C107	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V								
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C414	1-163-251-11	CERAMIC CHIP	100PF	5%	50V		
C109	1-126-513-11	ELECT	47uF	20%	6.3V	C415	1-163-259-11	CERAMIC CHIP	220PF	5%	50V		
C110	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C501	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V		
						C502	1-163-029-11	CERAMIC CHIP	0.0047uF		50V		
C111	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C503	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
C120	1-163-038-00	CERAMIC CHIP	0.1uF		25V								
C121	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C801	1-104-823-11	TANTAL. CHIP	47uF	20%	16V		
C122	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C802	1-163-263-11	CERAMIC CHIP	330PF	5%	50V		
C123	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C803	1-163-259-11	CERAMIC CHIP	220PF	5%	50V		
						C804	1-163-038-00	CERAMIC CHIP	0.1uF		25V		
C124	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C805	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V		

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C806	1-164-161-11	CERAMIC CHIP	0.0022uF 10% 100V	Q404	8-729-015-39	TRANSISTOR DTC323TK	
C807	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V			< RESISTOR >	
C808	1-162-286-21	CERAMIC	220PF F 10% 50V	R101	1-216-119-00	METAL CHIP	820K 5% 1/10W
C809	1-162-302-11	CERAMIC	0.0022uF 30% 16V	R102	1-216-105-00	RES, CHIP	220K 5% 1/10W
		< CONNECTOR >		R103	1-216-073-00	METAL CHIP	10K 5% 1/10W
CNJ101	1-770-351-11	CONNECTOR, FPC 26P		R104	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
CNJ201	1-770-350-21	CONNECTOR, FPC 13P		R105	1-216-061-00	METAL CHIP	3.3K 5% 1/10W
CNP301	1-580-055-21	PIN, CONNECTOR 2P					
		< DIODE >		R106	1-216-073-00	METAL CHIP	10K 5% 1/10W
D201	8-719-210-33	DIODE EC10DS2		R108	1-216-295-00	SHORT	0
D202	8-719-210-33	DIODE EC10DS2		R201	1-216-073-00	METAL CHIP	10K 5% 1/10W
D203	8-719-801-78	DIODE 1SS184		R202	1-216-049-11	RES, CHIP	1K 5% 1/10W
D204	8-719-422-64	DIODE MA8062-M		R203	1-216-089-00	RES, CHIP	47K 5% 1/10W
D205	8-719-038-48	DIODE 1SS319 (TE85R)					
				R204	1-216-097-00	RES, CHIP	100K 5% 1/10W
D206	8-719-801-78	DIODE 1SS184		R205	1-216-077-00	METAL CHIP	15K 5% 1/10W
D207	8-719-422-62	DIODE MA8062-L-TX		R206	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
D301	8-719-801-78	DIODE 1SS184		R207	1-216-089-00	RES, CHIP	47K 5% 1/10W
D311	8-719-975-40	DIODE RB411D		R208	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
D501	8-719-422-62	DIODE MA8062-L-TX					
				R301	1-216-065-00	RES, CHIP	4.7K 5% 1/10W
D502	8-719-975-40	DIODE RB411D		R302	1-216-089-00	RES, CHIP	47K 5% 1/10W
D503	8-719-975-40	DIODE RB411D		R303	1-216-065-00	RES, CHIP	4.7K 5% 1/10W
D504	8-719-422-62	DIODE MA8062-L-TX		R304	1-216-089-00	RES, CHIP	47K 5% 1/10W
D505	8-719-975-40	DIODE RB411D		R305	1-216-089-00	RES, CHIP	47K 5% 1/10W
		< FERRITE BEAD >					
FB101	1-500-445-21	FERRITE	0uH	R306	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB102	1-500-445-21	FERRITE	0uH	R307	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB103	1-500-445-21	FERRITE	0uH	R308	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB111	1-216-295-00	SHORT	0	R310	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB112	1-216-295-00	SHORT	0	R311	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB401	1-500-445-21	FERRITE	0uH	R312	1-216-065-00	RES, CHIP	4.7K 5% 1/10W
FB411	1-216-295-00	SHORT	0	R313	1-216-097-00	RES, CHIP	100K 5% 1/10W
FB412	1-216-295-00	SHORT	0	R318	1-216-033-00	METAL CHIP	220 5% 1/10W
FB413	1-216-295-00	SHORT	0	R319	1-216-089-00	RES, CHIP	47K 5% 1/10W
FB414	1-216-295-00	SHORT	0	R320	1-216-065-00	RES, CHIP	4.7K 5% 1/10W
		< IC >					
IC101	8-752-384-15	IC CXD2530Q		R321	1-216-073-00	METAL CHIP	10K 5% 1/10W
IC102	8-759-537-11	IC SM5852FS-E2		R331	1-216-097-00	RES, CHIP	100K 5% 1/10W
IC201	8-759-054-12	IC PQ09RA1		R332	1-216-089-00	RES, CHIP	47K 5% 1/10W
IC202	8-759-443-41	IC RH5VL40AA-T1C		R333	1-216-295-00	SHORT	0
IC203	8-759-324-40	IC KIA7805PI		R334	1-216-295-00	SHORT	0
IC204	8-759-444-86	IC BA8272F-E2		R335	1-216-295-00	SHORT	0
IC301	8-759-040-83	IC BA6287F		R343	1-216-073-00	METAL CHIP	10K 5% 1/10W
IC302	8-752-898-75	IC CXP84124-078Q		R401	1-216-033-00	METAL CHIP	220 5% 1/10W
IC401	8-759-494-78	IC TC9464FN-EL		R405	1-216-033-00	METAL CHIP	220 5% 1/10W
		< TRANSISTOR >		R406	1-216-033-00	METAL CHIP	220 5% 1/10W
Q201	8-729-016-83	TRANSISTOR 2SB1446					
Q202	8-729-901-00	TRANSISTOR DTC124EK		R407	1-216-097-00	RES, CHIP	100K 5% 1/10W
Q203	8-729-230-49	TRANSISTOR 2SC2712-YG		R408	1-216-097-00	RES, CHIP	100K 5% 1/10W
Q204	8-729-027-31	TRANSISTOR DTA124EKA-T146		R411	1-216-029-00	METAL CHIP	150 5% 1/10W
Q205	8-729-822-05	TRANSISTOR 2SD1622-ST-TD		R501	1-216-089-00	RES, CHIP	47K 5% 1/10W
Q301	8-729-020-67	TRANSISTOR XN1A312-TX				< VARIABLE RESISTOR >	
Q401	8-729-901-00	TRANSISTOR DTC124EK		RV301	1-223-834-11	RES, ADJ, CARBON 47K	
Q402	8-729-027-23	TRANSISTOR DTA114EKA-T146		RV302	1-225-412-11	RES, VAR, SLIDE 10K	
Q403	8-729-015-39	TRANSISTOR DTC323TK				(ELEVATOR HEIGHT SENSOR)	
						< SWITCH >	
				SW301	1-762-108-31	SWITCH, PUSH (1 KEY)	
						(MAGAZINE EJECT END DETECT)	
				SW302	1-762-108-31	SWITCH, PUSH (1 KEY)	
						(MAGAZINE IN/OUT DETECT)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
SW303	1-571-532-21	SWITCH, TACTIL (▲)		CNP51	1-580-055-21	PIN, CONNECTOR 2P	
		< VIBRATOR >		CNP52	1-580-055-21	PIN, CONNECTOR 2P	
X301	1-767-261-21	VIBRATOR, CERAMIC (8MHz)		CNP53	1-580-055-21	PIN, CONNECTOR 2P	
X401	1-767-511-11	VIBRATOR, CERAMIC (16.930MHz)				< IC >	
*****				IC11	8-752-082-14	IC CXA1992BR	
*	A-3313-586-A	RF BOARD, COMPLETE		IC51	8-759-071-79	IC BA6297AFP	
		*****		IC52	8-759-040-83	IC BA6287F	
		< CAPACITOR >				< TRANSISTOR >	
C10	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	Q11	8-729-141-48	TRANSISTOR 2SB624-BV345	
C12	1-113-500-11	TANTAL. CHIP	100uF 20% 10V			< RESISTOR >	
C13	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R11	1-216-844-11	METAL CHIP	82K 5% 1/16W
C14	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	R12	1-216-839-11	METAL CHIP	33K 5% 1/16W
C15	1-162-957-11	CERAMIC CHIP	220PF 5% 50V	R13	1-216-839-11	METAL CHIP	33K 5% 1/16W
C16	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	R14	1-216-844-11	METAL CHIP	82K 5% 1/16W
C17	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	R16	1-216-857-11	METAL CHIP	1M 5% 1/16W
C18	1-111-253-11	TANTAL. CHIP	100uF 20% 6.3V	R17	1-216-837-11	METAL CHIP	22K 5% 1/16W
C19	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R18	1-216-841-11	METAL CHIP	47K 5% 1/16W
C21	1-162-966-11	CERAMIC CHIP	0.0022uF 10% 50V	R22	1-216-857-11	METAL CHIP	1M 5% 1/16W
C22	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V	R25	1-216-851-11	METAL CHIP	330K 5% 1/16W
C23	1-113-682-11	TANTAL. CHIP	33uF 20% 10V	R26	1-216-845-11	METAL CHIP	100K 5% 1/16W
C24	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	R27	1-216-295-00	SHORT	0
C25	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	R28	1-216-295-00	SHORT	0
C26	1-164-232-11	CERAMIC CHIP	0.01uF 50V	R30	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
C27	1-164-677-11	CERAMIC CHIP	0.033uF 10% 16V	R31	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
C28	1-164-245-11	CERAMIC CHIP	0.015uF 10% 25V	R32	1-216-837-11	METAL CHIP	22K 5% 1/16W
C29	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	R33	1-216-158-00	RES, CHIP	22 5% 1/8W
C30	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	R34	1-216-855-11	METAL CHIP	680K 5% 1/16W
C31	1-113-987-11	TANTAL. CHIP	4.7uF 20% 25V	R35	1-216-835-11	METAL CHIP	15K 5% 1/16W
C32	1-164-677-11	CERAMIC CHIP	0.033uF 10% 16V	R36	1-216-836-11	METAL CHIP	18K 5% 1/16W
C33	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V	R37	1-216-851-11	METAL CHIP	330K 5% 1/16W
C34	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	R38	1-216-837-11	METAL CHIP	22K 5% 1/16W
C35	1-104-700-11	CERAMIC CHIP	0.027uF 10% 16V	R39	1-216-847-11	METAL CHIP	150K 5% 1/16W
C36	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	R40	1-218-273-11	RES, CHIP	510K 5% 1/16W
C37	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	R41	1-218-296-11	RES, CHIP	75K 5% 1/16W
C38	1-104-913-11	TANTAL. CHIP	10uF 20% 16V	R42	1-202-930-11	RES, CHIP	750K 5% 1/16W
C39	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R43	1-216-849-11	METAL CHIP	220K 5% 1/16W
C40	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	R44	1-216-846-11	METAL CHIP	120K 5% 1/16W
C41	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	R45	1-216-837-11	METAL CHIP	22K 5% 1/16W
C42	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	R46	1-216-847-11	METAL CHIP	150K 5% 1/16W
C43	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	R47	1-216-834-11	METAL CHIP	12K 5% 1/16W
C51	1-163-019-00	CERAMIC CHIP	0.0068uF 10% 50V	R48	1-216-845-11	METAL CHIP	100K 5% 1/16W
C52	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R49	1-216-093-00	METAL CHIP	68K 5% 1/10W
C53	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R50	1-216-841-11	METAL CHIP	47K 5% 1/16W
C54	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R51	1-216-073-00	METAL CHIP	10K 5% 1/10W
C55	1-163-023-00	CERAMIC CHIP	0.015uF 5% 50V	R52	1-216-093-00	METAL CHIP	68K 5% 1/10W
C56	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R53	1-216-073-00	METAL CHIP	10K 5% 1/10W
C57	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R54	1-216-073-00	METAL CHIP	10K 5% 1/10W
C58	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R55	1-216-073-00	METAL CHIP	10K 5% 1/10W
C59	1-163-038-00	CERAMIC CHIP	0.1uF 25V	R56	1-216-093-00	METAL CHIP	68K 5% 1/10W
C60	1-104-914-11	TANTAL. CHIP	22uF 20% 16V	R57	1-216-081-00	METAL CHIP	22K 5% 1/10W
		< CONNECTOR >		R58	1-216-093-00	METAL CHIP	68K 5% 1/10W
CNJ11	1-778-776-21	CONNECTOR, FPC 17P		R59	1-216-073-00	METAL CHIP	10K 5% 1/10W
CNJ12	1-778-777-21	CONNECTOR, FPC 26P		R60	1-216-073-00	METAL CHIP	10K 5% 1/10W
CNP11	1-580-055-21	PIN, CONNECTOR 2P		R61	1-216-073-00	METAL CHIP	10K 5% 1/10W

RF

SW

Ref. No.	Part No.	Description	Remark		
R62	1-216-085-00	METAL CHIP	33K	5%	1/10W
R63	1-216-073-00	METAL CHIP	10K	5%	1/10W
R64	1-216-073-00	METAL CHIP	10K	5%	1/10W
R65	1-216-073-00	METAL CHIP	10K	5%	1/10W
< VARIABLE RESISTOR >					
RV14	1-238-091-11	RES, ADJ, CERMET	22K		
< SWITCH >					
SW11	1-762-946-11	SWITCH, PUSH (1 KEY)			
		(CHUCKING END DETECT)			
SW12	1-762-946-11	SWITCH, PUSH (1 KEY) (SAVE END DETECT)			

*	1-664-104-11	SW BOARD			

< SWITCH >					
SW1	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)			

MISCELLANEOUS					

3	1-664-628-11	JACK FLEXIBLE BOARD			
165	1-664-627-11	MAIN FLEXIBLE BOARD			
210	1-664-626-11	OP FLEXIBLE BOARD			
△ 211	8-820-010-05	OPTICAL PICK-UP KSS-521A/J2RP			
M101	A-3291-956-A	MOTOR SUB ASSY, SPINDLE			
M102	A-3291-955-A	MOTOR SUB ASSY, SLED			
M103	A-3291-953-A	MOTOR ASSY, EL (CHUCKING)			
M104	A-3301-123-A	ELJ MOTOR ASSY (ELEVATOR)			

HARDWARE LIST					

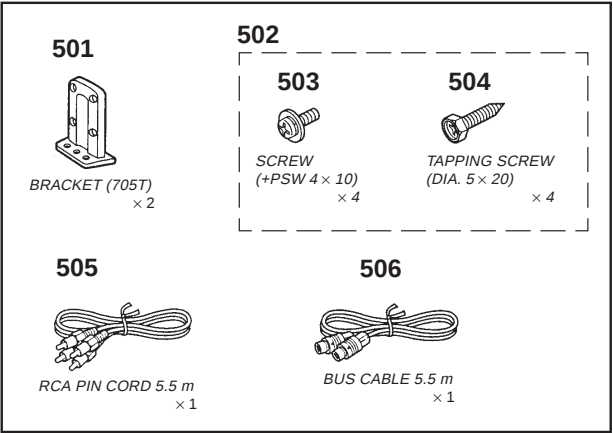
#1	7-627-852-07	SCREW, PRECISION +P 1.7X2.5			
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)			
#3	7-685-781-09	SCREW +PTT 2X4 (S)			
#4	7-624-104-04	STOP RING 2.0, TYPE-E			
#5	7-627-554-07	SCREW, PRECISION +P 2X2.2			
#6	7-628-253-00	SCREW +PS 2X4			
#7	7-627-553-27	SCREW, PRECISION +P 2X2.5			
#8	7-624-102-04	STOP RING 1.5, TYPE-E			
#9	7-627-850-28	SCREW, PRECISION +P 1.4X3			
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3			
#11	7-685-851-04	SCREW +BVTT 2X4 (S)			

ACCESSORIES & PACKING MATERIALS					

3-862-311-31	MANUAL, INSTRUCTION				
	(ENGLISH, FRENCH, SPANISH, CHINESE)				
A-3291-950-D	MAGAZINE (250T) ASSY				

Ref. No.	Part No.	Description	Remark
PARTS FOR INSTALLATION AND CONNECTIONS			

501	3-022-693-01	BRACKET (705T)	
* 502	X-3369-824-1	SCREW ASSY	
503	7-682-962-01	SCREW +PSW 4X10	
504	Not supplied		
505	1-590-874-11	CORD, CONNECTION (RCA PIN CORD 5.5m)	
506	1-590-519-81	CORD (WITH CONNECTOR) (BUS CABLE 5.5m)	



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