

XR-C5090

SERVICE MANUAL

E Model



Refer to RM-X4S SERVICE MANUAL (9-925-698-00) issued previously for information of remote commander (RM-X4S) supplied with this set

Model Name Using Similar Mechanism	XR-C340
Tape Transport Mechanism Type	MG-25F-136

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to-noise ratio	58 dB

Tuner section

FM

Tuning range	FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 μ V

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W $\times$ 4 (at 4 ohms)

General

Outputs	Power antenna control lead/Power amplifier control lead/Telephone ATT control lead Rear line out (1)
Tone controls	Bass $\pm$ 8 dB at 100 Hz Treble $\pm$ 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 $\times$ 58 $\times$ 181 mm (w/h/d)
Mounting dimensions	Approx. 182 $\times$ 53 $\times$ 164 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) Rotary commander RM- X4S

Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO



SONY®

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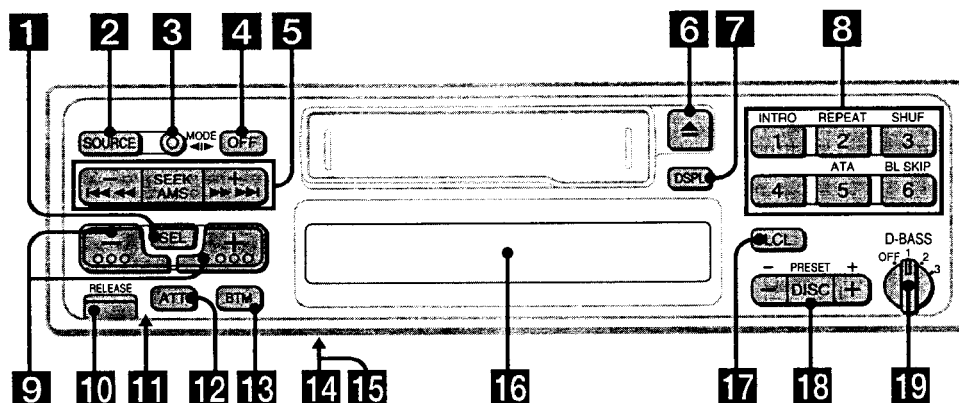
Flexible Circuit Board Repairing

- 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.

Location of controls



Refer to the pages for further details.

EN

- 1** SEL (control mode select) button 5, 9, 10
- 2** SOURCE button (TAPE/TUNER/MD/CD) 5, 7, 10
- 3** MODE (◀▶) button
During tuner reception:
BAND select 7

During tape playback:
Transport direction change 5

During MD or CD playback:
MD/CD Unit select 10
- 4** OFF button 4, 5
- 5** SEEK/AMS button 5, 6, 7, 8, 10, 11
- 6** ▲ (eject) button 5
- 7** DSPL (display mode change/time set) button 5, 6, 8, 10
- 8** During tuner reception:
Preset number buttons 7

During tape/MD/CD playback:
① INTRO button 6, 11
② REPEAT button 6, 11
③ SHUF (Shuffle) button 11
⑤ ATA (Automatic Tuner Activation) button 6
⑥ BL SKIP (Blank Skip) button 6
- 9** + (volume/bass/treble/left-right/front-rear control) button 5, 9
- 10** RELEASE (front panel release) button 4, 13
- 11** Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.
- 12** ATT button 9
- 13** BTM (Best tuning memory) button 7
- 14** POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.
- 15** Frequency Select switch (located on the bottom of the unit)
See "Frequency Select Switch" in the Installation/Connections manual:
- 16** Display window
- 17** LCL button 8
- 18** PRESET/DISC button
During tuner reception:
Preset station search 7

During MD or CD playback:
MD/CD Unit select 11
- 19** D-BASS control 9

Each time the position of switches **14** or **15** is altered, be sure to press the reset button after connecting the power.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit. Press the reset button with a pointed object, such as a ball-point pen.



Reset button

Note

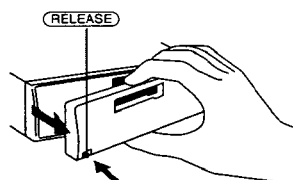
Pressing the reset button will erase all the memorized program and memory functions.

EN

Detaching the front panel

The front panel of this unit can be detached to prevent the unit from being stolen.

- 1 Press **(OFF)**.
- 2 Press **(RELEASE)** to detach the front panel then gently pull it out.

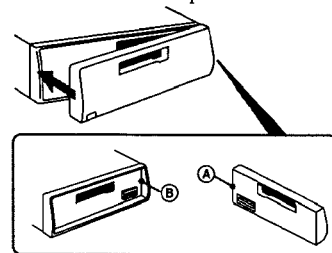


Notes

- Be sure not to drop the panel when detaching it from the unit.
- If you press **(RELEASE)** to detach the panel while the unit is still turned on, the power will automatically turn off to protect the speakers from being damaged.

Attaching the front panel

Attach part ④ of the front panel to part ③ of the unit as illustrated and push until it clicks.



Notes

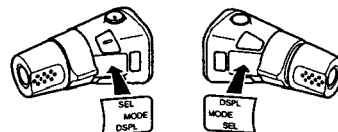
- Make sure the front panel is right side up when attaching it to the unit as it cannot be attached upside down.
- Do not press the front panel too hard when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.
- When you carry the front panel with you, keep it in the supplied front panel case.
- Do not press hard or put excessive pressure on the display windows of the front panel.
- Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.

Caution alarm

If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the ④ position). If you connect an optional power amplifier to the LINE OUT and do not use the built-in amplifier, the beep tone will be disabled.

Preparing the rotary commander

When you mount the rotary commander, attach the appropriate label, as in the illustration below.



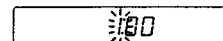
Setting the clock

The clock has a 12-hour digital indication.

For example, setting it to 10:08

- 1 Press **(OFF)** or **(DSPL)** during operation.

- 2 Press **(DSPL)** for two seconds.

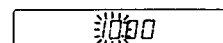


The hour digit flashes.

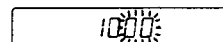
- ① Set the hour digits.



To go backward To go forward



- ② Press **(SEL)** momentarily.

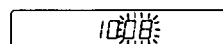


The minute digits flashes.

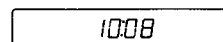
- ③ Set the minute digits.



To go backward To go forward



- 3 Press **(DSPL)** momentarily.



The clock starts.

Note

If the POWER SELECT switch on the bottom of the unit is set to the ④ position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio.

EN

Getting Started/Cassette Player

Installation

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are used for tuner adjustments to be made only by service technicians.
- Choose the mounting location carefully so that the unit will not interfere with driving.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

How to Detach and Attach the Front Panel

Before installing the unit, detach the front panel.

To detach

Press the **(RELEASE)** to detach the front panel then gently pull it out.

To attach

Align parts ④ and ⑤, and push the front panel unit it clicks.

Instalación

Precauciones

- No toque los cuatro orificios de la superficie superior de la unidad. Estos orificios son para ajustes del sintonizador que solamente deberán realizar técnicos de reparación.
- Elija cuidadosamente el lugar de montaje de forma que la unidad no interfiera con la conducción.
- Evite instalar la unidad donde pueda quedar sometida a altas temperaturas, como a la luz solar directa o al aire caliente de calefacción, o a polvo, suciedad, o vibraciones excesivas.
- Para realizar una instalación segura y firme, emplee solamente la ferretería de montaje suministrada.

Ajuste del ángulo de montaje

Ajuste el ángulo de montaje a menos de 20°.

Forma de extraer e instalar el panel frontal

Antes de instalar la unidad, extraiga el panel frontal.

Para extraerlo

Presione la tecla **(RELEASE)** para extraer el panel frontal y, a continuación, tire de él hacia fuera con suavidad.

Para instalarlo

Alinee las partes ④ y ⑤, y presione el panel frontal hasta que chasquee.

安裝

使用前須知事項

- 請勿擅自觸動本機頂部的四個小孔。該孔只供專業人員調整調諧機時之用。
- 本機請放在不妨礙司機駕駛之處。
- 避免把本機放在高溫之處，如陽光直接照射、暖氣機前、或灰塵極多、靜亂擾易受震動等地方。
- 為了安全起見，安裝時請使用附屬的安裝零件。

安裝角度之調整

請在20度以內調整安裝角度

前板之拆卸

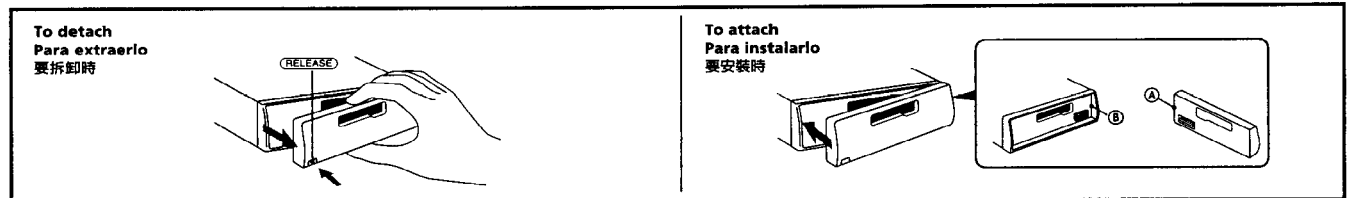
開始安裝以前，請先拆下前板

要拆卸時

按下 **(RELEASE)** (釋放) 按鈕以掀開前面板，然後輕輕地把它取下

要安裝時

如圖所示，對準位置 ④ 和 ⑤，然後將左側向內壓入，直到聽到卡嗒聲響



Mounting example

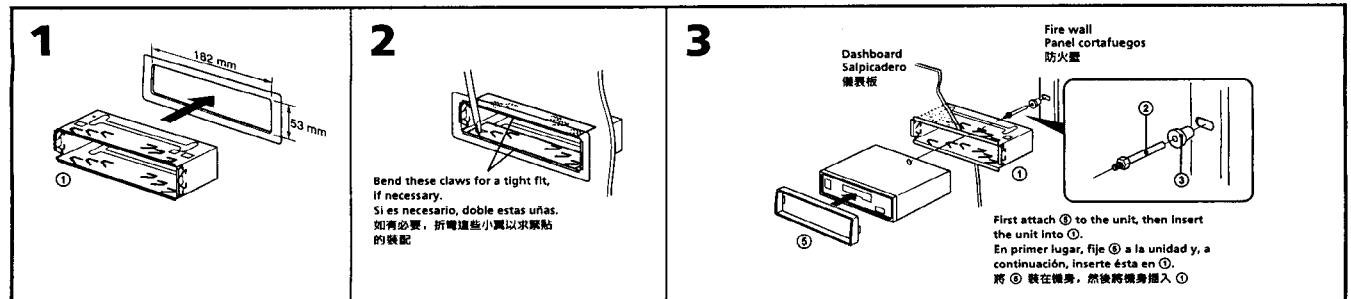
Installation in the dashboard

Ejemplo de montaje

Instalación en el salpicadero

安裝例子

安裝於儀表板上



Mounting the Unit in a Japanese Car

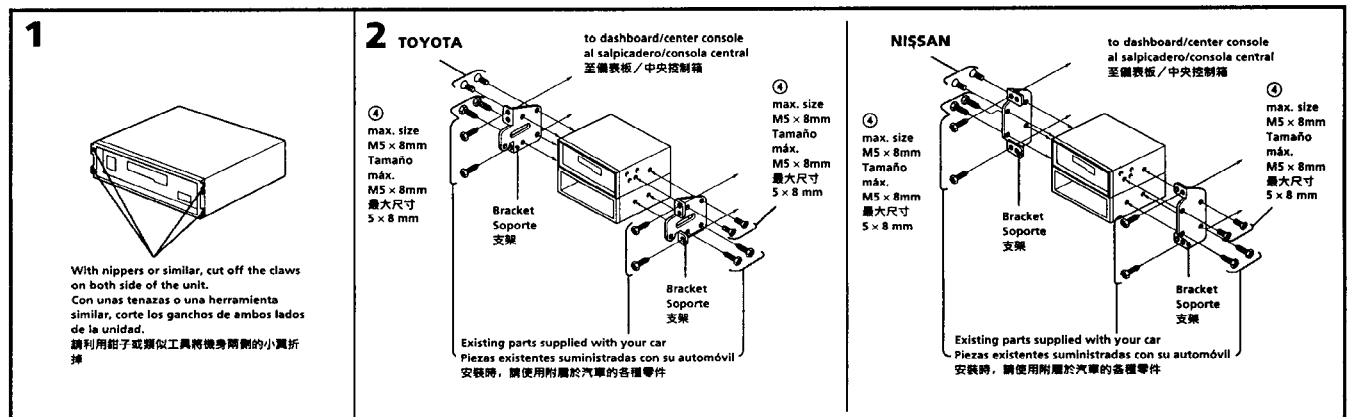
You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

Montaje de la unidad en un automóvil japonés

Usted no podrá instalar esta unidad en algunos automóviles japoneses. En tal caso, consulte a su proveedor Sony.

要安裝於日本汽車裡

有的汽車不能安裝本機，此時，請向離貴地最近的 Sony 經銷店查詢



Note
To prevent malfunction, install only with the supplied screws ④.

Nota
Para evitar que se produzcan fallos, realice la instalación solamente con los tornillos suministrados ④.

註
為防止發生意外事故，安裝時只能使用附屬的螺絲 ④

Installing the rotary commander

Notes

- Choose the mounting location carefully so the rotary commander will not interfere with operating the car.
- Do not install the rotary commander in a place where it may jeopardize the safety of the (front) passenger in any way.
- When installing the rotary commander, be sure not to damage any electrical cables etc. on the other side of the mounting surface.
- Avoid installing the rotary commander where it may be subject to high temperatures, such as from direct sunlight or hot air from the heater etc.

安裝旋轉型遙控器

註

- 旋轉型遙控器請裝在不妨礙汽車駕駛之處。
- 不可把旋轉型遙控器裝在對乘客有危險的地方。
- 安裝遙控器時，請注意不要讓螺絲釘觸及安裝面反面的電線等。
- 避免把遙控器安裝在高溫，如直射陽光底下或受暖氣機熱風吹襲的地方。

Instalación del mando rotativo

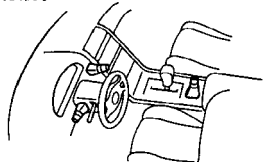
Notas

- Elija cuidadosamente el lugar de montaje de forma que el mando rotativo no dificulte la conducción del coche.
- No instale el mando rotativo en un lugar donde pueda poner en peligro la seguridad del pasajero acompañante.
- Al instalar el mando rotativo, asegúrese de no dañar los cables de electricidad, etc., del otro lado de la superficie de montaje.
- Procure no instalar el mando rotativo en un lugar expuesto a altas temperaturas, como a la luz solar directa o al aire caliente de la calefacción, etc.

Example of a mounting location

Ejemplo de un lugar de montaje

安裝例子

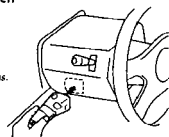


- 1** Choose the exact location for mounting the rotary commander, then clean the mounting surface.
Dirt and oil impair the adhesive strength of the double-sided adhesive tape.

Una vez elegido el lugar de montaje del mando rotativo, limpie previamente la superficie de montaje.

La suciedad o la grasa dañan la intensidad adhesiva de la cinta adhesiva de dos caras.

選擇一個適合安裝旋轉型遙控器的地方，然後清潔安裝面。
表面積塵或油污會減低兩面膠帶的黏合力。



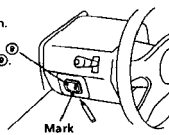
- 2** Mark the position for the supplied screw.
Use the screw holes on the mounting hardware ① to mark the position.

Marque la posición para el tornillo suministrado.

Para ello, utilice los orificios para tornillos de la ferretería de montaje ①.

量 1 個供螺絲釘鑽孔之處

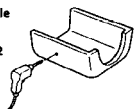
按照安裝零件 ① 的螺絲釘孔位置作記號



- 3** Remove the steering wheel column cover, and drill 2 mm diameter hole at the marked position.

Extraiga la cubierta de la columna de la dirección y haga un orificio de 2 mm. de diámetro en el lugar marcado.

取下轉向柱外殼，並在所作記號之處鑽開 2mm 大小的釘孔。



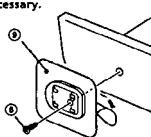
- 4** Warm the mounting surface and the double-sided adhesive tape on the mounting hardware ① to a temperature of 20°C to 30°C, and attach the mounting hardware to the mounting surface applying even pressure. Use the supplied screw ① to set into secure position.
Attach a piece of heavy duty tape etc. on the other side of the mounting surface to cover the protruding tips of the screws so they will not interfere with any electrical cables etc. inside the steering wheel column.

Caliente la superficie de montaje y la cinta adhesiva de doble cara de la ferretería de montaje ① a una temperatura entre 20°C y 30°C, y ajuste la ferretería de montaje a la superficie de montaje ejerciendo una presión uniforme. A continuación, apriete el tornillo ① suministrado. Adhiera un trozo de cinta adhesiva resistente, etc. en el otro lado de la superficie de montaje para cubrir los extremos de los tornillos que sobresalgan, de forma que no interfieran con los cables de electricidad, etc., del interior de la columna de dirección.

把安裝面及安裝零件 ① 的兩面膠帶加熱至 20° 到 30° 程度，然後把安裝零件貼在轉向柱外殼，貼時所施加壓力須均勻。以附屬的螺絲釘 ① 把安裝零件釘緊。在安裝面的反面之螺絲釘尖端部分，貼張強力膠帶等，以免傷害轉向柱裡面的電線等。

Cut the mounting hardware ①, if necessary.
Si es necesario, corte la pieza ①.

必要時，可截切安裝五金 ①。



Heavy duty tape etc.
Cinta adhesiva resistente, etc.

強力膠帶等



- 5** After reinstalling the steering wheel column cover, attach the rotary commander to the mounting hardware by aligning the four holes on the bottom of the rotary commander with the four catches on the mounting hardware and sliding the rotary commander until it locks into place as illustrated.

Note

If you are mounting the rotary commander on the steering wheel column, make sure that the protruding tips of the screws on the inner surface of the column do not in any way hinder or interfere with the movement of the rotating shaft, operative parts of the switches or the electrical cables etc. inside the column.

Una vez instalada la cubierta de la columna de dirección, fije el mando rotativo a la ferretería de montaje alineando los cuatro orificios de la parte inferior del mando con los cuatro enganches de la ferretería de montaje. A continuación, deslice el mando hasta que encaje en su sitio como se muestra en la ilustración.

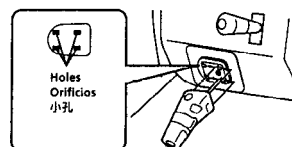
Nota

Si monta el mando rotativo en la columna de dirección, asegúrese de que los extremos de los tornillos que sobresalgan de la superficie interior de la columna no dificulten el movimiento del eje de rotación ni los componentes operativos de los conmutadores o los cables de electricidad, etc., del interior de la columna.

在轉向柱外殼重新裝上以後，把遙控器裝在安裝零件裡。裝時請把遙控器底部的4個小孔對準安裝零件的4個小鉤，然後按照插圖所示，把遙控器插入零件裡。

註

在把遙控器裝在轉向柱外殼時，必須注意轉向柱裡的螺絲釘之尖端，不可刺到或傷害到轉向柱裡面的轉軸、開關的操作部分或電線等。



Connection

Caution

- This unit is designed for negative ground 12 V DC operation only.
 - Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
 - Connect the yellow and red power input leads only after all other leads have been connected.
 - Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key switch is in the accessory position.
 - Run all ground wires to a common ground point.
 - Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating.
- If you connect this unit in combination with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating.
- If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery.
- If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT switch

The illumination on the front panel is factory set to be turned on even while the unit is not in use. However, this setting may cause some car battery wear if your car has no accessory position on the ignition key switch. To avoid this battery wear, set the POWER SELECT switch located on the bottom of the unit to the ② position, then press the reset button. The illumination is reset to stay off while the unit is not in use.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ② position.

Frequency Select Switch

The AM (FM) tuning interval is factory set to the 9K (50 K) position. If the frequency allocating system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit the 10 K (200 K) position before making connections.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
 - Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
 - Conecte los cables conectores de alimentación amarillo y rojo solamente después de haber conectado los demás.
 - Cerciórese de conectar el cable conector de alimentación rojo al terminal de 12 V positivo que se energiza al poner la llave de encendido en la posición para accesorios.
 - Conecte todos los conductores de puesta a masa a un punto común.
 - Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad.
- Si conecta esta unidad en serie con otros componentes estéreo, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente.
- Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería.
- Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito con una capacidad superior a la del fusible de la unidad de tal manera que si se funde el fusible de ésta, no se cortará ningún otro circuito.

Si el automóvil no dispone de posición para accesorios en la llave de encendido

— Selector POWER SELECT

La iluminación del panel frontal ha sido ajustada en fábrica para que esté activada aunque la unidad no se encuentre en reproducción. Sin embargo, este ajuste puede provocar cierta descarga de la batería del automóvil si éste no dispone de posición para accesorios en la llave de encendido. Para evitar esto, ponga el selector POWER SELECT, situado en la base de la unidad, en la posición ② y, después, presione el botón de reposición. La iluminación estará desactivada cuando la unidad no se encuentre en reproducción.

Nota

La alarma de precaución del panel frontal no se activará cuando el selector POWER SELECT se encuentre en la posición ②.

線路之連接

注意

- 本機只能使用負極接地 12 V 直流電源。
 - 連接以前，先拔取汽車電池的接地端子，以免發生短路。
 - 紅色和黃色電源輸入導線必須等所有電線都連接完畢以後才連接。
 - 紅色電源輸入導線請直接接到汽車發動機點火線或轉在輔助位置時才通電狀態的正 12 V 電源端子上。
 - 所有地線必須連接到同一地點才行。
 - 將黃色導線接到大於機器保險絲額定容量的可利用的汽車電路上。
- 如果要把本機和其他立體聲組件或機組聯了，所連接的汽車電路容量必須大於各組件保險絲容量的總和。
- 如果沒有和機器保險絲額定容量一樣大的汽車電路可供利用，可把機器直接連接到電池上。
- 若無適當的汽車電路可用於連接本機，請把機器連接到大於機器保險絲容量的汽車電路。如此，即使本機的保險絲燒斷了，也不致於切斷其他電路。

若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用時— POWER SELECT 開關

前板的照明燈在未出廠以前，被設定在即使不使用也會發亮的狀態。若要在汽車發動機點火鑰匙開關沒具輔助位置的汽車裡使用本機的話，此照明燈將會一直消耗汽車的電力。因此為了避免在這種狀態下的電池消耗，請把本機底下的 POWER SELECT 開關設定在 ② 之處，然後按壓前板的複位鍵，則不使用本機時，照明燈便不發亮。

註

當您把 POWER SELECT (電源選擇) 開關設定於 ② 位置時，前面板用的注意警告鈴不能被啟動。

Selector de frecuencia

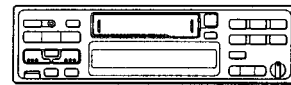
El intervalo de sintonía de AM (FM) ha sido ajustado en fábrica a la posición 9K (50K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10K (200K) antes de realizar las conexiones.

頻率選擇開關

本裝置的 AM (FM) 調諧間隔在出廠以前被設定在 "9 K (50 K)" 位置上。若貴國的頻率間隔為 "10 kHz (200 kHz)"，連接以前請先將本機機底的選擇開關設定在 "10 K (200 K)" 之處。

POWER SELECT and frequency select switch POWER SELECT y selector de frecuencia POWER SELECT 及頻率選擇開關

Change the position with a jeweler's screwdriver, etc.
Cambie la posición con un destornillador de relojero, etc.
以珠寶行用的先機尖細的螺絲起子等改變開關位置



When you change the position of the switch, be sure to press the reset button after the connections are complete.

Cuando haya cambiado la posición del selector, cerciórese de presionar el botón de reposición después de haber finalizado las conexiones.

改變開關位置時，請一定在連接好機器後按下複位鍵

Reset button

When the installation and connections are complete, be sure to press the reset button with a ball-point pen etc.

Botón de reposición

Cuando haya finalizado la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.

複位鍵

安裝和線路之連接完畢以後，請以圓珠筆等按壓複位鍵。取下前板時，則可看到複位鍵位於本機機殼左邊。



Connection diagram

Example 1/Ejemplo 1/例 1

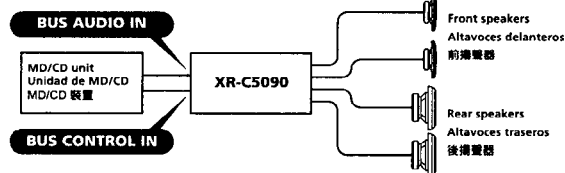
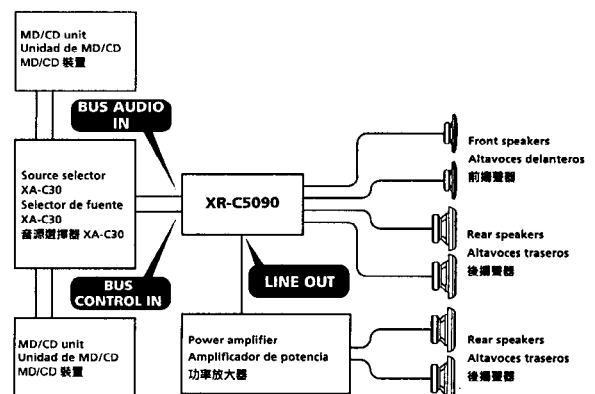


Diagrama de conexiones

Example 2/Ejemplo 2/例 2



Note

If you connect an optional power amplifier to the LINE OUT and do not use the built-in amplifier, the beep tone will be disabled.

Nota

Si conecta un amplificador opcional de potencia a LINE OUT y no utiliza el incorporado, el pitido se desactivará.

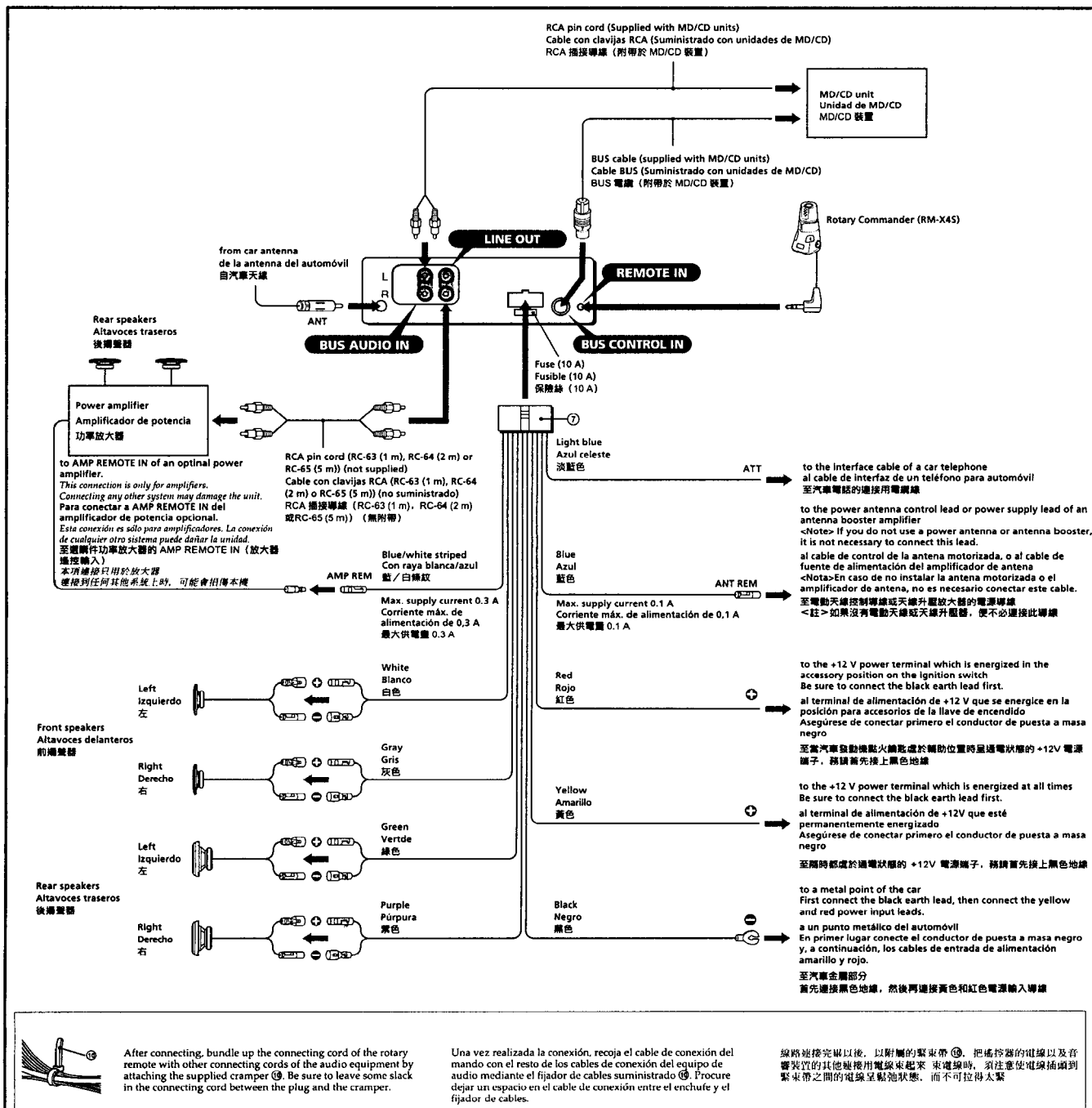
註

如果在 LINE OUT 連接了一台選購的功率放大器而不用內裝的放大器，則將不發出鳴聲。

Connection example

Ejemplo de conexiones

線路之連接圖例



Notes on the control leads

- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) Function.
- A power antenna without a relay box cannot be used with this unit.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

Notas sobre los conductores de control

- El conductor de control de la antena motorizada (azul) suministrará +12 V CC cuando conecte la alimentación del sintonizador o cuando active la función de activación automática del sintonizador (ATA).
- Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.

Conexión para protección de la memoria

Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición OFF.

Notas sobre la conexión de los altavoces

- Antes de conectar los altavoces, desconecte la alimentación de la unidad.
- Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia admisible adecuada, ya que de lo contrario podría dañarlos.
- No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.
- No intente conectar los altavoces en paralelo.
- No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciera, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.

關於控制導線

- 接聽調音器電源或使用 ATA (調音器自動啟動) 功能時，功率天線的導線 (藍色) 便提供給 12V 直流電。
- 本機不能使用沒有繼電箱的功率天線。

保持記憶的線路連接法

當連接黃色電源輸入電線時，即使汽車發動機點火開關處於電源切斷之處，電源仍將繼續供給電流給記憶電路，以維持所記憶者的數據。

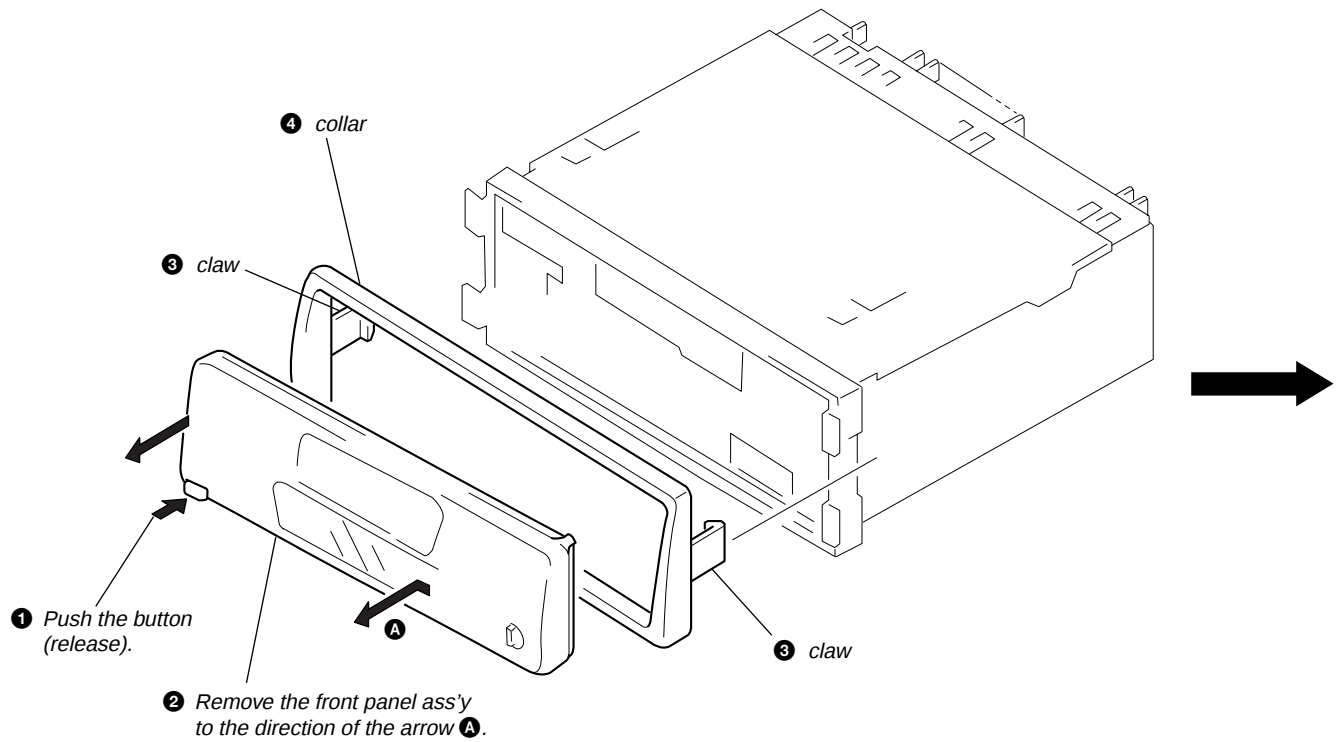
連接揚聲器時的注意事項

- 連接揚聲器電線以前，請先切斷本機電源。
- 請使用阻抗為 4 到 8 Ω 之間，並具有足夠功率的揚聲器。否則會損壞揚聲器。
- 不可把揚聲器端了地接到汽車底盤，也不可把左揚聲器端子和右揚聲器的相連接。
- 揚聲器不可平行的連接。
- 不可連接有源揚聲器 (內裝有放大器者) 至本機的揚聲器端子，否則會損壞揚聲器。這些端子只能連接無源揚聲器。

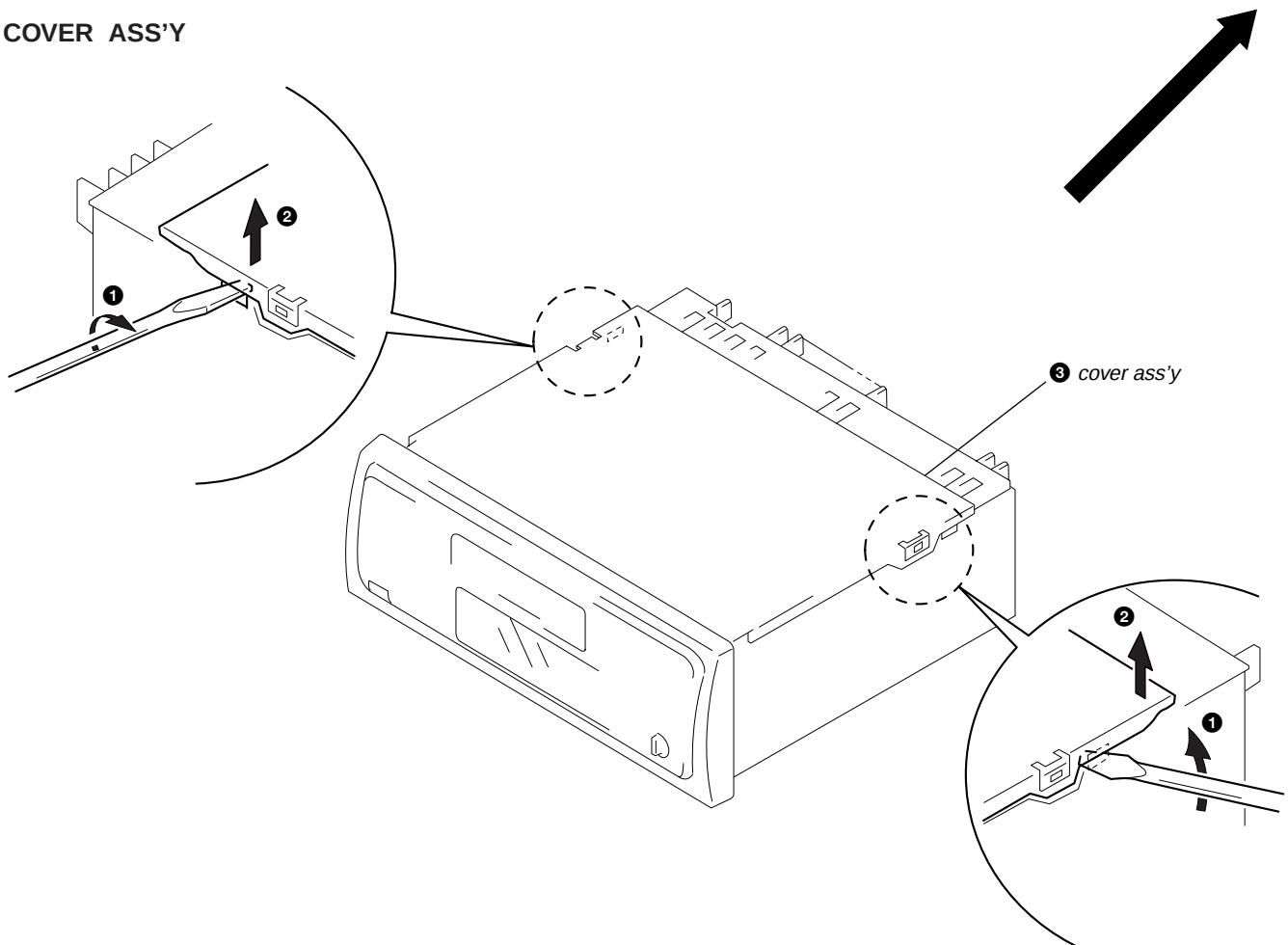
SECTION 2 DISASSEMBLY

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

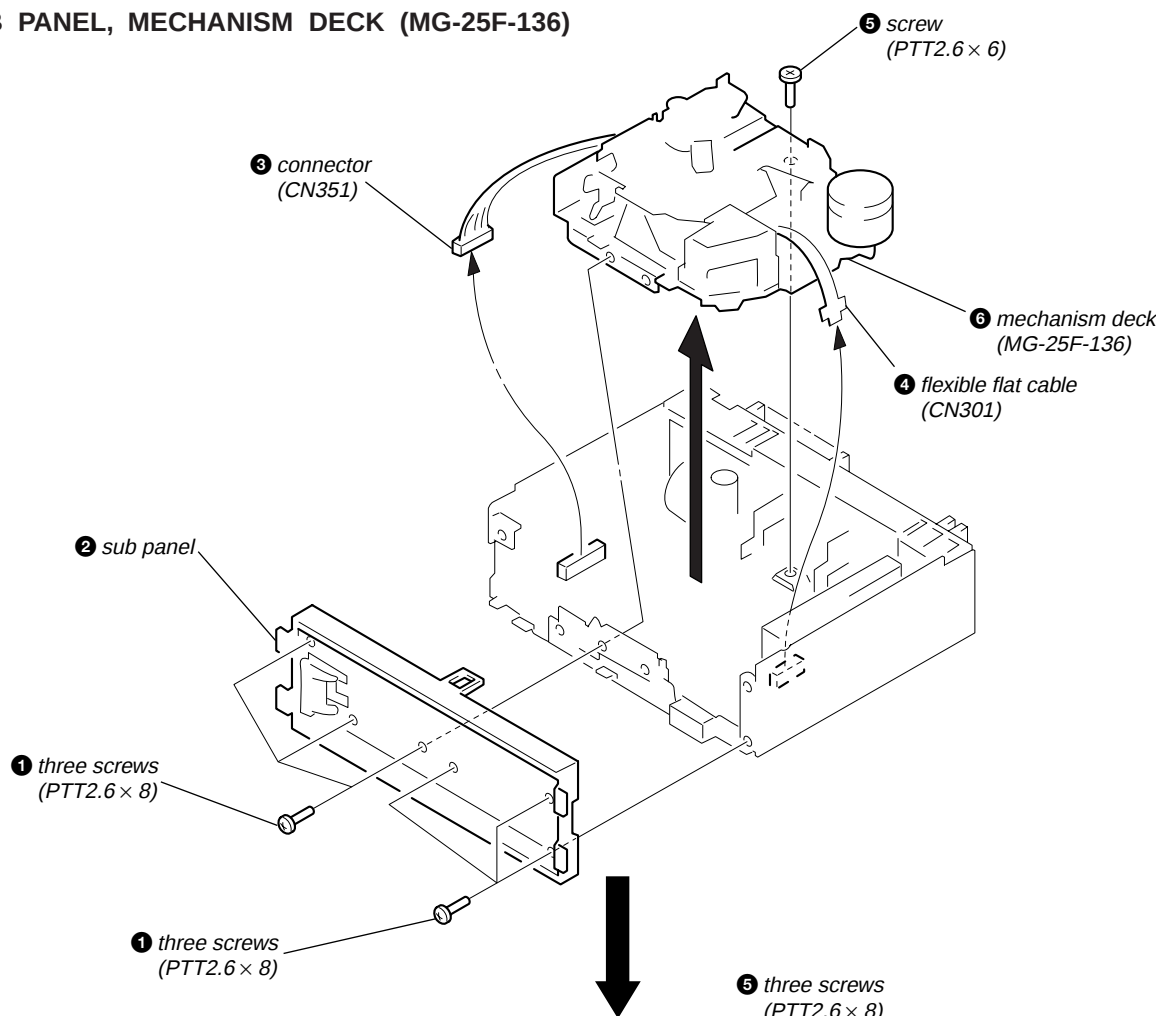
FRONT PANEL ASS'Y, COLLAR



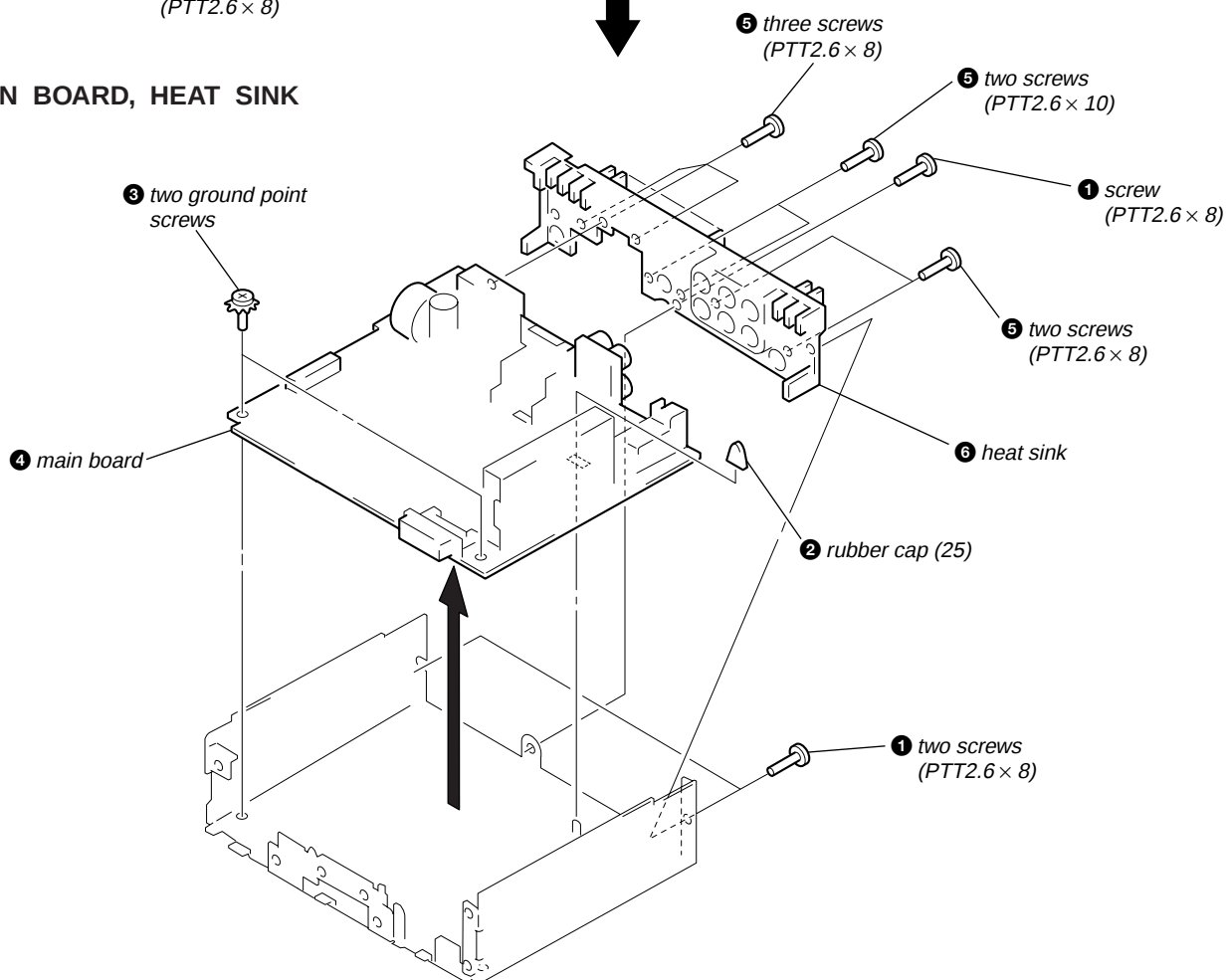
COVER ASS'Y



SUB PANEL, MECHANISM DECK (MG-25F-136)



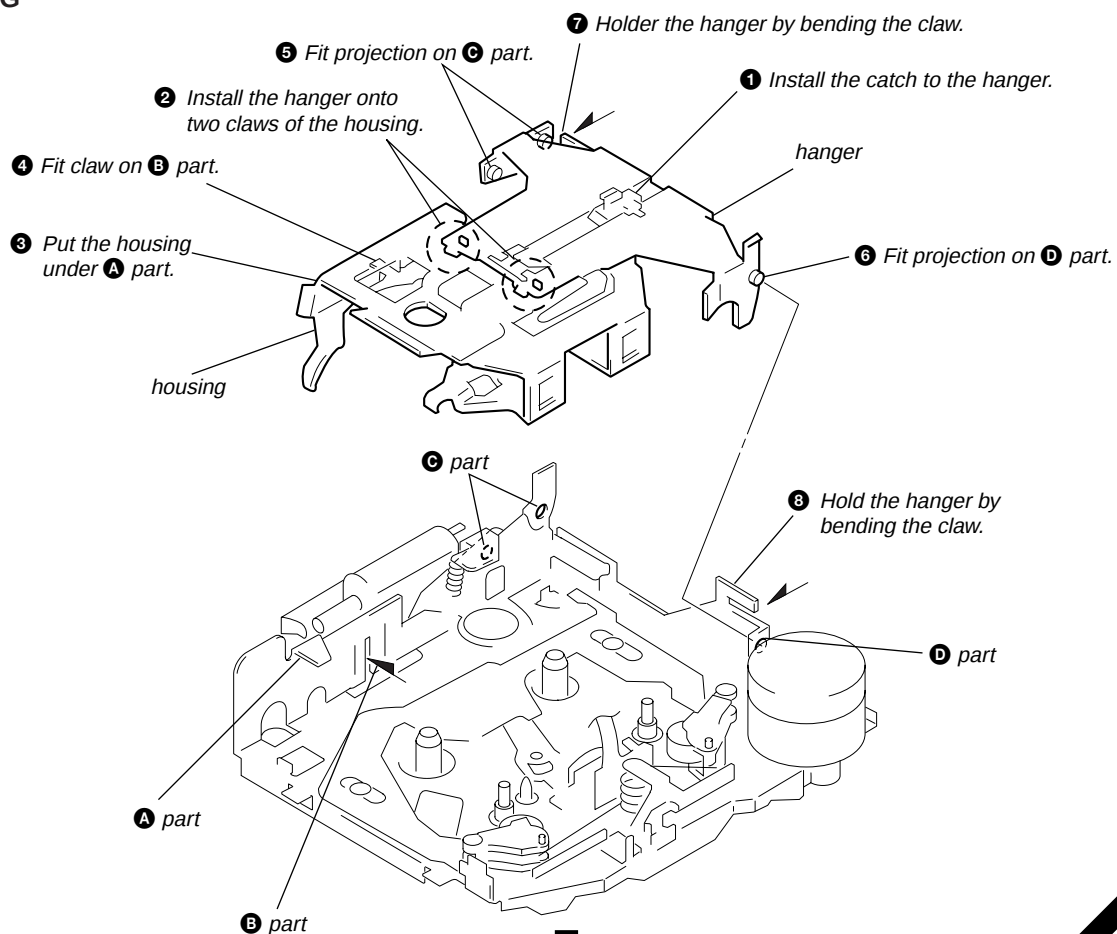
MAIN BOARD, HEAT SINK



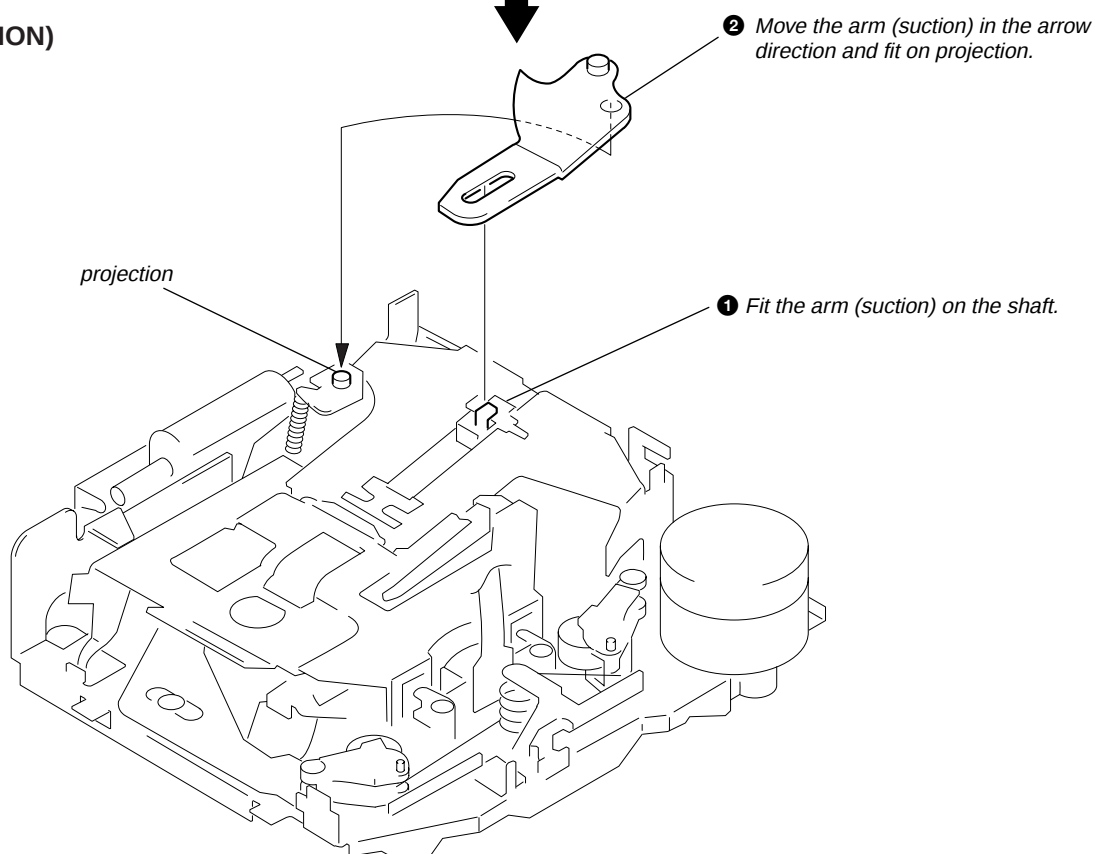
SECTION 3 ASSEMBLY OF MECHANISM DECK

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

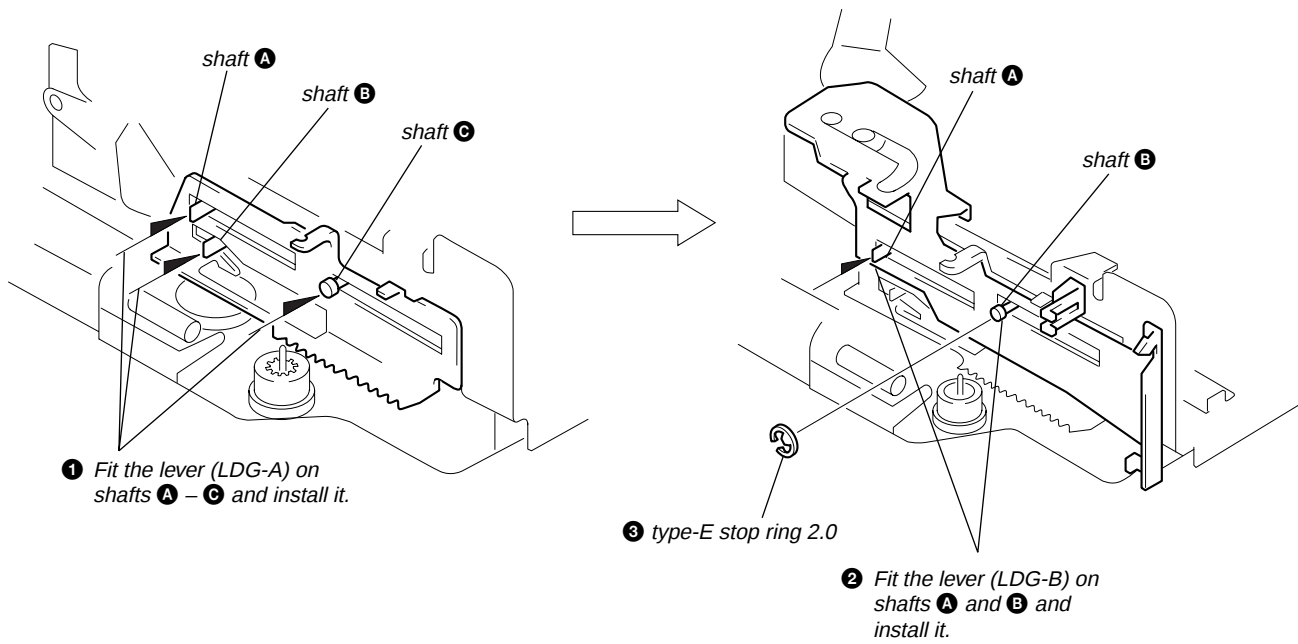
HOUSING



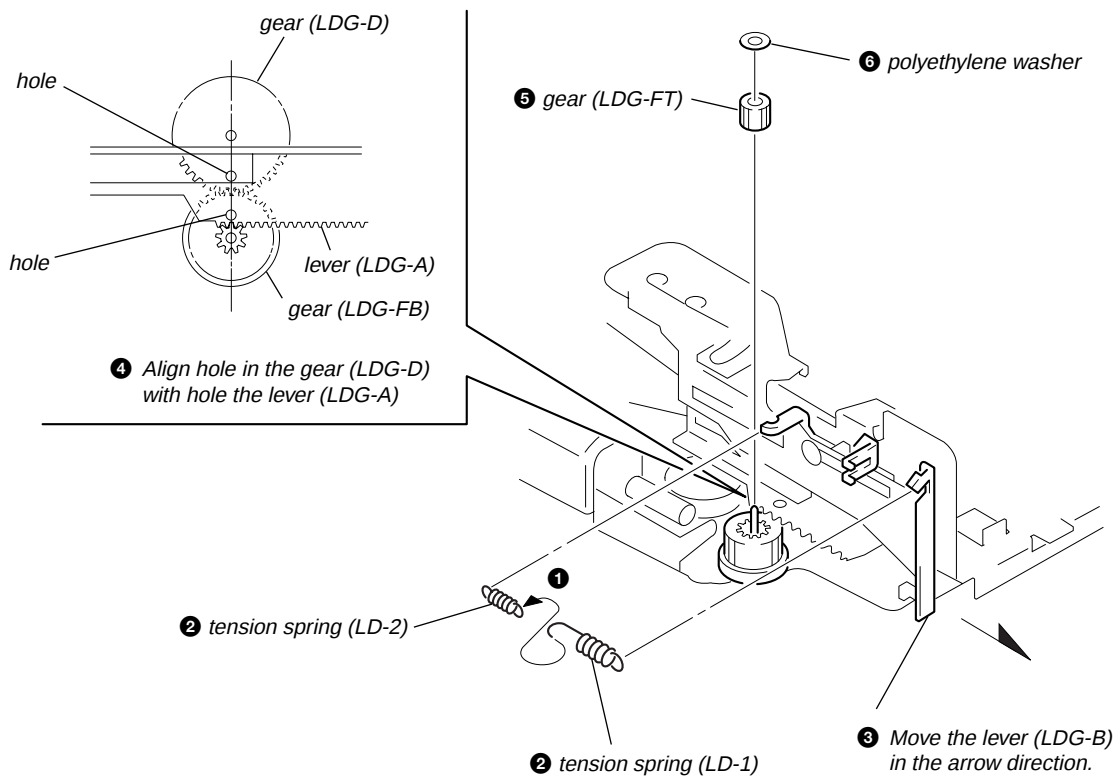
ARM (SUCTION)



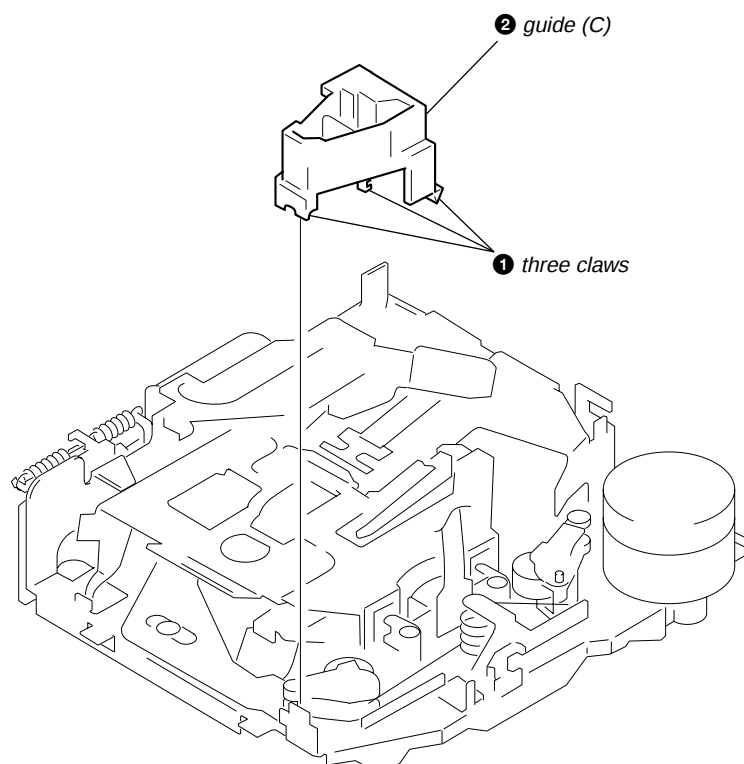
LEVER (LDG-A) / (LDG-B)



GEAR (LDG-FT)



GUIDE (C)



SECTION 4 MECHANICAL ADJUSTMENTS

- Clean the following parts with a denatured-alcohol-moistened swab:
 playback head pinch roller
 rubber belt capstan
 idler
- Demagnetize the playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	30 - 65 g•cm (0.42 - 0.90 oz•inch)
Forward Back Tension	CQ-102C	0.5 - 4.5g•cm (0.01 - 0.06 oz•inch)
Reverse	CQ-102RC	30 - 65 g•cm (0.42 - 0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.5 - 4.5g•cm (0.01 - 0.06 oz•inch)
FF, REW	CQ-201B	60 - 200 g•cm (0.83 - 2.78 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 90 g (more than 3.18 oz)
Reverse	CQ-403R	more than 90 g (more than 3.18 oz)

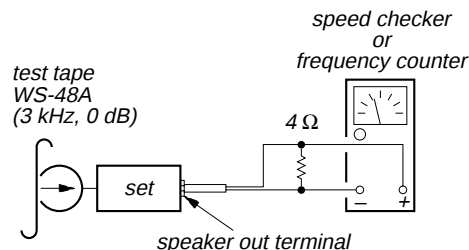
SECTION 5 ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION

0 dB=0.775 V

Tape Speed Adjustment

Setting:



Procedure:

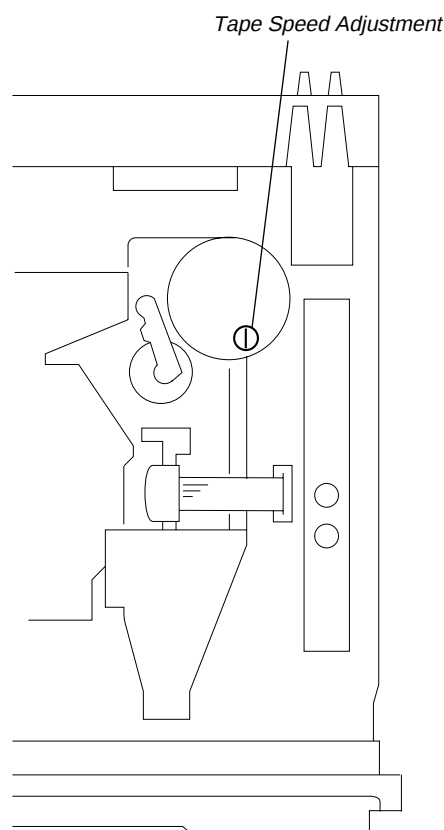
- Put the set into the FWD PB mode.
- Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification: Constant speed

Speed checker	Frequency counter
-1.5 to +2.5%	2,955 to 3,075 Hz

Adjustment Location:

– SET UPPER VIEW –



TUNER SECTION

Tuner section is no adjustment.

SECTION 6 DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 μ PD17708GC-567-3B9 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	AMSEL	I	Setting terminal for the AMS selection fixed at “L”
2	POS3	I	Tape position detect input from tape operation switch on the mechanism block
3	POS2	I	
4	POS0	I	
5	POS1	I	
6	TAPEON	O	Tape system power supply on/off control signal output terminal “H”: tape on
7	CM ON	O	Capstan/reel motor (M901) drive signal output terminal “H”: motor on
8	LM LOD	O	Loading/tape operation motor control signal output to the LB1638M (IC351) (For the loading direction and forward side operation) *1
9	LM EJ	O	Loading/tape operation motor control signal output to the LB1638M (IC351) (For the eject direction and reverse side operation) *1
10	TUNON	O	Tuner system power supply on/off control signal output to the BA3918 (IC611) “H”: tuner on
11	FM ON	O	FM system power supply on/off control signal output to the BA3918 (IC611) “H”: FM on
12	PW ON	O	Main system power supply on/off control signal output to the BA3918 (IC611) “H”: power on
13	MUT	O	Line muting control signal output terminal “H”: line muting on
14	VOLCE	O	Chip enable signal output to the electrical volume (IC331)
15	VOLCKO	O	Serial data transfer clock signal output to the electrical volume (IC331)
16	VOLSO	O	Serial data output to the electrical volume (IC331)
17	AMPON	O	Standby control signal output to the power amplifier (IC751) “L”: standby
18	AMPMUT	O	Muting control signal output to the power amplifier (IC751) “L”: muting on
19	<u>DX/LO</u>	O	Local/DX selection signal output to the FM/AM tuner unit (TU1) “L”: DX, “H”: local
20	<u>AM MONO</u>	O	AM forced monaural signal output terminal Not used (open)
21	GND	—	Ground terminal
22	DSTSEL	I	Destination setting terminal (frequency select switch (S502) input terminal) “L”: AM 9k step or FM 50k step, “H”: AM 10k step or FM 200k step
23	DBASIN	I	D-BASS switch (SW951) input (A/D input)
24	KEYIN1	I	Key input terminal (A/D input) ▲, INTRO 1, REPEAT 2, SHUF 3, BL SKIP 6, ATA 5, 4, PRESET DISC +/- keys input (LSW921 to LSW927, LSW929 and LSW930)
25	KEYIN0	I	Key input terminal (A/D input) OFF, SOURCE, MODE ◀▶, + ▶▶▶▶ SEEK AMS, – ◀◀◀◀ SEEK AMS, VOLUME –, SEL, VOLUME +, ATT, DSPL, BTM, LCL keys input (LSW901 to LSW912)
26	RC IN0	I	Rotary remote commander shift key A/D input terminal
27	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (TU1)
28	AMIFIN	I	AM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
29	FMIFIN	I	FM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
30	VDD2	—	Power supply terminal (+5V)
31	FM OSC	I	FM local oscillator detection signal input from the FM/AM tuner unit (TU1)
32	AM OSC	I	AM local oscillator detection signal input from the FM/AM tuner unit (TU1)
33	GND	—	Ground terminal
34	NCO	O	Not used (open)
35	EO1	O	Main charge-pump control signal output terminal
36	TEST0	I	Setting terminal for the test (fixed at “L”)
37	NCO	O	Not used (open)
38	<u>SEKOUT</u>	O	Seek control signal output to the FM/AM tuner unit (TU1)
39	<u>MW/SW</u>	O	MW/SW selection signal output to the FM/AM tuner unit (TU1) “L”: MW, “H”: SW
40	BEEP	O	Beep sound output terminal

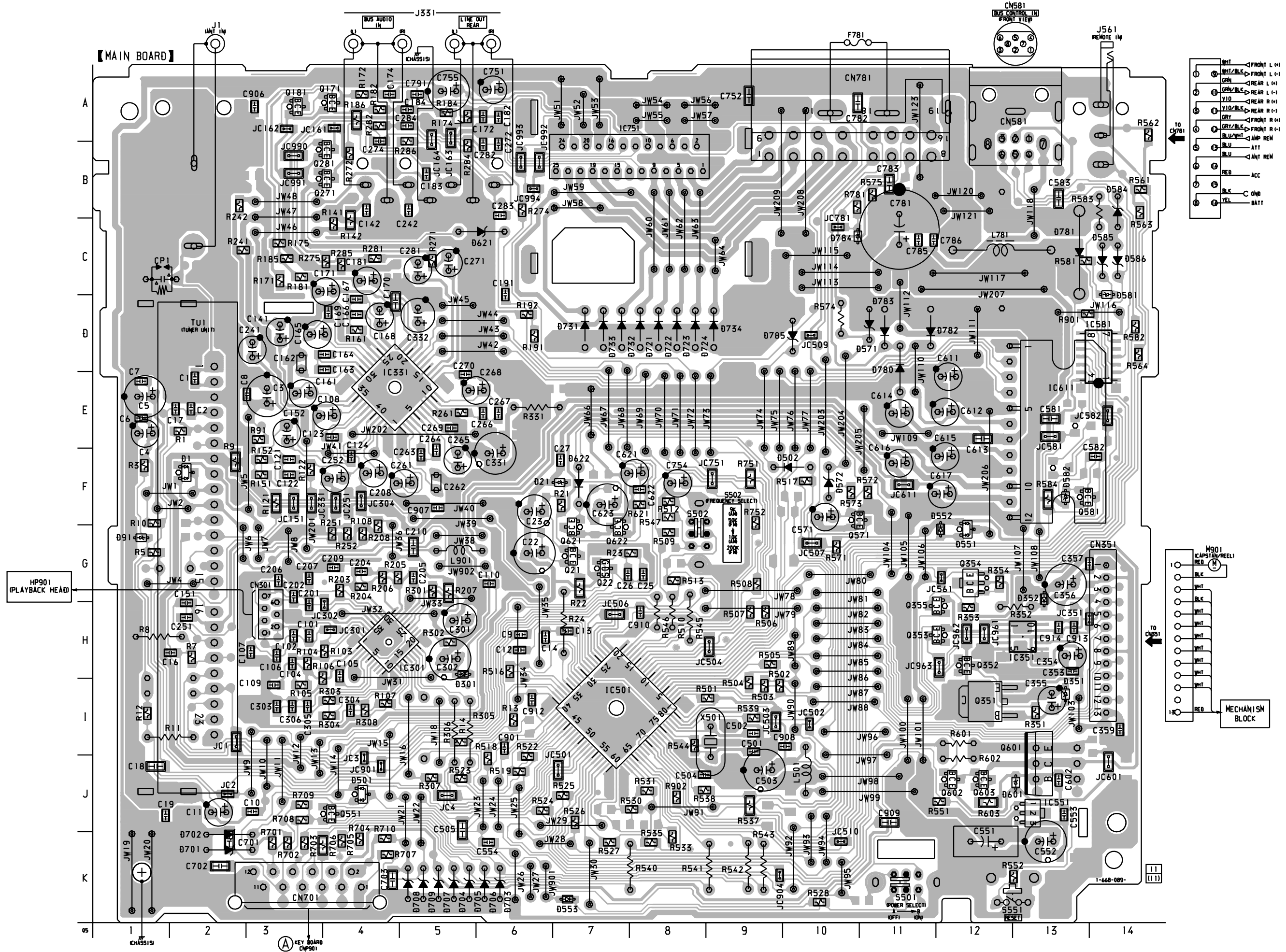
Pin No.	Pin Name	I/O	Function
41	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of “H”
42	BU IN	I	Battery detect signal input terminal “H”: battery on
43	MTLSEL	I/O	METAL control in/out terminal At initial mode: auto/manual mode selection input of METAL function “L”: manual mode At manual mode: METAL on/off control signal output terminal (“H” output: METAL on) At auto mode: input at MTLIN (pin 59) Not used this function in this set (fixed at “H”)
44	DOLON	I/O	Dolby control in/out terminal At initial mode: valid/invalid selection input of dolby function (“L” input: valid) At normal mode: dolby on/off control signal output (“H” output : dolby on) Not used this function in this set (fixed at “H”)
45	AMSIN	I	Whether a music is present or not from CXA2509AQ (IC301) is detected at auto music sensor “L”: music is present, “H”: music is not present
46	ST	I/O	Input of FM stereo detection signal from FM/AM tuner unit (TU1), and output of forced monaural control signal to FM/AM tuner unit (TU1) (Commonly used for stereo display input and forced monaural output) FM stereo detection at input of “L”, forced monaural at output of “L”
47	AMS ON	O	Tape auto music sensor control signal output to the CXA2509AQ (IC301) “L” is output to lower the gain for audio level at FF/REW
48	N/R OUT	O	Forward/reverse direction control signal output to the CXA2509AQ (IC301) “L”: forward direction, “H”: reverse direction
49	TAPMUT	O	Tape muting on/off control signal output to the CXA2509AQ (IC301) “H”: tape muting on
50	ILLON	O	Power supply on/off control signal output terminal at the illumination and liquid crystal display driver (IC901) “H”: power on At power select switch (S501) on mode: “H” output at the accessory on At power select switch (S501) off mode: “H” output at the power on
51	SD IN	I	Station detector detect input from the FM/AM tuner unit (TU1) Stop level for SEEK, BTM, etc. is determined SD is present at input of “H”
52	NOSESW	I	Detects the removal of the attaching and removing type front panel block “L”: attaching
53	TELMUT	I	Telephone muting signal input terminal At input of “L”, the signal is attenuated by –20 dB
54	REL T	I	Reel table rotation detect signal input from the take-up and supply reel sensor
55	ACCIN	I	Accessory detect signal input terminal “L”: accessory on
56	TESTIN	I	Setting terminal for the test mode “L”: test mode (normally fixed at “H”)
57	RC IN1	I	Rotary remote commander shift key A/D input terminal
58	PW SEL	I	Power select switch (S501) input terminal “L”: position A (halt mode), “H”: position B (operation mode)
59	MTLIN	I	Input terminal to set whether the auto metal function is present or not “L”: auto metal function is present (fixed at “H”)
60	ADON	O	Power supply on/off control signal output for the A/D conversion
61	KEYSEL	I	Setting terminal for the key (fixed at “H”)
62	SEKOUTSEL	I	Active selection terminal for the SEKOUT (pin 38) (fixed at “H”)
63	COLORSEL	I	Setting terminal for the illumination color “L”: amber, “H”: green (fixed at “H”)
64	LCDCE	O	Chip enable output to the liquid crystal display driver (IC901)
65	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC901)
66	LCDSO	O	Serial data output to the liquid crystal display driver (IC901)
67	LCDINH	O	Blank indicate control signal output to the liquid crystal display driver (IC901) “L”: no display
68	UNICKI	I	Serial data reading clock signal input terminal (for SONY bus)
69	UNISO	O	Serial data output to the bus interface (IC581) (for SONY bus)

Pin No.	Pin Name	I/O	Function
70	UNISI	I	Serial data input from the bus interface (IC581) (for SONY bus)
71	UNICKO	O	Serial data transfer clock signal output to the bus interface (IC581) (for SONY bus)
72	BUSON	O	Bus on/off control signal output to the bus interface (IC581) (for SONY bus) “L”: bus on
73	SYSRST	O	Reset signal output to the bus interface (IC581) (for SONY bus) “L”: reset
74	VREG	O	CPU regulator output terminal Connected to capacitor
75	GND	—	Ground terminal
76	X OUT	O	Main system clock output terminal (4.5 MHz)
77	X IN	I	Main system clock input terminal (4.5 MHz)
78	CE	I	CPU chip enable signal input (fixed at “H”)
79	VDD1	—	Power supply terminal (+5V)
80	RESET	I	System reset signal input from the reset signal generator (IC551) and reset switch (S551) “L” is input for several 100 msec after power on, then it changes to “H”

*1 loading/tape operation motor control

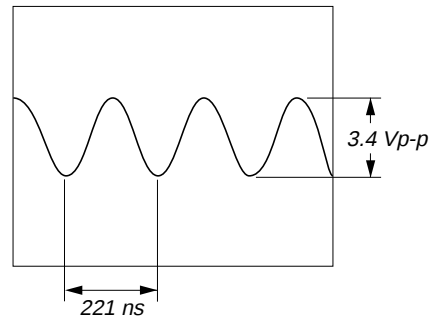
MODE TERMINAL	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LM LOD (pin ⑧)	“L”	“H”	“L”	“H”
LM EJ (pin ⑨)	“L”	“L”	“H”	“H”

6-2. PRINTED WIRING BOARD – MAIN Section –



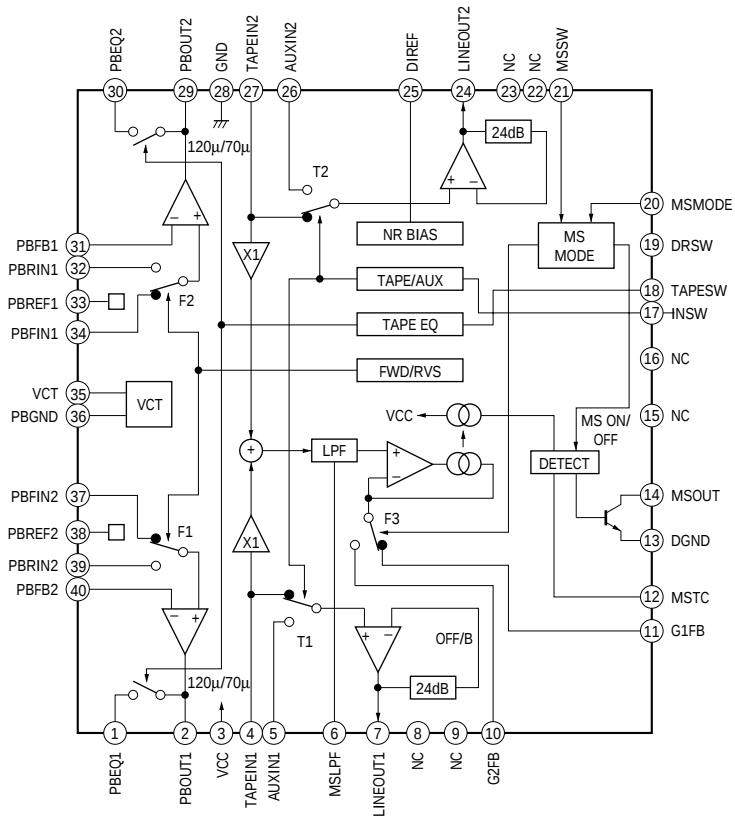
• **Waveform**

① IC501 ⑰ (X_IN)

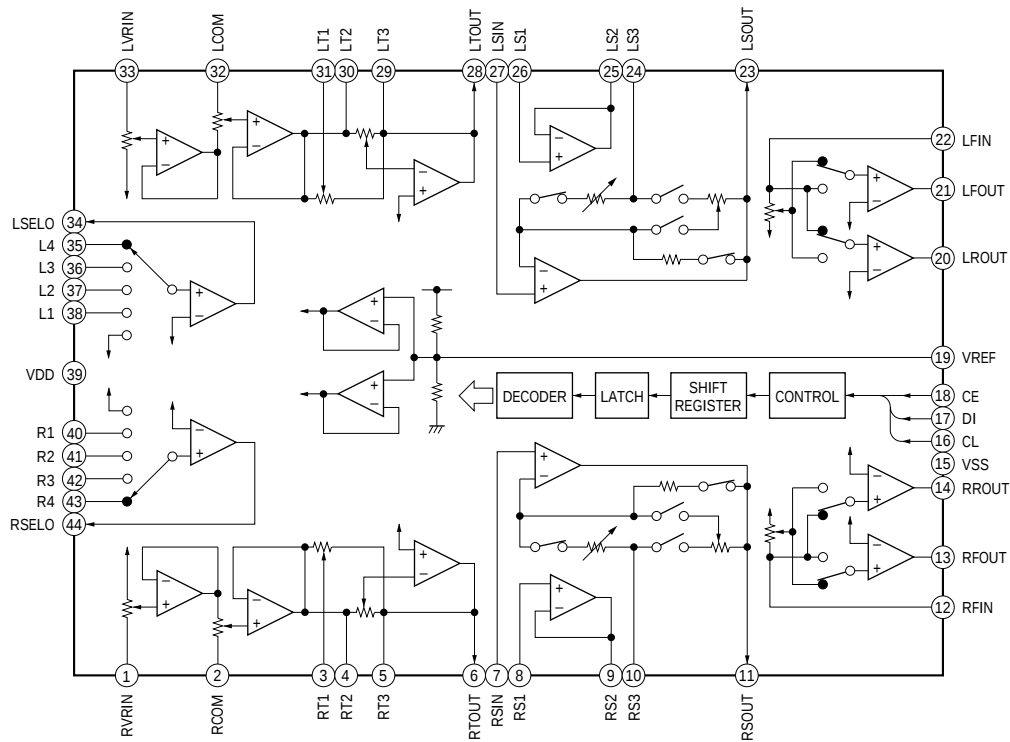


• IC Block Diagrams – MAIN Board –

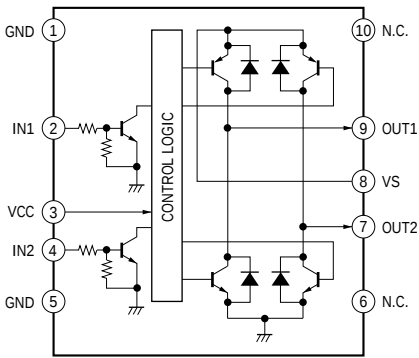
IC301 CXA2509AQ-T4



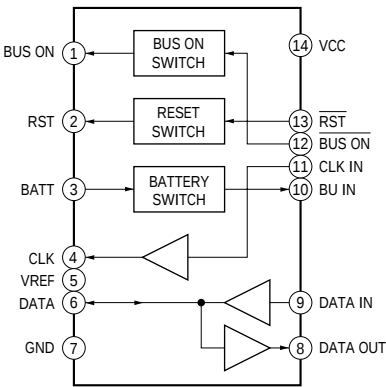
IC331 LC75373ED



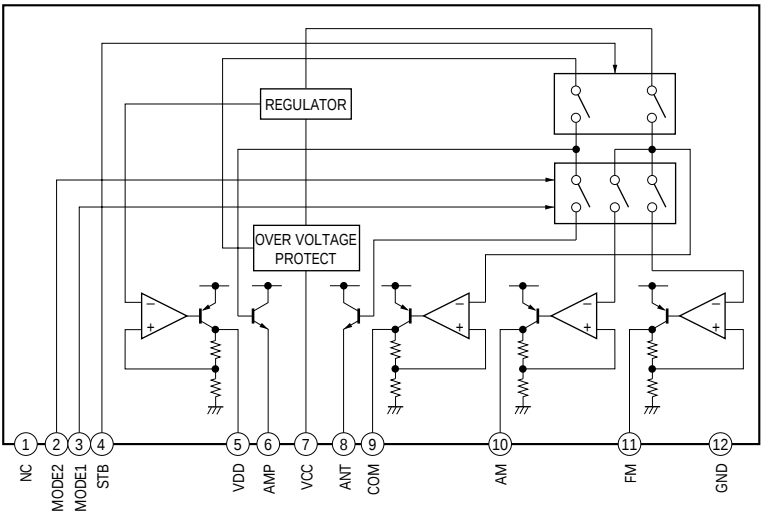
IC351 LB1638M



IC581 BA8270F-E2



IC611 BA3918-V2



SECTION 7

EXPLODED VIEWS

NOTE:

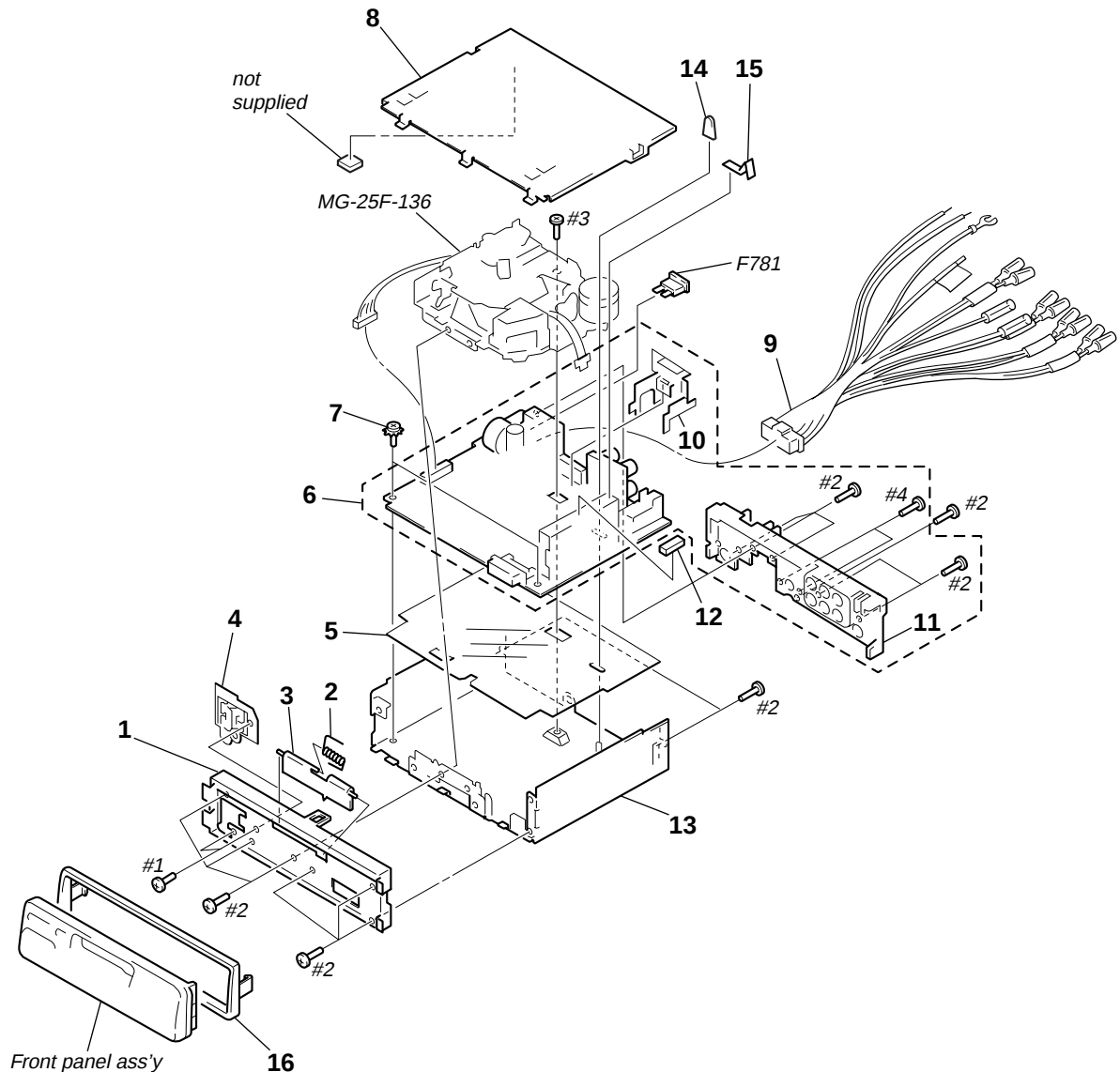
- XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)

Parts Color

Cabinet's Color

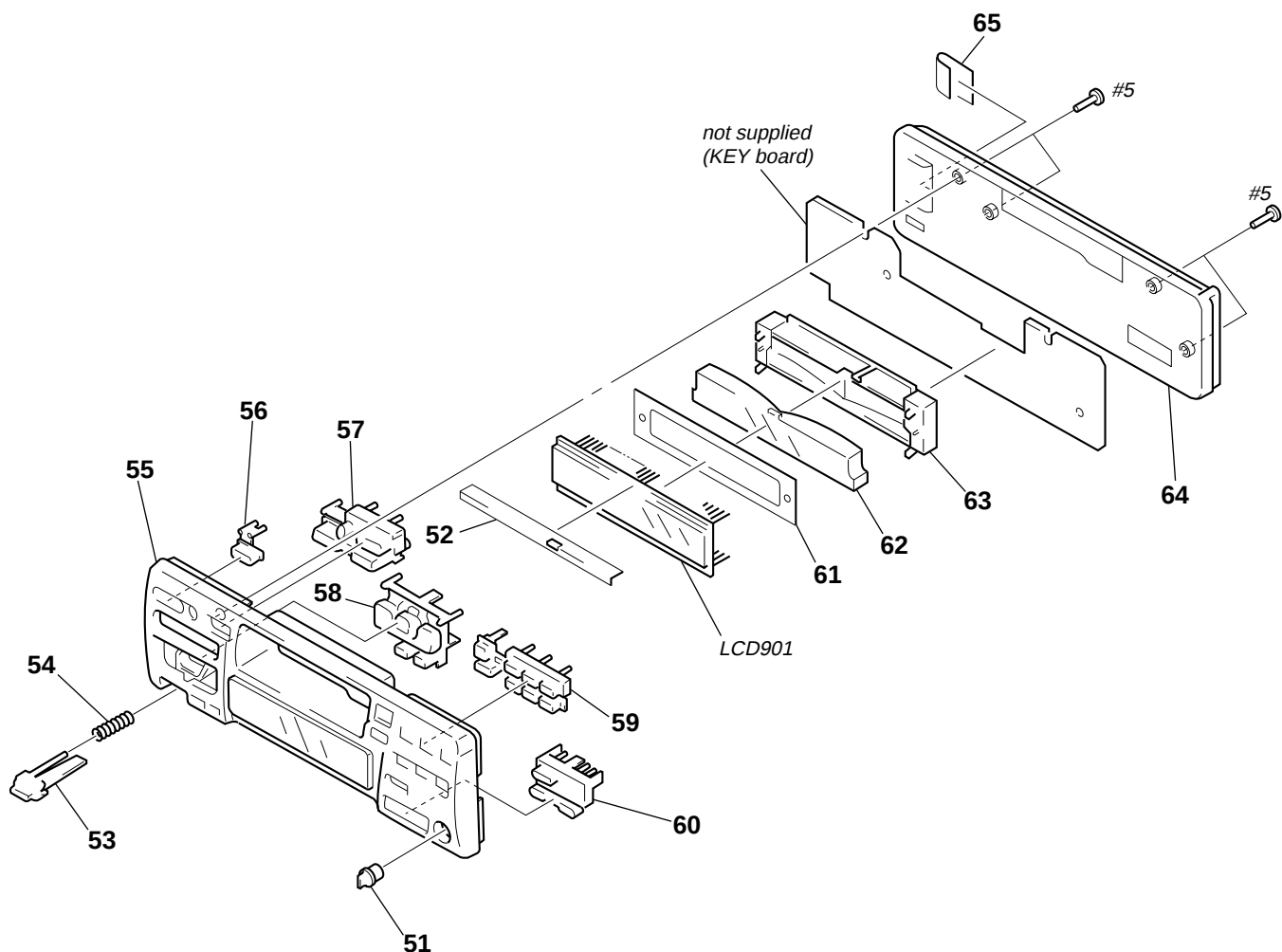
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are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

(1) CHASSIS SECTION



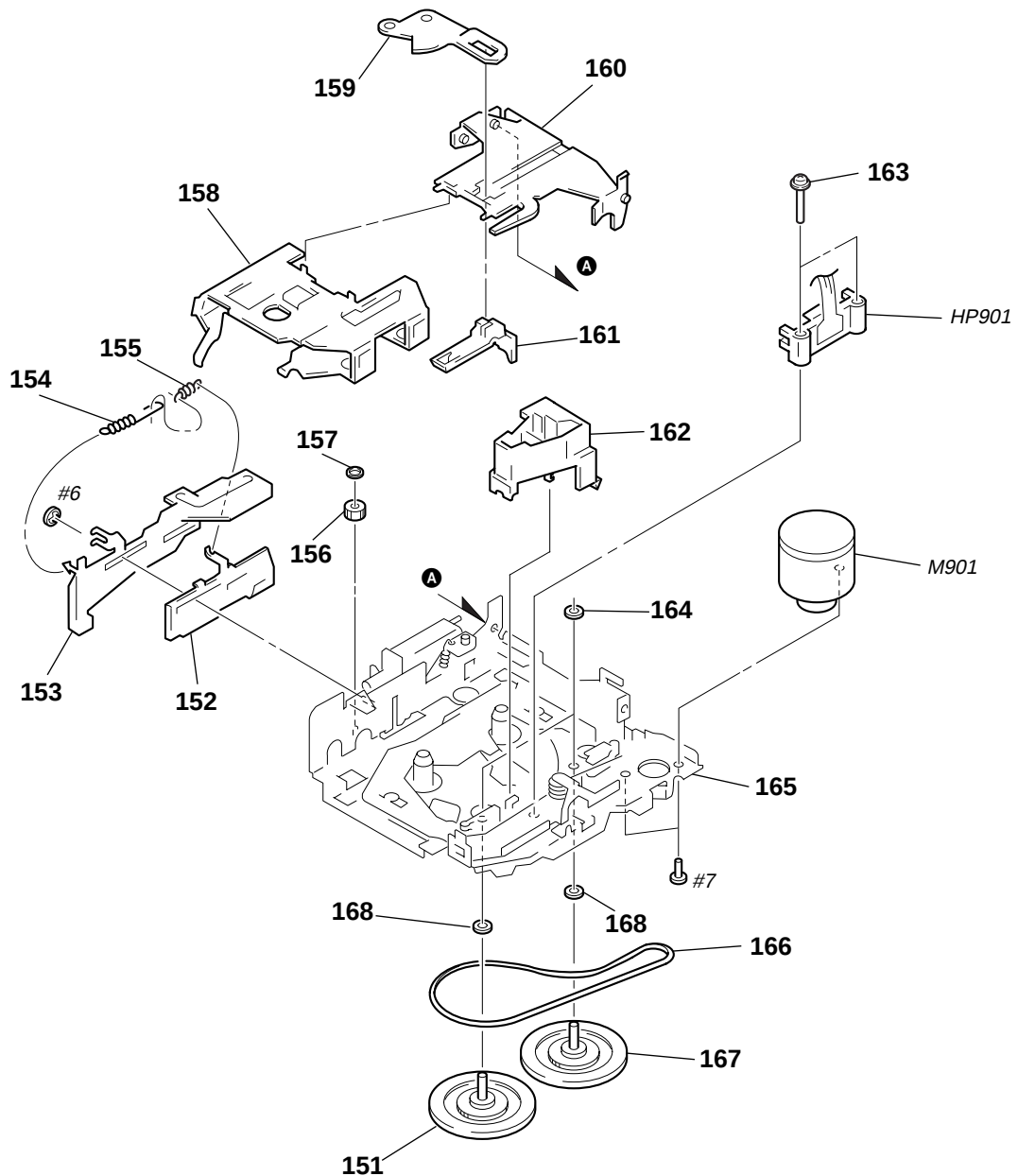
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	3-018-383-01	PANEL, SUB		* 10	3-018-390-01	BRACKET (IC)	
2	3-935-003-01	SPRING, TORSION		* 11	3-018-389-01	HEAT SINK	
3	3-932-205-61	DOOR, CASSETTE		12	3-935-014-01	CUSHION (U)	
4	X-3367-636-1	LOCK ASSY		* 13	3-009-813-01	CHASSIS	
* 5	3-010-377-01	INSULATOR		14	3-012-859-01	CAP (25), RUBBER	
* 6	A-3313-436-A	MAIN BOARD, COMPLETE		15	3-937-650-01	PLATE (C), GROUND	
7	3-915-923-01	SCREW, GROUND POINT		16	3-018-384-01	COLLAR	
* 8	X-3373-270-1	COVER ASSY		F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
9	1-776-207-81	CORD (WITH CONNECTOR) (POWER)					

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-018-930-01	KNOB (D-BASS)		59	3-010-387-01	BUTTON (PRESET) (▲. 1. 2. 3. 4. 5. 6. DSPL)	
* 52	3-014-859-01	SHEET (LCD) (T)		60	3-010-391-01	BUTTON (L.D) (LCL. -. DISC. +)	
53	3-010-398-01	BUTTON (RELEASE)		* 61	3-010-375-01	SHEET (REFLECTOR)	
54	3-010-395-01	SPRING (RELEASE)		* 62	3-018-385-01	PLATE (LCD), LIGHT GUIDE	
55	X-3374-697-1	PANEL SUB ASSY		* 63	3-018-386-01	HOLDER (LCD)	
56	3-010-383-01	BUTTON (SOURCE)		64	3-010-382-01	PANEL, FRONT BACK	
57	3-010-384-01	BUTTON (M.O.S)		* 65	3-015-036-01	CUSHION (BACK PANEL)	
		(MODE. OFF. - ◀◀◀◀. SEEK AMS. + ▶▶▶▶)		LCD901	1-801-967-51	DISPLAY PANEL, LIQUID CRYSTAL	
58	3-010-386-11	BUTTON (B.M.+/-) (-. SEL. +. ATT. BTM)					

(3) MECHANISM DECK SECTION
(MG-25F-136)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY		161	3-933-346-01	CATCHER	
* 152	3-019-130-01	LEVER (LDG-A)		162	3-933-344-01	GUIDE (C)	
* 153	3-019-131-01	LEVER (LDG-B)		163	3-014-798-01	SCREW (HEAD), SPECIAL	
154	3-020-539-01	SPRING (LD-1), TENSION		164	3-364-151-01	WASHER	
155	3-020-540-01	SPRING (LD-2), TENSION		165	A-3301-267-A	CHASSIS ASSY (G)	
156	3-020-542-01	GEAR (LOADING FT)		166	3-017-302-01	BELT (25)	
157	3-341-753-11	WASHER, POLYETHYLENE		167	3-936-853-01	FLYWHEEL (F)	
158	3-020-533-01	HOUSING		168	3-701-437-21	WASHER	
* 159	3-020-532-01	ARM (SUCTION)		HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
160	3-020-534-01	HANGER		M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

SECTION 8 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . : μ A. . uPA. . : μ PA. .
uPB. . : μ PB. . uPC. . : μ PC. .
uPD. . : μ PD. .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		KEY BOARD *****		LSW909	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(ATT)	
				LSW910	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(DSPL)	
*	3-010-375-01	SHEET (REFLECTOR)		LSW911	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(BTM)	
*	3-014-857-01	SHEET (LCD) (T)		LSW912	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(LCL)	
*	3-018-385-01	PLATE (LCD), LIGHT GUIDE		LSW921	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(▲)	
*	3-018-386-01	HOLDER (LCD)		LSW922	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(1/INTRO)	
		< CAPACITOR >		LSW923	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(2/REPEAT)	
C901	1-163-033-00	CERAMIC CHIP 0.022uF	50V	LSW924	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(3/SHUF)	
C902	1-165-319-11	CERAMIC CHIP 0.1uF	50V	LSW925	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(6/BL SKIP)	
C903	1-165-319-11	CERAMIC CHIP 0.1uF	50V	LSW926	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(5/ATA)	
C904	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	LSW927	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(4)	
		< CONNECTOR >		LSW929	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (DISC/PRESET +)	
CNP901	1-764-423-11	PIN, CONNECTOR 12P		LSW930	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (DISC/PRESET -)	
		< DIODE >				< PILOT LAMP >	
D901	8-719-420-90	DIODE MA8051-M		PL901	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)	
D902	8-719-422-64	DIODE MA8062-M		PL902	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)	
D903	8-719-422-64	DIODE MA8062-M				< RESISTOR >	
D904	8-719-422-64	DIODE MA8062-M		R901	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
D905	8-719-422-64	DIODE MA8062-M		R902	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
		< IC >		R903	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
IC901	8-759-443-68	IC LC75834JED		R904	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
		< CHIP CONDUCTOR >		R905	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
JC901	1-216-295-00	SHORT 0		R906	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
JC902	1-216-295-00	SHORT 0		R907	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
JC951	1-216-296-00	SHORT 0		R908	1-216-663-11	METAL CHIP 3.3K 0.5% 1/10W	
JC952	1-216-296-00	SHORT 0		R909	1-216-667-11	METAL CHIP 4.7K 0.5% 1/10W	
		< LIQUID CRYSTAL DISPLAY >		R910	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
LCD901	1-801-967-51	DISPLAY PANEL, LIQUID CRYSTAL		R911	1-208-806-11	RES,CHIP 10K 2% 1/10W	
		< SWITCH >		R921	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
LSW901	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(OFF)		R922	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
LSW902	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(SOURCE)		R923	1-216-647-11	METAL CHIP 680 0.5% 1/10W	
LSW903	1-762-619-11	SWITCH, KEY BOARD (WITH LED)		R924	1-216-651-11	METAL CHIP 1K 0.5% 1/10W	
		(MODE ◀▶▶▶)		R925	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
LSW904	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(+ ▶▶▶▶▶▶▶▶▶▶)		R926	1-216-655-11	METAL CHIP 1.5K 0.5% 1/10W	
LSW905	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(◀◀◀◀◀◀◀◀◀◀◀◀)		R927	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
				R928	1-216-663-11	METAL CHIP 3.3K 0.5% 1/10W	
LSW906	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(-)		R929	1-216-667-11	METAL CHIP 4.7K 0.5% 1/10W	
LSW907	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(SEL)					
LSW908	1-762-619-11	SWITCH, KEY BOARD (WITH LED)(+)		R951	1-216-190-00	RES,CHIP 470 5% 1/8W	
				R952	1-216-089-00	RES,CHIP 47K 5% 1/10W	
				R953	1-216-049-11	RES,CHIP 1K 5% 1/10W	
				R954	1-216-049-11	RES,CHIP 1K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R955	1-216-049-11	RES,CHIP	1K	5%	1/10W
R956	1-216-049-11	RES,CHIP	1K	5%	1/10W
R961	1-216-027-00	METAL CHIP	120	5%	1/10W
R962	1-216-025-00	RES,CHIP	100	5%	1/10W
R963	1-216-025-00	RES,CHIP	100	5%	1/10W
R964	1-216-035-00	METAL CHIP	270	5%	1/10W
R965	1-216-035-00	METAL CHIP	270	5%	1/10W
R966	1-216-033-00	METAL CHIP	220	5%	1/10W
R981	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R982	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R983	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R984	1-216-081-00	METAL CHIP	22K	5%	1/10W
< SWITCH >					
SW951	1-762-937-11	SWITCH, ROTARY (D-BASS)			

*	A-3313-436-A	MAIN BOARD, COMPLETE			

*	3-018-389-01	HEAT SINK			
*	3-018-390-01	BRACKET (IC)			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
< CAPACITOR >					
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C3	1-124-584-00	ELECT	100uF	20%	10V
C4	1-126-157-11	ELECT	10uF	20%	16V
C5	1-124-584-00	ELECT	100uF	20%	10V
C6	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C7	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C8	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-126-160-11	ELECT	1uF	20%	50V
C12	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C14	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C17	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C18	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C19	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C22	1-124-584-00	ELECT	100uF	20%	10V
C23	1-124-234-00	ELECT	22uF	20%	16V
C25	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C26	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C27	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C101	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C102	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C104	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C106	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C107	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C108	1-126-163-11	ELECT	4.7uF	20%	50V
C109	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C110	1-163-133-00	CERAMIC CHIP	470PF	5%	50V

Ref. No.	Part No.	Description	Remark		
C121	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C122	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C123	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C124	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C141	1-126-157-11	ELECT	10uF	20%	16V
C142	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C151	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C152	1-124-257-00	ELECT	2.2uF	20%	50V
C161	1-126-160-11	ELECT	1uF	20%	50V
C162	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C163	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C164	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C165	1-126-157-11	ELECT	10uF	20%	16V
C166	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C167	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C168	1-126-157-11	ELECT	10uF	20%	16V
C169	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C170	1-163-157-00	CERAMIC CHIP	10PF	5%	50V
C171	1-126-163-11	ELECT	4.7uF	20%	50V
C172	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C174	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C181	1-126-163-11	ELECT	4.7uF	20%	50V
C182	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C183	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C184	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C191	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C201	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C202	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C204	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C205	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C206	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C207	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C208	1-126-163-11	ELECT	4.7uF	20%	50V
C209	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C210	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C241	1-126-157-11	ELECT	10uF	20%	16V
C242	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C251	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C252	1-124-257-00	ELECT	2.2uF	20%	50V
C261	1-126-160-11	ELECT	1uF	20%	50V
C262	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C263	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C264	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C265	1-126-157-11	ELECT	10uF	20%	16V
C266	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C267	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C268	1-126-157-11	ELECT	10uF	20%	16V
C269	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C270	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C271	1-126-163-11	ELECT	4.7uF	20%	50V
C272	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C274	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C281	1-126-163-11	ELECT	4.7uF	20%	50V
C282	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C283	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C284	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C301	1-124-234-00	ELECT	22uF	20%	16V
C302	1-131-359-41	ELECT	10uF	10%	25V

MAIN

Ref. No.	Part No.	Description			Remark
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C331	1-124-584-00	ELECT	100uF	20%	10V
C332	1-124-234-00	ELECT	22uF	20%	16V
C353	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C354	1-126-157-11	ELECT	10uF	20%	16V
C355	1-126-157-11	ELECT	10uF	20%	16V
C356	1-126-934-11	ELECT	220uF	20%	16V
C357	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C359	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C501	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C502	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C503	1-124-584-00	ELECT	100uF	20%	10V
C504	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C505	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C551	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C552	1-124-584-00	ELECT	100uF	20%	10V
C553	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C554	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C571	1-126-163-11	ELECT	4.7uF	20%	50V
C581	1-162-638-11	CERAMIC CHIP	1uF		16V
C582	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C583	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C602	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C611	1-126-157-11	ELECT	10uF	20%	16V
C612	1-126-157-11	ELECT	10uF	20%	16V
C613	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C614	1-126-157-11	ELECT	10uF	20%	16V
C615	1-126-157-11	ELECT	10uF	20%	16V
C616	1-126-157-11	ELECT	10uF	20%	16V
C617	1-126-157-11	ELECT	10uF	20%	16V
C621	1-126-157-11	ELECT	10uF	20%	16V
C622	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C623	1-124-589-11	ELECT	47uF	20%	16V
C701	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C702	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C703	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C751	1-126-096-11	ELECT	10uF	20%	35V
C752	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C754	1-124-257-00	ELECT	2.2uF	20%	50V
C755	1-124-589-11	ELECT	47uF	20%	16V
C781	1-126-936-11	ELECT	3300uF	20%	16V
C782	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C783	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C785	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C786	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C791	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C901	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C906	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C907	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C908	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C909	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C910	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C912	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C913	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C914	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CN581	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)	
CN701	1-764-422-11	PLUG, CONNECTOR 12P	
CN781	1-774-701-11	PIN, CONNECTOR 16P	
		< CONPOSITION CIRCUIT BLOCK >	
CP1	1-519-504-11	GAP, DISCHARGE	
		< DIODE >	
D1	8-719-991-65	DIODE SB02W03C	
D21	8-719-423-10	DIODE MA8100-M-TX	
D91	8-719-420-90	DIODE MA8051-M	
D301	8-719-404-49	DIODE MA111	
D351	8-719-422-97	DIODE MA8091-M	
D352	8-719-404-49	DIODE MA111	
D501	8-719-400-20	DIODE MA152WA	
D502	8-719-911-19	DIODE 1SS119	
D551	8-719-400-20	DIODE MA152WA	
D552	8-719-404-49	DIODE MA111	
D553	8-719-404-49	DIODE MA111	
D571	8-719-034-94	DIODE MA4180-M(QZ)	
D572	8-719-110-03	DIODE RD7.5ESB2	
D581	8-719-017-62	DIODE MA8068-L-TX	
D582	8-719-057-80	DIODE MA8160-M-TX	
D584	8-719-034-94	DIODE MA4180-M(QZ)	
D585	8-719-035-74	DIODE MA4062-M(TA)	
D586	8-719-034-94	DIODE MA4180-M(QZ)	
D601	8-719-423-32	DIODE MA8120-M	
D621	8-719-035-54	DIODE MA4039-M(TA)	
D622	8-719-911-19	DIODE 1SS119	
D701	8-719-035-77	DIODE MA4068-L(TA)	
D702	8-719-035-77	DIODE MA4068-L(TA)	
D703	8-719-035-74	DIODE MA4062-M(TA)	
D704	8-719-035-74	DIODE MA4062-M(TA)	
D705	8-719-035-74	DIODE MA4062-M(TA)	
D706	8-719-035-74	DIODE MA4062-M(TA)	
D707	8-719-034-94	DIODE MA4180-M(QZ)	
D708	8-719-035-74	DIODE MA4062-M(TA)	
D709	8-719-035-74	DIODE MA4062-M(TA)	
D721	8-719-970-02	DIODE 1SR139-400	
D722	8-719-970-02	DIODE 1SR139-400	
D723	8-719-970-02	DIODE 1SR139-400	
D724	8-719-970-02	DIODE 1SR139-400	
D731	8-719-970-02	DIODE 1SR139-400	
D732	8-719-970-02	DIODE 1SR139-400	
D733	8-719-970-02	DIODE 1SR139-400	
D734	8-719-970-02	DIODE 1SR139-400	
D780	8-719-970-02	DIODE 1SR139-400	
D781	8-719-049-38	DIODE 1N5404TU	
D782	8-719-970-02	DIODE 1SR139-400	
D783	8-719-970-02	DIODE 1SR139-400	
D784	8-719-422-64	DIODE MA8062-M	
D785	8-719-035-74	DIODE MA4062-M(TA)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< IC >				< COIL >			
IC301	8-752-079-78	IC CXA2509AQ-T4		L501	1-410-509-11	INDUCTOR 10uH	
IC331	8-759-443-67	IC LC75373ED		L781	1-411-669-12	INDUCTOR 0uH	
IC351	8-759-823-87	IC LB1638M		L901	1-410-509-11	INDUCTOR 10uH	
IC501	8-759-493-98	IC uPD17708GC-567-3B9		< TRANSISTOR >			
IC551	8-759-363-81	IC XC61AN4002PR		Q21	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC581	8-759-449-89	IC BA8270F-E2		Q22	8-729-021-94	TRANSISTOR 2SK1657-T1B	
IC611	8-759-347-49	IC BA3918-V2		Q171	8-729-920-21	TRANSISTOR DTC314TKH04	
IC751	8-759-490-74	IC TDA7384		Q181	8-729-920-21	TRANSISTOR DTC314TKH04	
< JACK >				Q271	8-729-920-21	TRANSISTOR DTC314TKH04	
J1	1-764-808-14	JACK (ANT)(ANT IN)		Q281	8-729-920-21	TRANSISTOR DTC314TKH04	
J331	1-774-699-12	JACK, PIN 4P(BUS AUDIO IN/LINE OUT REAR)		Q351	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
J561	1-566-822-41	JACK (REMOTE IN)		Q352	8-729-027-23	TRANSISTOR DTA114EKA-T146	
< CHIP CONDUCTOR >				Q353	8-729-900-53	TRANSISTOR DTC114EK	
JC1	1-216-296-00	SHORT 0		Q354	8-729-106-60	TRANSISTOR 2SB1115A	
JC2	1-216-295-00	SHORT 0		Q355	8-729-900-53	TRANSISTOR DTC114EK	
JC3	1-216-295-00	SHORT 0		Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC4	1-216-296-00	SHORT 0		Q571	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JC151	1-216-296-00	SHORT 0		Q581	8-729-900-53	TRANSISTOR DTC114EK	
JC161	1-216-295-00	SHORT 0		Q601	8-729-423-99	TRANSISTOR 2SD2137-OP	
JC162	1-216-295-00	SHORT 0		Q602	8-729-900-53	TRANSISTOR DTC114EK	
JC163	1-216-296-00	SHORT 0		Q603	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC164	1-216-296-00	SHORT 0		Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC251	1-216-296-00	SHORT 0		Q622	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JC301	1-216-295-00	SHORT 0		< RESISTOR >			
JC302	1-216-295-00	SHORT 0		R1	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC304	1-216-296-00	SHORT 0		R3	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
JC331	1-216-296-00	SHORT 0		R5	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC351	1-216-295-00	SHORT 0		R7	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC501	1-216-296-00	SHORT 0		R8	1-247-899-11	CARBON 680K 5%	1/4W
JC502	1-216-295-00	SHORT 0		R9	1-216-180-00	RES,CHIP 180 5%	1/8W
JC503	1-216-296-00	SHORT 0		R10	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC504	1-216-296-00	SHORT 0		R11	1-249-413-11	CARBON 470 5%	1/4W
JC506	1-216-296-00	SHORT 0		R12	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC507	1-216-296-00	SHORT 0		R13	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC509	1-216-295-00	SHORT 0		R14	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC510	1-216-295-00	SHORT 0		R21	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
JC561	1-216-295-00	SHORT 0		R22	1-216-198-00	RES,CHIP 1K 5%	1/8W
JC581	1-216-296-00	SHORT 0		R23	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
JC582	1-216-296-00	SHORT 0		R24	1-249-421-11	CARBON 2.2K 5%	1/4W
JC601	1-216-296-00	SHORT 0		R91	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC611	1-216-296-00	SHORT 0		R103	1-216-041-00	METAL CHIP 470 5%	1/10W
JC751	1-216-296-00	SHORT 0		R104	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC781	1-216-295-00	SHORT 0		R105	1-216-077-00	METAL CHIP 15K 5%	1/10W
JC901	1-216-295-00	SHORT 0		R106	1-216-079-00	METAL CHIP 18K 5%	1/10W
JC904	1-216-295-00	SHORT 0		R107	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC961	1-216-296-00	SHORT 0		R108	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC962	1-216-296-00	SHORT 0		R121	1-216-198-00	RES,CHIP 1K 5%	1/8W
JC963	1-216-296-00	SHORT 0		R122	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC990	1-216-296-00	SHORT 0		R141	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC991	1-216-296-00	SHORT 0		R142	1-216-198-00	RES,CHIP 1K 5%	1/8W
JC992	1-216-296-00	SHORT 0		R151	1-216-049-11	RES,CHIP 1K 5%	1/10W
JC993	1-216-296-00	SHORT 0		R152	1-216-077-00	METAL CHIP 15K 5%	1/10W
JC994	1-216-295-00	SHORT 0		R161	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
				R171	1-216-033-00	METAL CHIP 220 5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W	R519	1-216-097-00	RES,CHIP	100K	5%	1/10W
R174	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R175	1-216-089-00	RES,CHIP	47K	5%	1/10W						
R181	1-216-033-00	METAL CHIP	220	5%	1/10W	R523	1-216-097-00	RES,CHIP	100K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W	R524	1-216-097-00	RES,CHIP	100K	5%	1/10W
						R525	1-216-097-00	RES,CHIP	100K	5%	1/10W
R184	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R526	1-216-097-00	RES,CHIP	100K	5%	1/10W
R185	1-216-089-00	RES,CHIP	47K	5%	1/10W	R527	1-216-097-00	RES,CHIP	100K	5%	1/10W
R186	1-216-182-00	RES,CHIP	220	5%	1/8W						
R191	1-216-073-00	METAL CHIP	10K	5%	1/10W	R528	1-216-097-00	RES,CHIP	100K	5%	1/10W
R192	1-216-097-00	RES,CHIP	100K	5%	1/10W	R530	1-216-097-00	RES,CHIP	100K	5%	1/10W
						R531	1-216-097-00	RES,CHIP	100K	5%	1/10W
R203	1-216-041-00	METAL CHIP	470	5%	1/10W	R533	1-216-097-00	RES,CHIP	100K	5%	1/10W
R204	1-216-109-00	METAL CHIP	330K	5%	1/10W	R535	1-216-097-00	RES,CHIP	100K	5%	1/10W
R205	1-216-077-00	METAL CHIP	15K	5%	1/10W						
R206	1-216-079-00	METAL CHIP	18K	5%	1/10W	R537	1-216-246-00	RES,CHIP	100K	5%	1/8W
R207	1-216-222-00	RES,CHIP	10K	5%	1/8W	R538	1-216-097-00	RES,CHIP	100K	5%	1/10W
						R539	1-216-097-00	RES,CHIP	100K	5%	1/10W
R208	1-216-081-00	METAL CHIP	22K	5%	1/10W	R540	1-249-421-11	CARBON	2.2K	5%	1/4W
R241	1-216-073-00	METAL CHIP	10K	5%	1/10W	R541	1-249-421-11	CARBON	2.2K	5%	1/4W
R242	1-216-049-11	RES,CHIP	1K	5%	1/10W						
R251	1-216-049-11	RES,CHIP	1K	5%	1/10W	R542	1-249-421-11	CARBON	2.2K	5%	1/4W
R252	1-216-077-00	METAL CHIP	15K	5%	1/10W	R543	1-249-421-11	CARBON	2.2K	5%	1/4W
						R544	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R261	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R545	1-249-429-11	CARBON	10K	5%	1/4W
R271	1-216-033-00	METAL CHIP	220	5%	1/10W	R546	1-249-413-11	CARBON	470	5%	1/4W
R272	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R274	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R547	1-208-822-11	RES,CHIP	47K	2%	1/10W
R275	1-216-089-00	RES,CHIP	47K	5%	1/10W	R551	1-216-097-00	RES,CHIP	100K	5%	1/10W
						R552	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R281	1-216-033-00	METAL CHIP	220	5%	1/10W	R561	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R282	1-216-073-00	METAL CHIP	10K	5%	1/10W	R562	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R284	1-216-129-00	METAL CHIP	2.2M	5%	1/10W						
R285	1-216-089-00	RES,CHIP	47K	5%	1/10W	R563	1-216-025-00	RES,CHIP	100	5%	1/10W
R286	1-216-033-00	METAL CHIP	220	5%	1/10W	R564	1-216-025-00	RES,CHIP	100	5%	1/10W
						R571	1-216-097-00	RES,CHIP	100K	5%	1/10W
R301	1-216-079-00	METAL CHIP	18K	5%	1/10W	R572	1-216-089-00	RES,CHIP	47K	5%	1/10W
R302	1-216-097-00	RES,CHIP	100K	5%	1/10W	R573	1-216-089-00	RES,CHIP	47K	5%	1/10W
R303	1-216-065-00	RES,CHIP	4.7K	5%	1/10W						
R304	1-216-077-00	METAL CHIP	15K	5%	1/10W	R574	1-249-421-11	CARBON	2.2K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W	R575	1-216-073-00	METAL CHIP	10K	5%	1/10W
						R581	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-249-429-11	CARBON	10K	5%	1/4W	R582	1-216-025-00	RES,CHIP	100	5%	1/10W
R307	1-216-073-00	METAL CHIP	10K	5%	1/10W	R583	1-247-807-31	CARBON	100	5%	1/4W
R308	1-216-105-00	RES,CHIP	220K	5%	1/10W						
R331	1-249-393-11	CARBON	10	5%	1/4W	R584	1-216-166-00	RES,CHIP	47	5%	1/8W
R351	1-216-049-11	RES,CHIP	1K	5%	1/10W	R601	1-249-393-11	CARBON	10	5%	1/4W
						R602	1-249-395-11	CARBON	15	5%	1/4W
R352	1-249-385-11	CARBON	2.2	5%	1/6W	R603	1-216-186-00	RES,CHIP	330	5%	1/8W
R353	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R621	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W						
R501	1-216-097-00	RES,CHIP	100K	5%	1/10W	R701	1-216-025-00	RES,CHIP	100	5%	1/10W
R502	1-216-097-00	RES,CHIP	100K	5%	1/10W	R702	1-216-025-00	RES,CHIP	100	5%	1/10W
						R703	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R503	1-216-097-00	RES,CHIP	100K	5%	1/10W	R704	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R504	1-216-097-00	RES,CHIP	100K	5%	1/10W	R705	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R505	1-216-097-00	RES,CHIP	100K	5%	1/10W						
R506	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R706	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R507	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R707	1-216-049-11	RES,CHIP	1K	5%	1/10W
						R708	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R508	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R709	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R509	1-216-097-00	RES,CHIP	100K	5%	1/10W	R710	1-216-025-00	RES,CHIP	100	5%	1/10W
R510	1-249-441-11	CARBON	100K	5%	1/4W						
R512	1-208-826-11	RES,CHIP	68K	2%	1/10W	R751	1-216-198-00	RES,CHIP	1K	5%	1/8W
R513	1-216-699-11	METAL CHIP	100K	0.5%	1/10W	R752	1-216-049-11	RES,CHIP	1K	5%	1/10W
						R781	1-216-049-11	RES,CHIP	1K	5%	1/10W
R516	1-216-097-00	RES,CHIP	100K	5%	1/10W	R901	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R517	1-216-097-00	RES,CHIP	100K	5%	1/10W	R902	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R518	1-216-097-00	RES,CHIP	100K	5%	1/10W						

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)	
S502	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)	
S551	1-692-431-21	SWITCH, TACTILE (RESET)	
		< TUNER >	
TU1	A-3282-034-A	TUNER UNIT TUX-010 (E)	
		< VIBRATOR >	
X501	1-567-713-11	VIBRATOR, CRYSTAL (4.5MHz)	

		MISCELLANEOUS	

9	1-776-207-81	CORD (WITH CONNECTOR) (POWER)	
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

		HARDWARE LIST	

#1	7-621-772-10	SCREW +B 2X4	
#2	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#4	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-624-104-04	STOP RING 2.0, TYPE-E	
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	

		ACCESSORIES & PACKING MATERIALS	

	1-473-067-71	REMOTE COMMANDER (RM-X4S)	
	3-861-691-11	MANUAL, INSTRUCTION	
		(ENGLISH, SPANISH, CHINESE)	
	3-861-692-11	MANUAL, INSTRUCTION, INSTALL	
		(ENGLISH, SPANISH, CHINESE)	
	X-3373-412-1	CASE (PANEL) ASSY (for FRONT PANEL)	

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

501	3-916-161-31	FRAME ASSY	
502	X-3370-077-1	SCREW ASSY (AE.KEY), FITTING	
503	X-3371-913-1	SCREW ASSY (J)	
504	1-776-207-81	CORD (WITH CONNECTOR) (POWER)	
505	X-3373-432-1	BRACKET ASSY	
506	3-018-384-01	COLLAR	

