

XR-4950X/4954X

SERVICE MANUAL

E Model



Photo: XR-4950X

SPECIFICATIONS

Model Name Using Similar Mechanism	XR-C5100
Tape Transport Mechanism Type	MG-25F-136

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) (XR-4950X) 87.5 – 108.0 MHz (XR-4954X)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450kHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	66 dB (stereo), 72 dB (mono)
Harmonic distortion at 1 kHz	0.6 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW

Tuning range	MW tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step) (XR-4950X) 531 – 1,602 kHz (XR-4954X)
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SW

Tuning range	SW tuning interval: SW1: 2,940 – 7,735 kHz SW2: 9,500 – 18,135 kHz (except for 10,140 – 11,575 kHz)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 μ V

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	50 W $\times$ 4 (at 4 ohms)

General

Outputs	Audio output Power aerial relay control lead Power amplifier control lead Telephone ATT control lead
Tone controls	Bass $\pm$ 9 dB at 100 Hz Treble $\pm$ 9 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 178 $\times$ 50 $\times$ 183 mm (w/h/d)
Mounting dimensions	Approx. 182 $\times$ 53 $\times$ 162 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/SW CASSETTE CAR STEREO

SONY®



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Flexible Circuit Board Repairing

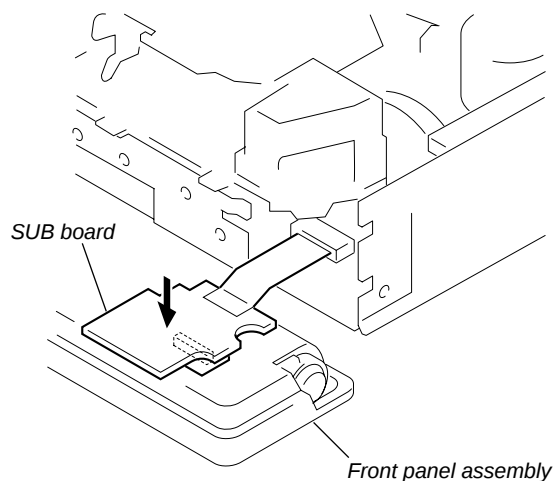
- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

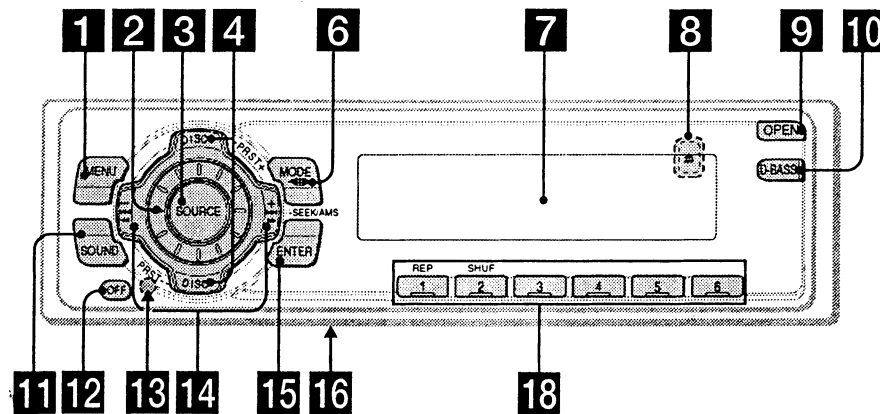
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1 SERVICE NOTE

Please press on the sub board from above when checking it.
This assures that the connector does not lose contact.



Location of controls



Refer to the pages listed for details.

- 1** MENU button 9, 11, 12, 13, 16, 18
- 2** Volume control dial
- 3** SOURCE (TUNER/TAPE) button 8, 10, 12, 17
- 4** PRST +/- (cursor up/down) buttons 8, 9, 11, 12, 13, 16, 18
During radio reception:
Preset stations select 12
- 6** MODE button 10, 11, 12, 17
During tape playback:
Playback direction change 10
During radio reception:
BAND select 12
- 7** Display window
- 8** Δ (eject) button (located on the front side of the unit behind the front panel) 10
- 9** OPEN button 7, 10, 20
- 10** D-BASS button 17
- 11** SOUND button 16
- 12** OFF button* 7, 8, 10
- 13** Reset button (located on the front side of the unit behind the front panel) 7
- 14** SEEK/AMS -/+ (cursor left/right) buttons 8, 9, 10, 11, 12, 13, 16, 18
Seek 13
Automatic Music Sensor 10, 18
Manual search 13, 18
- 15** ENTER button 9, 11, 12, 13, 16, 18
- 16** XR-4950X:
Frequency select switch (located on the bottom of the unit)
See "Frequency select switch" in the Installation/Connections manual.
- 18** Number buttons
During radio reception:
Preset number select 12
During tape playback:
① REP 11

* **Warning when installing in a car without ACC (accessory) position on the ignition key switch**
Be sure to press **OFF** on the unit for two seconds to turn off the clock display after turning off the engine.
When you press **OFF** only momentarily, the clock display does not turn off and this causes battery wear.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit. Remove the front panel and press the reset button with a pointed object, such as a ballpoint pen.



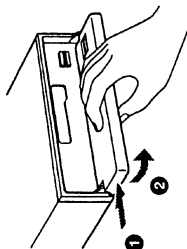
Reset button

Note
Pressing the reset button will erase the clock setting, preset memory and some memorised functions.

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

- 1 Press **(OFF)**.
- 2 Press **(OPEN)**, then slide the front panel to the right side, and pull out from the left side.

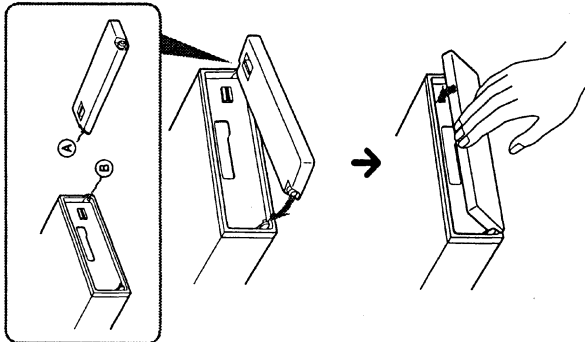


Notes

- Be sure not to drop the panel when detaching it from the unit.
- If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.
- When you carry the front panel with you, use the supplied front panel case.

Attaching the front panel

Place the hole ④ of the front panel onto the spindle ⑤ on the unit as illustrated, then push the left side in.



Notes

- Be careful not to attach the front panel upside down.
- Do not press the front panel too hard against the unit when attaching it.
- Do not press too hard or put excessive pressure on the display window of the front panel.
- Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.

Caution alarm

If you turn the car ignition off without removing the front panel, the caution alarm will beep for a few seconds. If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Setting the clock

The clock uses a 12-hour digital indication.

Example: To set the clock to 10:08

- 1 Press **(MENU)**, then press either side of **(PRST/DISC)** or **(PRST)** repeatedly until "CLOCK" appears.



- 1 Press **(ENTER)**.



The hour indication flashes.

- 2 Press either side of **(PRST/DISC)** or **(PRST)** to set the hour.



- 3 Press **(+)** side of **(SEEK/AMS)**.



The minute indication flashes.

- 4 Press either side of **(PRST/DISC)** or **(PRST)** to set the minute.

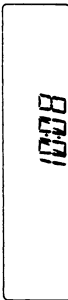


The clock starts.

After the clock setting is complete, the display returns to normal playback mode.

Tip
When the D.INFO mode is set to ON, the time is always displayed (page 16).

- 2 Press **(ENTER)**.

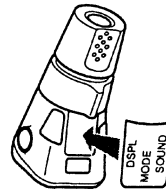
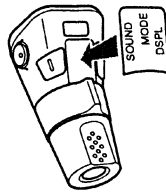


Other Functions

You can also control this unit with the rotary commander.

Labelling the rotary commander

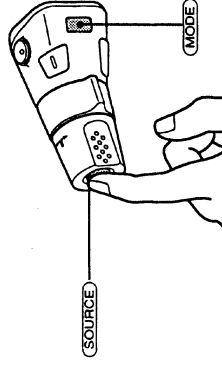
Depending on how you mount the rotary commander, attach the appropriate label as shown in the illustration below.



Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.

By pressing buttons (the SOURCE and MODE buttons)

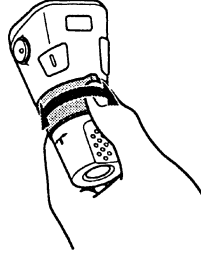


Each time you press **(SOURCE)**, the source changes as follows:
TUNER → TAPE

Pressing **(MODE)** changes the operation in the following ways:

- Tuner : FM1 → FM2 → FM3 → MW → SW1 → SW2
playback direction
- Tape :

By rotating the control (the SEEK/AMS control)



Rotate the control and release it to:

- Locate the beginnings of tracks on the tape. Rotate and hold the control, and release it to fast-wind the tape. To start playback while fast-winding the tape, press **(MODE)**.
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to find a specific station.

By pushing in and rotating the control (the PRESEE/DISC control)

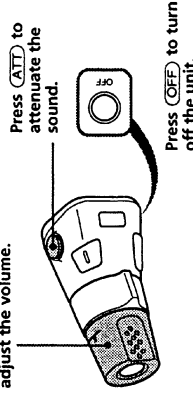


Push in and rotate the control to:

- Receive the stations memorised on the number buttons.
- Change the disc.

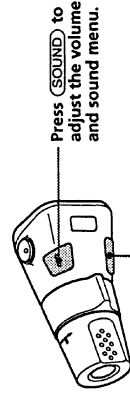
Other operations

Rotate the VOL control to adjust the volume.



Note

When installing in a car without ACC (accessory) position on the ignition key switch, press **(OFF)** for two seconds to turn off the clock display after turning off the engine.

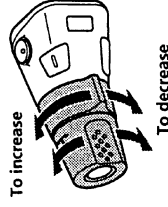


Press **(DSP/L)** to change the displayed items.

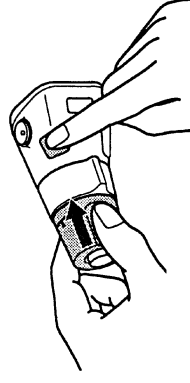
Tip
While the ATA function is activated, the display (TAPE ↔ TUNER) can be changed by pressing **(DSP/L)**.

Changing the operative direction

The operative direction of controls is factory-set as shown below.



If you need to mount the rotary commander on the right hand side of the steering column, you can reverse the operative direction.



Press **(SOUND)** for two seconds while pushing the VOL control.

Tip
You can also change the operative direction of these controls with the unit (see "Changing the sound and display settings" on page 16).

Installation (XR-4950X)

Precautions

- If you mount other Sony equipment with this unit, it is better to mount this unit in the lower position.
- There must be a distance of at least 15 cm between the cassette slot of the unit and shift lever in order to insert a cassette easily. Choose the installation location carefully so the unit does not interfere with gear shifting and other driving operations.
- Choose the installation location carefully so that the unit will not interfere with normal driving.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

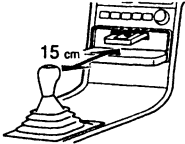
Instalación

Precauciones

- Si monta otro equipo Sony con esta unidad, es preferible montar esta unidad en la posición más baja.
- Para que sea posible insertar cassettes con facilidad, debe haber una distancia de al menos 15 cm entre la ranura de inserción de cassettes de la unidad y la palanca de cambios. Elija cuidadosamente el lugar de instalación de forma que la unidad no entorpezca las operaciones de cambio de marchas o de conducción en general.
- Elija cuidadosamente el lugar de montaje de forma que la unidad no interfiera las funciones normales de 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, utilice solamente la ferretería de montaje suministrada.

Ajuste del ángulo de montaje

Ajuste el ángulo de montaje a menos de 20°.



安裝

使用前注意事項

- 本機如果另外安裝有其他 Sony 牌設備時，最好把本機裝在較低位置。
- 在本機的卡帶槽口和變速桿之間，至少需保持 15 cm 距離以便於裝插卡帶。
- 請留心選擇安裝位置以便使機器不至於妨礙您排檔和其他駕駛操作。
- 本機請放在不妨礙可駕駛之處。
- 避免將本機放在高溫之處，如陽光直射照射、暖氣機前、或灰塵極多、潮濕，以及極易受震動等地方。
- 為了安全起見，安裝時請使用附送的部件。

安裝角度之調整

請在 20 度以內調整安裝角度。

How to detach and attach the front panel

Before installing the unit, detach the front panel.

A To detach

Before detaching the front panel, be sure to press **OFF**. Press **OPEN**, then slide the front panel to the right side, and pull out the left side.

B To attach

Place the hole ④ in the front panel onto the spindle ⑤ on the unit as illustrated, then push the left side in.

Forma de extraer e instalar el panel frontal

Antes de instalar la unidad, extraiga el panel frontal.

A Para extraerlo

Antes de extraer el panel frontal, cerciórese de presionar **OFF**. Después presione **OPEN** a fin de abrirlo, después deslícelo hacia la derecha, y por último tire de su parte izquierda.

B Para instalarlo

Coloque el orificio ④ del panel frontal en el eje ⑤ de la unidad, como se muestra en la ilustración, y después presione la parte izquierda.

如何拆卸和裝配前板

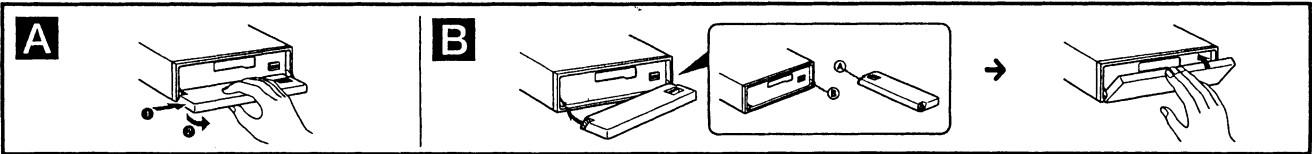
安裝本機之前，請先拆卸前板。

A 拆卸

拆卸前板之前，須先按下 **OFF** 鍵。按下 **OPEN** 鍵，然後將前板向右邊滑動而拉出其左邊。

B 裝配

如圖所示，將前板的 ④孔對準本機的支軸 ⑤，然後將左側推入聽到喀嗒聲。



Mounting example

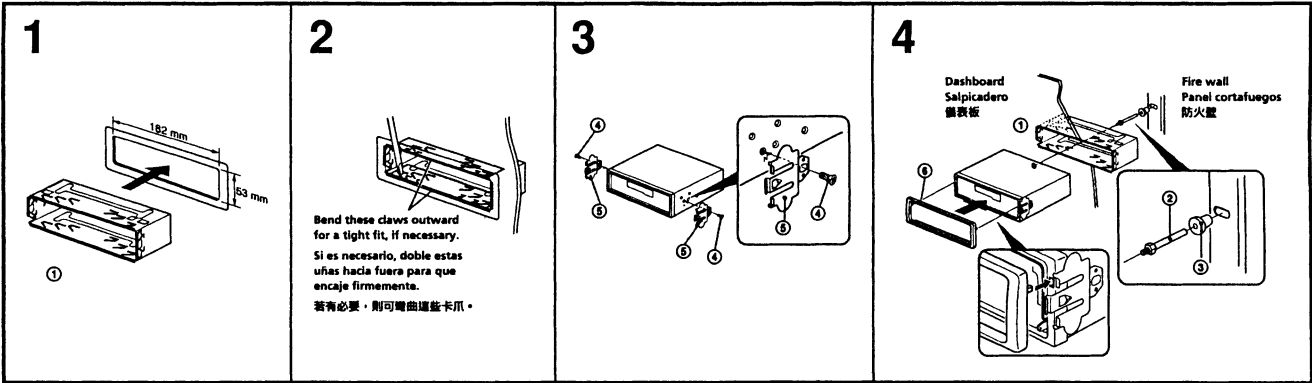
Installation in the dashboard

Ejemplo de montaje

Instalación en el salpicadero

安裝示例

在儀表板中安裝



Mounting the unit in a Japanese car

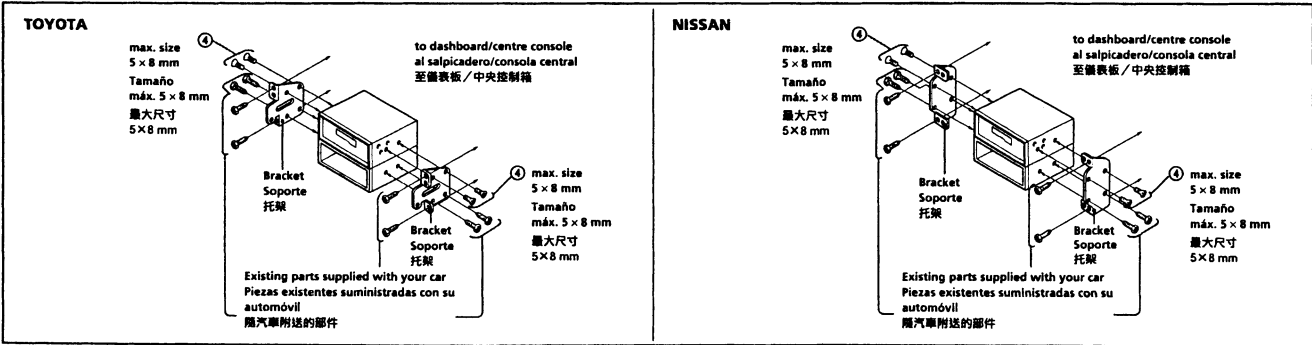
You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

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.

將本機安裝於日本產汽車上時

有的日本產汽車不能安裝本機，在這種情形下，請您向當地的 Sony 經銷商諮詢。



Note
To prevent malfunction, install only with the supplied screws ①.

Note
Para evitar que se produzcan fallos, realice la instalación solamente con los tornillos suministrados ①.

註
為防止發生故障，安裝時只能使用附送的螺絲 ①。

Installation (XR-4954X)

Precautions

- If you mount other Sony equipment with this unit, it is better to mount this unit in the lower position.
- There must be a distance of at least 15 cm between the cassette slot of the unit and shift lever in order to insert a cassette easily. Choose the installation location carefully so the unit does not interfere with gear shifting and other driving operations.
- Choose the installation location carefully so that the unit will not interfere with normal driving.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater ducts.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

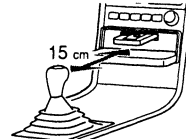
安裝

使用前注意事項

- 本機如果另外安裝有其他 Sony 附屬配件時，最好把本機裝在較低位置。
- 在本機的本帶槽口和變速桿之間，至少需保持 15 cm 距離以便於裝插卡帶。
- 請留心選擇安裝位置以使機器不至於妨礙您排檔和其他車上操作。
- 本機請放在不礙駕駛視線之處。
- 避免將本機放在高溫之處，如陽光直接照射、暖氣機前、或灰塵極多、潮濕、以及極易受震動等地方。
- 為了安全起見，安裝時請使用附送的零件。

安裝角度之調整

請在 20 度以內調整安裝角度。



التركيب

تنبيهات احتياطية

- إذا أردت تركيب جهاز سوني آخر مع هذا الجهاز، من الأفضل تركيب هذا الجهاز في الموضع السفلي.
- يجب أن تكون هناك مسافة لا تقل عن 15 سم بين فتحة أشرطة الكاسيت في الجهاز وذراع تغيير التروس وذلك لكي يتم إدخال الكاسيتات بسهولة. قم باختيار موضع التركيب بعناية بحيث لا يؤثر الجهاز على تغيير التروس ومعدات القيادة الأخرى.
- قم باختيار موضع التركيب بعناية بحيث لا تكون أشرطة أشعة الشمس مباشرة على الجهاز.
- تجنب تركيب الوحدة في مناطق معرضة للضباب، الرطوبة، الإضاءة الشديدة، أو درجة حرارة مرتفعة.
- مثل الأماكن المواجهة لأشعة الشمس المباشرة أو بالقرب من ماسورة الدفء.
- إستعمل فقط مستلزمات التركيب المجهزة وذلك لضمان السلامة والتركيب الآمن.

ضبط زاوية التركيب

اضبط زاوية التركيب أقل من 20°.

How to detach and attach the front panel

Before installing the unit, detach the front panel.

A To detach

Before detaching the front panel, be sure to press **OFF**. Press **OPEN**, then slide the front panel to the right side, and pull out the left side.

B To attach

Place the hole ④ in the front panel onto the spindle ⑤ on the unit as illustrated, then push the left side in.

如何拆卸和裝配前板

安裝本機之前，請先拆卸前板。

A 拆卸

拆卸前面板之前，須先按下 **OFF** 鍵。按下 **OPEN** 鍵，然後將前面板向右侧滑動而拉出其左邊。

B 裝配

如圖所示，將前板的 ④孔對準本機的支軸 ⑤，然後將左側推入聽到喀啞聲。

كيفية نزع وتركيب اللوحة الامامية

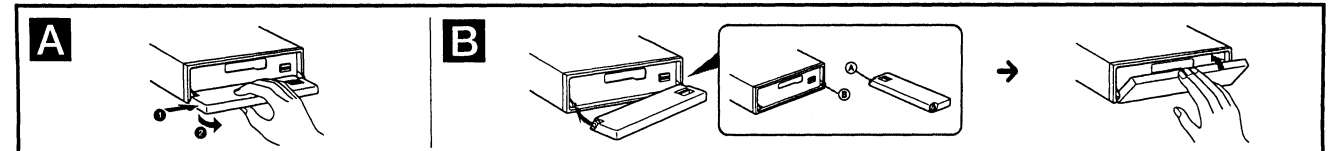
قبل تركيب الوحدة، إنزع اللوحة الامامية.

A للنزع

قبل نزع اللوحة الامامية، تأكد من ضغط **OFF**. اضغط **OPEN** ثم اسحب اللوحة الامامية الى الجهة اليمنى، واسحب الجانب الايسر نحو الخارج.

B للتركيب

ضع الثقب ④ في اللوحة الامامية على المحور ⑤ في الجهاز كما هو موضح بالشكل، ثم ادفع الجانب الايسر نحو الداخل.



Mounting example

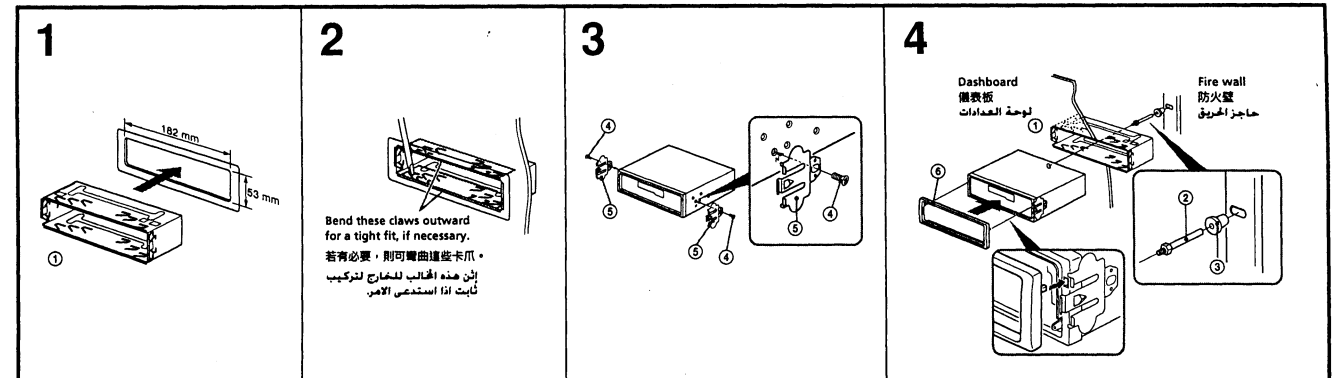
Installation in the dashboard

安裝示例

在儀表板中安裝

مثال على التركيب

التركيب على لوحة العدادات



Mounting the unit in a Japanese car

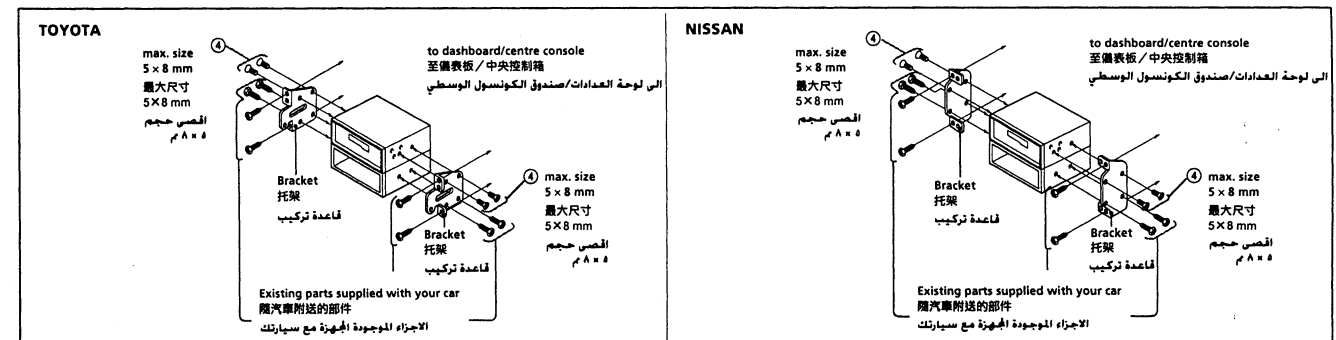
You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

將本機安裝於日本產汽車上時

有的日本產汽車不能安裝本機，在這種情形下，請您向當地的 Sony 經銷商諮詢。

تركيب الوحدة في سيارة يابانية

قد لا يمكن تركيب هذه الوحدة في بعض أنواع السيارات اليابانية. في مثل هذه الحالة، قم باستشارة أقرب موزع لمنتجات سوني لديك.



Note
To prevent malfunction, install only with the supplied screws ⑤.

註
為防止發生故障，安裝時只能使用附送的螺絲 ⑤。

ملاحظة
لئلا يعطل، فم بتركيب الوحدة باستعمال البراغي المجهزة فقط ⑤.

Connections (XR-4950X)

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Before making connections, disconnect the earth 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 is in the accessory position.
- Run all earth wires to a common earth point.
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's 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.
- When installing a car without ACC (accessory) position on the ignition key switch, connect the red power input lead to the +12V power terminal which is energized at all times with the yellow lead.

Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press **OFF** on the unit for two seconds to turn off the clock display after turned off the engine.
When you press **OFF** momentarily, the clock display does not turn off and this causes battery wear.

Frequency select switch

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

Reset button

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

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Tenga cuidado de no atrapar ningún cable entre algún tornillo y la carrocería del automóvil o esta unidad o entre las partes móviles, como por ejemplo los raffles del asiento, etc.
- 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 de entrada de alimentación amarillo y rojo solamente después de haber conectado los demás.
- Cerciórese de conectar el cable de entrada de alimentación rojo a un terminal de 12 V positivo que se energice 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 estereofónicos, 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 del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de ésta, no se interrumpa ningún otro circuito.
- Si realiza la instalación en un automóvil que no disponga de posición ACC (auxiliar) en el interruptor de la llave de encendido, conecte el cable rojo de entrada de alimentación al terminal de alimentación de +12V que recibe energía permanentemente; para ello, utilice el cable amarillo.

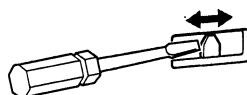
Advertencia sobre la instalación en un automóvil que no disponga de posición ACC (accesorio) en el interruptor de la llave de encendido

Asegúrese de presionar **OFF** en la unidad durante dos segundos para desactivar la indicación del reloj una vez apagado el motor.

Si presiona **OFF** momentáneamente, la indicación del reloj no se desactivará y esto causará el desgaste de la batería.

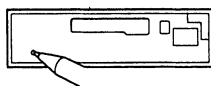
Selector de frecuencia

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



Botón de restauración

Cuando finalice la instalación y las conexiones, cerciórese de pulsar el botón de restauración con un bolígrafo, etc.



線路連接

注意

- 本機只能使用負極接地 12 V 直流電源。
- 小心別使任何導線夾緊在螺絲和車身或本機間，也不夾緊在任何活動部件諸如座椅扶手間等。
- 連接前，先拔去汽車電池的接地端子，以免發生短路。
- 黃色和紅色電源輸入導線必須在所有其它導線都連接完畢以後才連接。
- 紅色電源導線務請連接至 +12 V 電源端子，該電源端子在汽車發動機點火鑰匙處於輔助位置時才通電。
- 將所有地線都連接到同一地點。
- 將黃色導線連接到大於本機保險絲額定容量的未佔用的汽車電路上。若將本機和其它立體聲裝置相互串聯，所連接的汽車電路容量必須大於各組成機保險絲容量的總和。
- 若沒有與本機保險絲額定容量一樣大的汽車電路可資利用，可將本機直接連接到電池上。若無適當的汽車電路可用於連接本機，請將本機連接到大於本機保險絲容量的汽車電路上。這樣，若本機的保險絲燒斷了，也不致於切斷其它電路。
- 當在發動機點火鑰匙開關沒具ACC（輔助）位置的汽車里安裝時，請連接紅色電源輸入導線至該時通電的帶黃色導線的+12V電源端子。

當在點火鑰匙開關沒具輔助位置的汽車里安裝時的警告

請確認在關閉發動機後按壓 **OFF** 鍵兩秒鐘以關閉時鐘顯示。
當您短暫按壓 **OFF** 鍵，時鐘顯示將不能關閉並且將引起電池消耗。

頻率選擇開關

MW (FM) 調諧間隔在出廠前被設定在 9 K (50 K) 位置上。若貴國的頻率分配系統是以 10 KHz (200 KHz) 間隔為基礎的，連接前，請將本機底部上的開關設定在 10 K (200 K) 位置上。

復位鍵

當安裝和連接完成後，務請用圓珠筆等按壓復位鍵。

Connections (XR-4954X)

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Before making connections, disconnect the earth 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 is in the accessory position.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's 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.
- When installing a car without ACC (accessory) position on the ignition key switch, connect the red power input lead to the +12V power terminal which is energized at all times with the yellow lead.

Warning when installing in a car without ACC (accessory) position on the ignition key switch

Be sure to press **OFF** on the unit for two seconds to turn off the clock display after turned off the engine.
When you press **OFF** momentarily, the clock display does not turn off and this causes battery wear.

Reset button

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

線路連接

注意

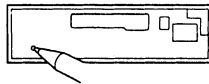
- 本機只能使用負極接地 12 V 直流電源。
- 小心別使任何導線夾緊在螺絲和車身或本機間，也不夾緊在任何活動部件諸如座椅扶手間等。
- 連接前，先拔去汽車電池的接地端子，以免發生短路。
- 黃色和紅色電源輸入導線必須在所有其它導線都連接完畢以後才連接。
- 紅色電源導線務必連接至 +12 V 電源端子，該電源端子在汽車發動機點火鑰匙處於輔助位置時才通電。
- **將所有地線都連接到同一地點。**
- 將黃色導線連接到大於本機保險絲額定容量的未佔用的汽車電路上。若將本機和其它立體聲裝置相互串聯，所連接的汽車電路容量必須大於各組成機保險絲容量的總和。
- 若沒有與本機保險絲額定容量一樣大的汽車電路可資利用，可將本機直接連接到電池上。若無適當的汽車電路可用於連接本機，請將本機連接到大於本機保險絲容量的汽車電路上。這樣，若本機的保險絲燒斷了，也不致於切斷其它電路。
- 常在發動機點火鑰匙關閉後具ACC（輔助）位置的汽車里安裝時，請連接紅色電源輸入導線至被時通電的帶黃色導線的+12V電源端子。

當在點火鑰匙開關沒具輔助位置的汽車里按裝時的警告

請確認在關閉發動機後按壓 **OFF** 鍵兩秒鐘以關閉時鐘顯示。
當您短暫按壓 **OFF** 鍵，時鐘顯示將不能關閉並且將引起電池消耗。

復位鍵

當安裝和連接完成後，務請用圓珠筆等按壓復位鍵。



التوصيلات

تنبيهات

- هذه الوحدة مصممة لتشغيل على تيار مباشر ١٢ فولت بتأريض سالب فقط.
- احرص على أن لا تلتصق أي أسلاك بين البرغي والجسم بالسيارة أو بالجهاز هذا أو بين أي قطع متحركة مثل تشبييع الكرسي الخ.
- قبل عمل التوصيلات، إقص طرف توصيل الأرضي الخاصة بطارية السيارة لتفادي حدوث تماس كهربائي.
- لا تقم بتوصيل أسلاك دخل التيار الأصفر والأحمر إلا بعد الانتهاء من توصيل جميع الأسلاك الأخرى.
- تأكد من توصيل سلك دخل التيار الأحمر بطرف التيار ١٢ فولت الموجب الذي يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات).
- **قم بتوصيل جميع أسلاك التأريض إلى نقطة تأريض مشتركة.**
- قم بتوصيل السلك الأصفر بدائرة كهربائية غير مستعملة في السيارة بمعايير تزيد عن معايرة فيوز الوحدة. إذا قمت بتوصيل الوحدة على التوالي مع أجهزة ستيريو أخرى، فيجب أن تكون الدائرة الكهربائية التي يتم توصيلها بها بمعايير أعلى من مجموع معايرات فيوزات الأجهزة الموصلة. إذا لم توجد دائرة كهربائية في السيارة بمعايير تساوي معايرة فيوز الوحدة، قم بتوصيل الوحدة بالبطارية مباشرة. إذا لم توجد دائرة كهربائية لتوصيل الوحدة، قم بتوصيل الوحدة بدائرة كهربائية في السيارة بمعايير أعلى من معايرة فيوز الوحدة بطريقة تحول دون قطع أي بوائل أخرى في حالة احتراق فيوز الوحدة.
- عند التركيب في سيارة لا تتضمن موضع للكاملات ACC في محول تشغيل المحرك، قم بتوصيل سلك دخل التيار الأحمر بطرف توصيل التيار ١٢+ فولت الذي يسري فيه التيار بشكل دائم مع السلك الأصفر.

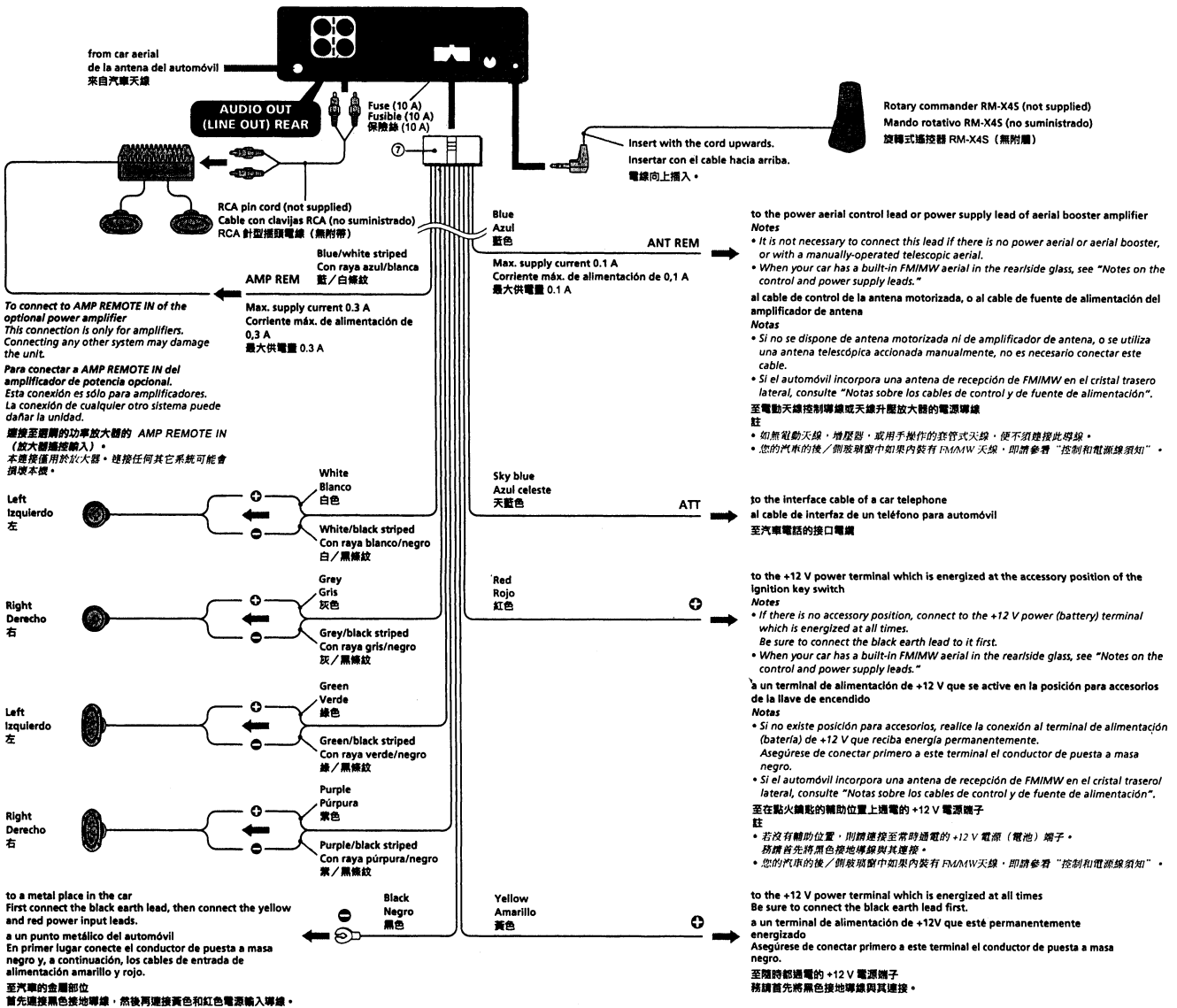
تحذير عند التركيب في السيارة لا تتضمن الوضع الثانوي ACC على مفتاح الإشعال

تأكد من ضغط زر الإيقاف **OFF** على الوحدة لمدة ثلثين لإيقاف المعارضة بعد إيقاف المحرك.
عند ضغط زر الإيقاف **OFF** لحظياً، لا يتم إيقاف عرض الساعة وتسبب استهلاك البطارية.

زر إعادة التهيئة

عند الانتهاء من التركيب والتوصيلات، تأكد من ضغط زر إعادة التهيئة باستعمال قلم جاف الخ.
زر إعادة التهيئة موجود على يسار الموصل الموجب على جانب الوحدة عند زرع الوجهة الأمامية.

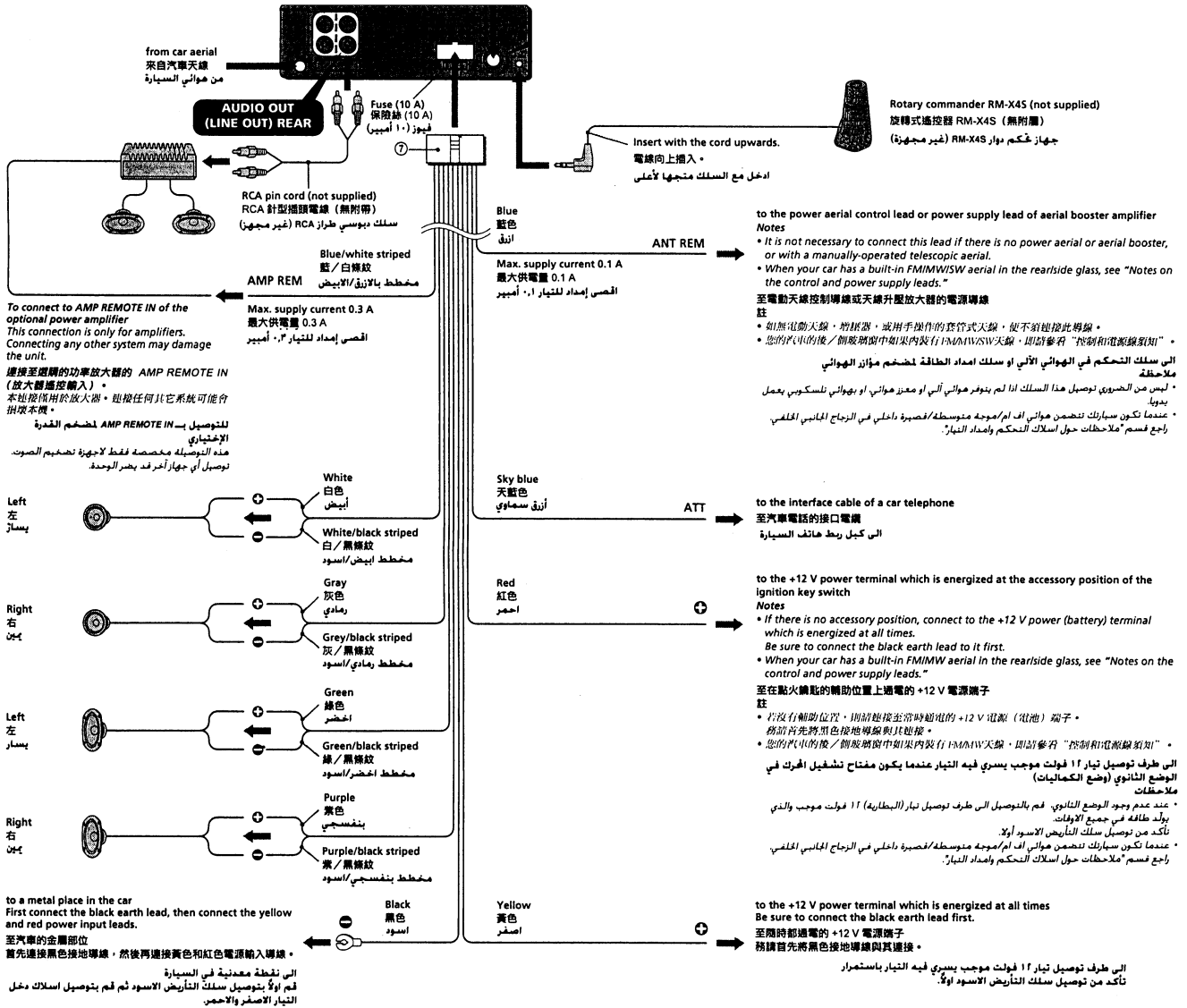
(XR-4950X)
Connection example
Ejemplo de conexiones
線路連接圖例



(XR-4954X)

Connection example 線路連接圖例

مثال على التوصيل



Notes on the control leads

- The power aerial 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 aerial without a relay box cannot be used with this unit.
- When your car has a built-in FM/AM/SW aerial in the rear side glass, it is necessary to connect the power aerial control lead (blue) or the accessory power input lead (red) to the power terminal of the existing aerial booster. For details, consult your dealer.

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. Be sure to connect passive speakers to these terminals.

關於控制導線的注意事項

- 打開調諧器或激活ATA (自動調諧器激活) 功能時，電動天線控制導線 (藍色) 將提供 +12 V 直流電。
- 本機不能使用不具備電箱的電動天線。
- 您的汽車的後/側玻璃窗中如果內裝有 FM/AM/SW 天線，則請把電動天線控制導線 (藍色) 或輔助的電源輸入導線 (紅色) 連接到目前的天線控制器的電源端子上。詳細內容，請諮詢交易商。

保持記憶功能的連接法

當您連接黃色電源輸入導線時，即便汽車發動機點火輪流被轉在電源切斷之處，電源仍繼續將電流供給記憶功能用電路，以保持所記憶者的數據。

連接揚聲器時的注意事項

- 連接揚聲器之前，請先切斷本機電源。
- 請使用 4 至 8 歐姆阻值的有足夠功率的揚聲器。否則會損壞揚聲器。
- 不可將揚聲器的端子直接連至汽車底盤，也不可將左揚聲器和右揚聲器相連接。
- 揚聲器不可平行連接。
- 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。否則會損壞有源揚聲器。因此，這些端子只能連接無源揚聲器。

ملاحظات حول اسلاك التحكم

- سلك التحكم في الهوائي الآلي (الزرق) يزود بإمداد تيار مباشر +12 فولت عندما نقوم بتشغيل الراديو أو وظيفة التشغيل التلقائي لوائف البث ATA.
- لا يمكن استعمال هوائي آلي بدون صندوق ترحيل مع هذه الوحدة.
- عندما تكون سيارتك تتضمن هوائي إف إم/موجة متوسطة/قصيرة داخلي في الزجاج الجانبي الخلفي من الضواري توصيل بسلك التحكم بالهوائي الآلي (الزرق) أو سلك دخل القدرة التناوبي (الاحمر) إلى طرف توصيل القدرة لعزل الهوائي الموجود أصلا. كن من التفاصيل، قم باستشارة الوكيل لديك.

توصيلة حفظ الذاكرة
عند توصيل سلك دخل التيار الأصفر يتم إمداد التيار بصورة مستمرة إلى دائرة الذاكرة حتى أثناء إيقاف مفتاح تشغيل المحرك.

ملاحظات حول توصيل السماعات

- قبل توصيل السماعات، أوقف تشغيل الوحدة.
- استعمل سماعات بمقاومة من 4 إلى 8 أوم وسعة خض قدره مناسبة. إذا لم تفعل ذلك فقد تلف السماعات.
- لا تقيم توصيل أطراف توصيل نظام السماعات بهيكل السيارة ولا تقيم توصيل أطراف توصيل السماعة اليمنى بأطراف توصيل السماعة اليسرى.
- لا تقبل توصيل السماعات على التوالي.
- لا تعتمد على توصيل أي سماعات نشطة (مجهزة بمضخمات داخلية) بأطراف توصيل السماعات في الوحدة. يمكن لهذا العمل أن تلف السماعات النشطة. لذا تأكد من توصيل سماعات غير نشطة بتلك الأطراف.

(XR-4950X)

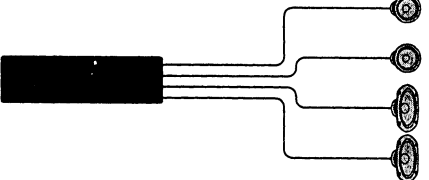
Connection diagram
Diagramas de conexión
線路連接圖

Equipment used in illustrations (not supplied)
Equipo utilizado en las ilustraciones (no suministrado)
插圖中的裝置 (無附帶)

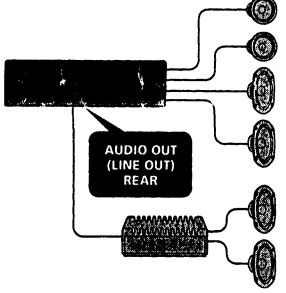
 Front speaker Altavoz delantero 前揚聲器	 Power amplifier Amplificador de potencia 功率放大器
 Rear speaker Altavoz trasero 後揚聲器	 CD/MD changer Cambiador de CD/MD CD/MD 換碟機

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.
Cuando desee conectar dos o más cambiadores, necesitará un selector de fuente XA-C30 (opcional).
若要連接 2 套或 2 套以上換碟機時，必須使用音源選擇器 XA-C30 (選購件)。

A



B



Notes

- Be sure to connect the earth cord before connecting the amplifier.
- If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Notas

- Asegúrese de conectar primero el cable de puesta a masa antes de realizar la conexión al amplificador.
- Si conecta un amplificador de potencia opcional y no utiliza el incorporado, los pitidos se desactivarán.

註

- 務必在接放大器之前連接地線。
- 如果您連接了選購件的功率放大器而不使用內裝的放大器，將無響聲功能。

(XR-4954X)

Connection diagram
線路連接圖
مخطط التوصيل

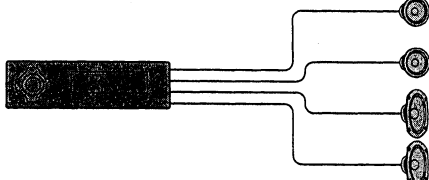
Equipment used in illustrations (not supplied)
插圖中的裝置 (無附帶)
جهازات مستخدمة بالاشكال البيانية (غير مرفقة)

 Front speaker السماعات الامامية 前揚聲器	 Power amplifier مضخم القدرة 功率放大器
 Rear speaker السماعات الخلفية 後揚聲器	 CD/MD changer مغير الاسطوانات سي دي / الاسطوانة إم دي CD/MD 換碟機

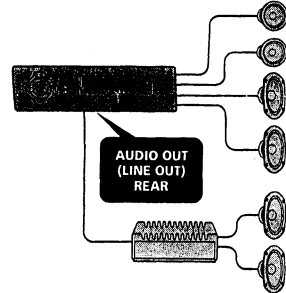
For connecting two or more changers, the source selector XA-C30 (optional) is necessary.
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若要連接 2 套或 2 套以上換碟機時，必須使用音源選擇器 XA-C30 (選購件)。

لتوصيل جهازين تغير اسطوانات او اكثر من الضروري استعمال وحدة اختيار المصدر XA-C30 (إختيارية).

A



B



Notes

- Be sure to connect the earth cord before connecting the amplifier.
- If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

註

- 務必在接放大器之前連接地線。
- 如果您連接了選購件的功率放大器而不使用內裝的放大器，將無響聲功能。

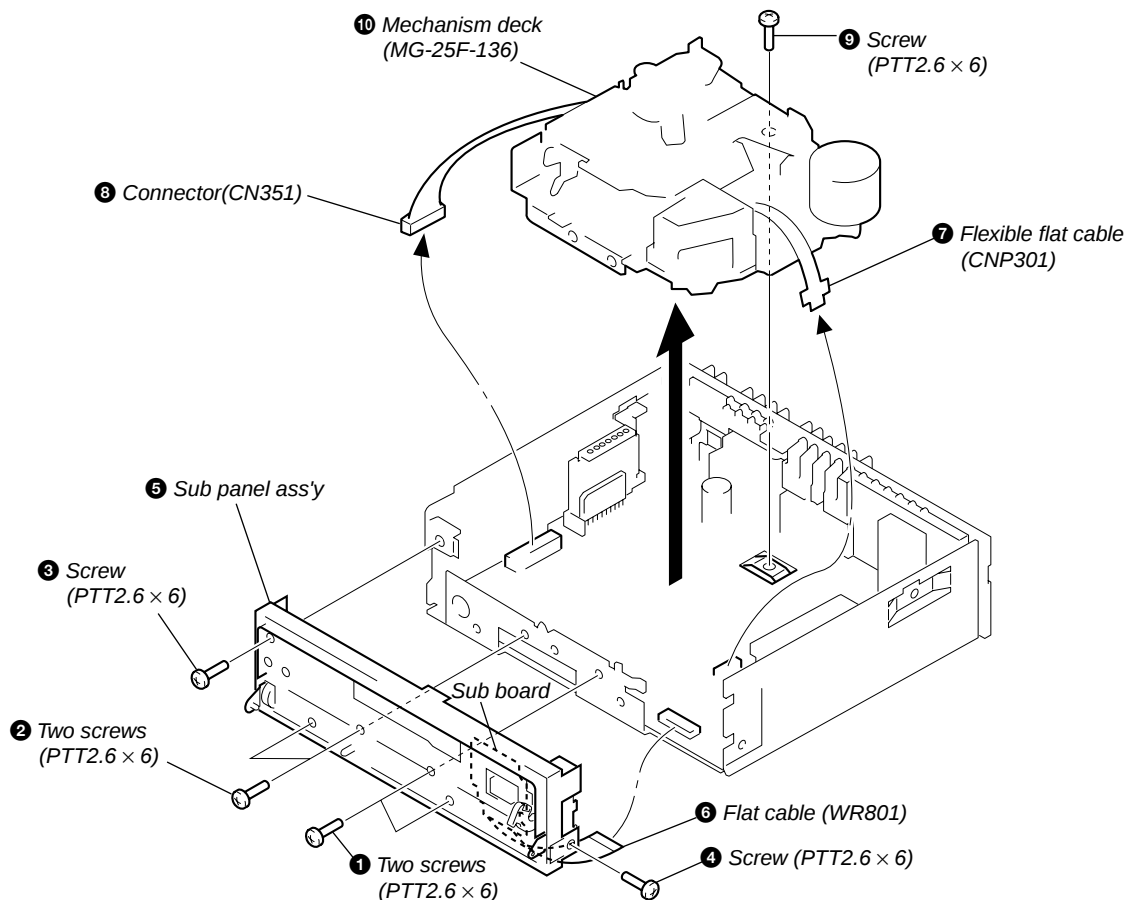
ملاحظات

- تأكد من توصيل سلك التأريض قبل توصيل المضخم.
- إذا قمت بتوصيل مضخم قدرة إختيارية ولم تستخدم مضخم داخلي، سوف يتم تعطيل مفعول الصوت "بيپ".

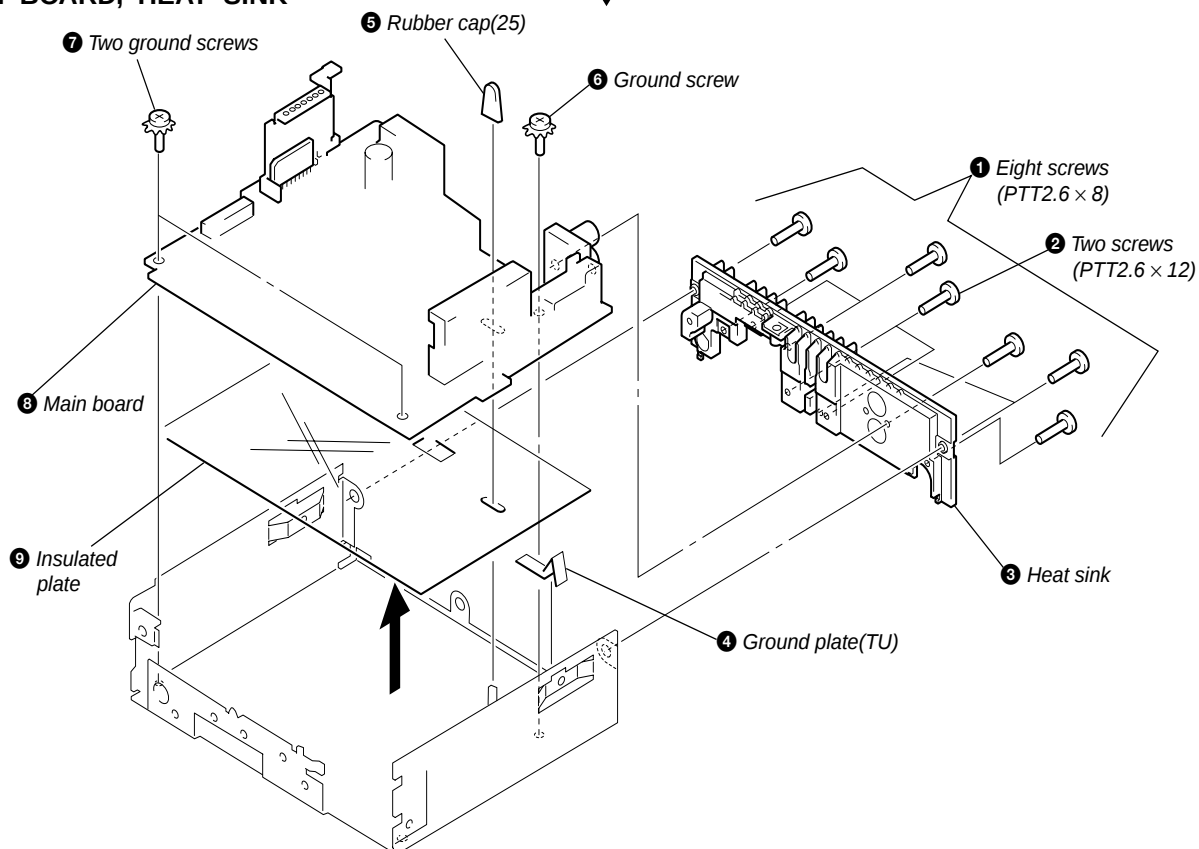
SECTION 3 DISASSEMBLY

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

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



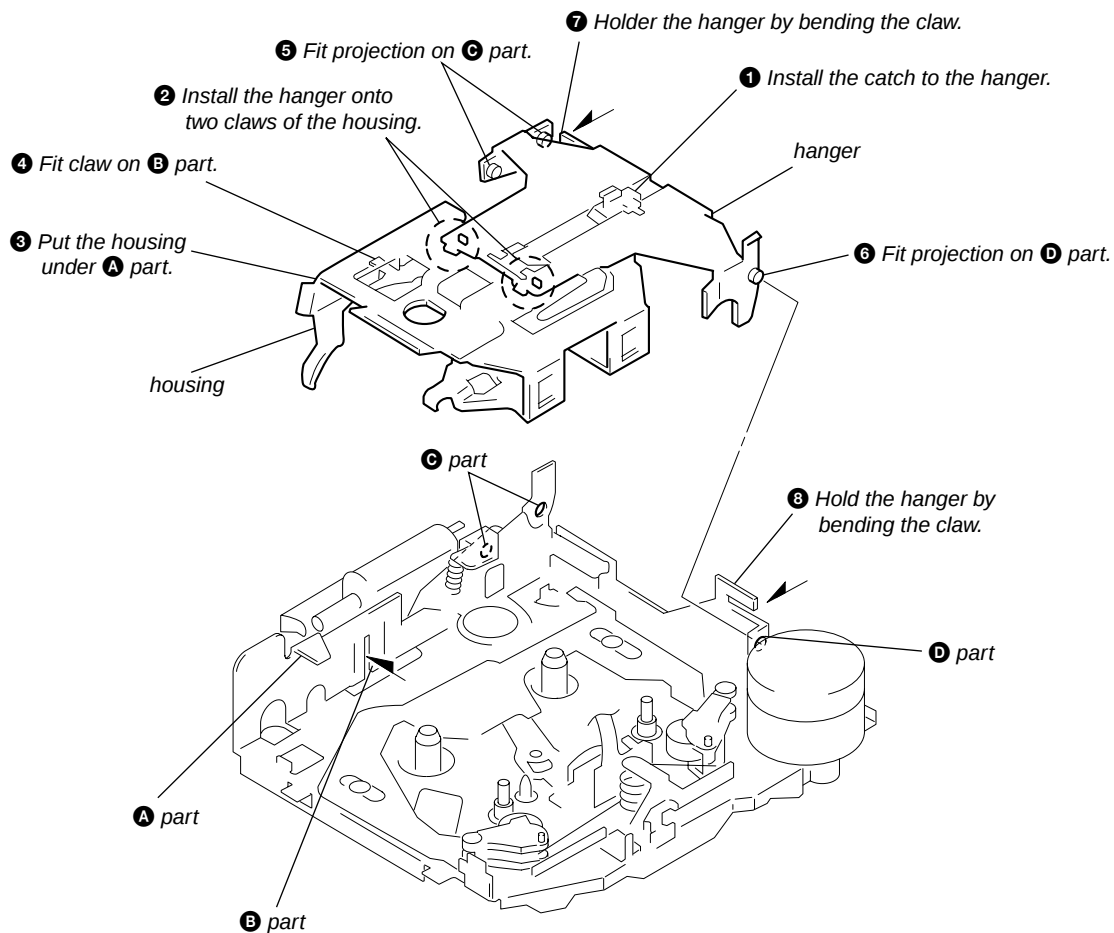
MAIN BOARD, HEAT SINK



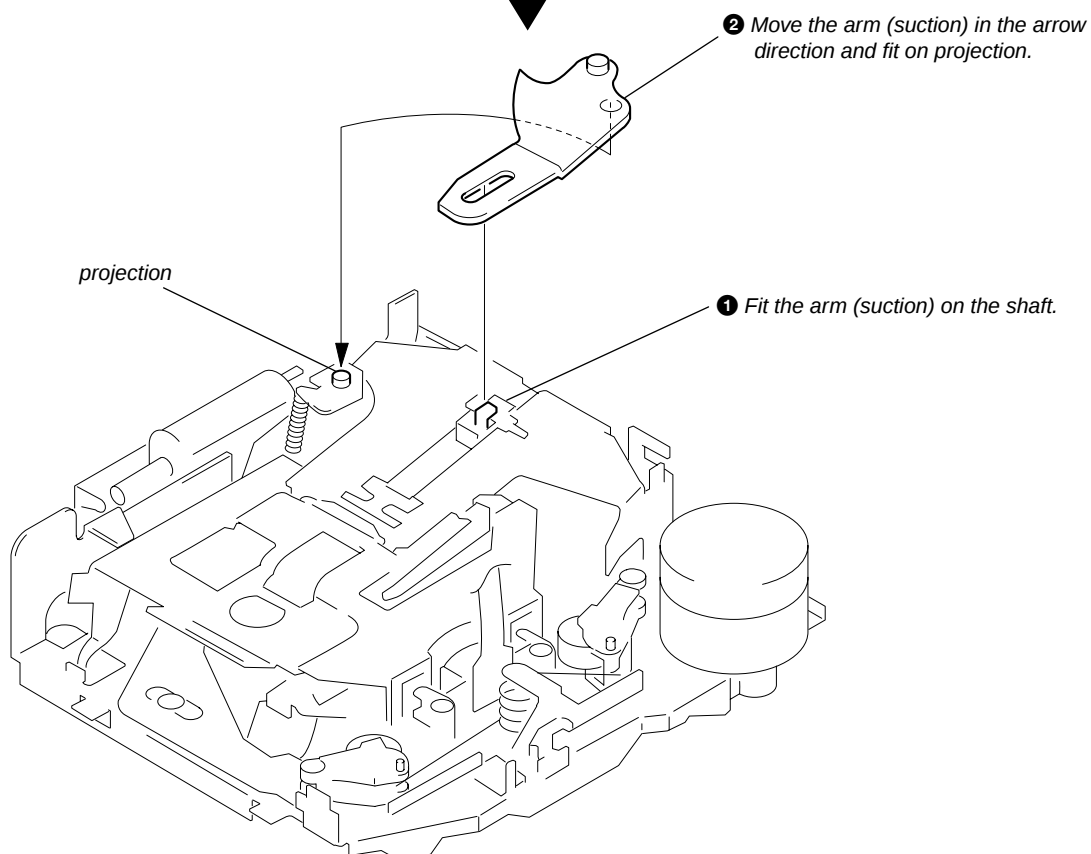
SECTION 4 ASSEMBLY OF MECHANISM DECK

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

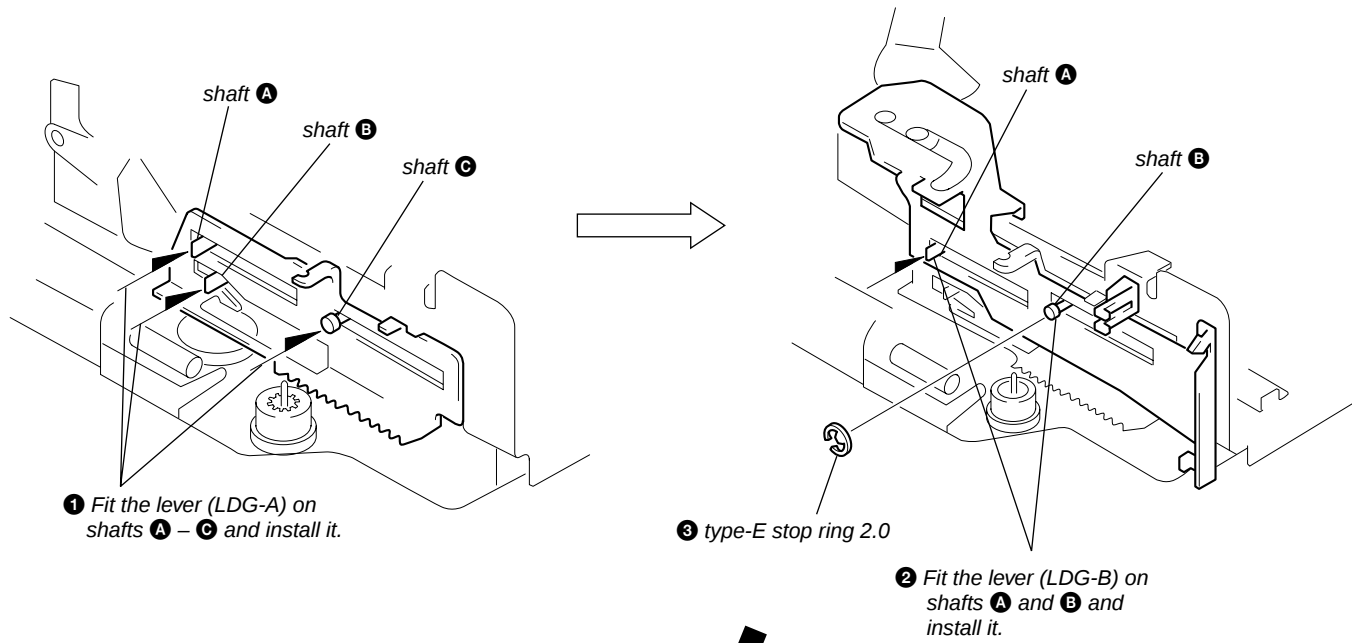
HOUSING



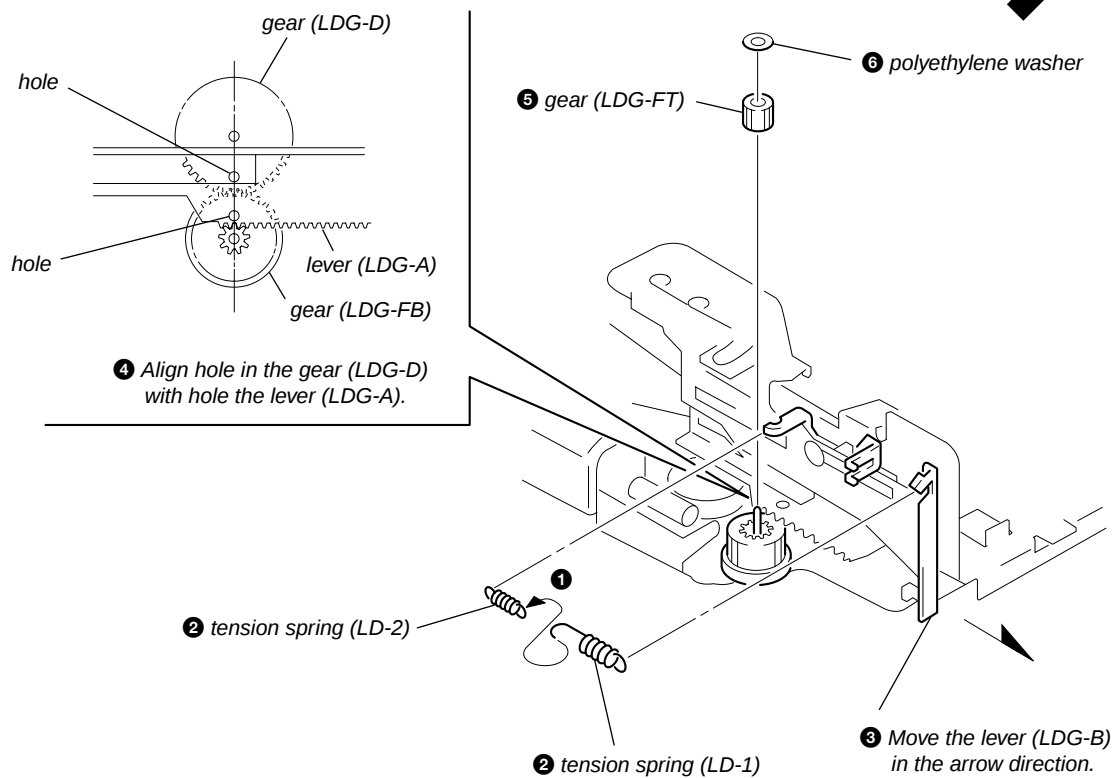
ARM (SUCTION)



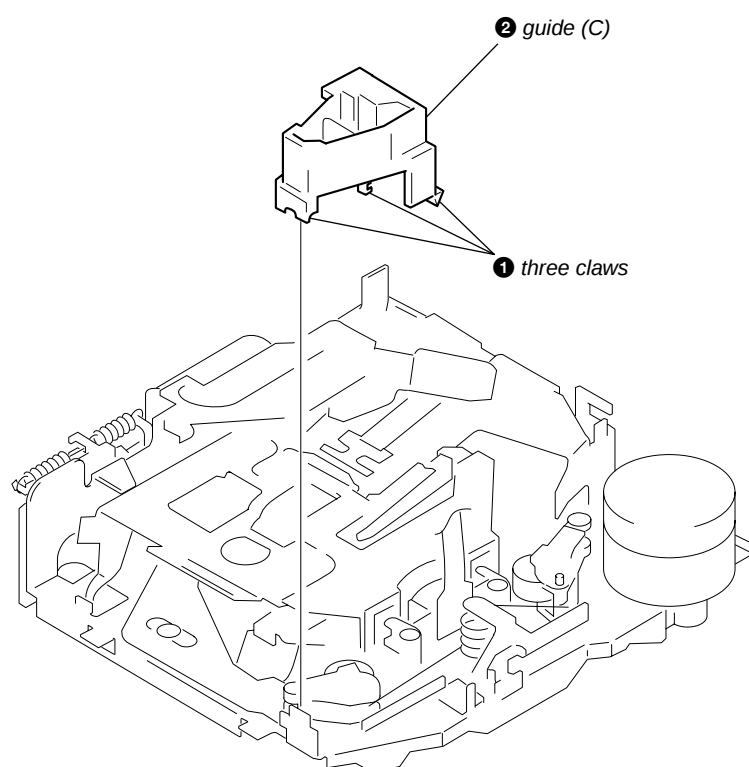
LEVER (LDG-A)/(LDG-B)



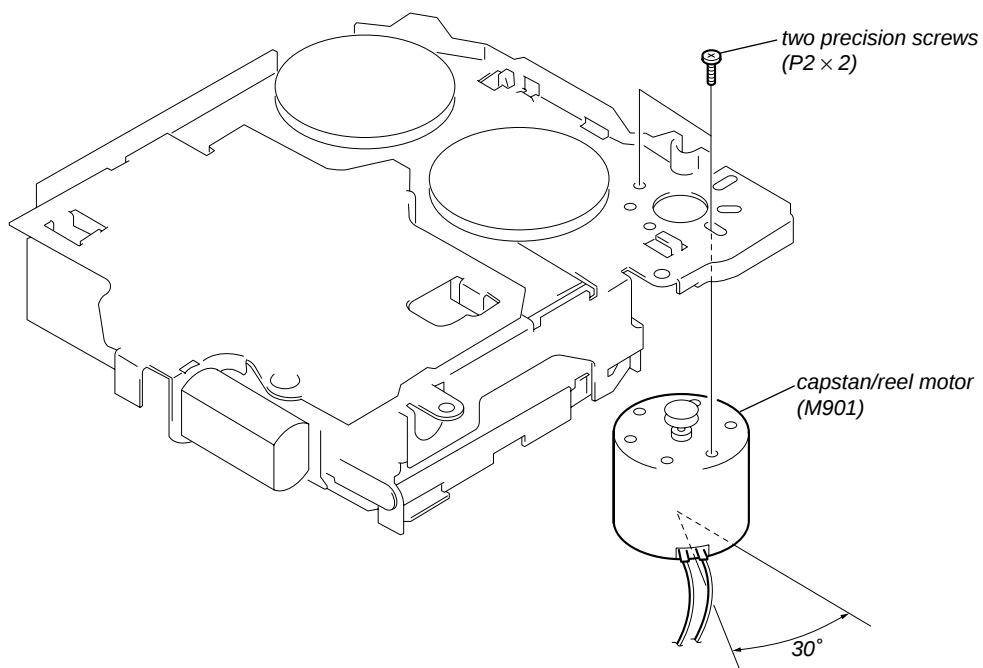
GEAR (LDG-FT)



GUIDE (C)



MOUNTING POSITION OF CAPSTAN/REEL MOTOR (M901)



SECTION 5
MECHANICAL ADJUSTMENTS

- Clean the following parts with a denatured-alcohol-moistened swab:
 - playback head
 - rubber belt
 - pinch roller
 - capstan
 - idlers
- 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	2.95 – 6.37 N•m 30 – 65 g•cm (0.42 – 0.90 oz•inch)
Forward Back Tension	CQ-102C	0.05 – 0.44 N•m 0.5 – 4.5 g•cm (0.01 – 0.06 oz•inch)
Reverse	CQ-102RC	2.95 – 6.37 N•m 30 – 65 g•cm (0.42 – 0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.05 – 0.044 N•m 0.5 – 4.5 g•cm (0.01 – 0.06 oz•inch)
FF, REW	CQ-201B	5.89 – 19.61 N•m 60 – 200 g•cm (0.83 – 2.78 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 0.88N more than 90 g (more than 3.18 oz)
Reverse	CQ-403R	more than 0.88N more than 90 g (more than 3.18 oz)

SECTION 6
ELECTRICAL ADJUSTMENTS

6-1. TEST MODE

- <Set the Test Mode>
- Set the “OFF” mode.
 - Push the preset [4] button.
 - Push the preset [5] button.
 - Press the preset [1] button for more than two seconds.
 - Then the display indicates all lights, the test mode is set.

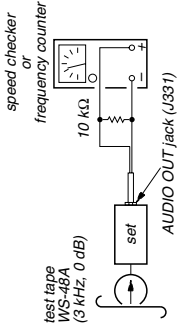
<Release the Test mode>

- Push the [OFF] button.

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

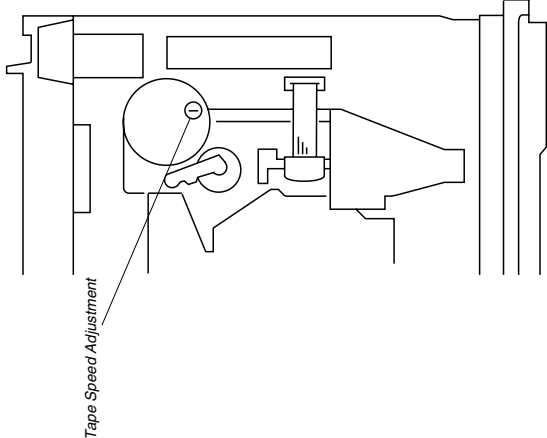
TUNER SECTION

0 dB=1 μV

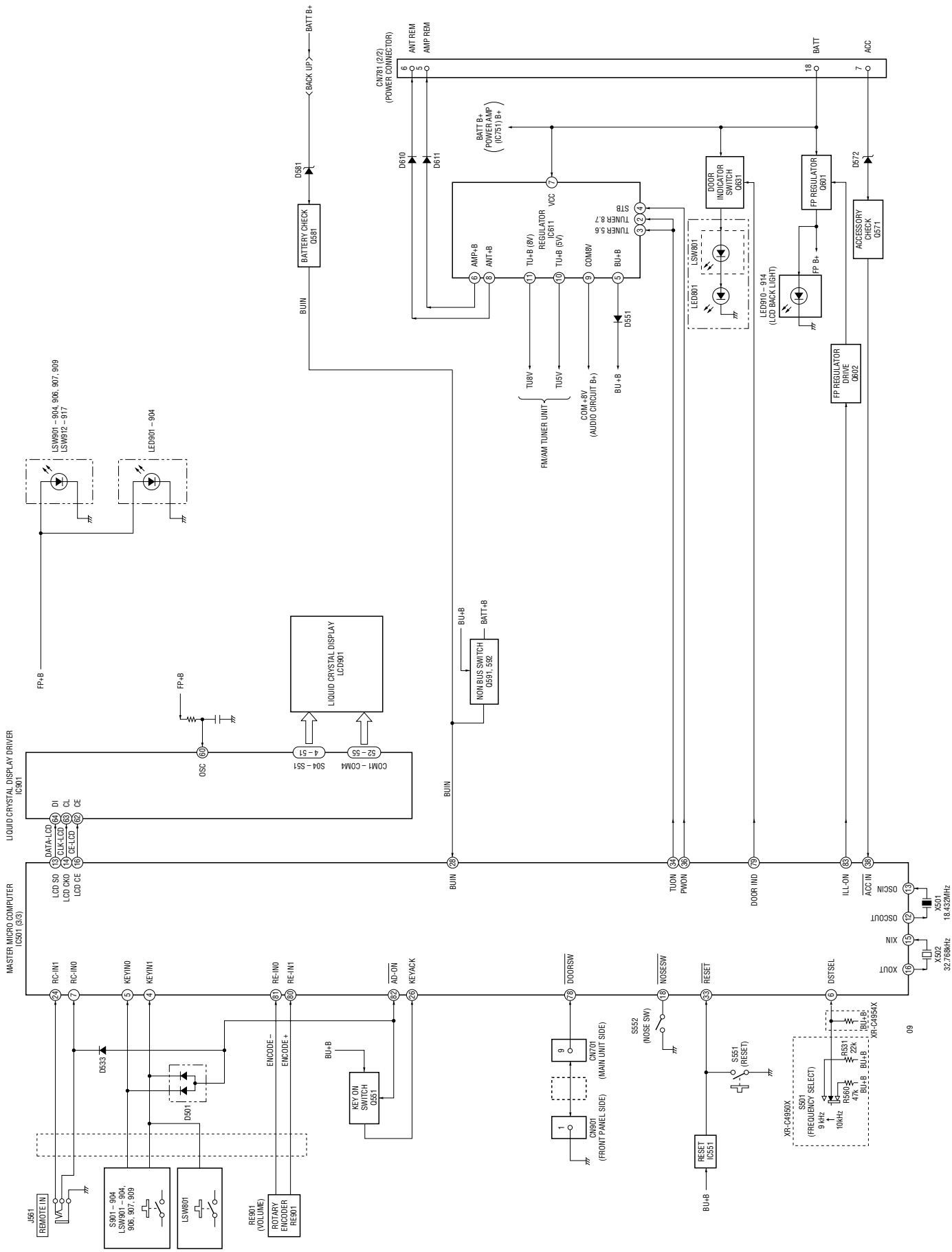
The tuner section has no adjustment.

Adjustment Location:

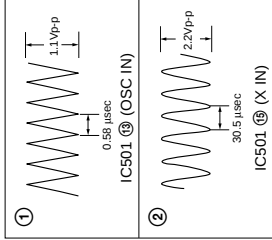
– SET UPPER VIEW –



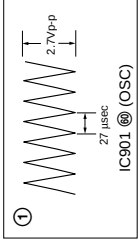
- DISPLAY/KEY CONTROL/BUS CONTROL/POWER SUPPLY SECTION -



WAVEFORMS
- MAIN BOARD -



- KEY BOARD -



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

For schematic diagrams.

Note:

- 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 $1/4$ W or less unless otherwise specified.
-  : panel designation.
-  : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT+ cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- () : MW (SW)
- < > : TAPE PLAYBACK
- * : impossible to measure
- Voltages are taken with a VOM (input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
-  : FM
-  : MW (SW)
-  : TAPE PLAYBACK

For printed wiring boards.

Note:

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

Caution:

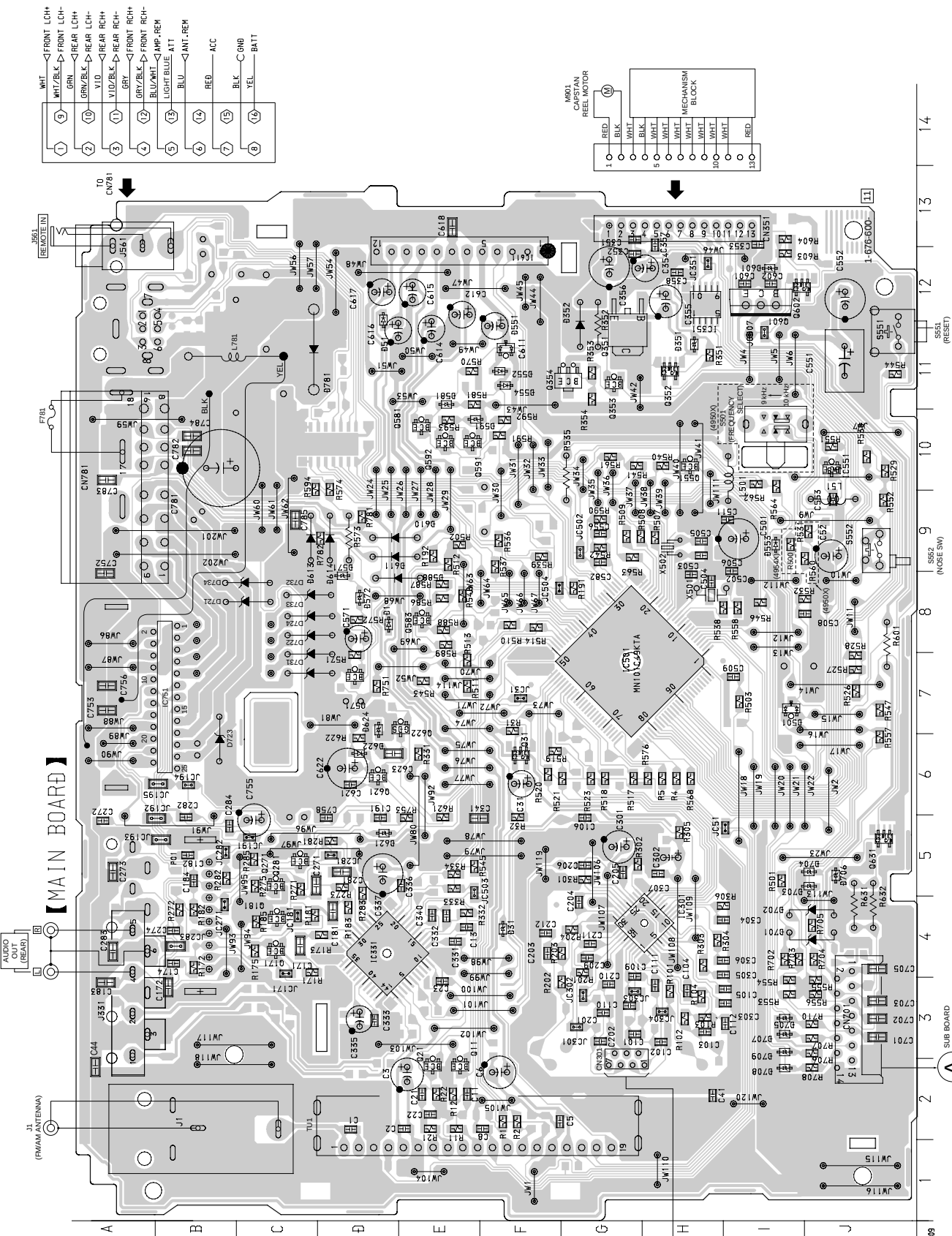
Pattern face side: Parts on the pattern face side seen from the (Conductor Side) pattern face are indicated.

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

7-2. PRINTED WIRING BOARD - MAIN BOARD -

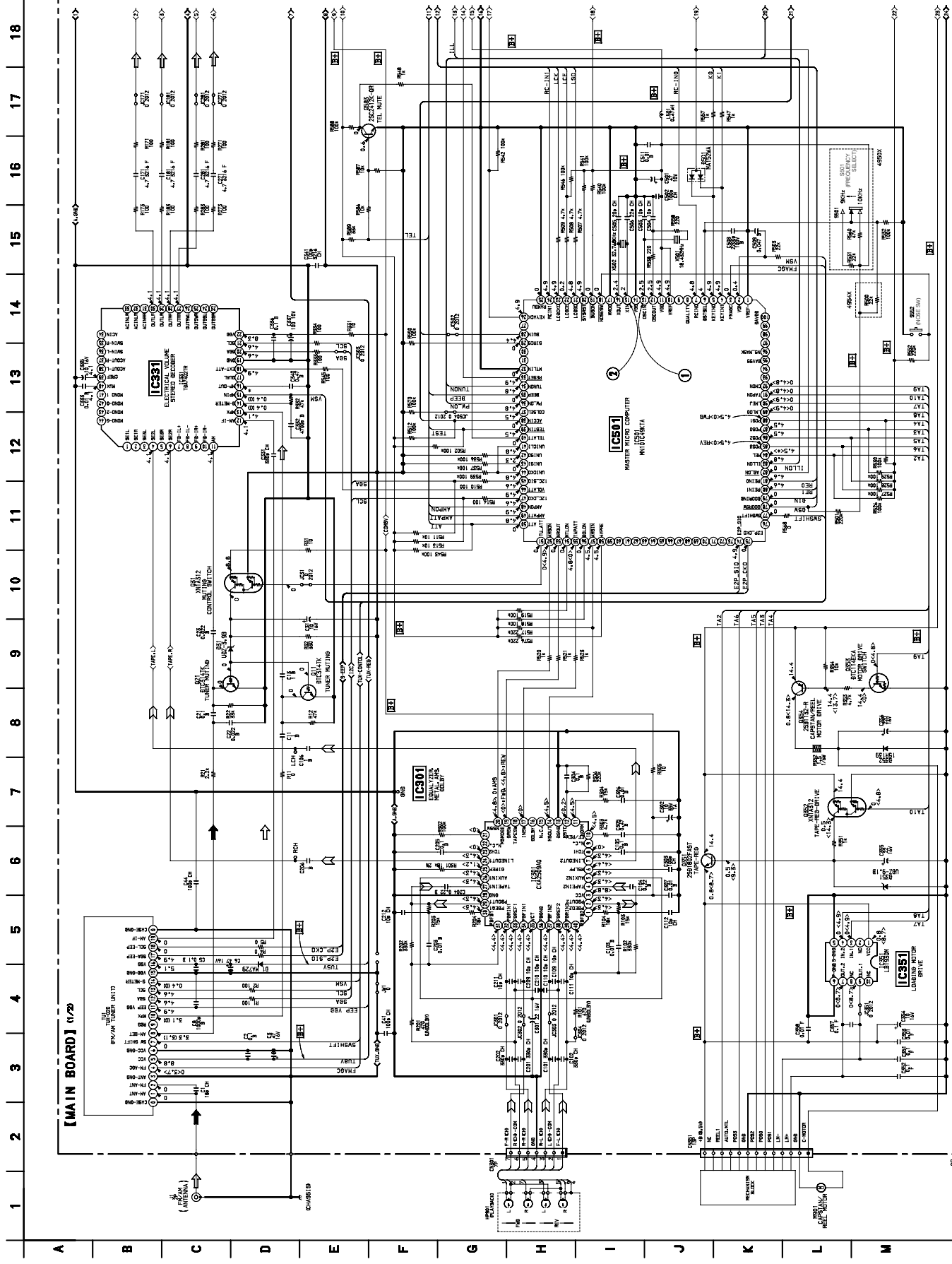
• Semiconductor Location

Ref. No.	Location
D1	D-8
D31	F-4
D51	D-12
D351	H-11
D352	G-12
D501	I-7
D501	F-11
D552	F-11
D553	I-9
D554	F-11
D571	D-8
D572	D-8
D581	E-11
D588	E-8
D591	E-10
D601	I-12
D610	D-9
D613	D-9
D614	D-9
D621	D-5
D622	D-6
D624	D-7
D701	J-4
D703	J-5
D704	J-5
D706	J-3
D707	J-3
D708	I-2
D709	I-2
D721	C-9
D722	C-7
D723	B-6
D724	C-8
D731	C-7
D732	C-8
D733	C-8
D734	C-8
D781	C-11
IC301	H-4
IC331	D-4
IC351	H-12
IC501	G-7
IC551	J-10
IC611	E-12
IC751	B-7
Q11	E-2
Q21	E-2
Q31	F-6
Q171	C-4
Q181	C-4
Q271	C-5
Q281	C-5
Q351	G-11
Q352	G-11
Q353	G-11
Q354	G-11
Q51	H-10
Q571	D-7
Q581	E-10
Q583	E-8
Q591	E-10
Q601	E-10
Q602	I-12
Q621	D-6
Q622	E-7
Q631	J-5



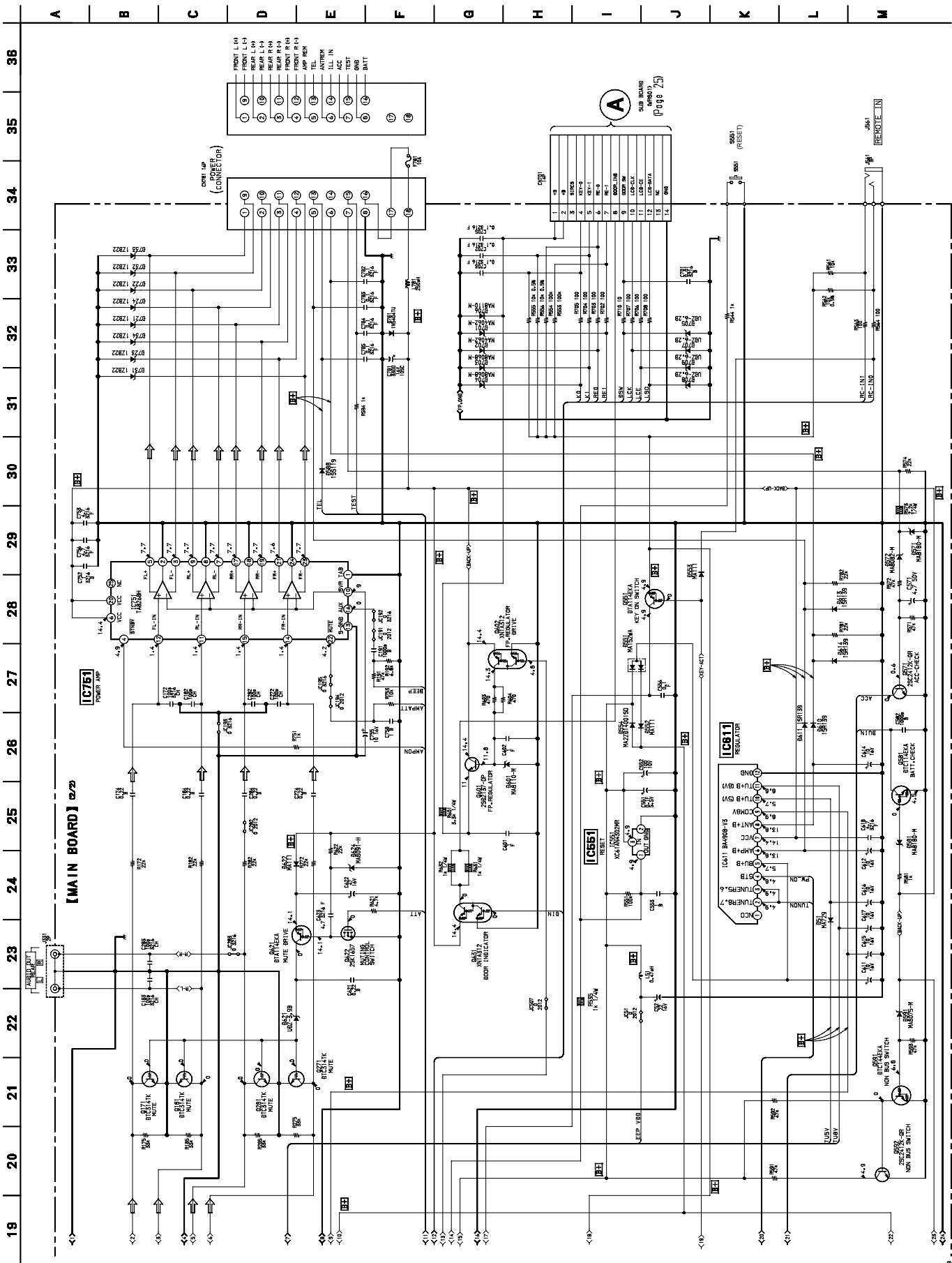
7-3. SCHEMATIC DIAGRAM – MAIN BOARD (1/2)

- See page 20 for Waveforms.
- See page 21 for Printed Wiring Board.
- See page 26 for IC Block Diagrams.
- See page 27 for IC Pin Function.



7-4. SCHEMATIC DIAGRAM – MAIN BOARD (2/2) –

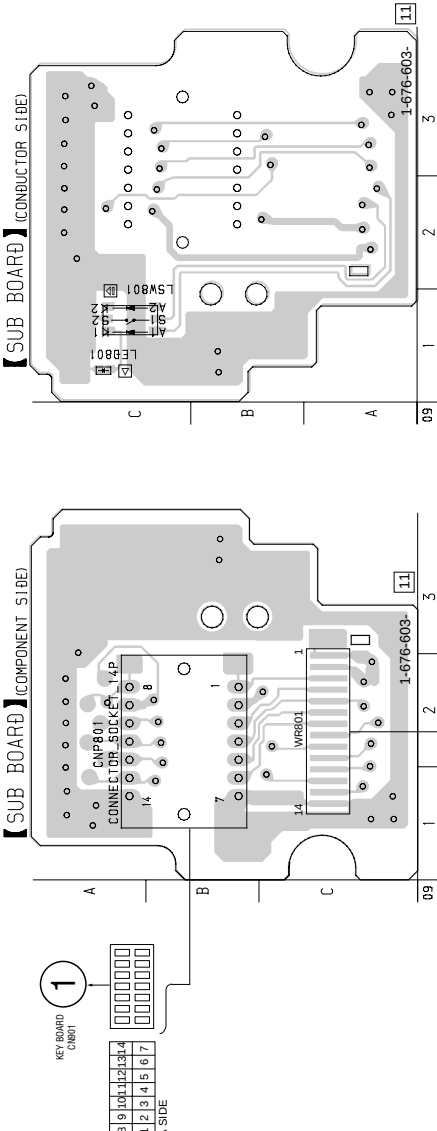
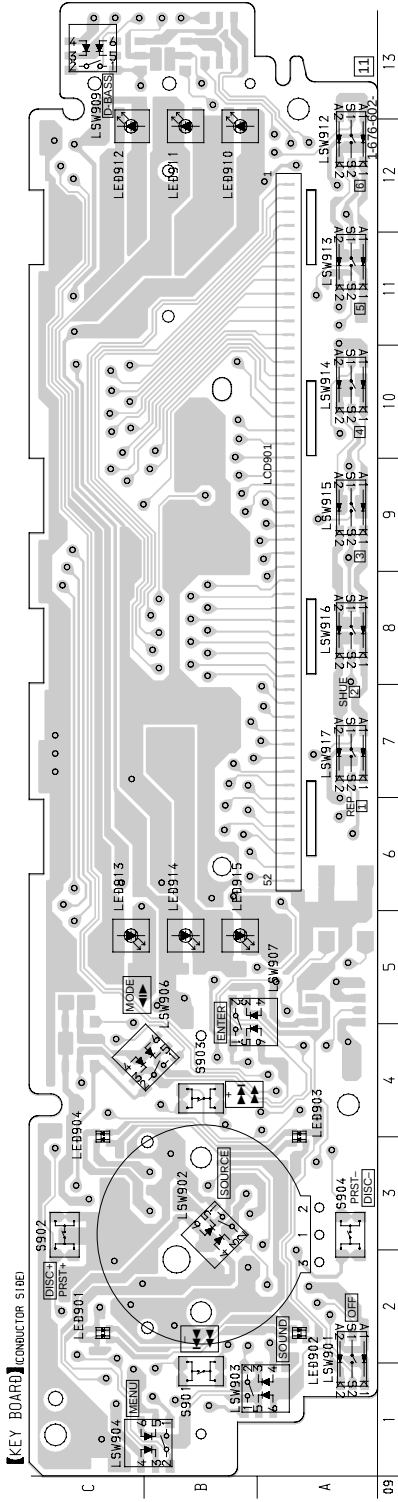
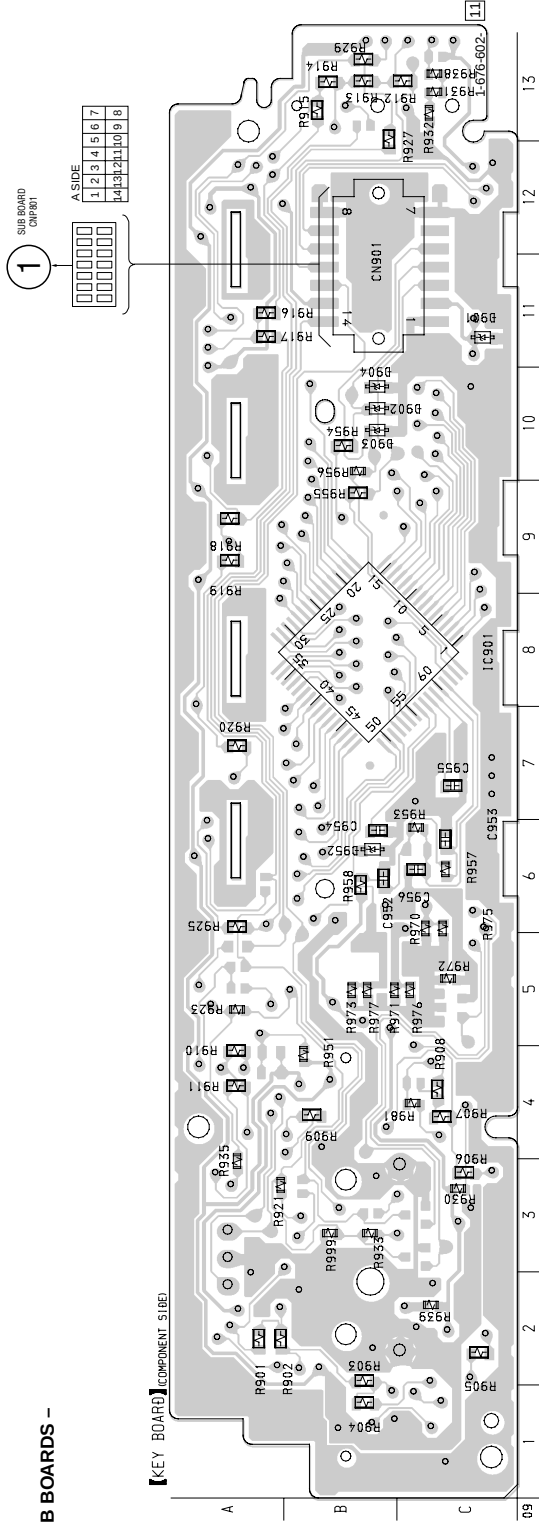
- See page 21 for Printed Wiring Board.
- See page 26 for IC Block Diagrams.



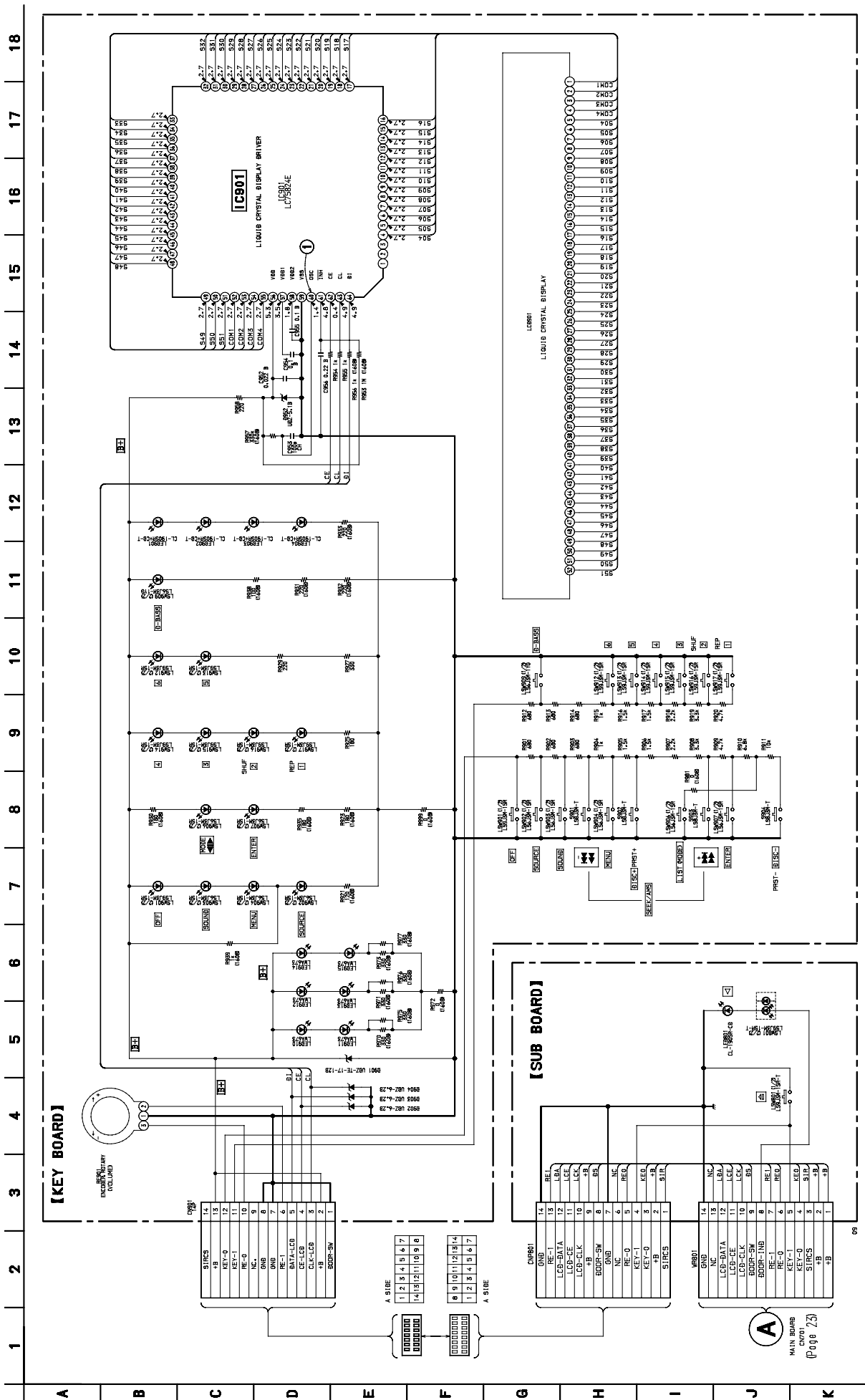
7-5. PRINTED WIRING BOARDS – KEY/SUB BOARDS –

• Semiconductor

Ref. No.	Location
D901	C-11
D902	B-10
D903	B-10
D904	B-10
D952	B-6
IC901	B-8

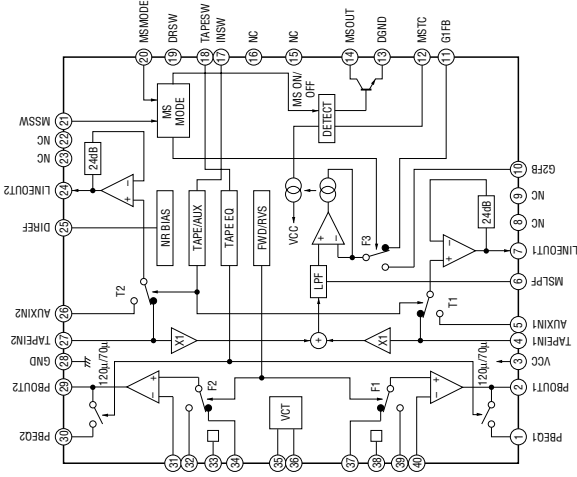


7-6. SCHEMATIC DIAGRAMS – KEY/SUB BOARDS –
• See page 20 for Waveform.

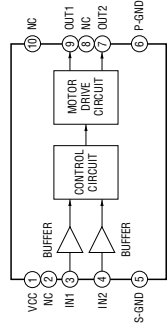


7-7. IC BLOCK DIAGRAMS

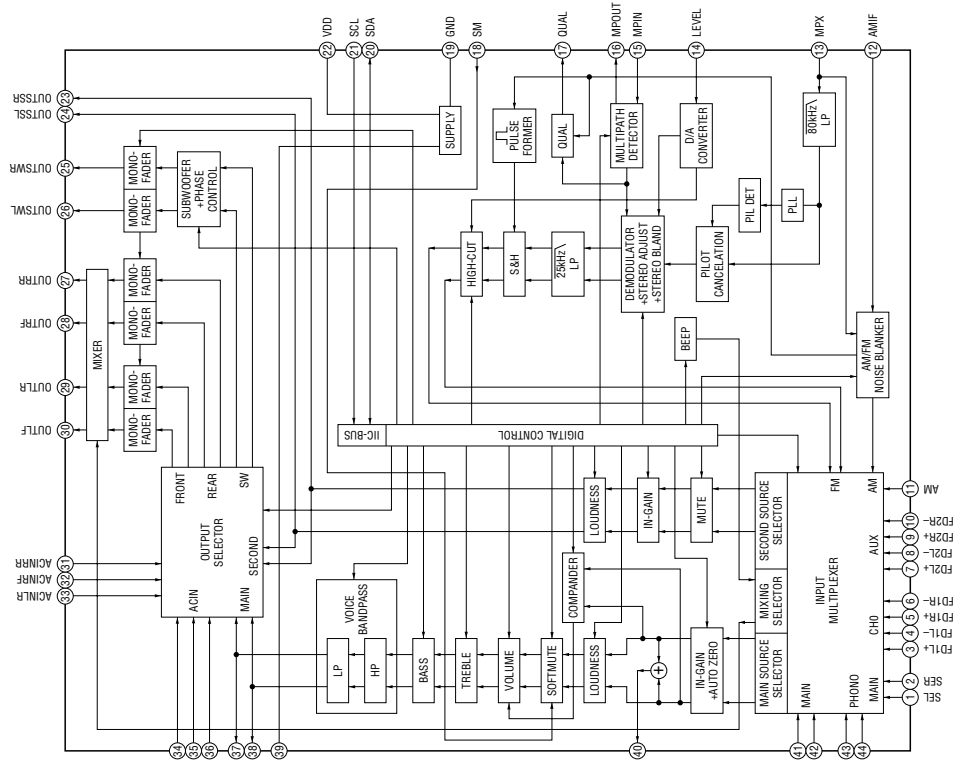
IC301 CXA2509AQ-T4



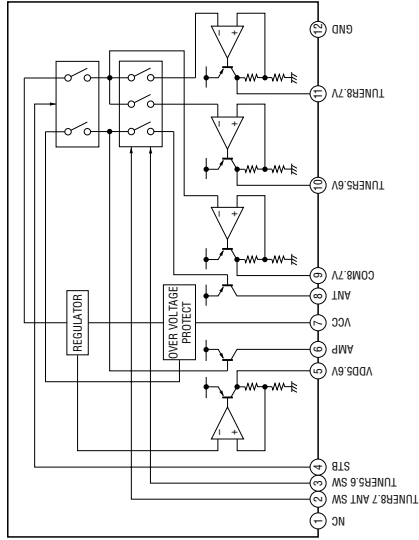
IC351 LB1930M-TLM



IC331 TDA7402TR



IC611 BA4908-V3



7-8. IC PIN FUNCTION

• IC501 MASTER MICRO COMPUTER (MN101C49KTA) (MAIN Board)

Pin No.	Pin Name	I/O	Function
1	VREF	—	Reference voltage (– side) of AD conversion Connect to power ground if no problems such as noise
2	VSM	I	FM/AM common signal meter A/D conversion input terminal AM (MW:SW:LW), FM S meter voltage detection terminal
3	FMAGC	I	FM AGC A/D conversion input terminal FM AGC voltage detection terminal
4	KEYIN1	I	KEY input
5	KEYIN0	I	Use the AD conversion input
6	DSTSEL	I	Terminal for selecting and setting destination value Reads during reset
7	RCIN0	I	Rotary commander input Use the AD conversion input
8, 9	QUALITY	O	Not used
10	VREF	—	Reference voltage (+ side) of AD conversion As current is always flowing, make sure that current is supplied only when the power of the system is turned ON by the master microprocessor
11	VDD	—	Power supply terminal
12	OSCOUT	O	Terminal connected to the oscillator
13	OSCIN	I	Connected to the 18.432 MHz oscillator
14	VSS	—	Ground terminal
15	XIN	I	Terminal connected to the sub-clock (for clock) oscillator
16	XOUT	O	Connected to the 32.768 kHz oscillator
17	MMOD	—	Ground terminal
18	$\overline{\text{NOSESW}}$	I	Front panel disconnection/attachment detection input terminal A panel is present when “L”
19	$\overline{\text{BUSON}}$	O	BUS ON control output Outputs “L” when UNI-LINK communication is activated
20	$\overline{\text{SYSRST}}$	O	SYSTEM RESET control output Outputs “L” when the UNI-LINK slave microprocessor is reset
21	LCDSO	O	LCD serial data output Serial interface with LCD driver IC Outputs “L” when OFF to prevent misoperations of the C-MOS port
22	LCDCE	O	LCD chip enable output terminal Serial interface with LCD driver IC Outputs “L” when OFF to prevent misoperations of the C-MOS port
23	LCDCKO	O	LCD serial clock output Serial interface with LCD driver IC Outputs “L” when OFF to prevent misoperations of the C-MOS port
24	RCIN1	I	Rotary Commander Shift input terminal Rotary Commander Shift input
25	RAMBU	I	RAM reset detection input After clearing input reset to check if the RAM data has been damaged by decreasing voltage, checks the RAM data within 50 ms Results L= Clears the RAM as the power supply voltage of the microprocessor dropped below the minimum data maintenance voltage H= Checks the RAM damage check area as the power supply voltage of the microprocessor has not dropped below the minimum data maintenance voltage Clears the RAM if the RAM damage check area is damaged

Pin No.	Pin Name	I/O	Function
26	KEYACK	I	Key input acknowledge Acknowledge signal input terminal to accept the function and eject key from the power off state The A/D conversion input power supply is off to save power in the power off state, and key inputs cannot be accepted by A/D This terminal can therefore determine if function keys have been pressed even in the power off state When the microprocessor is in the HALT mode, the HALT mode is cleared using this interrupt
27		O	Not used
28	BUIN	I	BACK-UP detection input terminal Input terminal to detect power supply back-up Used as interrupt The circuit is set so that it becomes “H” level when above 8.5+-0.3V When the microprocessor is in the operating mode, detects changes in the backup by detecting the rising edge, falling edge, and both edges of the interrupt request flag When the microprocessor is in the HALT mode, it can be cleared from this mode using this interrupt
29	SIRCS	I	Remote control input Use the interrupt input port When not using this terminal, be sure to fix at “H” or “L”
30, 31	NCO	O	Not used
32	MTLIN	O	
33	$\overline{\text{RESET}}$	O	Reset input terminal Reset at “L” level
34	TUNON	O	TUNER power supply control output terminal Active during tuner ON (includes sub- reception, ATA mode on)
35	BEEP	O	Buzzer control output Terminal for driving piezoelectric buzzer to produce beep sound
36	PW_ON	O	System power supply control output Controls power on/off of the system power supply (turned on when the unit operates) Outputs “H” when the power is on, and “L” when off
37	COLSEL	I	Xplod model acknowledge terminal Sets the slave illumination to amber when “H” Amber when “L”
38	$\overline{\text{ACCIN}}$	I	Accessory power supply detection input Input terminal to detect accessory Accessory is present when “L” is input
39	$\overline{\overline{\text{TESTIN}}}$	I	Test mode setting input terminal Input terminal for setting the unit into the test mode When this port becomes L during microprocessor reset or while the backup changes from OFF to ON, the test mode is set Once test mode 1 is set, the TEST input is not detected in the following backup OFF/ON and test mode 1 is continued Press the OFF button or RESET to clear To set the test mode while the backup power changes from OFF to ON, if the power is ON, set test mode 1 and turn the power OFF If the above fails, do not check the TEST input while the backup power changes from OFF to ON Check only during POWER OFF
40	TELATT	I	TELEPHONE MUTE detection input Performs audio 20dB attenuation in the input on state Set to the input on state at “H”

Pin No.	Pin Name	I/O	Function
41	UNICLI	I	Serial clock input UNI-LINK serial interface clock input terminal
42	UNISO	O	Serial data output UNI-LINK serial interface data output terminal
43	UNISI	I	Serial data input UNI-LINK serial interface data input terminal
44	UNICKO	O	Serial clock output UNI-LINK serial interface clock output terminal
45	I2C_SIO	I/O	I ² C bus serial data input/output Serial interface with electronic volume IC, TUX-020
46	$\overline{\text{VOLATT}}$	O	Electronic volume mute control output terminal Mute terminal for electronic volume
47	I2_CKO	O	I ² C bus serial clock output Serial interface with electronic volume IC, TUX-020
48	AMPON	O	Power amplifier STANDBY control output Performs standby on/off control of the power amplifier and power IC
49	$\overline{\text{AMPATT}}$	O	Power amplifier mute control output terminal Mute terminal during AMPON output ON/OFF
50	ATT	O	System MUTE control output Mute control output of audio signal line output stage Set the electronic volume also to - ∞ during active Outputs “H” when mute is ON Immediately sets into the input state during BU-INOFF
51	TU_ATT	O	Tuner mute control output terminal Controls FM and AM outputs from TUX
52	$\overline{\text{AMSON}}$	O	Outputs “L” during AMS
53	NROUT	O	FOR/REV control output Controls tape running direction Outputs “H” in the forward direction and “L” in the reverse direction
54	MTLON	I/O	Metal control input/output Switches between metal on/off MTL is present when initial “L” is input Outputs “H” during MTL ON
55	TAPATT	O	Tape mute control output FF and REW are active during ATA operations Outputs “H” during mute on when the EQ IC is connected
56	DOLON	I/O	Dolby control input/output Sets the presence/absence of the Dolby function during the input mode during initialization Switches DOLBY to on or off in the output mode normally DOLBY is on when “L” is input Outputs “H” during DOLBY ON
57	$\overline{\text{AMSIN}}$	I	Sound presence/absence detection input during AMS Detects if tape audio sound is present or absent Sound is present when “L” is input and absent when “H” is input
58	4VPRE	I	4VPREOUT model acknowledge terminal Acknowledges as 4VPREOUT model when “L”, and changes the gain amount of the electrical control IC
59 to 69		O	Not used
70 to 73	NCO	O	Not used

Pin No.	Pin Name	I/O	Function
93	NCO	O	Not used
94		O	
95	DAVSS	O	
96	NS_MASK	O	
97		O	
98		O	
100	DAVDD	O	

SECTION 8

EXPLODED VIEWS

NOTE:

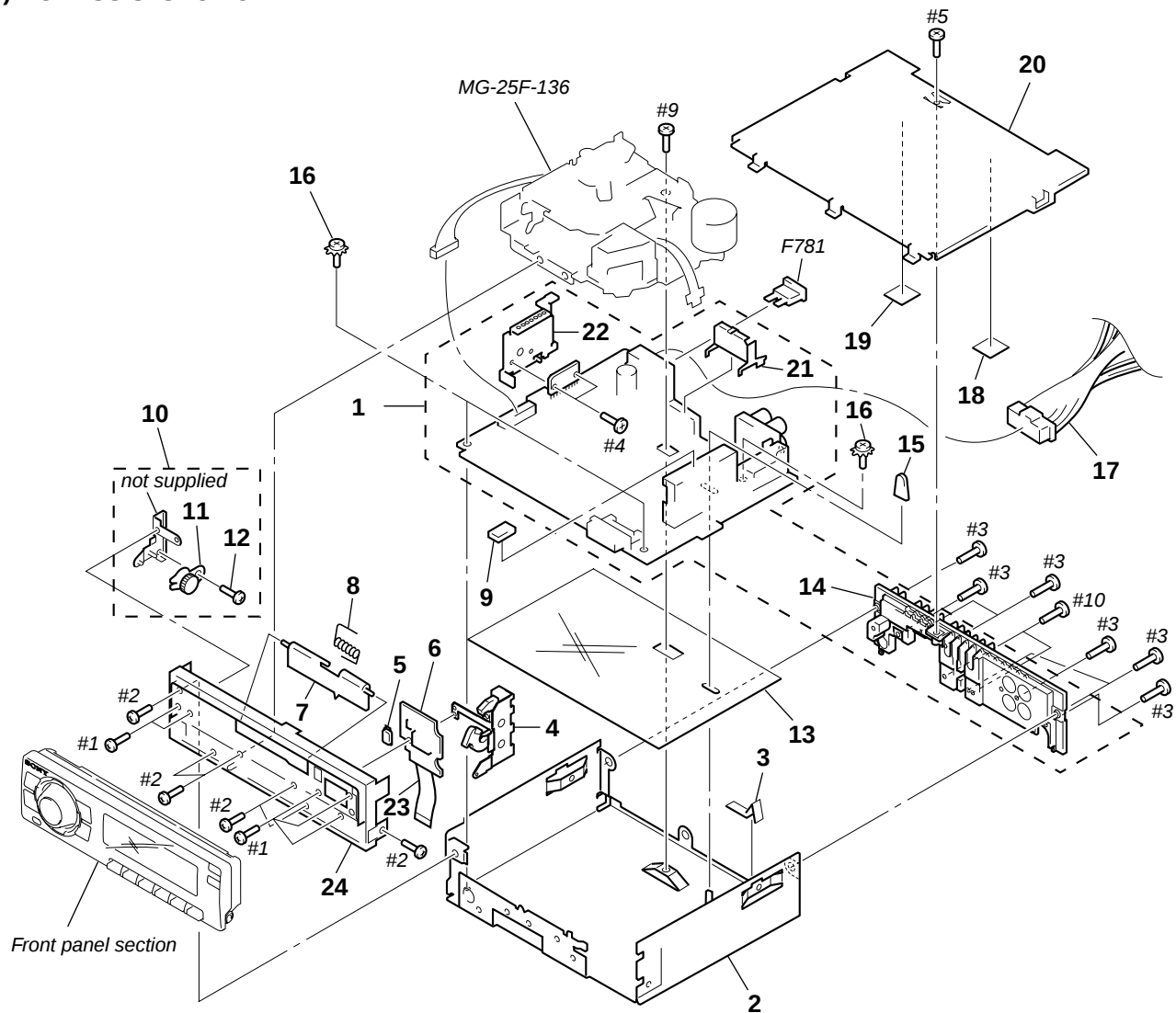
- XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)

Parts Color

Cabinet's Color

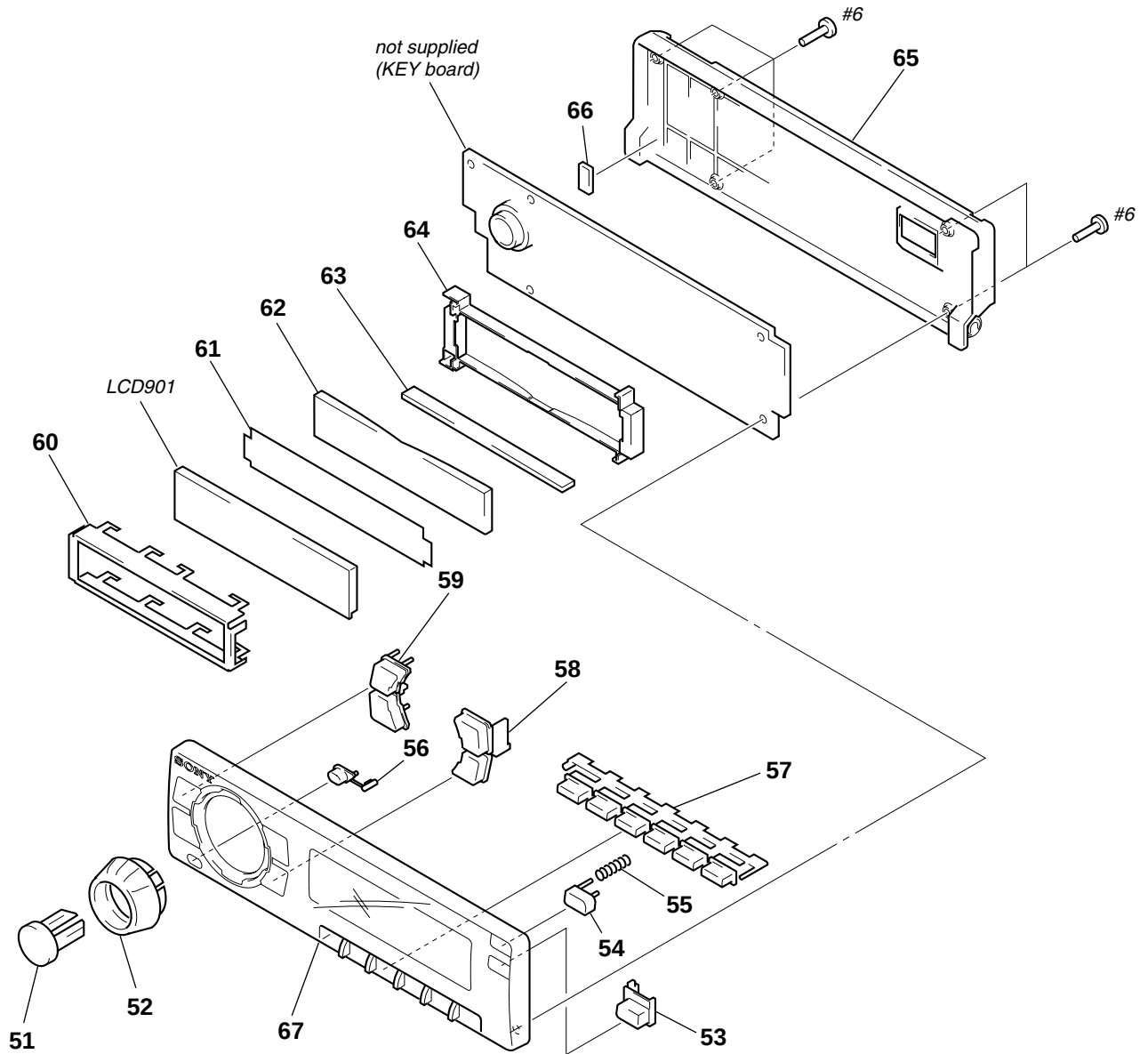
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are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

(1) CHASSIS SECTION



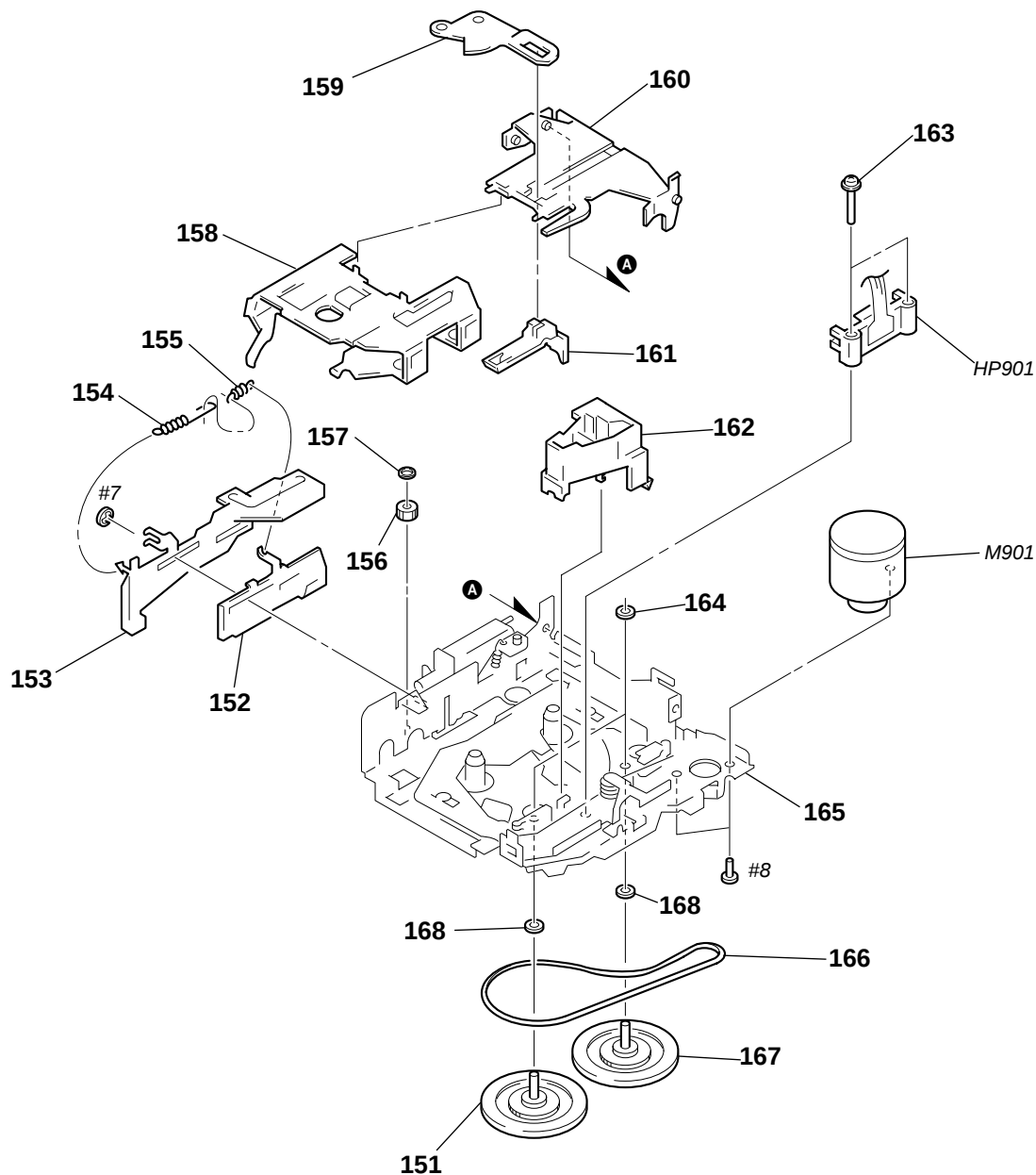
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
* 1	A-3326-142-A	MAIN BOARD, COMPLETE (4954X)		* 14	3-040-996-01	HEAT SINK (2P)	
* 1	A-3326-146-A	MAIN BOARD, COMPLETE (4950X)					
* 2	3-040-994-01	CHASSIS		15	3-012-859-01	CAP (25), RUBBER	
3	3-045-878-01	PLATE (TU), GROUND		16	3-915-923-01	SCREW, GROUND POINT	
4	X-3377-621-2	LOCK ASSY		17	1-792-194-21	CORD (WITH CONNECTOR)(POWER)	
				* 18	3-046-991-01	SPACER (COVER R)	
5	3-040-990-01	BUTTON (EJECT)		* 19	3-046-990-01	SPACER (COVER L)	
* 6	1-676-603-11	SUB BOARD					
7	3-027-437-12	DOOR, CASSETTE		* 20	3-040-995-01	COVER	
8	3-935-003-01	SPRING, TORSION		* 21	3-040-998-01	BLACKET (IC)	
9	3-045-877-01	CUSHION (TU)		* 22	3-041-262-01	HEAT SINK (REG/XR)	
				23	1-792-195-11	CABLE, FLEXIBLE FLAT	
10	X-3376-699-2	GEAR ASSY		24	X-3378-397-1	PANEL ASSY, SUB	
11	3-030-909-02	DAMPER, OIL					
12	3-713-786-51	SCREW +P 2X3		F781	1-532-877-11	FUSE (BLADE TYPE)(AUTO FUSE)(10A)	
13	3-045-828-01	INSULATED PLATE					

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-040-980-01	BUTTON (SOURCE)		* 61	3-041-371-02	SHEET (REFLECTOR)	
52	3-040-981-11	KNOB (VOL)		* 62	3-040-993-01	PLATE (LCD), LIGHT GUIDE	
53	3-041-005-11	BUTTON (D)		63	1-694-660-11	CONDUCTIVE BOARD, CONNECTION	
54	3-040-989-01	BUTTON (OPEN)		* 64	3-040-992-01	HOLDER (LCD)	
55	3-037-267-01	SPRING (OPEN)		65	X-3378-398-1	PANEL ASSY, FRONT BACK	
56	3-040-987-01	BUTTON (OFF)		66	3-045-596-01	CUSHION (OFF)	
57	3-040-988-01	BUTTON (1-6)		67	X-3378-578-1	PANEL SUB ASSY (4950X)	
58	3-040-985-11	BUTTON (DIR/ENTER)		67	X-3378-579-1	PANEL SUB ASSY (4954X)	
59	3-040-986-01	BUTTON (MENU/SOUND)		LCD901	1-803-907-41	DISPLAY PANEL, LIQUID CRYSTAL	
* 60	3-040-997-01	PLATE (LCD), GROUND					

(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 9 ELECTRICAL PARTS LIST

SUB

MAIN

Note:

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

- 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, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable

- 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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-676-603-11	SUB BOARD *****		C101	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
	1-792-195-11	CABLE, FLEXIBLE FLAT		C102	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
		< CONNECTOR >		C103	1-163-021-11	CERAMIC CHIP 0.01UF	10.00% 50V
CNP801	1-794-064-11	SOCKET, CONNECTOR 14P		C104	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
		< DIODE >		C105	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
LED801	8-719-061-16	DIODE CL-190SR-CD-T		C106	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V
		< SWITCH >		C109	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
LSW801	1-771-883-21	SWITCH, TACTILE (WITH LED) (△)		C110	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
				C111	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
				C112	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
*****				C171	1-164-506-11	CERAMIC CHIP 4.7UF	16V
*	A-3326-146-A	MAIN BOARD, COMPLETE (4950X) *****		C172	1-163-181-00	CERAMIC CHIP 100PF	5.00% 50V
				C174	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
*	A-3326-142-A	MAIN BOARD, COMPLETE (4954X) *****		C181	1-164-506-11	CERAMIC CHIP 4.7UF	16V
				C182	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
*	3-040-996-01	HEAT SINK (2P)		C183	1-163-181-00	CERAMIC CHIP 100PF	5.00% 50V
*	3-040-998-01	BRACKET (IC)		C184	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
*	3-041-262-01	HEAT SINK (REG/XR)		C191	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
	7-685-647-11	SCREW +BVTP 3X10 TYPE2 N-S		C201	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
	7-685-793-01	SCREW +PTT 2.6X8 (S)		C202	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
				C203	1-163-021-11	CERAMIC CHIP 0.01UF	10.00% 50V
				C204	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
				C205	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
				C206	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V
				C209	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
	7-685-795-01	SCREW +PTT 2.6X12 (S)		C210	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
		< CAPACITOR >		C211	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C1	1-163-233-11	CERAMIC CHIP 18PF	5.00% 50V	C212	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C2	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C271	1-164-506-11	CERAMIC CHIP 4.7UF	16V
C3	1-104-664-11	ELECT 47UF	20.00% 16V	C272	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C5	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C274	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C6	1-104-664-11	ELECT 47UF	20.00% 16V	C281	1-164-506-11	CERAMIC CHIP 4.7UF	16V
C8	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V	C282	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C11	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V	C283	1-163-181-00	CERAMIC CHIP 100PF	5.00% 50V
C13	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V	C284	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C21	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V	C301	1-124-234-00	ELECT 22uF	20% 16V
C22	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V	C302	1-131-353-00	TANTALUM 10uF	10% 35V
C23	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V	C303	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C31	1-124-233-11	ELECT 10UF	20.00% 16V	C304	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C41	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C305	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C44	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V	C306	1-163-021-11	CERAMIC CHIP 0.01UF	10.00% 50V
C52	1-124-234-00	ELECT 22uF	20% 16V	C307	1-163-021-11	CERAMIC CHIP 0.01UF	10.00% 50V
				C331	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V

MAIN

Ref. No.	Part No.	Description	Remark		
C332	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C333	1-163-021-11	CERAMIC CHIP	0.01UF	10.00%	50V
C335	1-124-233-11	ELECT	10UF	20.00%	16V
C336	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C337	1-124-584-00	ELECT	100uF	20%	10V
C340	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C341	1-163-181-00	CERAMIC CHIP	100PF	5.00%	50V
C351	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C352	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C353	1-163-031-11	CERAMIC CHIP	0.01UF		50V
C354	1-124-233-11	ELECT	10UF	20.00%	16V
C355	1-124-234-00	ELECT	22uF	20%	16V
C356	1-126-934-11	ELECT	220UF	20.00%	16V
C357	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C358	1-163-031-11	CERAMIC CHIP	0.01UF		50V
C501	1-124-589-11	ELECT	47uF	20%	16V
C502	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C503	1-163-227-11	CERAMIC CHIP	10PF	5.00%	50V
C504	1-163-227-11	CERAMIC CHIP	10PF	5.00%	50V
C505	1-163-234-11	CERAMIC CHIP	20PF	5.00%	50V
C506	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C508	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C509	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C511	1-163-021-11	CERAMIC CHIP	0.01UF	10.00%	50V
C551	1-125-710-11	DOUBLE LAYER	0.1F		5.5V
C552	1-104-665-11	ELECT	100UF	20.00%	10V
C553	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C556	1-165-319-11	CERAMIC CHIP	0.1UF		50V
C571	1-126-163-11	ELECT	4.7uF	20%	50V
C582	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-164-346-11	CERAMIC CHIP	1UF		16V
C602	1-164-346-11	CERAMIC CHIP	1UF		16V
C611	1-124-233-11	ELECT	10UF	20.00%	16V
C612	1-124-233-11	ELECT	10UF	20.00%	16V
C614	1-124-233-11	ELECT	10UF	20.00%	16V
C615	1-124-233-11	ELECT	10UF	20.00%	16V
C616	1-124-233-11	ELECT	10UF	20.00%	16V
C617	1-124-233-11	ELECT	10UF	20.00%	16V
C618	1-164-506-11	CERAMIC CHIP	4.7UF		16V
C621	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C622	1-124-589-11	ELECT	47uF	20%	16V
C623	1-164-506-11	CERAMIC CHIP	4.7UF		16V
C701	1-163-059-00	CERAMIC CHIP	0.01UF	10.00%	50V
C702	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C703	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C705	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C752	1-107-682-11	CERAMIC CHIP	1UF	10.00%	16V
C753	1-164-506-11	CERAMIC CHIP	4.7UF		16V
C755	1-124-233-11	ELECT	10UF	20.00%	16V
C756	1-164-506-11	CERAMIC CHIP	4.7UF		16V
C758	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C781	1-107-885-31	ELECT	3300UF	20.00%	16V
C782	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C783	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C784	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C785	1-163-077-00	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	
CN701	1-784-456-11	CONNECTOR, FFC/FPC 14P	
CN781	1-774-701-11	PIN, CONNECTOR 16P (POWER CONNECTOR)	
		< DIODE >	
D1	8-719-420-51	DIODE MA729-TX	
D31	8-719-422-12	DIODE UDZ-TE-17-3.9B	
D51	8-719-420-51	DIODE MA729-TX	
D351	8-719-977-22	DIODE UDZ-TE-17-9.1B	
D352	8-719-970-02	DIODE 1SR139-400T-32	
D501	8-719-400-20	DIODE MA152WA-TX	
D551	8-719-400-20	DIODE MA152WA-TX	
D552	8-719-073-01	DIODE MA111-TX	
D553	8-719-073-01	DIODE MA111-TX	
D554	8-719-072-70	DIODE MA2ZD14001S0	
D571	8-719-057-80	DIODE MA8180-M-TX	
D572	8-719-420-14	DIODE MA8082-M(TX)	
D581	8-719-057-80	DIODE MA8180-M-TX	
D588	8-719-911-19	DIODE 1SS119-25TD	
D591	8-719-422-76	DIODE MA8075-M-TX	
D601	8-719-423-23	DIODE MA8110-M-TX	
D610	8-719-970-02	DIODE 1SR139-400T-32	
D611	8-719-970-02	DIODE 1SR139-400T-32	
D613	8-719-970-02	DIODE 1SR139-400T-32	
D614	8-719-970-02	DIODE 1SR139-400T-32	
D621	8-719-422-12	DIODE UDZ-TE-17-3.9B	
D622	8-719-073-01	DIODE MA111-TX	
D624	8-719-422-97	DIODE MA8091-H-TX	
D701	8-719-035-74	DIODE MA4062-M(TA)	
D702	8-719-035-74	DIODE MA4062-M(TA)	
D703	8-719-977-12	DIODE MA8068-M-TX	
D704	8-719-977-12	DIODE MA8068-M-TX	
D705	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D706	8-719-423-23	DIODE MA8110-M-TX	
D707	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D708	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D709	8-719-056-82	DIODE UDZ-TE-17-6.2B	
D721	8-719-079-42	DIODE 1ZB22(TPA3)	
D722	8-719-079-42	DIODE 1ZB22(TPA3)	
D723	8-719-079-42	DIODE 1ZB22(TPA3)	
D724	8-719-079-42	DIODE 1ZB22(TPA3)	
D731	8-719-079-42	DIODE 1ZB22(TPA3)	
D732	8-719-079-42	DIODE 1ZB22(TPA3)	
D733	8-719-079-42	DIODE 1ZB22(TPA3)	
D734	8-719-079-42	DIODE 1ZB22(TPA3)	
D781	8-719-049-38	DIODE 1N5404TU	
		< IC >	
IC301	8-752-079-78	IC CXA2509AQ-T4	
IC331	8-759-653-27	IC TDA7402TR	
IC351	8-759-527-33	IC LB1930M-TLM	
IC501	8-759-663-32	IC MN101C49KTA	
IC551	8-759-574-61	IC XC61AN4302MR	
IC611	8-759-661-47	IC BA4908-V3	
IC751	8-759-663-88	IC TA8268H	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< JACK >				< RESISTOR >			
J1	1-764-808-21	JACK (FM/AM ANTENNA)		R1	1-216-025-00	RES-CHIP 100 5%	1/10W
J331	1-774-698-11	JACK, PIN 2P		R2	1-216-025-00	RES-CHIP 100 5%	1/10W
		(BUS AUDIO IN, AUDIO OUT REAR)		R4	1-216-295-00	SHORT 0	
J561	1-566-822-41	JACK (REMOTE IN)		R5	1-216-295-00	SHORT 0	
				R11	1-216-295-00	SHORT 0	
< JUMPER RESISTOR >				R12	1-216-089-00	RES-CHIP 47K 5%	1/10W
JC31	1-216-295-00	SHORT 0		R21	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
JC51	1-216-295-00	SHORT 0		R22	1-216-085-00	METAL CHIP 33K 5%	1/10W
JC171	1-216-295-00	SHORT 0		R31	1-216-001-00	METAL CHIP 10 5%	1/10W
JC181	1-216-295-00	SHORT 0		R32	1-216-037-00	METAL CHIP 330 5%	1/10W
JC191	1-216-295-00	SHORT 0		R101	1-216-041-00	METAL CHIP 470 5%	1/10W
JC192	1-216-296-00	SHORT 0		R102	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC193	1-216-296-00	SHORT 0		R103	1-216-077-00	RES-CHIP 15K 5%	1/10W
JC194	1-216-295-00	SHORT 0		R104	1-216-079-00	METAL CHIP 18K 5%	1/10W
JC195	1-216-296-00	SHORT 0		R171	1-216-025-00	RES-CHIP 100 5%	1/10W
JC271	1-216-295-00	SHORT 0		R172	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC281	1-216-295-00	SHORT 0		R173	1-216-025-00	RES-CHIP 100 5%	1/10W
JC282	1-216-295-00	SHORT 0		R175	1-216-085-00	METAL CHIP 33K 5%	1/10W
JC283	1-216-296-00	SHORT 0		R181	1-216-025-00	RES-CHIP 100 5%	1/10W
JC301	1-216-295-00	SHORT 0		R182	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC302	1-216-295-00	SHORT 0		R183	1-216-025-00	RES-CHIP 100 5%	1/10W
JC303	1-216-295-00	SHORT 0		R185	1-216-085-00	METAL CHIP 33K 5%	1/10W
JC304	1-216-295-00	SHORT 0		R191	1-216-089-00	RES-CHIP 47K 5%	1/10W
JC351	1-216-295-00	SHORT 0		R192	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
JC502	1-216-295-00	SHORT 0		R201	1-216-041-00	METAL CHIP 470 5%	1/10W
JC503	1-216-295-00	SHORT 0		R202	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC504	1-216-295-00	SHORT 0		R203	1-216-077-00	RES-CHIP 15K 5%	1/10W
JC507	1-216-295-00	SHORT 0		R204	1-216-079-00	METAL CHIP 18K 5%	1/10W
< COIL >				R271	1-216-025-00	RES-CHIP 100 5%	1/10W
L51	1-410-750-41	INDUCTOR 0.47uH		R272	1-216-081-00	METAL CHIP 22K 5%	1/10W
L501	1-410-750-41	INDUCTOR 0.47uH		R273	1-216-025-00	RES-CHIP 100 5%	1/10W
L781	1-419-476-11	INDUCTOR 250uH		R275	1-216-085-00	METAL CHIP 33K 5%	1/10W
< TRANSISTOR >				R281	1-216-025-00	RES-CHIP 100 5%	1/10W
Q11	8-729-920-21	TRANSISTOR DTC314TK-T-146		R282	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q21	8-729-920-21	TRANSISTOR DTC314TK-T-146		R283	1-216-025-00	RES-CHIP 100 5%	1/10W
Q31	8-729-020-67	TRANSISTOR XN1A312-TX		R285	1-216-085-00	METAL CHIP 33K 5%	1/10W
Q171	8-729-920-21	TRANSISTOR DTC314TK-T-146		R301	1-208-812-11	RES-CHIP 18K 2%	1/10W
Q181	8-729-920-21	TRANSISTOR DTC314TK-T-146		R302	1-216-097-00	RES-CHIP 100K 5%	1/10W
Q271	8-729-920-21	TRANSISTOR DTC314TK-T-146		R303	1-216-065-00	RES-CHIP 4.7K 5%	1/10W
Q281	8-729-920-21	TRANSISTOR DTC314TK-T-146		R304	1-216-077-00	RES-CHIP 15K 5%	1/10W
Q351	8-729-015-11	TRANSISTOR 2SD1802FAST-TL		R305	1-216-001-00	METAL CHIP 10 5%	1/10W
Q352	8-729-020-67	TRANSISTOR XN1A312-TX		R306	1-216-105-00	RES-CHIP 220K 5%	1/10W
Q353	8-729-900-53	TRANSISTOR DTC114EKA-T146		R331	1-216-001-00	METAL CHIP 10 5%	1/10W
Q354	8-729-106-60	TRANSISTOR 2SB1132-T100-R		R332	1-216-089-00	RES-CHIP 47K 5%	1/10W
Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146		R333	1-216-025-00	RES-CHIP 100 5%	1/10W
Q571	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR		R334	1-216-025-00	RES-CHIP 100 5%	1/10W
Q581	8-729-900-53	TRANSISTOR DTC114EKA-T146		R351	1-216-049-00	RES-CHIP 1K 5%	1/10W
Q583	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR		R352	1-249-383-11	CARBON 1.5 5%	1/6W F
Q591	1-801-806-11	TRANSISTOR DTC144EKA-T146		R353	1-216-065-00	RES-CHIP 4.7K 5%	1/10W
Q592	8-729-120-28	TRANSISTOR 2SC2412K-T-146-QR		R354	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q601	8-729-423-99	TRANSISTOR 2SD2137-OP-TA		R500	1-216-081-00	METAL CHIP 22K 5%	1/10W (4954X)
Q602	8-729-020-67	TRANSISTOR XN1A312-TX		R501	1-216-105-00	RES-CHIP 220K 5%	1/10W
Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146		R502	1-216-097-00	RES-CHIP 100K 5%	1/10W
Q622	8-729-021-94	TRANSISTOR 2SK1657-T1B		R503	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q631	8-729-020-67	TRANSISTOR XN1A312-TX		R507	1-216-065-00	RES-CHIP 4.7K 5%	1/10W
				R508	1-216-065-00	RES-CHIP 4.7K 5%	1/10W

MAIN

KEY

Ref. No.	Part No.	Description	Remark		
R509	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R510	1-216-025-00	RES-CHIP	100	5%	1/10W
R511	1-216-073-00	METAL CHIP	10K	5%	1/10W
R512	1-216-097-00	RES-CHIP	100K	5%	1/10W
R513	1-216-073-00	METAL CHIP	10K	5%	1/10W
R514	1-216-025-00	RES-CHIP	100	5%	1/10W
R517	1-216-105-00	RES-CHIP	220K	5%	1/10W
R518	1-216-097-00	RES-CHIP	100K	5%	1/10W
R519	1-216-097-00	RES-CHIP	100K	5%	1/10W
R520	1-216-049-00	RES-CHIP	1K	5%	1/10W
R521	1-216-049-00	RES-CHIP	1K	5%	1/10W
R523	1-216-049-00	RES-CHIP	1K	5%	1/10W
R526	1-216-097-00	RES-CHIP	100K	5%	1/10W
R527	1-216-097-00	RES-CHIP	100K	5%	1/10W
R528	1-216-097-00	RES-CHIP	100K	5%	1/10W
R529	1-216-097-00	RES-CHIP	100K	5%	1/10W
R530	1-216-097-00	RES-CHIP	100K	5%	1/10W
R531	1-216-081-00	METAL CHIP	22K	5%	1/10W (4950X)
R532	1-216-097-00	RES-CHIP	100K	5%	1/10W
R535	1-249-417-11	CARBON	1K	5%	1/4W F
R536	1-216-097-00	RES-CHIP	100K	5%	1/10W
R537	1-216-097-00	RES-CHIP	100K	5%	1/10W
R538	1-216-033-00	METAL CHIP	220	5%	1/10W
R539	1-216-097-00	RES-CHIP	100K	5%	1/10W
R540	1-216-097-00	RES-CHIP	100K	5%	1/10W
R541	1-216-097-00	RES-CHIP	100K	5%	1/10W
R542	1-216-097-00	RES-CHIP	100K	5%	1/10W
R543	1-216-097-00	RES-CHIP	100K	5%	1/10W
R544	1-216-049-00	RES-CHIP	1K	5%	1/10W
R545	1-216-025-00	RES-CHIP	100	5%	1/10W
R546	1-216-097-00	RES-CHIP	100K	5%	1/10W
R547	1-216-049-00	RES-CHIP	1K	5%	1/10W
R548	1-216-049-00	RES-CHIP	1K	5%	1/10W
R551	1-216-097-00	RES-CHIP	100K	5%	1/10W
R552	1-216-105-00	RES-CHIP	220K	5%	1/10W
R553	1-216-097-00	RES-CHIP	100K	5%	1/10W
R554	1-216-097-00	RES-CHIP	100K	5%	1/10W
R555	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R556	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R557	1-216-049-00	RES-CHIP	1K	5%	1/10W
R558	1-216-033-00	METAL CHIP	220	5%	1/10W
R560	1-216-089-00	RES-CHIP	47K	5%	1/10W (4950X)
R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R562	1-208-806-11	RES-CHIP	10K	0.5%	1/10W
R563	1-216-025-00	RES-CHIP	100	5%	1/10W
R564	1-216-025-00	RES-CHIP	100	5%	1/10W
R568	1-216-295-00	SHORT	0		
R570	1-216-097-00	RES-CHIP	100K	5%	1/10W
R571	1-216-089-00	RES-CHIP	47K	5%	1/10W
R572	1-216-089-00	RES-CHIP	47K	5%	1/10W
R573	1-249-421-11	CARBON	2.2K	5%	1/4W F
R574	1-216-081-00	METAL CHIP	22K	5%	1/10W
R576	1-216-105-00	RES-CHIP	220K	5%	1/10W
R581	1-216-049-00	RES-CHIP	1K	5%	1/10W
R586	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R587	1-216-073-00	METAL CHIP	10K	5%	1/10W
R588	1-216-097-00	RES-CHIP	100K	5%	1/10W
R589	1-216-085-00	METAL CHIP	33K	5%	1/10W
R590	1-216-097-00	RES-CHIP	100K	5%	1/10W
R591	1-216-089-00	RES-CHIP	47K	5%	1/10W
R592	1-216-089-00	RES-CHIP	47K	5%	1/10W
R593	1-216-089-00	RES-CHIP	47K	5%	1/10W
R594	1-216-049-00	RES-CHIP	1K	5%	1/10W
R601	1-249-387-11	CARBON	3.3	5%	1/4W F
R603	1-216-041-00	METAL CHIP	470	5%	1/10W
R604	1-216-041-00	METAL CHIP	470	5%	1/10W
R621	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R622	1-216-081-00	METAL CHIP	22K	5%	1/10W
R631	1-249-417-11	CARBON	1K	5%	1/4W F
R632	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-216-025-00	RES-CHIP	100	5%	1/10W
R703	1-216-025-00	RES-CHIP	100	5%	1/10W
R704	1-216-025-00	RES-CHIP	100	5%	1/10W
R705	1-216-025-00	RES-CHIP	100	5%	1/10W
R706	1-216-025-00	RES-CHIP	100	5%	1/10W
R707	1-216-025-00	RES-CHIP	100	5%	1/10W
R708	1-216-025-00	RES-CHIP	100	5%	1/10W
R710	1-216-001-00	METAL CHIP	10	5%	1/10W
R751	1-216-049-00	RES-CHIP	1K	5%	1/10W
R753	1-216-073-00	METAL CHIP	10K	5%	1/10W
R781	1-216-081-00	METAL CHIP	22K	5%	1/10W
R782	1-216-081-00	METAL CHIP	22K	5%	1/10W
< SWITCH >					
S501	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)			(4950X)
S551	1-692-431-21	SWITCH, TACTILE (RESET)			
S552	1-771-540-11	SWITCH, PUSH (1 KEY)(NOSE SWITCH)			
< TUNER >					
TU1	A-3220-738-A	TUNER UNIT (TUX-020)			
< VIBRATOR >					
X501	1-781-294-21	VIBRATOR, CRYSTAL (18, 432MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32,768MHz)			

KEY BOARD					

	1-694-660-11	CONDUCTIVE BOARD, CONNECTION			

*	3-040-992-01	HOLDER (LCD)			
*	3-040-993-01	PLATE (LCD), LIGHT GUIDE			
*	3-040-997-01	PLATE (LCD), GROUND			
*	3-041-371-02	SHEET (REFLECTOR)			
< CAPACITOR >					
C952	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C953	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C954	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C955	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C956	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< CONNECTOR >				R913	1-216-647-11	METAL CHIP 680	0.5% 1/10W
CN901	1-794-065-21	PLUG, CONNECTOR 14P		R914	1-216-647-11	METAL CHIP 680	0.5% 1/10W
< DIODE >				R915	1-216-651-11	METAL CHIP 1K	0.5% 1/10W
D901	8-719-158-49	DIODE UDZ-TE-17-12B		R916	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
D902	8-719-056-82	DIODE UDZ-TE-17-6.2B		R917	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
D903	8-719-056-82	DIODE UDZ-TE-17-6.2B		R918	1-216-659-11	METAL CHIP 2.2K	0.5% 1/10W
D904	8-719-056-82	DIODE UDZ-TE-17-6.2B		R919	1-216-663-11	METAL CHIP 3.3K	0.5% 1/10W
D952	8-719-976-99	DIODE UDZ-TE-17-5.1B		R920	1-216-667-11	METAL CHIP 4.7K	0.5% 1/10W
< IC >				R921	1-216-810-11	METAL CHIP 120	5% 1/16W
IC901	8-759-366-34	IC LC75824E		R923	1-216-812-11	METAL CHIP 180	5% 1/16W
< LIQUID CRYSTAL DISPLAY >				R925	1-216-031-00	METAL CHIP 180	5% 1/10W
LCD901	1-803-907-41	DISPLAY PANEL, LIQUID CRYSTAL		R927	1-216-037-00	METAL CHIP 330	5% 1/10W
< DIODE >				R929	1-216-033-00	METAL CHIP 220	5% 1/10W
LED901	8-719-061-16	DIODE CL-190SR-CD-T		R930	1-216-812-11	METAL CHIP 180	5% 1/16W
LED902	8-719-061-16	DIODE CL-190SR-CD-T		R931	1-216-813-11	METAL CHIP 220	5% 1/16W
LED903	8-719-061-16	DIODE CL-190SR-CD-T		R932	1-216-813-11	METAL CHIP 220	5% 1/16W
LED904	8-719-061-16	DIODE CL-190SR-CD-T		R933	1-216-813-11	METAL CHIP 220	5% 1/16W
LED910	8-719-078-19	DIODE LWA673-R1S2*1		R935	1-216-812-11	METAL CHIP 180	5% 1/16W
LED911	8-719-078-19	DIODE LWA673-R1S2*1		R938	1-216-809-11	METAL CHIP 100	5% 1/16W
LED912	8-719-078-19	DIODE LWA673-R1S2*1		R939	1-216-821-11	METAL CHIP 1K	5% 1/16W
LED913	8-719-078-19	DIODE LWA673-R1S2*1		R953	1-216-857-11	METAL CHIP 1M	5% 1/16W
LED914	8-719-078-19	DIODE LWA673-R1S2*1		R954	1-216-049-00	RES-CHIP 1K	5% 1/10W
LED915	8-719-078-19	DIODE LWA673-R1S2*1		R955	1-216-049-00	RES-CHIP 1K	5% 1/10W
< SWITCH >				R956	1-216-821-11	METAL CHIP 1K	5% 1/16W
LSW901	1-771-883-21	SWITCH, TACTILE (WITH LED)(OFF)		R957	1-216-851-11	METAL CHIP 330K	5% 1/16W
LSW902	1-771-476-11	SWITCH, KEY BOARD (WITH LED)(SOURCE)		R958	1-216-033-00	METAL CHIP 220	5% 1/10W
LSW903	1-771-476-11	SWITCH, KEY BOARD (WITH LED)(SOUND)		R970	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW904	1-771-476-11	SWITCH, KEY BOARD (WITH LED)(MENU)		R971	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW906	1-771-476-11	SWITCH, KEY BOARD (WITH LED)(MODE ◀▶)		R972	1-216-864-11	METAL CHIP 0	5% 1/16W
LSW907	1-771-476-11	SWITCH, KEY BOARD (WITH LED)(ENTER)		R973	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW909	1-762-737-11	SWITCH, KEY BOARD (LED)(D-BASS)		R975	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW912	1-771-883-21	SWITCH, TACTILE (WITH LED)([6])		R976	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW913	1-771-883-21	SWITCH, TACTILE (WITH LED)([5])		R977	1-216-815-11	METAL CHIP 330	5% 1/16W
LSW914	1-771-883-21	SWITCH, TACTILE (WITH LED)([4])		R981	1-216-864-11	METAL CHIP 0	5% 1/16W
LSW915	1-771-883-21	SWITCH, TACTILE (WITH LED)([3])		R999	1-216-864-11	METAL CHIP 0	5% 1/16W
LSW916	1-771-883-21	SWITCH, TACTILE (WITH LED)(SHUF [2])		< ROTARY ENCODER >			
LSW917	1-771-883-21	SWITCH, TACTILE (WITH LED)(REP [1])		RE901	1-475-014-11	ENCODER, ROTARY (JOG)	
< RESISTOR >				< SWITCH >			
R901	1-216-647-11	METAL CHIP 680	0.5% 1/10W	S901	1-771-884-21	SWITCH, TACTILE (WITH LED)(- I◀◀ ◀◀)	
R902	1-216-647-11	METAL CHIP 680	0.5% 1/10W	S902	1-771-884-21	SWITCH, TACTILE (WITH LED)(DISC+ PRST+)	
R903	1-216-647-11	METAL CHIP 680	0.5% 1/10W	S903	1-771-884-21	SWITCH, TACTILE (WITH LED)(+ ▶▶▶ ▶▶▶)	
R904	1-216-651-11	METAL CHIP 1K	0.5% 1/10W	S904	1-771-884-21	SWITCH, TACTILE (WITH LED)(PRST- DISC-)	
R905	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W	*****			
R906	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W	MISCELLANEOUS			
R907	1-216-659-11	METAL CHIP 2.2K	0.5% 1/10W	*****			
R908	1-216-663-11	METAL CHIP 3.3K	0.5% 1/10W	17	1-792-194-21	CORD (WITH CONNECTOR)(POWER)	
R909	1-216-667-11	METAL CHIP 4.7K	0.5% 1/10W	63	1-694-660-11	CONDUCTIVE BOARD, CONNECTION	
R910	1-216-671-11	METAL CHIP 6.8K	0.5% 1/10W	F781	1-532-877-11	FUSE (BLADE TIPE)(AUTO FUSE)	
R911	1-208-806-11	RES-CHIP 10K	2% 1/10W	HP901	1-500-157-21	HEAD, MAGNETIC (PLAY BACK)	
R912	1-216-647-11	METAL CHIP 680	0.5% 1/10W	LCD901	1-803-907-41	DISPLAY PANEL, LIQUID CRYSTAL	
				M901	A-329-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

Ref. No.	Part No.	Description	Remark

HARDWARE LIST			

#1	7-621-772-20	SCREW +B2X5	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-793-01	SCREW +PTT 2.6X8 (S)	
#4	7-685-647-11	SCREW +BVTP 3X10 TYPE2 N-S	
#5	7-685-791-01	SCREW +PTT 2.6X5 (S)	
#6	7-685-106-19	SCREW +P 2X10 TYPE 2NON-SLIT	
#7	7-624-104-04	STOP RING 2.0, TYPE -E	
#8	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#9	7-685-791-01	SCREW +PTT 2.6X5 (S)	
#10	7-685-795-01	SCREW +PTT 2.6X12 (S)	

ACCESSORIES & PACKING MATERIALS

- 3-044-361-31 MANUAL, INSTRUCTION
(ENGLISH, SPANISH, CHINESE)(4950X)
- 3-044-362-21 MANUAL, INSTRUCTION, INSTALL
(ENGLISH, SPANISH, CHINESE)(4950X)
- 3-044-363-11 MANUAL, INSTRUCTION
(ENGLISH, CHINESE, ARABIC)(4954X)
- 3-044-364-11 MANUAL, INSTRUCTION, INSTALL
(ENGLISH, CHINESE, ARABIC)(4954X)
- X-3378-490-1 CASE (PANEL) ASSY

PARTS FOR INSTALLATION AND CONNECTIONS

- 501 X-3378-602-1 FRAME ASSY
- 502 3-934-325-01 SCREW, +K (5X8) TAPPING
- 503 3-041-000-01 SPRING, FITTING
- 504 3-040-979-01 COLLAR
- 505 1-792-194-21 CORD (WITH CONNECTOR)(POWER)
- 506 X-3366-405-1 SCREW ASSY (EXP), FITTING
- 507 3-386-828-01 SCREW, FITTING
- 508 3-349-410-01 BUSHING

