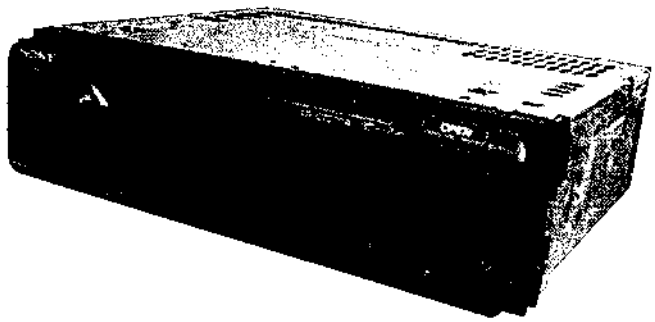
XR-C7200R

SERVICE MANUAL

AEP Model
UK Model



For RM-X2S (Remote Commander), please refer to RM-X2S/X3S Service Manual (9-960-039-00) previously issued.

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Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-25D-136

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 20,000 Hz
Signal-to-noise ratio	

Cassette type	Dolby B NR	Dolby NR off
TYPE II, III, IV	67 dB	61 dB
TYPE I	64 dB	58 dB

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 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

MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	MW: 30 μV LW: 50 μV

Power amplifier section

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

General

Outputs	Line outputs (2) Power aerial relay control lead Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 184 × 50 × 176 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 163 mm (w/h/d)
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) Rotary commander RM-X2S (1)

Design and specifications are subject to change without notice.

FM/MW/LW CASSETTE CAR STEREO

MICROFILM

SONY®

TABLE OF CONTENTS

Flexible Circuit Board Repairing

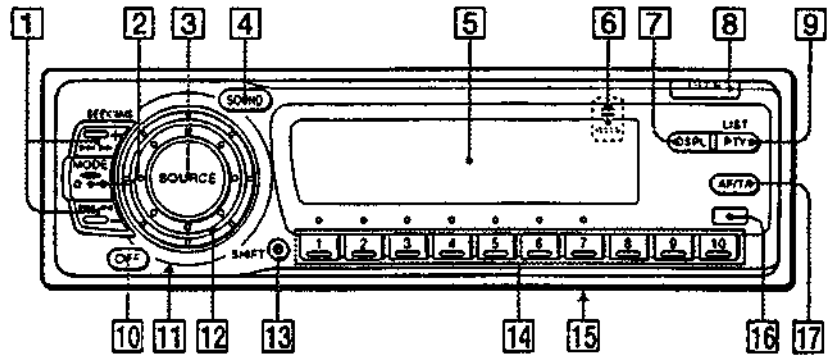
- Keep the temperature of the soldering iron around 270 C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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.

This section is extracted from instruction manual.

Location of controls



EN

Refer to the pages for details.

1 SEEK/AMS (seek/Automatic Music Sensor/manual search) button 5, 6, 7, 8, 9, 11, 15, 16, 17, 19

2 MODE (band select, unit select, tape transport direction) button 5, 7, 14, 16, 18

3 SOURCE (source select) button 5, 7, 14, 16, 18

4 SOUND button 13

5 Display window

6 ⏏ (eject) button (located on the front of the unit hidden by the front panel) 5

7 DSPL button (display mode change) button 6, 8, 14, 15, 18, 19

8 OPEN button 4, 5, 21

9 PTY/LIST button
PTY 11
Disc Memo 18
List-up 19

10 OFF button 4, 5

11 Reset button (located on the front of the unit hidden by the front panel) 4

12 Dial (volume/bass/treble/left-right/frot-rear control) 5, 18

13 SHIFT button
BTM 7, 10
SET UP 5, 12, 14
PLAY MODE 6, 7, 8, 9, 10, 15, 16, 17, 19

14 During radio reception:

Preset number buttons 7

During CD/MD playback:

Direct disc selection buttons 15

15 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT switch" in the Installation/Connections manual.

16 Receptor for wireless remote

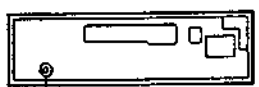
17 AF/TA button 9, 10

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 ballpoint pen.

Front panel detached



Reset button

Note
Pressing the reset button will erase the clock and some memorized functions.

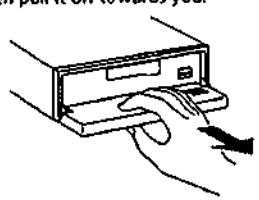
EN

Detaching the front panel

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

1 Press (OFF).

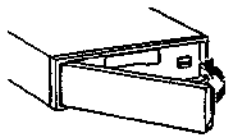
2 Press (OPEN) to open up the front panel, then pull it off towards you.



Notes
- *Do not put anything on the inner surface of the front panel.*
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When you carry the front panel with you, put it in the supplied front panel case.*

Attaching the front panel

Align the front panel with the unit, and push in.



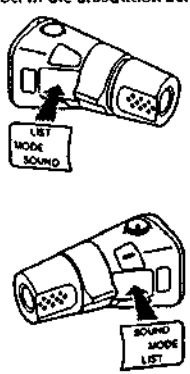
Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel hard against the unit when attaching it. Press it lightly against the unit.*
- *Do not press hard or put excessive pressure on the display windows of the front panel.*
- *Do not expose the front panel to direct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

Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch on the bottom of the unit is set to the Ⓐ position).

Preparing the rotary commander

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

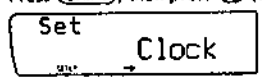


Setting the clock

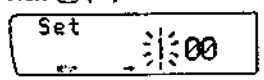
The clock has a 24-hour digital indication.

Example: Set the clock to 10:08

1 Press (SHIFT), then press ② (SET UP).



❶ Press ④ (→).

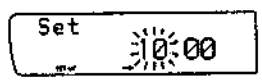


The hour digit flashes.

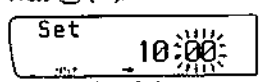
❷ Set the hour.

to go backward

to go forward



❸ Press ④ (→).

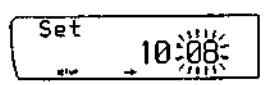


The minute digits flash.

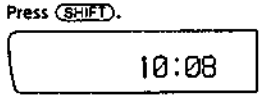
❹ Set the minute.

to go backward

to go forward



2 Press (SHIFT).



The clock starts.

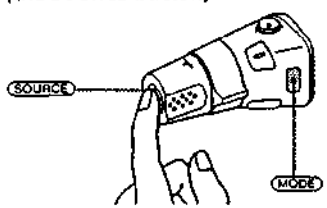
Note
If the POWER SELECT switch on the bottom of the unit is set to the Ⓑ position, turn the power on first, then set the clock. To turn the power on, press (SOURCE).

Other Functions

Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.
You can control the optional CD and MD unit with the rotary commander.

By pressing the button (the SOURCE button)



Each time you press (SOURCE), the source changes as follows:

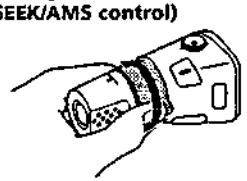
Tuner → CD → MD → Tape

Pressing (MODE) changes the operation in the following ways

- the tape transport direction
- the band: FM1 → FM2 → MW → LW
- the CD unit: CD1 → CD2 → ...
- the MD unit: MD1 → MD2 → ....

Tip
You can turn on this unit by pressing (SOURCE) on the rotary commander.

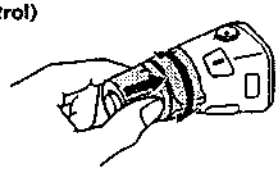
By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:

- Locate the beginnings of the tracks on the tape. Rotate and hold the control, and release it to fast-wind the tape. To playback, rotate and hold the control again, and release it.
- 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 tune in the specific station.

By rotating the control while pushing in (the PRESET/DISC control)

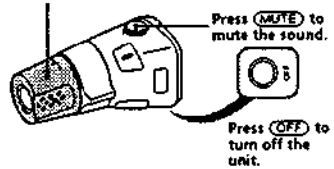


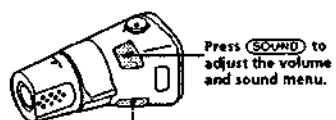
Push in and rotate the control to:

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

Other operations

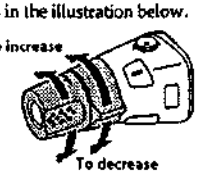
Rotate the VOL control to adjust the volume.



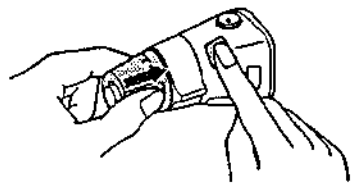


Changing the operative direction

The operative direction of controls is factory preset as in the illustration below.



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



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

Tip
You can change the operative direction of controls with the unit, refer to "Changing the sound and display settings" (page 14).

Adjusting the sound characteristics

You can adjust the bass, treble, balance and fader.
Each source can store the bass and treble level respectively.

1 **Select the item you want to adjust by pressing (SOUND) repeatedly.**

VOL (volume) → BAS (bass) → TRE (treble) → BAL (left-right) → FAD (front-rear)

2 **Adjust the selected item by rotating the dial.**
Adjust within three seconds after selection. (After three seconds, the dial works as the volume control dial.)

Muting the sound

The unit decreases the volume automatically when a telephone call is received (Telephone-mute function).

Changing the sound and display settings

You can set:

- Clock (page 5)
- CT (Clock Time) (page 12)
- D. Info (Dual Information) to display the clock and the play mode at the same time (ON), or to display the information alternately (OFF).
- Amber/Green to change the illumination colour to amber or green.
- Dimmer to change the brightness of the display.
  — Select "Auto" to dim the display only when you turn the lights on.
  — Select "on" to dim the display.
- Contrast to adjust the contrast if the indications in the display are not recognizable because of the unit's installed position.
- Beep to turn on or off the beeps.
- RM (Rotary Commander) to change the operative direction of the controls of the rotary commander.
  — Select "norm" to use the rotary commander in the factory preset position.
  — Select "rev" when you mount the rotary commander on the right side of the steering column.
- Loud (Loudness) to enjoy bass and treble even at low volume. The bass and treble will be reinforced.
- A. Scrl (Auto Scroll)

Note
The displayed item will differ depending on the source.

1 **Press (SHIFT), then press (2) (SET UP).**

2 **Press (2) (SET UP) repeatedly until the desired setting mode appears.**
Each time you press (2) (SET UP), the item changes as follows:

Clock → CT → D.Info → Amber/Green → Dimmer → Contrast → Beep → RM → Loud → A.Scrl

3 **Press (4) (→) to select the desired setting (for example: "on" or "off").**
For the "Contrast" setting, pressing (4) (→) makes the contrast higher, and pressing (1) (←) makes the contrast lower.

4 **Press (SHIFT).**
When the mode setting is complete, the normal playback mode appears.

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.
- 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 cassettes slot of the unit and shift lever to insert cassette easily. Choose the installation location carefully so the unit does not interfere with gear shifting and other driving operations.
- Choose the mounting location carefully so the unit does not interfere with normal driving operations.
- 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°.

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.
- Si monta otro equipo Sony con esta unidad, es preferible montar esta unidad en la posición más baja.
  Para que sea posible insertar y la cinta con facilidad, debe haber una distancia de al menos 15 cm entre la ranura de inserción de cintas de la unidad y la palanca de cambios.
  Instale la unidad en un lugar que 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 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°.

Montering

Säkerhetsföreskrifter

- Låt de fyra hålen på bilstereons ovansida vara. De är till för radiojusteringar som endast får utföras av fackkunniga tekniker.
- Om du monterar annan Sony-utrustning till denna enhet är det bäst att montera denna enhet i det lägre läget.
- För att du ska kunna sätta i och ta ut bandet måste avståndet vara minst 15 cm mellan kassettfacken på enheten och växelspaken. När du installerar enheten väljer du en plats så att enheten inte är i vägen när du kör.
- Var noga när du väljer var i bilen du monterar bilstereon, så att den inte sitter i vägen när du kör.
- Montera inte bilstereon där den utsätts för värme, t ex solsken eller varmluft, eller där den utsätts för damm, smuts och/eller vibrationer.
- Använd endast de medföljande monteringstillbehören för att vara säker på att bilstereon monteras på ett säkert och korrekt sätt.

Tillåten monteringsvinkel

Monteringsvinkeln får inte vara större än 20 grader.

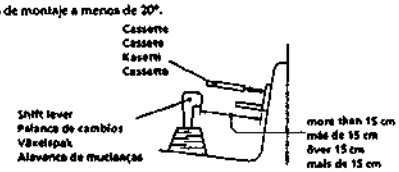
Instalação

Precauções

- Não altere individualmente os quatro orifícios da superfície da parte superior do aparelho. Estes servem para regulações do sintonizador que devem ser efectuadas somente por técnicos qualificados.
- É preferível montar este aparelho na posição inferior, se quiser montar simultaneamente outros equipamentos da Sony.
- Para colocar com facilidade a cassete, deve haver uma distância de pelo menos 15 cm entre a ranhura de introdução da cassete e a alavanca das mudanças.
  Escolha o local de instalação de forma a que o aparelho não interfira com as mudanças de velocidade ou com as outras manobras de condução.
- Escolha com cuidado um local apropriado para a montagem do aparelho, para que este não interfira com as manobras necessárias à condução do veículo.
- Evite instalar o aparelho onde possa estar sujeito a altas temperaturas, como em locais expostos directamente à luz do sol, ao ar quente dos aquecimentos, ou sujeitos a pó, sujidade ou vibração excessiva.
- Para efectuar uma instalação segura utilize unicamente o hardware de montagem fornecido.

Ajuste do ângulo de montagem

Ajuste o ângulo de montagem a menos de 20°.



How to detach and attach the front panel

Before installing the unit, detach the front panel.

To detach

Before detaching the front panel, be sure to press (OFF) first. Press (OPEN) to open up the front panel, then pull it off towards you.

To attach

Align the front panel to the unit, and push in.

Forma de extraer e instalar el panel frontal

Antes de instalar la unidad, extraiga el panel frontal.

Para extraerlo

Antes de extraer el panel frontal, asegúrese de presionar (OFF) en primer lugar. Presione (OPEN) para abrir el panel frontal y, a continuación, tire de él hacia fuera.

Para instalarlo

Alinee el panel frontal con la unidad e introdúzcalo.

Ta loss/fästa frontpanelen

Ta loss frontpanelen innan du monterar bilstereon.

Ta loss frontpanelen

Tryck på (OFF) innan du tar loss frontpanelen. Tryck på (OPEN) när du vill öppna frontpanelen. Dra den sedan mot dig.

Fästa frontpanelen

Passa in frontpanelen på enheten och tryck till.

Para retirar e colocar o painel frontal

Retire o painel frontal antes de iniciar a instalação do aparelho.

Para retirar

Antes de desligar o painel frontal, não se esqueça de carregar primeiro em (OFF). Carregue em (OPEN) para abrir o painel frontal, puxando-o depois para fora e para si.

Para colocar

Alinhe o painel frontal com o aparelho e empurre-o.

Mounting example

Installation in the dashboard

Ejemplo de montaje

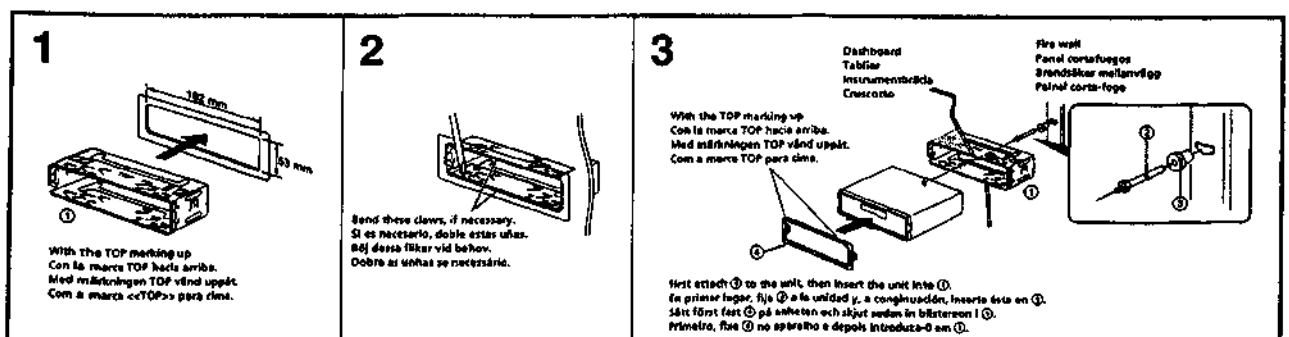
Instalación en el salpicadero

Exempel på montering

Montera på instrumentbrädan

Exemplo de montagem

Instalação no tablier



Caution

Cautionary notice for handling the bracket ①. Handle the bracket carefully to avoid injuring your fingers.

Precaución

Advertencia sobre la manipulación del soporte ①. Tenga mucho cuidado al manipular el soporte para evitar posibles lesiones en los dedos.

Varning

Att observera angående konsolen ①. Hantera konsolen med största aktsamhet så att du inte skadar fingrarna.

Cuidado

Aviso sobre as precauções a tomar no manuseamento do suporte ①. Pegue no suporte com cuidado para não magoar os dedos.

Reset button

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

Botón de reposición

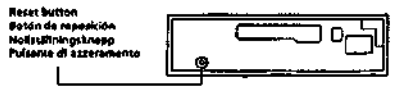
Cuando finalice la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.

Nollställningsknappen

Kom ihåg att använda en penna eller något annat spetsigt föremål för att trycka på nollställningsknappen när anslutningen och monteringen är klar.

Botão de reinicialização

Quando terminar a instalação e as ligações, não se esqueça de carregar no botão de reinicialização com a ponta de uma caneta, etc.



Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Connect the power connecting cord ⑧ to the unit and speakers before connecting it to the auxiliary power connector.
- 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 series 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 ⓐ 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 ⓐ position.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Conecte el cable de conexión de alimentación ⑧ a la unidad y los altavoces antes de conectarlo al conector de alimentación auxiliar.
- Conecte todos los conductores de puesta a masa a un punto común.
- Conecte el cable amarillo a un circuito libre de automóvil de potencia nominal superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estéreo, la potencia nominal del circuito del automóvil a los que dichos componentes estén conectados debe ser superior a la suma de la potencia nominal del fusible de los componentes. Si no existen circuitos de automóvil de potencia nominal igual o la del fusible de la unidad, conecte esta directamente a la batería. Si no hay circuitos de automóvil disponibles para conectar esta unidad, conecte la misma a un circuito de automóvil de potencia nominal superior a la del fusible de la unidad de forma que no se desactiven otros circuitos si el fusible de dicha unidad se funde.

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 funcionamiento. 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 ⓐ y, después, presione el botón de reposición. La iluminación estará desactivada cuando la unidad no se encuentre en funcionamiento.

Nota

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

Anslutning

Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Anslut strömkabeln ⑧ till enheten och högtalarna innan du ansluter den till den yttre strömanslutning.
- Dra samtliga jordledningar till en och samma jordningspunkt.
- Anslut den gula kabeln till en ledig bilkrets med en högre ampere än enheten. Om du seriekopplar enheten till andra stereokomponenter måste den bilkrets de kopplas till ha en högre ampere än summan av de enskilda delarnas amperestyrka. Om det inte finns några bilkretsar med en så hög amperestyrka som enhetens ska du ansluta enheten direkt till batteriet. Om inga bilkretsar finns för anslutning till enheten ska du ansluta enheten till en bilkrets med en högra ampere än enhetens säkring så att inga andra säkringar går om enhetens säkring smälter.

Montera bilstereon i en bil vars tändlås inte har något strömläge

— Omkopplaren POWER SELECT

Innan bilstereon levererades från fabriken ställdes belysningen i teckenfönstret in så att den lyser också när bilstereon inte används. Detta kan emellertid orsaka urladdning av batteriet när du använder bilstereon i en bil, vars tändlås saknar läget ACC (strömläge). Skjut omkopplaren POWER SELECT på bilstereons undersida till läge ⓐ, och tryck sedan på återställningsknappen för att undvika att bilbatteriet laddas ur. Nu lyser inte längre belysningen i teckenfönstret när bilstereon inte används.

Observera

Varningssignalen, som varnar om du inte har tagit loss frontpanelen, ljudar inte när omkopplaren POWER SELECT står i läge ⓐ.

Ligações

Advertência

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com massa negativa.
- Ligue o cabo de alimentação de corrente ⑧ ao aparelho e aos altifalantes antes de o ligar ao conector de corrente auxiliar.
- Ligue todos os fios de terra num ponto de massa comum.
- Ligue o cabo amarelo a um circuito elétrico livre do automóvel, cuja tensão seja superior à dos fusíveis do aparelho. Se ligar este aparelho em série com outros componentes estéreo, a tensão do circuito elétrico do automóvel onde os ligar tem de ser superior à soma das tensões dos fusíveis de todos os componentes individuais. Se não houver nenhum circuito elétrico do automóvel com uma tensão tão elevada como a dos fusíveis do aparelho, ligue-o directamente à bateria. Se não estiver disponível nenhum circuito elétrico do automóvel para ligação deste aparelho, ligue-o a um circuito elétrico do automóvel com uma tensão superior à dos fusíveis do aparelho, de tal modo que, se o aparelho rebentar os fusíveis respectivos, nenhum outro circuito seja cortado.

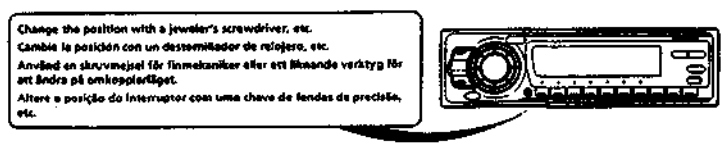
Se o seu automóvel não estiver equipado com uma chave de ignição com posição acessórios

— Interruptor POWER SELECT

A iluminação do painel frontal é regulada na fábrica para se manter acesa, mesmo quando o aparelho não estiver ligado. No entanto, esta regulação pode provocar a descarga da bateria se o aparelho for utilizado em automóveis sem chave de ignição com posição acessórios. Para evitar descarga da bateria, regule o interruptor POWER SELECT, situado na base do aparelho, para a posição ⓐ. Em seguida, carregue no botão de reinicialização. A iluminação é regulada para ficar apagada enquanto o aparelho estiver desligado.

Nota

O alarme de advertência do painel frontal não é activado quando o interruptor POWER SELECT estiver regulado para a posição ⓐ.



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

Cuando cambie la posición del selector, cerciórese de presionar los botón de reposición después de haber finalizado las conexiones.

Om ihåg att trycka på återställningsknapp efter slutförda anslutningar när ställarläget ändrats.

Se alterar a posição do selector tem de carregar numa das teclas de reinicialização depois de ter terminado de fazer todas as ligações.

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), AF (Alternative Frequency) or the TA (Traffic Announcement).*
- *A power aerial 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 switch 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.*

Warning

If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ⑧ may damage the aerial.

Notas sobre 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), frecuencia alternativa (AF) o la de anuncios de tráfico (TA).*
- *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 máxima 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 hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

Advertencia

Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ⑧ suministrado puede dañar la antena.

Att observera angående de olika styrkablarna

- *Motorantennens styrkabel (blå) leder +12 volts likström när bilradion slås på eller när radiomottagningsautomatik ATA, mottagning av alternativa frekvenser AF eller mottagning av trafikmeddelanden TA.*
- *En motorantenn utan styrreläbox kan inte anslutas till denna bilstereo.*

Anslutning för minnesstöd

När du ansluter den gula, ingående strömkabeln förbys minnesbrytaren med strån hela tiden, även när tändlåset står ifrån.

Att observera angående högtalarnas anslutning

- *Slå av bilstereon innan du ansluter högtalarna.*
- *Använd endast högtalare, vars impedans varierar från 4 till 8 ohm och som har tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.*
- *Anslut inte något av högtalarsystemen till bilens chassi. Anslut inte heller utsignen på högar högtalare till utsignen på utsidor högtalare.*
- *Anslut inte högtalarna parallellt.*
- *Anslut inte aktiva högtalare (med inbyggda förstärkare) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna.*
  Var noga med att bara ansluta passiva högtalare till dessa uttag.

Varning

Om du har en motorantenn utan reläbox kan anslutning av denna bilradio med den medföljande strömkabeln ⑧.

Notas sobre os fios de controlo

- *O fio de controlo da antena eléctrica (azul) fornece +12 V CC quando da ligação do sintonizador ou da activação do função ATA (Activação automática do sintonizador), AF (Frequência Alternativa) ou TA (Boletins de Trafego).*
- *Uma antena motorizada sem um relé não pode ser utilizada com este aparelho.*

Ligação para alimentação contínua da memória

Quando o fio amarelo de entrada de alimentação estiver ligado, os circuitos da memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.

Notas sobre a ligação dos altifalantes

- *Antes de ligar os altifalantes, desligue o aparelho.*
- *Utilize altifalantes com impedância de 4 a 8 ohm, e com capacidade adequada de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.*
- *Não ligue os terminais do sistema de altifalantes ao chassis do automóvel, e não ligue os terminais do altifalante direito aos terminais do altifalante esquerdo.*
- *Não tente ligar os altifalantes em paralelo.*
- *Não ligue nenhum sistema de altifalantes activo (com amplificadores incorporados) aos terminais dos altifalantes do aparelho.*
  Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.

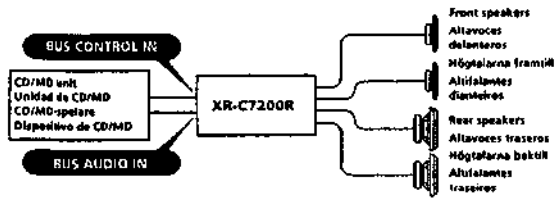
Atenção

Se o sistema eléctrico não tiver uma caixa de relé, a fim de ligar este aparelho com o cabo de alimentação ⑧ fornecido, pode provocar danos no sistema.

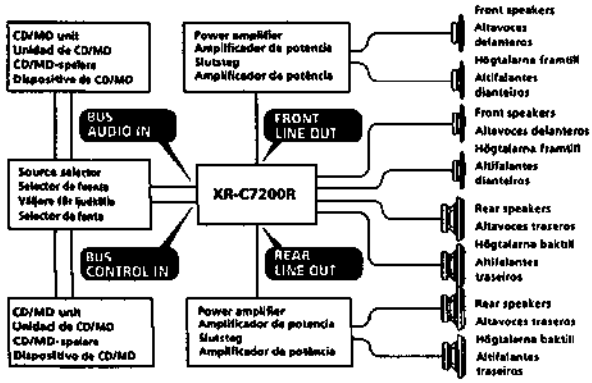
Connection diagram
Diagrama de conexiones
Kopplingsschema
Diagrama de ligações

For connecting two or more changers, the source selector XA-C30 (optional) is necessary.
Si desea conectar dos o más combinadores, necesitará la selector de fuente XA-C30 (opcional).
För anslutning av två eller fler växlare krävs väljarna XA-C30 (tillval).
Para ligar um ou mais permutadores, é necessário o selector de fonte XA-C30 (opcional)

Example 1/Ejemplo 1/Exempel 1/Exemplo 1



Example 2/Ejemplo 2/Exempel 2/Exemplo 2



Note for Connecting

If there is alternator noise (a whining sound when the engine increases speed), ground the master unit by connecting it to a metal point of the car with the supplied chassis ground cord ⑥. Connect the ground cord to the master unit with part ⑦ as shown in the illustration.
You can use part ⑦ to connect the ground cord to the master unit instead of part ③

Nota sobre conexión

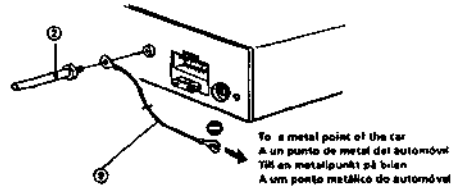
Si el alternador emite ruido (un zumbido al aumentar la velocidad del motor), conecte la unida principal a tierra y, para ello, enchúfela a un punto de metal del automóvil mediante el cable de toma a tierra del chasis ⑥ suministrado. Conecte el cable de toma a tierra a la unidad principal con la pieza ⑦ como se muestra en la ilustración.
Puede utilizar la pieza ⑦ para conectar el cable de toma a tierra a la unidad principal en lugar de la pieza ③.

Angående anslutningar

Om motorn ger störningar (ett vinande ljud när du gasar) bör du jorda huvudenheten till en metallpunkt på bilen med den medföljande chassijordkabeln ⑥. Anslut jordkabeln till huvudenheten med jordkontakten ⑦ enligt bilden.
Du kan använda del ⑦ istället för del ③ när du vill ansluta den jordade kabeln till huvudenheten.

Nota sobre a ligação

Se o alternador começar a produzir ruídos (um som agudo durante o aumento da velocidade do motor), ligue a unidade principal à terra. Para tal, ligue o cabo de terra do chassis ⑥ fornecido a um ponto metálico do automóvel. Ligue o cabo de ligação à terra ao aparelho principal ⑦, como se mostra na ilustração.
Em vez da peça ③, pode utilizar a peça ⑦ para ligar o cabo de ligação a terra à unidade principal.



Caution

Cautionary notice for handling the bracket ①.
Handle the bracket carefully to avoid injuring your fingers.

Precaución

Advertencia sobre la manipulación del soporte ①.
Tenga mucho cuidado al manipular el soporte para evitar posibles lesiones en los dedos.

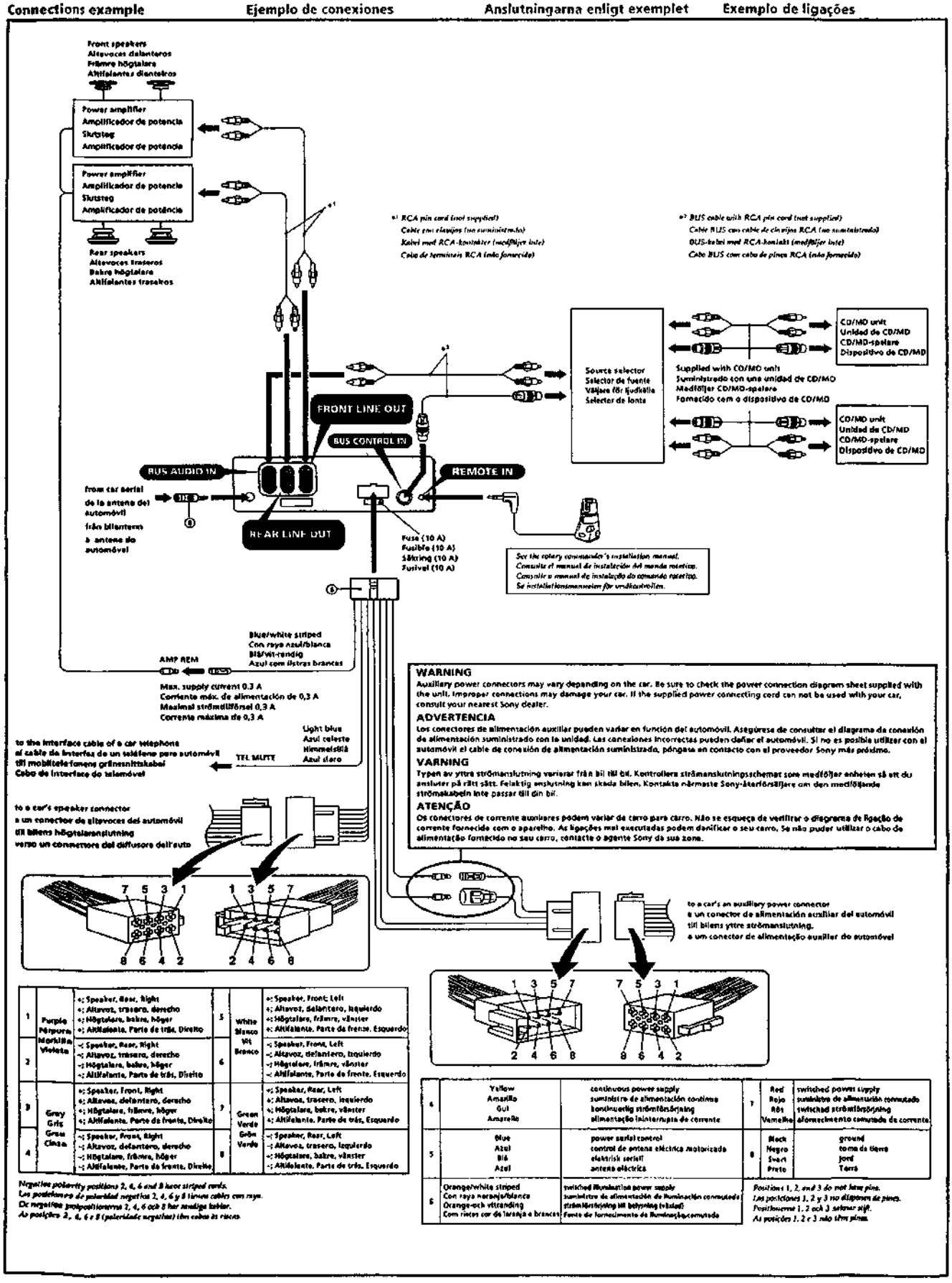
Varning

Allt observera angående konsolen ①.
Hantera konsolen med största aktsamhet så att du inte skadar fingrarna.

Cuidado

Aviso sobre as precauções a tomar no manuseamento do suporte ①.
Pegue no suporte com cuidado para não magoar os dedos.

Connections example **Ejemplo de conexiones** **Anslutningarna enligt exemplet** **Exemplo de ligações**



1	Purple / Púrpura / Mörkblå / Violeta	+: Speaker, Rear, Right +: Altavoz, trasero, derecho +: Högtalare, bakre, höger +: Altifalante, Parte de trás, Direito	5	White / Blanco / Vit / Branco	+: Speaker, Front, Left +: Altavoz, delantero, izquierdo +: Högtalare, främre, vänster +: Altifalante, Parte da frente, Esquerdo
2		-: Speaker, Rear, Right -: Altavoz, trasero, derecho -: Högtalare, bakre, höger -: Altifalante, Parte de trás, Direito	6		-: Speaker, Front, Left -: Altavoz, delantero, izquierdo -: Högtalare, främre, vänster -: Altifalante, Parte de frente, Esquerdo
3	Gray / Gris / Grau / Cinza	+: Speaker, Front, Right +: Altavoz, delantero, derecho +: Högtalare, främre, höger +: Altifalante, Parte da frente, Direito	7	Green / Verde / Grön / Verde	+: Speaker, Rear, Left +: Altavoz, trasero, izquierdo +: Högtalare, bakre, vänster +: Altifalante, Parte de trás, Esquerdo
4		-: Speaker, Front, Right -: Altavoz, delantero, derecho -: Högtalare, främre, höger -: Altifalante, Parte da frente, Direito	8		-: Speaker, Rear, Left -: Altavoz, trasero, izquierdo -: Högtalare, bakre, vänster -: Altifalante, Parte de trás, Esquerdo

Negative polarity positions 2, 4, 6 and 8 have striped cords.
Los posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.
De negativa polaritetspositionerna 2, 4, 6 och 8 har randiga ledar.
As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos às riscas

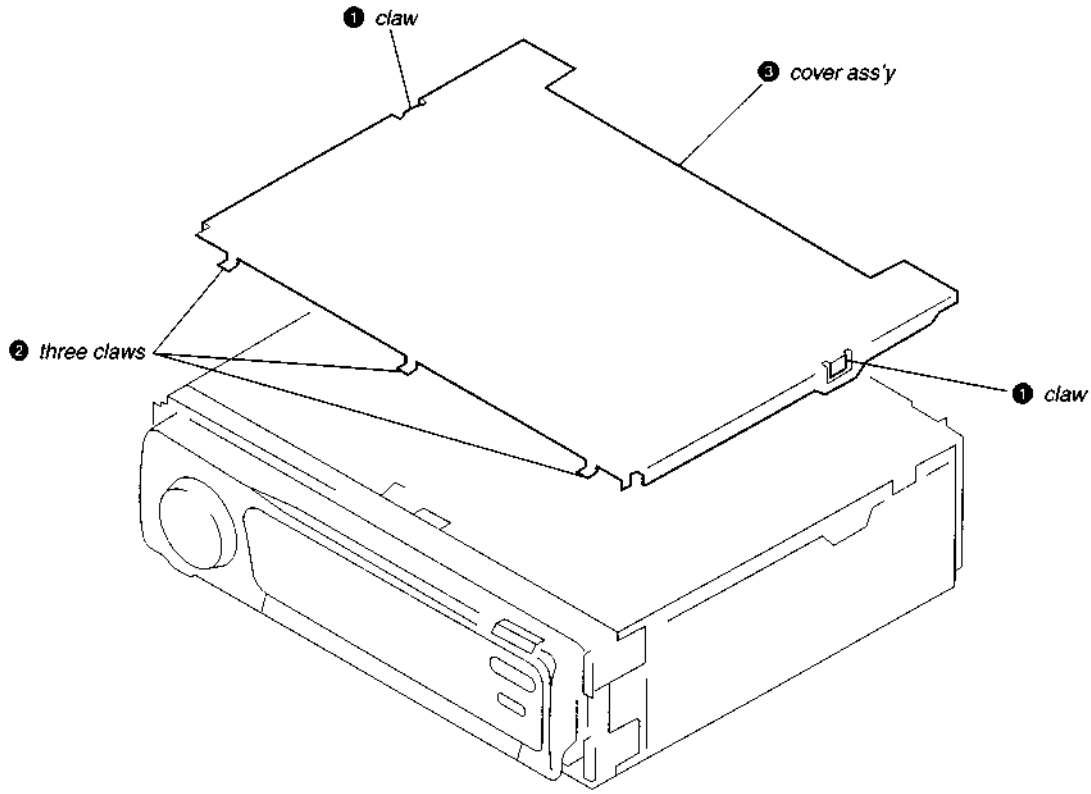
4	Yellow / Amarillo / Gul / Amarelo	continuous power supply suministro de alimentación continua kontinuerlig strömförsörjning alimentação ininterrupta de corrente	7	Red / Rojo / Röd / Vermelho	switched power supply suministro de alimentación conmutada switchad strömförsörjning fornecimento comutado de corrente
5	Blue / Azul / Blå / Azul	power aerial control control de antena eléctrica motorizada elektrisk serial antena eléctrica	8	Black / Negro / Svart / Preto	ground toma de tierra jord Terra
6	Orange/white striped / Con raya naranja/blanca / Orange-och vitrandig / Com riscas cor de laranja e brancas	switched illumination power supply suministro de alimentación de iluminación conmutada strömförsörjning till belysning (växlad) Fonte de fornecimento de iluminação comutada			

Positions 1, 2, and 3 do not have pins.
Las posiciones 1, 2 y 3 no disponen de pinos.
Positionerna 1, 2 och 3 saknar stift.
As posições 1, 2 e 3 não têm pinos.

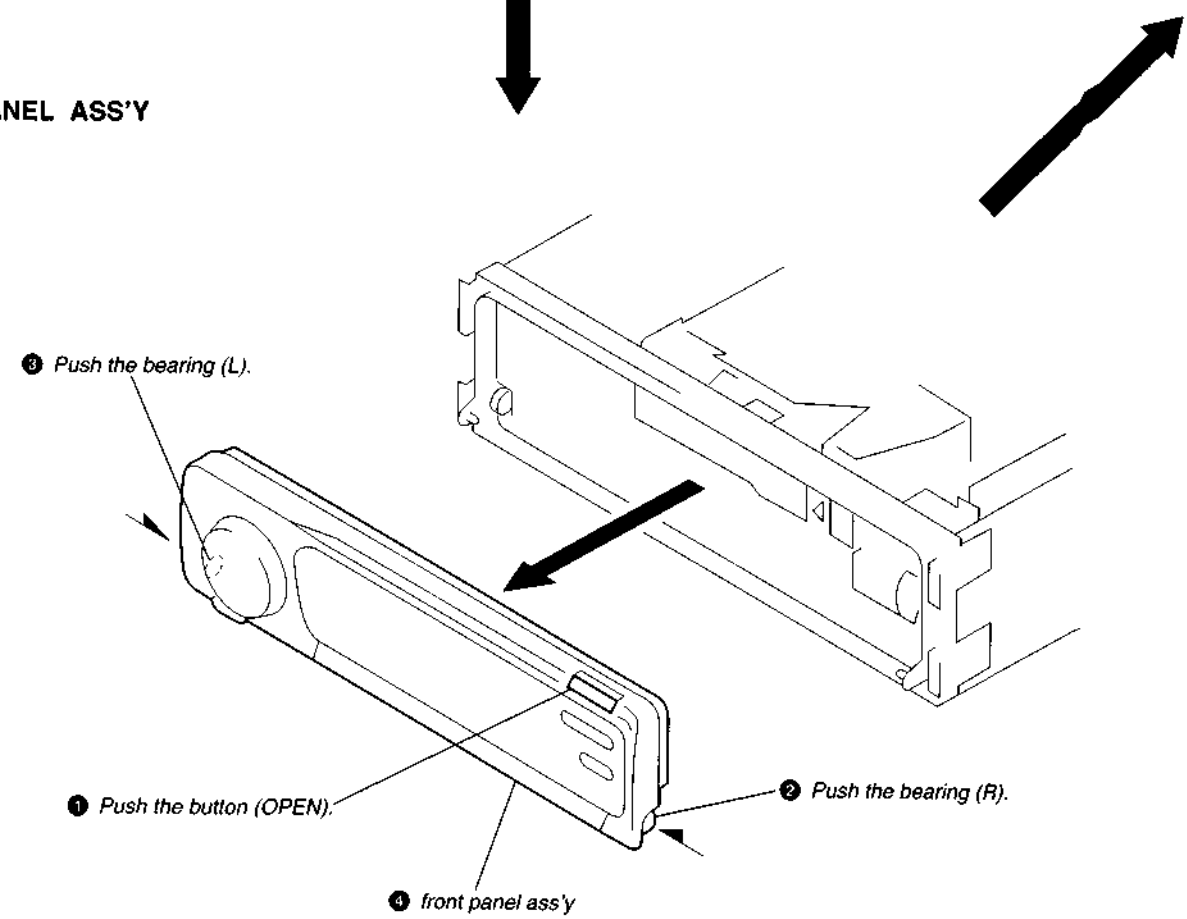
SECTION 2
DISASSEMBLY

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

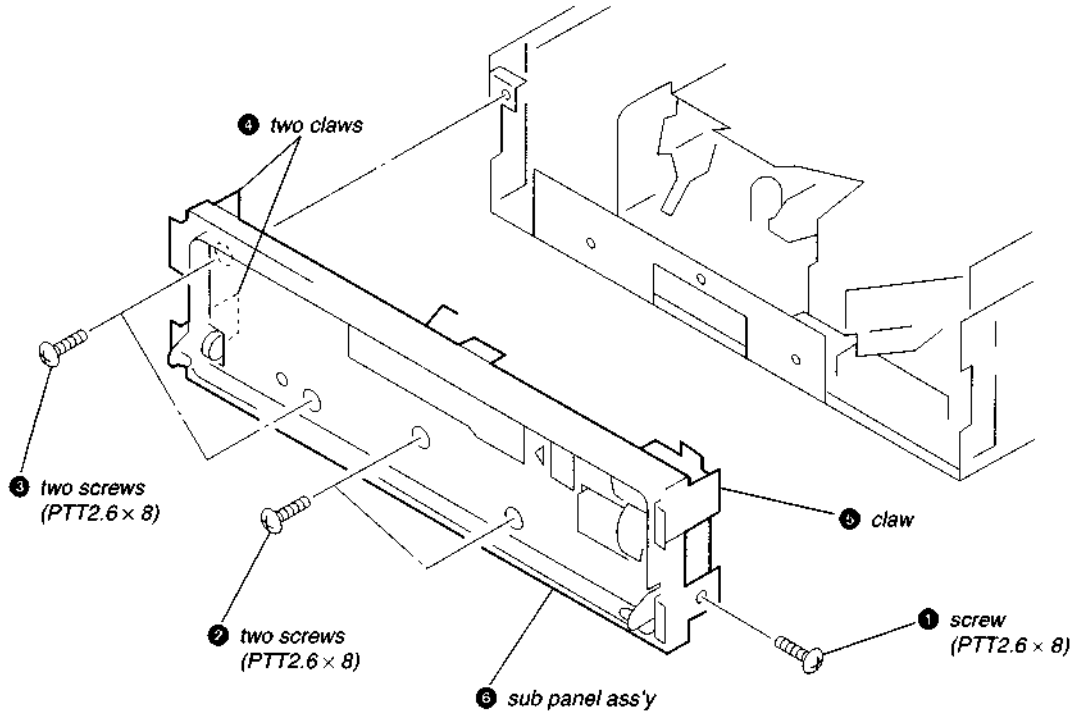
COVER ASS'Y



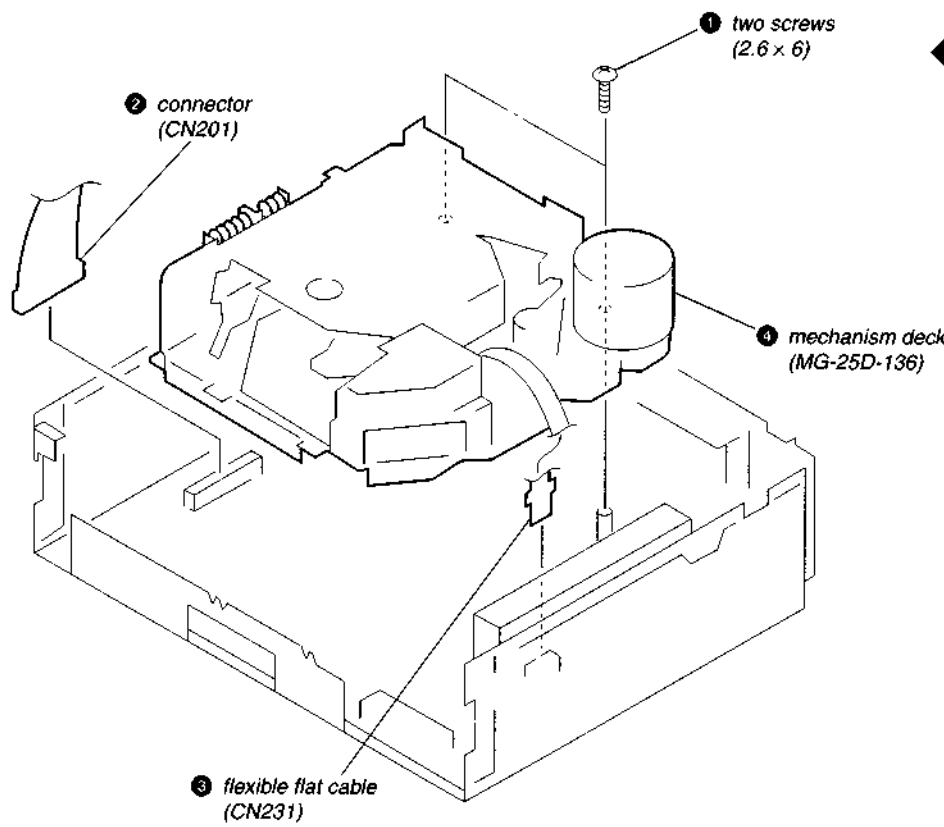
FRONT PANEL ASS'Y



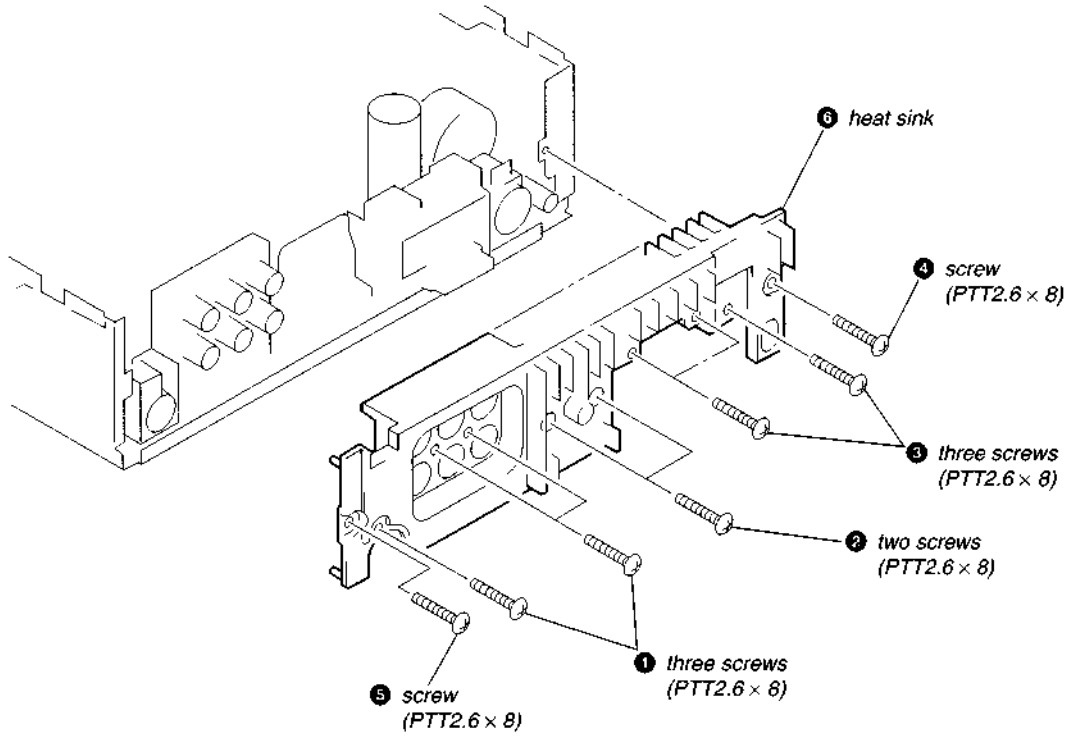
SUB PANEL ASS'Y



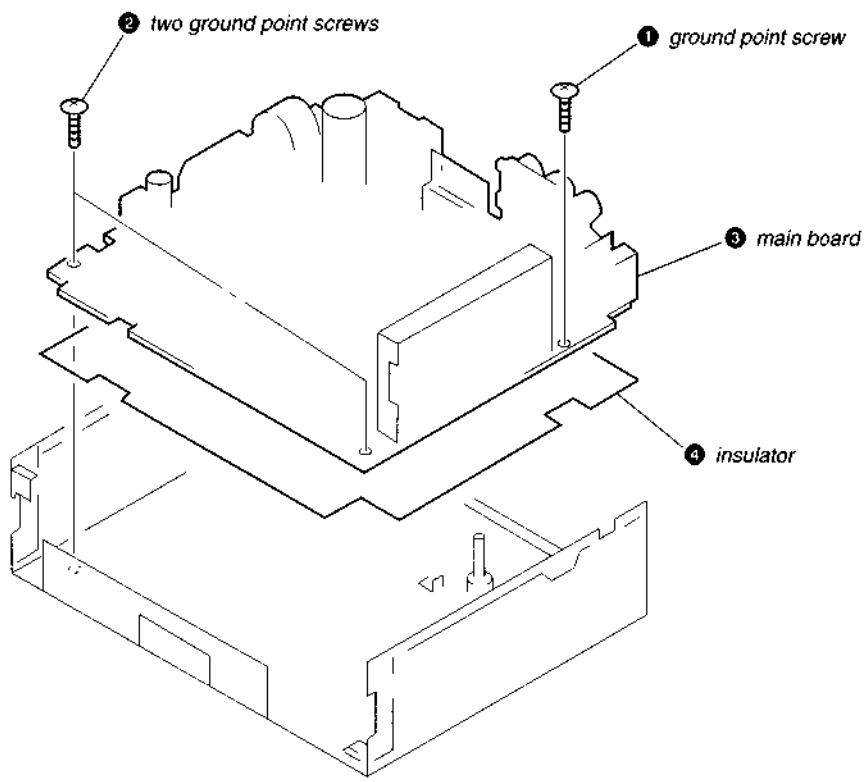
MECHANISM DECK (MG-25D-136)



HEAT SINK



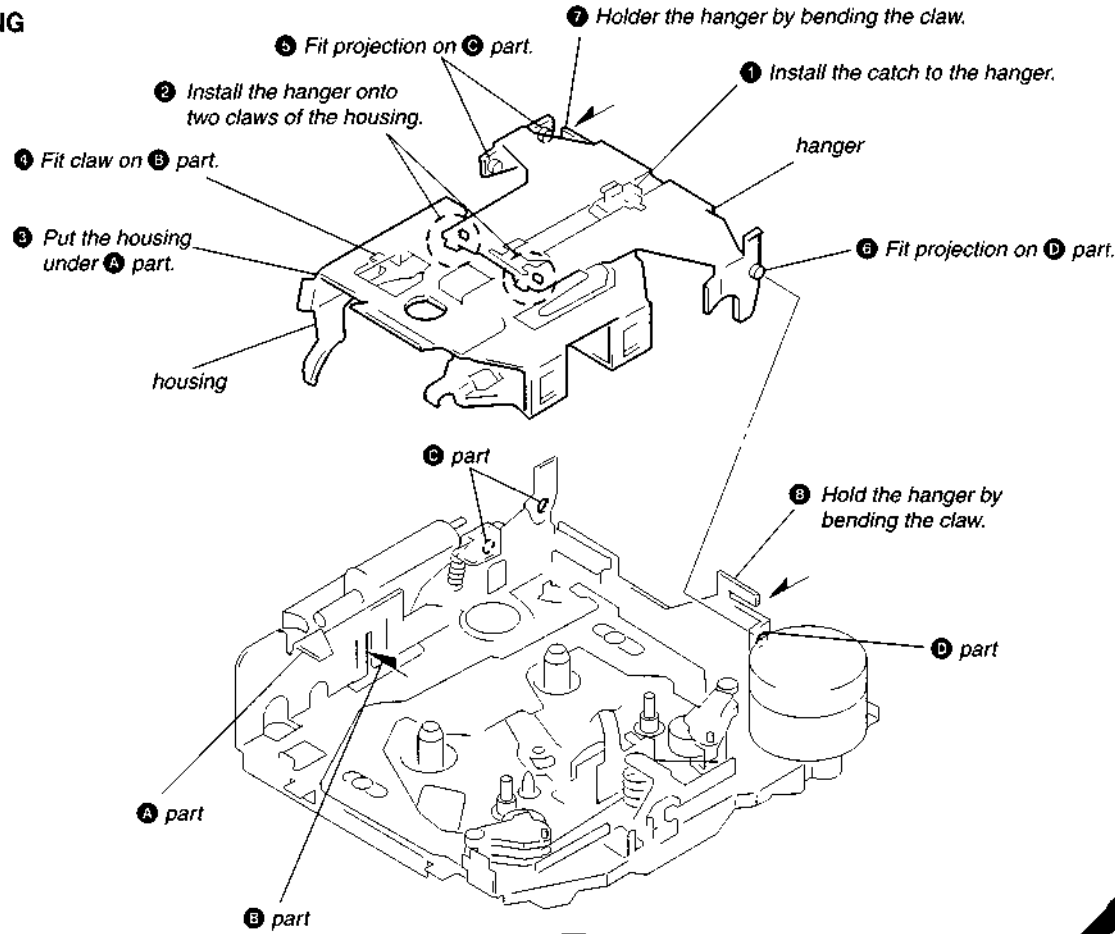
MAIN BOARD



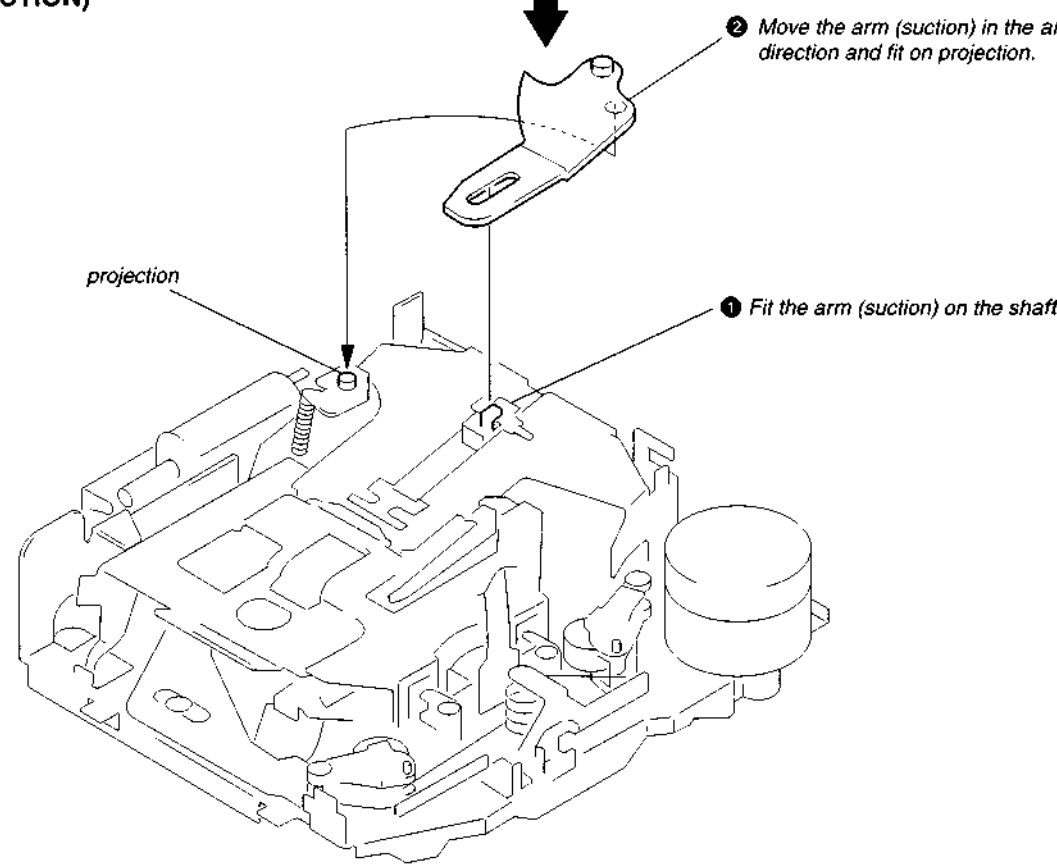
SECTION 3
ASSEMBLY OF MECHANISM DECK

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

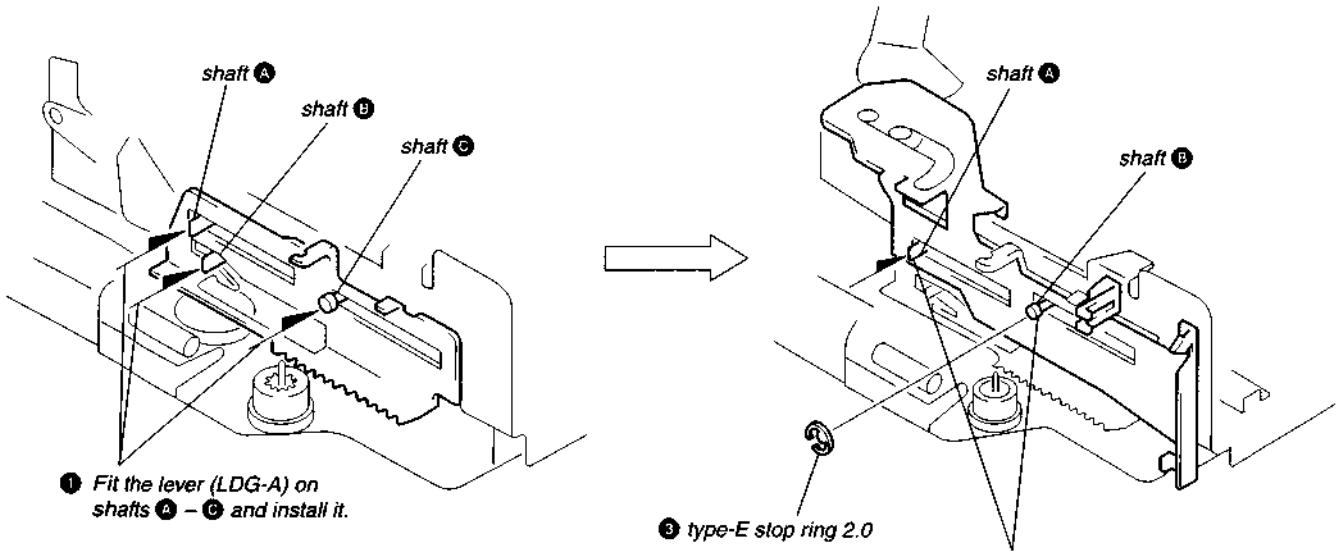
HOUSING



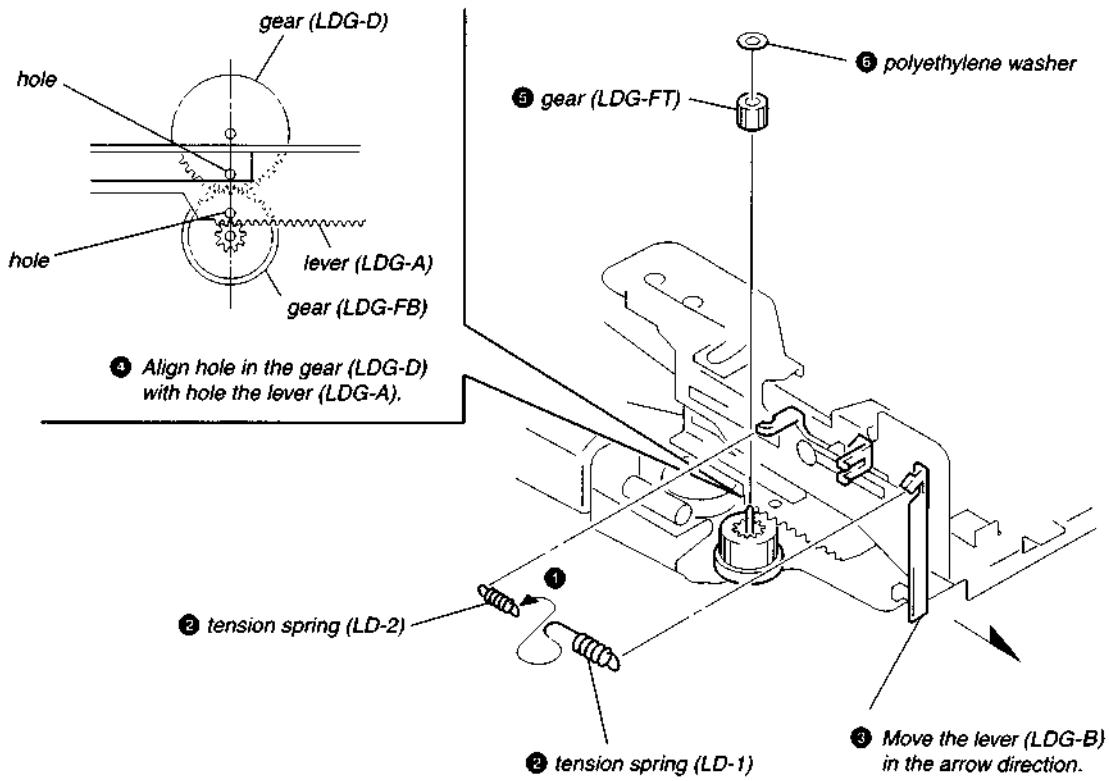
ARM (SUCTION)



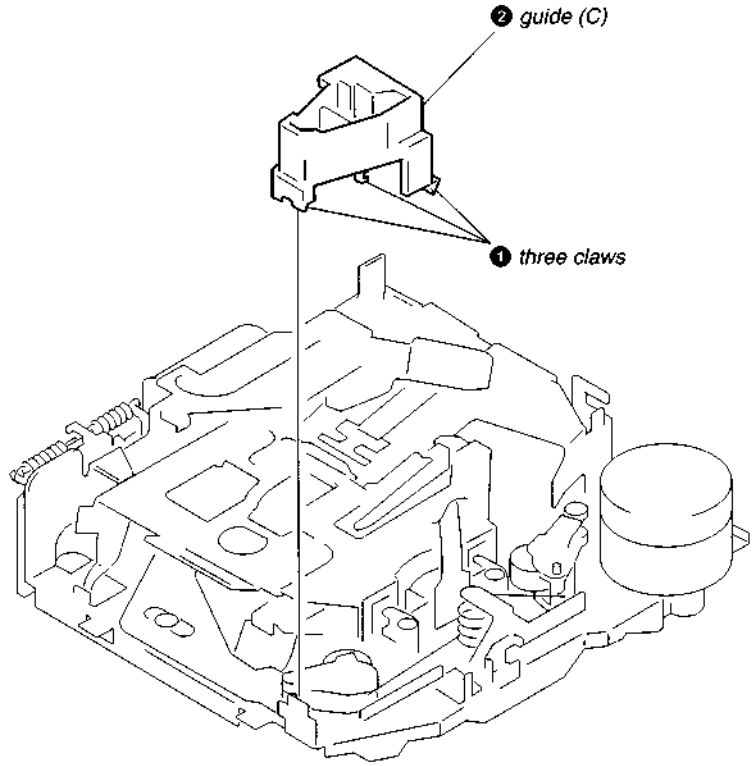
LEVER (LDG-A) / (LDG-B)



GEAR (LDG-FT)



GUIDE (C)



SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. 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

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "power select" switch (S501) is "A (ON)" position.
2. Turn ON the regulated power supply. (All LEDs on the set lights up, and the clock is displayed.)
   Note: Press the [OFF] button, if the clock is not displayed.
3. Push the preset [4] button.
4. Push the preset [5] button.
5. Press the preset [1] button for more than two seconds.
6. Then the display indicates all lights, the test mode is set.

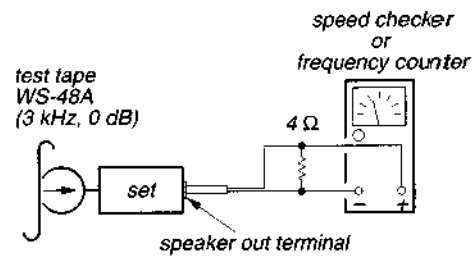
<Release the Test mode>
1. Push the [OFF] button.
2. Return the "power select" switch (S501) to initially set position.

See the adjustment location from on page 20 for the adjustment.

TAPE DECK SECTION | 0 dB=0.775 V

Tape Speed Adjustment

Setting:



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

Specification: Constant speed

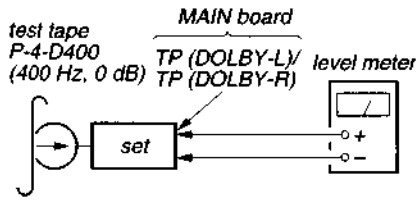
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,045 Hz

Adjustment Location: See page 20.

Dolby Level Adjustment

Setting:

SHIFT button	: ON (light up SET UP and PLAY MODE)
Preset 3 (PLAY MODE) button	: NR off
SOUND (BAS) button	: Center
SOUND (TRE) button	: Center
SOUND (BAL) button	: Center
SOUND (FAD) button	: Center
SOUND (VOL) button	: Maximum



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV231 (L-CH) and RV241 (R-CH) so that the level meter reading is –6±1 dB (0.35 to 0.44 V).

Adjustment Location: See page 20.

TUNER SECTION | 0 dB=1 µV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

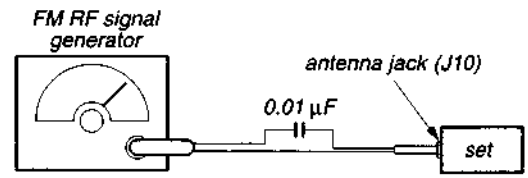
Note: Adjust the tuner section in the sequence shown below.

1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM RDS S-Meter Adjustment
4. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting:

SOURCE button: FM

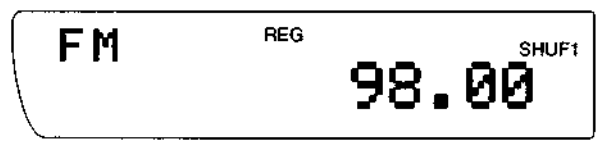


Carrier frequency : 98.0 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure:

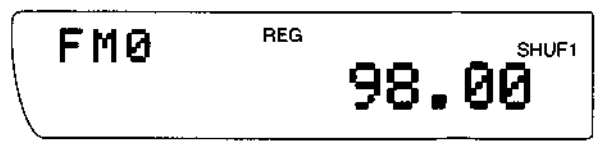
1. Set to the test mode. (See page 16.)
2. Push the SOURCE button and set to FM.

Display



3. Adjust with the volume RV2 on TU10 so that the "FM" indication turns to "FM0" indication on the display window. But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

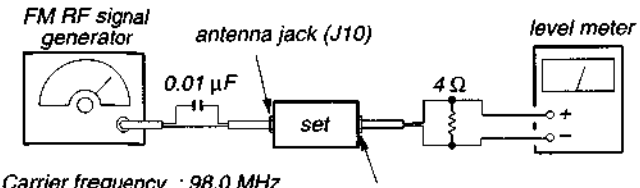


Adjustment Location: See page 20.

FM Stereo Separation Adjustment

Setting:

SOURCE button: FM



Carrier frequency : 98.0 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 20 kHz deviation (26.5%)
sub : 1 kHz, 20 kHz deviation (26.5%)
19 kHz pilot: 7.5 kHz deviation (10%)

speaker out terminal

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU10 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU10 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

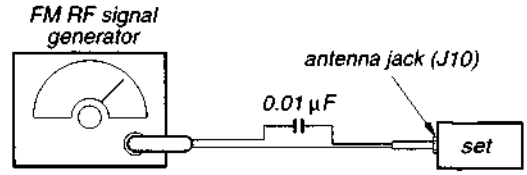
Specification: Separation more than 26 dB

Adjustment Location: See page 20.

FM RDS S-Meter Adjustment

Setting :

SOURCE button: FM

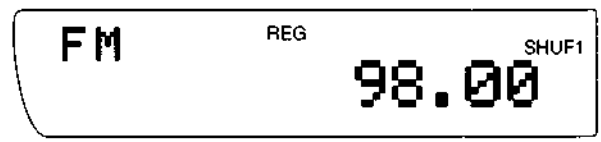


Carrier frequency : 98.00 MHz
Output level : 35 dB (56.2 µV)
Mode : mono
Modulation : no modulation

Procedure :

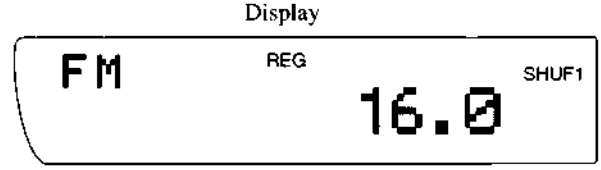
1. Set to the test mode. (See page 16.)
2. Push the SOURCE button and set to FM.

Display



3. Push the preset 10 button.
4. Adjust RV110 on MAIN board so that the display indication is "16.0".

Display



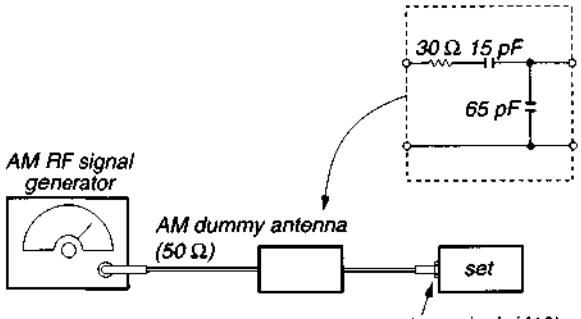
Specification : Display indication : 15.8 to 16.2.

Adjustment Location : See page 20.

MW Auto Scan/Stop Level Adjustment

Setting:

SOURCE → MODE button: MW

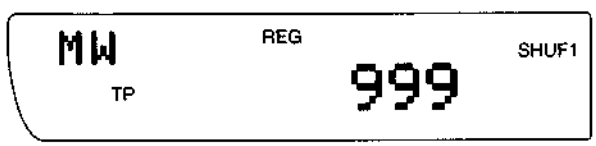


Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 μV)

Procedure:

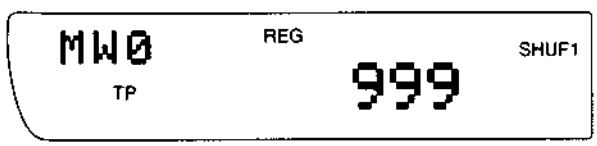
1. Set to the test mode. (See page 16.)
2. Push the SOURCE button and set to FM.
3. Push the MODE button and set to MW.

Display



4. Adjust with the volume RV1 on TU10 so that the "MW" indication turns to "MW0" indication on the display window. But, in case of already indicated "MW0", turn the RV1 so that put out light "0" indication and adjustment.

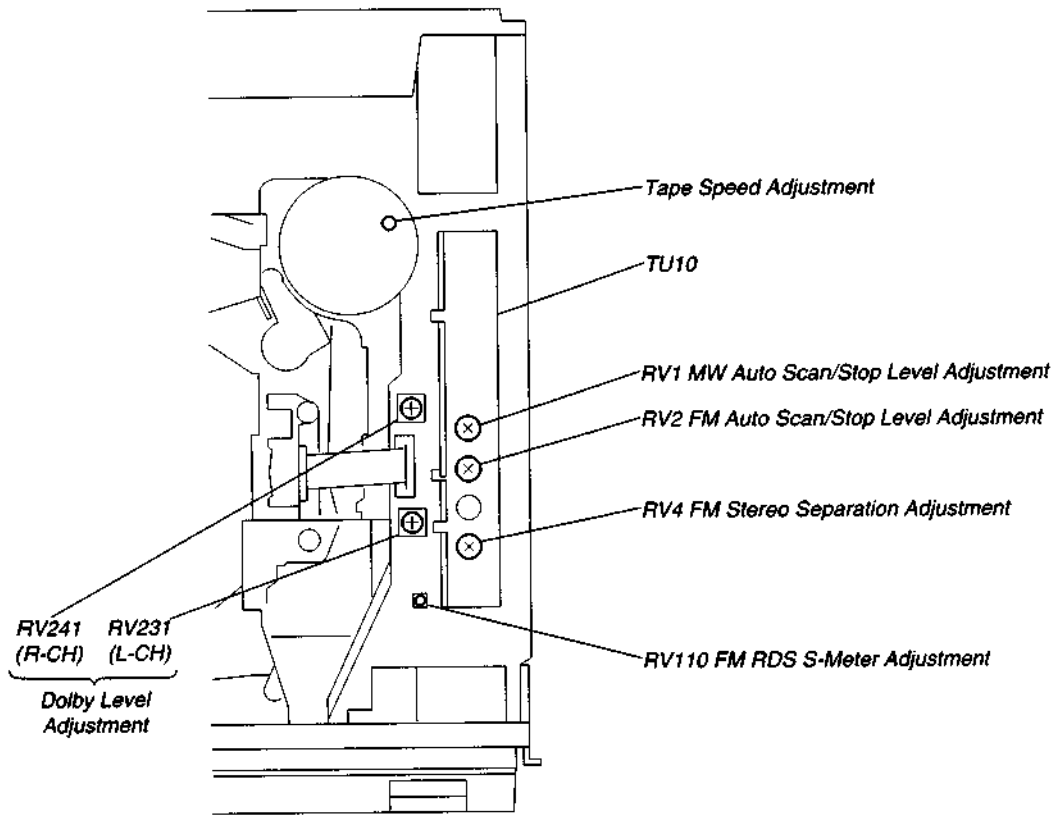
Display



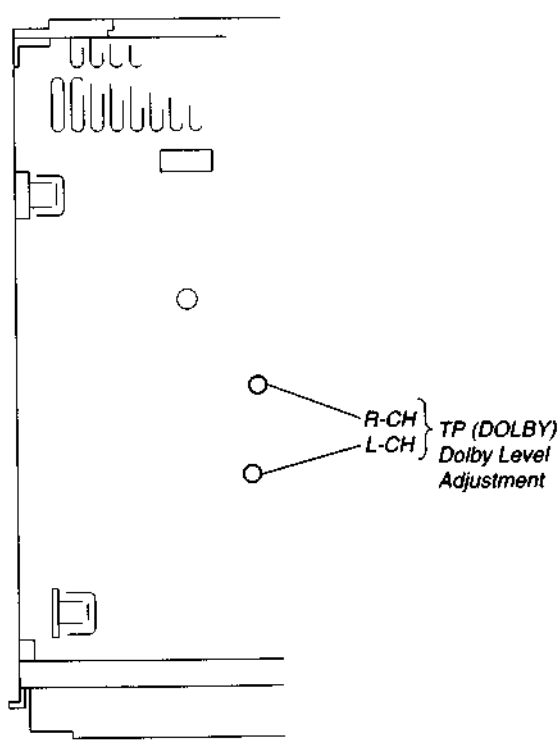
Adjustment Location: See page 20.

Adjustment Location:

– SET UPPER VIEW –



– SET BOTTOM VIEW –



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC101 MN1884820Y5F1 (TUNER/TAPE DECK SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1 to 6	NCO	O	Not used (open)
7	VDD	—	Power supply terminal (+5V)
8	X1	I	Main system clock input terminal (8 MHz)
9	X2	O	Main system clock output terminal (8 MHz)
10	GND	—	Ground terminal
11	XI	I	Sub system clock input terminal Not used (fixed at "L")
12	NCO	O	Not used (open)
13	XO	O	Sub system clock output terminal Not used (open)
14	$\overline{\text{RESET}}$	I	System reset signal input from the system controller (IC501), reset signal generator (IC551) and reset switch (S551) "L" is input for several 100 msec after power on, then it changes to "H"
15	RDSCKI	I	Serial data reading clock signal input from the RDS decoder (IC150)
16	BU IN	I	Battery detect signal input from the SONY bus interface (IC571) and battery check circuit "H": battery on
17	$\overline{\text{BUSON}}$	I	Bus on/off control signal input from the system controller (IC501) (for SONY bus) "L": bus on
18	POS3	I	Tape position detect input from the tape operation switch on the mechanism block
19	POS2	I	
20	POS1	I	
21	POS0	I	
22	NIL	I	Not used (fixed at "L")
23	$\overline{\text{MTLIN}}$	I	Auto METAL detect signal input from the METAL detect switch on the mechanism block
24	$\overline{\text{AMSIN}}$	I	Whether a music is present or not from CXA2510AQ (IC210) is detected at auto music sensor "L": music is present, "H": music is not present
25	TAPIN	I	Not used (fixed at "L")
26	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 to the CXA2510AQ (IC210) "H": dolby on
27	NCO	O	Not used (open)
28	TAPMUT	O	Tape muting on/off control signal output to the CXA2510AQ (IC210) "H": tape muting on
29	MTLON	O	METAL on/off control signal output to the CXA2510AQ (IC210) "H": METAL on
30	RDSSI	I	Serial data input from the RDS decoder (IC150)
31	NIL	I	Not used (fixed at "L")
32	CM-ON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
33	TAP-ON	O	Tape system power supply on/off control signal output terminal "H": tape on
34	LMEJ	O	Loading/tape operation motor control signal output to the LB1638M (IC201) (For the eject direction and reverse side operation) *1
35	LMLOD	O	Loading/tape operation motor control signal output to the LB1638M (IC201) (For the loading direction and forward side operation) *1
36	NIL	I	Not used (fixed at "L")
37	REEL	I	Reel table rotation detect signal input from the take-up and supply reel sensor
38	PLL-DI	I	PLL serial data input from the FM/AM PLL (IC10)
39	PLL-DO	O	PLL serial data output to the FM/AM PLL (IC10)
40	PLL-CLK	O	PLL serial data transfer clock signal output to the FM/AM PLL (IC10)
41	CE	O	PLL serial chip enable output to the FM/AM PLL (IC10)
42	RQ	O	Communication request signal output to the SONY bus interface (IC571)
43	LINK-OFF	O	Unilink on/off control signal output (for SONY bus) "L": link on

Pin No.	Pin Name	I/O	Function
44	SCK	I	Serial data reading clock signal input from the system controller (IC501) (for SONY bus)
45	SI	I	Serial data input from the SONY bus interface (IC571)
46	SO	O	Serial data output to the SONY bus interface (IC571)
47	VDD	—	Power supply terminal (+5V)
48	AVDD	—	Power supply terminal (+5V) (for A/D converter)
49	VREF	I	Reference voltage input terminal (+5V) (for A/D converter)
50 to 52	NIL	I	Not used (fixed at "L")
53	MUTE-SEL	I	Setting terminal for the muting selection (fixed at "L")
54	DIST-SEL1	I	Destination setting terminal (fixed at "L")
55	DIST-SEL0	I	Destination setting terminal (fixed at "L")
56	S-METER (AM)	I	AM signal meter voltage detection input from the FM/AM tuner unit (TU10)
57	S-METER (FM)	I	FM signal meter voltage detection input from the FM/AM tuner unit (TU10)
58 to 60	NIL	I	Not used (fixed at "L")
61	MODE2	O	Tuner system power supply on/off control signal output to the BA3918 (IC601) "H": tuner on
62	NCO	O	Not used (open)
63	RECEIVE	O	Seek control signal output to the FM/AM tuner unit (TU10)
64	BST-ON	O	Bass-boost control signal output to the power amplifier (IC701) "H": bass-boost on
65	MODE1	O	FM system power supply on/off control signal output to the BA3918 (IC601) "H": FM on
66	TUNER-MUTE	O	FM and AM signal muting on/off control output "H": muting on
67	AF-SEEK	O	AF seek control signal output terminal Not used (pull down)
68	NCO	O	Not used (open)
69	—	I	Not used (fixed at "H")
70	ST-IN/MONO	I/O	Input of FM stereo detection signal from FM/AM tuner unit (TU10), and output of forced monaural control signal to FM/AM tuner unit (TU10) (Commonly used for stereo display input and forced monaural output) FM stereo detection at input of "L", forced monaural at output of "L"
71	SD-IN	I	Station detector detect input from the FM/AM tuner unit (TU10) Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
72	NCO	O	Not used (open)
73	$\overline{\text{FWD/REV}}$	O	Forward/reverse direction control signal output to the CXA2510AQ (IC210) "H: reverse direction, "L": forward direction
74	$\overline{\text{AMSON}}$	O	Tape auto music sensor control signal output to the CXA2510AQ (IC210) "L" is output to lower the gain for audio level at FF/REW
75 to 80	NCO	O	Not used (open)

*1 loading/tape operation motor control

MODE / TERMINAL	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LMLOD (pin ㉟)	"L"	"H"	"L"	"H"
LMEJ (pin ㉞)	"L"	"L"	"H"	"H"

• **MAIN BOARD IC501 μPD78058GC-462-3B9 (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Function
1	RC-IN0	I	Rotary remote commander shift key A/D input terminal
2	$\overline{\text{ILL-IN}}$	I	Dimmer detection signal input Dimmer is present at input of "L"
3	NIL	I	Not used (fixed at "L")
4	AVSS	—	Ground terminal (for A/D converter)
5	$\overline{\text{LCDANG}}$	O	Output signal for the LCD view angle adjustment
6	NIL	I	Not used (fixed at "L")
7	AVREFI	I	Reference voltage (+5V) input terminal (for D/A converter)
8	RE IN0	I	Rotary encoder (RE701) input terminal
9	RE IN1	I	Rotary encoder (RE701) input terminal
10	SUB-F	O	Sub-woofer control signal output terminal Not used (pull down)
11	COLSEL	I	Input terminal to set whether the illumination color change function is present or not "L": illumination color change function is present (fixed at "L" in this set)
12	LCDSO	O	Serial data output to the liquid crystal display driver (IC701)
13	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC701)
14	LCDCE	O	Chip enable output to the liquid crystal display driver (IC701)
15	$\overline{\text{LCDINH}}$	O	Blank indicate control signal output to the liquid crystal display driver (IC701) "L": no display
16	UNISI	I	Serial data input from the SONY bus interface (IC571)
17	UNISO	O	Serial data output to the SONY bus interface (IC571)
18	UNICKI	I	Serial data reading clock signal input terminal (for SONY bus)
19	UNICKO	O	Serial data transfer clock signal output to the tuner/tape deck system controller (IC101) and SONY bus interface (IC571)
20	$\overline{\text{BUSON}}$	O	Bus on/off control signal output to the tuner/tape deck system controller (IC101) and SONY bus interface (IC571) "L": bus on
21	$\overline{\text{SYSRST}}$	O	Reset signal output to the tuner/tape deck system controller (IC101) and SONY bus interface (IC571) "L": reset
22	AMPON	O	Standby control signal output to the power amplifier (IC701) "L": standby
23, 24	NCO	O	Not used (open)
25	PW-ON	O	Main system power supply on/off control signal output to the BA3918 (IC601) "H": power on
26	ILL-ON	O	Power supply on/off control signal output terminal at the illumination and liquid crystal display driver (IC701) "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
27	COLOR	O	Illumination color selection signal output "H": amber, "L": green
28	NCO	O	Not used (open)
29 to 32	NIL	I	Not used (fixed at "L")
33	GND	—	Ground terminal
34, 35	NIL	I	Not used (fixed at "L")
36 to 39	NCO	O	Not used (open)
40	$\overline{\text{AD-ON}}$	O	Power supply on/off control signal output for the A/D converter "L": power on
41	NCO	O	Not used (open)
42	PW-SEL	I	Power select switch (S501) input terminal "L": position A or off (halt mode), "H": position B or on (operation mode)
43	RC-IN1	I	Rotary remote commander shift key A/D input terminal
44	$\overline{\text{TEST}}$	I	Setting terminal for the test mode "L": test mode (normally fixed at "H")
45	$\overline{\text{EQ-SEL}}$	I	Equalizer selection input terminal (fixed at "H")
46	BEEP	O	Beep sound drive signal output terminal

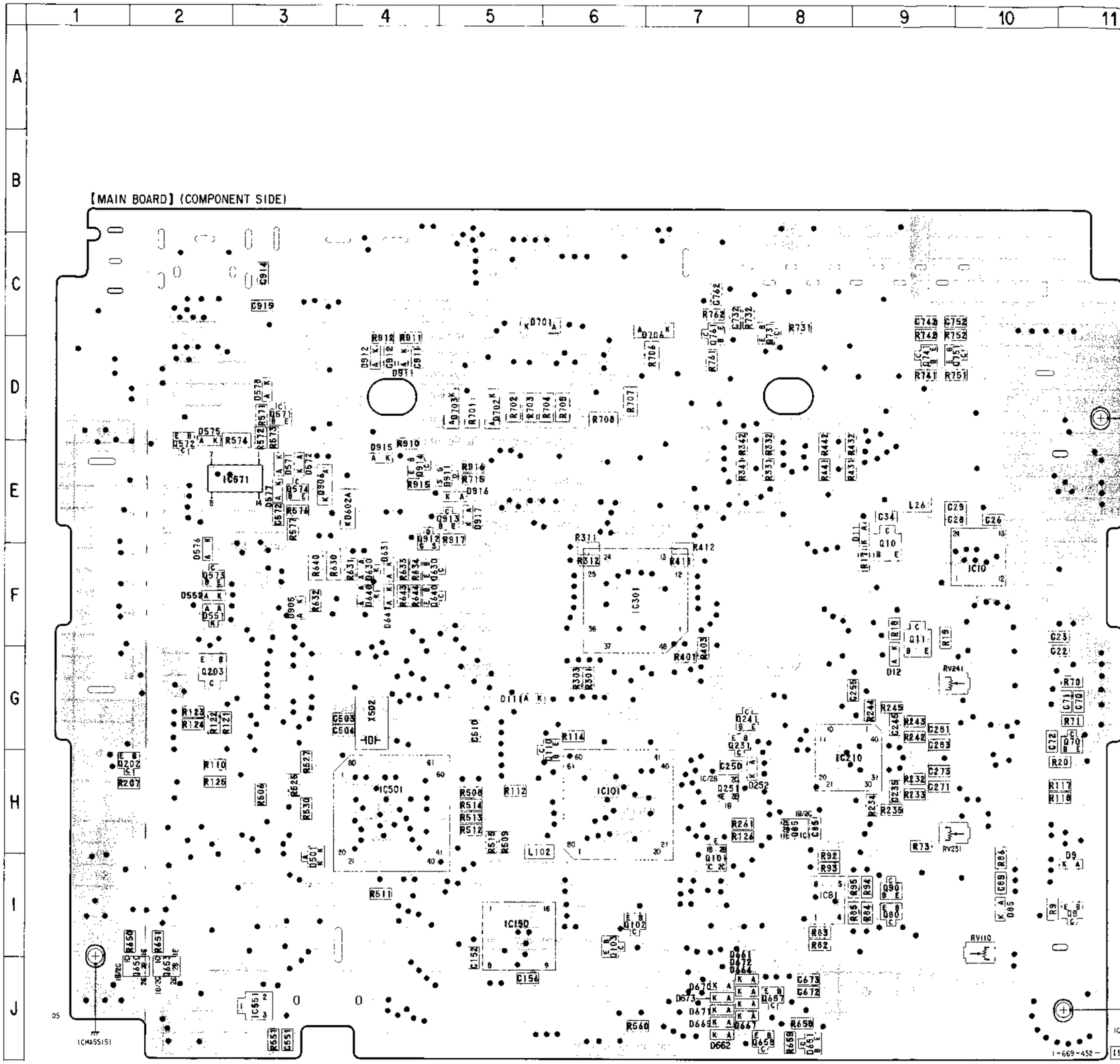
Pin No.	Pin Name	I/O	Function
47	MUT	O	Muting control signal output to the line muting circuit and power amplifier (IC701) "H": muting on
48	VOLCE	O	Chip enable signal output to the electrical volume (IC301)
49	NCO	O	Not used (open)
50	VOLCKO	O	Serial data transfer clock signal output to the electrical volume (IC301)
51	NCO	O	Not used (open)
52	VOLSO	O	Serial data output to the electrical volume (IC301)
53 to 56	NCO	O	Not used (open)
57	$\overline{\text{DIMMER}}$	O	Dimmer control signal output terminal
58, 59	NCO	O	Not used (open)
60	$\overline{\text{RESET}}$	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"
61	SIRCS	I	Sircs signal input from the remote control receiver (IC702)
62	BU-IN	I	Battery detect signal input from the SONY bus interface (IC571) and battery check circuit "H": battery on
63	$\overline{\text{DOORSW}}$	I	Door open/close detect input "L": door close
64	$\overline{\text{ACCIN}}$	I	Accessory detect signal input terminal "L": accessory on
65	$\overline{\text{NOSESW}}$	I	Detects the removal of the attaching and removing type front panel block "L": attaching
66	$\overline{\text{TELMUT}}$	I	Telephone muting signal input terminal At input of "L", the signal is attenuated by –20 dB
67	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" (fixed at "H" in this set)
68	VDD	—	Power supply terminal (+5V)
69	OSCOUT	O	Main system clock output terminal (5 MHz)
70	OSCIN	I	Main system clock input terminal (5 MHz)
71	GND	—	Ground terminal
72	XT-OUT	O	Sub system clock output terminal (32.768 kHz)
73	XT-IN	I	Sub system clock input terminal (32.768 kHz)
74	AVDD	—	Power supply terminal (+5V) (for A/D converter)
75	AVREF0	I	Reference voltage input terminal (+5V) (for A/D converter)
76	KEYIN0	I	Key input terminal (A/D input) OFF, SOURCE, – ⏮ ◀◀ SEEK/AMS, MODE ◀II▶, + ⏭ ▶▶ SEEK/AMS, SOUND, SHIFT, 1, 2, 3, 4 keys input (LSW700 to LSW710)
77	KEYIN1	I	Key input terminal (A/D input) ⏏, DSPL, LIST, 10, 9, 8, 7, 6, 5 keys input (LSW800, LSW711, LSW712 and LSW715 to LSW720)
78	KEYSEL0	I	Setting terminal for the key function select (fixed at "L")
79	KEYSEL1	I	Setting terminal for the key function select (fixed at "H")
80	DESTSEL	I	Destination setting terminal (fixed at "L")

6-2. PRINTED WIRING BOARD – MAIN Section –

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D9	I-11	IC10	F-10
D10	F-13	IC81	I-8
D11	E-9	IC101	H-6
D12	G-9	IC150	I-5
D85	I-10	IC201	H-20
D110	H-16	IC210	H-9
D111	G-5	IC301	F-6
D201	G-21	IC302	F-16
D202	H-21	IC303	E-15
D251	G-15	IC404	E-14
D252	H-8	IC501	H-4
D501	I-3	IC551	J-3
D551	F-2	IC571	E-3
D552	F-2	IC601	F-21
D553	J-20	IC701	C-17
D560	J-16		
D571	E-3	Q9	I-11
D572	E-3	Q10	F-9
D573	D-21	Q11	F-9
D574	D-21	Q70	G-11
D575	E-2	Q80	I-9
D576	F-2	Q85	H-8
D577	E-3	Q90	I-9
D578	D-3	Q101	I-7
D601	E-20	Q102	I-6
D602	E-4	Q103	I-6
D630	F-4	Q110	H-6
D631	F-4	Q111	J-21
D640	F-4	Q201	H-22
D641	F-4	Q202	H-2
D650	J-21	Q203	G-2
D651	J-8	Q231	G-7
D652	I-22	Q241	G-8
D661	J-8	Q251	H-7
D662	J-7	Q331	C-15
D664	J-8	Q341	C-14
D667	J-8	Q431	C-15
D669	J-7	Q441	C-14
D670	J-7	Q571	D-3
D671	J-7	Q572	E-2
D672	J-8	Q573	F-2
D673	J-7	Q574	E-3
D680	D-21	Q630	F-4
D682	D-22	Q640	F-4
D683	D-22	Q650	J-2
D701	C-6	Q651	I-21
D702	D-5	Q652	I-21
D703	D-5	Q653	J-2
D704	D-18	Q655	I-20
D705	D-17	Q656	I-20
D706	C-7	Q657	J-8
D707	E-17	Q658	J-8
D708	E-18	Q731	C-8
D901	D-20	Q741	D-9
D905	F-3	Q751	D-10
D906	E-3	Q761	C-7
D911	D-4	Q911	E-5
D912	D-4	Q912	E-4
D915	E-4	Q913	E-5
D916	E-5	Q914	E-4
D917	E-5		

【MAIN BOARD】(COMPONENT SIDE)

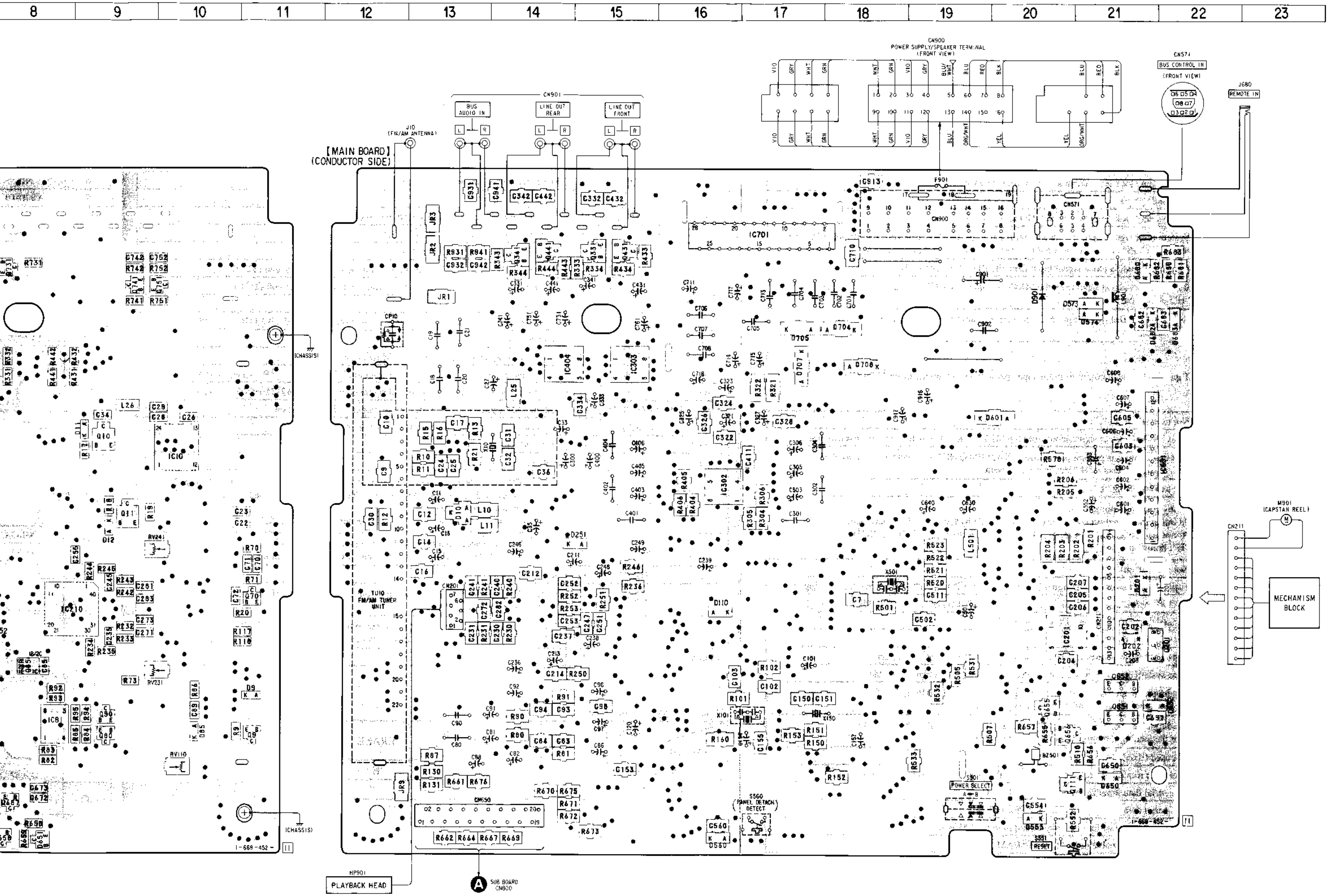


Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

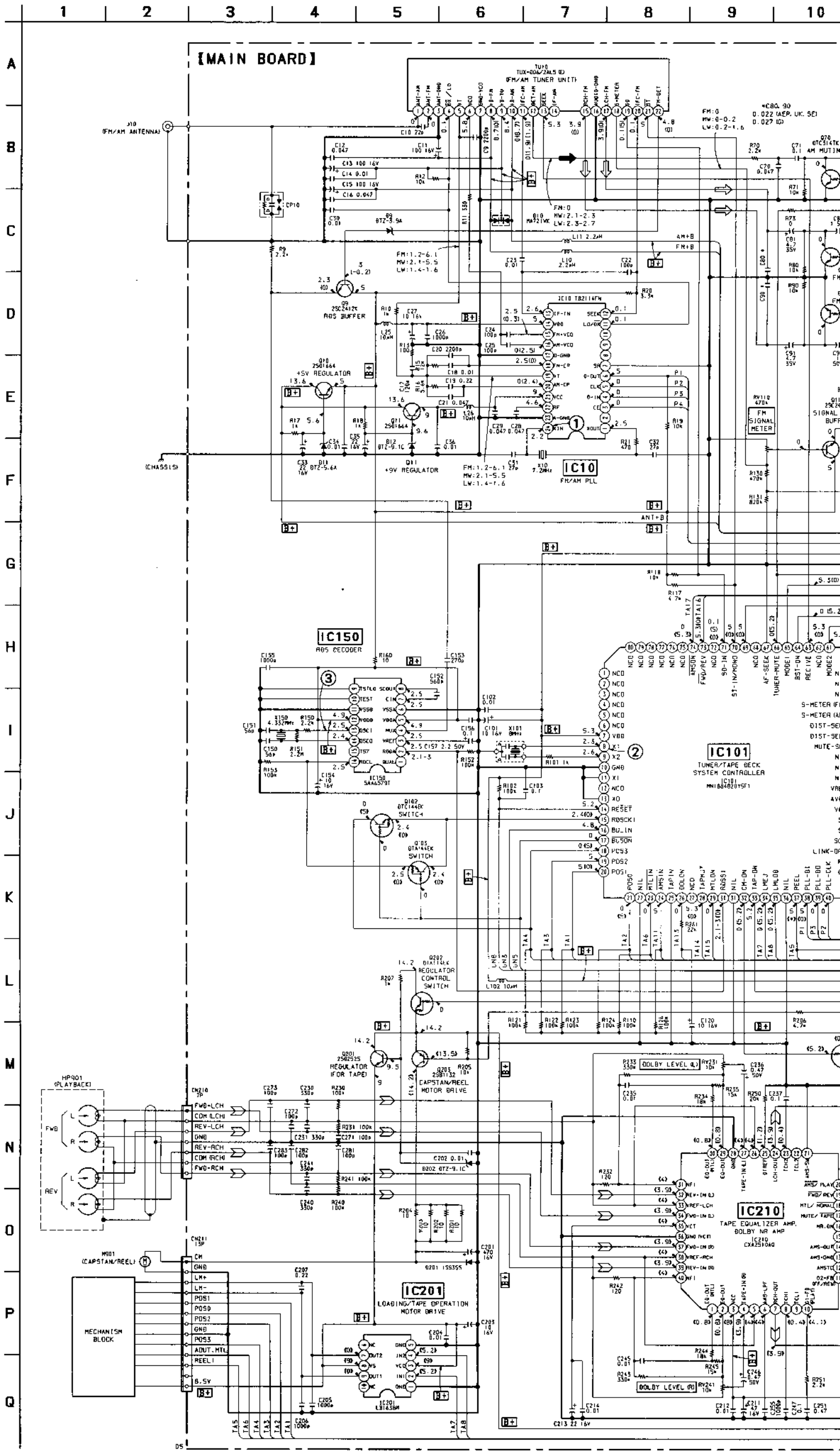
(The other layers' patterns are not indicated.)

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



8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
【MAIN BOARD】
(CONDUCTOR SIDE)
CN900
POWER SUPPLY/SPEAKER TERMINAL
(FRONT VIEW)
CN571
BUS CONTROL IN
(FRONT VIEW)
J680
REMOTE IN
CN901
BUS AUDIO IN
LINE OUT REAR
LINE OUT FRONT
J10
(FM/AM ANTENNA)
(CHASSIS)
TU10
FM/AM TUNER UNIT
M901
(CAPSTAN REEL)
MECHANISM BLOCK
HP901
PLAYBACK HEAD
SUB BOARD
CN800
S560
PANEL DETACH
DETECT
S501
POWER SELECT
S551
RESET

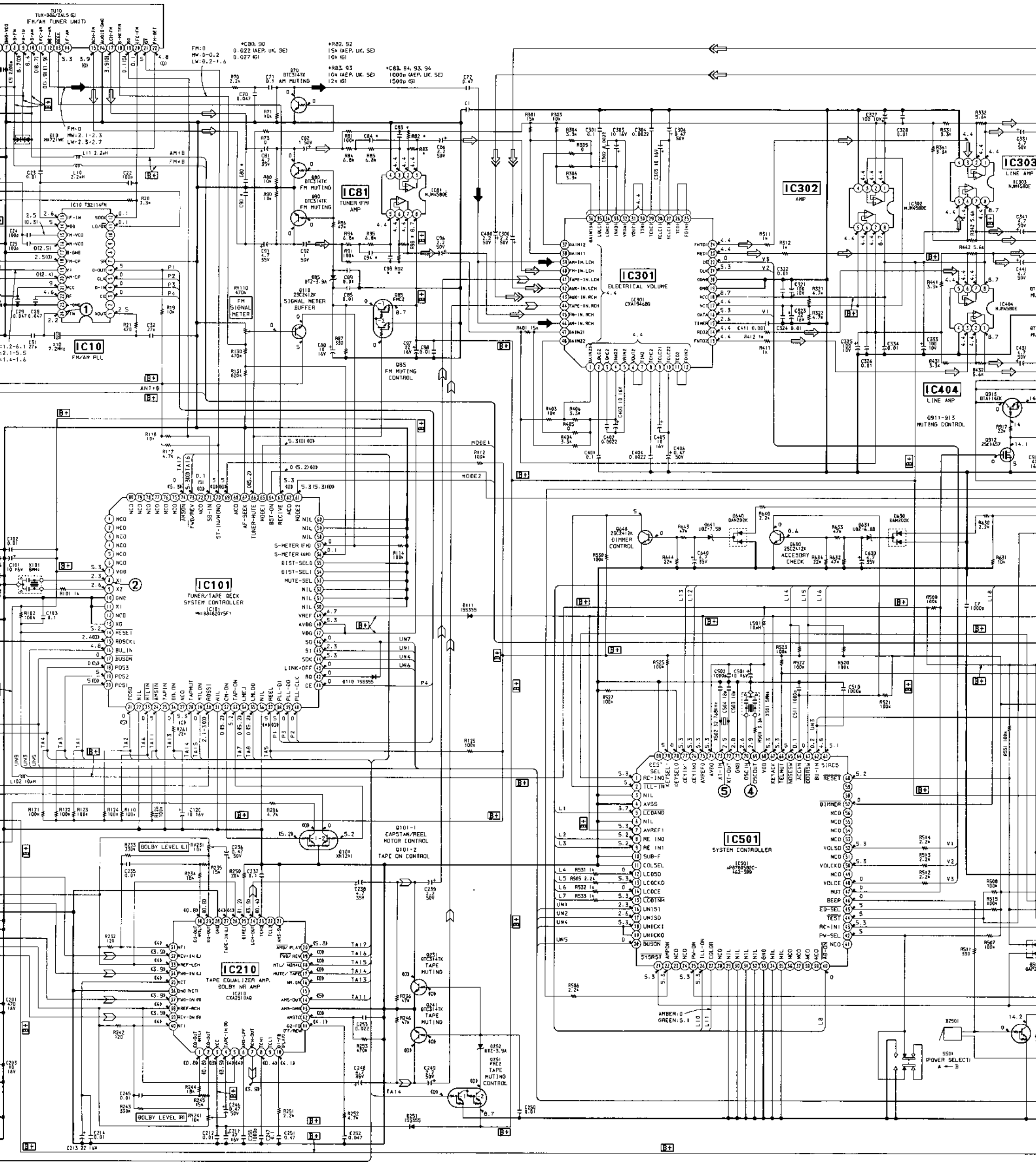
6-3. SCHEMATIC DIAGRAM – MAIN Section – • See page 37 for Waveforms. • See page 38 for IC Block Diagrams.

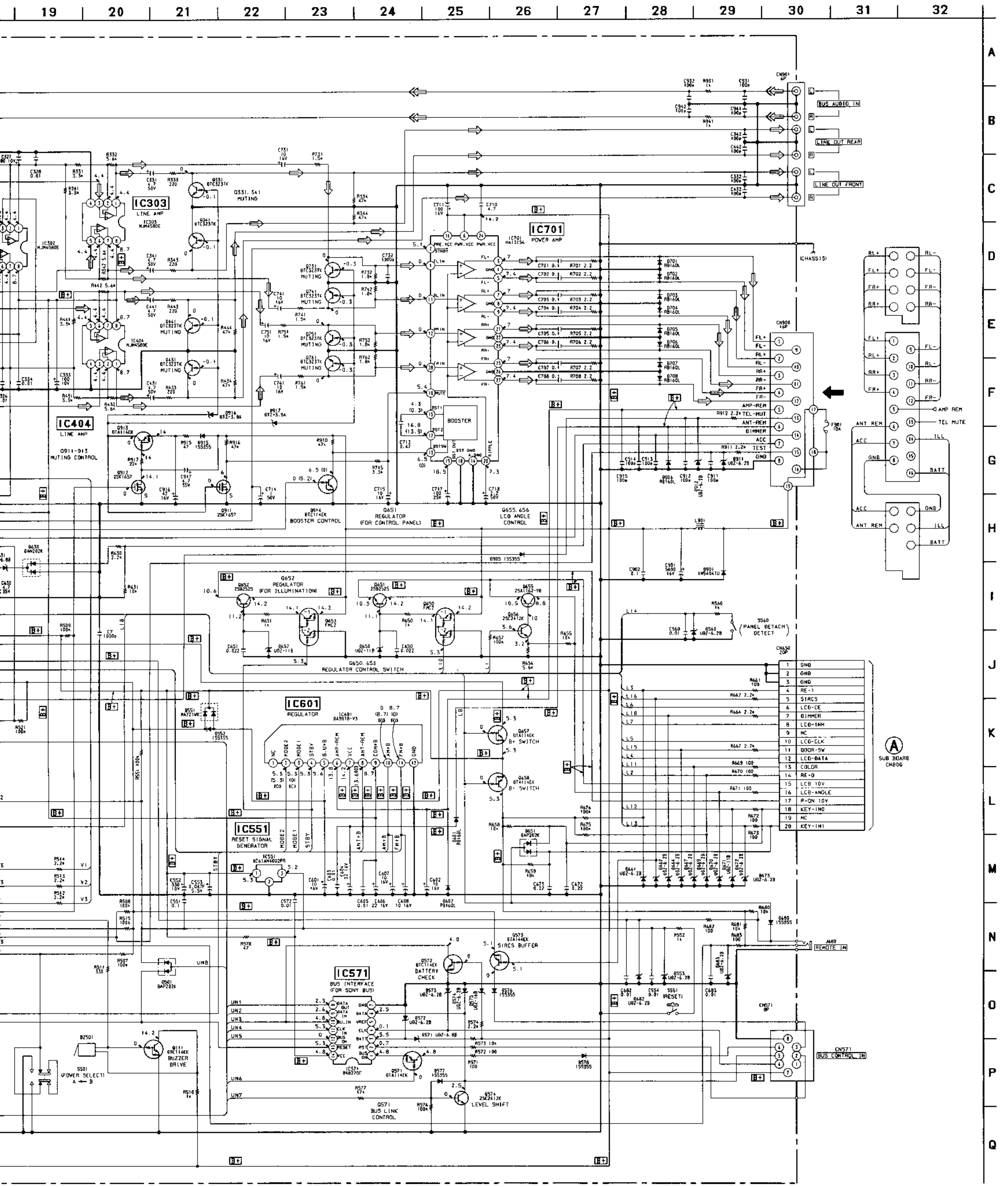


Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 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.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▬ : adjustment for repair.
- 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
  ( ) : AM (MW/LW)
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
- Voltages are taken with a VOM (Input impedance 10 MΩ). 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
  ➡ : AM (MW/LW)
  ⇨ : TAPE PLAYBACK
- Abbreviation
  G : German model.
  SE : South European model.

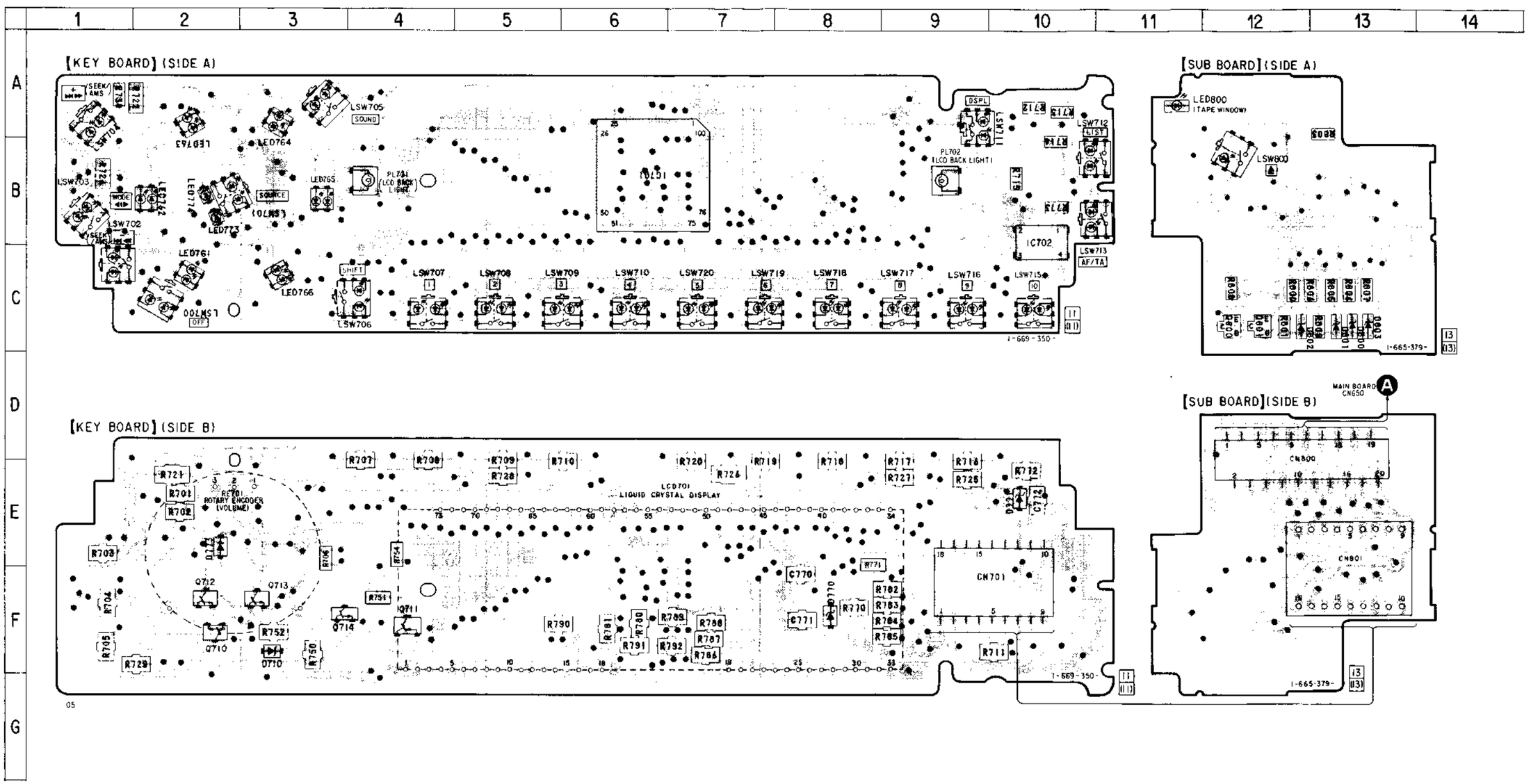
6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20



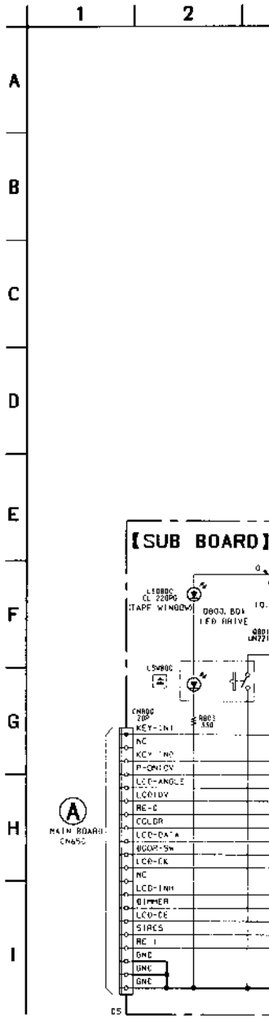


IC303 LINE AMP
IC303 NJM4580E
IC302 NJM4580E
IC404 LINE AMP
IC404 NJM4580E
Q331, 341 MUTING
Q911-913 MUTING CONTROL
IC701 POWER AMP
IC701 HA13156
BOOSTER
Q914 DTC114EK BOOSTER CONTROL
Q651 REGULATOR (FOR CONTROL PANEL)
Q655, 656 LCD ANGLE CONTROL
Q652 REGULATOR (FOR ILLUMINATION)
Q650, 653 REGULATOR CONTROL SWITCH
IC601 REGULATOR
IC601 BA3918-V3
IC551 RESET SIGNAL GENERATOR
IC551 KC61AN4002PA
IC571 BUS INTERFACE (FOR SONY BUS)
Q572 DTC114EK BATTERY CHECK
Q573 DTA144EK SIRCS BUFFER
Q657 DTA114EK B+ SWITCH
Q658 DTA114EK B+ SWITCH
Q111 DTC114EK BUZZER DRIVE
S501 (POWER SELECT) A ← B
Q571 BUS LINK CONTROL
Q574 2SC2412K LEVEL SHIFT
S551 (RESET)
S560 (PANEL DETACH DETECT)
CN901 6P
BUS AUDIO IN
LINE OUT REAR
LINE OUT FRONT
(CHASSIS)
CN900 16P
FL+ FL- RL+ RL- RR+ RR- FR+ FR- AMP-REM TEL-MUT ANT-REM DIMMER ACC TEST GND
AMP REM
TEL MUTE
ILL
BATT
ANT REM
ACC
GND
F901 10A
CN650 20P
1 GND
2 GND
3 GND
4 RE-1
5 SIRCS
6 LCD-CE
7 DIMMER
8 LCD-INH
9 NC
10 LCD-CLK
11 DOOR-SW
12 LCD-DATA
13 COLOR
14 RE-0
15 LCD 10V
16 LCD-ANGLE
17 P-ON 10V
18 KEY-IN0
19 NC
20 KEY-IN1
A SUB BOARD CN800
J680 REMOTE IN
CN571 8P
CN571 BUS CONTROL IN

6-4. PRINTED WIRING BOARDS – PANEL Section –



6-5. SCHEMATIC DIAGR



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D710	F-3	LED763	A-2
D770	F-8	LED764	A-3
D771	E-10	LED765	B-3
D773	E-2	LED766	C-3
D800	C-13	LED774	B-2
D801	C-13	LED800	A-11
D802	C-12		
D803	C-13	Q710	F-2
		Q711	F-4
IC701	B-6	Q712	F-2
IC702	B-10	Q713	F-3
		Q714	F-3
LED761	C-2	Q800	C-12
LED762	B-2	Q801	C-12

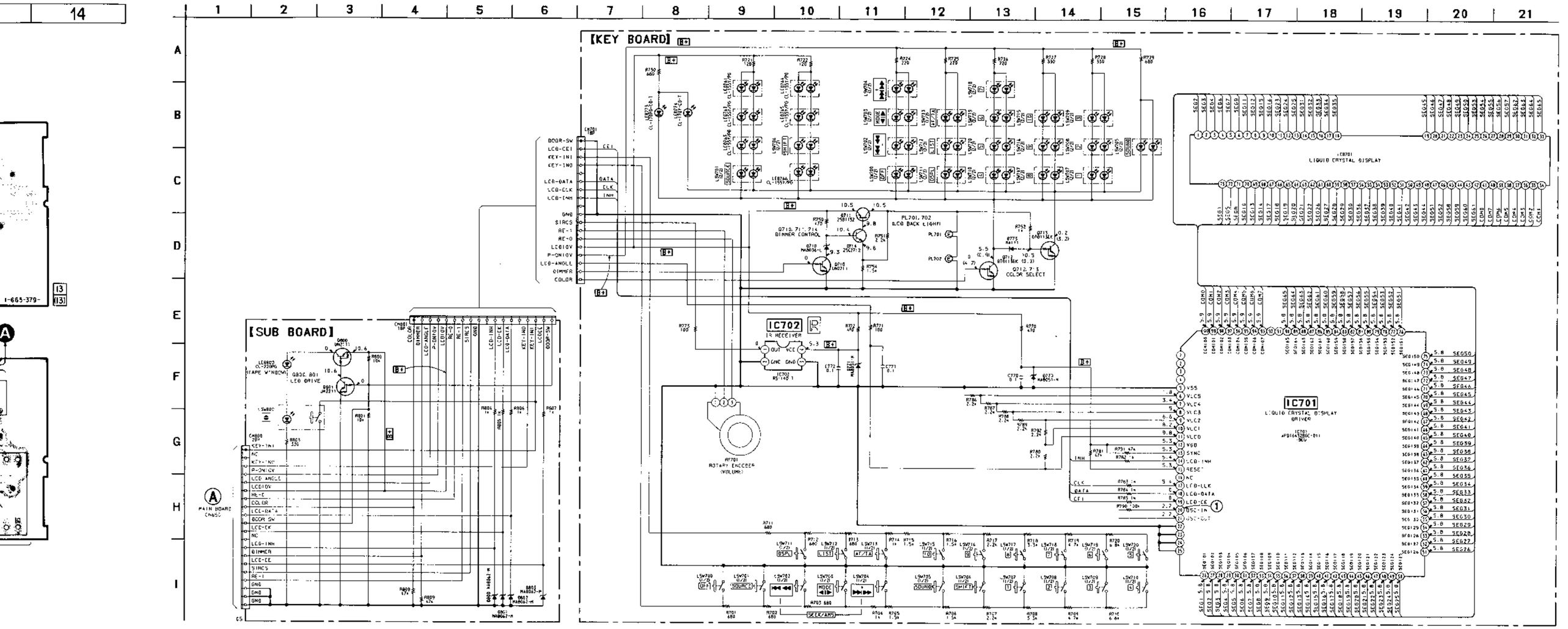
Note on Printed Wiring Boards:

- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ● : Through hole.
- ▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

6-5. SCHEMATIC DIAGRAM – PANEL Section – • See page 37 for Waveform.



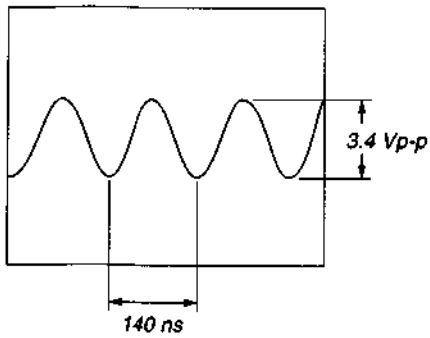
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : 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 : AMBER
  ( ) : GREEN
- Voltages are taken with a VOM (Input impedance 10 MΩ). 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.

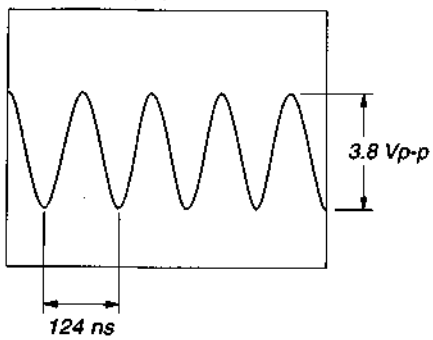
• **Waveforms**

– MAIN Section –

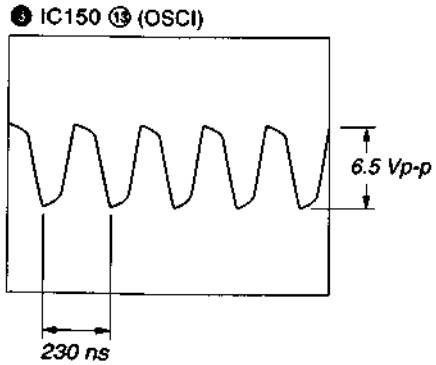
❶ IC10 ㉔ (XIN)



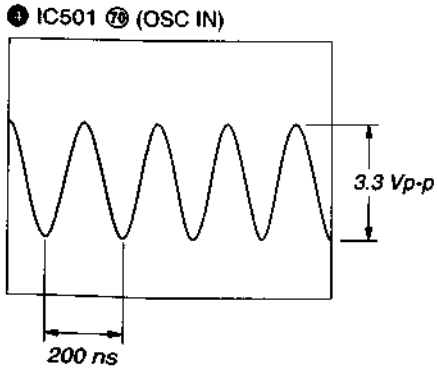
❷ IC101 ⑧ (X1)



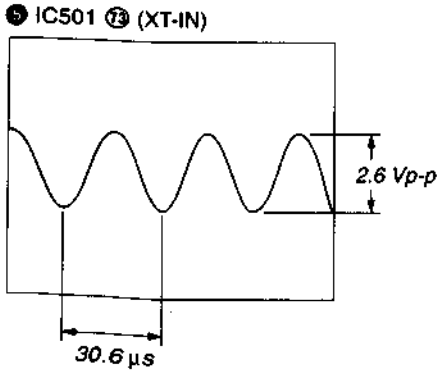
❸ IC150 ⑬ (OSCI)



❹ IC501 ⑳ (OSC IN)

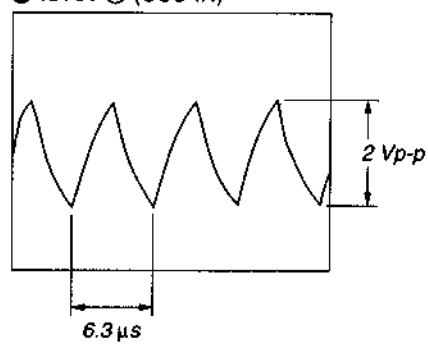


❺ IC501 ㉓ (XT-IN)



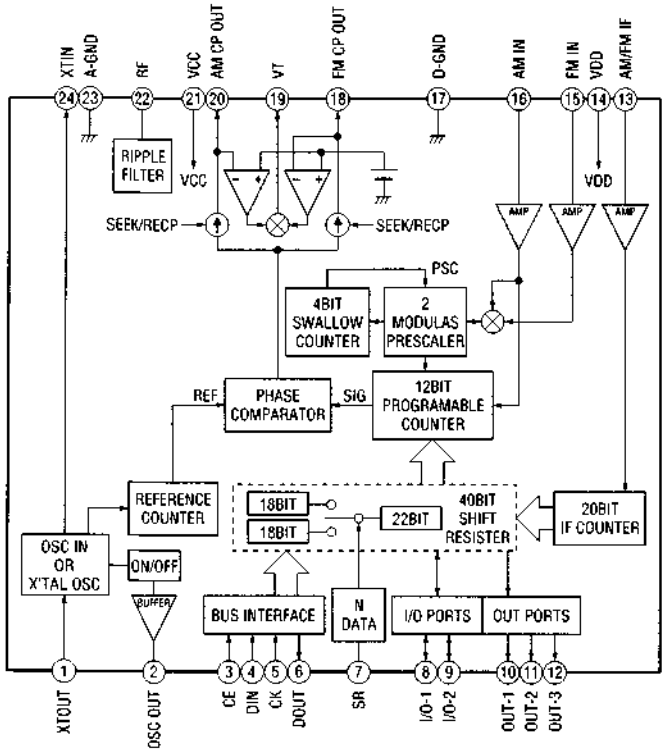
– PANEL Section –

❶ IC701 ⑳ (OSC-IN)

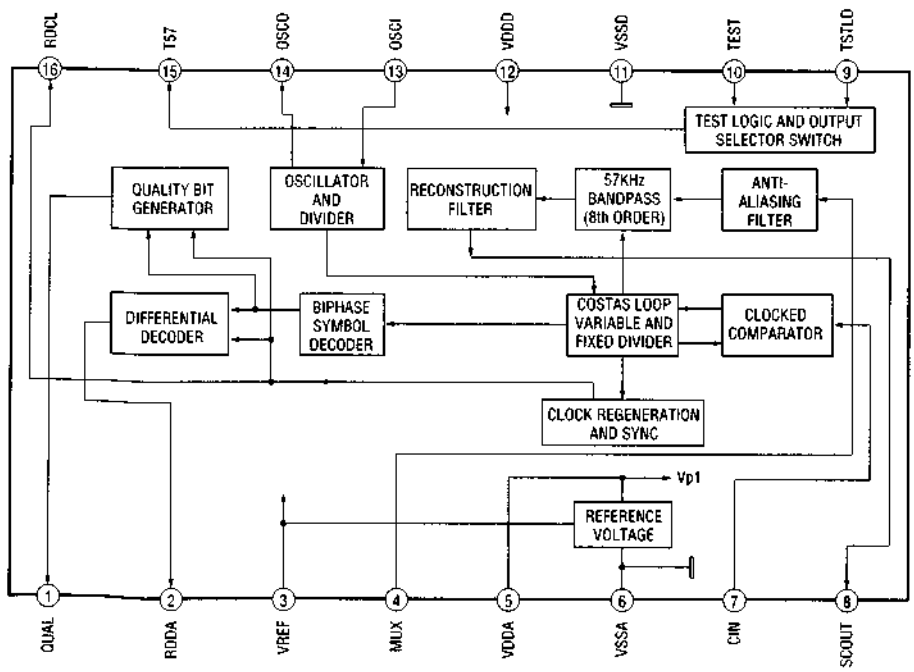


• IC Block Diagrams
– MAIN Board –

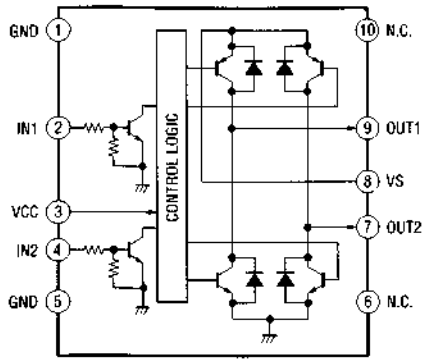
IC10 TB2114FN (EL)



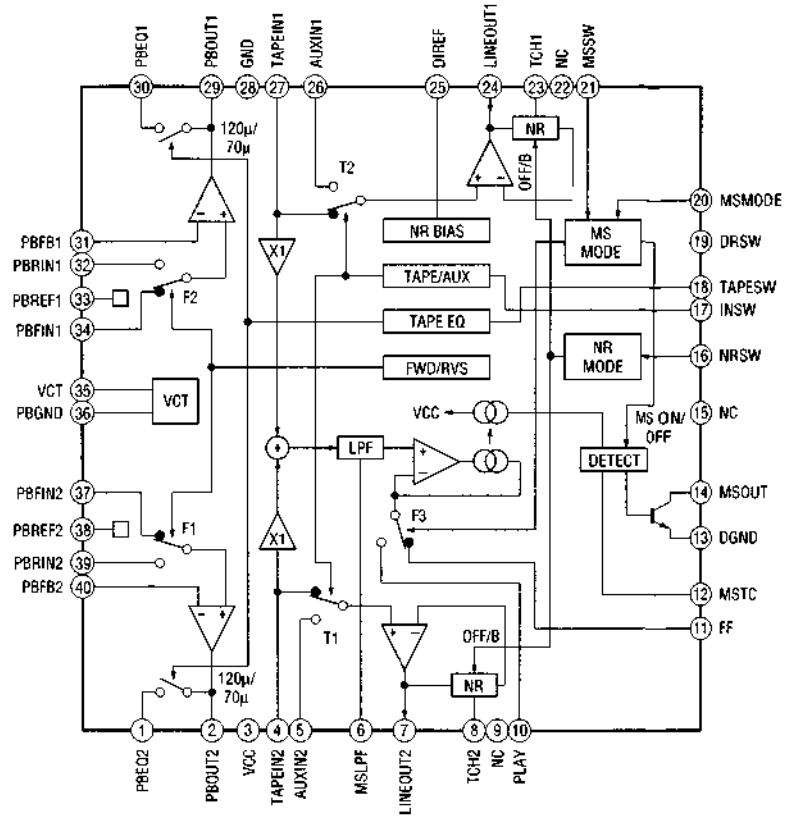
IC150 SAA6579T



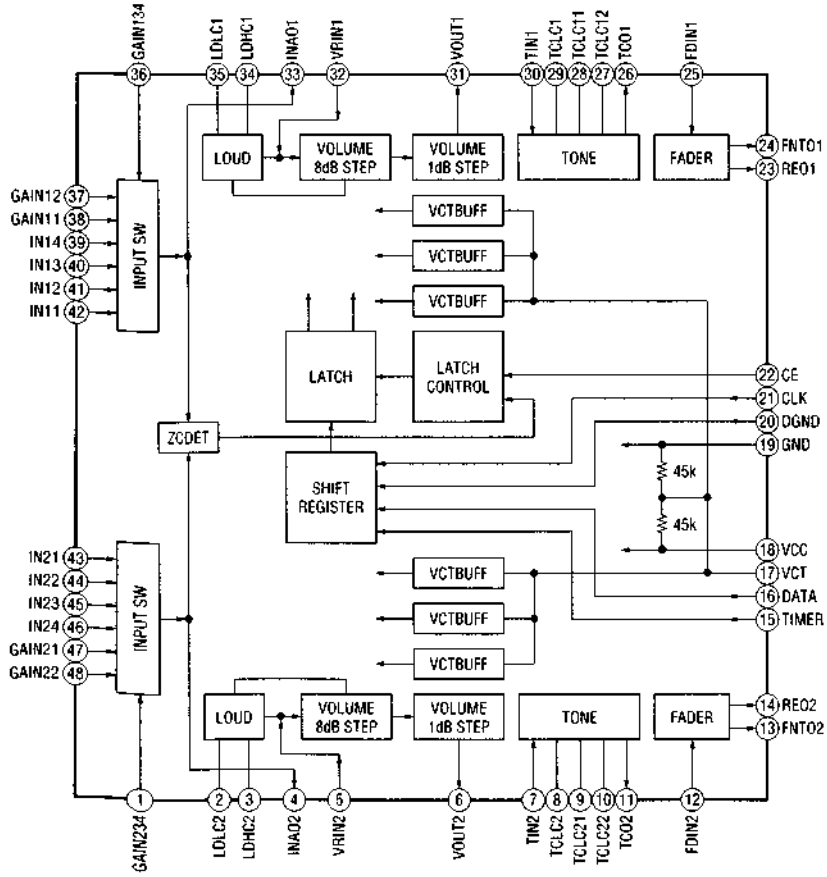
IC201 LB1638M



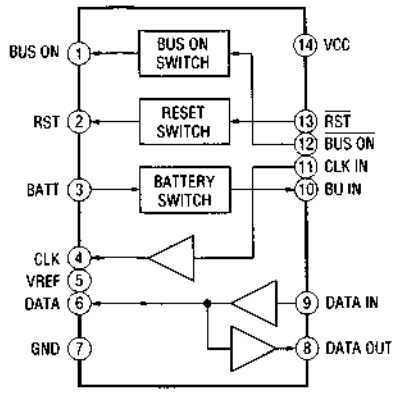
IC210 CXA2510AQ-T4



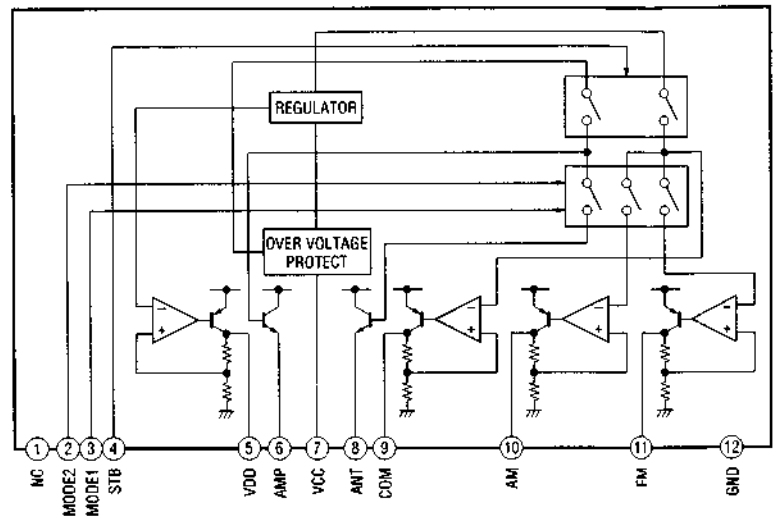
IC301 CXA1946BQ-T6



IC571 BA8270F-E2



IC601 BA3918-V3

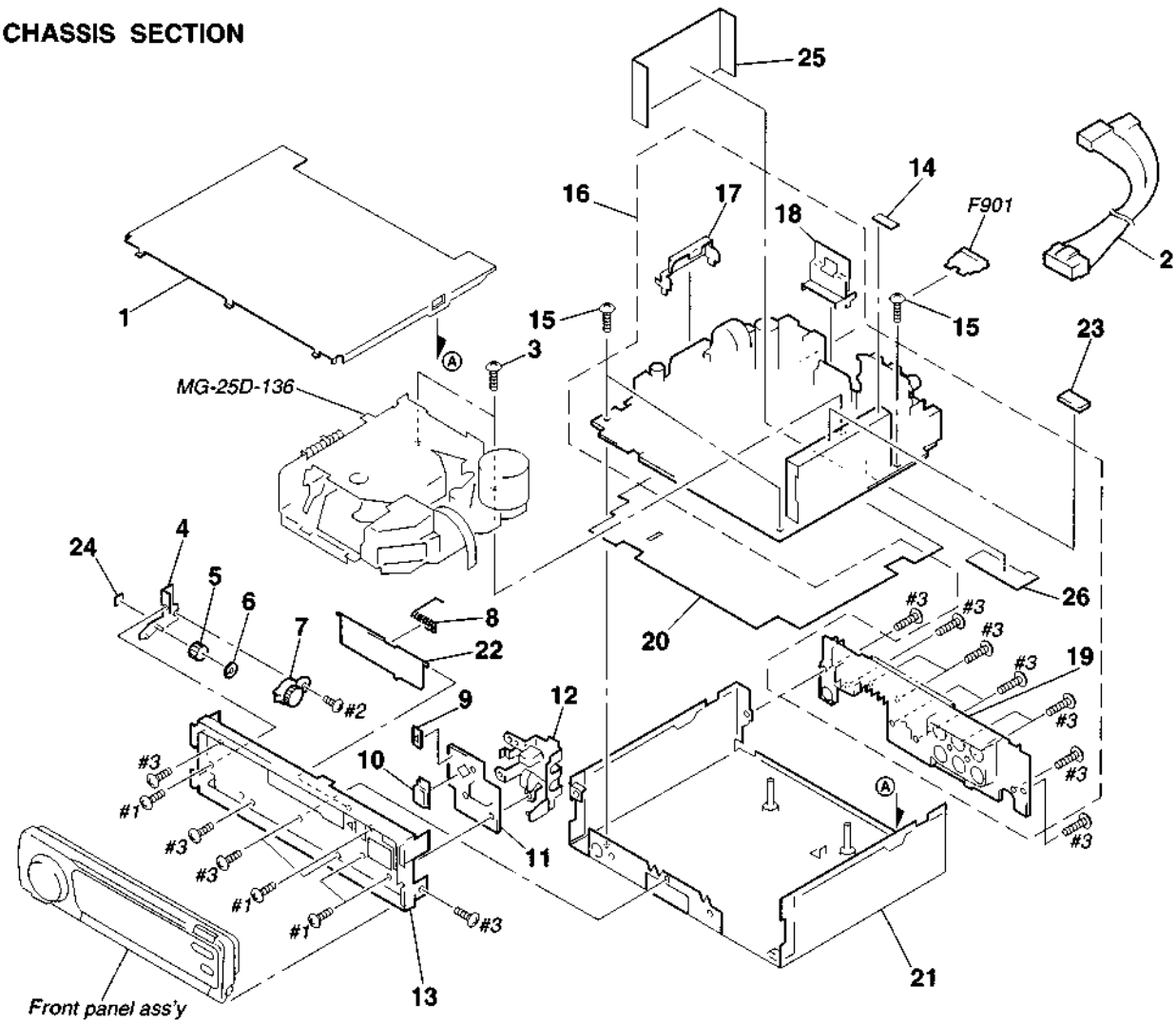


SECTION 7
EXPLODED VIEWS

NOTE:

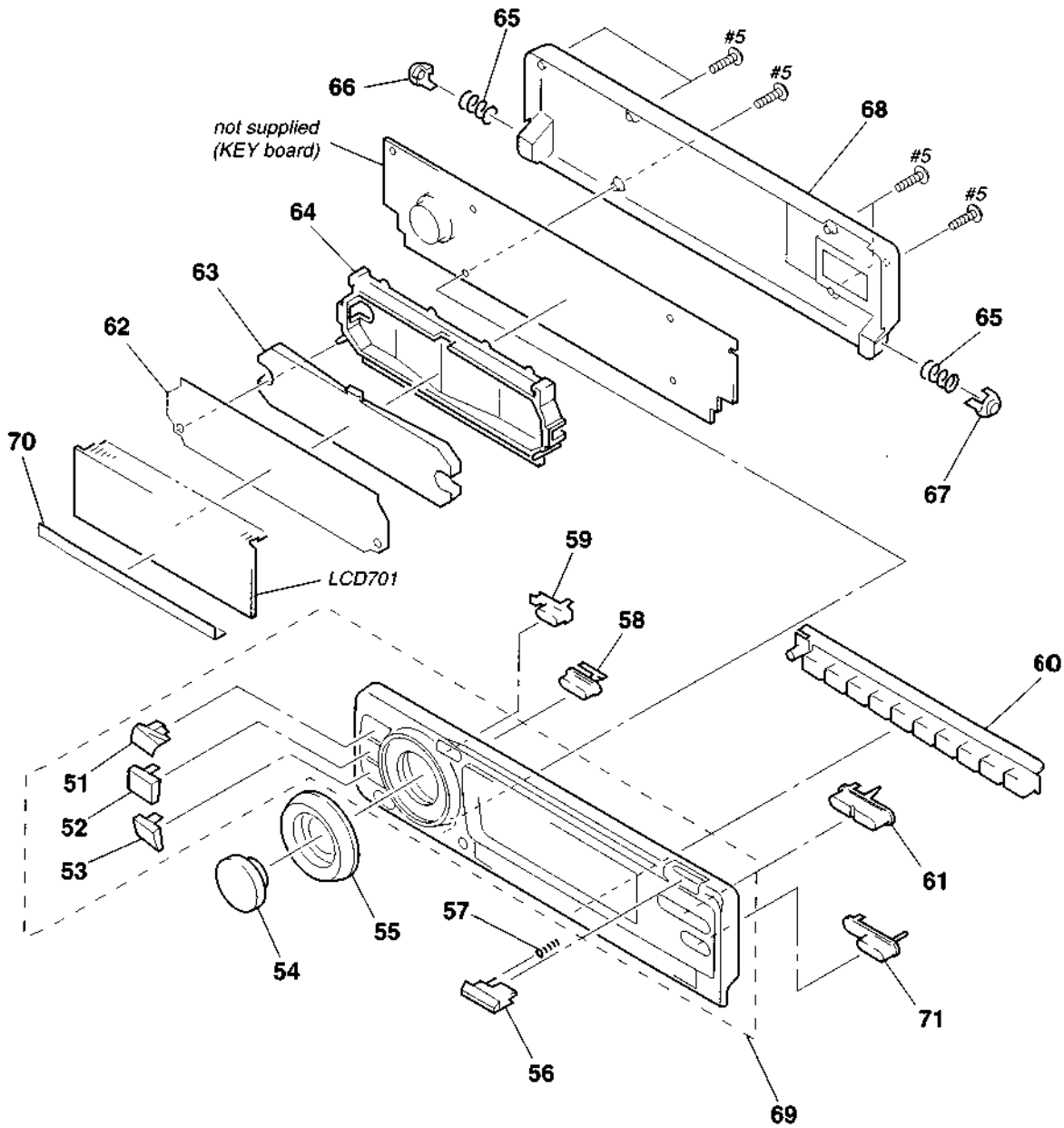
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  G : German
  SE : South European
- Items marked "*" are not stocked 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



Ref. No.	Part No.	Description	Remark
* 1	X-3374-008-1	COVER ASSY	
2	1-776-527-41	CORD (WITH CONNECTOR) (ISO) (POWER)	
3	3-919-171-01	SCREW (2.6X6) (C TIGHT)	
4	X-3373-376-1	BRACKET (GEAR) ASSY	
5	3-011-170-01	GEAR (HOLDER)	
6	3-341-752-11	WASHER, POLYETHYLENE	
7	3-953-235-31	DAMPER, OIL	
8	3-913-076-01	SPRING (C DOOR), TORSION	
9	3-010-993-11	PLATE (C DOOR), LIGHT GUIDE	
10	3-010-996-01	BUTTON (EJECT) (⏏)	
* 11	1-665-379-11	SUB BOARD	
12	X-3373-831-1	LOCK ASSY	
13	X-3375-258-1	PANEL SUB ASSY, SUB	
* 14	3-355-209-01	PLATE (B), GROUND	
15	3-915-923-01	SCREW, GROUND POINT	
* 16	A-3313-600-A	MAIN BOARD, COMPLETE (AEP, UK, SE)	
* 16	A-3313-610-A	MAIN BOARD, COMPLETE (G)	
* 17	3-011-078-01	BRACKET (POWER IC)	
* 18	3-011-090-01	BRACKET (AMP)	
* 19	3-011-077-11	HEAT SINK	
* 20	3-012-196-01	INSULATOR	
* 21	X-3373-877-3	CHASSIS ASSY	
22	3-918-583-51	DOOR, CASSETTE	
23	3-338-263-01	CUSHION (U)	
24	3-015-291-01	SPACER (GEAR)	
* 25	3-024-272-01	PLATE (TUNER), SHIELD	
* 26	3-024-273-01	PLATE (MAIN), SHIELD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

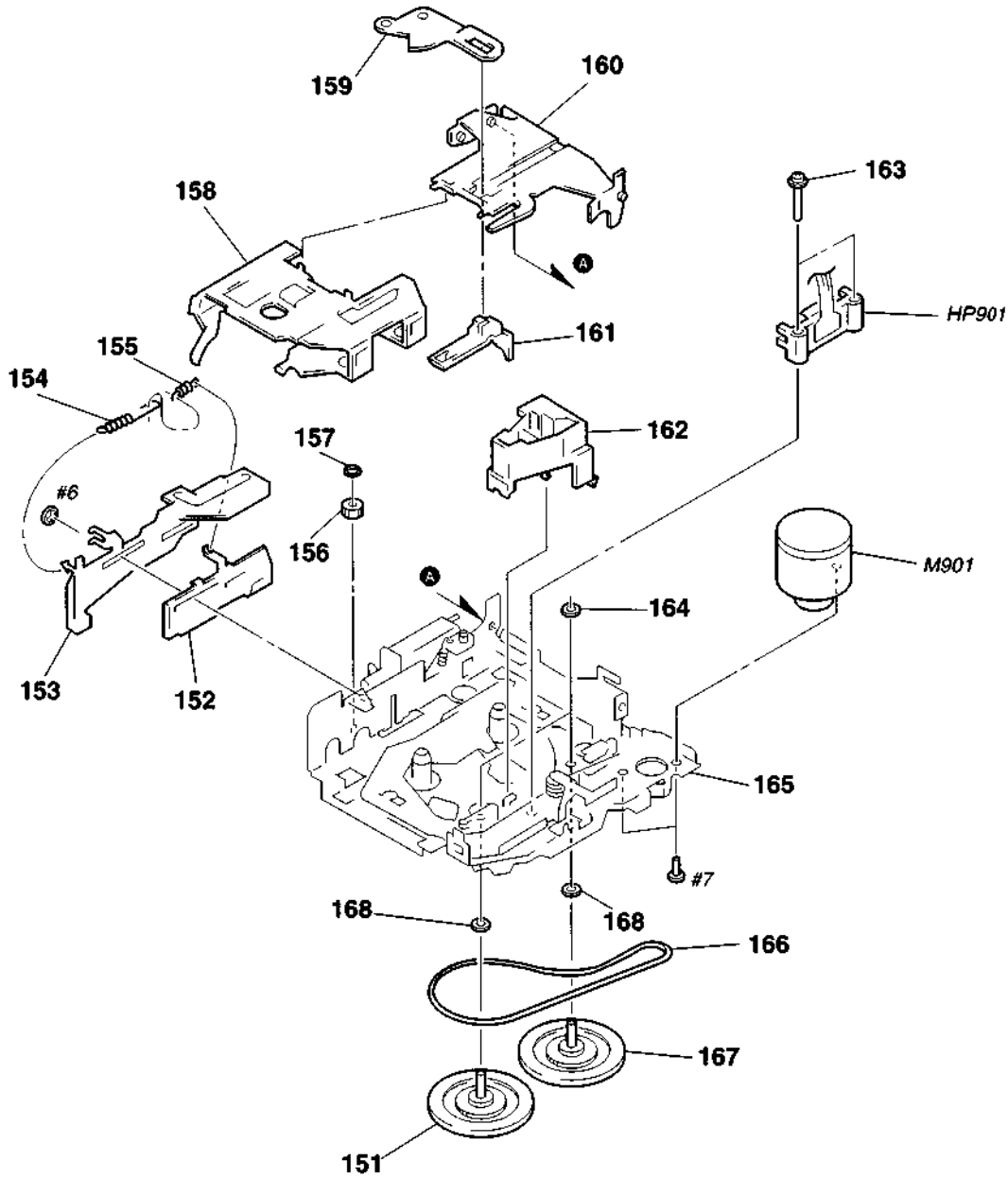
(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-010-985-11	BUTTON (+) (+ ▶▶I ▶▶)	
52	3-010-986-11	BUTTON (MODE) (◀II▶)	
53	3-010-987-11	BUTTON (–) (I◀◀ ◀◀ –)	
54	X-3373-830-2	BUTTON (SOURCE) ASSY	
55	3-010-989-12	KNOB (VOL)	
56	3-010-983-41	BUTTON (OPEN)	
57	3-010-997-01	SPRING (OPEN)	
58	3-010-982-01	BUTTON (SOUND)	
59	3-010-981-01	BUTTON (OFF)	
60	3-010-980-01	BUTTON (10 KEY) (SHIFT, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10)	
61	3-011-459-01	BUTTON (PTY) (DSPL/PTY)	

Ref. No.	Part No.	Description	Remark
* 62	3-023-221-01	ILLUMINATOR (LCD)	
* 63	3-023-162-01	PLATE (LCD), LIGHT GUIDE	
* 64	3-023-163-01	HOLDER (LCD)	
65	3-010-998-01	SPRING (BEARING)	
66	3-010-999-11	BEARING (L)	
67	3-011-000-11	BEARING (R)	
68	3-010-977-31	PANEL, FRONT BACK	
69	X-3375-417-1	PANEL SUB ASSY, FRONT	
70	3-015-290-01	SHEET (LCD), ELECTROSTATIC	
71	3-011-004-01	BUTTON (AF/TA)	
LCD701	1-801-679-21	DISPLAY PANEL, LIQUID CRYSTAL	

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



Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY	
* 152	3-019-130-01	LEVER (LDG-A)	
* 153	3-019-131-01	LEVER (LDG-B)	
154	3-020-539-01	SPRING (LD-1), TENSION	
155	3-020-540-01	SPRING (LD-2), TENSION	
156	3-020-542-01	GEAR (LOADING FT)	
157	3-341-753-11	WASHER, POLYETHYLENE	
158	3-020-533-01	HOUSING	
* 159	3-020-532-01	ARM (SUCTION)	
160	3-020-534-01	HANGER	

Ref. No.	Part No.	Description	Remark
161	3-933-346-01	CATCHER	
162	3-933-344-01	GUIDE (C)	
163	3-014-798-01	SCREW (HEAD), SPECIAL	
164	3-364-151-01	WASHER	
165	X-3375-625-1	CHASSIS (SV) ASSY (D)	
166	3-017-302-01	BELT (25)	
167	3-936-853-01	FLYWHEEL (F)	
168	3-701-437-21	WASHER	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

KEY

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
- Abbreviation
  G : German
  SE : South European
- 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. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

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

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		**********			
*	3-023-162-01	PLATE (LCD), LIGHT GUIDE			
*	3-023-163-01	HOLDER (LCD)			
*	3-023-221-01	ILLUMINATOR (LCD)			
		< CAPACITOR >			
C770	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C771	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C772	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
		< CONNECTOR >			
CN701	1-778-183-11	PLUG, CONNECTOR 18P			
		< DIODE >			
D710	8-719-421-36	DIODE MA8036-L			
D770	8-719-420-90	DIODE MA8051-M			
D771	8-719-420-90	DIODE MA8051-M			
D773	8-719-404-49	DIODE MA111			
		< IC >			
IC701	8-759-474-47	IC uPD16432BGC-011-9EU			
IC702	8-749-012-17	IC RS-140-T			
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-801-679-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< DIODE >			
LED761	8-719-987-45	LED CL-155Y/PG-CD			
LED762	8-719-987-45	LED CL-155Y/PG-CD			
LED763	8-719-987-45	LED CL-155Y/PG-CD			
LED764	8-719-987-45	LED CL-155Y/PG-CD			
LED765	8-719-987-45	LED CL-155Y/PG-CD			
LED766	8-719-987-45	LED CL-155Y/PG-CD			
LED773	8-719-033-14	LED CL-170PG-CD-T			
LED774	8-719-033-13	LED CL-170Y-CD-T			
		< SWITCH >			
LSW700	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW701	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW702	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SEEK/AMS, ⏮ ◀◀/–)			
LSW703	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (MODE ◀II▶)			
LSW704	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SEEK/AMS, ⏭ ▶▶/+)			
LSW705	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SOUND)			
LSW706	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SHIFT)			
LSW707	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (1)			
LSW708	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (2)			
LSW709	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (3)			
LSW710	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (4)			
LSW711	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW712	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (LIST)			
LSW713	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (AF/TA)			
LSW715	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (10)			
LSW716	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (9)			
LSW717	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (8)			
LSW718	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (7)			
LSW719	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (6)			
LSW720	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (5)			
		< PILOT LAMP >			
PL701	1-517-630-31	LAMP, PILOT (LCD BACK LIGHT)			
PL702	1-517-630-31	LAMP, PILOT (LCD BACK LIGHT)			
		< TRANSISTOR >			
Q710	8-729-421-22	TRANSISTOR UN2211			
Q711	8-729-106-60	TRANSISTOR 2SB1115A			
Q712	8-729-904-66	TRANSISTOR DTD113EK			
Q713	8-729-904-66	TRANSISTOR DTD113EK			
Q714	8-729-230-49	TRANSISTOR 2SC2712-YG			
		< RESISTOR >			
R701	1-216-045-00	METAL CHIP	680	5% 1/10W	
R702	1-216-045-00	METAL CHIP	680	5% 1/10W	
R703	1-216-045-00	METAL CHIP	680	5% 1/10W	
R704	1-216-049-11	RES,CHIP	1K	5% 1/10W	
R705	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R706	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R707	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R708	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R709	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R710	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R711	1-216-045-00	METAL CHIP	680	5%	1/10W
R712	1-216-045-00	METAL CHIP	680	5%	1/10W
R713	1-216-045-00	METAL CHIP	680	5%	1/10W
R714	1-216-049-11	RES,CHIP	1K	5%	1/10W
R715	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R716	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R717	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R718	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R719	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R720	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R721	1-216-176-11	RES,CHIP	120	5%	1/8W
R722	1-216-176-11	RES,CHIP	120	5%	1/8W
R724	1-216-182-00	RES,CHIP	220	5%	1/8W
R725	1-216-033-00	METAL CHIP	220	5%	1/10W
R726	1-216-182-00	RES,CHIP	220	5%	1/8W
R727	1-216-037-00	METAL CHIP	330	5%	1/10W
R728	1-216-037-00	METAL CHIP	330	5%	1/10W
R729	1-216-045-00	METAL CHIP	680	5%	1/10W
R730	1-216-045-00	METAL CHIP	680	5%	1/10W
R750	1-216-041-00	METAL CHIP	470	5%	1/10W
R751	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R752	1-216-049-11	RES,CHIP	1K	5%	1/10W
R754	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R770	1-216-041-00	METAL CHIP	470	5%	1/10W
R771	1-216-025-00	RES,CHIP	100	5%	1/10W
R772	1-216-041-00	METAL CHIP	470	5%	1/10W
R773	1-216-025-00	RES,CHIP	100	5%	1/10W
R780	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R781	1-216-089-00	RES,CHIP	47K	5%	1/10W
R782	1-216-049-11	RES,CHIP	1K	5%	1/10W
R783	1-216-049-11	RES,CHIP	1K	5%	1/10W
R784	1-216-049-11	RES,CHIP	1K	5%	1/10W
R785	1-216-049-11	RES,CHIP	1K	5%	1/10W
R786	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R787	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R788	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R789	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R790	1-216-097-00	RES,CHIP	100K	5%	1/10W
R791	1-216-089-00	RES,CHIP	47K	5%	1/10W
R792	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
		< ROTARY ENCODER >			
RE701	1-475-014-11	ENCODER, ROTARY (VOLUME)			

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*	A-3313-600-A	MAIN BOARD, COMPLETE (AEP, UK, SE)	
*	A-3313-610-A	MAIN BOARD, COMPLETE (G)	
		**********	
*	3-011-077-11	HEAT SINK	
*	3-011-078-01	BRACKET (POWER IC)	
*	3-011-090-01	BRACKET (AMP)	
*	3-024-273-01	PLATE (MAIN), SHIELD	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
		< BUZZER >	
BZ501	1-504-920-11	BUZZER	

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C7	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C10	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C11	1-126-933-11	ELECT	100uF	20%	16V
C12	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C13	1-126-933-11	ELECT	100uF	20%	16V
C14	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C15	1-126-933-11	ELECT	100uF	20%	16V
C16	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C17	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C18	1-136-153-00	FILM	0.01uF	5%	50V
C19	1-136-169-00	FILM	0.22uF	5%	50V
C20	1-137-366-11	FILM	0.0022uF	5%	50V
C21	1-136-161-00	FILM	0.047uF	5%	50V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C24	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C25	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C26	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C27	1-126-157-11	ELECT	10uF	20%	16V
C28	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C29	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C30	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C31	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C32	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C33	1-124-234-00	ELECT	22uF	20%	16V
C34	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C35	1-124-234-00	ELECT	22uF	20%	16V
C36	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C70	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C71	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C72	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C80	1-136-157-00	FILM	0.022uF	5%	50V (AEP, UK, SE)
C80	1-136-158-00	FILM	0.027uF	5%	50V (G)
C81	1-126-163-11	ELECT	4.7uF	20%	50V
C82	1-126-160-11	ELECT	1uF	20%	50V
C83	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V (G)
C83	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V (AEP, UK, SE)
C84	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V (G)
C84	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V (AEP, UK, SE)
C85	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C86	1-124-257-00	ELECT	2.2uF	20%	50V
C88	1-126-157-11	ELECT	10uF	20%	16V
C89	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C90	1-136-157-00	FILM	0.022uF	5%	50V (AEP, UK, SE)
C90	1-136-158-00	FILM	0.027uF	5%	50V (G)
C91	1-126-163-11	ELECT	4.7uF	20%	50V
C92	1-126-160-11	ELECT	1uF	20%	50V
C93	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V (G)
C93	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V (AEP, UK, SE)
C94	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V (G)

MAIN

Ref. No.	Part No.	Description			Remark
C94	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V (AEP, UK, SE)
C96	1-124-257-00	ELECT	2.2uF	20%	50V
C97	1-124-234-00	ELECT	22uF	20%	16V
C98	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C101	1-126-157-11	ELECT	10uF	20%	16V
C102	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C103	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C120	1-126-157-11	ELECT	10uF	20%	16V
C150	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C151	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C152	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C153	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C154	1-126-157-11	ELECT	10uF	20%	16V
C155	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C156	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C157	1-124-257-00	ELECT	2.2uF	20%	50V
C201	1-126-935-11	ELECT	470uF	20%	16V
C202	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C203	1-126-157-11	ELECT	10uF	20%	16V
C204	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C205	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C206	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C207	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C211	1-124-589-11	ELECT	47uF	20%	16V
C212	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C213	1-124-234-00	ELECT	22uF	20%	16V
C214	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C230	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C231	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C235	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C236	1-124-465-00	ELECT	0.47uF	20%	50V
C237	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C238	1-126-163-11	ELECT	4.7uF	20%	50V
C239	1-124-257-00	ELECT	2.2uF	20%	50V
C240	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C241	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C245	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C246	1-124-465-00	ELECT	0.47uF	20%	50V
C247	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C248	1-126-163-11	ELECT	4.7uF	20%	50V
C249	1-124-257-00	ELECT	2.2uF	20%	50V
C250	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C251	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C252	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C253	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C255	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C271	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C272	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C273	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C281	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C282	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C283	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C300	1-124-257-00	ELECT	2.2uF	20%	50V
C301	1-136-165-00	FILM	0.1uF	5%	50V
C302	1-137-366-11	FILM	0.0022uF	5%	50V
C303	1-126-157-11	ELECT	10uF	20%	16V
C304	1-137-366-11	FILM	0.0022uF	5%	50V
C305	1-126-157-11	ELECT	10uF	20%	16V
C306	1-124-465-00	ELECT	0.47uF	20%	50V
C321	1-124-584-00	ELECT	100uF	20%	10V
C322	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C323	1-124-234-00	ELECT	22uF	20%	16V
C324	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C325	1-124-584-00	ELECT	100uF	20%	10V
C326	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C327	1-124-584-00	ELECT	100uF	20%	10V
C328	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C331	1-126-163-11	ELECT	4.7uF	20%	50V
C332	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C333	1-124-584-00	ELECT	100uF	20%	10V
C334	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C341	1-126-163-11	ELECT	4.7uF	20%	50V
C342	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C400	1-124-257-00	ELECT	2.2uF	20%	50V
C401	1-136-165-00	FILM	0.1uF	5%	50V
C402	1-137-366-11	FILM	0.0022uF	5%	50V
C403	1-126-157-11	ELECT	10uF	20%	16V
C404	1-137-366-11	FILM	0.0022uF	5%	50V
C405	1-126-157-11	ELECT	10uF	20%	16V
C406	1-124-465-00	ELECT	0.47uF	20%	50V
C411	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C431	1-126-163-11	ELECT	4.7uF	20%	50V
C432	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C441	1-126-163-11	ELECT	4.7uF	20%	50V
C442	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C501	1-126-157-11	ELECT	10uF	20%	16V
C502	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C503	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C504	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C510	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C511	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C551	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C552	1-126-924-11	ELECT	330uF	20%	10V
C553	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C554	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C560	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C572	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C601	1-126-157-11	ELECT	10uF	20%	16V
C602	1-126-157-11	ELECT	10uF	20%	16V
C603	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C604	1-124-234-00	ELECT	22uF	20%	16V
C605	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C606	1-124-234-00	ELECT	22uF	20%	16V
C607	1-126-157-11	ELECT	10uF	20%	16V
C608	1-126-157-11	ELECT	10uF	20%	16V
C630	1-126-163-11	ELECT	4.7uF	20%	50V
C640	1-126-163-11	ELECT	4.7uF	20%	50V
C650	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C651	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C672	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C673	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C682	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C683	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C701	1-136-165-00	FILM	0.1uF	5%	50V

Ref. No.	Part No.	Description			Remark
C702	1-136-165-00	FILM	0.1uF	5%	50V
C703	1-136-165-00	FILM	0.1uF	5%	50V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C706	1-136-165-00	FILM	0.1uF	5%	50V
C707	1-136-165-00	FILM	0.1uF	5%	50V
C708	1-136-165-00	FILM	0.1uF	5%	50V
C710	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C711	1-126-933-11	ELECT	100uF	20%	16V
C713	1-136-173-00	FILM	0.47uF	5%	50V
C714	1-126-160-11	ELECT	1uF	20%	50V
C715	1-126-157-11	ELECT	10uF	20%	16V
C717	1-104-665-11	ELECT	100uF	20%	25V
C718	1-124-257-00	ELECT	2.2uF	20%	50V
C731	1-126-157-11	ELECT	10uF	20%	16V
C732	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C741	1-126-157-11	ELECT	10uF	20%	16V
C751	1-126-157-11	ELECT	10uF	20%	16V
C761	1-126-157-11	ELECT	10uF	20%	16V
C901	1-111-233-11	ELECT	5600uF	20%	16V
C902	1-136-165-00	FILM	0.1uF	5%	50V
C911	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C912	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C913	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C914	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C915	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C916	1-124-589-11	ELECT	47uF	20%	16V
C917	1-126-163-11	ELECT	4.7uF	20%	50V
C931	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C932	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C941	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C942	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR/JACK >			
CN210	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
* CN211	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN571	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
CN650	1-770-411-11	CONNECTOR, BOARD TO BOARD 20P			
CN900	1-774-701-11	PIN, CONNECTOR 16P			
CN901	1-774-700-11	JACK, PIN 6P (BUS AUDIO IN, LINE OUT FRONT/REAR)			
		< COMPOSITION CIRCUIT BLOCK >			
CP10	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D9	8-719-976-87	DIODE DTZ3.9A			
D10	8-719-040-04	DIODE MA721WK-(TX)			
D11	8-719-977-02	DIODE DTZ-TT11-5.6A			
D12	8-719-977-25	DIODE DTZ9.1C			
D85	8-719-976-87	DIODE DTZ3.9A			
D110	8-719-988-62	DIODE 1SS355			
D111	8-719-988-62	DIODE 1SS355			
D201	8-719-988-62	DIODE 1SS355			
D202	8-719-977-25	DIODE DTZ9.1C			
D251	8-719-988-62	DIODE 1SS355			
D252	8-719-976-87	DIODE DTZ3.9A			

Ref. No.	Part No.	Description	Remark
D501	8-719-914-44	DIODE DAP202K	
D551	8-719-040-04	DIODE MA721WK-(TX)	
D552	8-719-988-62	DIODE 1SS355	
D553	8-719-105-99	DIODE RD6.2M-B1	
D560	8-719-105-99	DIODE RD6.2M-B1	
D571	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D572	8-719-105-99	DIODE RD6.2M-B1	
D573	8-719-105-99	DIODE RD6.2M-B1	
D574	8-719-105-99	DIODE RD6.2M-B1	
D575	8-719-978-69	DIODE DTZ-TT11-16B	
D576	8-719-988-62	DIODE 1SS355	
D577	8-719-988-62	DIODE 1SS355	
D578	8-719-988-62	DIODE 1SS355	
D601	8-719-048-98	DIODE RB160L-40TE25	
D602	8-719-048-98	DIODE RB160L-40TE25	
D630	8-719-914-43	DIODE DAN202K	
D631	8-719-056-83	DIODE UDZ-TE-17-6.8B	
D640	8-719-914-43	DIODE DAN202K	
D641	8-719-056-84	DIODE UDZ-TE-17-7.5B	
D650	8-719-056-88	DIODE UDZ-TE-17-11B	
D651	8-719-914-44	DIODE DAP202K	
D652	8-719-056-88	DIODE UDZ-TE-17-11B	
D661	8-719-105-99	DIODE RD6.2M-B1	
D662	8-719-105-99	DIODE RD6.2M-B1	
D664	8-719-105-99	DIODE RD6.2M-B1	
D667	8-719-105-99	DIODE RD6.2M-B1	
D669	8-719-105-99	DIODE RD6.2M-B1	
D670	8-719-105-99	DIODE RD6.2M-B1	
D671	8-719-056-88	DIODE UDZ-TE-17-11B	
D672	8-719-105-99	DIODE RD6.2M-B1	
D673	8-719-105-99	DIODE RD6.2M-B1	
D680	8-719-988-62	DIODE 1SS355	
D682	8-719-105-99	DIODE RD6.2M-B1	
D683	8-719-105-99	DIODE RD6.2M-B1	
D701	8-719-048-98	DIODE RB160L-40TE25	
D702	8-719-048-98	DIODE RB160L-40TE25	
D703	8-719-048-98	DIODE RB160L-40TE25	
D704	8-719-048-98	DIODE RB160L-40TE25	
D705	8-719-048-98	DIODE RB160L-40TE25	
D706	8-719-048-98	DIODE RB160L-40TE25	
D707	8-719-048-98	DIODE RB160L-40TE25	
D708	8-719-048-98	DIODE RB160L-40TE25	
D901	8-719-049-38	DIODE 1N5404TU	
D905	8-719-988-62	DIODE 1SS355	
D906	8-719-048-98	DIODE RB160L-40TE25	
D911	8-719-105-99	DIODE RD6.2M-B1	
D912	8-719-105-99	DIODE RD6.2M-B1	
D915	8-719-988-62	DIODE 1SS355	
D916	8-719-976-87	DIODE DTZ3.9A	
D917	8-719-976-87	DIODE DTZ3.9A	
		< IC >	
IC10	8-759-448-86	IC TB2114FN(EL)	
IC81	8-759-711-82	IC NJM4580E	
IC101	8-759-469-16	IC MN1884820Y5F1	
IC150	8-759-065-98	IC SAA6579T	
IC201	8-759-823-87	IC LB1638M	

MAIN

Ref. No.	Part No.	Description	Remark
IC210	8-752-079-79	IC CXA2510AQ-T4	
IC301	8-752-078-67	IC CXA1946BQ-T6	
IC302	8-759-711-82	IC NJM4580E	
IC303	8-759-711-82	IC NJM4580E	
IC404	8-759-711-82	IC NJM4580E	
IC501	8-759-460-52	IC uPD78058GC-462-3B9	
IC551	8-759-363-81	IC XC61AN4002PR	
IC571	8-759-449-89	IC BA8270F-E2	
IC601	8-759-347-50	IC BA3918-V3	
IC701	8-759-448-61	IC HA13156	
		< JACK >	
J10	1-764-808-31	JACK (FM/AM ANTENNA)	
J680	1-764-270-21	JACK (REMOTE IN)	
		< COIL >	
L10	1-410-196-11	INDUCTOR CHIP 2.2uH	
L11	1-410-196-11	INDUCTOR CHIP 2.2uH	
L25	1-410-204-31	INDUCTOR CHIP 10uH	
L26	1-410-204-31	INDUCTOR CHIP 10uH	
L102	1-410-204-31	INDUCTOR CHIP 10uH	
L501	1-410-204-31	INDUCTOR CHIP 10uH	
L901	1-411-669-13	COIL, CHOKE	
		< TRANSISTOR >	
Q9	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q10	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q11	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q70	8-729-920-21	TRANSISTOR DTC314TKH04	
Q80	8-729-920-21	TRANSISTOR DTC314TKH04	
Q85	8-729-921-25	TRANSISTOR FMC2	
Q90	8-729-920-21	TRANSISTOR DTC314TKH04	
Q101	8-729-429-92	TRANSISTOR XN1211	
Q102	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q103	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q110	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q111	8-729-900-53	TRANSISTOR DTC114EK	
Q201	8-729-026-68	TRANSISTOR 2SD2525(TP)	
Q202	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q203	8-729-106-60	TRANSISTOR 2SB1115A	
Q231	8-729-920-21	TRANSISTOR DTC314TKH04	
Q241	8-729-920-21	TRANSISTOR DTC314TKH04	
Q251	8-729-921-25	TRANSISTOR FMC2	
Q331	8-729-015-39	TRANSISTOR DTC323TK	
Q341	8-729-015-39	TRANSISTOR DTC323TK	
Q431	8-729-015-39	TRANSISTOR DTC323TK	
Q441	8-729-015-39	TRANSISTOR DTC323TK	
Q571	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q572	8-729-900-53	TRANSISTOR DTC114EK	
Q573	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q574	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q630	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q640	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q650	8-729-921-25	TRANSISTOR FMC2	
Q651	8-729-026-68	TRANSISTOR 2SD2525(TP)	
Q652	8-729-026-68	TRANSISTOR 2SD2525(TP)	
Q653	8-729-921-25	TRANSISTOR FMC2	
Q655	8-729-216-22	TRANSISTOR 2SA1162-G	
Q656	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q657	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q658	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q731	8-729-015-39	TRANSISTOR DTC323TK	
Q741	8-729-015-39	TRANSISTOR DTC323TK	
Q751	8-729-015-39	TRANSISTOR DTC323TK	
Q761	8-729-015-39	TRANSISTOR DTC323TK	
Q911	8-729-021-94	FET 2SK1657-T1B	
Q912	8-729-021-94	FET 2SK1657-T1B	
Q913	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q914	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R9	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R10	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R11	1-216-037-00	METAL CHIP 330 5% 1/10W	
R12	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R13	1-216-025-00	RES,CHIP 100 5% 1/10W	
R15	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R16	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R17	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R18	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R19	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R20	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R21	1-216-041-00	METAL CHIP 470 5% 1/10W	
R70	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R71	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R73	1-216-295-00	SHORT 0	
R80	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R81	1-216-097-00	RES,CHIP 100K 5% 1/10W	
R82	1-216-073-00	METAL CHIP 10K 5% 1/10W	(G)
R82	1-216-077-00	METAL CHIP 15K 5% 1/10W	(AEP, UK, SE)
R83	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, UK, SE)
R83	1-216-075-00	METAL CHIP 12K 5% 1/10W	(G)
R84	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R85	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R86	1-216-089-00	RES,CHIP 47K 5% 1/10W	
R87	1-216-037-00	METAL CHIP 330 5% 1/10W	
R90	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R91	1-216-097-00	RES,CHIP 100K 5% 1/10W	
R92	1-216-073-00	METAL CHIP 10K 5% 1/10W	(G)
R92	1-216-077-00	METAL CHIP 15K 5% 1/10W	(AEP, UK, SE)
R93	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, UK, SE)
R93	1-216-075-00	METAL CHIP 12K 5% 1/10W	(G)
R94	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R95	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R101	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R102	1-216-097-00	RES,CHIP 100K 5% 1/10W	
R110	1-216-097-00	RES,CHIP 100K 5% 1/10W	
R112	1-216-097-00	RES,CHIP 100K 5% 1/10W	
R114	1-216-097-00	RES,CHIP 100K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R117	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-097-00	RES,CHIP	100K	5%	1/10W
R122	1-216-097-00	RES,CHIP	100K	5%	1/10W
R123	1-216-097-00	RES,CHIP	100K	5%	1/10W
R124	1-216-097-00	RES,CHIP	100K	5%	1/10W
R125	1-216-097-00	RES,CHIP	100K	5%	1/10W
R126	1-216-097-00	RES,CHIP	100K	5%	1/10W
R130	1-216-113-00	METAL CHIP	470K	5%	1/10W
R131	1-216-119-00	METAL CHIP	820K	5%	1/10W
R150	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R151	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R152	1-216-097-00	RES,CHIP	100K	5%	1/10W
R153	1-216-097-00	RES,CHIP	100K	5%	1/10W
R160	1-216-150-00	RES,CHIP	10	5%	1/8W
R201	1-216-150-00	RES,CHIP	10	5%	1/8W
R202	1-216-150-00	RES,CHIP	10	5%	1/8W
R203	1-216-150-00	RES,CHIP	10	5%	1/8W
R204	1-216-150-00	RES,CHIP	10	5%	1/8W
R205	1-216-073-00	METAL CHIP	10K	5%	1/10W
R206	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R207	1-216-049-11	RES,CHIP	1K	5%	1/10W
R230	1-216-097-00	RES,CHIP	100K	5%	1/10W
R231	1-216-097-00	RES,CHIP	100K	5%	1/10W
R232	1-216-027-00	METAL CHIP	120	5%	1/10W
R233	1-216-109-00	METAL CHIP	330K	5%	1/10W
R234	1-216-079-00	METAL CHIP	18K	5%	1/10W
R235	1-216-077-00	METAL CHIP	15K	5%	1/10W
R236	1-216-089-00	RES,CHIP	47K	5%	1/10W
R240	1-216-097-00	RES,CHIP	100K	5%	1/10W
R241	1-216-097-00	RES,CHIP	100K	5%	1/10W
R242	1-216-027-00	METAL CHIP	120	5%	1/10W
R243	1-216-109-00	METAL CHIP	330K	5%	1/10W
R244	1-216-079-00	METAL CHIP	18K	5%	1/10W
R245	1-216-077-00	METAL CHIP	15K	5%	1/10W
R246	1-216-089-00	RES,CHIP	47K	5%	1/10W
R250	1-216-682-11	METAL CHIP	20K	0.5%	1/10W
R251	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R252	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R253	1-216-113-00	METAL CHIP	470K	5%	1/10W
R261	1-216-081-00	METAL CHIP	22K	5%	1/10W
R301	1-216-077-00	METAL CHIP	15K	5%	1/10W
R303	1-216-073-00	METAL CHIP	10K	5%	1/10W
R304	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R305	1-216-295-00	SHORT	0		
R306	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R311	1-216-049-11	RES,CHIP	1K	5%	1/10W
R312	1-216-049-11	RES,CHIP	1K	5%	1/10W
R321	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R322	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R331	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R332	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R333	1-216-033-00	METAL CHIP	220	5%	1/10W
R334	1-216-089-00	RES,CHIP	47K	5%	1/10W
R341	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R342	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R343	1-216-033-00	METAL CHIP	220	5%	1/10W
R344	1-216-089-00	RES,CHIP	47K	5%	1/10W
R401	1-216-077-00	METAL CHIP	15K	5%	1/10W
R403	1-216-073-00	METAL CHIP	10K	5%	1/10W
R404	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R405	1-216-295-00	SHORT	0		
R406	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R411	1-216-049-11	RES,CHIP	1K	5%	1/10W
R412	1-216-049-11	RES,CHIP	1K	5%	1/10W
R431	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R432	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R433	1-216-033-00	METAL CHIP	220	5%	1/10W
R434	1-216-089-00	RES,CHIP	47K	5%	1/10W
R441	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R442	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R443	1-216-033-00	METAL CHIP	220	5%	1/10W
R444	1-216-089-00	RES,CHIP	47K	5%	1/10W
R501	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R506	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R507	1-216-097-00	RES,CHIP	100K	5%	1/10W
R508	1-216-097-00	RES,CHIP	100K	5%	1/10W
R509	1-216-097-00	RES,CHIP	100K	5%	1/10W
R510	1-216-049-11	RES,CHIP	1K	5%	1/10W
R511	1-216-037-00	METAL CHIP	330	5%	1/10W
R512	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R513	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R514	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R515	1-216-097-00	RES,CHIP	100K	5%	1/10W
R520	1-216-097-00	RES,CHIP	100K	5%	1/10W
R521	1-216-097-00	RES,CHIP	100K	5%	1/10W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R523	1-216-097-00	RES,CHIP	100K	5%	1/10W
R525	1-216-097-00	RES,CHIP	100K	5%	1/10W
R527	1-216-097-00	RES,CHIP	100K	5%	1/10W
R530	1-216-097-00	RES,CHIP	100K	5%	1/10W
R531	1-216-049-11	RES,CHIP	1K	5%	1/10W
R532	1-216-049-11	RES,CHIP	1K	5%	1/10W
R533	1-216-049-11	RES,CHIP	1K	5%	1/10W
R551	1-216-097-00	RES,CHIP	100K	5%	1/10W
R552	1-216-049-11	RES,CHIP	1K	5%	1/10W
R560	1-216-049-11	RES,CHIP	1K	5%	1/10W
R571	1-216-025-00	RES,CHIP	100	5%	1/10W
R572	1-216-025-00	RES,CHIP	100	5%	1/10W
R573	1-216-073-00	METAL CHIP	10K	5%	1/10W
R574	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R576	1-216-097-00	RES,CHIP	100K	5%	1/10W
R577	1-216-089-00	RES,CHIP	47K	5%	1/10W
R578	1-216-017-00	RES,CHIP	47	5%	1/10W
R630	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R631	1-216-073-00	METAL CHIP	10K	5%	1/10W
R632	1-216-089-00	RES,CHIP	47K	5%	1/10W
R633	1-216-089-00	RES,CHIP	47K	5%	1/10W
R634	1-216-081-00	METAL CHIP	22K	5%	1/10W
R640	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R643	1-216-089-00	RES,CHIP	47K	5%	1/10W
R644	1-216-081-00	METAL CHIP	22K	5%	1/10W
R650	1-216-049-11	RES,CHIP	1K	5%	1/10W
R651	1-216-049-11	RES,CHIP	1K	5%	1/10W

MAIN **SUB**

Ref. No.	Part No.	Description			Remark
R655	1-216-073-00	METAL CHIP	10K	5%	1/10W
R656	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R657	1-216-097-00	RES,CHIP	100K	5%	1/10W
R658	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R659	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R661	1-216-025-00	RES,CHIP	100	5%	1/10W
R662	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R664	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R667	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R669	1-216-025-00	RES,CHIP	100	5%	1/10W
R670	1-216-025-00	RES,CHIP	100	5%	1/10W
R671	1-216-025-00	RES,CHIP	100	5%	1/10W
R672	1-216-025-00	RES,CHIP	100	5%	1/10W
R673	1-216-025-00	RES,CHIP	100	5%	1/10W
R675	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R676	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R680	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R681	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R682	1-216-025-00	RES,CHIP	100	5%	1/10W
R683	1-216-025-00	RES,CHIP	100	5%	1/10W
R701	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R702	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R703	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R704	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R705	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R706	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R707	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R708	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R715	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R731	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R732	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R741	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R742	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R751	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R752	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R761	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R762	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R910	1-216-089-00	RES,CHIP	47K	5%	1/10W
R911	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R912	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R915	1-216-017-00	RES,CHIP	47	5%	1/10W
R916	1-216-089-00	RES,CHIP	47K	5%	1/10W
R917	1-216-081-00	METAL CHIP	22K	5%	1/10W
R931	1-216-049-11	RES,CHIP	1K	5%	1/10W
R941	1-216-049-11	RES,CHIP	1K	5%	1/10W

< VARIABLE RESISTOR >

RV110	1-238-861-11	RES, ADJ, CERMET 470K
RV231	1-238-856-11	RES, ADJ, CERMET 10K
RV241	1-238-856-11	RES, ADJ, CERMET 10K

< SWITCH >

S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)
S551	1-571-532-21	SWITCH, TACTIL (RESET)
S560	1-762-108-11	SWITCH, PUSH (1 KEY) (PANEL DETACH DETECT)

Ref. No.	Part No.	Description	Remark
		< TUNER UNIT >	
TU10	A-3282-029-A	TUX-006/2(E) (FM/AM TUNER UNIT)	
		< VIBRATOR >	
X10	1-577-126-51	VIBRATOR, CRYSTAL (7.2MHz)	
X101	1-579-952-21	VIBRATOR, CERAMIC (8MHz)	
X150	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)	
X501	1-760-489-11	VIBRATOR, CERAMIC (5MHz)	
X502	1-760-928-21	VIBRATOR, CRYSTAL (32.768kHz)	

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*	1-665-379-13	SUB BOARD	
		**********	
		< CONNECTOR >	
CN800	1-779-170-11	SOCKET, CONNECTOR 20P	
CN801	1-779-169-11	SOCKET, CONNECTOR 18P	
		< DIODE >	
D800	8-719-422-64	DIODE MA8062-M	
D801	8-719-422-64	DIODE MA8062-M	
D802	8-719-422-64	DIODE MA8062-M	
D803	8-719-422-64	DIODE MA8062-M	
		< DIODE >	
LED800	8-719-058-14	LED CL-220PG-C-TS (TAPE WINDOW)	
		< SWITCH >	
LSW800	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (⏏)	
		< TRANSISTOR >	
Q800	8-729-424-08	TRANSISTOR UN2111	
Q801	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R800	1-216-073-00	METAL CHIP 10K 5%	1/10W
R801	1-216-073-00	METAL CHIP 10K 5%	1/10W
R803	1-216-037-00	METAL CHIP 330 5%	1/10W
R804	1-216-049-11	RES,CHIP 1K 5%	1/10W
R805	1-216-049-11	RES,CHIP 1K 5%	1/10W
R806	1-216-049-11	RES,CHIP 1K 5%	1/10W
R807	1-216-049-11	RES,CHIP 1K 5%	1/10W
R808	1-216-089-00	RES,CHIP 47K 5%	1/10W
R809	1-216-089-00	RES,CHIP 47K 5%	1/10W

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MISCELLANEOUS

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2	1-776-527-41	CORD (WITH CONNECTOR) (ISO) (POWER)
F901	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)

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Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-621-772-30	SCREW +B 2X6	
#2	7-621-255-15	SCREW +P 2X3	
#3	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#5	7-685-105-19	SCREW +P 2X8 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	
		**********	
	1-473-067-31	REMOTE COMMANDER (RM-X2S)	
	3-012-070-01	LABEL (SOUND) (2) (for RM-X2S)	
	3-856-243-21	MANUAL (COMMANDER), FITTING (ENGLISH, FRENCH, GERMAN, SPANISH, ITALIAN, DUTCH, SWEDISH, PORTUGUESE, CHINESE, CZECH, POLISH, GREEK, TURKISH)	
	3-862-623-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH, SWEDISH, PORTUGUESE) (AEP, UK, SE)	
	3-862-623-21	MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN, DUTCH, ITALIAN) (AEP, G)	
	3-862-623-31	MANUAL, INSTRUCTION, INSTALL (POLISH, CZECH, GREEK, TURKISH) (SE)	
	3-862-624-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH, SWEDISH, PORTUGUESE) (AEP, UK)	
	3-862-624-21	MANUAL, INSTRUCTION (FRENCH, GERMAN, DUTCH, ITALIAN) (AEP)	
	3-862-624-31	MANUAL, INSTRUCTION (ENGLISH, POLISH, CZECH, GREEK, TURKISH) (SE)	
	3-862-624-41	MANUAL, INSTRUCTION (GERMAN) (G)	
	X-3373-386-1	CASE ASSY (for FRONT PANEL)	
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Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
501	3-011-653-01	FRAME	
502	3-386-828-01	SCREW, FITTING	
* 503	3-358-697-01	BUSHING	
504	3-909-731-01	KEY	
505	3-012-213-21	COLLAR	
506	1-465-459-11	ADAPTOR, ANTENNA	
507	7-682-560-04	SCREW +P 4X6	
508	1-776-527-41	CORD (WITH CONNECTOR) (ISO) (POWER)	
509	1-775-543-11	CORD, GROUND	
510	X-3373-432-1	BRACKET ASSY (for RM-X2S)