

XR-4880

SERVICE MANUAL

AEP Model
UK Model



Photo: XR-4880

Model Name Using Similar Mechanism	XR-C6100R
Tape Transport Mechanism Type	MG-25F-136

SPECIFICATIONS

Cassette player section

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

Cassette type

TYPE II, IV	61 dB
TYPE I	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	0.7 % (stereo), 0.4 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz

MW/LW

Tuning range	MW: 531 - 1,602 kHz LW: 153 - 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	MW: 30 μ V LW: 50 μ V

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 - 8 ohms
Maximum power output	35 W \times 4 (at 4 ohms)

General

Outputs	Power aerial relay control lead
Tone controls	Bass \pm 8 dB at 100 Hz Treble \pm 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 188 \times 58 \times 181 mm (w/h/d)
Mounting dimensions	Approx. 182 \times 53 \times 164 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW CASSETTE CAR STEREO



SONY®

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Flexible Circuit Board Repairing

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

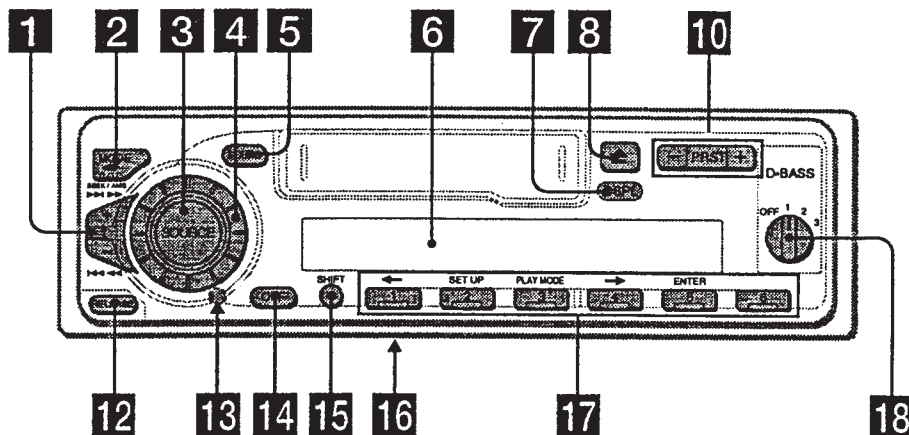
Notes on chip component replacement

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

SECTION 1 GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages listed for details.

- | | |
|---|---|
| <p>1 SEEK/AMS (seek/Automatic Music Sensor/manual search) control 6, 8, 11, 14</p> <p>2 MODE (◀▶) button
During tape playback:
Playback direction change 6
During radio reception:
BAND select 7, 8</p> <p>3 SOURCE (TAPE/TUNER) button 6, 7, 8, 12</p> <p>4 Dial (volume/bass/treble/left-right/rear-front control) 5, 17</p> <p>5 SOUND button 17</p> <p>6 Display window</p> <p>7 DSPL (display mode change) button 6, 9, 10</p> <p>8 ▲ (eject) button 6</p> | <p>10 PRST button
During radio reception:
Preset stations select 8</p> <p>12 RELEASE (front panel release) button 4, 20</p> <p>13 Reset button (located on the front side of the unit behind the front panel) 4</p> <p>14 OFF button 4, 6</p> <p>15 SHIFT button
PLAY MODE 7, 8, 11, 13
SET UP 5, 14, 17</p> <p>16 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT switch" in the Installation/Connections manual.</p> <p>17 Number buttons 8, 11, 13</p> <p>18 D-BASS control 18</p> |
|---|---|

Getting Started

Resetting the unit

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



Reset button

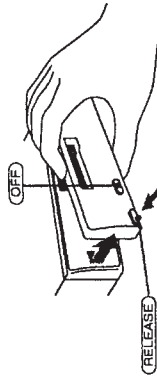
Note

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

Detaching the front panel

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

- 1 Press **(OFF)**.
- 2 Press **(RELEASE)**, then slide the front panel a little to the left, and pull it off towards you.

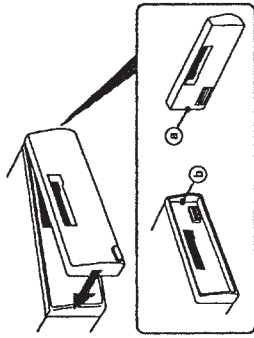


Notes

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

Attaching the front panel

Attach part ① of the front panel to part ② of the unit as illustrated and push the left side into position until it clicks.



Notes

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

Caution alarm

If you turn the 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 ④ position).

Setting the clock

The clock uses a 24-hour digital indication.

Example: To set the clock to 10:08

- 1 Press **(SHIFT)**, then press **(2) (SET UP)** repeatedly until "CLOCK" appears.



- 1 Press **(4) (←→)**.



The hour indication flashes.

- 2 Set the hour.



to go backward

to go forward



- 3 Press **(4) (←→)**.



The minute indication flashes.

- 4 Set the minute.



to go backward

to go forward



- 2 Press **(SHIFT)**.



The clock starts.

- 3 Press **(SHIFT)**.

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

Note

If the POWER SELECT switch on the bottom of the unit is set to the ④ position, turn the power on first, then set the clock.

Installation

Precautions

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

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

How to detach and attach the front panel

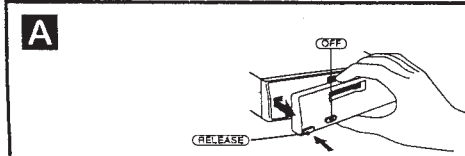
Before installing the unit, detach the front panel.

A To detach

Before detaching the front panel, be sure to press (OFF). Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.

B To attach

Attach part ② of the front panel to part ① of the unit as illustrated and push the left side into position until it clicks.



Montering

Säkerhetsföreskrifter

- Låt de fyra hålen på bilstereons ovansida vara. De är till för radiojusteringar som endast får utföras av fackkunniga tekniker.
- 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 monteringsstillbehören för att vara säker på att bilstereon monteras på ett säkert och korrekt sätt.

Tillåten monteringsvinkel

Monteringsvinkeln får inte vara större än 20 grader.

Ta loss/fästa frontpanelen

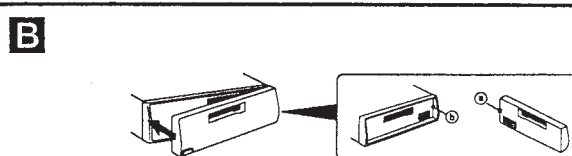
Ta loss frontpanelen innan du monterar bilstereon.

A Ta loss frontpanelen

Se till att enheten är avstängd innan du tar bort frontpanelen. Tryck på (OFF). Tryck sedan på (RELEASE) och skjut frontpanelen lite åt vänster medan du drar den emot dig.

B Fästa frontpanelen

Sätt fast del ② på frontpanelen på del ① på enheten enligt bilden och tryck på den vänstra sidan tills det klickar till.



Instalação

Precauções

- Não toque nos quatro orifícios da superfície da parte superior do aparelho. Estes servem para regulações do sintonizador que devem ser efectuadas somente por técnicos qualificados.
- 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 material de montagem fornecido.

Ajuste do ângulo de montagem

Ajuste o ângulo de montagem a menos de 20°.

Para retirar e colocar o painel frontal

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

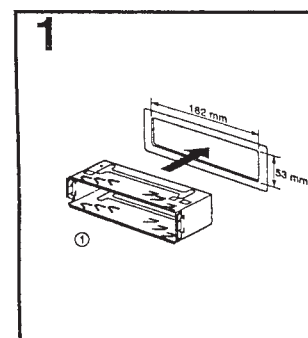
A Para retirar

Antes de retirar o painel frontal, tem de carregar em (OFF). Carregue em (RELEASE), faça deslizar o painel um pouco para a esquerda e puxe-o para si.

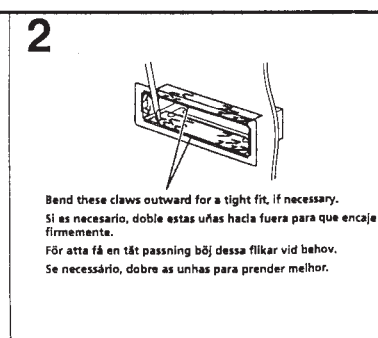
B Para colocar

Encaixe a parte ② do painel frontal na parte ① do aparelho, como se mostra na figura, fazendo pressão sobre o painel até ouvir um estalido.

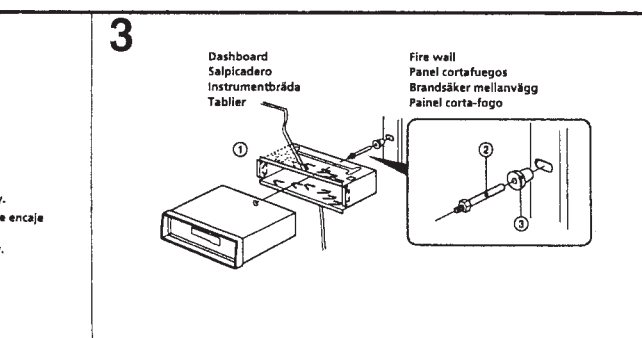
Installation in the dashboard



Instalación en el salpicadero



Montera på instrumentbrädan



Reset button

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

Botón de restauración

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

Återställningsknappen

Se till att trycka på återställningsknappen med en kulspetspenna eller liknande, när installationen och anslutningarna är klara.

Botão de reinicialização

Depois de terminar a instalação e as ligações, tem de carregar no botão de reinicialização com uma esferográfica.



Connections

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Connect the power connecting cord ② to the unit and speakers before connecting it to the auxiliary power connector.
- Run all earth wires to a common earth point.
- Connect the yellow cord to a fuse car circuit rated higher than the unit's fuse rating. If you connect this unit in combination with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If your car has no accessory position on the ignition key switch — POWER SELECT switch

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

- Notes**
- The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ② position.
 - Do not use excessive force when changing the POWER SELECT switch.

Notes of connection example

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

Warning
If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ② may damage the aerial.

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. Be sure to connect passive speakers to these terminals.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Tenga cuidado de no atrapar ningún cable entre algún tornillo y la carrocería del automóvil o esta unidad o entre las partes móviles, como por ejemplo los rielles del asiento, etc.
- Conecte el cable de conexión de alimentación ② 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 del automóvil de potencia nominal superior a la del fusible de la unidad. Si conecta esta unidad en combinación 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 tan alta como la del fusible de la unidad, conecte ésta 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

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 ② y, después, pulse el botón de restauración. La iluminación estará desactivada cuando la unidad no se encuentre en funcionamiento.

- Notas**
- La alarma de precaución para el panel frontal no se activará si el selector POWER SELECT está ajustado en la posición ②.
 - No emplee excesiva fuerza al cambiar el selector POWER SELECT.

Notas de ejemplo de conexiones

- Notas sobre conductores de control**
- El conductor de control (azul) de la antena motorizada suministra +12 V CC al activar el sintonizador o la función ATA (activación automática del sintonizador).
 - Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.

Advertencia
Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ② suministrado puede dañar la antena.

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

- 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 hiciera, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.

Anslutning

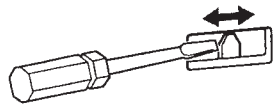
Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Var noga med att inga kablar kläms mellan någon skruv eller att de blir klämda mellan rörliga delar som t.ex. bilsätet.
- Anslut strömkabeln ② till enheten och högtalarna innan du ansluter den till den yttre strömanslutningen.
- Dra samtliga jordledningar till en och samma jordningspunkt.
- Anslut den gula kabeln till en ledig bilkrets med ett högre amperetal än enhetens. Om du kopplar både denna enhet och andra stereokomponenter till en och samma bilkrets, måste den bilkretsen kopplas till ha en högre amperetal 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 ett högre amperetal än enhetens säkring, så att det är denna som går i stället för bilens.

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 ②, och tryck sedan på återställningsknappen för att undvika att batteriet laddas ur. Nu lyser inte längre belysningen i teckenfönstret när bilstereon inte används.

- Obsvera**
- Varningssignalen för frontpanelen lyder inte när omkopplaren POWER SELECT står i läge ②.
 - Ta inte i för mycket när du ställer om POWER SELECT-omkopplaren.



Att observera angående anslutningsexemplet

- Att observera angående de olika styrkablarna**
- Motorantennens styrkabel (blå) leder +12 volts likström när radion slås på eller när radiomottagningsautomatiken (ATA) aktiveras.
 - En motorantenn utan styrreläosa kan inte anslutas till denna bilstereo.

Varning
Om du har en motorantenn utan reläosa kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ②.

Anslutning för minnasstöd
När du anslutit den gula, ingående strömkabeln försörjs minneskretsen med ström hela tiden, även när tändlåset slås ifrån.

- Att observera angående högtalarnas anslutning**
- Slå av bilstereon innan du ansluter högtalarna.
 - Anslut 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 högtalarna till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.
 - Anslut inte högtalarna parallellt.
 - Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalartuggar, eftersom de kan skada de aktiva högtalarna. Var noga med att bara ansluta passiva högtalare till dessa uttag.

Ligações

Cuidado

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com negativo à massa.
- Tenha cuidado para que os fios não fiquem entalados entre os parafusos e a carroceria do automóvel ou a caixa do aparelho nem entre as peças móveis, por exemplo, as calhas dos bancos, etc.
- Ligue o cabo de alimentação de corrente ② ao aparelho e aos alifalantes antes de o ligar ao conector de corrente auxiliar.
- Ligue todos os fios de terra num ponto de massa comum.
- Ligue o cabo anelarelo a um circuito eléctrico livre do automóvel, cuja potência nominal seja superior à dos fusíveis do aparelho. Se ligar este aparelho em série com outros componentes estéreo, a potência nominal do circuito eléctrico do automóvel onde os fusíveis de todos os componentes individuais. Se não houver nenhum circuito eléctrico do automóvel com uma potência nominal tão elevada como a dos fusíveis do aparelho, ligue-o directamente à bateria. Se não estiver disponível nenhum circuito eléctrico do automóvel para ligação deste aparelho, ligue-o a um circuito eléctrico do automóvel com uma potência nominal superior à dos fusíveis do aparelho, de tal modo que, se o aparelho reventar os fusíveis respectivos, nenhum outro circuito seja cortado.

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

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 a descarga da bateria, regule o interruptor POWER SELECT, situado na base do aparelho, para a posição ②. Em seguida, carregue no botão de reinicialização. A iluminação é regulada para ficar apagada enquanto o aparelho estiver desligado.

- Notas**
- O alarme de aviso do painel frontal não é activado se o selector POWER SELECT estiver colocado na posição ②.
 - Não faça demasiada força quando mudar a posição do selector POWER SELECT.

Notas sobre o exemplo de ligação

- Notas sobre os fios de controlo**
- O fio de controlo (azul) da antena eléctrica fornece uma corrente de 12V CC quando ligar o sintonizador ou activar a função ATA (activação automática do sintonizador).
 - Não pode utilizar uma antena eléctrica sem caixa de relé com este aparelho.

Atenção
Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar este aparelho com a chave de alimentação ② fornecida, pode provocar danos na antena.

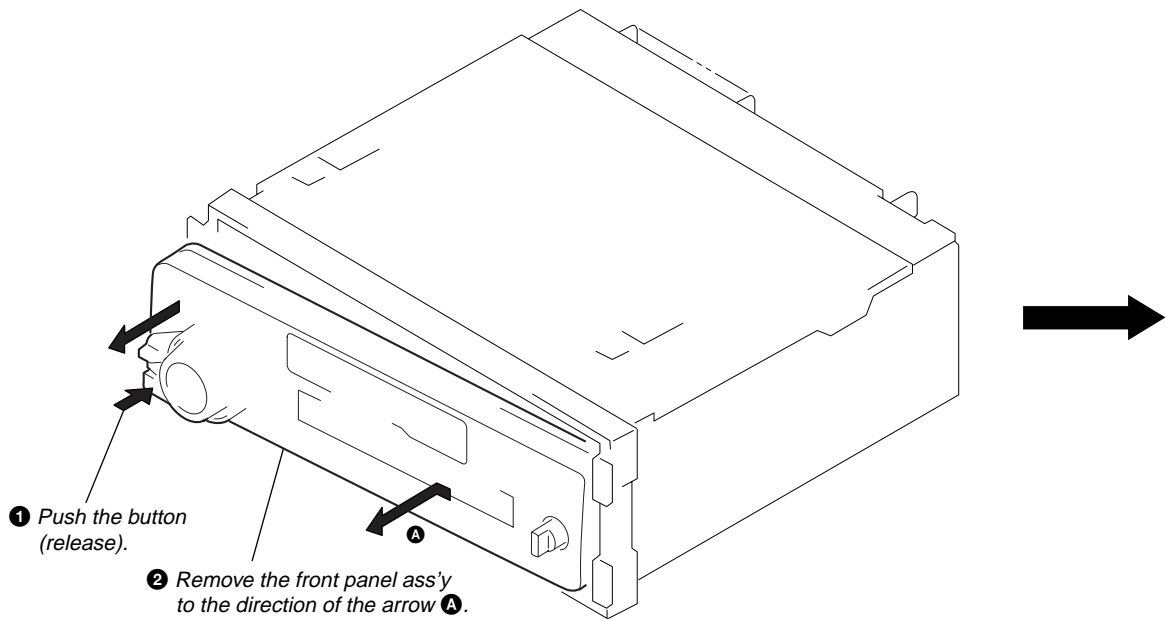
Ligações para alimentação contínua da memória
Quando, o fio amarelo de entrada de alimentação for ligado, os circuitos de memória ficarão com alimentação contínua, mesmo se a chave de ignição estiver desligada.

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

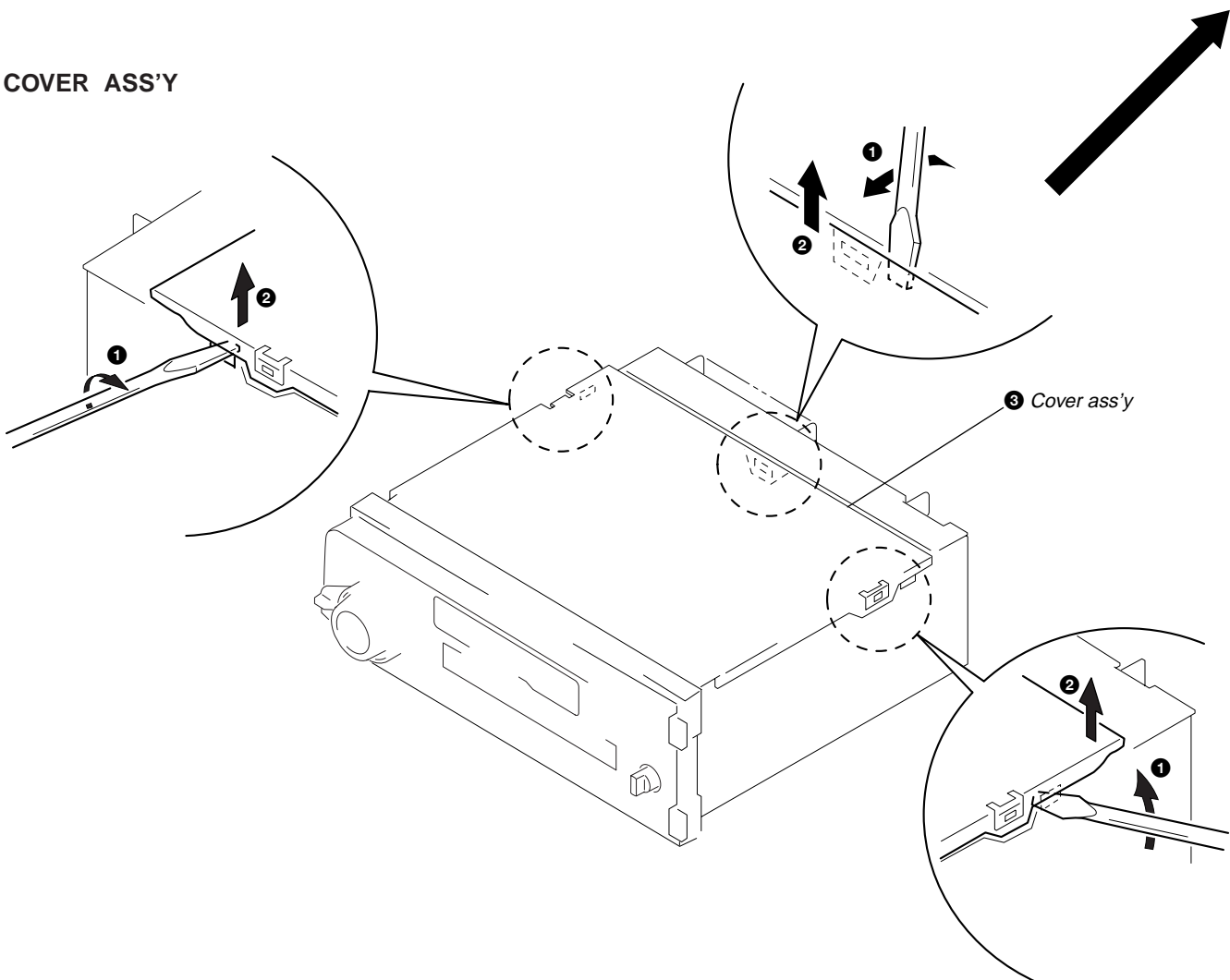
SECTION 2 DISASSEMBLY

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

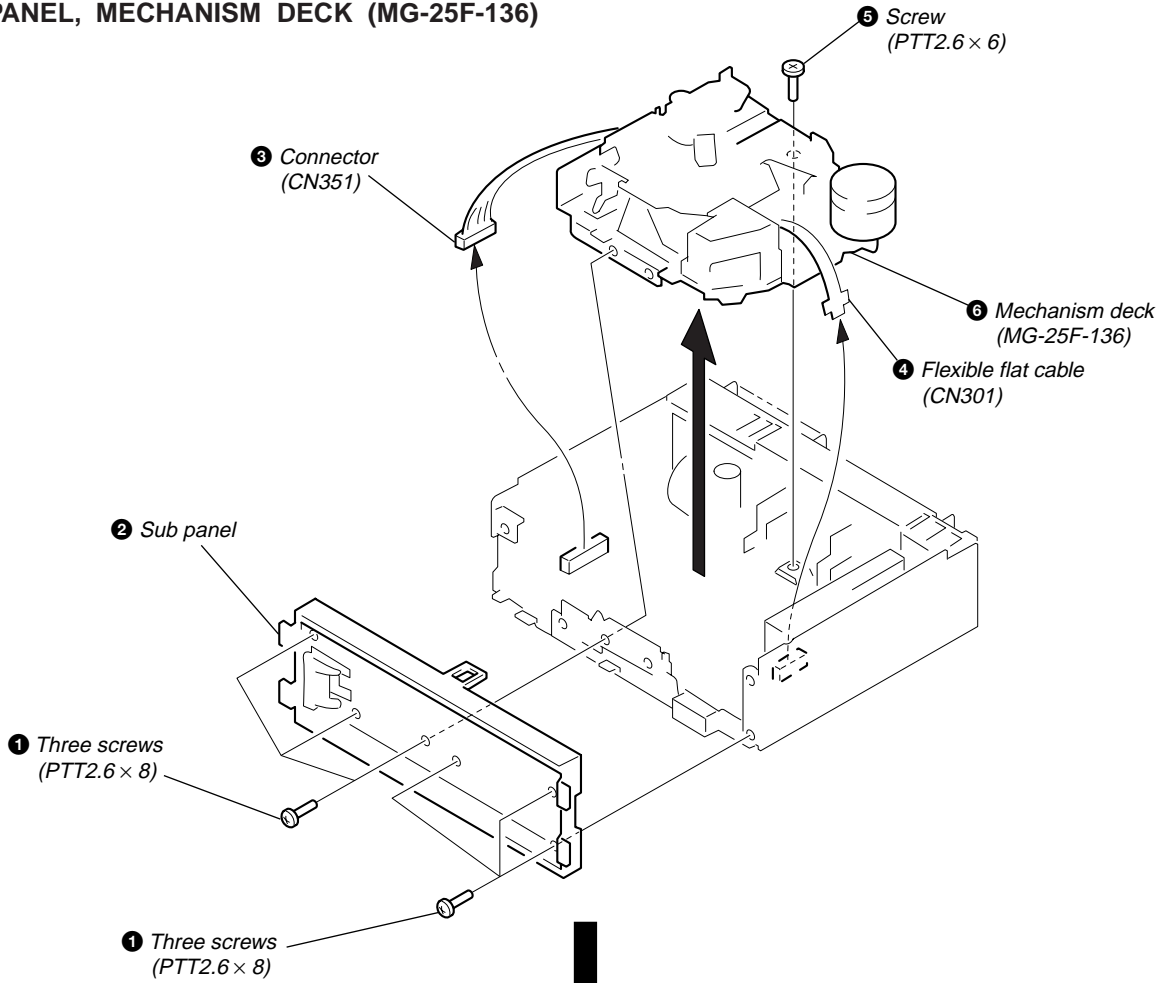
FRONT PANEL ASS'Y



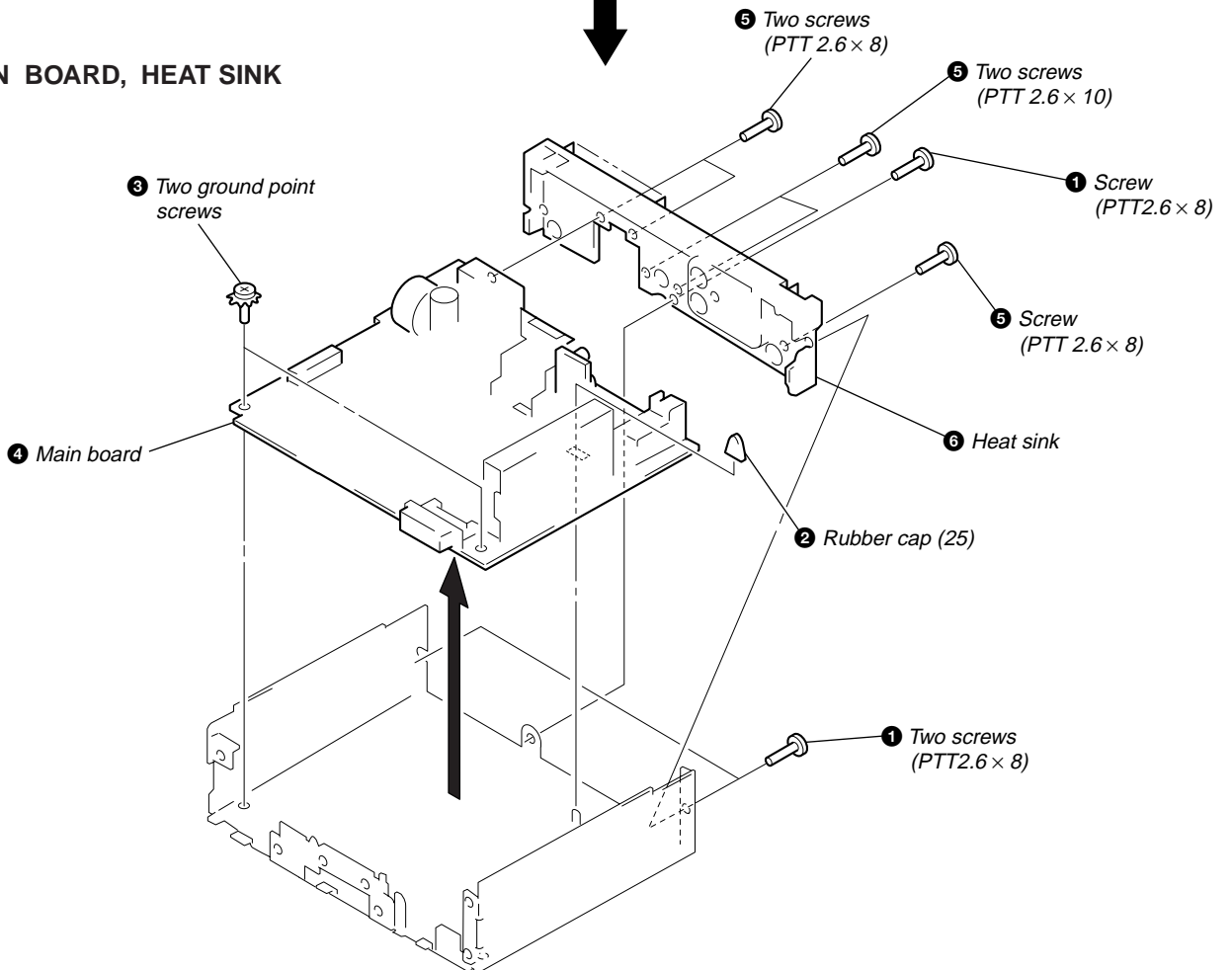
COVER ASS'Y



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



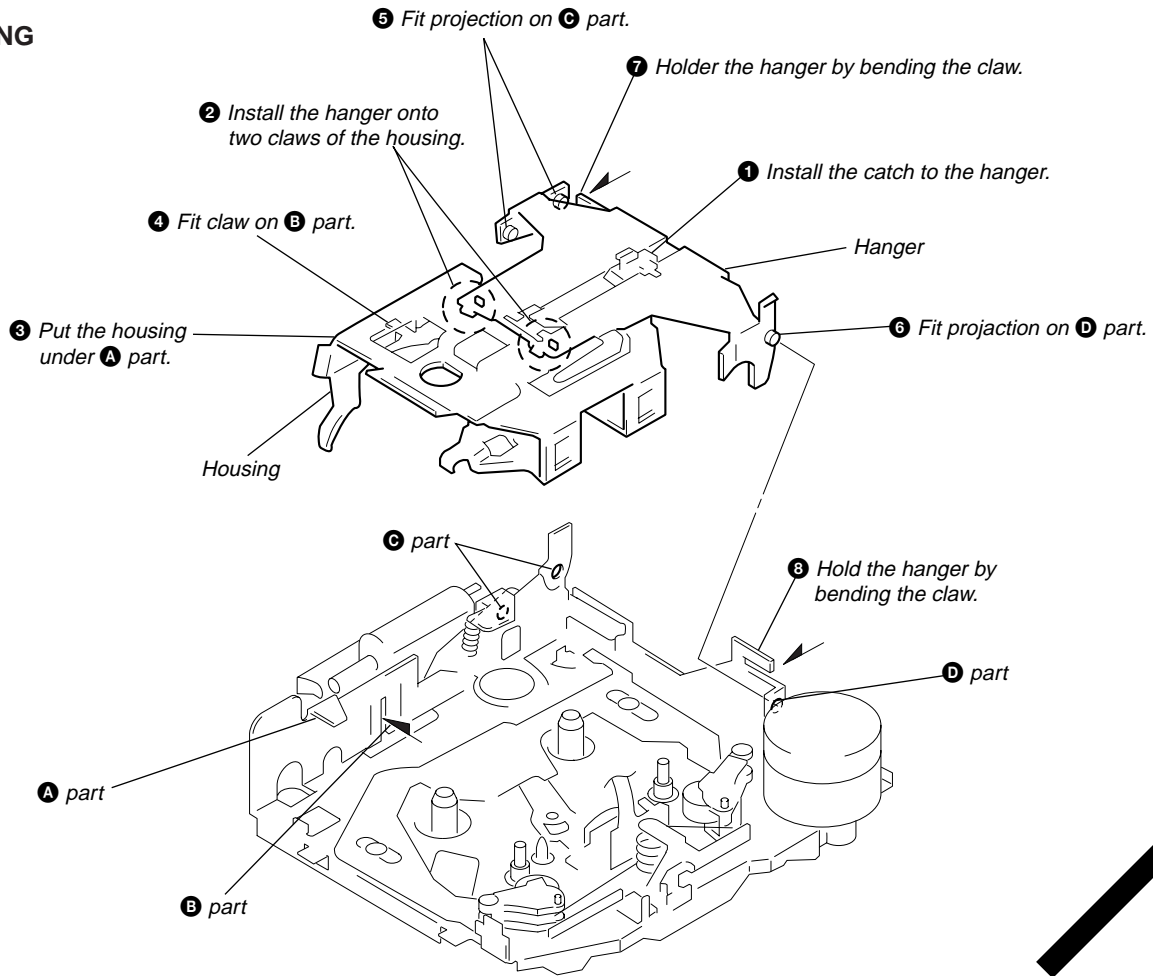
MAIN BOARD, HEAT SINK



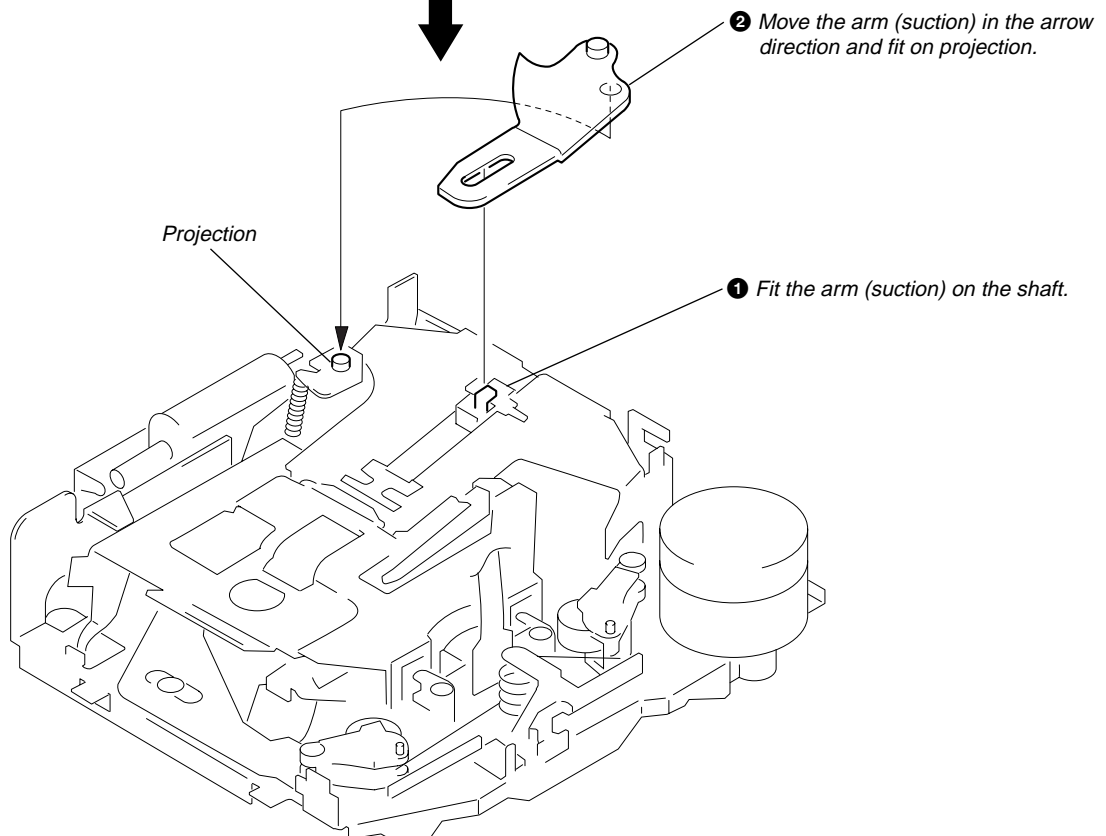
SECTION 3 ASSEMBLY OF MECHANISM DECK

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

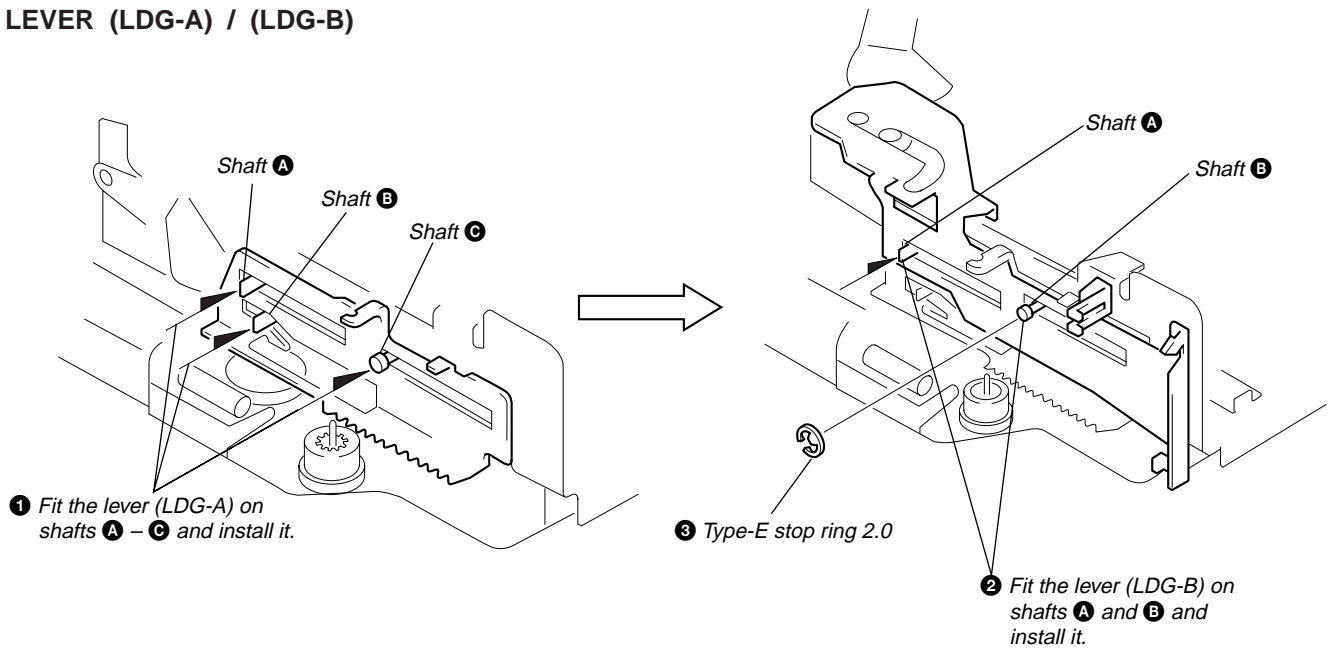
HOUSING



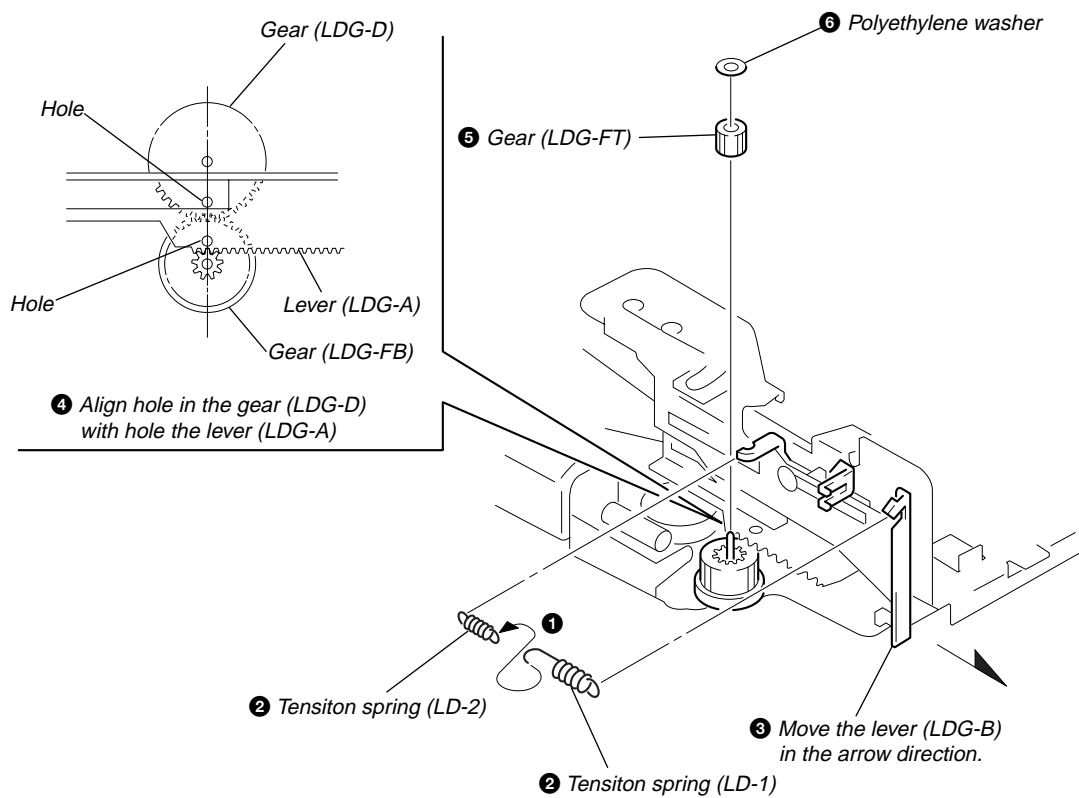
ARM (SUCTION)



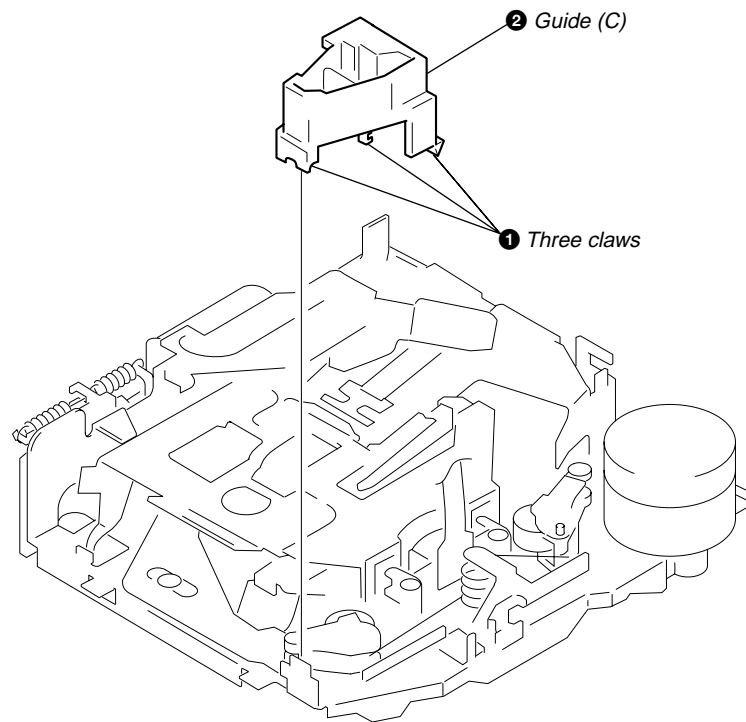
LEVER (LDG-A) / (LDG-B)



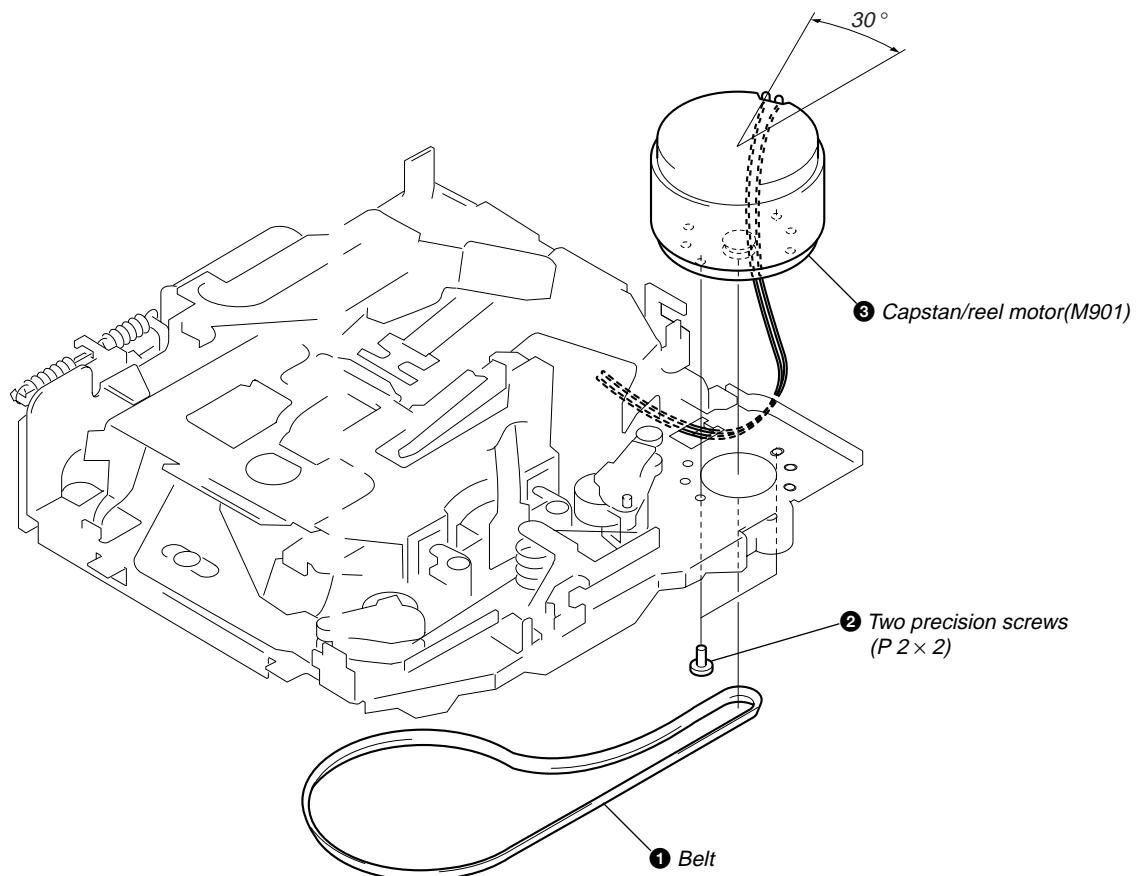
GEAR (LDG-FT)



GUIDE (C)



MOUNTING POSITION OF CAPSTAN/REEL MOTOR (M901)



SECTION 4 MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:

playback head	pinch roller
rubber belt	capstan
idlers	
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	CA-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 "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test mode>

1. Push the [OFF] button.

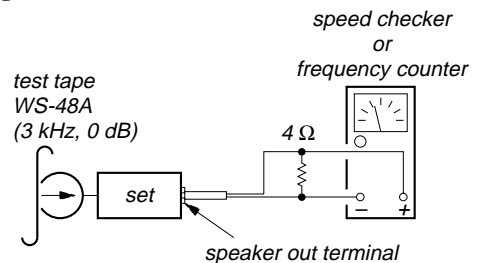
See the adjustment location from on page 16 for the adjustment.

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 3,075Hz

Adjustment Location: See page 16.

TUNER SECTION

0 dB=1 μ V

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.

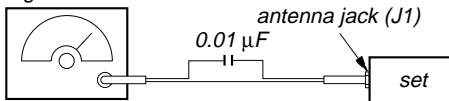
1. FM Auto Scan/Stop Level Adjustment.
2. FM Stereo Separation Adjustment.
3. MW Auto Scan/Stop Level Adjustment.

FM Auto Scan/Stop Level Adjustment

Setting:

[SOURCE] button: FM

FM RF signal generator

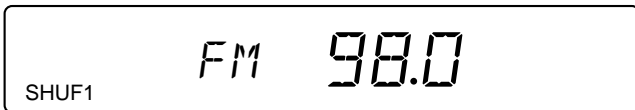


Carrier frequency : 98.0 MHz
 Output level : 22 dB (12.6 μ V)
 Mode : mono
 Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure:

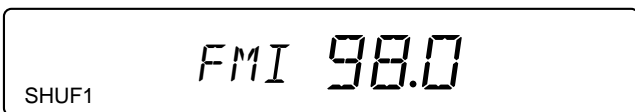
1. Set to the test mode. (See page 13).
2. Push the [SOURCE] button and set to FM.

Display



3. Adjust with the volume RV2 on TU1 so that the "FM" indication turns to "FMI" indication on the display window. But, in case of already indicated "FMI", turn the RV2 so that put out light "I" indication and adjustment.

Display

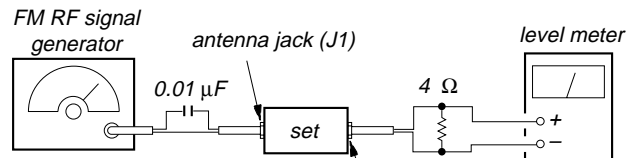


Adjustment Location: See page 16.

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, 33.75 kHz deviation (45%)
 sub: 1 kHz, 33.75 kHz deviation (45%)
 19 kHz pilot: 7.5 kHz deviation (10%)

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 TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ

R-CH Stereo separation: Ⓒ-Ⓓ

The separations of both channels should be equal.

Specification: Separation more than 28dB

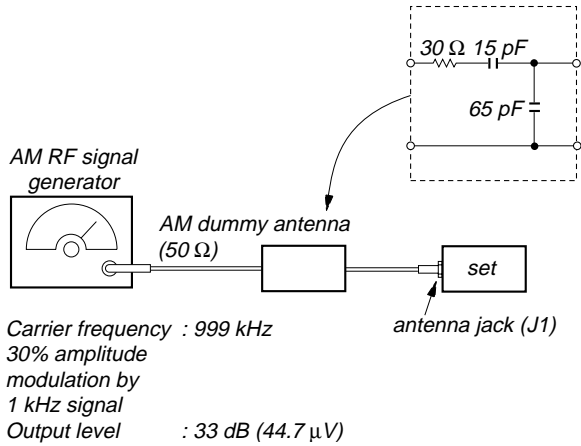
Adjustment Location: See page 16.

Auto Scan/Stop Level Adjustment

Make this adjustment after "FM Auto Scan/Stop Level Adjustment".

Setting:

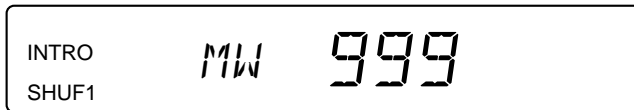
[SOURCE] and [MODE] button: MW



Procedure:

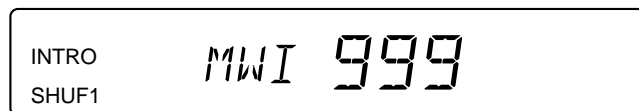
1. Set to the test mode. (See page 13.)
2. Push the [SOURCE] button and set to FM.
3. Push the [MODE] button and set to MW.

Display



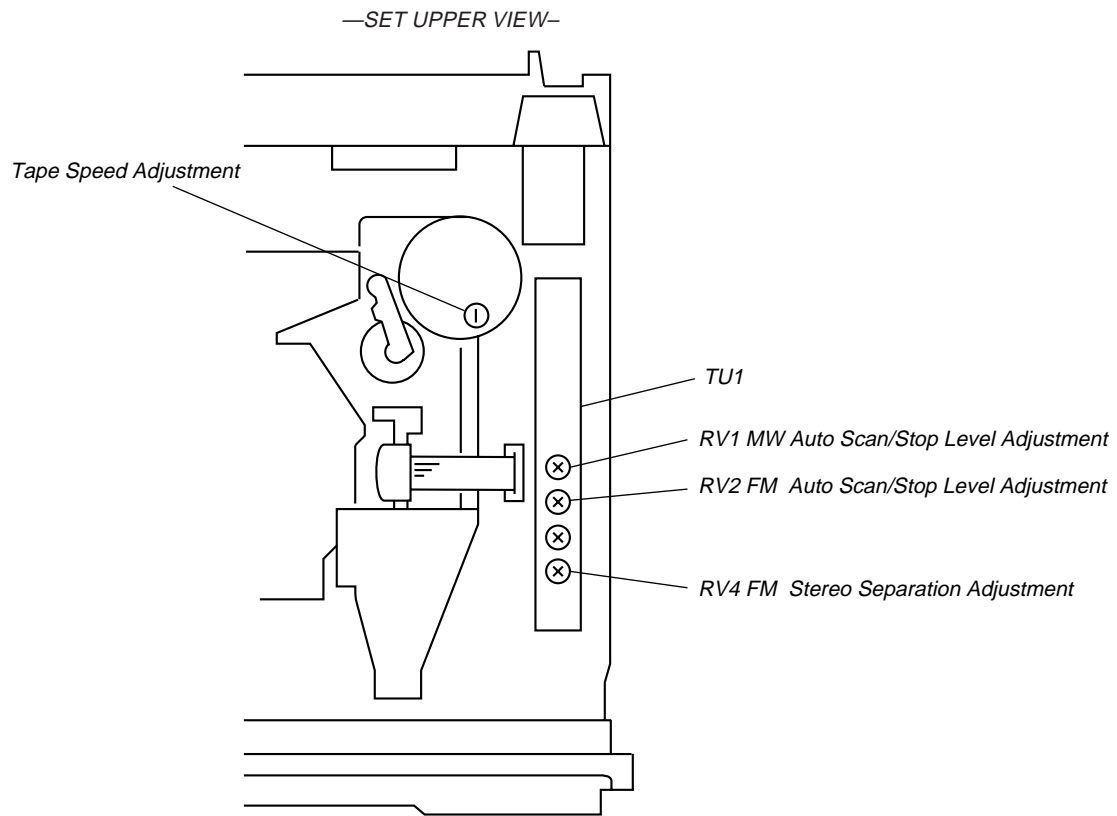
4. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MWI" indication on the display window. But, in case of already indicated "MWI", turn the RV1 so that put out light "I" indication and adjustment.

Display



Adjustment Location: See page 16.

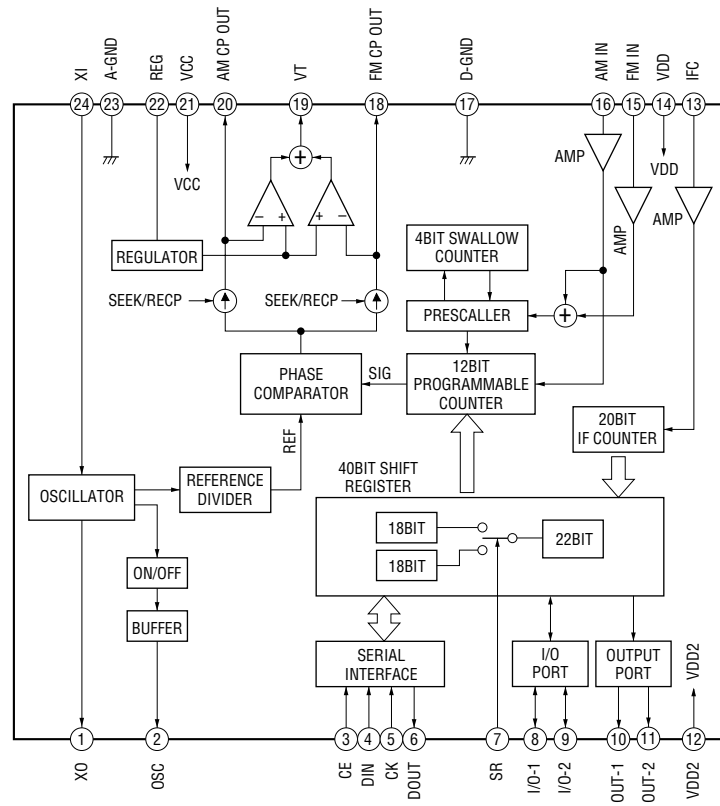
Adjustment Location:



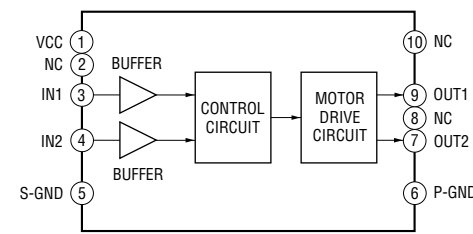
SECTION 6 DIAGRAMS

• IC Block Diagrams – MAIN Board –

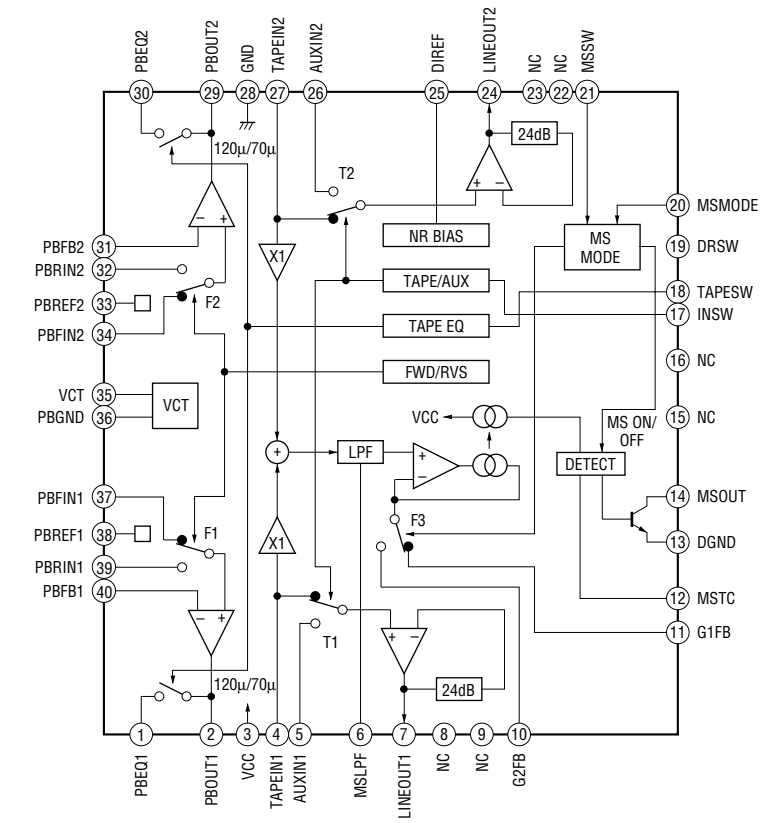
IC21 TB2118F (EL)



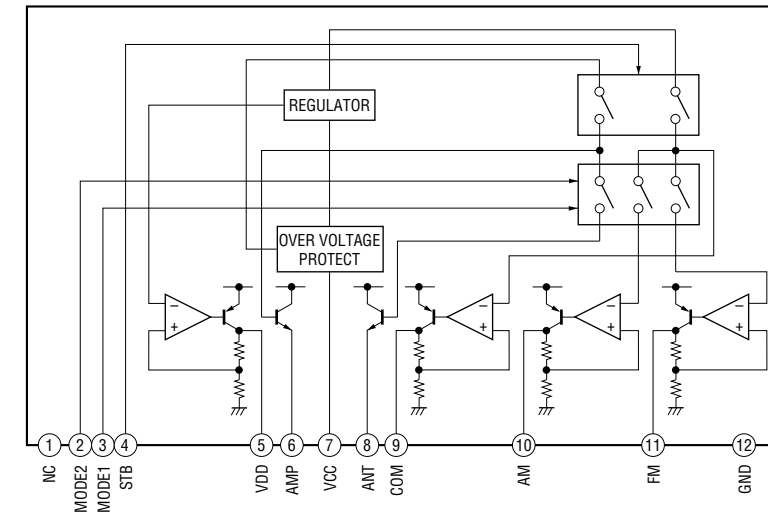
IC351 LB1930M-TLM



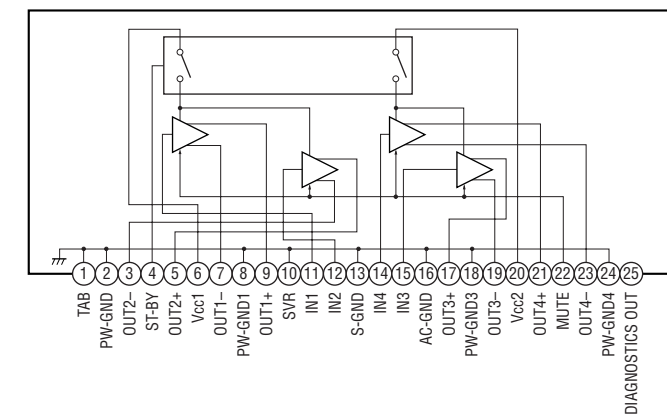
IC301 CXA2509AQ-T4



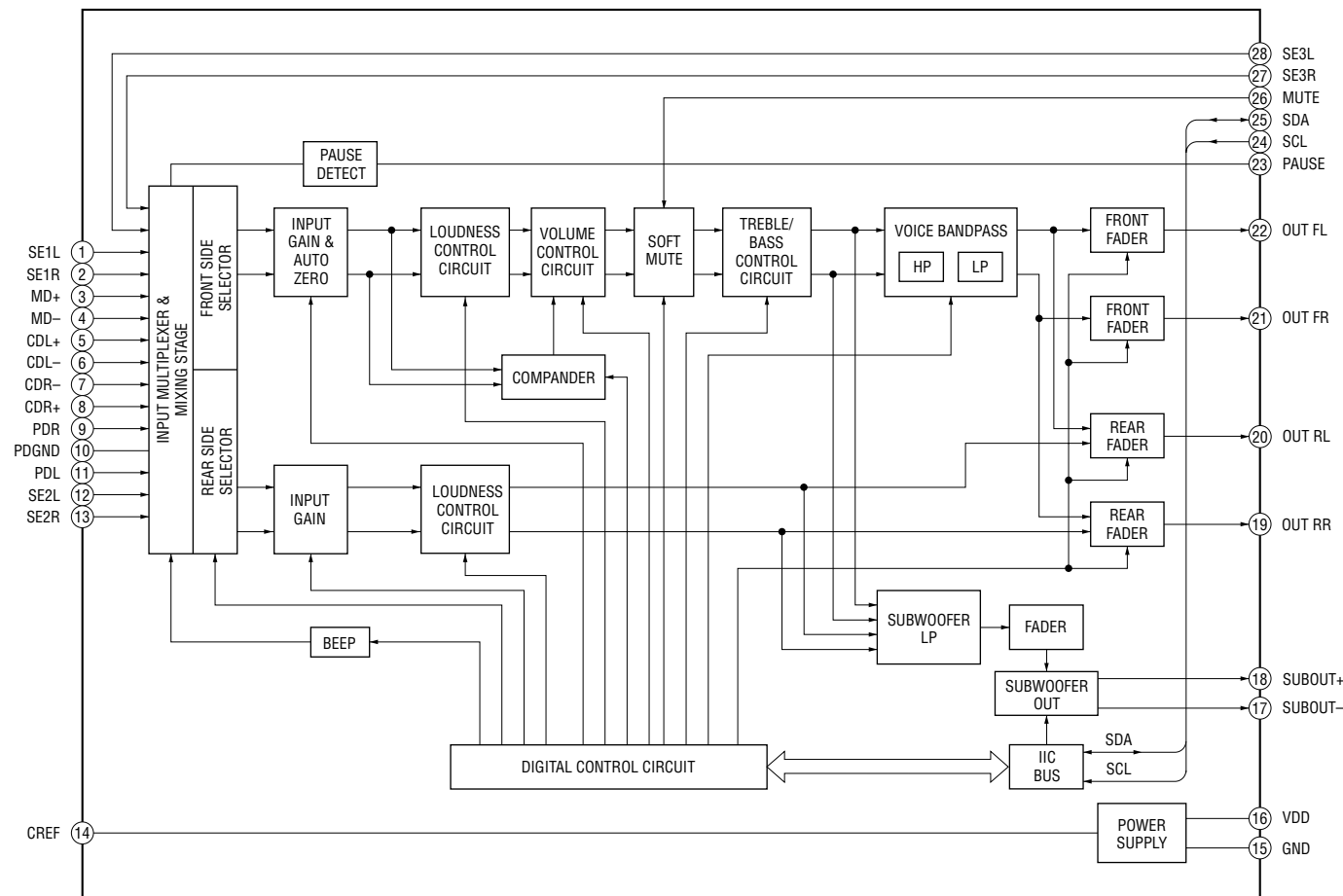
IC661 BA3918-V2



IC751 TDA7385



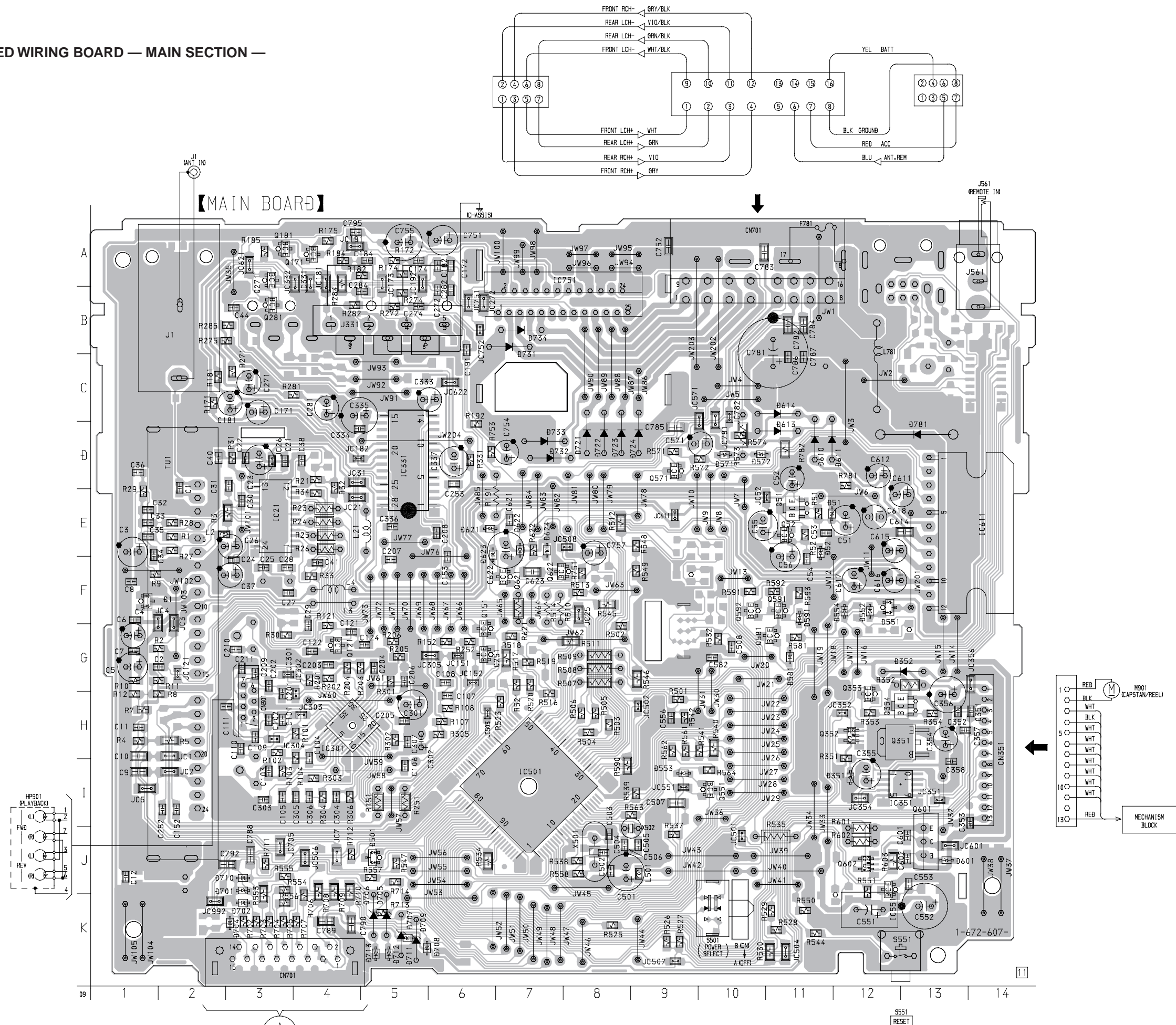
IC331 TDA7462D



• Semiconductor Location

Ref. No.	Location
D1	F-1
D51	E-12
D52	E-11
D351	I-12
D352	G-13
D501	J-5
D551	F-12
D552	F-12
D553	I-9
D554	F-12
D571	D-10
D572	D-10
D581	G-11
D591	F-11
D601	J-13
D610	D-11
D611	D-12
D613	D-11
D614	C-11
D621	E-6
D622	E-7
D623	E-6
D624	E-7
D701	J-3
D702	K-3
D704	K-3
D705	K-5
D706	K-5
D707	K-5
D708	K-5
D709	K-5
D710	J-3
D711	K-5
D712	K-5
D713	K-5
D721	D-8
D722	D-8
D723	D-8
D724	D-9
D731	B-7
D732	D-7
D733	D-7
D734	B-7
D781	D-13
IC21	E-3
IC301	H-4
IC331	D-5
IC351	I-13
IC501	I-7
IC551	J-12
IC611	E-14
IC751	B-7
Q51	E-11
Q52	E-11
Q121	G-4
Q151	G-6
Q171	A-4
Q181	A-3
Q251	G-6
Q271	A-3
Q281	B-3
Q351	H-13
Q352	H-12
Q353	H-12
Q354	H-13
Q551	I-10
Q571	D-9
Q581	G-11
Q591	F-11
Q592	F-10
Q601	J-13
Q602	J-12
Q621	F-7
Q622	F-7

6-1. PRINTED WIRING BOARD — MAIN SECTION —



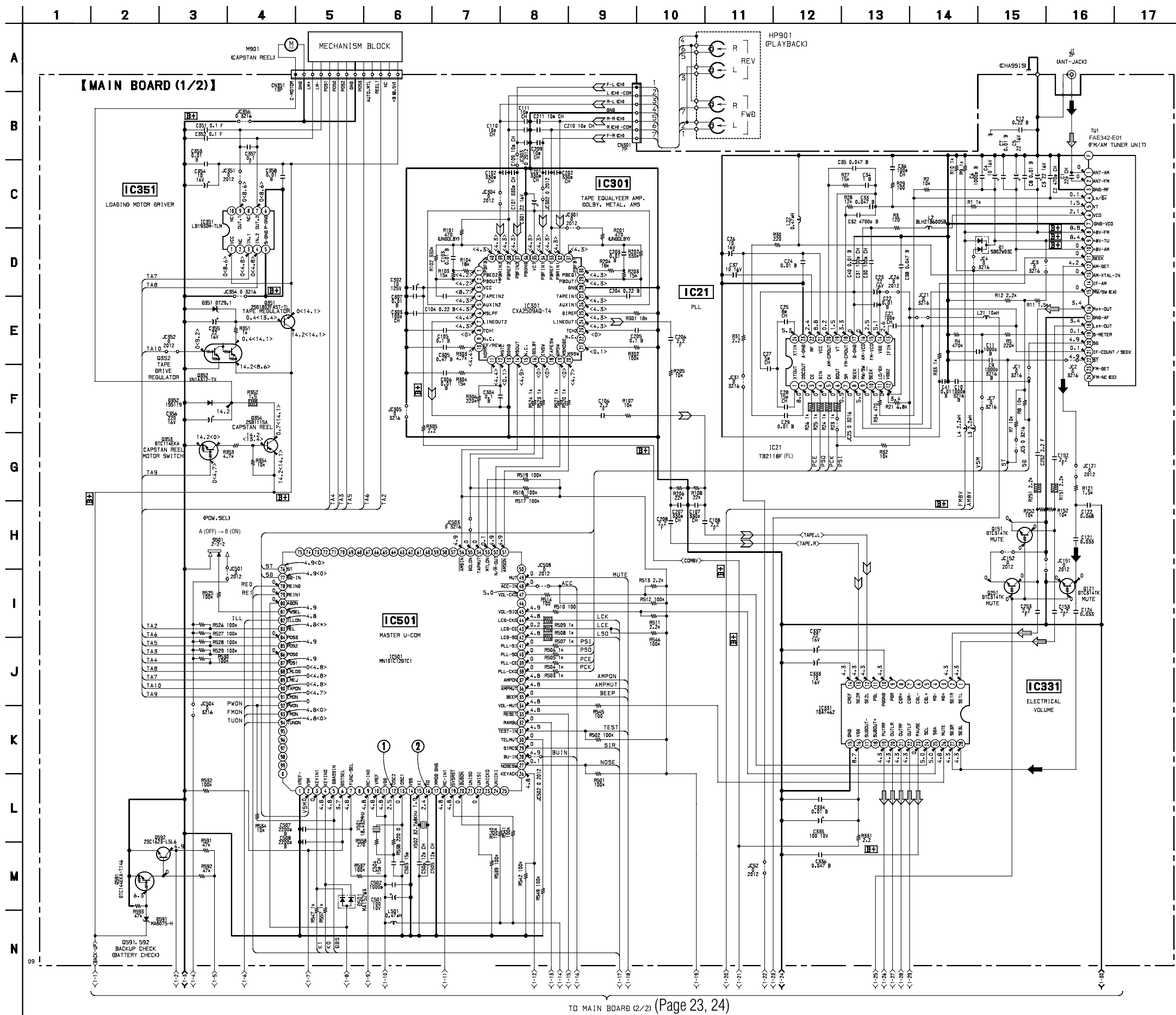
Noteon Printed Wiring Board:

- : parts extracted from the component side.
- : internal component.

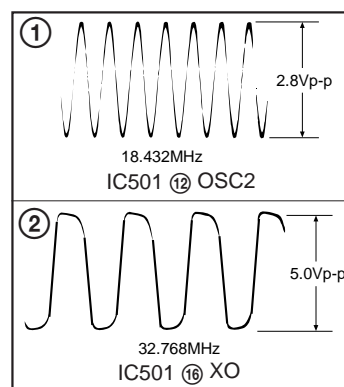
(Page 26)

6-2. SCHEMATIC DIAGRAM — MAIN (1/2) SECTION —

- Refer to page 17 for IC Block Diagrams.
- Refer to page 29 for IC Pin Function Description.



• Waveforms



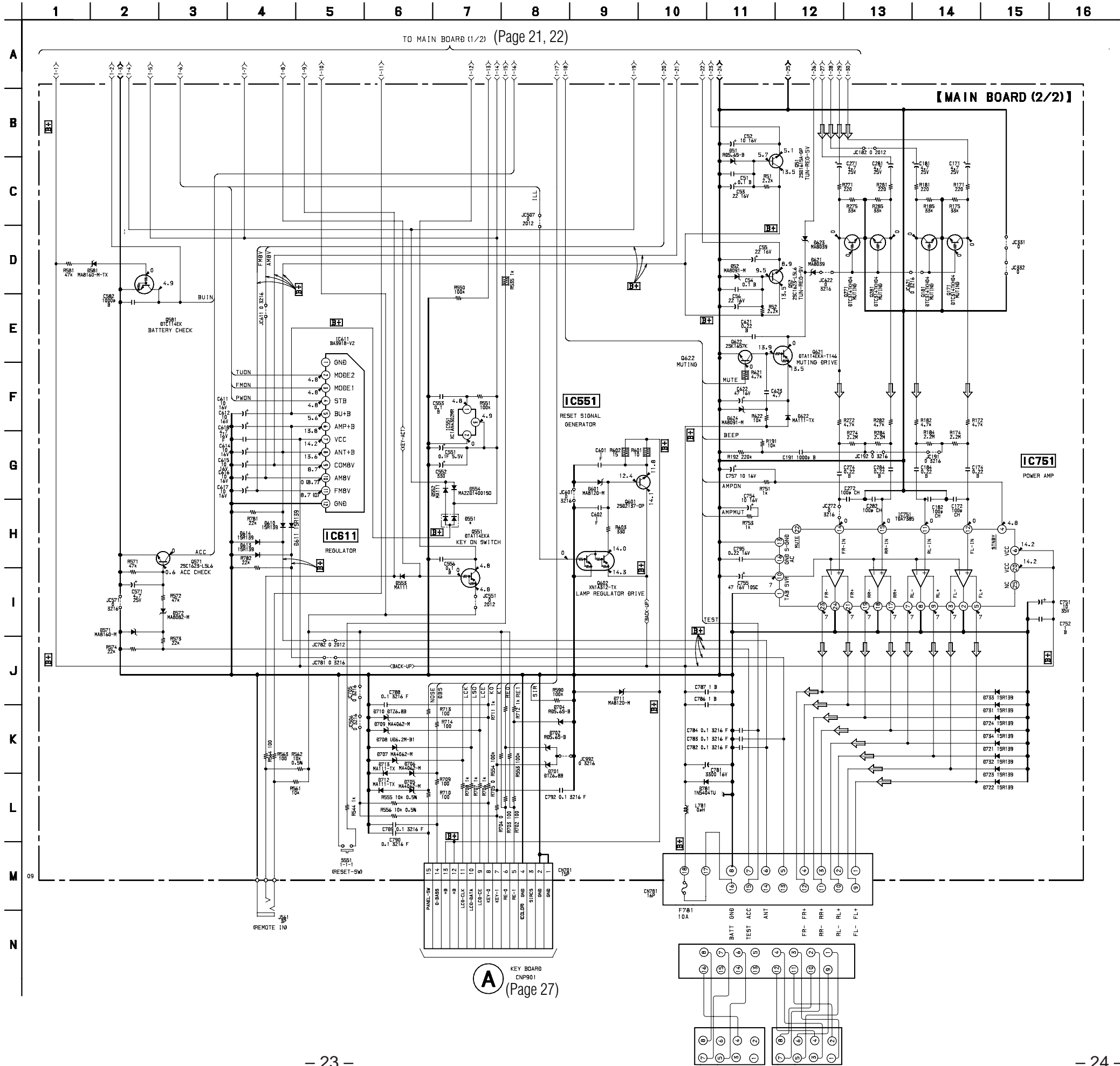
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- Δ : internal component.
- \square : panel designation.
- **B+**: B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : FM
- < : TAPE PLAYBACK
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \Rightarrow : AM (MW)
- \Rightarrow : TAPE PLAYBACK

TO MAIN BOARD (2/2) (Page 23, 24)

6-3. SCHEMATIC DIAGRAM — MAIN (2/2) SECTION —

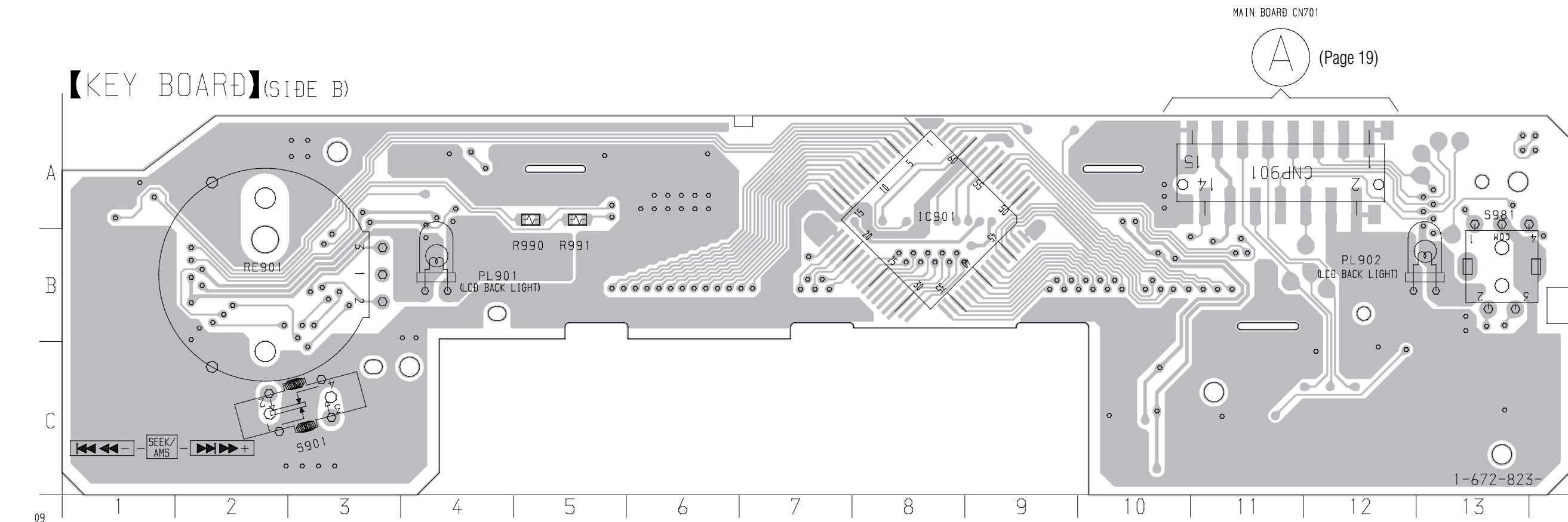
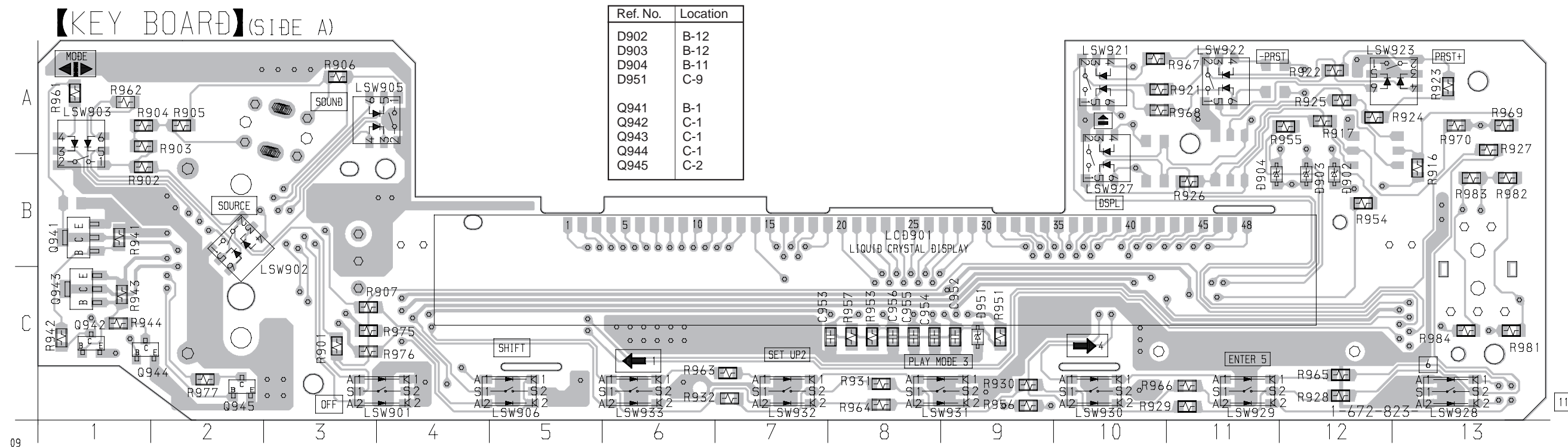
- Refer to page 17 for IC Block Diagrams.
- Refer to page 19 for Printed Wiring Board.



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μpF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \triangle : internal component.
- \square : panel designation.
- **B+** : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : FM
- < > : TAPE PLAYBACK
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 $\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \square : FM
- \blacktriangleright : AM (MW)
- \triangleright : TAPE PLAYBACK

6-4. PRINTED WIRING BOARD — PANEL SECTION —



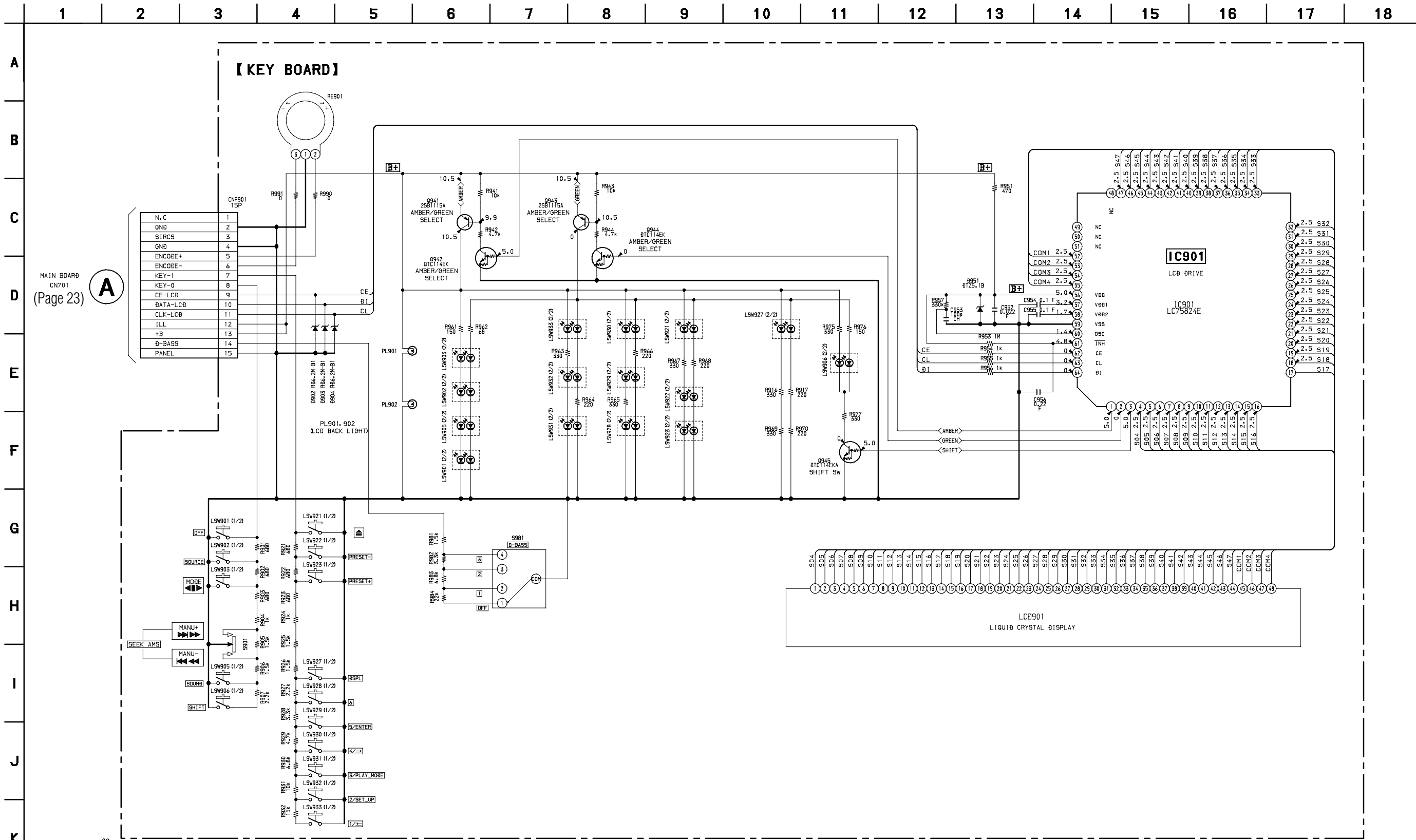
Note:

- : parts extracted from the component side.
- △ : internal component.
- ▨ : Pattern from the side which enables seeing.

Semiconductor Location	
Ref. No.	Location
IC901	A-8

6-5. SCHEMATIC DIAGRAM — PANEL SECTION —

• Refer to page 25 for Printed Wiring Board.



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. μF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- : panel designation.
- B+: B+ Line.

- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- \circ : FM
- $<$: TAPE PLAYBACK
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.

- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- \rightarrow : FM
- \rightarrow : AM (MW)
- \rightarrow : TAPE PLAYBACK

6-6. IC PIN FUNCTION DESCRIPTION
• IC501 MASTER U-COM (MN101C12GTC1)

Pin No.	Pin Name	I/O	Function
1	VREF-	–	Basic voltage (- side) of AD conversion input
2	VSM	I	FM/AM common signal meter A/D conversion input terminal
3	KEYIN1	I	KEY (AD conversion) input
4	KEYIN0	I	
5	DBASS IN	I	Position detecting AD input terminal of D-BASS
6	DSTSEL	I	Terminal for setting to select the value of destination
7	FUNC-SEL	I	Function selecting (AD conversion) input
8	–	O	Not used
9	RC-IN0	I	Rotary commander (AD conversion) input
10	VREF+	I	Basic voltage (+side) of AD conversion input
11	VDD	–	Power supply
12	OSC2	–	Radiator (18.432 MHz) connecting terminal
13	OSC1	–	
14	VSS	–	Ground
15	XI	–	Sub clock (for clock) radiator (32 kHz) connecting terminal
16	XO	–	
17	MMOD GND	–	Ground
18	RC-IN1	I	Rotary commander shift input
19	$\overline{\text{SYSRST}}$	O	SYSTEM RESET control output
20	$\overline{\text{BUSON}}$	O	BUS ON control output
21	UNISO	O	Serial data output
22	UNISI	I	Serial data input
23	UNICKO	O	Serial clock output
24	UNICKI	I	Serial clock input
25	–	O	Not used
26	KEYACK	I	Key input acknowledge
27	$\overline{\text{NOSES\W}}$	I	Removing/attaching front panel detection input
28	BU-IN	I	BACK-UP detection input terminal
29	SIRCS	I	Remote control input
30	TELMUT	I	TELEPHONE MUTE detection input
31	$\overline{\text{TEST-IN}}$	I	Test mode setting input terminal
32	RAMBU	I	Reset detection input of RAM
33	$\overline{\text{RESET}}$	I	Reset input terminal
34	VOL-MUT	O	Electrical volume mute control output
35	BEEP	O	Control output for buzzer
36	$\overline{\text{AMPMUT}}$	O	Power amplifier mute control output terminal
37	AMPON	O	Power amplifier STANDBY control terminal
38	PLL-CKD	O	PLL CLK output terminal
39	PLL-CE	O	PLL CE output terminal
40	PLL-SO	O	PLL DATA output terminal
41	PLL-SI	I	PLL DATA input terminal
42	LCD-SO	O	LCD serial data output
43	LCD-CE	O	LCD chip enable output terminal
44	LCD-CKO	O	LCD serial clock output
45	VOL-SIO	O	Electrical volume serial data output
46	–	O	Not used
47	VOL-CKD	O	Electrical volume serial data output
48	$\overline{\text{ACC-IN}}$	I	Accessory power supply detection input
49	MUT	O	System MUTE control output

Pin No.	Pin Name	I/O	Function
50	NCO	O	Not used
51	$\overline{\text{AMSON}}$	O	“L” is output in AMS mode
52	N/ $\overline{\text{R}}$ -OUT	O	FWD/REV control output
53	MTLON	I/O	Metal control input/output
54	TAPMUT	O	Tape mute control output
55	DOLON	I/O	Dolby control input/output
56	$\overline{\text{AMSIN}}$	I	Input to detect existence of song during AMS mode
57 to 75	NCO	O	Not used
76	ST	I/O	Combination stereo input and monaural output
77	SD-IN	I	SIGNAL DETECTOR input terminal
78	REIN 1	I	Rotary encoder input terminal
79	REIN 0	I	
80	$\overline{\text{ADON}}$	O	Power supply control output of AD conversion
81	PW SEL	I	Power selection initialise
82	ILLON	O	Illumination power supply control output
83	REL	I	Input to detect rotation of reel table
84	POS3	I	Tape position signal detection input
85	POS2	I	
86	POS0	I	
87	POS1	I	
88	LM LOD	O	Loading motor control output (to a direction of loading)
89	LM EJ	O	Loading motor control output (to a direction of ejection)
90	TAPON	O	TAPE power supply control output When ‘on’ is output, “H” is output, otherwise when ‘off’ is output, “L” is output.
91	CM ON	O	Capstan motor control signal output terminal of TAPE
92	PW ON	O	System power supply control output
93	FM ON	O	FM power supply control output terminal
94	TUNON	O	TUNER power supply control output terminal
95	DAVSS	–	Ground
96 to 99	NCO	O	Not used
100	DAVDD	–	Not used (Power supply for DA converter)

SECTION 7 EXPLODED VIEWS

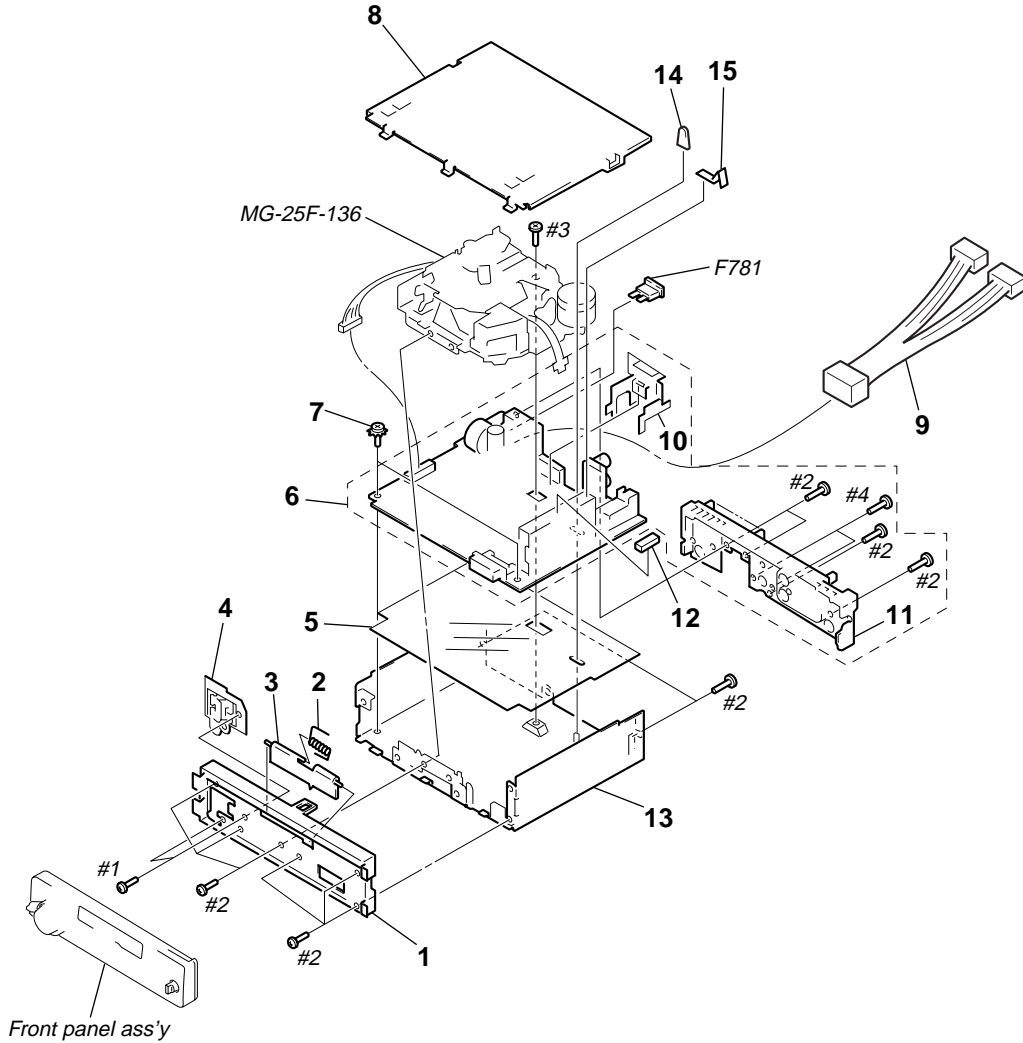
NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE) . . . (RED)

↑ ↑
 Parts color Cabinets color

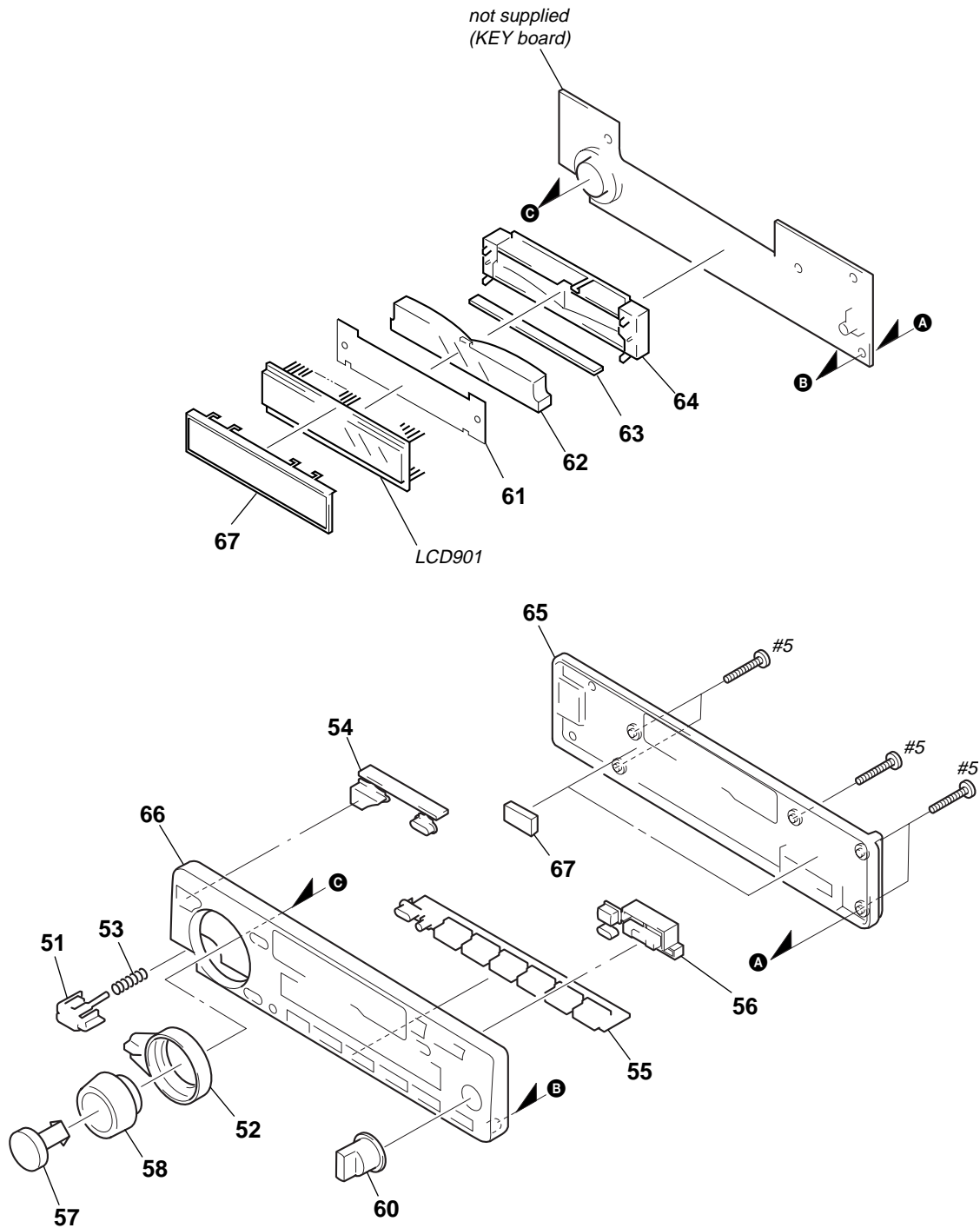
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

(1) CHASSIS SECTION



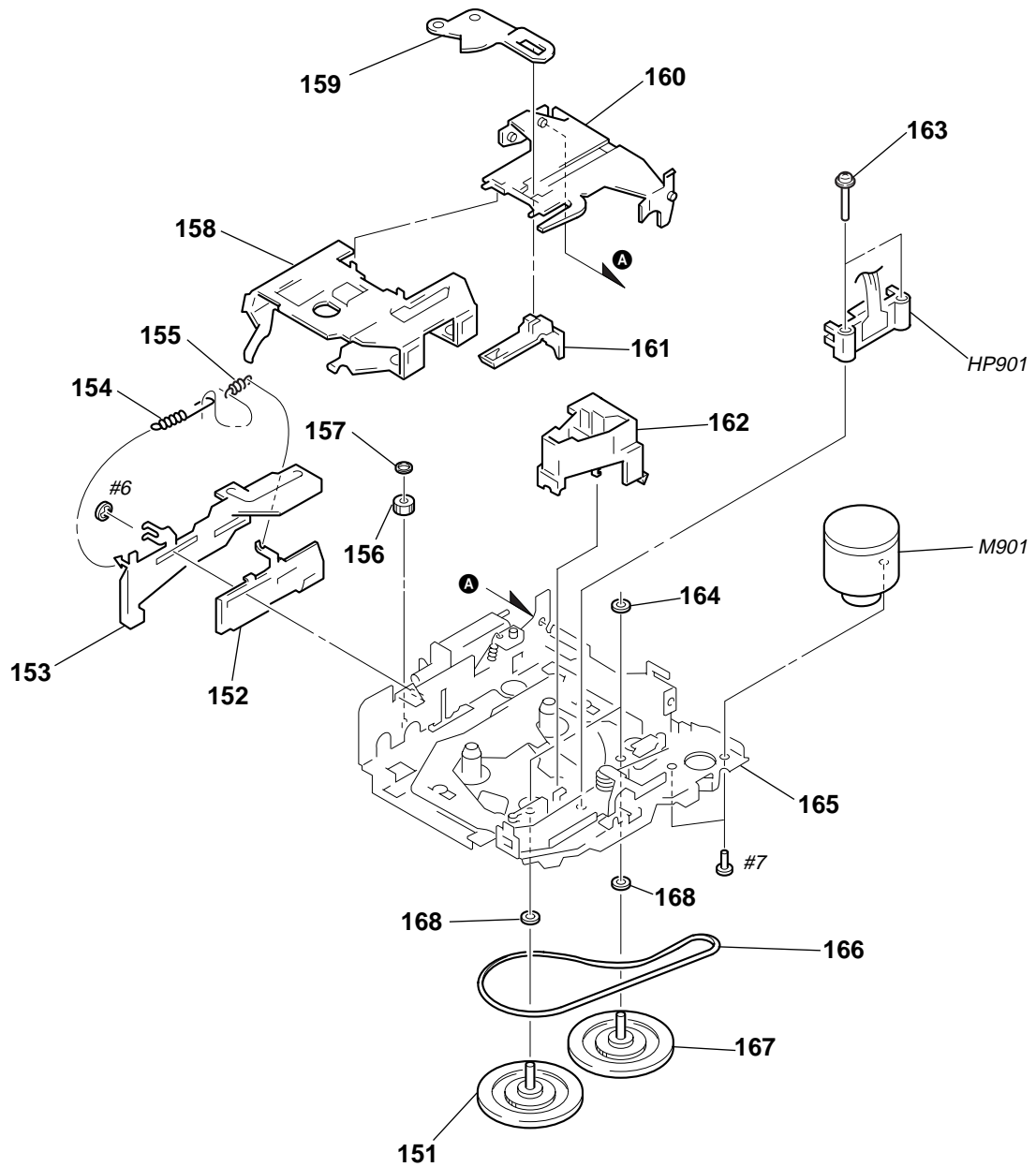
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-030-828-01	PANEL, SUB		* 10	3-018-390-01	BRACKET (IC)	
2	3-935-003-01	SPRING, TORSION		* 11	3-031-026-11	HEAT SINK	
3	3-027-437-41	DOOR, CASSETTE		12	3-935-014-01	CUSHION (U)	
4	X-3370-437-1	LOCK ASSY		* 13	3-009-813-42	CHASSIS	
* 5	3-033-846-01	INSULATED PLATE		14	3-012-859-01	CAP (25), RUBBER	
* 6	A-3317-499-A	MAIN BOARD, COMPLETE		15	3-937-650-01	PLATE (C), GROUND	
7	3-915-923-01	SCREW, GROUND POINT					
* 8	X-3373-270-1	COVER ASSY		F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE)(10A)	
9	1-776-527-31	CORD (WITH CONNECTOR)(ISO)(POWER)					

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-030-838-11	BUTTON (RELEASE)		* 61	3-030-839-01	SHEET (REFLECTOR)	
52	3-030-832-11	LEVER (S/A)		* 62	3-030-824-01	PLATE, LIGHT GUIDE	
53	3-932-475-01	SPRING (RELEASE)		63	1-694-508-11	CONDUCTIVE BOARD, CONNECTION	
54	3-030-834-01	BUTTON (M/S)		* 64	3-030-825-01	HOLDER (LCD)	
55	3-030-835-01	BUTTON (1-6)		65	3-030-827-01	PANEL, FRONT BACK	
56	3-031-027-11	BUTTON (P/P/A)		66	X-3377-058-1	PANEL SUB ASSY	
57	3-030-831-01	BUTTON (SOURCE)		* 67	3-030-840-01	PLATE (B), GROUND	
58	3-030-830-01	KNOB (VOL)		LCD901	1-803-497-11	DISPLAY PANEL, LIQUID CRYSTAL	
60	3-030-837-11	BUTTON (D-BASS)					

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



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

KEY

**SECTION 8
ELECTRICAL PARTS LIST**

Note:

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

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		KEY BOARD *****				< PILOT LAMP >	
	1-694-508-11	CONDUCTIVE BOARD, CONNECTION		PL901	1-517-633-21	LAMP, PILOT	
*	3-030-824-01	PLATE, LIGHT GUIDE		PL902	1-517-633-21	LAMP, PILOT	
*	3-030-825-01	HOLDER (LCD)				< TRANSISTOR >	
*	3-030-839-01	SHEET (REFLECTOR)		Q941	8-729-106-60	TRANSISTOR 2SB1115A	
*	3-030-840-01	PLATE (B), GROUND		Q942	8-729-900-53	TRANSISTOR DTC114EK	
		< CAPACITOR >		Q943	8-729-106-60	TRANSISTOR 2SB1115A	
C952	1-163-033-00	CERAMIC CHIP 0.022uF	50V	Q944	8-729-900-53	TRANSISTOR DTC114EK	
C953	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	Q945	8-729-900-53	TRANSISTOR DTC114EK	
C954	1-165-319-11	CERAMIC CHIP 0.1uF	50V			< RESISTOR >	
C955	1-165-319-11	CERAMIC CHIP 0.1uF	50V	R901	1-216-647-11	METAL CHIP 680	0.5% 1/10W
C956	1-164-222-11	CERAMIC CHIP 0.22uF	25V	R902	1-216-647-11	METAL CHIP 680	0.5% 1/10W
		< CONNECTOR >		R903	1-216-647-11	METAL CHIP 680	0.5% 1/10W
CNP901	1-785-775-11	PIN, CONNECTOR 15P		R904	1-216-651-11	METAL CHIP 1K	0.5% 1/10W
		< DIODE >		R905	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
D902	8-719-105-99	DIODE RD6.2M-B1		R906	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
D903	8-719-105-99	DIODE RD6.2M-B1		R907	1-216-659-11	METAL CHIP 2.2K	0.5% 1/10W
D904	8-719-105-99	DIODE RD6.2M-B1		R916	1-216-037-00	METAL CHIP 330	5% 1/10W
D951	8-719-976-99	DIODE DTZ5.1B		R917	1-216-033-00	METAL CHIP 220	5% 1/10W
		< IC >		R921	1-216-647-11	METAL CHIP 680	0.5% 1/10W
IC901	8-759-366-34	IC LC75824E		R922	1-216-647-11	METAL CHIP 680	0.5% 1/10W
		< LIQUID CRYSTAL DISPLAY >		R923	1-216-647-11	METAL CHIP 680	0.5% 1/10W
LCD901	1-803-497-11	DISPLAY PANEL, LIQUID CRYSTAL		R924	1-216-651-11	METAL CHIP 1K	0.5% 1/10W
		< SWITCH >		R925	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
LSW901	1-771-610-11	SWITCH, TACTILE (WITH LED)(OFF)		R926	1-216-655-11	METAL CHIP 1.5K	0.5% 1/10W
LSW902	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(SOURCE)		R927	1-216-659-11	METAL CHIP 2.2K	0.5% 1/10W
LSW903	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(MODE ◀▶)		R928	1-216-663-11	METAL CHIP 3.3K	0.5% 1/10W
LSW905	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(SOUND)		R929	1-216-667-11	METAL CHIP 4.7K	0.5% 1/10W
LSW906	1-771-610-11	SWITCH, TACTILE (WITH LED)(SHIFT)		R930	1-216-671-11	METAL CHIP 6.8K	0.5% 1/10W
LSW921	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(▲)		R931	1-208-806-11	RES,CHIP 10K	2% 1/10W
LSW922	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(PRESET -)		R932	1-208-810-11	RES,CHIP 15K	2% 1/10W
LSW923	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(PRESET +)		R941	1-216-073-00	METAL CHIP 10K	5% 1/10W
LSW927	1-762-620-21	SWITCH, KEY BOARD (WITH LED)(DSPL)		R942	1-216-065-00	RES,CHIP 4.7K	5% 1/10W
LSW928	1-771-610-11	SWITCH, TACTILE (WITH LED)(6)		R943	1-216-073-00	METAL CHIP 10K	5% 1/10W
LSW929	1-771-610-11	SWITCH, TACTILE (WITH LED)(5/ENTER)		R944	1-216-065-00	RES,CHIP 4.7K	5% 1/10W
LSW930	1-771-610-11	SWITCH, TACTILE (WITH LED)(4/→)		R951	1-216-041-00	METAL CHIP 470	5% 1/10W
LSW931	1-771-610-11	SWITCH, TACTILE (WITH LED)(3/PLAY MODE)		R953	1-216-121-00	RES,CHIP 1M	5% 1/10W
LSW932	1-771-610-11	SWITCH, TACTILE (WITH LED)(2/SETUP)		R954	1-216-049-11	RES,CHIP 1K	5% 1/10W
LSW933	1-771-610-11	SWITCH, TACTILE (WITH LED)(1/←)		R955	1-216-049-11	RES,CHIP 1K	5% 1/10W
				R956	1-216-049-11	RES,CHIP 1K	5% 1/10W
				R957	1-216-109-00	METAL CHIP 330K	5% 1/10W
				R961	1-216-029-00	METAL CHIP 150	5% 1/10W
				R962	1-216-021-00	METAL CHIP 68	5% 1/10W
				R963	1-216-037-00	METAL CHIP 330	5% 1/10W

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R964	1-216-033-00	METAL CHIP	220 5% 1/10W	C32	1-163-017-00	CERAMIC CHIP	0.0047uF 5% 50V
R965	1-216-037-00	METAL CHIP	330 5% 1/10W	C33	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
R966	1-216-033-00	METAL CHIP	220 5% 1/10W	C34	1-109-982-11	CERAMIC CHIP	1uF 10% 10V
R967	1-216-037-00	METAL CHIP	330 5% 1/10W	C35	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
R968	1-216-033-00	METAL CHIP	220 5% 1/10W	C36	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
R969	1-216-037-00	METAL CHIP	330 5% 1/10W	C37	1-124-233-11	ELECT	10uF 20% 16V
R970	1-216-033-00	METAL CHIP	220 5% 1/10W	C38	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V
R975	1-216-037-00	METAL CHIP	330 5% 1/10W	C40	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
R976	1-216-029-00	METAL CHIP	150 5% 1/10W	C41	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
R977	1-216-037-00	METAL CHIP	330 5% 1/10W	C44	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
R981	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	C51	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
R982	1-216-663-11	METAL CHIP	3.3K 0.5% 1/10W	C52	1-124-233-11	ELECT	10uF 20% 16V
R983	1-216-671-11	METAL CHIP	6.8K 0.5% 1/10W	C53	1-124-234-00	ELECT	22uF 20% 16V
R984	1-216-081-00	METAL CHIP	22K 5% 1/10W	C54	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
R990	1-216-295-00	SHORT	0	C55	1-124-234-00	ELECT	22uF 20% 16V
R991	1-216-295-00	SHORT	0	C56	1-124-234-00	ELECT	22uF 20% 16V
		< ROTARY ENCODER >		C101	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
RE901	1-475-014-11	ENCODER, ROTARY		C102	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
		< SWITCH >		C103	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
S901	1-771-290-11	SWITCH, SLIDE (SEEK AMS MANU ►►►► +/MANU - ◄◄◄◄)		C104	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
S981	1-762-937-11	SWITCH, ROTARY (D.BASS SW OFF/1/2/3)		C105	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
		*****		C106	1-164-505-11	CERAMIC CHIP	2.2uF 16V
*	A-3317-499-A	MAIN BOARD, COMPLETE *****		C107	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
*	3-018-390-01	BRACKET (IC)		C108	1-164-505-11	CERAMIC CHIP	2.2uF 16V
*	3-031-026-11	HEAT SINK		C109	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
	7-685-793-09	SCREW +PTT 2.6X8 (S)		C110	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
	7-685-794-09	SCREW +PTT 2.6X10 (S)		C111	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
		< CAPACITOR >		C121	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V
C1	1-163-235-11	CERAMIC CHIP	22PF 5% 50V	C122	1-164-344-11	CERAMIC CHIP	0.068uF 10% 25V
C2	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	C124	1-163-989-11	CERAMIC CHIP	0.033uF 10% 25V
C3	1-124-234-00	ELECT	22uF 20% 16V	C152	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C4	1-124-233-11	ELECT	10uF 20% 16V	C153	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C5	1-124-234-00	ELECT	22uF 20% 16V	C171	1-126-163-11	ELECT	4.7uF 20% 50V
C6	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C172	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C7	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C174	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C8	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C181	1-126-163-11	ELECT	4.7uF 20% 50V
C9	1-163-205-00	CERAMIC CHIP	0.001uF 5% 50V	C182	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C10	1-163-205-00	CERAMIC CHIP	0.001uF 5% 50V	C184	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C11	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	C191	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V
C12	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	C201	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
C21	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	C202	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
C22	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C203	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V
C23	1-124-234-00	ELECT	22uF 20% 16V	C204	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C24	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C205	1-164-004-11	CERAMIC CHIP	0.1uF 10% 25V
C25	1-163-091-00	CERAMIC CHIP	8PF 50V	C206	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C26	1-124-233-11	ELECT	10uF 20% 16V	C207	1-163-263-11	CERAMIC CHIP	330PF 5% 50V
C27	1-163-222-11	CERAMIC CHIP	5PF 0.25PF 50V	C208	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C28	1-163-231-11	CERAMIC CHIP	15PF 5% 50V	C209	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C29	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	C210	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C30	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	C211	1-163-227-11	CERAMIC CHIP	10PF 0.5PF 50V
C31	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	C252	1-164-505-11	CERAMIC CHIP	2.2uF 16V
				C253	1-164-505-11	CERAMIC CHIP	2.2uF 16V
				C271	1-126-163-11	ELECT	4.7uF 20% 50V
				C272	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
				C274	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
				C281	1-126-163-11	ELECT	4.7uF 20% 50V
				C282	1-163-251-11	CERAMIC CHIP	100PF 5% 50V

MAIN

Ref. No.	Part No.	Description			Remark
C284	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C301	1-124-234-00	ELECT	22uF	20%	16V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C307	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C333	1-124-233-11	ELECT	10uF	20%	16V
C334	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C335	1-124-584-00	ELECT	100uF	20%	10V
C336	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C337	1-124-234-00	ELECT	22uF	20%	16V
C351	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C352	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C353	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C354	1-124-233-11	ELECT	10uF	20%	16V
C355	1-124-234-00	ELECT	22uF	20%	16V
C356	1-126-934-11	ELECT	220uF	20%	16V
C357	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C358	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C501	1-124-584-00	ELECT	100uF	20%	10V
C502	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C503	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C504	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C505	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C506	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C507	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C508	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C551	1-125-710-11	DOUBLE LAYER	0.1F	0	5.5V
C552	1-128-057-11	ELECT	330uF	20%	6.3V
C553	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C556	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C571	1-126-163-11	ELECT	4.7uF	20%	50V
C582	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C601	1-164-346-11	CERAMIC CHIP	1uF		16V
C602	1-164-346-11	CERAMIC CHIP	1uF		16V
C611	1-124-233-11	ELECT	10uF	20%	16V
C612	1-124-233-11	ELECT	10uF	20%	16V
C614	1-124-233-11	ELECT	10uF	20%	16V
C615	1-124-233-11	ELECT	10uF	20%	16V
C616	1-124-233-11	ELECT	10uF	20%	16V
C617	1-124-233-11	ELECT	10uF	20%	16V
C618	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C621	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C622	1-124-589-11	ELECT	47uF	20%	16V
C623	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C751	1-126-096-11	ELECT	10uF	20%	35V
C752	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C754	1-124-233-11	ELECT	10uF	20%	16V
C755	1-124-589-11	ELECT	47uF	20%	16V
C757	1-124-233-11	ELECT	10uF	20%	16V
C781	1-126-936-11	ELECT	3300uF	20%	16V
C782	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C783	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C784	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C786	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C787	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C788	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remark
C789	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C790	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C792	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C795	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
< CONNECTOR >					
CN301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN701	1-785-774-11	PLUG, CONNECTOR 15P			
CN781	1-774-701-11	PIN, CONNECTOR 16P			
< DIODE >					
D1	8-719-991-65	DIODE SB02W03C			
D51	8-719-158-15	DIODE RD5.6S-B			
D52	8-719-422-97	DIODE MA8091-M			
D351	8-719-977-22	DIODE DTZ9.1			
D352	8-719-911-19	DIODE 1SS119			
D501	8-719-400-20	DIODE MA152WA			
D551	8-719-400-20	DIODE MA152WA			
D552	8-719-404-50	DIODE MA111-TX			
D553	8-719-404-50	DIODE MA111-TX			
D554	8-719-072-70	DIODE MA2ZD14001S0			
D571	8-719-057-80	DIODE MA8160-M-TX			
D572	8-719-420-14	DIODE MA8082-M			
D581	8-719-057-80	DIODE MA8160-M-TX			
D591	8-719-422-76	DIODE MA8075-M			
D601	8-719-423-32	DIODE MA8120-M			
D610	8-719-970-02	DIODE 1SR139-400			
D611	8-719-970-02	DIODE 1SR139-400			
D613	8-719-970-02	DIODE 1SR139-400			
D614	8-719-970-02	DIODE 1SR139-400			
D621	8-719-422-12	DIODE MA8039			
D622	8-719-404-50	DIODE MA111-TX			
D623	8-719-422-12	DIODE MA8039			
D624	8-719-422-97	DIODE MA8091-M			
D701	8-719-977-12	DIODE DTZ6.8B			
D702	8-719-158-15	DIODE RD5.6S-B			
D704	8-719-158-15	DIODE RD5.6S-B			
D705	8-719-035-74	DIODE MA4062-M(TA)			
D706	8-719-035-74	DIODE MA4062-M(TA)			
D707	8-719-035-74	DIODE MA4062-M(TA)			
D708	8-719-105-99	DIODE RD6.2M-B1			
D709	8-719-035-74	DIODE MA4062-M(TA)			
D710	8-719-977-12	DIODE DTZ6.8B			
D711	8-719-423-32	DIODE MA8120-M			
D712	8-719-404-50	DIODE MA111-TX			
D713	8-719-404-50	DIODE MA111-TX			
D721	8-719-970-02	DIODE 1SR139-400			
D722	8-719-970-02	DIODE 1SR139-400			
D723	8-719-970-02	DIODE 1SR139-400			
D724	8-719-970-02	DIODE 1SR139-400			
D731	8-719-970-02	DIODE 1SR139-400			
D732	8-719-970-02	DIODE 1SR139-400			
D733	8-719-970-02	DIODE 1SR139-400			
D734	8-719-970-02	DIODE 1SR139-400			
D781	8-719-049-38	DIODE 1N5404TU			

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< FUSE >		JC611	1-410-501-11	INDUCTOR CHIP 2.2uH	
F781	1-532-877-11	FUSE (BLADE TYPE)(AUTO FUSE)(10A)		JC621	1-216-296-00	SHORT 0	
		< IC >		JC622	1-216-296-00	SHORT 0	
IC21	8-759-573-79	IC TB2118F(EL)		JC705	1-216-296-00	SHORT 0	
IC301	8-752-079-78	IC CXA2509AQ-T4		JC751	1-216-296-00	SHORT 0	
IC331	8-759-572-10	IC TDA7462D		JC752	1-216-295-00	SHORT 0	
IC351	8-759-527-33	IC LB1930M-TLM		JC781	1-216-296-00	SHORT 0	
IC501	8-759-585-89	IC MN101C12GTC1		JC782	1-216-295-00	SHORT 0	
		< COIL >		JC992	1-216-296-00	SHORT 0	
IC551	8-759-574-61	IC XC61AN4302MR					
IC611	8-759-347-49	IC BA3918-V2		L2	1-469-129-21	FERRITE, EMI	
IC751	8-759-572-08	IC TDA7385		L3	7-611-032-01	WIRE, TINNING COPPER	
		< JACK >		L4	1-410-501-11	INDUCTOR 2.2uH	
J1	1-764-808-21	JACK (ANT)		L21	1-410-509-11	INDUCTOR 10uH	
J561	1-566-822-41	JACK (REMOTE IN)		L22	1-410-989-11	INDUCTOR CHIP 0.47uH	
		< JUMPER RESISTOR >		L501	1-410-989-11	INDUCTOR CHIP 0.47uH	
JC1	1-216-296-00	SHORT 0		L781	1-411-669-12	COIL, CHOKE 0.4mH	
JC2	1-216-296-00	SHORT 0				< TRANSISTOR >	
JC3	1-216-296-00	SHORT 0		Q51	8-729-106-68	TRANSISTOR 2SD1615A-GP	
JC4	1-216-296-00	SHORT 0		Q52	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JC5	1-216-296-00	SHORT 0		Q121	8-729-920-21	TRANSISTOR DTC314TKH04	
JC7	1-216-296-00	SHORT 0		Q151	8-729-920-21	TRANSISTOR DTC314TKH04	
JC21	1-216-296-00	SHORT 0		Q171	8-729-920-21	TRANSISTOR DTC314TKH04	
JC25	1-216-296-00	SHORT 0		Q181	8-729-920-21	TRANSISTOR DTC314TKH04	
JC26	1-216-295-00	SHORT 0		Q251	8-729-920-21	TRANSISTOR DTC314TKH04	
JC31	1-216-296-00	SHORT 0		Q271	8-729-920-21	TRANSISTOR DTC314TKH04	
JC52	1-216-295-00	SHORT 0		Q281	8-729-920-21	TRANSISTOR DTC314TKH04	
JC121	1-216-295-00	SHORT 0		Q351	8-729-015-11	TRANSISTOR 2SD1802FAST-TL	
JC151	1-216-295-00	SHORT 0		Q352	8-729-020-67	TRANSISTOR XN1A312-TX	
JC152	1-216-295-00	SHORT 0		Q353	8-729-900-53	TRANSISTOR DTC114EK	
JC182	1-216-295-00	SHORT 0		Q354	8-729-106-60	TRANSISTOR 2SB1115A	
JC191	1-216-296-00	SHORT 0		Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC192	1-216-296-00	SHORT 0		Q571	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JC272	1-216-296-00	SHORT 0		Q581	8-729-900-53	TRANSISTOR DTC114EK	
JC301	1-216-295-00	SHORT 0		Q591	1-801-806-11	TRANSISTOR DTC144EKA-T146	
JC302	1-216-295-00	SHORT 0		Q592	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JC303	1-216-295-00	SHORT 0		Q601	8-729-423-99	TRANSISTOR 2SD2137-OP	
JC304	1-216-295-00	SHORT 0		Q602	8-729-020-67	TRANSISTOR XN1A312-TX	
JC305	1-216-296-00	SHORT 0		Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC331	1-216-296-00	SHORT 0		Q622	8-729-021-94	TRANSISTOR 2SK1657-T1B	
JC332	1-216-296-00	SHORT 0				< RESISTOR >	
JC351	1-216-295-00	SHORT 0		R1	1-216-049-11	RES,CHIP 1K 5% 1/10W	
JC352	1-216-295-00	SHORT 0		R2	1-216-073-00	METAL CHIP 10K 5% 1/10W	
JC354	1-216-296-00	SHORT 0		R3	1-216-176-11	RES,CHIP 120 5% 1/8W	
JC356	1-216-296-00	SHORT 0		R4	1-216-113-00	METAL CHIP 470K 5% 1/10W	
JC501	1-216-295-00	SHORT 0		R5	1-216-254-00	RES,CHIP 220K 5% 1/8W	
JC502	1-216-295-00	SHORT 0		R7	1-216-073-00	METAL CHIP 10K 5% 1/10W	
JC503	1-216-296-00	SHORT 0		R8	1-216-073-00	METAL CHIP 10K 5% 1/10W	
JC504	1-216-296-00	SHORT 0		R9	1-216-049-11	RES,CHIP 1K 5% 1/10W	
JC506	1-216-296-00	SHORT 0		R10	1-216-049-11	RES,CHIP 1K 5% 1/10W	
JC507	1-216-295-00	SHORT 0		R11	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
JC508	1-216-295-00	SHORT 0		R12	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
JC551	1-216-295-00	SHORT 0		R21	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
JC571	1-216-296-00	SHORT 0		R23	1-249-417-11	CARBON 1K 5% 1/4W F	
JC601	1-216-296-00	SHORT 0					

MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R24	1-249-417-11	CARBON	1K	5%	1/4W F	R353	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R25	1-249-417-11	CARBON	1K	5%	1/4W F	R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R26	1-249-417-11	CARBON	1K	5%	1/4W F	R501	1-216-097-00	RES,CHIP	100K	5%	1/10W
R27	1-216-077-00	METAL CHIP	15K	5%	1/10W	R502	1-216-097-00	RES,CHIP	100K	5%	1/10W
R28	1-216-075-00	METAL CHIP	12K	5%	1/10W	R503	1-216-049-11	RES,CHIP	1K	5%	1/10W
R29	1-216-025-00	RES,CHIP	100	5%	1/10W	R504	1-216-049-11	RES,CHIP	1K	5%	1/10W
R30	1-216-033-00	METAL CHIP	220	5%	1/10W	R505	1-216-049-11	RES,CHIP	1K	5%	1/10W
R31	1-216-298-00	METAL CHIP	2.2	5%	1/10W	R506	1-216-049-11	RES,CHIP	1K	5%	1/10W
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W	R507	1-249-417-11	CARBON	1K	5%	1/4W F
R33	1-216-049-11	RES,CHIP	1K	5%	1/10W	R508	1-249-417-11	CARBON	1K	5%	1/4W F
R34	1-216-041-00	METAL CHIP	470	5%	1/10W	R509	1-249-417-11	CARBON	1K	5%	1/4W F
R51	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R510	1-247-807-31	CARBON	100	5%	1/4W
R52	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R511	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R101	1-216-041-00	METAL CHIP	470	5%	1/10W	R512	1-216-246-00	RES,CHIP	100K	5%	1/8W
R102	1-216-109-00	METAL CHIP	330K	5%	1/10W	R513	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W	R514	1-247-807-31	CARBON	100	5%	1/4W
R104	1-216-079-00	METAL CHIP	18K	5%	1/10W	R517	1-216-246-00	RES,CHIP	100K	5%	1/8W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W	R518	1-216-097-00	RES,CHIP	100K	5%	1/10W
R108	1-216-081-00	METAL CHIP	22K	5%	1/10W	R519	1-216-097-00	RES,CHIP	100K	5%	1/10W
R121	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	R520	1-216-049-11	RES,CHIP	1K	5%	1/10W
R151	1-249-421-11	CARBON	2.2K	5%	1/4W F	R521	1-216-049-11	RES,CHIP	1K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W	R522	1-216-049-11	RES,CHIP	1K	5%	1/10W
R171	1-216-033-00	METAL CHIP	220	5%	1/10W	R525	1-216-097-00	RES,CHIP	100K	5%	1/10W
R172	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R526	1-216-097-00	RES,CHIP	100K	5%	1/10W
R174	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R527	1-216-097-00	RES,CHIP	100K	5%	1/10W
R175	1-216-085-00	METAL CHIP	33K	5%	1/10W	R528	1-216-097-00	RES,CHIP	100K	5%	1/10W
R181	1-216-033-00	METAL CHIP	220	5%	1/10W	R529	1-216-097-00	RES,CHIP	100K	5%	1/10W
R182	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R530	1-216-246-00	RES,CHIP	100K	5%	1/8W
R184	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R532	1-216-097-00	RES,CHIP	100K	5%	1/10W
R185	1-216-085-00	METAL CHIP	33K	5%	1/10W	R534	1-216-222-00	RES,CHIP	10K	5%	1/8W
R191	1-249-429-11	CARBON	10K	5%	1/4W	R535	1-249-417-11	CARBON	1K	5%	1/4W F
R192	1-216-105-00	RES,CHIP	220K	5%	1/10W	R537	1-216-097-00	RES,CHIP	100K	5%	1/10W
R201	1-216-041-00	METAL CHIP	470	5%	1/10W	R538	1-216-033-00	METAL CHIP	220	5%	1/10W
R202	1-216-109-00	METAL CHIP	330K	5%	1/10W	R539	1-216-097-00	RES,CHIP	100K	5%	1/10W
R203	1-216-077-00	METAL CHIP	15K	5%	1/10W	R540	1-216-246-00	RES,CHIP	100K	5%	1/8W
R204	1-216-079-00	METAL CHIP	18K	5%	1/10W	R541	1-216-097-00	RES,CHIP	100K	5%	1/10W
R205	1-216-073-00	METAL CHIP	10K	5%	1/10W	R542	1-216-097-00	RES,CHIP	100K	5%	1/10W
R206	1-216-081-00	METAL CHIP	22K	5%	1/10W	R544	1-216-049-11	RES,CHIP	1K	5%	1/10W
R251	1-249-421-11	CARBON	2.2K	5%	1/4W F	R545	1-216-174-00	RES,CHIP	100	5%	1/8W
R252	1-216-073-00	METAL CHIP	10K	5%	1/10W	R546	1-216-246-00	RES,CHIP	100K	5%	1/8W
R271	1-216-033-00	METAL CHIP	220	5%	1/10W	R547	1-216-049-11	RES,CHIP	1K	5%	1/10W
R272	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R548	1-216-049-11	RES,CHIP	1K	5%	1/10W
R274	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R549	1-216-097-00	RES,CHIP	100K	5%	1/10W
R275	1-216-085-00	METAL CHIP	33K	5%	1/10W	R550	1-216-097-00	RES,CHIP	100K	5%	1/10W
R281	1-216-033-00	METAL CHIP	220	5%	1/10W	R551	1-216-097-00	RES,CHIP	100K	5%	1/10W
R282	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R553	1-216-246-00	RES,CHIP	100K	5%	1/8W
R284	1-216-278-11	RES,CHIP	2.2M	5%	1/8W	R554	1-216-097-00	RES,CHIP	100K	5%	1/10W
R285	1-216-085-00	METAL CHIP	33K	5%	1/10W	R555	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R301	1-208-812-11	RES,CHIP	18K	2%	1/10W	R556	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R302	1-216-097-00	RES,CHIP	100K	5%	1/10W	R557	1-216-049-11	RES,CHIP	1K	5%	1/10W
R303	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	R558	1-216-035-00	METAL CHIP	270	5%	1/10W
R304	1-216-077-00	METAL CHIP	15K	5%	1/10W	R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R305	1-216-298-00	METAL CHIP	2.2	5%	1/10W	R562	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R306	1-216-105-00	RES,CHIP	220K	5%	1/10W	R563	1-216-025-00	RES,CHIP	100	5%	1/10W
R331	1-216-298-00	METAL CHIP	2.2	5%	1/10W	R564	1-216-025-00	RES,CHIP	100	5%	1/10W
R351	1-216-049-11	RES,CHIP	1K	5%	1/10W	R571	1-216-089-00	RES,CHIP	47K	5%	1/10W
R352	1-249-383-11	CARBON	1.5	5%	1/6W F	R572	1-216-089-00	RES,CHIP	47K	5%	1/10W
						R573	1-249-421-11	CARBON	2.2K	5%	1/4W F

Ref. No.	Part No.	Description	Quantity	Power	Remark
R574	1-216-081-00	METAL CHIP	22K	5%	1/10W
R581	1-216-089-00	RES,CHIP	47K	5%	1/10W
R590	1-216-246-00	RES,CHIP	100K	5%	1/8W
R591	1-216-089-00	RES,CHIP	47K	5%	1/10W
R592	1-216-089-00	RES,CHIP	47K	5%	1/10W
R593	1-216-089-00	RES,CHIP	47K	5%	1/10W
R601	1-249-393-11	CARBON	10	5%	1/4W F
R602	1-249-395-11	CARBON	15	5%	1/4W F
R603	1-216-186-00	RES,CHIP	330	5%	1/8W
R621	1-249-425-11	CARBON	4.7K	5%	1/4W F
R622	1-216-073-00	METAL CHIP	10K	5%	1/10W
R702	1-216-025-00	RES,CHIP	100	5%	1/10W
R703	1-216-025-00	RES,CHIP	100	5%	1/10W
R704	1-216-295-00	SHORT	0		
R705	1-216-295-00	SHORT	0		
R706	1-216-049-11	RES,CHIP	1K	5%	1/10W
R707	1-216-049-11	RES,CHIP	1K	5%	1/10W
R708	1-216-198-00	RES,CHIP	1K	5%	1/8W
R709	1-216-174-00	RES,CHIP	100	5%	1/8W
R710	1-216-174-00	RES,CHIP	100	5%	1/8W
R711	1-216-049-11	RES,CHIP	1K	5%	1/10W
R712	1-216-049-11	RES,CHIP	1K	5%	1/10W
R713	1-216-025-00	RES,CHIP	100	5%	1/10W
R714	1-216-025-00	RES,CHIP	100	5%	1/10W
R751	1-216-049-11	RES,CHIP	1K	5%	1/10W
R753	1-216-049-11	RES,CHIP	1K	5%	1/10W
R781	1-216-081-00	METAL CHIP	22K	5%	1/10W
R782	1-216-230-00	RES,CHIP	22K	5%	1/8W
		< SWITCH >			
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S551	1-692-431-21	SWITCH, TACTILE (RESET)			
		< TUNER >			
TU1	1-693-440-21	TUNER UNIT			
		< VIBRATOR >			
X501	1-781-294-21	VIBRATOR, CRYSTAL (18.432MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			

MISCELLANEOUS

9	1-776-527-81	CORD (WITH CONNECTOR)(ISO)(POWER)
63	1-694-508-11	CONDUCTIVE BOARD, CONNECTION
506	1-776-527-31	CORD (WITH CONNECTOR)(ISO)(POWER)
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE)(10A)
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)
LCD901	1-803-497-11	DISPLAY PANEL, LIQUID CRYSTAL
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS *****	
	3-865-670-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH,SWEDISH,PORTUGUESE)(AEP,UK)	
	3-865-670-21	MANUAL, INSTRUCTION (FRENCH,GERMAN,DUTCH,ITALIAN)(AEP)	
	3-865-670-41	MANUAL, INSTRUCTION (ENGLISH,GREEK,CZECH,POLISH,TURKISH)(SE)	
	3-865-821-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH,SPANISH,SWEDISH,PORTUGUESE)(AEP,UK)	
	3-865-821-21	MANUAL, INSTRUCTION, INSTALL (FRENCH,GERMAN,DUTCH,ITALIAN)(AEP)	
	3-865-821-31	MANUAL, INSTRUCTION, INSTALL (ENGLISH,CZECH,POLISH,TURKISH,GREEK)(SE)	
	X-3373-412-1	CASE (PANEL) ASSY	

HARDWARE LIST

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

PARTS FOR INS TALLATION AND CONNECTIONS

501	3-916-161-31	FRAME ASSY
502	X-3370-077-1	SCREW ASSY (AE.KEY), FITTING
503	3-386-828-01	SCREW, FITTING
504	3-349-410-01	BUSHING
505	3-388-078-01	KEY
506	1-776-527-31	CORD (WITH CONNECTOR)(ISO)(POWER)
507	1-465-459-21	ADAPTER, ANTENNA

