

# XR-3750

## SERVICE MANUAL

Saudi Arabia Model



Model Name Using Similar Mechanism	XR-4800
Tape Transport Mechanism Type	MG-25F-136

### SPECIFICATIONS

#### Cassette player section

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

#### Tuner section

##### FM

Tuning range	87.5 – 108.0 MHz
Antenna terminal	External antenna 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

Tuning range	531 – 1,602kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 $\mu$ V

##### SW

Tuning range	SW tuning interval: SW1 :2,940 – 7,735kHz SW2 :9,500 – 18,135kHz (except for 10,140 – 11,575kHz)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 $\mu$ 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 antenna control lead/Power amplifier control lead/Telephone mute control lead Rear line out (1)
Tone controls	Bass $\pm$ 8 dB at 100 Hz Treble $\pm$ 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 $\times$ 58 $\times$ 182 mm (w/h/d)
Mounting dimensions	Approx. 182 $\times$ 53 $\times$ 164 mm (w/h/d)
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

*Design and specifications are subject to change without notice.*

## FM/MW/SW CASSETTE CAR STEREO



# SONY®

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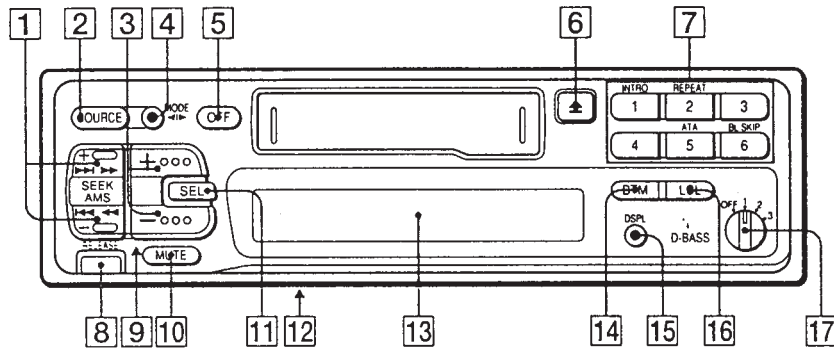
### Flexible Circuit Board Repairing

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

### Notes on chip component replacement

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

Location of controls



**5B** Refer to the pages for further details.

- 1** SEEK/AMS button 5, 6, 7, 8
- 2** .SOURCE button (TAPE/TUNER) 5, 7
- 3** + - (volume/bass/treble/balance/fader control) button 5, 8
- 4** MODE (◀▶) button  
During tuner reception:  
BAND select 7  
During tape playback:  
Transport direction change 5
- 5** OFF button 4, 5
- 6** ⏏ (eject) button 5
- 7** During radio reception:  
Preset number buttons 7  
During tape playback:  
① INTRO button 6  
② REPEAT button 6  
③ ATA (Automatic Tuner Activation) button 6  
④ BL.SKIP (Blank Skip) button 6
- 8** RELEASE (front panel release) button 4, 10
- 9** Reset button (located on the front side of the unit hidden by the front panel)  
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.
- 10** MUTE button 8
- 11** SEL (control mode select) button 5, 8, 9
- 12** POWER SELECT switch (located on the bottom of the unit)  
See "POWER SELECT Switch" in the Installation/Connections manual.
- 13** Display window
- 14** BTM (Best tuning memory) button 7
- 15** DSPL (display mode change/time set) button 5, 6, 8
- 16** LCL button 8
- 17** D-BASS control 8

When the position of switch **12** has been changed, be sure to press the reset button after connecting power.

## Getting Started

### Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.

Press the reset button with a pointed object, such as a ball-point pen.



Reset button

#### Note

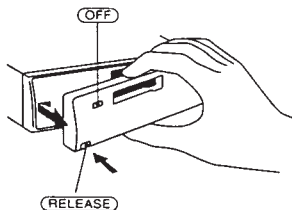
Pressing the reset button will erase all the memorized program and memory functions.

GB

### Detaching the front panel

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

- 1 Press **OFF**.
- 2 Press **RELEASE** to open up the front panel. Then slide the front panel a little to the left, and pull it off towards you.

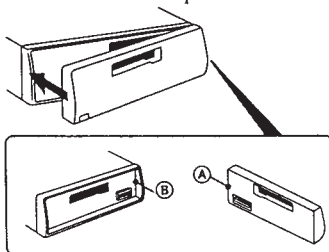


#### Notes

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

### Attaching the front panel

Attach part **A** of the front panel to part **B** of the unit as illustrated and push until it clicks.



#### Notes

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

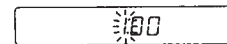
#### Caution alarm

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

### Setting the clock

The clock has a 12-hour digital indication.  
For example, setting it to 10:08

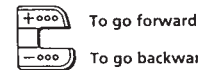
- 1 Press **OFF** or **DSPL** during operation.



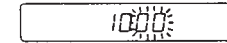
The hour digit flashes.

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

- 1 Set the hour digits.

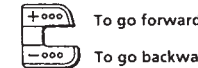


- 2 Press **SEL** momentarily.

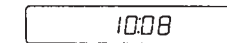


The minutes digits flashes.

- 3 Set the minute digits.



- 3 Press **DSPL** momentarily.



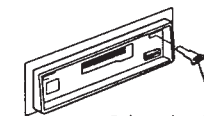
The clock starts.

#### Note

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

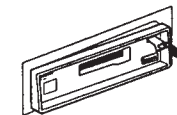
### Dismounting the unit

1

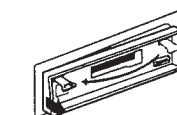


Release key (supplied)

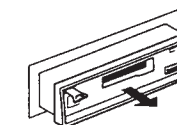
2



3



4



# Installation

# التركيب

## Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are used for tuner adjustments to be made only by service technicians.
- Choose the mounting location carefully so 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°.

## How to Detach and Attach the Front Panel

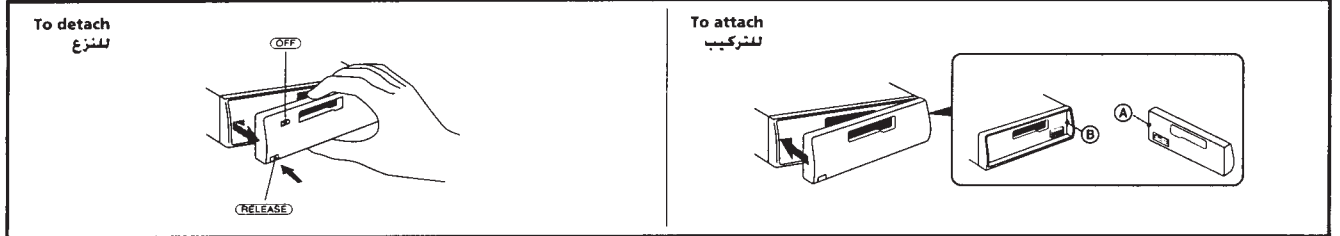
Before installing the unit, detach the front panel.

### To detach

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

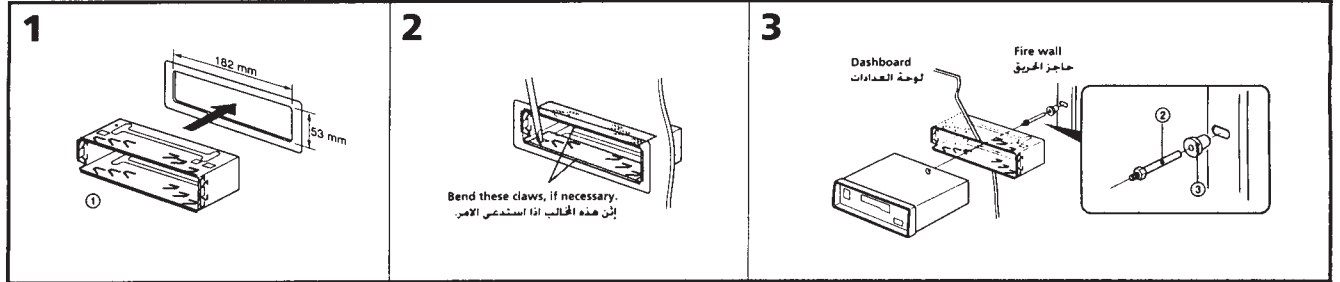
### To attach

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



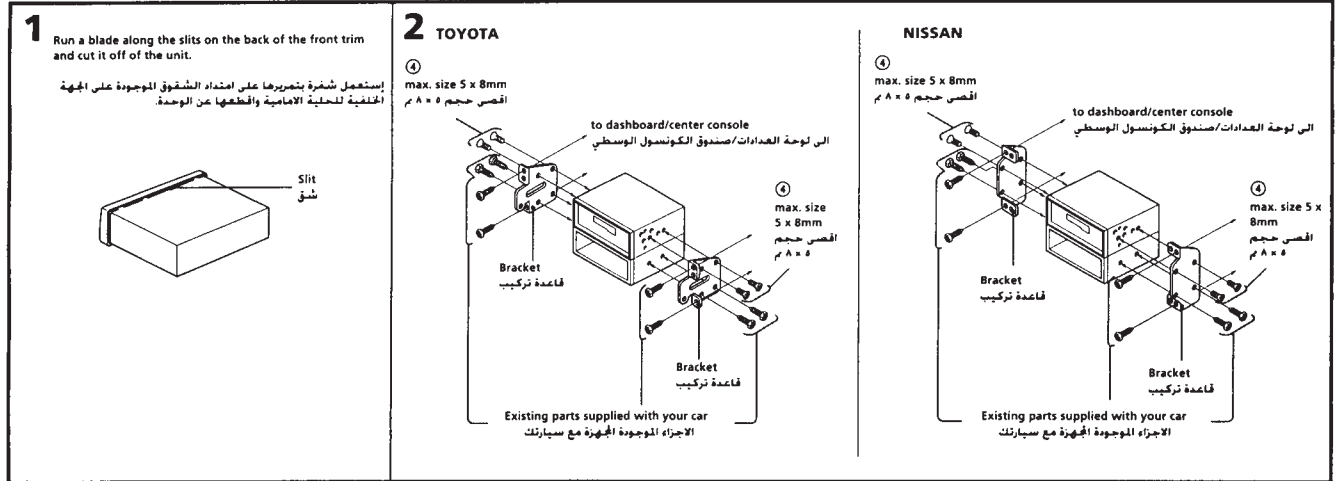
## Mounting example

Installation in the dashboard



## Mounting the Unit in a Japanese Car

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



**Note**  
To prevent malfunction, install only with the supplied screws ④. Do not use an electric or impact screwdriver.

## تنبيهات احتياطية

- لا تدمر بالثقب الأربعة الموجودة على السطح العلوي للوحدة. تستخدم هذه الثقوب لعمليات ضبط موجات البث التي يجريها فني الصيانة.
- قم باختيار موقع التركيب بعناية بحيث لا تعيق الوحدة السائق أثناء قيادة السيارة.
- تجنب تركيب الوحدة حيث تكون معرضة لدرجات حرارة مرتفعة. كأن تتعرض لضوء الشمس المباشر أو للهواء الساخن من الدفءية، أو حيث تتعرض للغبار أو الأوساخ أو الاهتزازات الزائدة.
- لا تستعمل مستلزمات تركيب غير تلك المجهزة وذلك لضمان السلامة والتركيب الآمن.

## ضبط زاوية التركيب

اضبط زاوية التركيب أقل من 20°.

## كيفية نزع وتركيب اللوحة الامامية

قبل تركيب الوحدة، إنزع اللوحة الامامية.

### للنزع

قبل نزع اللوحة الامامية، تأكد من ضغط الزر **(OFF)** لإيقاف الوحدة. ثم اضغط الزر **(RELEASE)**، اسحب اللوحة الامامية قليلا إلى اليسار، واسحبها للخارج باتجاهك.

### للتثبيت

قم بمحاذاة الأجزاء ④ و ⑤ وادفع اللوحة الامامية إلى الداخل إلى أن تصدر عنها طقة.

## مثال على التركيب

التركيب على لوحة العدادات

## تركيب الوحدة في سيارة يابانية

هذه الوحدة لا يمكن تركيبها في بعض أنواع السيارات. في تلك الحالة، قم باستشارة أقرب موزع لمنتجات سوني لديك.

## ملاحظة

لمنع العطل، قم بتركيب الوحدة باستخدام البراغي المجهزة فقط ④. لا تستعمل مفاك براغي كهربائي أو تصادى.

# Connection

# التوصيل

## Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key switch is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating.
- If you connect this unit in 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.

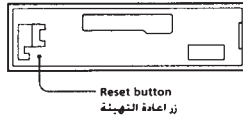
## If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT Switch

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.

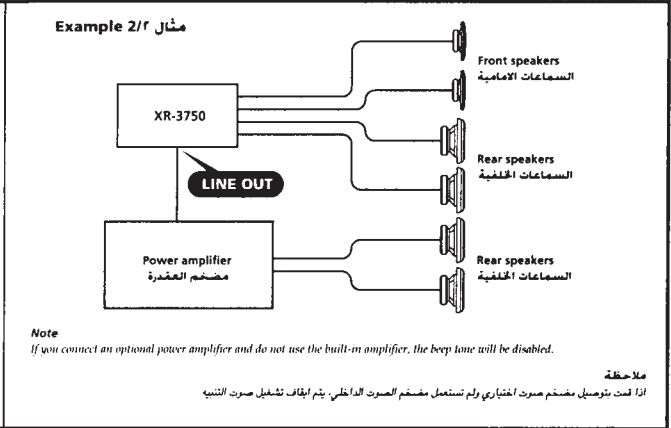
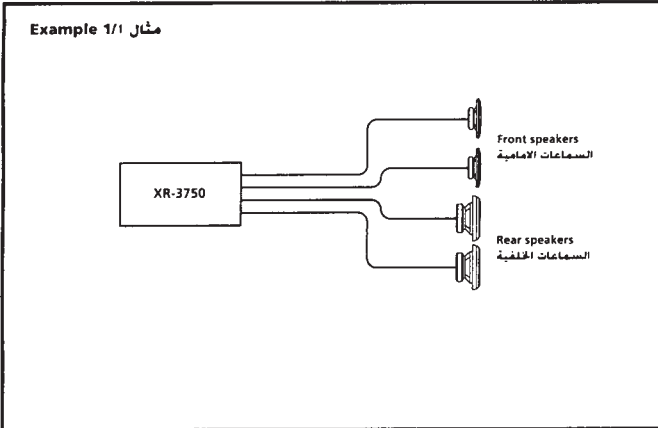
**Note**  
The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the **ⓐ** position.

## Reset button

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



## Connection diagram



## تنبيهات

- هذه الوحدة مصممة للتشغيل على تيار مباشر ١٢ فولت بتأريض سالب فقط.
- قبل عمل التوصيلات، إفضل طرف توصيل الأرضي الخاصة بطارية السيارة لتفادي حدوث تماس كهربائي.
- لا تقوم بتوصيل أسلاك دخل التيار الأصفر والأحمر إلا بعد الانتهاء من توصيل جميع الأسلاك الأخرى.
- تأكد من توصيل سلك دخل التيار الأحمر بطرف التيار ١٢ فولت الموجب الذي يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات).
- قم بتصعيد جميع أسلاك التأريض إلى نقطة تأريض مشتركة.
- قم بتوصيل السلك الأصفر بدائرة كهربائية غير مستعملة في السيارة بمعايرة تزيد عن معايرة فيوز الوحدة.
- إذا قمت بتوصيل الوحدة على التوالي مع أجهزة ستيرو أخرى، فيجب أن تكون الدائرة الكهربائية التي يتم توصيلها بها بمعايرة أعلى من مجموع معايرات فيوزات الأجهزة الموصلة.
- إذا لم توجد دائرة كهربائية في السيارة بمعايرة تساوي معايرة فيوز الوحدة، قم بتوصيل الوحدة بالبطارية مباشرة.
- إذا لم توجد دائرة كهربائية لتوصيل الوحدة، قم بتوصيل الوحدة بدائرة كهربائية في السيارة بمعايرة أعلى من معايرة فيوز الوحدة بطريقة تحول دون قطع أي دوائر أخرى في حالة احتراق فيوز الوحدة.

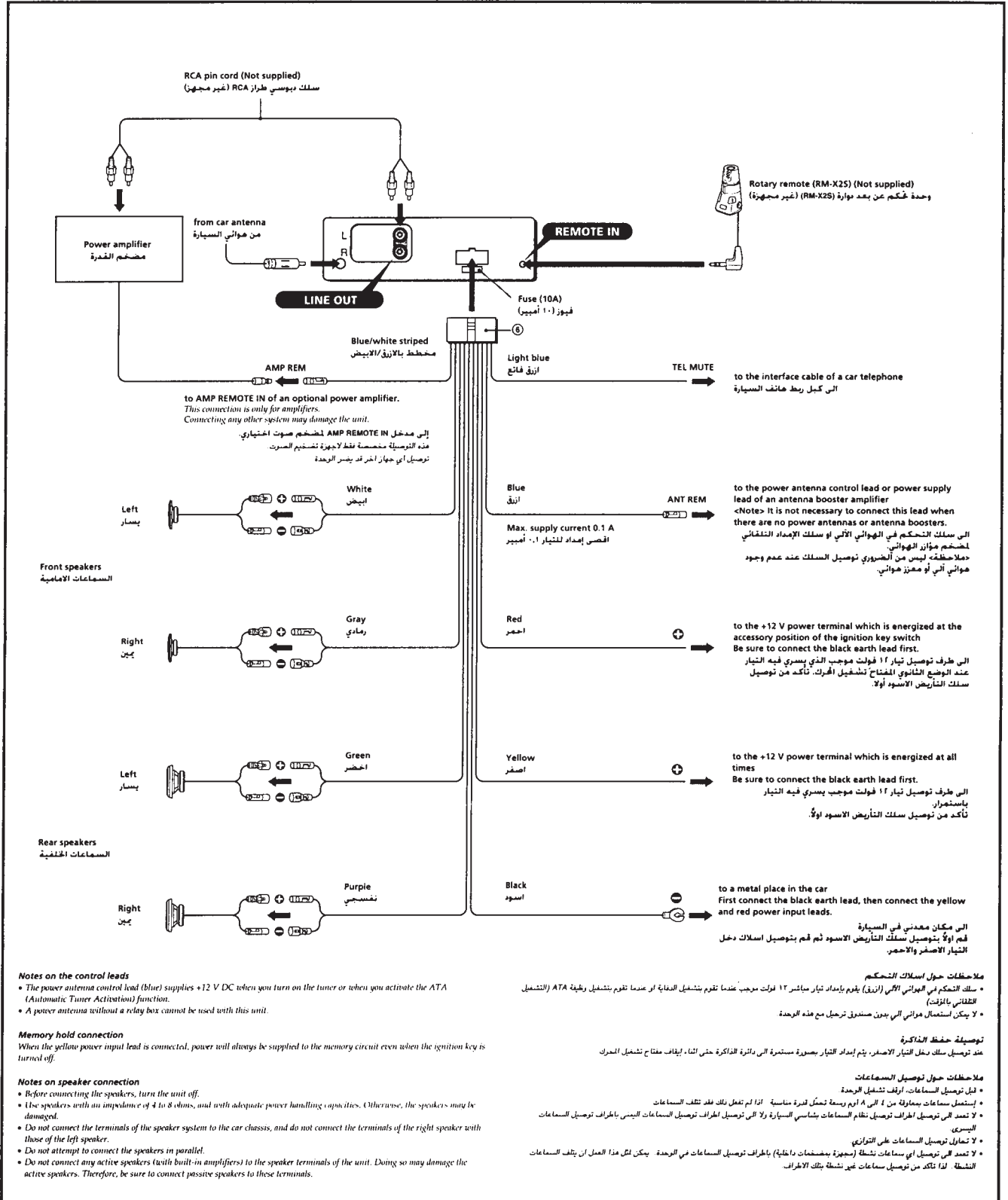
## إذا كانت سيارتك لا تتضمن موضعاً ثانوياً في مفتاح تشغيل المحرك — مفتاح اختيار التيار POWER SELECT

الإضاءة الموجودة على اللوحة الامامية مهيأة في المصنع بحيث تضاء حتى أثناء عدم استعمال الوحدة. على أن هذه التهيئة يمكن أن تتسبب في استهلاك شحنة بطارية السيارة إذا كانت سيارتك لا تتضمن موضعاً ثانوياً (موضع الكماليات) في مفتاح تشغيل المحرك لتفادي استهلاك شحنة البطارية. اضبط مفتاح اختيار التيار POWER SELECT الموجود بمقاع الوحدة على الوضع **ⓐ** ثم اضغط زر إعادة التهيئة. تعاد تهيئة الإضاءة بحيث تظل مغلقة أثناء عدم استعمال الوحدة.

**ملاحظة**  
لا يتم تنشيط نبيه تحذير اللوحة الامامية عند ضبط مقاع اختيار الصل POWER SELECT الوضع **ⓐ**.

## زر إعادة التهيئة

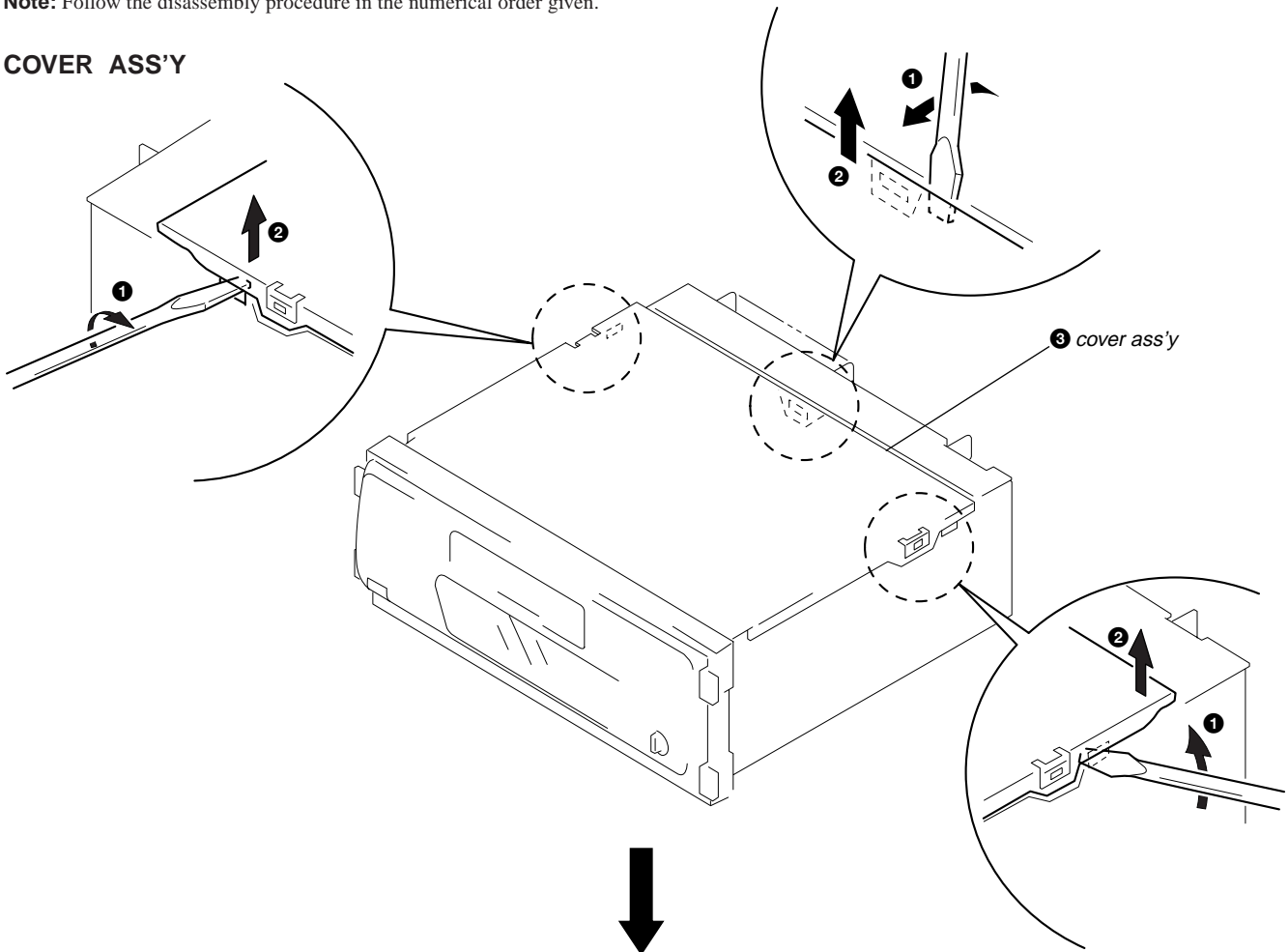
عند الانتهاء من التركيب والتوصيلات، تأكد من ضغط زر إعادة التهيئة باستعمال قلم جاف الخ. زر إعادة التهيئة موجود على يسار الوصل الموجود على جانب الوحدة عند نزع اللوحة الامامية.



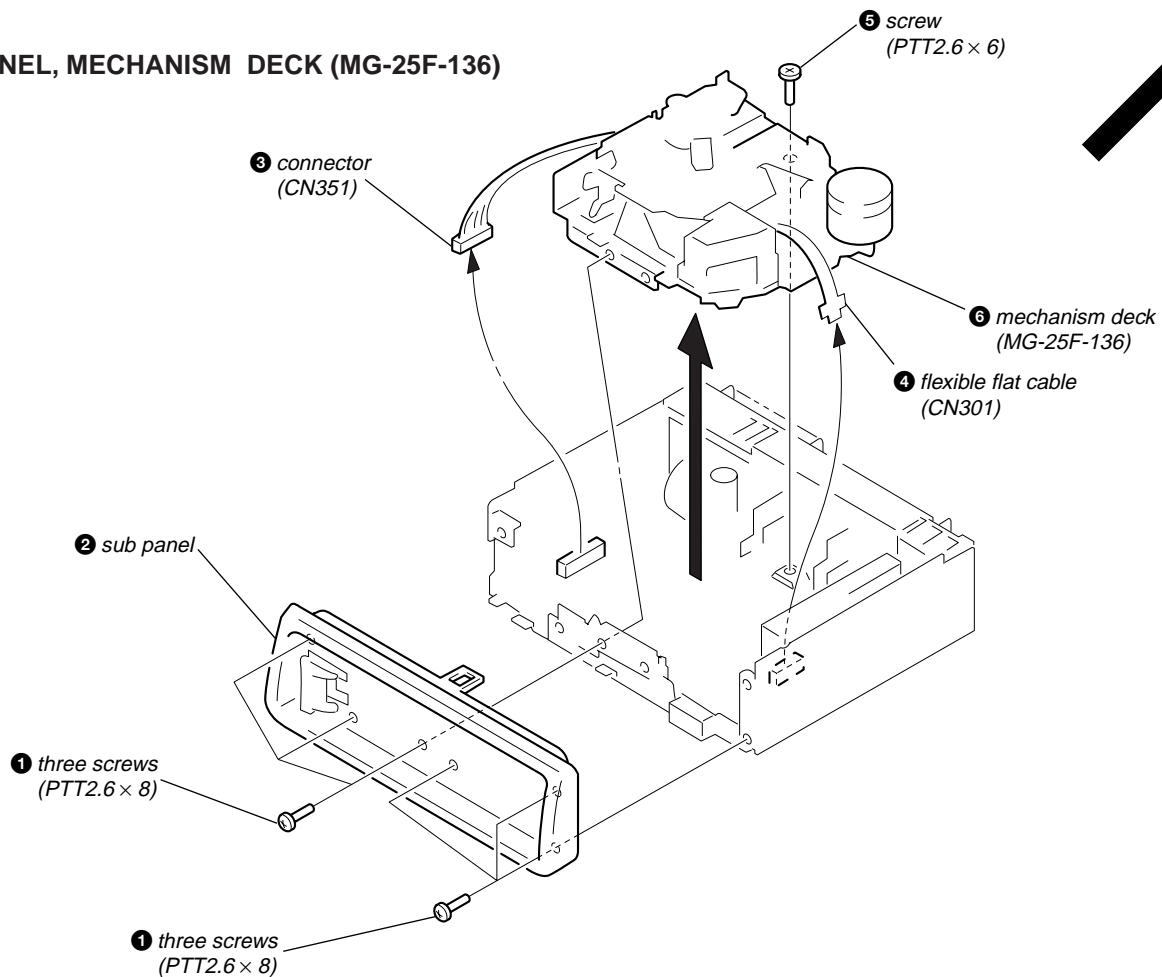
## SECTION 2 DISASSEMBLY

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

### COVER ASS'Y

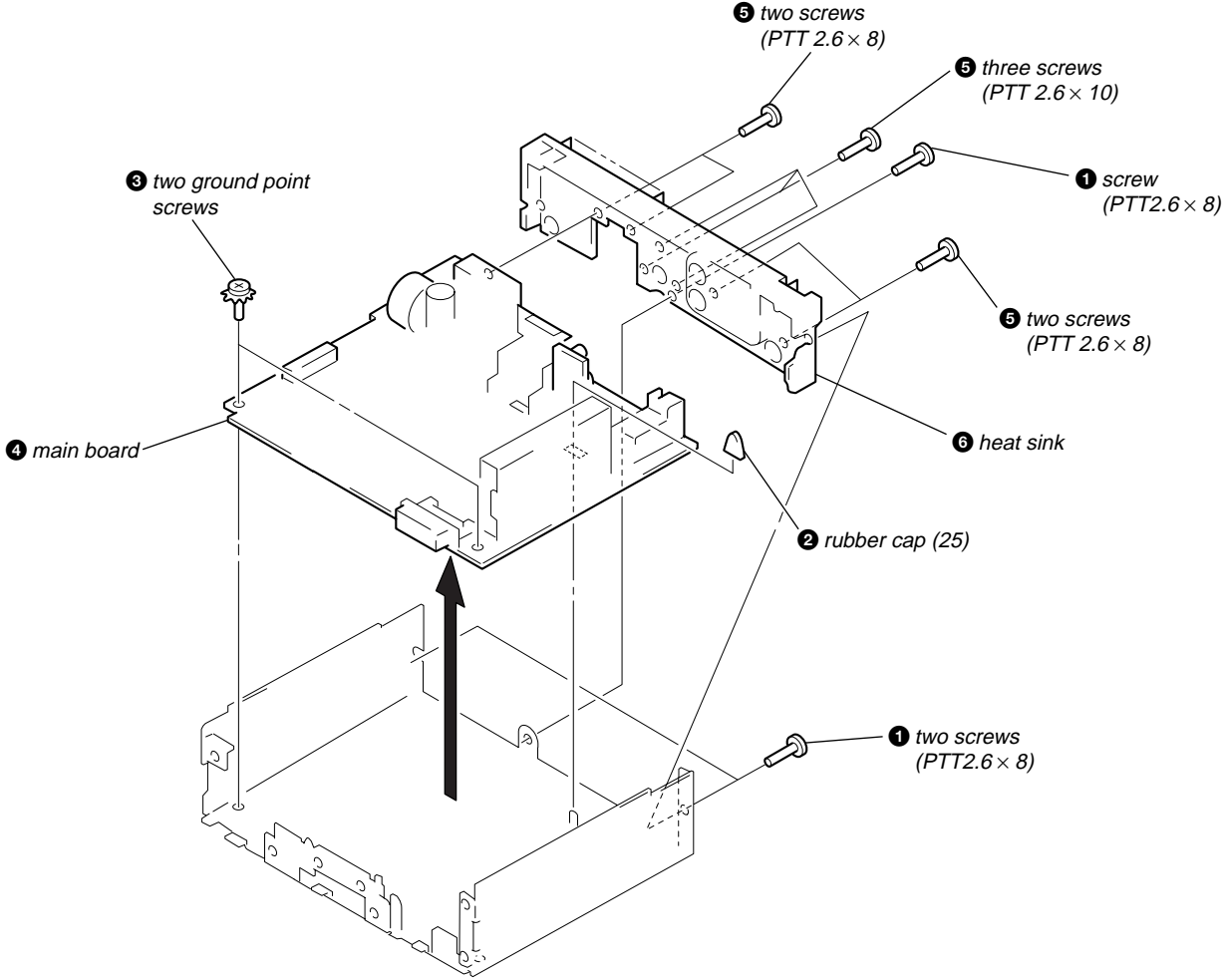


### SUB PANEL, MECHANISM DECK (MG-25F-136)





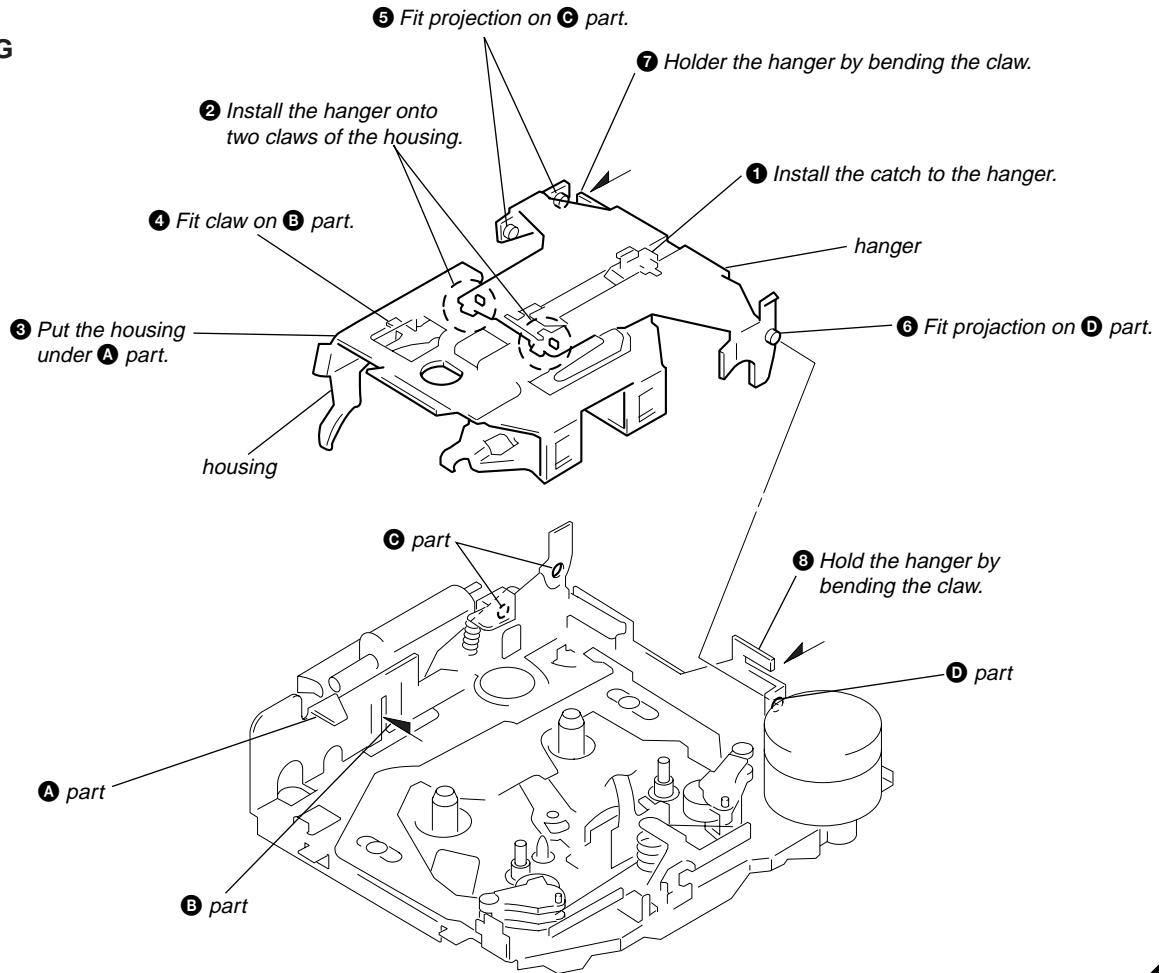
**MAIN BOARD, HEAT SINK**



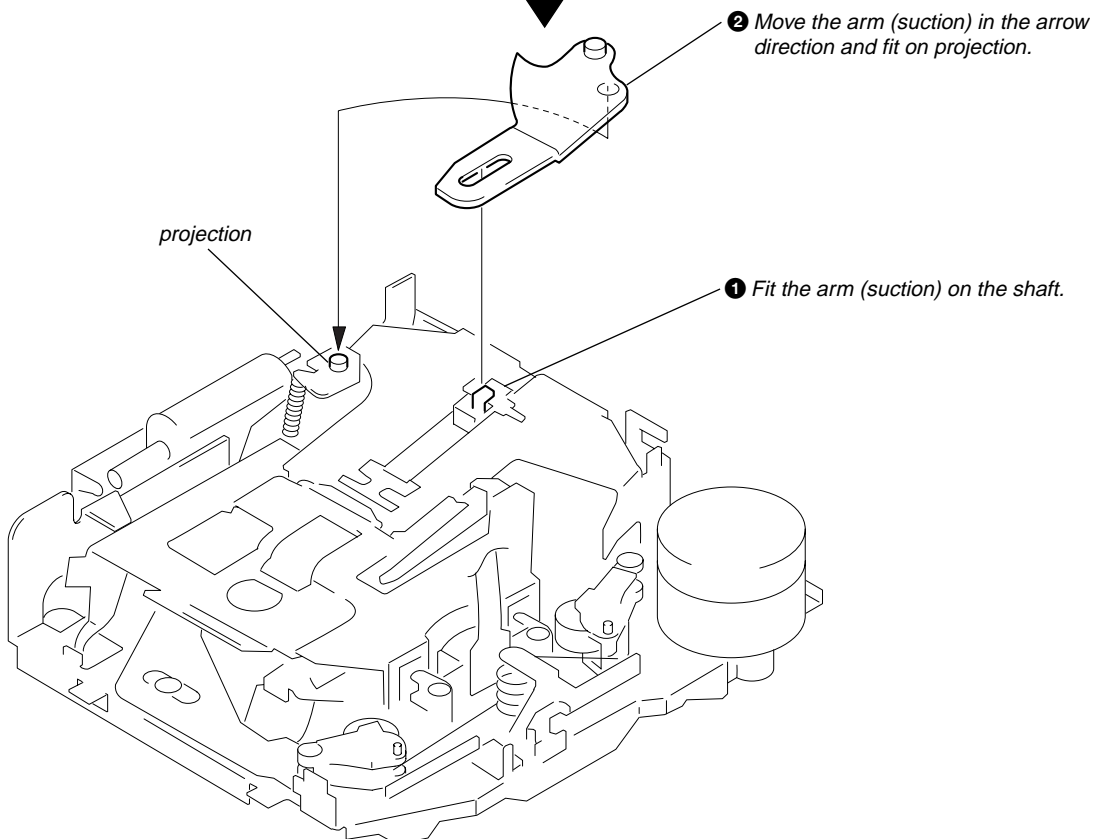
## SECTION 3 ASSEMBLY OF MECHANISM DECK

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

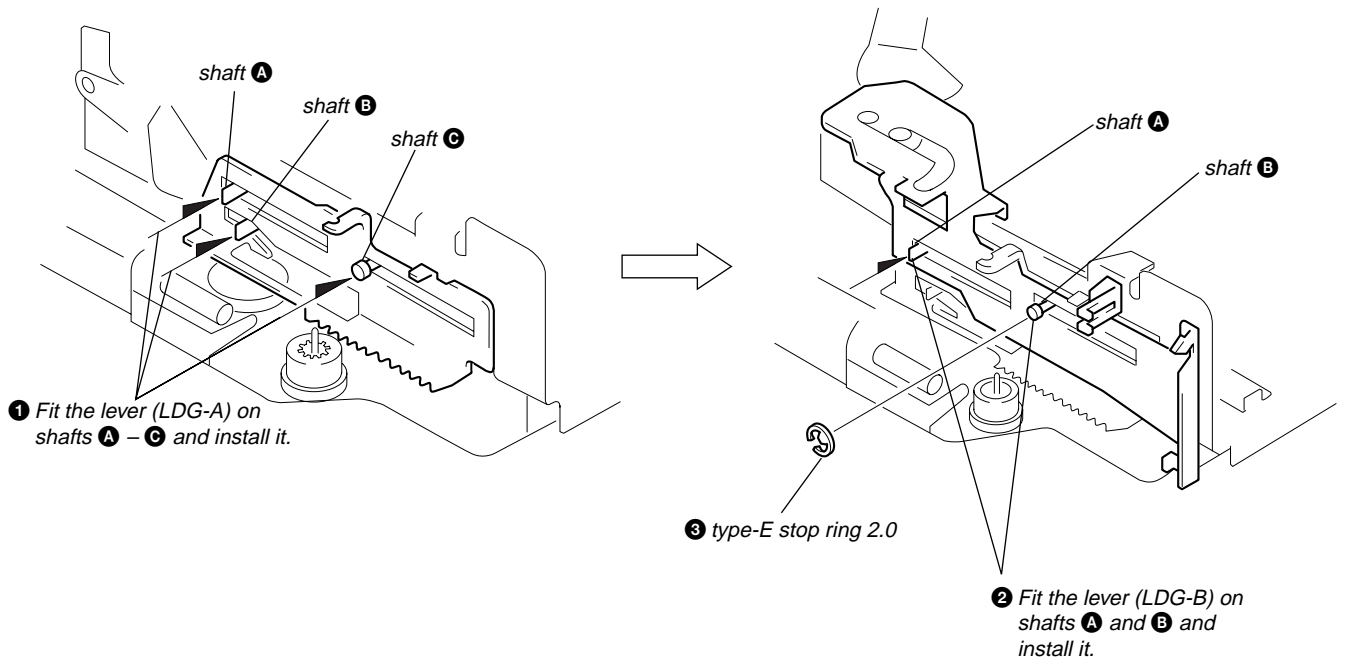
### HOUSING



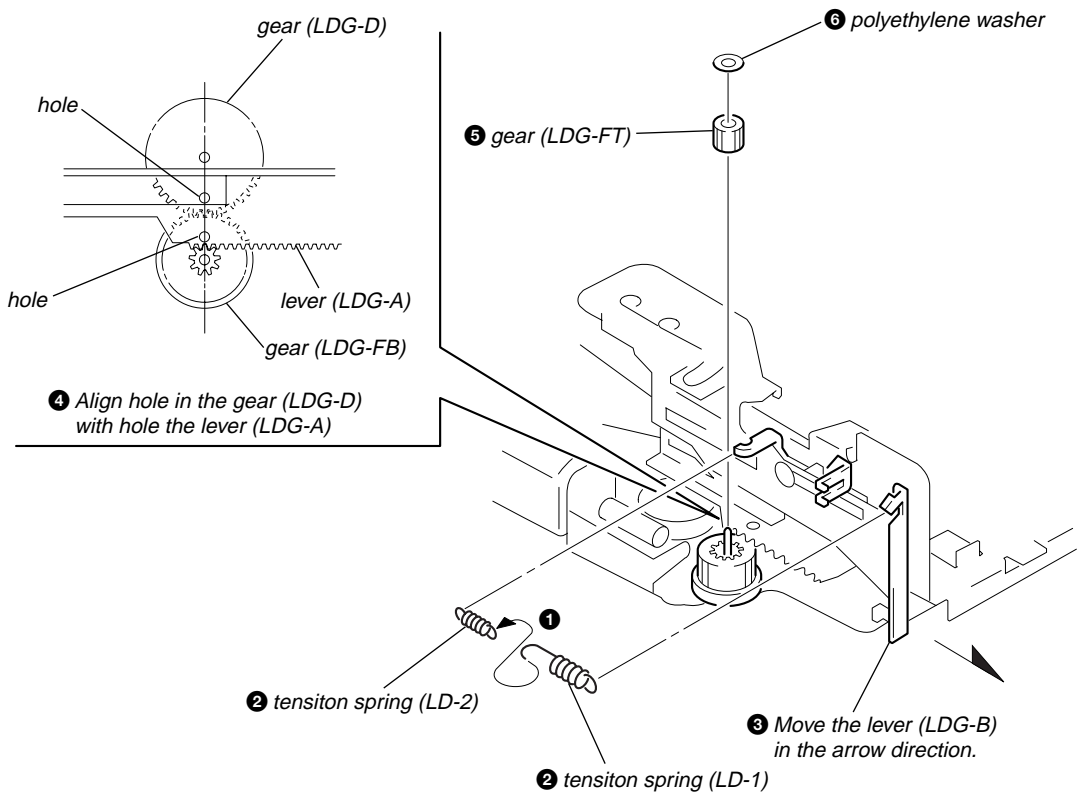
### ARM (SUCTION)



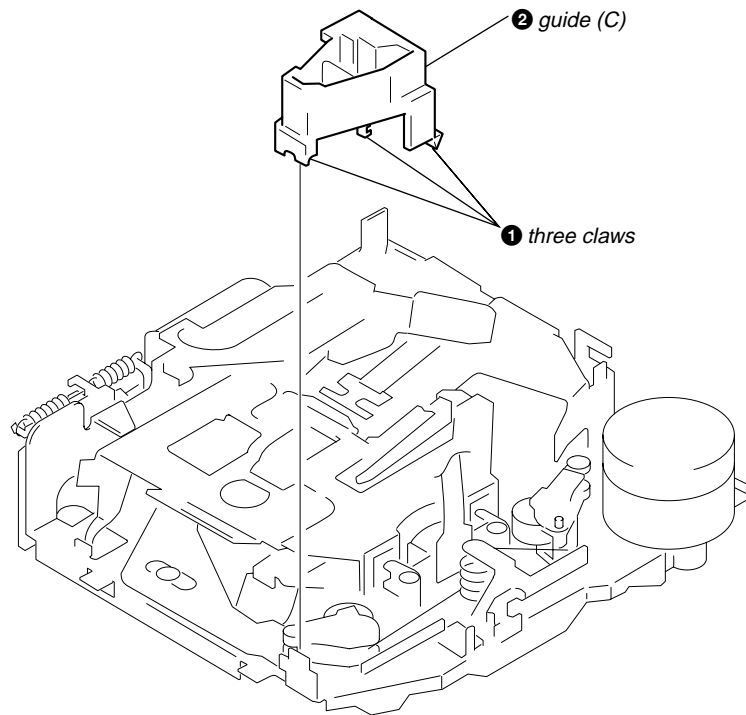
**LEVER (LDG-A) / (LDG-B)**



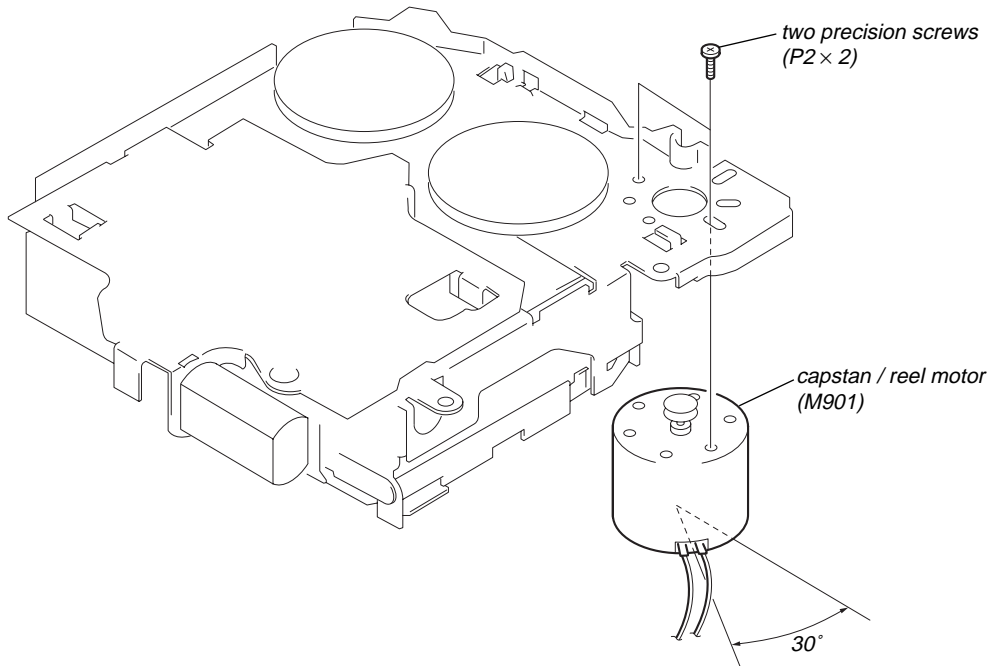
**GEAR (LDG-FT)**



## GUIDE (C)



## MOUNTING POSITION OF CAPSTAN / REEL MOTOR (M901)



## SECTION 4 MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistene 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 – 4.5 g•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 – 4.5 g•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 AM (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” 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.

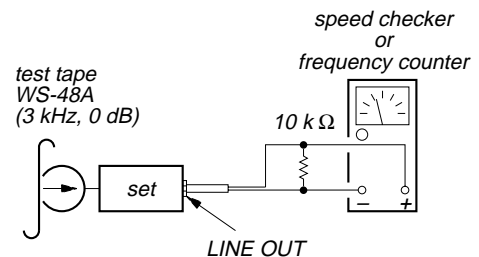
See the adjustment location from on page 16 for the adjustment.

### TAPE DECK SECTION

0 dB=0.775 V

### Tape Speed Adjustment

Setting:



### Procedure:

1. Put the set into the 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 3,075 Hz

**Adjustment Location:** See page 16.

## TUNER SECTION

0 dB=1  $\mu$ 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:

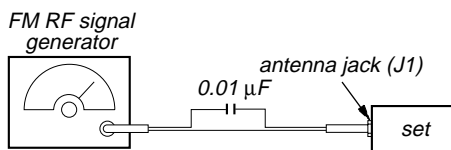
Adjust the tuner section in the sequence shown below.

1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. AM (MW) Auto Scan/Stop Level Adjustment

### FM Auto Scan/Stop Level Adjustment

#### Setting:

[SOURCE] button: FM

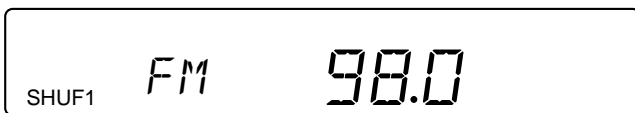


Carrier frequency : 98.0 MHz  
Output level : 22 dB (12.6  $\mu$ V)  
Mode : mono  
Modulation : 1 kHz, 22.5 kHz deviation (30%)

#### Procedure:

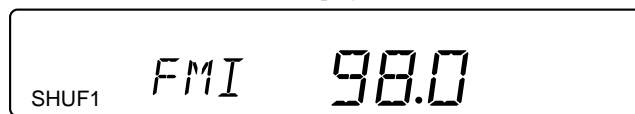
1. Set to the test mode. (See page 13)
2. Push the [SOURCE] button and set to FM.

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

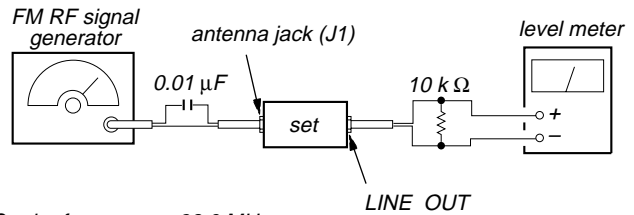


Adjustment Location: See page 16.

### FM Noise Focus Adjustment

#### Setting:

[SOURCE] button: FM



Carrier frequency : 98.0 MHz  
Output level : 60 dB (1 mV)  
Mode : mono  
Modulation : 1 kHz, 75 kHz deviation (100%)

#### Procedure:

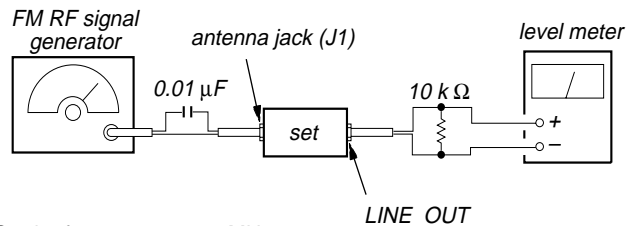
1. Tune the 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A)  $-32 \pm 2$  dB then signal generator input set to  $-20$  dB.

Adjustment Location: See page 16.

### FM Stereo Separation Adjustment

#### Setting:

[SOURCE] button: FM



Carrier frequency : 98.0 MHz  
Output level : 60 dB (1 mV)  
Mode : mono  
Modulation : 1 kHz, 75 kHz deviation (100%)

#### 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 30 dB

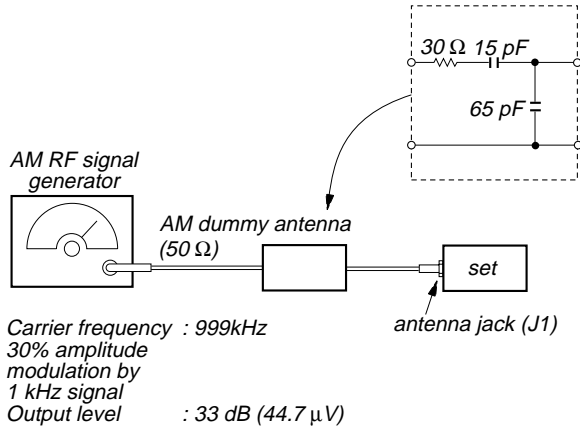
Adjustment Location: See page 16.

### AM (MW) Auto Scan/Stop Level Adjustment

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

#### Setting:

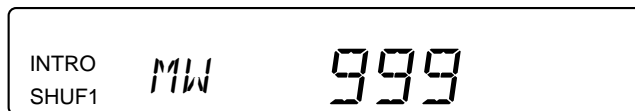
[SOURCE] and [MODE] button: MW



#### 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.

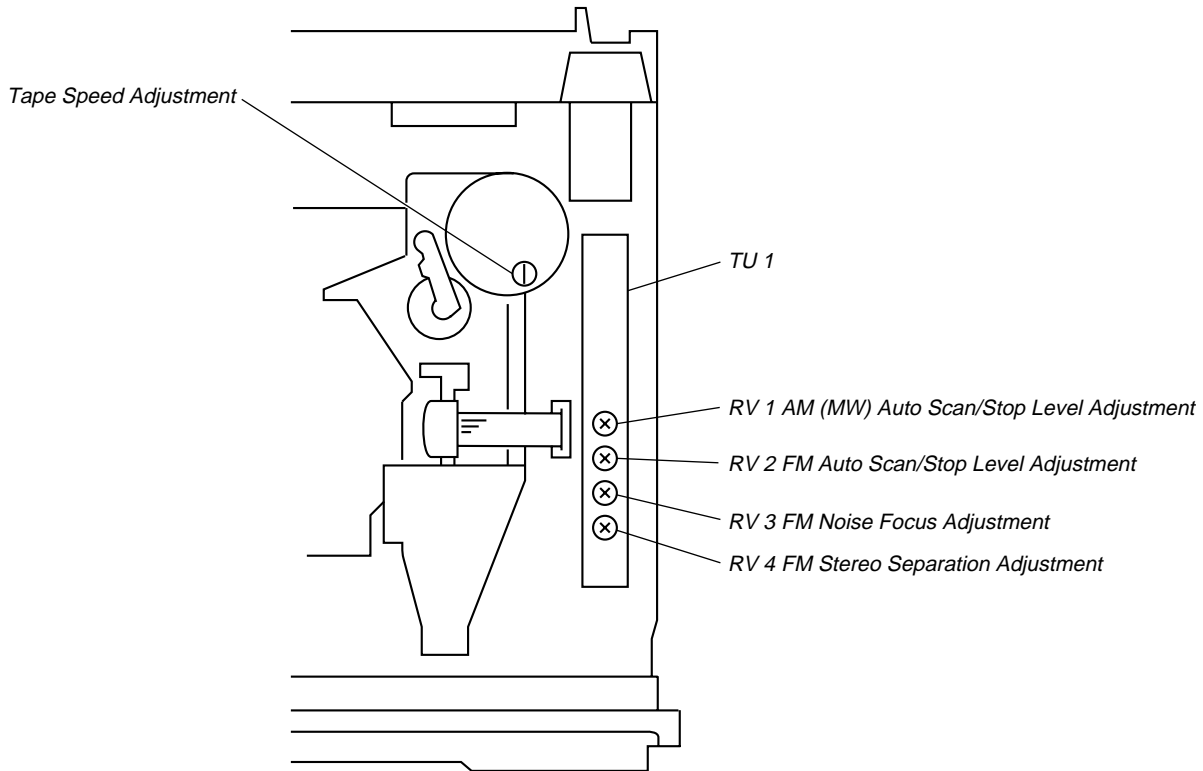
Display



Adjustment Location: See page 16.

**Adjustment Location:**

- SET UPPER VIEW -





## SECTION 6 DIAGRAMS

### 6-1. IC PIN FUNCTION DESCRIPTION

#### • MAIN BOARD IC501 $\mu$ PD17708GC-545-3B9 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	ILLIN	I	Dimmer detection signal input terminal Dimmer is present at input of "L" (fixed at "L")
2	POS3	I	Tape position detect input from tape operation switch on the mechanism block
3	POS2	I	
4	POS0	I	
5	POS1	I	
6	TAPEON	O	Tape system power supply on/off control signal output terminal "H": tape on
7	CM ON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
8	LM LOD	O	Loading/tape operation motor control signal output to the MM1322XFBE (IC351) (For the loading direction and forward side operation) *1
9	LM EJ	O	Loading/tape operation motor control signal output to the MM1322XFBE (IC351) (For the eject direction and reverse side operation) *1
10	TUNON	O	Tuner system power supply on/off control signal output to the BA3918 (IC611) "H": tuner on
11	FM ON	O	FM system power supply on/off control signal output to the BA3918 (IC611) "H": FM on
12	PW ON	O	Main system power supply on/off control signal output to the BA3918 (IC611) "H": power on
13	MUT	O	Line muting control signal output terminal "H": line muting on
14	VOLCE	O	Chip enable signal output to the electrical volume (IC331)
15	VOLCKO	O	Serial data transfer clock signal output to the electrical volume (IC331)
16	VOLSO	O	Serial data output to the electrical volume (IC331)
17	AMPON	O	Standby control signal output to the power amplifier (IC751) "L": standby
18	AMPMUT	O	Muting control signal output to the power amplifier (IC751) "L": muting on
19	DX/LO	O	Local/DX selection signal output to the FM/AM tuner unit (TU1) "L": DX, "H": local
20	AM MONO	O	AM forced monaural signal output terminal Not used (open)
21	GND	—	Ground terminal
22	DSTSEL	I	Destination setting terminal (Fixed at "L" in this set)
23	DBASIN	I	D-BASS switch (SW951) input (A/D input)
24	KEYIN1	I	Key input terminal (A/D input) LSW921 to LSW927 (▲, INTRO 1, REPEAT 2, 3, BL. SKIP 6, ATA 5, 4 keys input)
25	KEYIN0	I	Key input terminal (A/D input) LSW901 to LSW909, 911, 912, 930 (OFF, SOURCE, MODE ◀▶, + ▶▶▶▶ SEEK AMS, ◀◀◀◀ – SEEK AMS, VOLUME –, SEL, VOLUME +, MUTE, BTM, LCL, DSPL keys input)
26	RC IN0	I	Rotary remote commander shift key A/D input terminal
27	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (TU1)
28	AMIFIN	I	AM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
29	FMIFIN	I	FM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
30	VDD2	—	Power supply terminal (+5V)
31	FM OSC	I	FM local oscillator detection signal input from the FM/AM tuner unit (TU1)
32	AM OSC	I	AM local oscillator detection signal input from the FM/AM tuner unit (TU1)
33	GND	—	Ground terminal
34	NCO	O	Not used (open)
35	EO1	O	Main charge-pump control signal output terminal
36	TEST0	I	Setting terminal for the test (fixed at "L")
37	AM STIN	I	Not used (open)
38	SEKOUT	O	Seek control signal output to the FM/AM tuner unit (TU1)
39	MW/SW	O	MW/SW selection signal output to the FM/AM tuner unit (TU1) "L": MW, "H": SW
40	BEEP	O	Beep sound output terminal
41	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"

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




Pin No.	Pin Name	I/O	Function
72	<u>BUSON</u>	O	Bus on/off control signal output terminal “L”: bus on Not used (pull up)
73	<u>SYSRST</u>	O	Reset signal output terminal “L”: reset Not used (pull up)
74	VREG	O	CPU regulator output terminal Connected to capacitor
75	GND	—	Ground terminal
76	X OUT	O	Main system clock output terminal (4.5 MHz)
77	X IN	I	Main system clock input terminal (4.5 MHz)
78	CE	I	CPU chip enable signal input (fixed at “H”)
79	VDD1	—	Power supply terminal (+5V)
80	<u>RESET</u>	I	System reset signal input from the reset signal generator (IC551) and reset switch (S551) “L”: reset “L” is input for several 100 msec after power on, then it changes to “H”

\*1 loading/tape operation motor control

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







## 6-2. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

### Note on Printed Wiring Board:

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

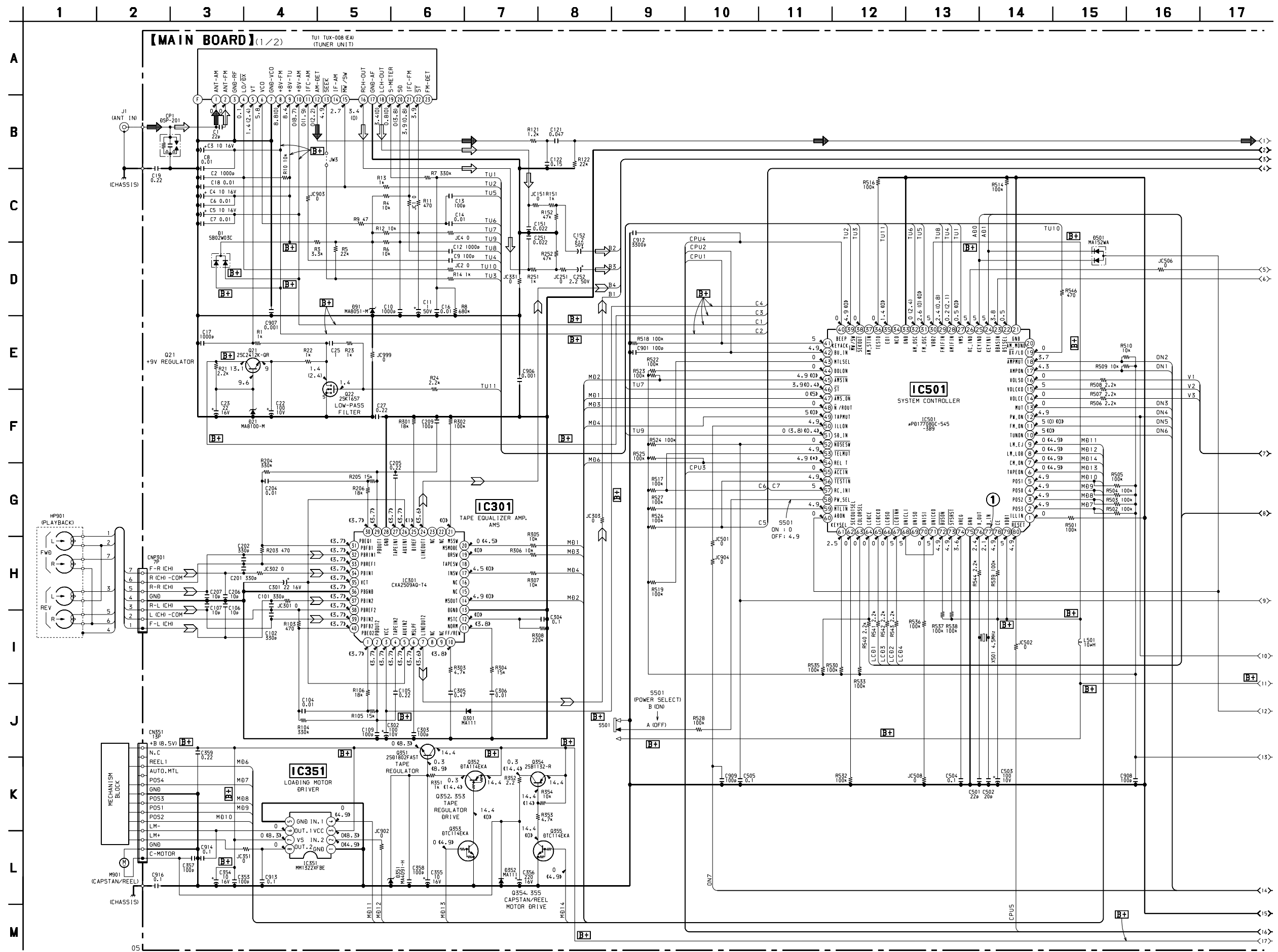
### Note on Schematic Diagram:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
-  : internal component.
-  : panel designation.
-  : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.  
no mark : FM  
( ) : AM (MW)  
<< >> : TAPE PLAYBACK  
\* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). 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)  
 : TAPE PLAYBACK



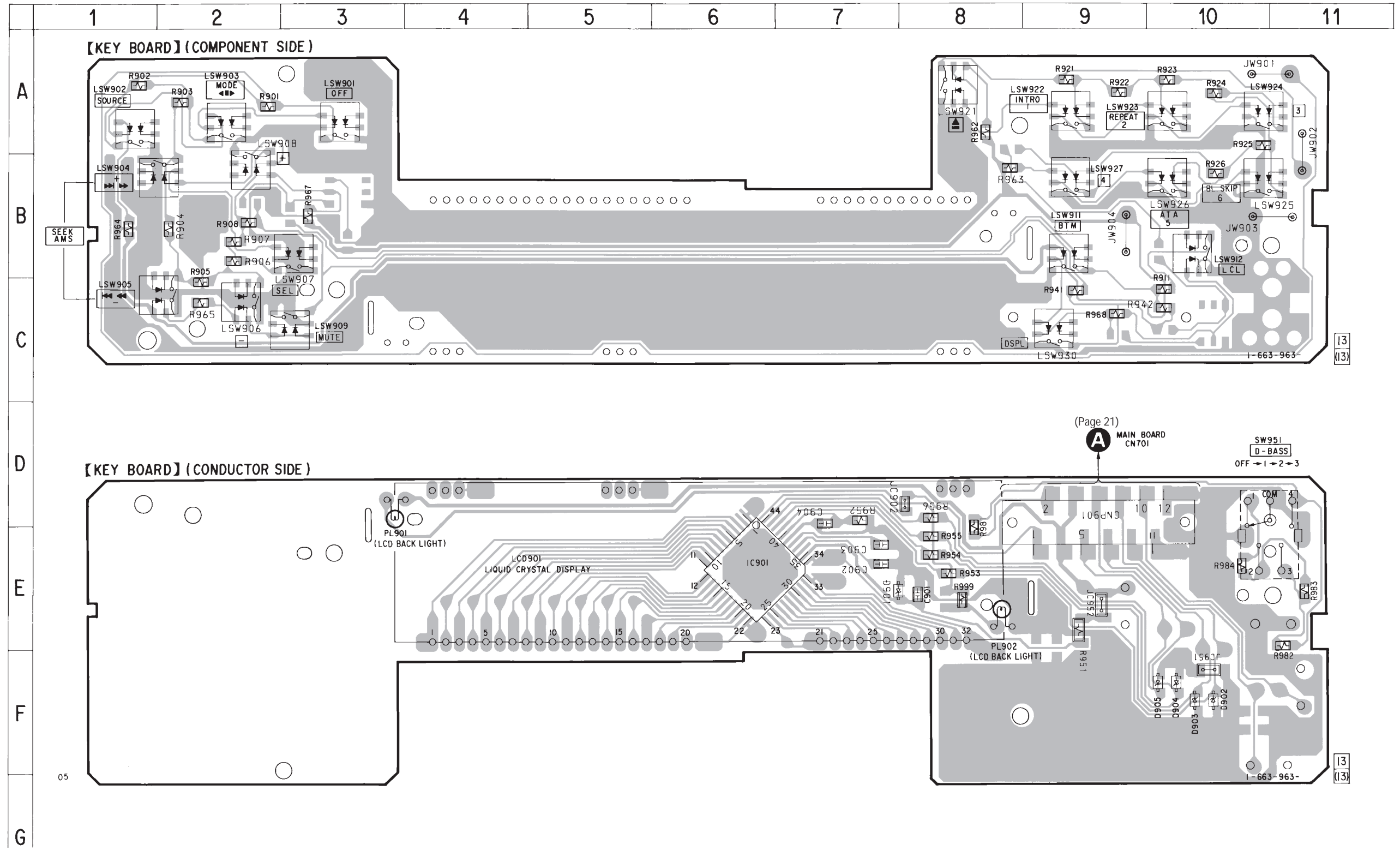


6-4. SCHEMATIC DIAGRAM – MAIN Section (1/2) – • See page 32 for Waveforms. • See page 31 for IC Block Diagrams.





6-6. PRINTED WIRING BOARD – PANEL Section –

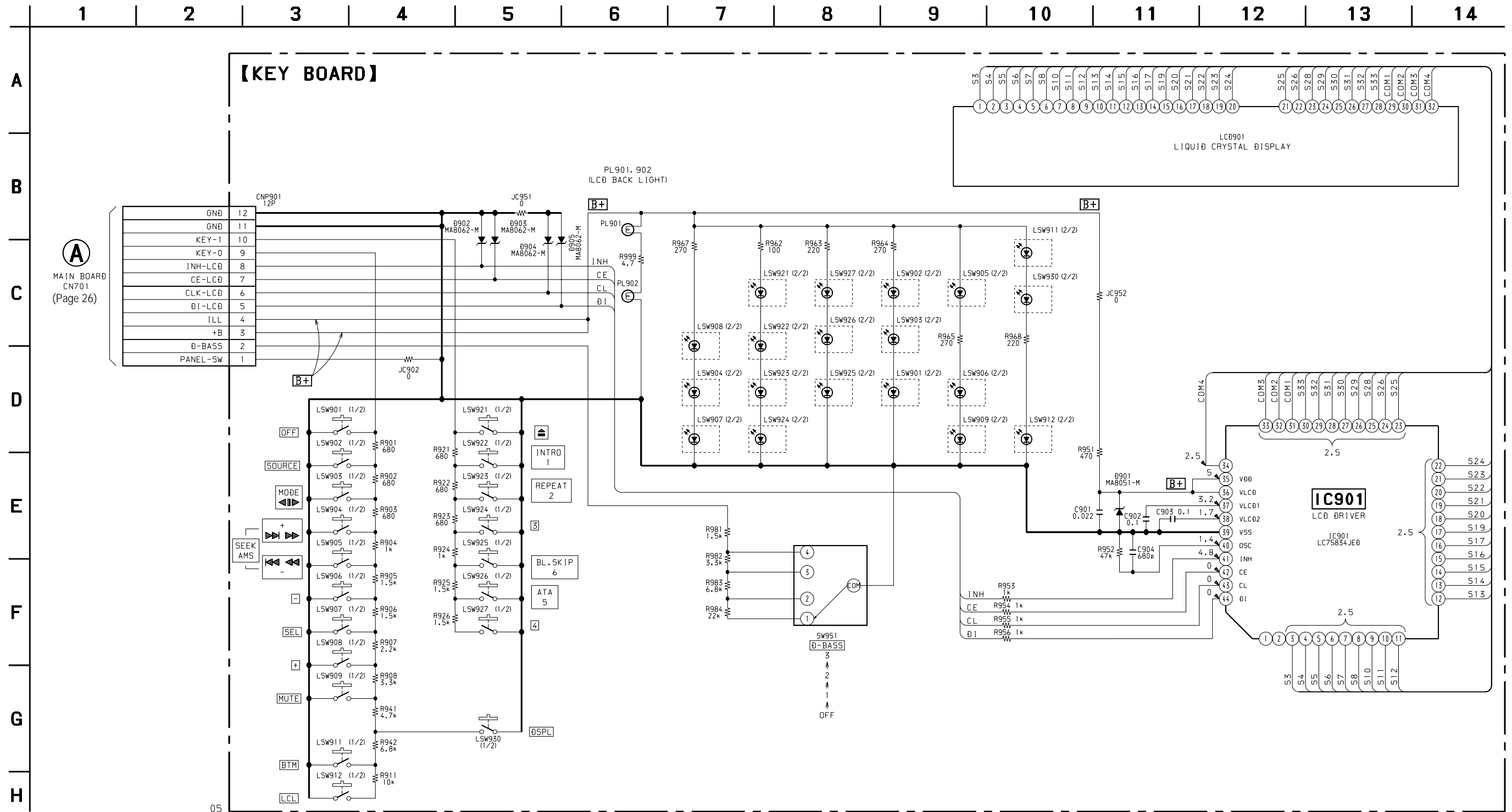


• Semiconductor Location

Ref. No.	Location
D901	E-7
D902	F-10
D903	F-10
D904	F-10
D905	F-10
IC901	E-6

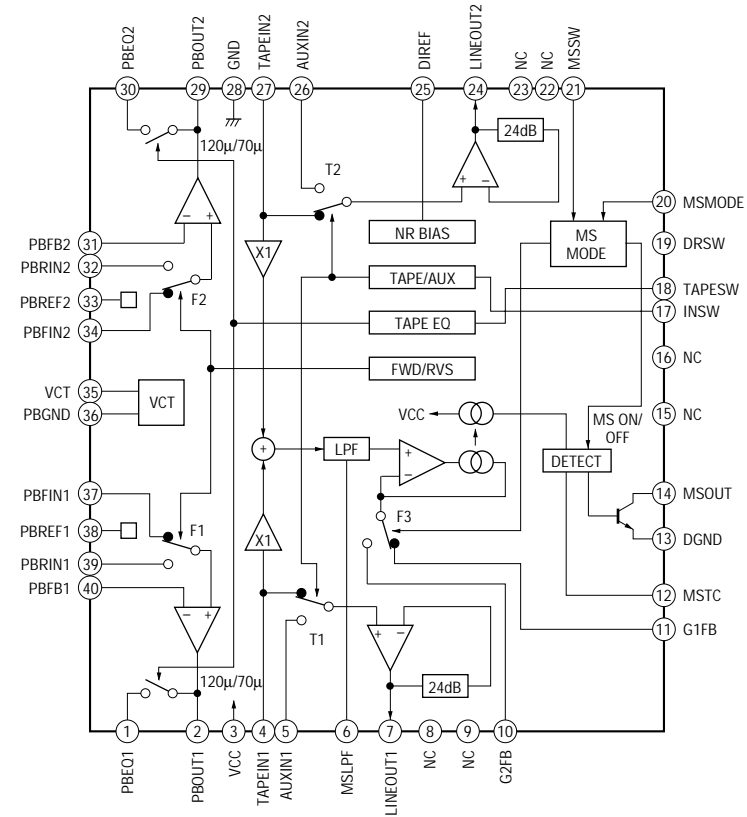


6-7. SCHEMATIC DIAGRAM – PANEL Section –

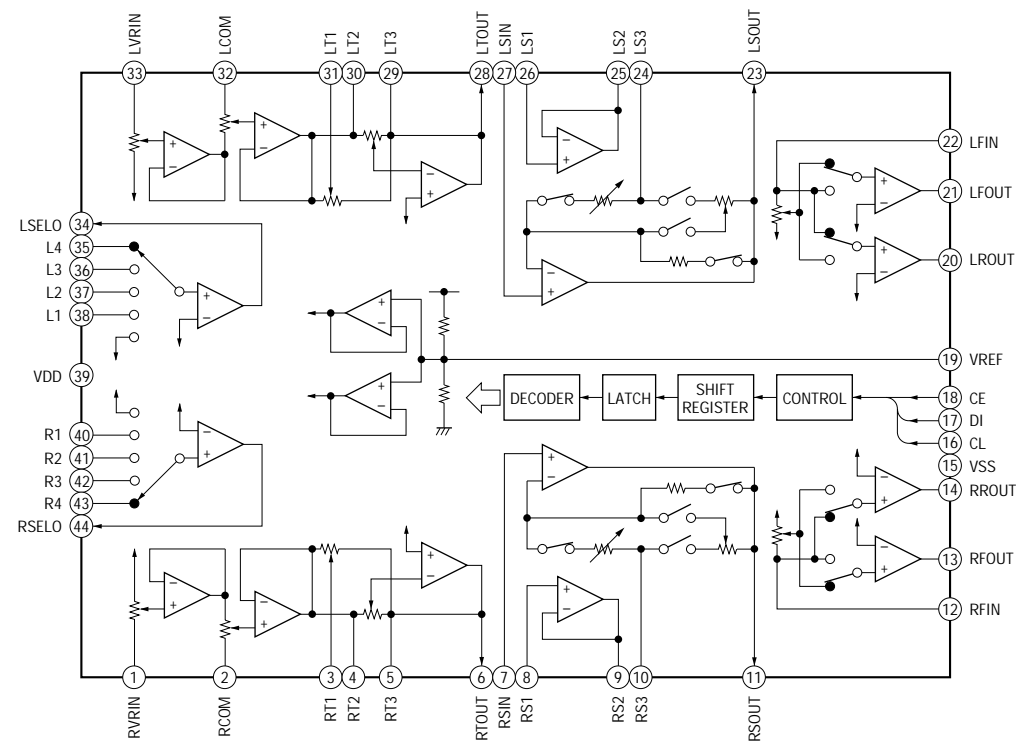


• IC Block Diagrams  
– MAIN Section –

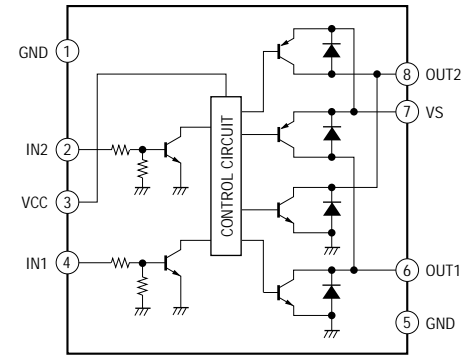
IC301 CXA2509AQ-T4



IC331 LC75373ED

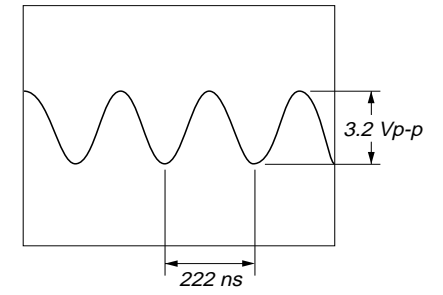


IC351 MM1322XFBE

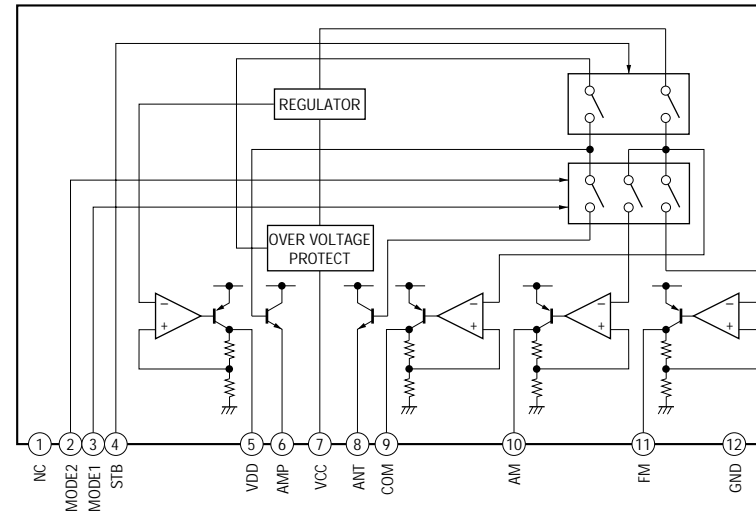


• Waveform  
– MAIN Section –

① IC501 (X-IN)



IC611 BA3918-V2



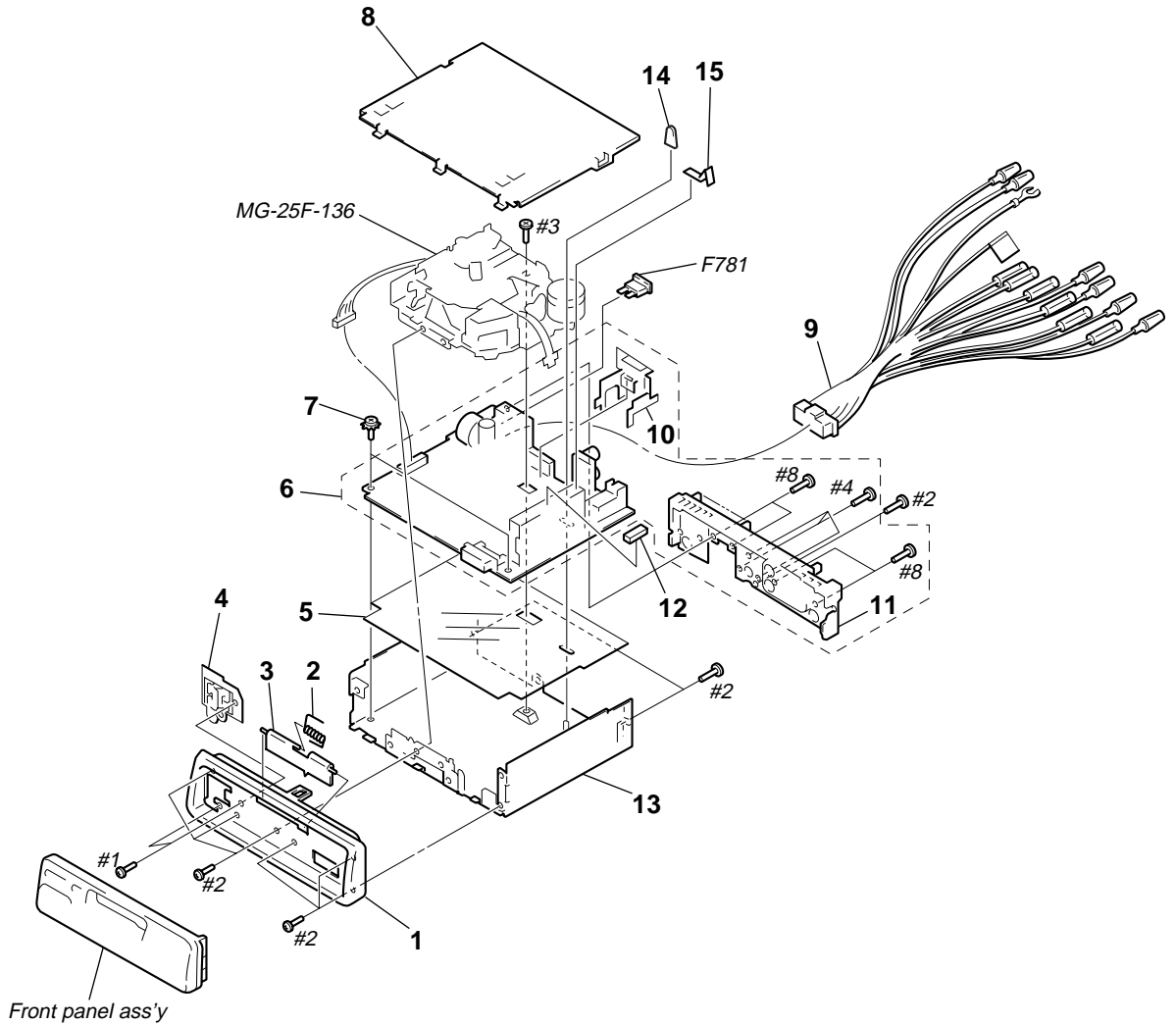
## SECTION 7 EXPLODED VIEWS

**NOTE:**

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

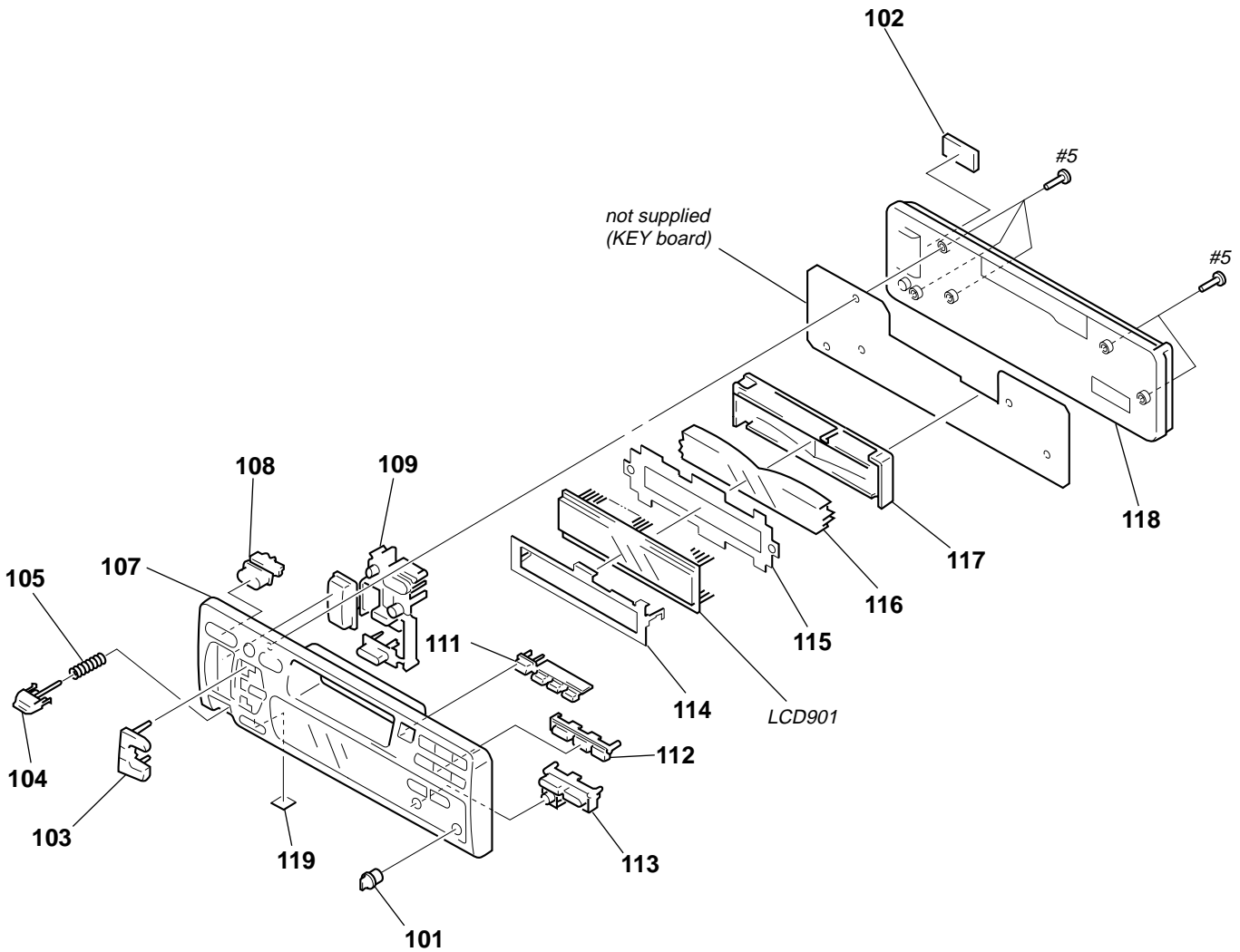
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are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

### (1) CHASSIS SECTION



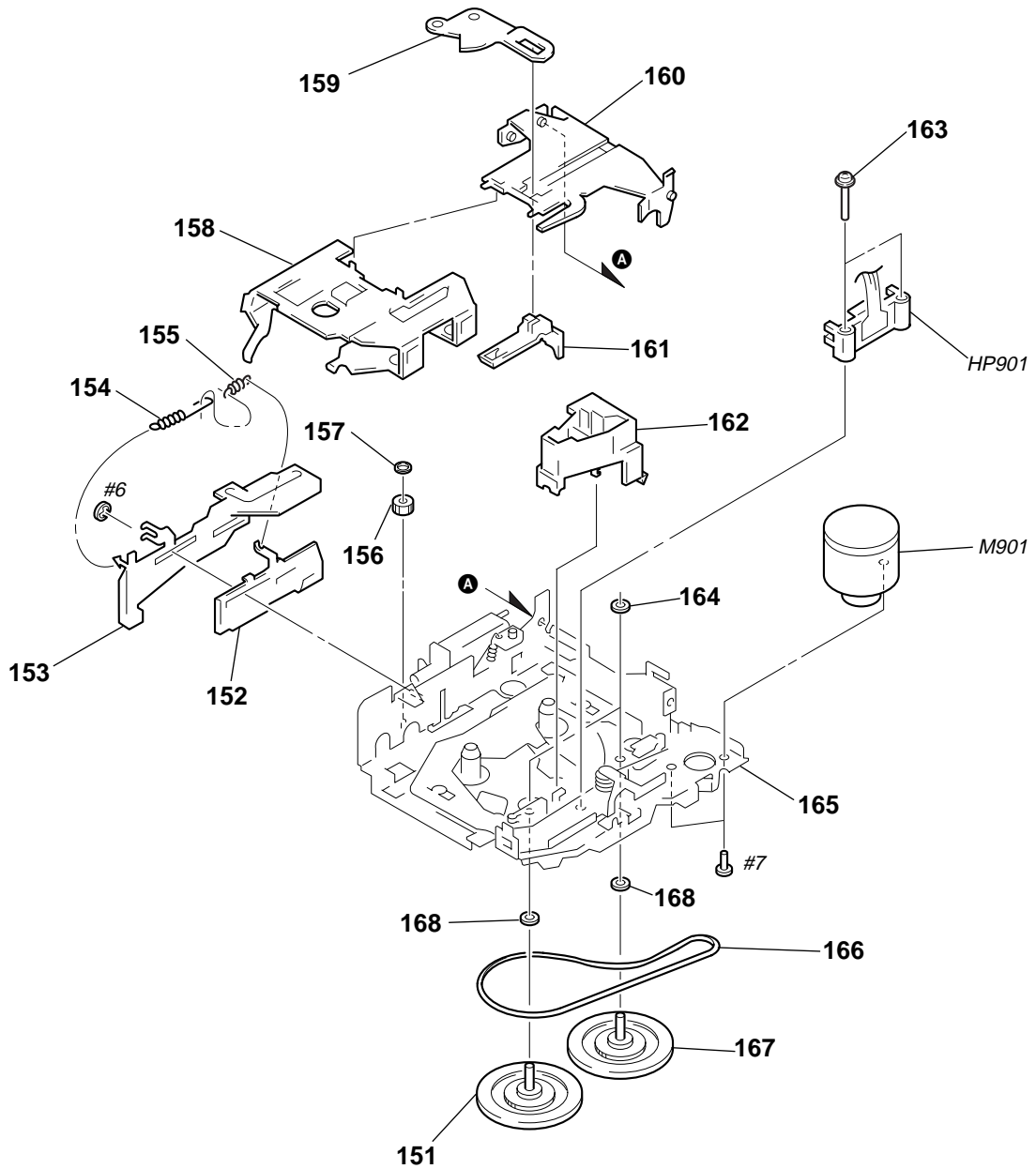
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-009-294-01	PANEL, SUB		9	1-776-207-11	CORD (WITH CONNECTOR) (POWER)	
2	3-935-003-01	SPRING, TORSION		* 10	3-009-809-01	BRACKET (IC)	
3	3-932-205-41	DOOR, CASSETTE		* 11	3-009-815-01	HEAT SINK (BUS NON)	
4	X-3370-437-4	LOCK ASSY		12	3-935-014-01	CUSHION (U)	
* 5	3-010-377-01	INSULATOR		* 13	3-009-813-01	CHASSIS	
* 6	A-3317-303-A	MAIN BOARD, COMPLETE		14	3-012-859-01	CAP (25), RUBBER	
7	3-915-923-01	SCREW, GROUND POINT		15	3-937-650-01	PLATE (C), GROUND	
* 8	X-3373-270-1	COVER ASSY		F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-009-301-01	BUTTON (BASS)		112	3-016-928-11	BUTTON (4-6) (4. 5. 6)	
102	3-015-036-01	CUSHION (BACK PANEL)		113	3-016-930-01	BUTTON (R) (3) (BTM. LCL. ●)	
103	3-016-924-01	BUTTON (L) (2) (+. -)		* 114	3-010-282-01	PLATE (LCD), GROUND	
104	3-009-304-01	BUTTON (RELEASE)		* 115	3-009-305-01	SHEET (REFLECTOR)	
105	3-932-475-01	SPRING (RELEASE)		* 116	3-009-302-01	PLATE (LCD), LIGHT GUIDE	
107	X-3373-660-1	PANEL SUB ASSY		* 117	3-009-303-02	HOLDER (LCD)	
108	3-009-300-01	BUTTON (SOURCE)		118	3-010-519-01	PANEL, FRONT BACK	
109	3-016-925-01	BUTTON (L) (3)		119	3-014-602-11	SPACER (A)	
		(+▶▶▶▶. SEEK AMS. ◀◀◀◀-. ●. OFF. SEL. MUTE)		LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL	
111	3-016-927-01	BUTTON (1-3) (▲. 1. 2. 3)					

**(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:**

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

- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- **SEMICONDUCTORS**  
In each case, u: μ, for example:  
uA. . : 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	Ref. No.	Part No.	Description	Remark	
		KEY BOARD *****		LSW906	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (-)		
				LSW907	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SEL)		
				LSW908	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+)		
*	3-009-302-01	PLATE (LCD), LIGHT GUIDE		LSW909	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (MUTE)		
*	3-009-303-02	HOLDER (LCD)		LSW911	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (BTM)		
*	3-009-305-01	SHEET (REFLECTOR)						
*	3-010-282-01	PLATE (LCD), GROUND		LSW912	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (LCL)		
		< CAPACITOR >		LSW921	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (▲)		
C901	1-163-033-00	CERAMIC CHIP	0.022uF	50V	LSW922	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (1, INTRO)	
C902	1-163-038-00	CERAMIC CHIP	0.1uF	25V	LSW923	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (2, REPEAT)	
C903	1-163-038-00	CERAMIC CHIP	0.1uF	25V	LSW924	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (3)	
C904	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	LSW925	1-762-619-11	SWITCH, KEY BOARD (WITH LED)
		< CONNECTOR >					(6, BL.SKIP)	
CNP901	1-764-423-11	PIN, CONNECTOR	12P	LSW926	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (5, ATA)		
		< DIODE >		LSW927	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (4)		
D901	8-719-420-90	DIODE	MA8051-M	LSW930	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (DSPL)		
D902	8-719-422-64	DIODE	MA8062-M			< PILOT LAMP >		
D903	8-719-422-64	DIODE	MA8062-M	PL901	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)		
D904	8-719-422-64	DIODE	MA8062-M	PL902	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)		
D905	8-719-422-64	DIODE	MA8062-M			< RESISTOR >		
		< IC >		R901	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
IC901	8-759-443-68	IC	LC75834JED	R902	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
		< SHORT >		R903	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
JC902	1-216-295-00	SHORT	0	R904	1-216-651-11	METAL CHIP	1K 0.5% 1/10W	
JC951	1-216-296-00	SHORT	0	R905	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	
JC952	1-216-296-00	SHORT	0	R906	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	
		< LIQUID CRYSTAL DISPLAY >		R907	1-216-659-11	METAL CHIP	2.2K 0.5% 1/10W	
LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL		R908	1-216-663-11	METAL CHIP	3.3K 0.5% 1/10W	
		< SWITCH >		R911	1-208-806-11	RES, CHIP	10K 0.5% 1/10W	
LSW901	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (OFF)		R921	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
LSW902	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)		R922	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
LSW903	1-762-619-11	SWITCH, KEY BOARD (WITH LED)	(MODE ◀▶)	R923	1-216-647-11	METAL CHIP	680 0.5% 1/10W	
LSW904	1-762-619-11	SWITCH, KEY BOARD (WITH LED)	(+ ▶▶▶▶)	R924	1-216-651-11	METAL CHIP	1K 0.5% 1/10W	
LSW905	1-762-619-11	SWITCH, KEY BOARD (WITH LED)	(◀◀◀◀ -)	R925	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	
				R926	1-216-655-11	METAL CHIP	1.5K 0.5% 1/10W	
				R941	1-216-667-11	METAL CHIP	4.7K 0.5% 1/10W	
				R942	1-216-671-11	METAL CHIP	6.8K 0.5% 1/10W	
				R951	1-216-190-00	RES, CHIP	470 5% 1/8W	
				R952	1-216-089-00	RES, CHIP	47K 5% 1/10W	
				R953	1-216-049-11	RES, CHIP	1K 5% 1/10W	
				R954	1-216-049-11	RES, CHIP	1K 5% 1/10W	
				R955	1-216-049-11	RES, CHIP	1K 5% 1/10W	
				R956	1-216-049-11	RES, CHIP	1K 5% 1/10W	

Ref. No.	Part No.	Description	Quantity	Value	Remark	Ref. No.	Part No.	Description	Quantity	Value	Remark
R962	1-216-025-00	RES, CHIP	100	5%	1/10W	C151	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
R963	1-216-033-00	METAL CHIP	220	5%	1/10W	C152	1-124-257-00	ELECT	2.2uF	20%	50V
R964	1-216-035-00	METAL CHIP	270	5%	1/10W	C161	1-126-160-11	ELECT	1uF	20%	50V
R965	1-216-035-00	METAL CHIP	270	5%	1/10W	C162	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
R967	1-216-035-00	METAL CHIP	270	5%	1/10W	C163	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
R968	1-216-033-00	METAL CHIP	220	5%	1/10W	C164	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
R981	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W	C165	1-124-233-11	ELECT	10uF	20%	16V
R982	1-208-449-41	RES, CHIP	3.3K	2%	1/10W	C166	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
R983	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W	C167	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
R984	1-216-081-00	METAL CHIP	22K	5%	1/10W	C168	1-124-233-11	ELECT	10uF	20%	16V
R999	1-216-308-00	METAL CHIP	4.7	5%	1/10W	C169	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
< SWITCH >						C170	1-163-287-11	CERAMIC CHIP	10PF	5%	50V
SW951	1-762-937-11	SWITCH, ROTARY (D-BASS)				C171	1-126-163-11	ELECT	4.7uF	20%	50V
*****						C172	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
*	A-3317-303-A	MAIN BOARD, COMPLETE				C181	1-126-163-11	ELECT	4.7uF	20%	50V
*****						C182	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
*	3-009-809-01	BRACKET (IC)				C183	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
*	3-009-815-01	HEAT SINK (BUS NON)				C191	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
	7-685-793-04	SCREW +PTT 2.6X8 (S)				C201	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
	7-685-794-09	SCREW +PTT 2.6X10 (S)				C202	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
< CAPACITOR >						C204	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	C205	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C2	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C206	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3	1-124-233-11	ELECT	10uF	20%	16V	C207	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C4	1-124-233-11	ELECT	10uF	20%	16V	C208	1-126-163-11	ELECT	4.7uF	20%	50V
C5	1-124-233-11	ELECT	10uF	20%	16V	C209	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C6	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C251	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C7	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C252	1-124-257-00	ELECT	2.2uF	20%	50V
C8	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C261	1-126-160-11	ELECT	1uF	20%	50V
C9	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C262	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C263	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C11	1-126-160-11	ELECT	1uF	20%	50V	C264	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C12	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C265	1-124-233-11	ELECT	10uF	20%	16V
C13	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C266	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C14	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C267	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C16	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C268	1-124-233-11	ELECT	10uF	20%	16V
C17	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C269	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C18	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V	C270	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C19	1-164-222-11	CERAMIC CHIP	0.22uF		25V	C271	1-126-163-11	ELECT	4.7uF	20%	50V
C22	1-124-584-00	ELECT	100uF	20%	10V	C272	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V	C281	1-126-163-11	ELECT	4.7uF	20%	50V
C25	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C282	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C27	1-164-222-11	CERAMIC CHIP	0.22uF		25V	C283	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C101	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	C301	1-124-234-00	ELECT	22uF	20%	16V
C102	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	C302	1-124-584-00	ELECT	100uF	20%	10V
C104	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V	C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C106	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C107	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	C306	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C108	1-126-163-11	ELECT	4.7uF	20%	50V	C331	1-124-584-00	ELECT	100uF	20%	10V
C109	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C332	1-124-234-00	ELECT	22uF	20%	16V
C121	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	C353	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C122	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	C354	1-124-233-11	ELECT	10uF	20%	16V
C123	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	C355	1-124-233-11	ELECT	10uF	20%	16V
C124	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	C356	1-126-934-11	ELECT	220uF	20%	16V
						C357	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
						C358	1-163-251-11	CERAMIC CHIP	100PF	5%	50V



# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C359	1-164-489-11	CERAMIC CHIP	0.22uF 10%			< DIODE >	
C501	1-163-235-11	CERAMIC CHIP	22PF 5%				
C502	1-163-234-11	CERAMIC CHIP	20PF 5%				
C503	1-124-584-00	ELECT	100uF 20%	D1	8-719-991-65	DIODE SB02W03C	
C504	1-164-004-11	CERAMIC CHIP	0.1uF 10%	D21	8-719-423-10	DIODE MA8100-M-TX	
C505	1-163-077-00	CERAMIC CHIP	0.1uF 10%	D91	8-719-420-90	DIODE MA8051-M	
C551	1-125-701-11	DOUBLE LAYER	0.047F 5.5V	D301	8-719-404-49	DIODE MA1111	
C552	1-124-584-00	ELECT	100uF 20%	D351	8-719-035-91	DIODE MA4091-H (TA)	
C553	1-164-004-11	CERAMIC CHIP	0.1uF 10%	D352	8-719-404-49	DIODE MA1111	
C554	1-164-004-11	CERAMIC CHIP	0.1uF 10%	D501	8-719-400-20	DIODE MA152WA	
C571	1-126-163-11	ELECT	4.7uF 20%	D502	8-719-911-19	DIODE 1SS119	
C582	1-163-009-11	CERAMIC CHIP	0.001uF 10%	D551	8-719-400-20	DIODE MA152WA	
C602	1-164-222-11	CERAMIC CHIP	0.22uF 25V	D552	8-719-404-49	DIODE MA1111	
C611	1-124-233-11	ELECT	10uF 20%	D553	8-719-404-49	DIODE MA1111	
C612	1-124-233-11	ELECT	10uF 20%	D571	8-719-034-94	DIODE MA4180-M (OZ)	
C613	1-163-077-00	CERAMIC CHIP	0.1uF 10%	D572	8-719-110-03	DIODE RD7.5ESB2	
C614	1-124-233-11	ELECT	10uF 20%	D582	8-719-057-80	DIODE MA8160-M-TX	
C615	1-124-233-11	ELECT	10uF 20%	D583	8-719-422-76	DIODE MA8075-M	
C616	1-124-233-11	ELECT	10uF 20%	D601	8-719-423-32	DIODE MA8120-M	
C617	1-124-233-11	ELECT	10uF 20%	D621	8-719-035-54	DIODE MA4039-M (TA)	
C621	1-124-233-11	ELECT	10uF 20%	D622	8-719-911-19	DIODE 1SS119	
C622	1-163-133-00	CERAMIC CHIP	470PF 5%	D701	8-719-035-74	DIODE MA4062-M (TA)	
C623	1-124-589-11	ELECT	47uF 20%	D702	8-719-035-74	DIODE MA4062-M (TA)	
C701	1-163-077-00	CERAMIC CHIP	0.1uF 10%	D703	8-719-035-74	DIODE MA4062-M (TA)	
C702	1-163-077-00	CERAMIC CHIP	0.1uF 10%	D704	8-719-035-74	DIODE MA4062-M (TA)	
C703	1-163-077-00	CERAMIC CHIP	0.1uF 10%	D705	8-719-035-74	DIODE MA4062-M (TA)	
C751	1-126-096-11	ELECT	10uF 20%	D706	8-719-035-74	DIODE MA4062-M (TA)	
C752	1-107-682-11	CERAMIC CHIP	1uF 10%	D707	8-719-034-94	DIODE MA4180-M (OZ)	
C754	1-124-233-11	ELECT	10uF 20%	D708	8-719-035-74	DIODE MA4062-M (TA)	
C755	1-126-096-11	ELECT	10uF 20%	D709	8-719-035-74	DIODE MA4062-M (TA)	
C781	1-126-936-11	ELECT	3300uF 20%	D721	8-719-970-02	DIODE 1SR139-400	
C782	1-163-181-00	CERAMIC CHIP	100PF 5%	D722	8-719-970-02	DIODE 1SR139-400	
C783	1-163-181-00	CERAMIC CHIP	100PF 5%	D723	8-719-970-02	DIODE 1SR139-400	
C785	1-165-319-11	CERAMIC CHIP	0.1uF 50V	D724	8-719-970-02	DIODE 1SR139-400	
C786	1-165-319-11	CERAMIC CHIP	0.1uF 50V	D731	8-719-970-02	DIODE 1SR139-400	
C901	1-163-251-11	CERAMIC CHIP	100PF 5%	D732	8-719-970-02	DIODE 1SR139-400	
C906	1-163-009-11	CERAMIC CHIP	0.001uF 10%	D733	8-719-970-02	DIODE 1SR139-400	
C907	1-163-009-11	CERAMIC CHIP	0.001uF 10%	D734	8-719-970-02	DIODE 1SR139-400	
C908	1-163-251-11	CERAMIC CHIP	100PF 5%	D781	8-719-049-38	DIODE 1N5404TU	
C909	1-163-181-00	CERAMIC CHIP	100PF 5%	D782	8-719-970-02	DIODE 1SR139-400	
C910	1-163-251-11	CERAMIC CHIP	100PF 5%	D783	8-719-970-02	DIODE 1SR139-400	
C912	1-164-182-11	CERAMIC CHIP	0.0033uF 10%	D784	8-719-422-64	DIODE MA8062-M	
C913	1-164-004-11	CERAMIC CHIP	0.1uF 10%	D785	8-719-035-74	DIODE MA4062-M (TA)	
C914	1-164-004-11	CERAMIC CHIP	0.1uF 10%			< IC >	
C915	1-164-004-11	CERAMIC CHIP	0.1uF 10%	IC301	8-752-079-78	IC CXA2509AQ-T4	
C916	1-163-077-00	CERAMIC CHIP	0.1uF 10%	IC331	8-759-443-67	IC LC75373ED	
		< CONNECTOR >		IC351	8-759-395-97	IC MM1322XFBE	
CNP301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P		IC501	8-759-462-38	IC uPD17708GC-545-3B9	
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P		IC551	8-759-363-81	IC XC61AN4002PR	
CN701	1-764-422-11	PLUG, CONNECTOR 12P		IC611	8-759-347-49	IC BA3918-V2	
CN781	1-774-701-11	PIN, CONNECTOR 16P		IC751	8-759-490-48	IC HA13157	
		< CONPOSITION CIRCUIT BLOCK >				< JACK >	
CP1	1-519-504-11	GAP, DISCHARGE		J1	1-764-808-21	JACK (ANT) (ANT IN)	
				J331	1-774-698-11	JACK, PIN 2P (LINE OUT REAR)	
				J561	1-566-822-41	JACK (REMOTE IN)	



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< SHORT >					
JC1	1-216-296-00	SHORT	0	Q602	8-729-900-53	TRANSISTOR DTC114EK	
JC2	1-216-295-00	SHORT	0	Q603	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC4	1-216-296-00	SHORT	0	Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JC151	1-216-296-00	SHORT	0				
JC161	1-216-295-00	SHORT	0	Q622	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< RESISTOR >					
JC162	1-216-295-00	SHORT	0	R1	1-216-049-11	RES, CHIP 1K 5%	1/10W
JC163	1-216-296-00	SHORT	0	R3	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
JC251	1-216-296-00	SHORT	0	R4	1-249-429-11	CARBON 10K 5%	1/4W
JC301	1-216-295-00	SHORT	0	R5	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC302	1-216-295-00	SHORT	0	R6	1-249-429-11	CARBON 10K 5%	1/4W
JC303	1-216-295-00	SHORT	0	R7	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC304	1-216-296-00	SHORT	0	R8	1-247-899-11	CARBON 680K 5%	1/4W
JC331	1-216-296-00	SHORT	0	R9	1-216-166-00	RES, CHIP 47 5%	1/8W
JC351	1-216-295-00	SHORT	0	R10	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC501	1-216-296-00	SHORT	0	R11	1-249-413-11	CARBON 470 5%	1/4W
JC502	1-216-295-00	SHORT	0	R12	1-216-073-00	METAL CHIP 10K 5%	1/10W
JC503	1-216-296-00	SHORT	0	R13	1-216-049-11	RES, CHIP 1K 5%	1/10W
JC504	1-216-296-00	SHORT	0	R14	1-216-049-11	RES, CHIP 1K 5%	1/10W
JC506	1-216-296-00	SHORT	0	R21	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
JC507	1-216-296-00	SHORT	0	R22	1-216-198-00	RES, CHIP 1K 5%	1/8W
JC508	1-216-296-00	SHORT	0	R23	1-216-049-11	RES, CHIP 1K 5%	1/10W
JC509	1-216-295-00	SHORT	0	R24	1-249-421-11	CARBON 2.2K 5%	1/4W
JC561	1-216-295-00	SHORT	0	R103	1-216-041-00	METAL CHIP 470 5%	1/10W
JC581	1-216-296-00	SHORT	0	R104	1-216-109-00	METAL CHIP 330K 5%	1/10W
JC601	1-216-296-00	SHORT	0	R105	1-216-077-00	METAL CHIP 15K 5%	1/10W
JC611	1-216-296-00	SHORT	0	R106	1-216-079-00	METAL CHIP 18K 5%	1/10W
JC751	1-216-296-00	SHORT	0	R107	1-249-429-11	CARBON 10K 5%	1/4W
JC752	1-216-296-00	SHORT	0	R108	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC781	1-216-295-00	SHORT	0	R121	1-216-200-11	RES, CHIP 1.2K 5%	1/8W
JC902	1-216-295-00	SHORT	0	R122	1-216-081-00	METAL CHIP 22K 5%	1/10W
JC903	1-216-295-00	SHORT	0	R151	1-216-049-11	RES, CHIP 1K 5%	1/10W
JC904	1-216-295-00	SHORT	0	R152	1-216-089-00	RES, CHIP 47K 5%	1/10W
JC999	1-216-295-00	SHORT	0	R161	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
		< COIL >		R171	1-216-033-00	METAL CHIP 220 5%	1/10W
L501	1-410-509-11	INDUCTOR 10uH		R172	1-216-073-00	METAL CHIP 10K 5%	1/10W
L781	1-411-669-21	INDUCTOR 0.4mH		R173	1-216-081-00	METAL CHIP 22K 5%	1/10W
		< TRANSISTOR >		R174	1-216-129-00	METAL CHIP 2.2M 5%	1/10W
Q21	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R175	1-216-089-00	RES, CHIP 47K 5%	1/10W
Q22	8-729-021-94	TRANSISTOR 2SK1657-T1B		R181	1-216-033-00	METAL CHIP 220 5%	1/10W
Q171	8-729-920-21	TRANSISTOR DTC314TKH04		R182	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q181	8-729-920-21	TRANSISTOR DTC314TKH04		R183	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q271	8-729-920-21	TRANSISTOR DTC314TKH04		R184	1-216-129-00	METAL CHIP 2.2M 5%	1/10W
Q281	8-729-920-21	TRANSISTOR DTC314TKH04		R185	1-216-089-00	RES, CHIP 47K 5%	1/10W
Q351	8-729-015-11	TRANSISTOR 2SD1802FAST-TL		R186	1-216-182-00	RES, CHIP 220 5%	1/8W
Q352	8-729-027-23	TRANSISTOR DTA114EKA-T146		R191	1-216-073-00	METAL CHIP 10K 5%	1/10W
Q353	8-729-900-53	TRANSISTOR DTC114EK		R192	1-216-097-00	RES, CHIP 100K 5%	1/10W
Q354	8-729-106-60	TRANSISTOR 2SB1115A		R203	1-216-041-00	METAL CHIP 470 5%	1/10W
Q355	8-729-900-53	TRANSISTOR DTC114EK		R204	1-216-109-00	METAL CHIP 330K 5%	1/10W
Q551	8-729-027-23	TRANSISTOR DTA114EKA-T146		R205	1-216-077-00	METAL CHIP 15K 5%	1/10W
Q571	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R206	1-216-079-00	METAL CHIP 18K 5%	1/10W
Q581	8-729-900-53	TRANSISTOR DTC114EK		R207	1-216-222-00	RES, CHIP 10K 5%	1/8W
Q582	8-729-027-59	TRANSISTOR DTC144EKA-T146		R208	1-216-081-00	METAL CHIP 22K 5%	1/10W
Q583	8-729-027-38	TRANSISTOR DTA144EKA-T146		R251	1-216-049-11	RES, CHIP 1K 5%	1/10W
Q601	8-729-423-99	TRANSISTOR 2SD2137-OP		R252	1-216-089-00	RES, CHIP 47K 5%	1/10W
				R261	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
				R271	1-216-033-00	METAL CHIP 220 5%	1/10W

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R272	1-216-073-00	METAL CHIP	10K 5% 1/10W	R545	1-249-429-11	CARBON	10K 5% 1/4W
R273	1-216-081-00	METAL CHIP	22K 5% 1/10W	R546	1-249-413-11	CARBON	470 5% 1/4W
R274	1-216-129-00	METAL CHIP	2.2M 5% 1/10W	R551	1-216-097-00	RES, CHIP	100K 5% 1/10W
R275	1-216-089-00	RES, CHIP	47K 5% 1/10W	R552	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R281	1-216-033-00	METAL CHIP	220 5% 1/10W	R561	1-208-806-11	RES, CHIP	10K 0.50% 1/10W
R282	1-216-073-00	METAL CHIP	10K 5% 1/10W	R562	1-208-806-11	RES, CHIP	10K 0.50% 1/10W
R283	1-216-081-00	METAL CHIP	22K 5% 1/10W	R563	1-216-025-00	RES, CHIP	100 5% 1/10W
R284	1-216-129-00	METAL CHIP	2.2M 5% 1/10W	R564	1-216-025-00	RES, CHIP	100 5% 1/10W
R285	1-216-089-00	RES, CHIP	47K 5% 1/10W	R571	1-216-097-00	RES, CHIP	100K 5% 1/10W
R286	1-216-033-00	METAL CHIP	220 5% 1/10W	R572	1-216-089-00	RES, CHIP	47K 5% 1/10W
R301	1-216-079-00	METAL CHIP	18K 5% 1/10W	R573	1-216-089-00	RES, CHIP	47K 5% 1/10W
R302	1-216-097-00	RES, CHIP	100K 5% 1/10W	R574	1-249-421-11	CARBON	2.2K 5% 1/4W
R303	1-216-065-00	RES, CHIP	4.7K 5% 1/10W	R575	1-216-073-00	METAL CHIP	10K 5% 1/10W
R304	1-216-077-00	METAL CHIP	15K 5% 1/10W	R585	1-216-113-00	METAL CHIP	470K 5% 1/10W
R305	1-249-429-11	CARBON	10K 5% 1/4W	R586	1-216-073-00	METAL CHIP	10K 5% 1/10W
R306	1-249-429-11	CARBON	10K 5% 1/4W	R601	1-249-393-11	CARBON	10 5% 1/4W
R307	1-216-073-00	METAL CHIP	10K 5% 1/10W	R602	1-249-395-11	CARBON	15 5% 1/4W
R308	1-216-105-00	RES, CHIP	220K 5% 1/10W	R603	1-216-186-00	RES, CHIP	330 5% 1/8W
R331	1-249-393-11	CARBON	10 5% 1/4W	R621	1-216-065-00	RES, CHIP	4.7K 5% 1/10W
R351	1-216-049-11	RES, CHIP	1K 5% 1/10W	R701	1-216-025-00	RES, CHIP	100 5% 1/10W
R352	1-249-385-11	CARBON	2.2 5% 1/6W	R702	1-216-025-00	RES, CHIP	100 5% 1/10W
R353	1-216-065-00	RES, CHIP	4.7K 5% 1/10W	R703	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R354	1-216-073-00	METAL CHIP	10K 5% 1/10W	R704	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R501	1-216-097-00	RES, CHIP	100K 5% 1/10W	R705	1-216-057-00	METAL CHIP	2.2K 5% 1/10W
R502	1-216-097-00	RES, CHIP	100K 5% 1/10W	R706	1-216-206-00	RES, CHIP	2.2K 5% 1/8W
R503	1-216-097-00	RES, CHIP	100K 5% 1/10W	R707	1-216-049-11	RES, CHIP	1K 5% 1/10W
R504	1-216-097-00	RES, CHIP	100K 5% 1/10W	R708	1-208-806-11	RES, CHIP	10K 0.50% 1/10W
R505	1-216-097-00	RES, CHIP	100K 5% 1/10W	R709	1-208-806-11	RES, CHIP	10K 0.50% 1/10W
R506	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R710	1-216-025-00	RES, CHIP	100 5% 1/10W
R507	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R721	1-216-296-00	SHORT	0
R508	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	R722	1-216-296-00	SHORT	0
R509	1-216-073-00	METAL CHIP	10K 5% 1/10W	R723	1-216-296-00	SHORT	0
R510	1-249-429-11	CARBON	10K 5% 1/4W	R724	1-216-296-00	SHORT	0
R514	1-216-699-11	METAL CHIP	100K 0.5% 1/10W	R731	1-216-296-00	SHORT	0
R516	1-216-097-00	RES, CHIP	100K 5% 1/10W	R732	1-216-296-00	SHORT	0
R517	1-216-097-00	RES, CHIP	100K 5% 1/10W	R733	1-216-296-00	SHORT	0
R518	1-216-097-00	RES, CHIP	100K 5% 1/10W	R734	1-216-296-00	SHORT	0
R519	1-216-097-00	RES, CHIP	100K 5% 1/10W	R751	1-216-198-00	RES, CHIP	1K 5% 1/8W
R522	1-216-097-00	RES, CHIP	100K 5% 1/10W	R752	1-216-049-11	RES, CHIP	1K 5% 1/10W
R523	1-216-097-00	RES, CHIP	100K 5% 1/10W	R781	1-216-049-11	RES, CHIP	1K 5% 1/10W
R524	1-216-097-00	RES, CHIP	100K 5% 1/10W	< SWITCH >			
R525	1-216-097-00	RES, CHIP	100K 5% 1/10W	S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)	
R526	1-216-097-00	RES, CHIP	100K 5% 1/10W	S551	1-692-431-21	SWITCH, TACTILE (RESET)	
R527	1-216-097-00	RES, CHIP	100K 5% 1/10W	< TUNER >			
R528	1-216-097-00	RES, CHIP	100K 5% 1/10W	TU1	A-3282-019-A	TUNER UNIT TUX-008 (EA)	
R530	1-216-097-00	RES, CHIP	100K 5% 1/10W	< VIBRATOR >			
R532	1-216-097-00	RES, CHIP	100K 5% 1/10W	X501	1-567-713-11	VIBRATOR, CRYSTAL (4.5MHz)	
R533	1-216-097-00	RES, CHIP	100K 5% 1/10W	*****			
R539	1-216-097-00	RES, CHIP	100K 5% 1/10W	MISCELLANEOUS			
R540	1-249-421-11	CARBON	2.2K 5% 1/4W	*****			
R541	1-249-421-11	CARBON	2.2K 5% 1/4W	9	1-776-207-11	CORD (WITH CONNECTOR) (POWER)	
R542	1-249-421-11	CARBON	2.2K 5% 1/4W	F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	
R543	1-249-421-11	CARBON	2.2K 5% 1/4W	HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
R544	1-216-057-00	METAL CHIP	2.2K 5% 1/10W				

Ref. No.	Part No.	Description	Remark
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

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**HARDWARE LIST**  
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#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
#8	7-685-793-04	SCREW +PTT 2.6X8 (S)

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**ACCESSORIES & PACKING MATERIALS**  
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3-859-566-61	MANUAL, INSTRUCTION (ENGLISH, ARABIC)
3-859-567-61	MANUAL, INSTRUCTION, INSTALL (ENGLISH, ARABIC)
X-3373-412-1	CASE (PANEL) ASSY (for FRONT PANEL)

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**PARTS FOR INSTALLATION AND CONNECTIONS**  
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501	3-916-161-31	FRAME ASSY
502	X-3370-077-1	SCREW ASSY (AE. KEY), FITTING
503	X-3371-913-1	SCREW ASSY (J)
504	1-776-207-11	CORD (WITH CONNECTOR) (POWER)

