

# MZ-F40

## SERVICE MANUAL

US Model  
Canadian Model  
AEP Model  
E Model  
Tourist Model



Photo : US model

US and foreign patents licensed from Dolby Laboratories Licensing Corporation

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZF40-109
Optical Pick-up Mechanism Type	KMS-240A/J2N

### SPECIFICATIONS

#### MD Section

##### Audio playing system

MiniDisc digital audio system

##### Laser diode properties

Material: GaAlAs

Wavelength:  $\lambda = 780 \text{ nm}$

Emission duration: continuous

Laser output: less than  $44.6 \mu\text{W}^*$

\*This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7mm aperture.

##### Revolutions

400 rpm to 900 rpm (CLV)

##### Error correction

Advanced Cross Interleave Reed Solomon Code (ACIRC)

##### Sampling frequency

44.1 kHz

##### Coding

Adaptive Transform Acoustic Coding (ATRAC)

##### Modulation system

EFM (Eight to Fourteen Modulation)

##### Number of channels

2 stereo channels

1 monaural channel

##### Frequency response

20 to 20,000 Hz  $\pm 3 \text{ dB}$

##### Wow and Flutter

Below measurable limit

##### Outputs

Headphones: stereo mini-jack, maximum output level 15 mW + 15 mW, load impedance 16 ohm

#### Radio section

##### Frequency range

US, Canadian Model :

FM: 87.5 - 108MHz

AM: 530 - 1710kHz

AEP, E Model :

FM: 87.5 - 108MHz

AM: 531 - 1602kHz

Tourist Model :

TV : 1 - 12 CH

FM : 76.0 - 90 MHz

AM : 531 - 1710kHz

#### General

##### Power requirements

Sony AC Power Adaptor AC-E45HG (EXCEPT

Tourist Model : not supplied), AC-E455A (Tourist

Model : supplied) connected to the DC IN 4.5V jack :

220-230V AC, 50/60 Hz (AEP MODEL),

120V AC, 60Hz (US, Canadian model),

100-240V AC, 50/60Hz (E, Tourist model)

Two LR6 (size AA) batteries (not supplied)

Nickel metal hydride rechargeable battery

BP-DM20 (not supplied)

##### Dimensions

Approx. 123 × 27.5 × 79.6 mm (w/h/d) (5 × 1 1/8 × 3 1/4 in.)

##### Mass

Approx. 200 g (7.0 oz) the player only

Approx. 293 g (10.3 oz) incl. a premastered MD, headphones, and two Sony alkaline LR6 (SG) batteries

##### Supplied accessories

Headphones with a remote control (1)

Carrying case (1)

Ear pads (2)

Design and specifications are subject to change without notice.



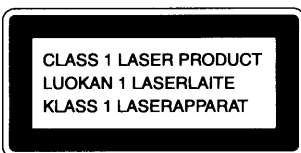
## RADIO MINIDISC PLAYER

# SONY®

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*For customers in Europe*



This Mini Disc Player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE, OR LOSSES OR EXPENSES RESULTING FROM ANY DEFECTIVE PRODUCT OR THE USE OF ANY PRODUCT.

“MD WALKMAN” is a trademark of Sony Corporation.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### 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.

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION.

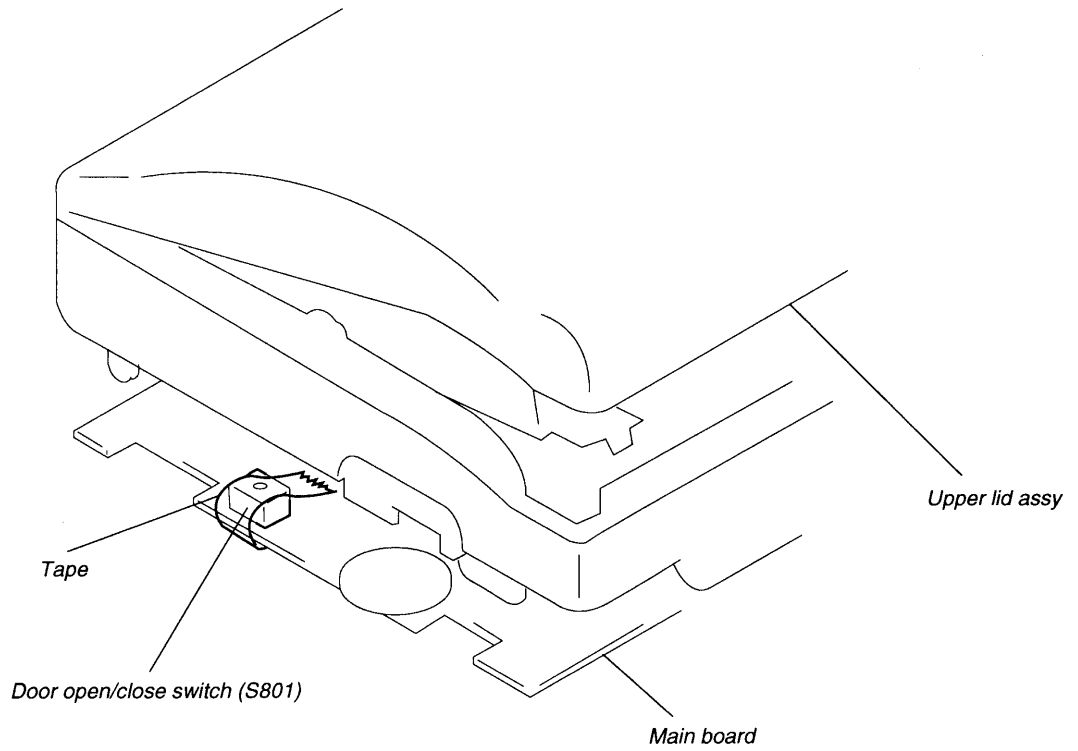
REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHEMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 SERVICING NOTE

When repairing this device with the power on, if you remove the main board or open the upper panel assembly, this device stops working. In this case, you can work without the device stopping by fastening the hook of the Open/Close detection switch (S801) with tape.

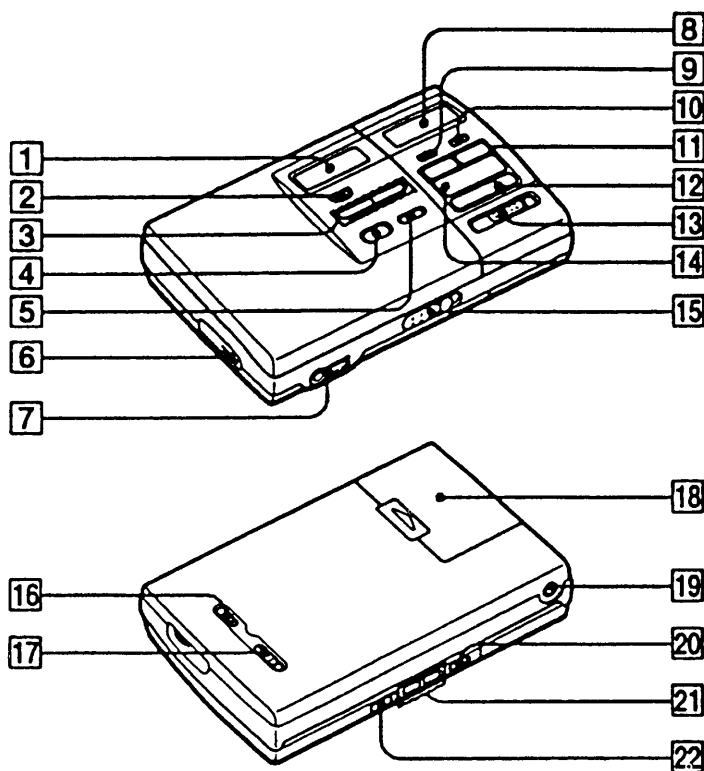


## SECTION 2 GENERAL

This section is extracted from instruction manual.

### LOCATION AND FUNCTION OF CONTROLS

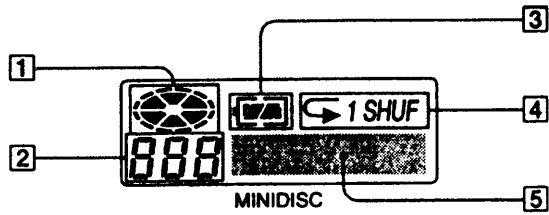
#### ● Main Unit



- 1 Radio information display
- 2 ASP button
- 3 PRESET -, + buttons
- 4 RADIO ON/BAND button
- 5 RADIO OFF button
- 6 VOLUME knob
- 7  $\odot$ /REMOTE jack
- 8 Mini disc information display
- 9 PLAY MODE button
- 10 DISPLAY button
- 11  $\lll, \ggg$  buttons
- 12  $\blacksquare$ /CHARGE button
- 13 HOLD switch
- 14  $\blacktriangleright$  (play) button
- 15 OPEN knob
- 16 AVLS switch
- 17 MEGA BASS switch
- 18 Battery compartment
- 19 DC IN 4.5V jack
- 20 ENTER button
- 21 TUNING -, + buttons
- 22 FM (MONO/STEREO) switch (AEP, E, Tourist model)  
FM (LOCAL/DX) switch (US, Canadian model)

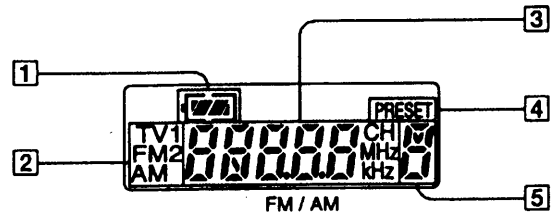
● Display Windows

Mini disc information display



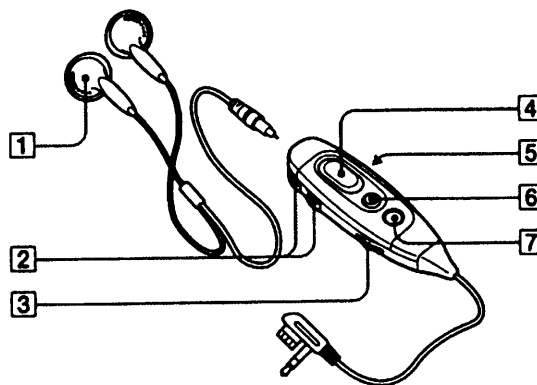
- 1 Disc revolve indicator
- 2 Track number indicator
- 3 Battery condition indicator
- 4 Play mode indicator
- 5 Character display

● Radio information display



- 1 Battery condition indicator
- 2 Band indicator  
FM1, FM2, AM : EXCEPT Tourist model  
TV, FM, AM : Tourist model
- 3 Frequency display
- 4 PRESET indicator
- 5 PRESET number display

● Headphones with Remote control

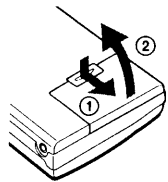


- 1 Headphones
- 2 PRESET -, + buttons
- 3 VOLUME knob
- 4 ►/◄/▶/◀/buttons
- 5 HOLD switch
- 6 ■ button
- 7 RADIO ON/BAND button

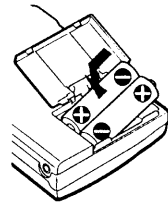
# Playing an MD right away!

Prepare two R6 (size AA) alkaline Batteries. You can also use this player on house current or a rechargeable battery (see "Power sources").

## 1 Install the batteries.



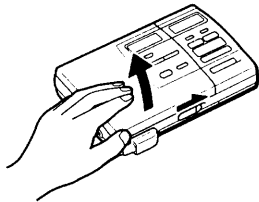
① Open the lid.



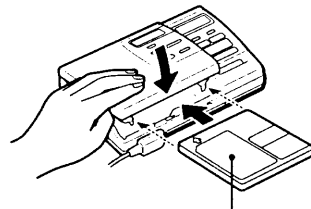
② Install two LR6 (size AA) alkaline batteries (not supplied), and close the lid.

The battery life is approx. 8 hours for MD playback. (This may be shorter due to operating conditions and the temperature of the location.)

## 2 Insert an MD.



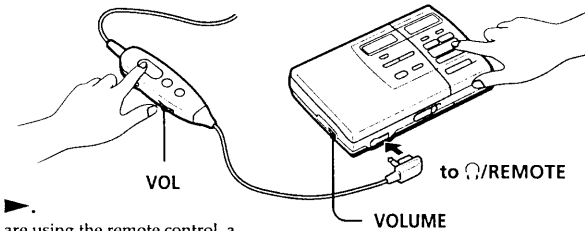
① Slide OPEN and open the lid.



② Insert an MD with the label side facing up, and press the lid down to close.

## 3 Play an MD.

Headphones with a remote control (supplied)



- ① Press **▶**.  
If you are using the remote control, a short beep sounds in the headphones.
- ② Turn **VOLUME (VOL on the remote control)** to adjust the volume.

To stop play, press **■/CHARGE (■ on the remote control)**.

To	Press (Beeps in the headphones)
Find the beginning of the current track	<b>⏮</b> or <b>⏪</b> side of <b>▶</b> on the remote control once (Three short beeps).
Find the beginning of the next track	<b>⏭</b> or <b>⏩</b> side of <b>▶</b> on the remote control once (Two short beeps).
Go backwards while playing	keep pressing <b>⏮</b> or <b>⏪</b> side of <b>▶</b> on the remote control.
Go forward while playing	keep pressing <b>⏭</b> or <b>⏩</b> side of <b>▶</b> on the remote control.
Remove the MD	<b>■/CHARGE</b> and open the lid. <sup>1)</sup>

### If the playback does not start

- Make sure the MD Walkman is not locked. See *Locking the controls*.
- Is the radio turned on?  
Turn off the radio.

### Note

Do not slide OPEN during playback. If you do, the lid will open and playback will stop.

### MD display window while playing back

Track name<sup>2)</sup> or elapsed time of the track being played



Track number

- 1) Once you open the lid, the point to start play will change to the beginning of the first track.
- 2) Appears only with MDs that have been electronically labeled.

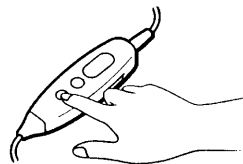
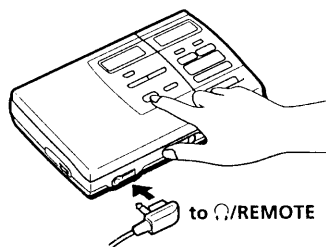
# Listening to the radio!

The unit automatically scans and tunes in to stations that are receivable in your present location. Therefore you should operate where you can get good reception.

## 1 Install the batteries.

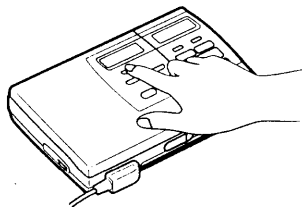
The battery life is approx. 30 hours for Radio. (This may be shorter due to operating conditions and the temperature of the location.)

## 2 Turn on the Radio.



① Press RADIO ON/BAND.

## 3 Scanning the radio stations.

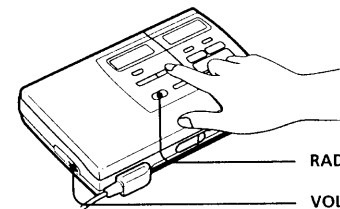


① Press and hold ASP until "AREA" flashes in the radio display.

Then the FM frequency and "PRESET 1" will appear in the radio display of the MD Walkman.



## 4 Tuning in to a station.



- ① Press RADIO ON/BAND to select AM, FM1<sup>1)</sup> or FM2<sup>1)</sup>.
- ② Press PRESET +/- to select the preset number.
- ③ Adjust the VOLUME.

To turn off the radio, press RADIO OFF (■ on the remote control).

### If the radio does not play

- Make sure the MD Walkman is not locked. See *Locking the controls*.
- Is the MD playing? Turn off the MD.

### Notes

- Do not remove the power sources while scanning stations, or the received stations may not be stored.
- If you cannot receive the stations well, tune in manually and store the stations.

### Tip

Next time you listen to the radio in the same area, you can skip step 3.

### To improve the radio reception

FM: Extend the headphones cord for better reception.

AM: Rotate the unit horizontally for optimum reception.

### When you are listening to a stereo broadcast

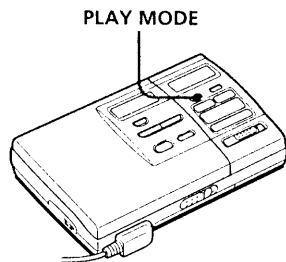
Set the FM switch (located at the top surface of the MD Walkman) to STEREO. If the reception is poor or noisy, set the FM switch to MONO. When the FM switch is set to MONO the sound will become monaural.

<sup>1)</sup> Up to 16 stations can be preset, FM1 and FM2 combined.

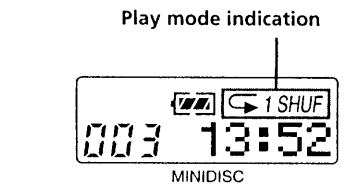
## ► Various ways of playback

### Playing tracks repeatedly

You can play tracks repeatedly in three ways; all repeat, single repeat, and shuffle repeat.



Press PLAY MODE while the player is playing an MD. Each time you press PLAY MODE, the play mode indication changes as follows.



(none) (normal play)  
All the tracks are played once.

"↶" (all repeat)  
All the tracks are played repeatedly.

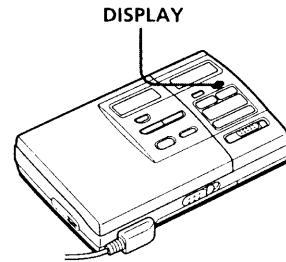
"↶ 1" (single repeat)  
A single track is played repeatedly.

"↶ SHUF" (shuffle repeat)  
All the tracks are played repeatedly in random order.

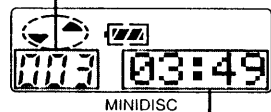
## To know the track name and time

Press DISPLAY while the player is playing an MD.

Each time you press DISPLAY, the display changes as follows.



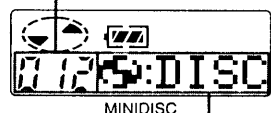
Track number



Track number



Number of the track recorded on the MD.



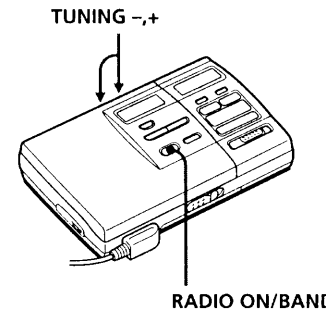
### Note

Disc and track names appear only with MDs that have been electronically labeled.

## ► Various ways of radio reception

### Tuning in to stations manually (Manual tuning)

If you do not know the frequency of a station you may scan by moving the frequency step by step.



- 1 Press RADIO ON/BAND to turn on the radio. Then press RADIO ON/BAND to select AM, FM1\* or FM2\*.
- 2 Press TUNING +/- to tune in a desired station.

If you press and hold TUNING +/- for more than a few seconds, the MD Walkman will start tuning the stations automatically.

\*Operation is the same for FM1 and FM2.



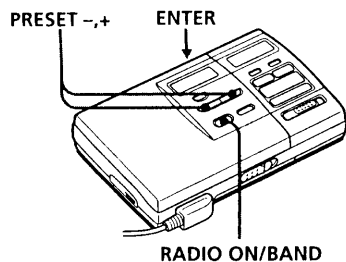
## Presetting Stations

### What the ASP button does (ASP function)

When you press the ASP button, the MD Walkman searches and stores receivable stations automatically.  
If the ASP function does not store the desired station, or you want to customize the preset number of the stations, see *Tuning in to stations manually* or *Storing radio stations manually*.

### Automatic scanning and memorization of a selected band (Auto Memory Scan)

The MD Walkman searches and memorizes receivable stations automatically. You can preset 8 stations for AM, 16 for FM (FM 1 and FM2 combined). Operate this function where the radio reception is well.



- 1 Press RADIO ON/BAND to turn on the radio and then press RADIO ON/BAND to select AM, FM1\* or FM2\*.
- 2 Press ENTER until "A" appears in the display.



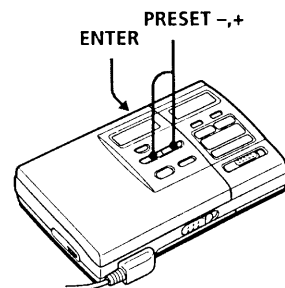
The MD Walkman starts searching and storing stations automatically

- 3 Press PRESET +/- to select the preset number you wish to listen.

If the reception is poor, you may be able to preset less than 8 stations (for AM)/16 stations (for FM).

- \* The unit will first store stations in FM1 regardless of your choice of FM1 or FM2.

### Storing stations manually (Manual-Memory function)



- 1 Turn on the radio and tune in to a desired station.  
For FM, choose either FM1 or FM2.
- 2 Press ENTER.



- 3 While "PRESET" and the preset number are flashing, select a preset number on which you wish to store the station using PRESET +/-.
- 4 While "PRESET" and the preset number are flashing, press ENTER.



- 5 Tune in to a station using PRESET +/-.

### To cancel the stored station

Operate the unit according to the steps above. At step 3 press PRESET +/- repeatedly until "-" is displayed. Then press ENTER while "-" is flashing.

## (Tourist model)

### To copy and save the memory of AREA mode (AREA M)

The memorized stations can be erased when the areas (example: other cities and countries) change and when "Manual Area Call", "Auto Memory Scan", ASP function and Manual-Memory function are operated and then area number chosen. When you do not want to erase the memory, save it in AREA M.

- 1 Press RADIO ON/BAND to turn on the radio.
- 2 Hold down RADIO ON/BAND until "COPY M" will appear in the display. The memorized AM, FM and TV stations will be saved in AREA M. The saved memory will not be erased until the next memory is saved.

### Tuning in AREA M

Use "Tuning the area manually." When the radio is off, hold down ENTER and Press RADIO ON/BAND to turn on the radio and then press PRESET + or - repeatedly to select "AREA M" and then press ENTER to set "AREA M".

#### Note

The Area M function can only be used in Japan.

### Receiving stations outside Japan

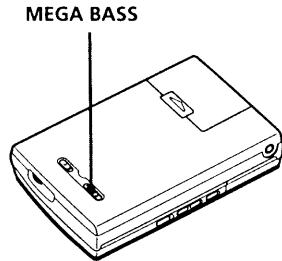
- 1 Hold down ENTER and press RADIO ON/BAND to turn on the radio.
- 2 While "AREA" and the area number are flashing, press PRESET +/- repeatedly to select either area "USA" (USA, Canada and Central and South America) or "Eur" (Europe and other countries) and then press ENTER.
- 3 Press and hold ASP until the preset number changes to "A", to store the radio stations (both AM and FM) automatically. The MD Walkman starts searching and storing stations.
- 4 Press RADIO ON/BAND to select the desired band\* and press PRESET +/- to select a station.

- \* Preset stations for outside Japan is AM, FM1 and FM2 preset up to 24 stations can when receiving FM broadcast manually, FM1 and FM2 are the same step to receive station.

## ► Other useful functions

### Emphasizing bass (MEGA BASS)

The MEGA BASS function intensifies low frequency sound for richer quality audio reproduction.

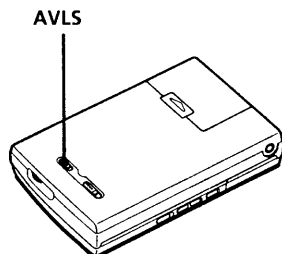


Slide MEGA BASS.  
Choose 1 (slight effect) or 2 (strong effect).  
To cancel the effect, set MEGA BASS to 0.

**Note**  
If the sound is distorted when emphasizing bass, turn down the volume.

### Protecting your hearing (AVLS)

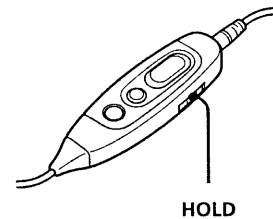
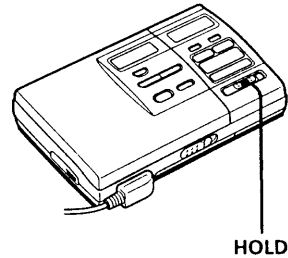
The AVLS (Automatic Volume Limiter System) function keeps down the maximum volume to protect your ears.



Set AVLS to LIMIT.  
The volume is kept at a moderate level, even if you try to turn the volume above the limited level.

### Locking the controls (HOLD)

To prevent the buttons from being accidentally operated when you carry the player, use this function.



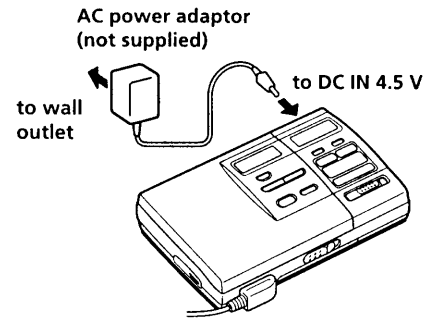
Slide HOLD in the direction of the →.

### ► Power sources

Aside from alkaline dry batteries, you can use the player on house current or a nickel metal hydride rechargeable battery.

### Using on house current

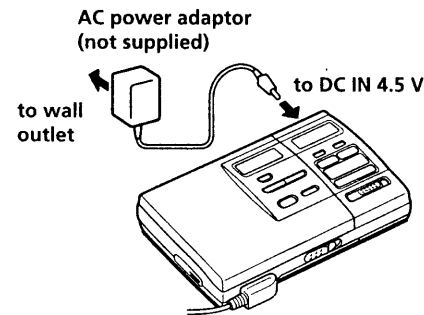
To use your player on house current, connect the AC power adaptor AC-E45HG (not supplied).



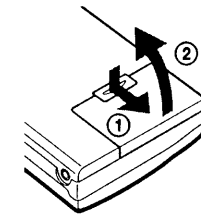
### Using on a nickel metal hydride rechargeable battery

Before using the rechargeable battery BF-DM20 (not supplied) for the first time, charge it with the AC power adaptor AC-E45HG (not supplied).

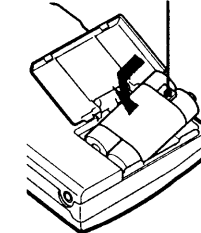
**1** Connect the AC power adaptor.



**2** Insert the rechargeable battery, and close the lid.



The projection on the battery comes on the right.




**3** Press ■/CHARGE on the player. "Charge" flashes and the battery indication appears in the display and charging starts. When charging is completed, "Charge" and the battery indication go out. A completely discharged battery takes about 3 hours to charge fully. To stop charging before the battery is fully charged, press ■/CHARGE.

**4** Disconnect the AC power adaptor. As long as the player is connected to the AC power, the power will be supplied


from the AC source instead of the battery.

**When to replace or charge the batteries**

You can check the battery condition with the battery indication displayed while using the player.

 Used batteries



 Weak batteries. Replace both batteries



The batteries have gone out. "□" flashes in the display, and the power goes off.

**Note**

If you turn the radio on with weak batteries, "□" may appear on the MD display. This is not a malfunction.

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**Battery life\***

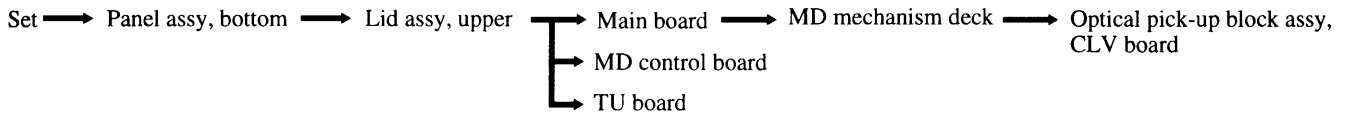
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Batteries	MD Playback	Radio
BP-DM20 nickel metal hydride rechargeable battery	Approx. 6 hours	Approx. 16 hours
R6 (size AA) Sony alkaline dry batteries LR6(SG) x 2	Approx. 8 hours	Approx. 30 hours

\* The battery life may be shorter due to operating conditions and the temperature of the location.

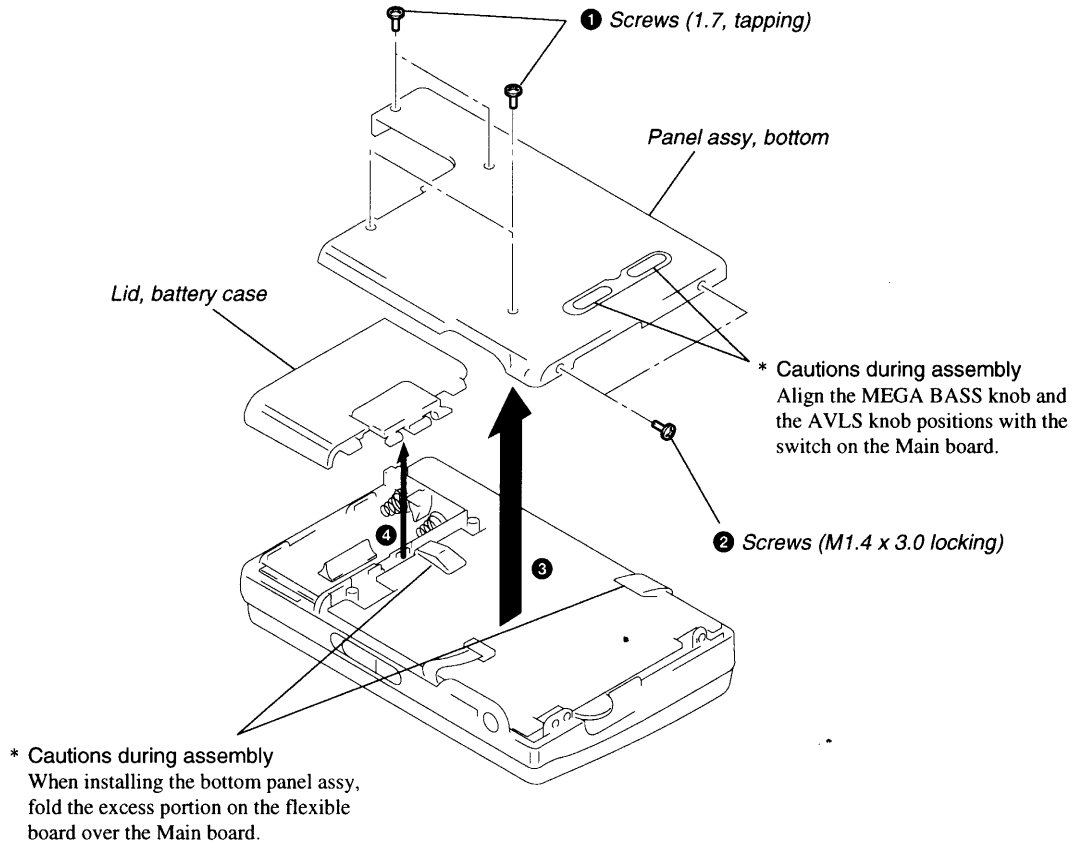
## SECTION 3 DISASSEMBLY

● The equipment can be removed using the following procedure.

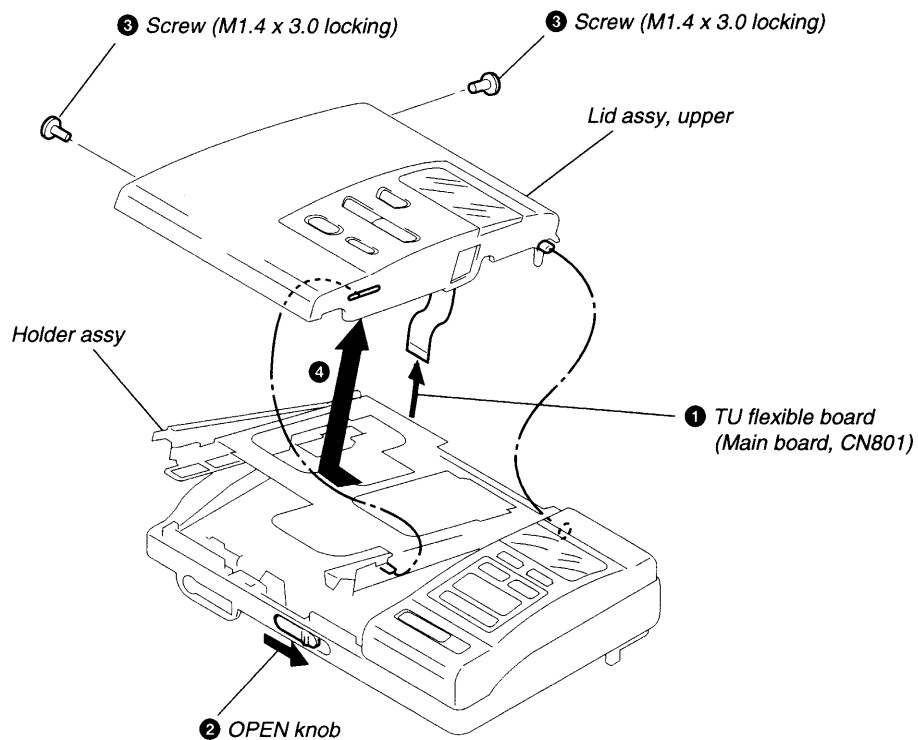


**Note :** Follow the disassembly procedure in the numerical order given.

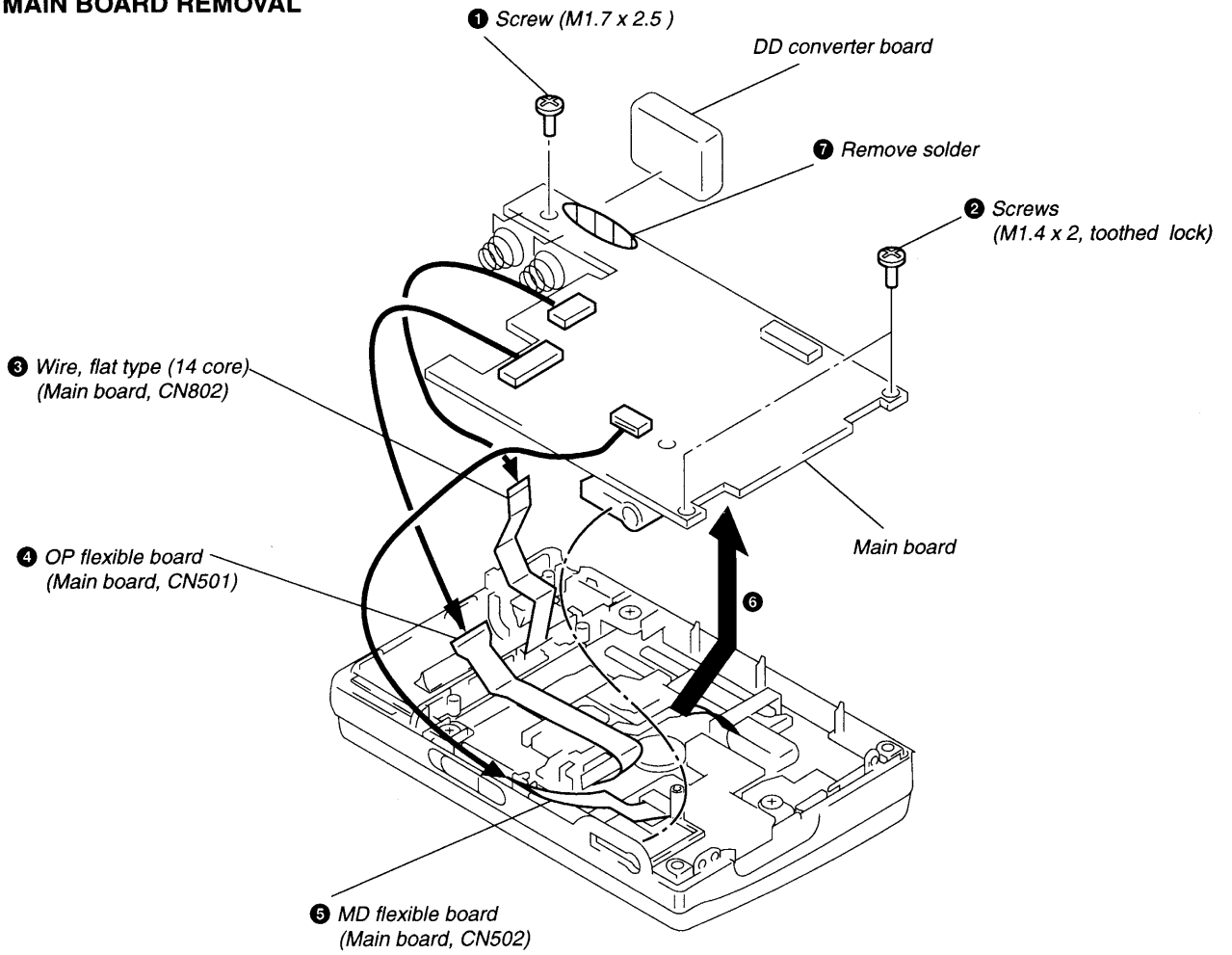
### 3-1. PANEL ASSY, BOTTOM REMOVAL



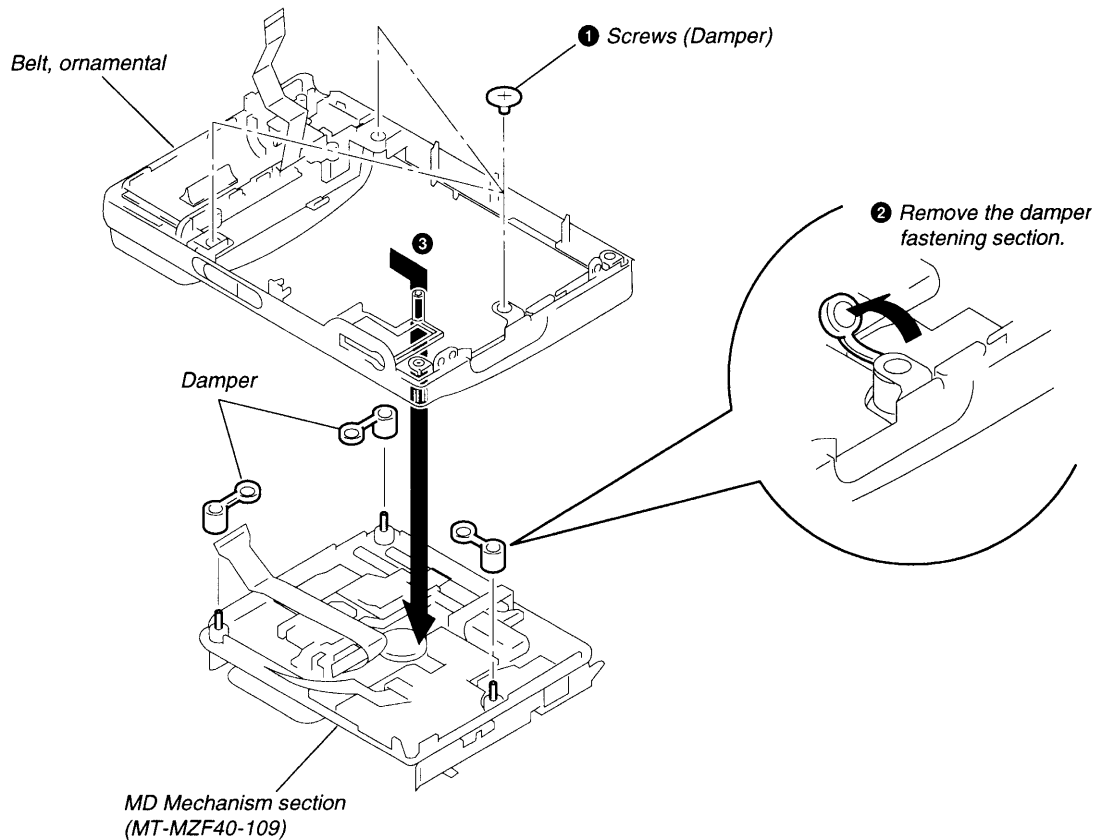
### 3-2. LID ASSY, UPPER REMOVAL



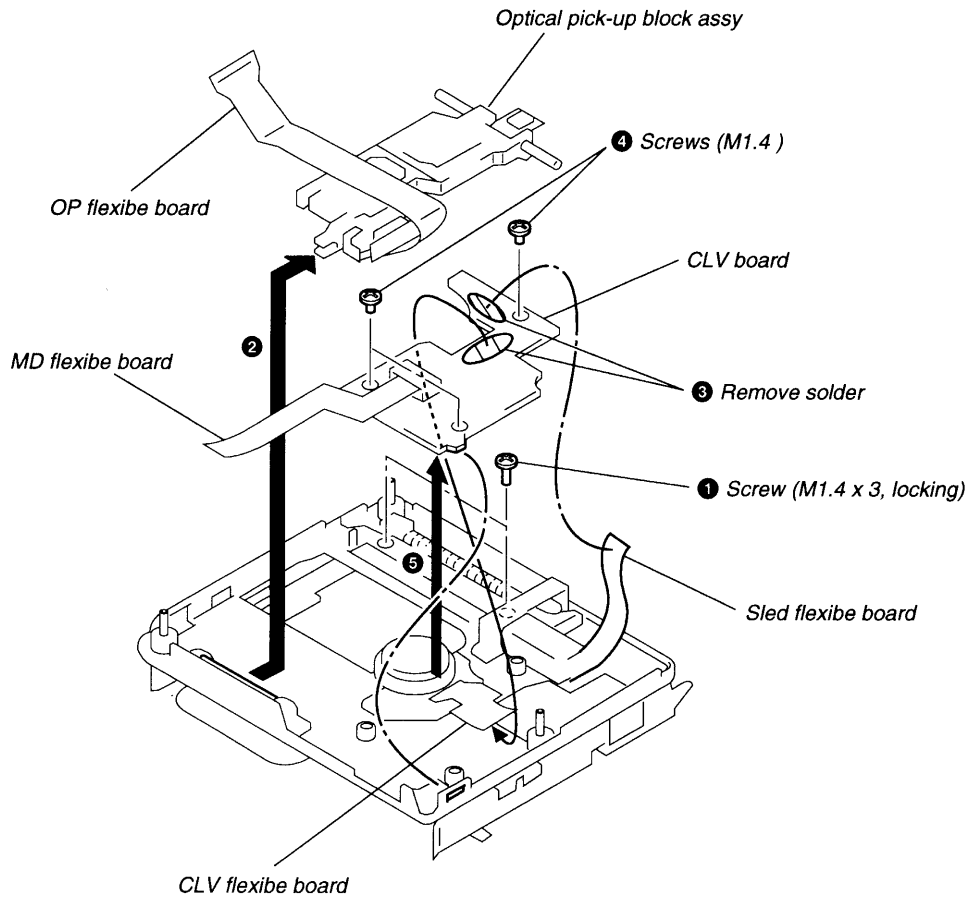
### 3-3. MAIN BOARD REMOVAL



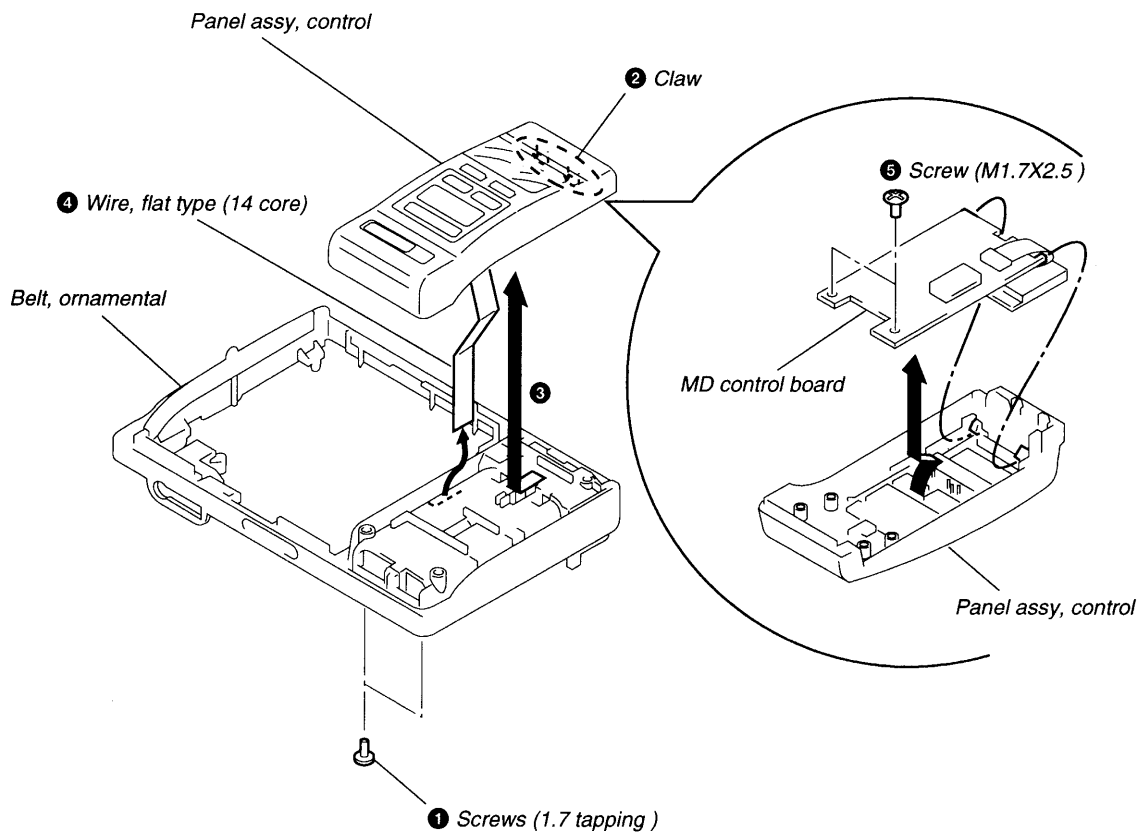
### 3-4. MD MECHANISM SECTION REMOVAL



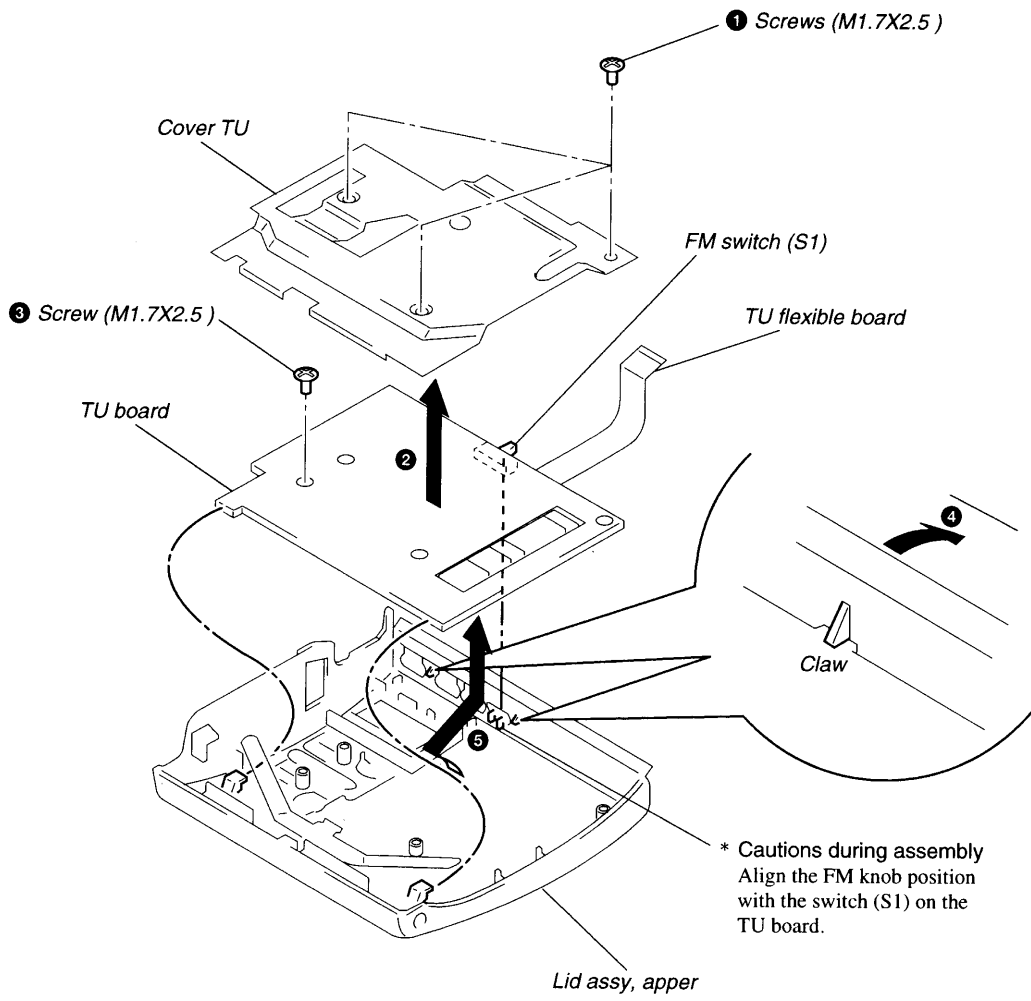
### 3-5. OPTICAL PICK UP BLOCK ASSY, CLV BOARD REMOVAL



### 3-6. MD CONTROL BOARD REMOVAL



### 3-7. TU BOARD REMOVAL



## SECTION 4 TEST MODE

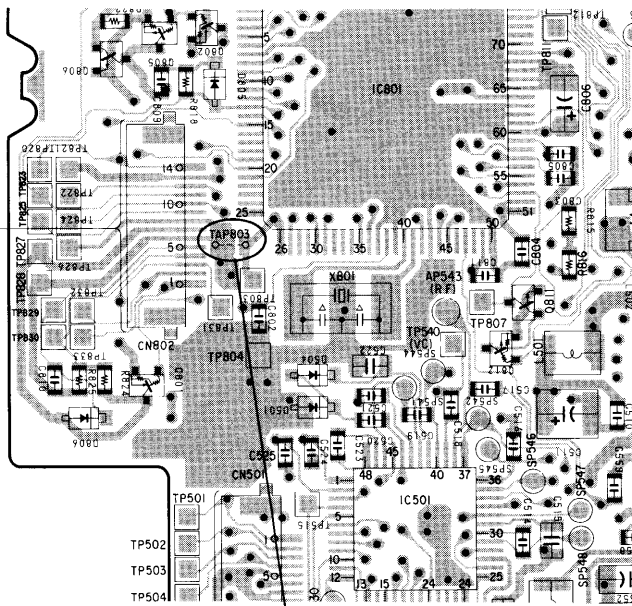
### [Outline]

- The general adjustment mode of this unit performs CD and MO adjustments automatically when set. In this mode, the disc is determined if CD or MO and adjustments are automatically performed in order. If errors are detected, the faulty locations are displayed. The servo mode performs each adjustment automatically.

### [Setting the Test Mode]

Short-circuit the soldering bridge of TAP803 (TEST) on the main board (connect Pin ②⑥ of IC801 to the GND) and turn on the power supply.

### [MAIN BOARD] (Component side)



Test mode  
(Short : Test mode  
Open : Normal mode)

- The remote control supplied with the main unit cannot operate the test mode so connect any of the following remote controls to run test mode.

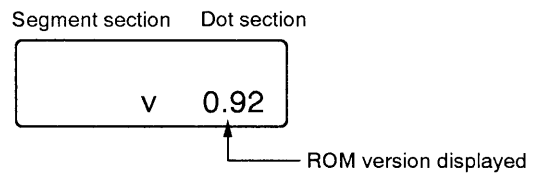
RM-MZE2MP (1-467-520-11) MZ-E3 accessory  
(1-473-677-11) MZ-E30 accessory

### [Exiting the Test Mode]

Turn off the power supply and open the soldering bridge of TAP803 (TEST) on the main board.

### [Operations When Test Mode is Set]

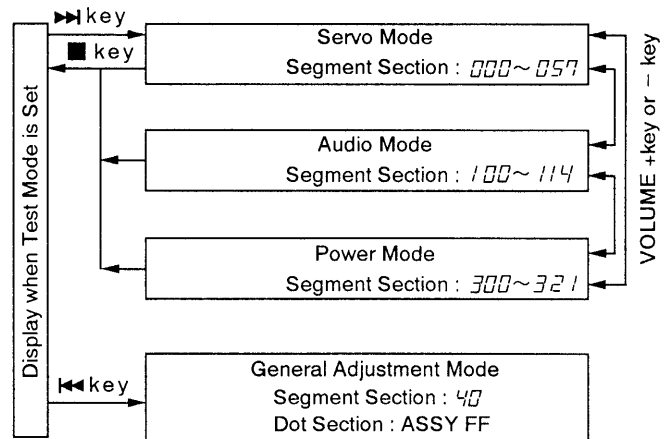
When the test mode is set, the LCD will display as follows.



- The LCD performs the following repeatedly.  
ROM version displayed → all lit → all off
- The display can be held and checked by pressing **||** key.

### [Structure of Test Mode]

The test mode of this unit consists of the following five modes.



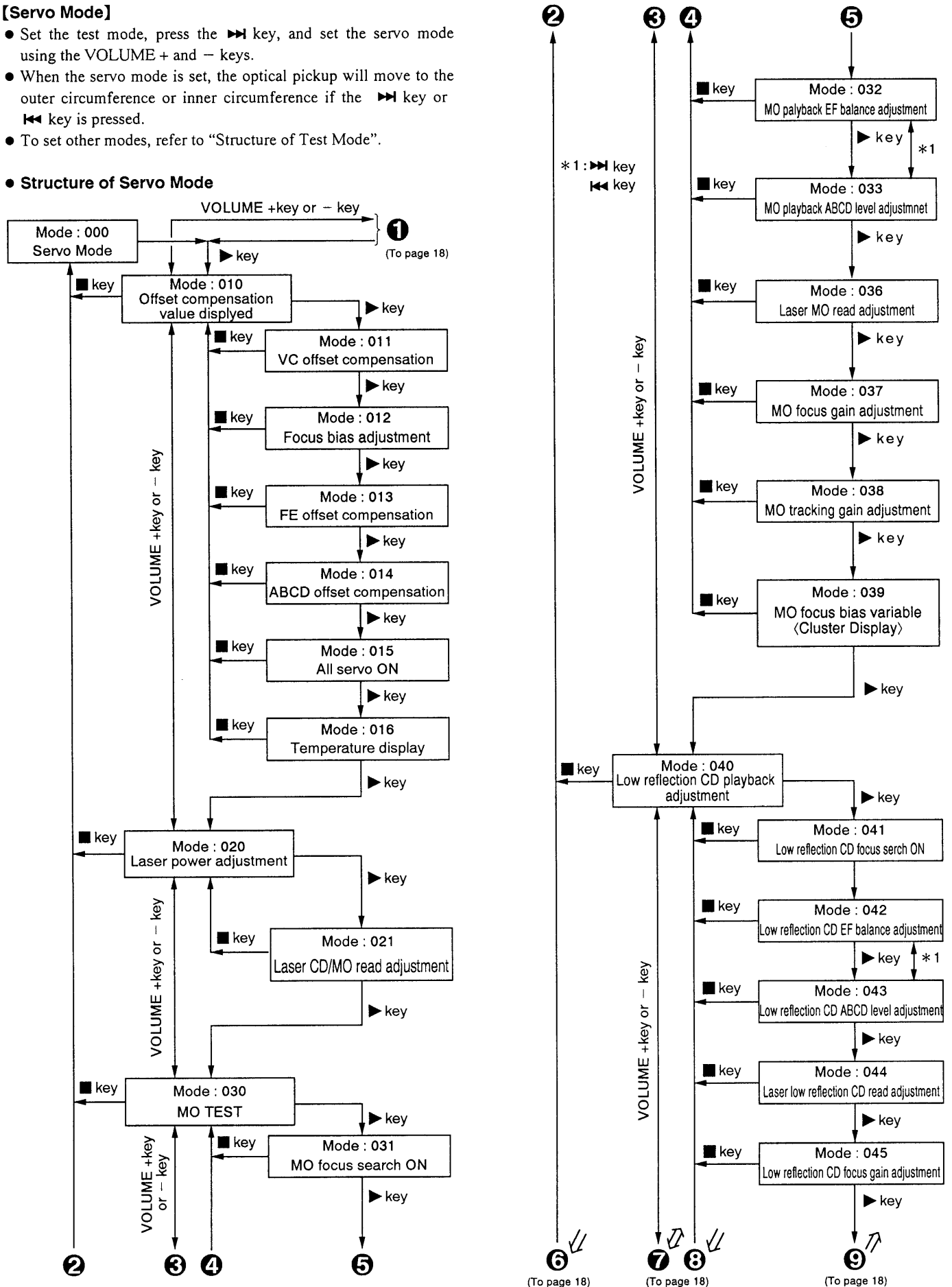
- In modes other than the general adjustment mode, the last two digits of the mode number will be displayed at the *000* section.

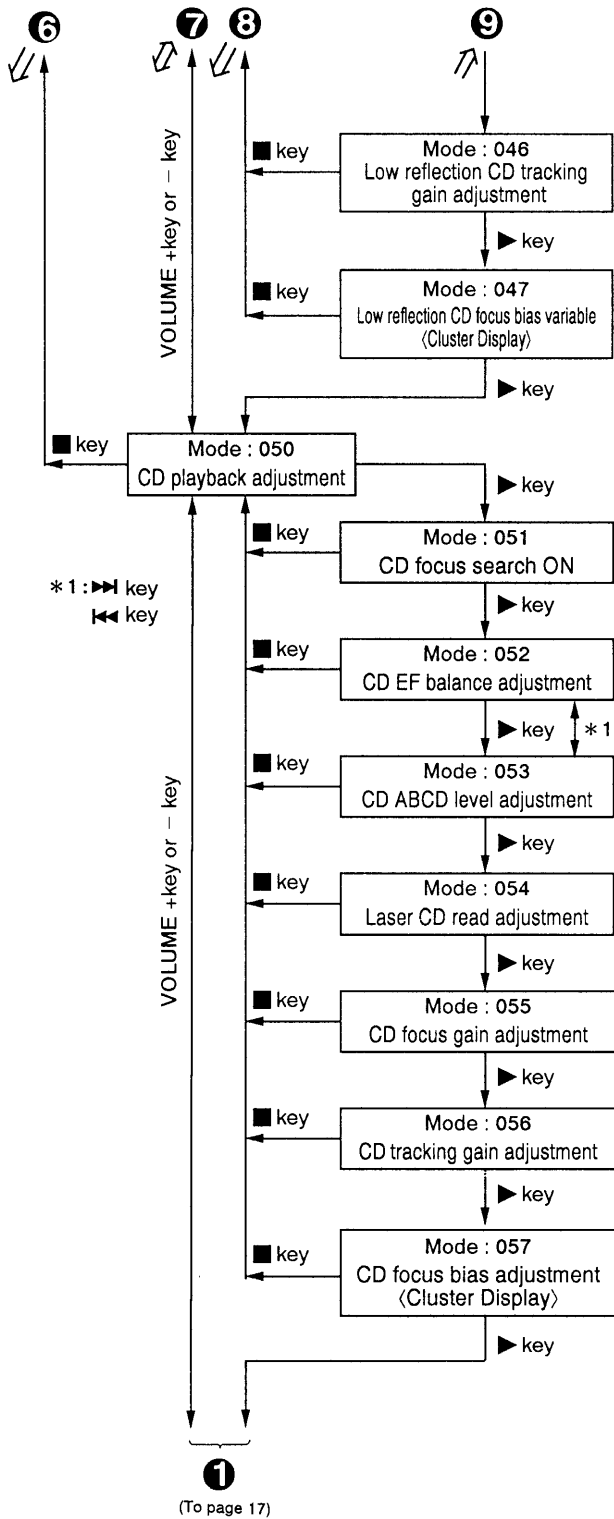


**[Servo Mode]**

- Set the test mode, press the ►► key, and set the servo mode using the VOLUME + and - keys.
- When the servo mode is set, the optical pickup will move to the outer circumference or inner circumference if the ►► key or ◄◄ key is pressed.
- To set other modes, refer to "Structure of Test Mode".

● **Structure of Servo Mode**

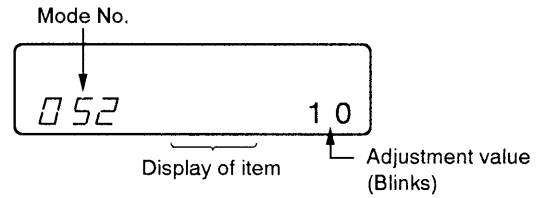




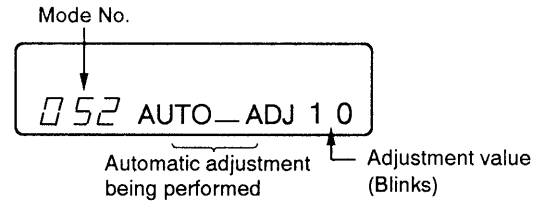
### • Adjusting Method

**Note :** There is basically no display for individual adjustment items. Only such upper position titles as SERVO, AUDIO, etc. (100s position) are displayed.

1. When the adjustment modes are set according to “Structure of Servo Mode”, the last two digits of the mode number and the adjustment value written in the EEPROM will be displayed blinking.

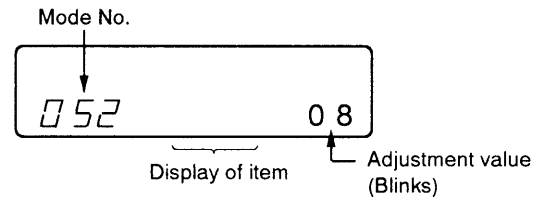


2. When the **||** key is pressed, the following will be displayed and adjustments will be performed automatically.



**Note :** The adjustment value can be changed as desired using the VOLUME + and - keys, but try to avoid this as much as possible.

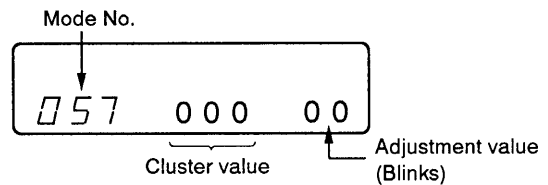
3. After the adjustments are completed, the item is displayed again and the adjustment value that was blinking lights up.



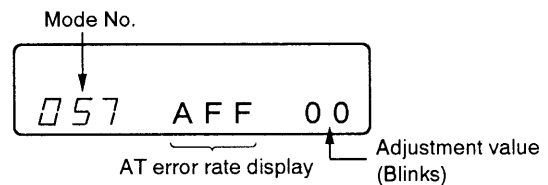
### • System gain mode

Press the DISPLAY key and set the system gain mode on. The adjustment value can be changed using the VOLUME +/- key. Press the DISPLAY key again or the **■** key to return to normal mode.

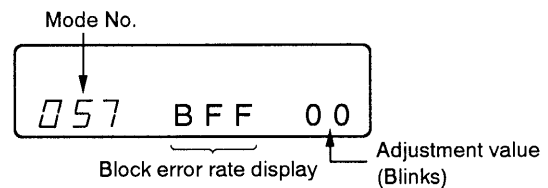
### • Cluster display



### • AT error rate display



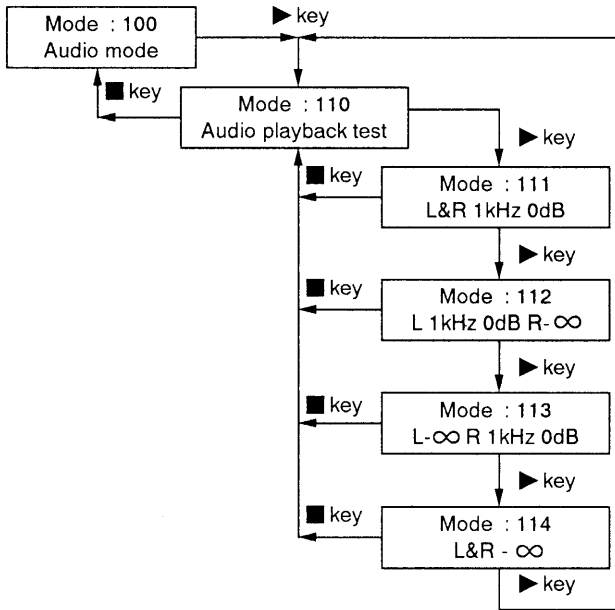
### • Block error rate display



**[Audio Mode]**

- Set the test mode, press the ► key, and set the audio mode using the VOLUME + and – keys.
- To set other modes, refer to “Structure of Test Mode”.

● **Structure of Audio Mode**

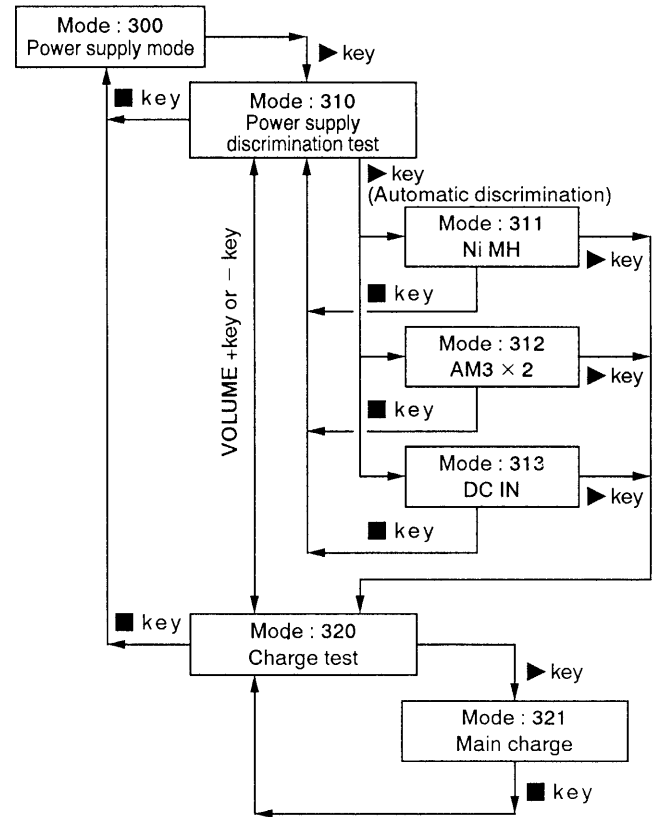


- When the ■ key is pressed at mode numbers 110 to 114, the buzzer will sound.
- When the VOLUME keys + and – are pressed at mode numbers 111 to 113 the volume of the headphone output will increase/decrease.

**[Power Supply Mode]**

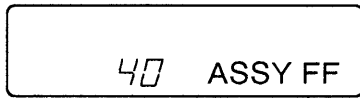
- Set the test mode, press the ► key, and set the power supply mode using the VOLUME + and – keys.
- To set other modes, refer to “Structure of Test Mode”.

● **Structure of Power Supply Mode**

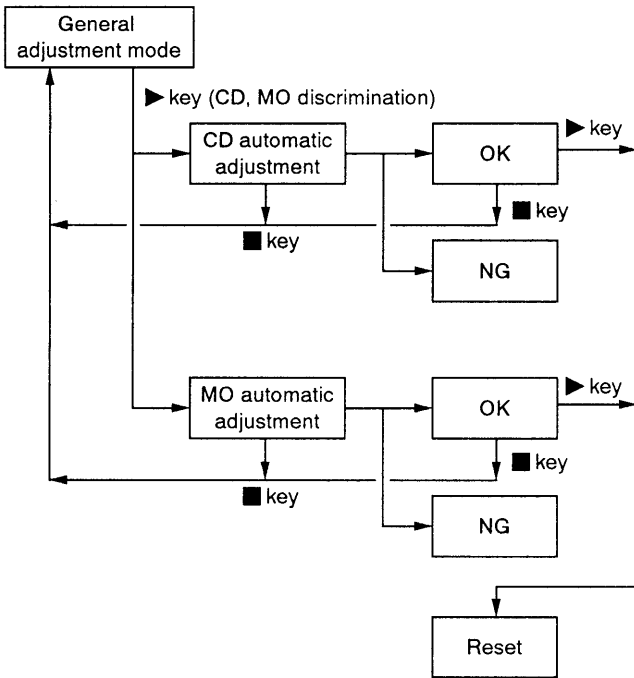


**[General Adjustment Mode]**

- Set the test mode, press the ◀◀ key, and set the general adjustment mode.
- To set other modes, cut off the power once and power on again.
- When the general adjustment mode is set, the LCD display will be as follows.



**● Structure of General Adjustment Mode**



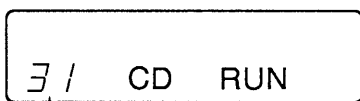
**Adjusting Method :**

1. Set the test mode, press the ◀◀ key to set the general adjustment mode.
2. Load the CD test disc (TDYS-1) or SONY MO disc available on the market.
3. When the ▶ key is pressed, the disc is determined if CD or MO, the automatic adjustment modes are set, and adjustments are performed automatically in the following order.

**● CD Automatic Adjustment**

No.	Mode No.	Adjustment
1	52	CD EF balance adjustment
2	53	CD ABCD level adjustment
3	55	CD focus gain adjustment
4	56	CD tracking gain adjustment
5	57	CD focus bias adjustment

**\* Display during CD automatic adjustment**

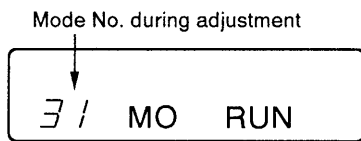


Mode No. during adjustment

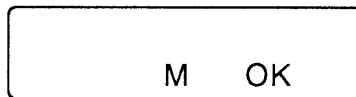
**● MO Automatic Adjustment**

No.	Mode No.	Adjustment
1	32	MO playback EF balance adjustment
2	33	MO playback ABCD level adjustment
3	37	MO focus gain adjustment
4	38	MO tracking gain adjustment
5	39	MO focus bias adjustment
6	82	AT error check
7	42	Low reflection CD EF balance adjustment
8	43	Low reflection CD ABCD level adjustment
9	45	Laser low reflection CD focus gain adjustment
10	46	Low reflection CD tracking gain adjustment

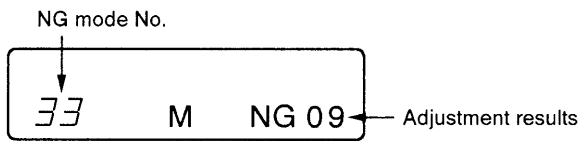
**\* Display during MO automatic adjustment**



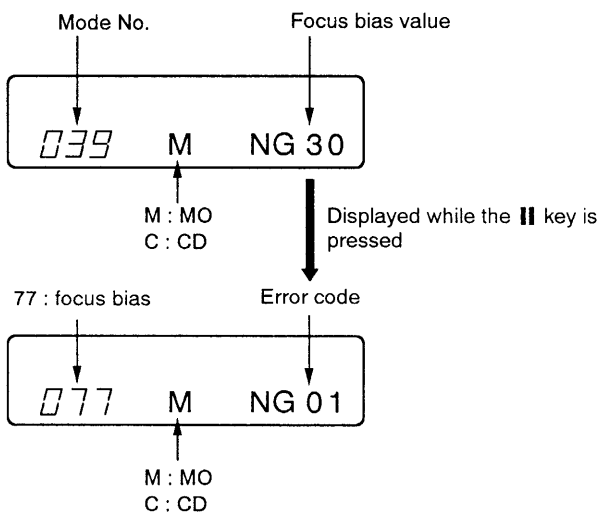
4. If the automatic adjustment results are OK, the following will be displayed.



5. If the automatic adjustment results are NG, the following will be displayed.

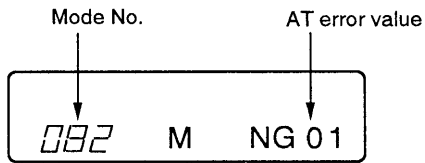


- \* When the mode number is 39, 57 and the focus bias value is NG, the following will be displayed.**



## SECTION 5 ELECTRICAL ADJUSTMENTS

\* When the mode number is 82 and the AT error rate is NG, the following will be displayed.



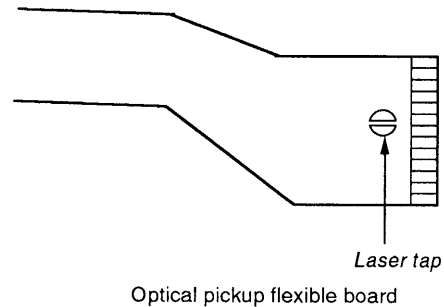
\* When NG, set the servo mode and perform the automatic adjustment of the NG item. (Refer to “Servo Mode”)

### 5-1. Precautions for Laser Diode Emission Check

When checking the emission of the laser diode during adjustments, never view directly downwards as this may lead to blindness.

### 5-2. Precautions for Using Optical Pickup (KMS-240A/J2N)

As the laser diode inside the optical pickup damages by static electricity easily, solder the laser tap of the flexible board when handling. Also take the necessary measures to prevent damages by static electricity. Handle the flexible board with care as it breaks easily

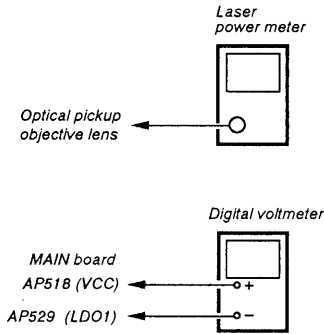


### 5-3. Precautions for Adjustment

- 1) Perform all adjustments in the order given in the test mode. After adjusting, exit the test mode.
- 2) Use the following tools and measuring instruments.
  - CD test disc TDYS-1  
(Parts Code : 4-963-646-01)
  - Recorded MO disc PTDM-1  
(Parts Code : J-2501-054-A)
  - Laser power meter LPM-1  
(Parts Code : J-2501-046-A)
  - Oscilloscope (Frequency band above 40MHz. Perform the calibration of probe first before measuring.)
  - Digital voltmeter
- 3) Unless specified otherwise, supply DC 4.5V from the DC IN 4.5V jack.
- 4) Switch, knob positions
  - Hold switch..... OFF
  - AVLS switch ..... OFF

## 5-4. Laser Power Check

Connection :

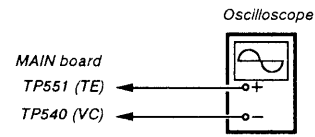


### Adjusting Method :

1. Set the servo mode of the test mode (Mode : 000).
2. Press the ► key, and set the laser power adjustment mode (Mode : 020) using the volume + and – keys.
3. Press the ◀◀ key and move the optical pickup to the inner most circumference
4. Open the cover and set the laser power meter on the objective lens of the optical pickup.
5. Press the ► key, and set the laser MO read adjustment mode (Mode : 021).
6. Check that the laser power meter reading is  $0.80 \pm 0.06\text{mW}$ .
7. Check that the voltage between AP518 (VCC) and AP529 (LDO1) at this time is below 60.5mV.
8. Press the ■ key.
9. Exit the test mode.

## 5-5. MO Traverse Adjustment

Connection :



### Adjusting Method :

1. Set the servo mode of the test mode (Mode : 000).
2. Press the ► key, and set the MO playback adjustment mode (Mode : 030) using the volume + and – keys.
3. Press the ◀◀ and ▶▶ keys and move the optical pickup to the center circumference.
4. Load any MO disc available on the market.
5. When the ► key is pressed, the MO playback EF balance adjustment mode (Mode : 032) will be set after focus search ON (Mode : 031).
6. Press the || key to perform automatic adjustment, and check that the traverse waveform is symmetrical at the top and bottom.

(Traverse Waveform)

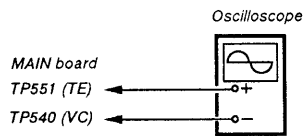


Specification :  $A=B, C \geq 1.1\text{Vp-p}$

7. Check that the traverse level at this time is above 1.1Vp-p.
8. Press the ■ key.
9. Exit the test mode.

## 5-6. Low Reflection CD Traverse Adjustment

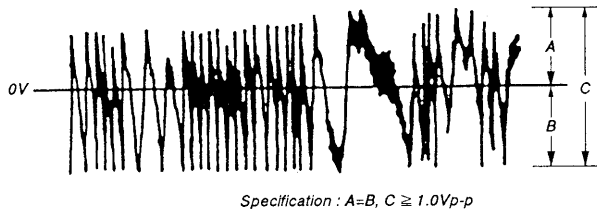
Connection :



### Adjusting Method :

1. Set the servo mode of the test mode (Mode : 000).
2. Press the ► key, and set the low reflection CD playback adjustment mode (Mode : 040) using the volume + and – keys.
3. Load any MO disc available on the market.
4. When the ► key is pressed, the low reflection CD playback EF balance adjustment mode (Mode : 042) will be set after low reflection CD focus search ON (Mode : 041).
5. Press the || key to perform automatic adjustment, and check that the traverse waveform is symmetrical at the top and bottom.

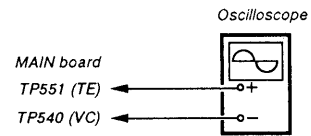
(Traverse Waveform)



6. Check that the traverse level at this time is above 1.0Vp-p.
7. Press the ■ key.
8. Exit the test mode.

## 5-7. CD Traverse Adjustment

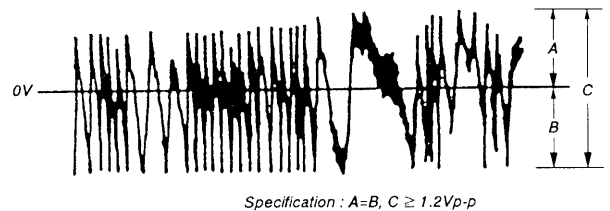
Connection :



### Adjusting Method :

1. Set the servo mode of the test mode (Mode : 000).
2. Press the ► key, and set the CD playback adjustment mode (Mode : 050) using the volume + and – keys.
3. Press the ◀◀ and ▶▶ keys and move the optical pickup to the center circumference.
4. Load a CD test disc (TDYS-1).
5. When the ► key is pressed, the CD playback EF balance adjustment mode (Mode : 052) will be set after CD focus search ON (Mode : 051).
6. Press the || key to perform automatic adjustment, and check that the traverse waveform is symmetrical at the top and bottom.

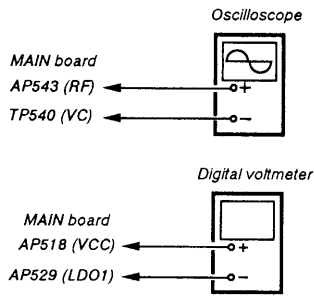
(Traverse Waveform)



7. Check that the traverse level at this time is above 1.2Vp-p.
8. Press the ■ key.
9. Exit the test mode.

## 5-8. CD RF Level Check

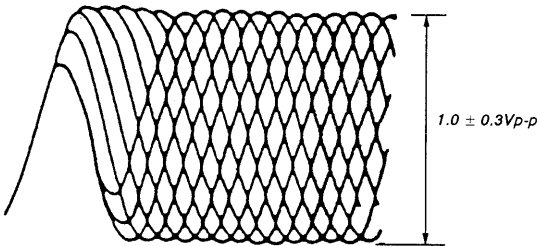
Connection :



### Adjusting Method :

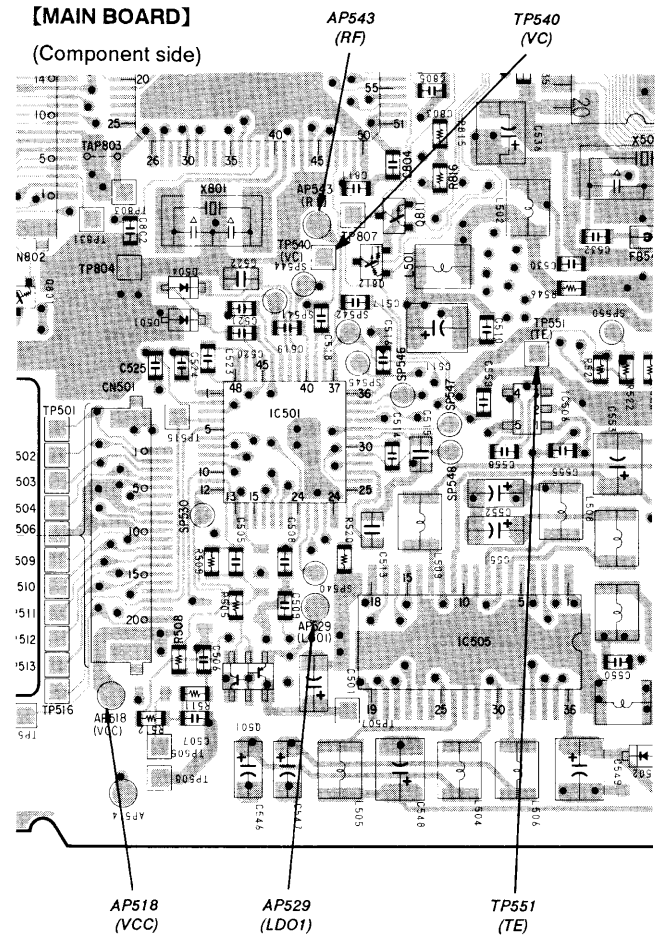
1. Set the servo mode of the test mode (Mode : 000).
2. Press the ► key, and set the CD playback adjustment mode (Mode : 050) using the volume + and – keys.
3. Press the ◀◀ and ▶▶ keys and move the optical pickup to the center circumference.
4. Load a CD test disc (TDYS-1).
5. When the ► key is pressed, the CD EF balance adjustment mode (Mode : 052) will be set after CD focus search ON (Mode : 051).
6. When the ► key is pressed, the ABCD level adjustment mode (Mode : 053) is set.
7. Press the || key to perform automatic adjustment, and check that the RF level is  $1.0 \pm 0.3V_{p-p}$ .

(RF waveform)



8. Check that the voltage between AP518 (VCC) and AP529 (LDO1) at this time is below 60.5mV.
9. Press the ■ key.
10. Exit the test mode.

### Adjustment Location :





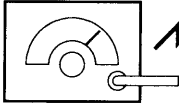
## TUNER SECTION

no mark : US, Canadian model  
 ( ) : AEP, E model  
 < > : Tourist model

### AM Section

BAND : AM

AM RF signal generator



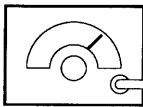
Put the lead-wire antenna close to the set.

30% amplitude modulation by 400Hz signal.  
 Output level : as low as possible

### FM Section

BAND : FM (TV)

FM RF signal generator

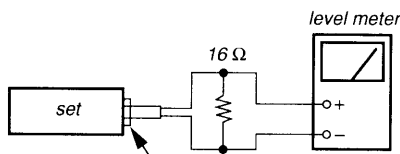


22.5kHz frequency deviation by 400Hz signal.  
 Output level : as low as possible

0.01μF

TP1 (ANT)

TP2 (GND)



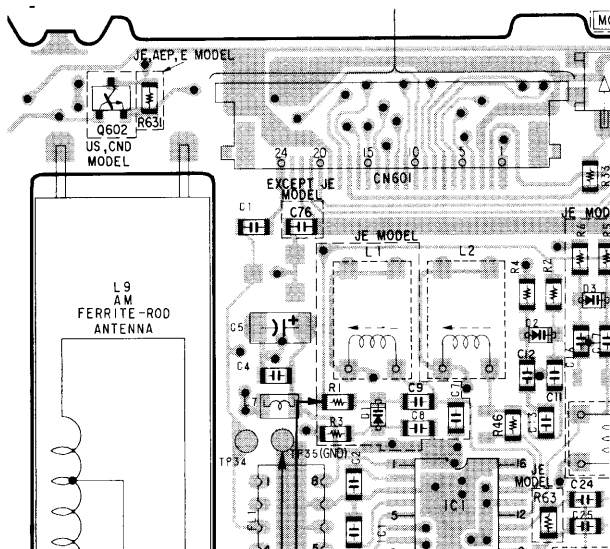
J301 (REMOTE ?)

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

### AM Frequency Coverage Adjustment

Setting :

[ TU BOARD ] (Component side)



digital voltmeter (DC range)

R1 (VT)

TP35 (GND)

AM IF ALIGNMENT		
Adjust for a maximum reading on level meter.		
T2	450kHz	(450kHz) <450kHz>

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment part	Frequency display	Reading on Digital Voltmeter
T1	530kHz (531kHz) <531kHz>	1.1 ± 0.05V (1.1 ± 0.05 V) <1.1 ± 0.05 V>
confirmation	1,400kHz (1,395kHz) <1,395kHz>	8.5 ± 0.6V (8.5 ± 0.6 V) <8.5 ± 0.6 V>

AM TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L9	620kHz	(621kHz) <621kHz>
CT1	1,400kHz	(1,395kHz) <1,395kHz>

FM (TV) IF ALIGNMENT		
Adjust for a maximum reading on level meter.		
L5	10.7MHz	(10.7MHz) <10.7MHz>

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment part	Frequency display	Reading on Digital Voltmeter
L4	87.5MHz (87.5MHz) <76MHz>	3.45 ± 0.05 V (3.45 ± 0.05V) <1.0 ± 0.05V>
confirmation	108MHz (108MHz) <108MHz>	8.8 ± 0.6 V (8.8 ± 0.6 V) <8.8 ± 0.6 V>

FM TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L2	87.5MHz	(87.5MHz) <87.5MHz>

### Tourist Model

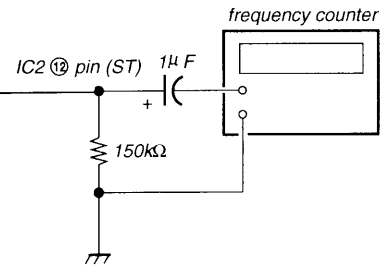
TV FREQUENCY COVERAGE ADJUSTMENT		
Adjustment part	Frequency display	Reading on Digital Voltmeter
L3	<175.75MHz>	<2.2 ± 0.05V>
confirmation	<221.75MHz>	<8.2 ± 0.6V>

TV TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L1	<175.75MHz>	

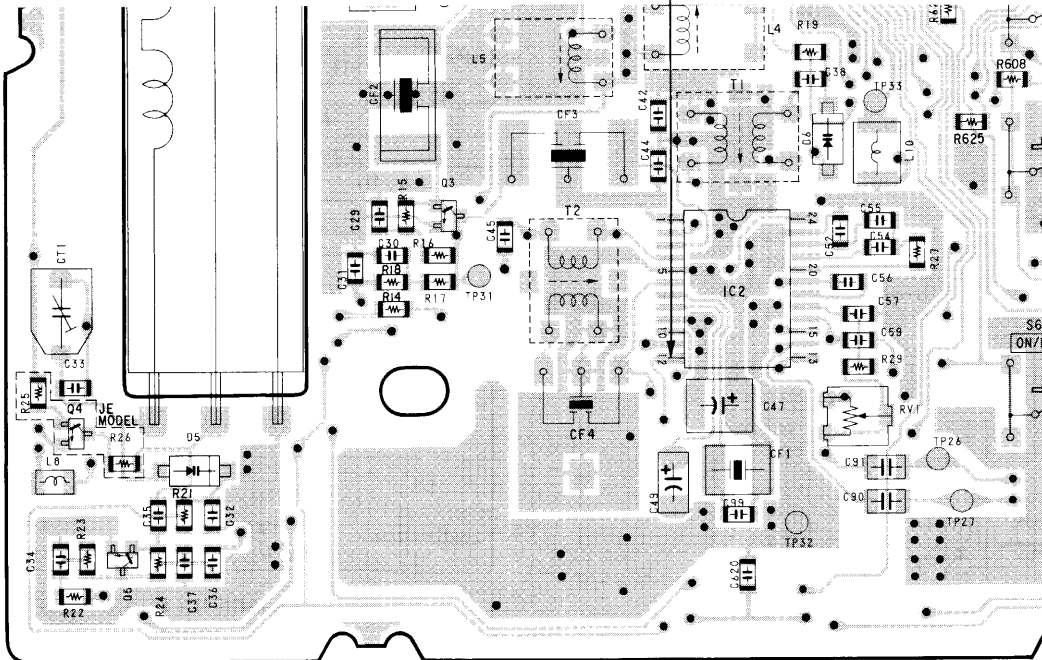
## FM VCO Adjustment

### Procedure :

1. Connect the frequency counter as shown the figure.
2. Turn the set to 78MHz.
3. Adjust RV1 for 19kHz±50Hz reading frequency counter.



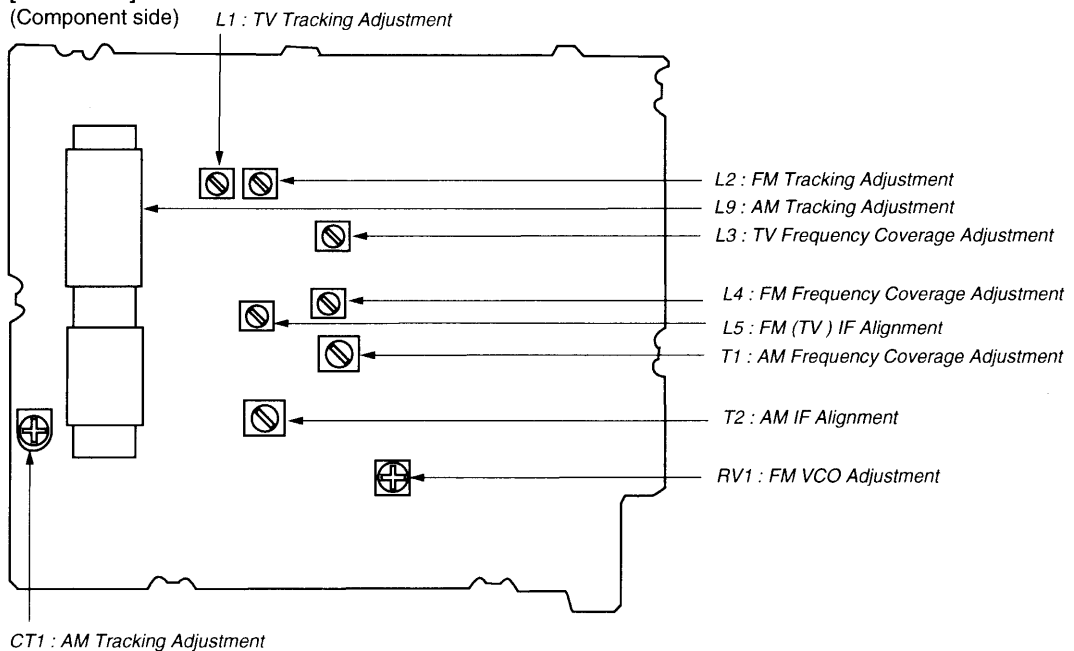
[TU BOARD] (Component side)



### Adjustment Location :

[TU BOARD]

(Component side)



## SECTION 6

### EXPLANATION OF IC TERMINALS

#### IC503 DIGITAL SERVO, ATRAC (CXD2652R)

Pin No.	Pin name	I/O	Description
1	MNT 0	O	Traverse count signal output.
2 – 4	MNT 1 – 3	–	Not used (Open).
5	SWDT	I	Inputs write data signal from system controller (IC801).
6	SCLK	I	Inputs serial clock signal from system controller (IC801).
7	XLAT	I	Inputs serial latch signal from system controller (IC801).
8	SRDT	O	Outputs write data signal from system controller (IC801).
9	SENS	O	Outputs internal status (SENSE) to system controller (IC801).
10	XRST	I	Inputs reset signal from system controller (IC801). “L” : Reset
11	SQSY	O	Output subcode Q sync (SCOR) to system controller (IC801). Outputs “L” every 13.3msec. Outputs H at all most mostly.
12	DQSY	–	Not used (Open).
13	WRPWR	–	Not used (Ground).
14	NC	–	Not used (Open).
15	TX	I	Input of write data transmission timing from system controller (IC801). Also used as magnetic field head ON/OFF output.
16	OSC 1	O	Clock output (45.158MHz).
17	OSC 0	I	Clock input (45.158MHz).
18	XTSL	–	Not used (Fixed at “L”).
19	RV <sub>DD</sub>	–	Not used (Ground).
20	RV <sub>SS</sub>	–	Connect to ground.
21	DIN	–	Not used (Ground).
22	NC	–	Not used (Open).
23	ADDT	–	Not used (Open).
24	DATA	O	Monitor/decode audio data output to A/D converter (IC301).
25	ALRCK	O	L/R clock output to A/D converter (IC301).
26	ABCK	O	Bit clock signal output to A/D, D/A converter (IC301).
27	FS256	O	11.2896MHz clock output (MCLK).
28	DV <sub>DD</sub>	–	Power supply (+2.8V) for digital.
29 – 32	A03 – 00	O	Address signal output to RAM (IC504).
33	NC	–	Not used (Open).
34 – 38	A04–08	O	Address signal output to RAM (IC504).
39	NC	–	Not used (Open).
40	DV <sub>SS</sub>	–	Ground terminal.
41	XOE	O	Output enable control signal output to RAM (IC504).
42	XCAS	O	Column address strobe signal output to ROM (IC504).
43	A09	O	Address signal output to ROM (IC504).
44	XRAS	O	Row address strobe signal output to ROM (IC504).
45	XWE	O	Read/write control signal output to ROM (IC504).
46 – 49	D1–3	I	Data signal input from RAM (IC504).
50	MVCI	–	Not used (Connect to ground).
51	ASYO	O	Playback EFM full-swing output (“L” : VSS, “H” : VDD).
52	ASYI	I	Playback EFM asymmetry compare voltage input.
53	AV <sub>DD</sub>	–	Power supply (+2.8V) for analog.
54	BIAS	I	Playback EFM asymmetry circuit constant current input.
55	RFI	I	Inputs playback EFM RF signal from RF amplifier (IC501).

Pin No.	Pin name	I/O	Description
56	AV <sub>SS</sub>	–	Ground terminal.
57	PDO	–	Not used (Open).
58	PCO	O	Decoder PLL master clock PLL phase comparison output.
59	FILI	I	Decoder PLL master clock PLL filter input.
60	FILO	O	Decoder PLL master clock PLL filter output.
61	CLTV	I	Decoder PLL master clock PLL VCO control voltage input.
62	PEAK	I	Inputs peak hold signal for light amount signal from RF amplifier (IC501).
63	BOTM	I	Inputs bottom hold signal for light amount signal from RF amplifier (IC501).
64	ABCD	I	Light amount signal from RF amplifier (IC 501).
65	FE	I	Input focus error signal from RF amplifier (IC 501).
66	AUX 1	I	Input of auxiliary signal from RF amplifier (IC 501).
67	VC	I	Input of middle point voltage (+1.4V) from RF amplifier (IC501).
68	ADIO	–	Not used (Open).
69	AV <sub>DD</sub>	–	Power supply (+2.8V) for analog.
70	ADRT	–	Not used (Connect to +2.8V).
71	ADRB	–	Not used (Open).
72	AV <sub>SS</sub>	–	Ground terminal.
73	SE	I	Input of sled error signal from RF amplifier (IC501).
74	TE	I	Input of tracking error signal from RF amplifier (IC501).
75	AUX 2	–	Not used (Open).
76	DCHG	–	Not used (Connect to +2.8V).
77	APC	–	Not used (Connect to +2.8V).
78	ADFG	I	Input of ADIP dual FM signal from RF amplifier (IC501) (22.05kHz ±1kHz).
79	FO CONT	O	Focus control output to RF amplifier (IC501).
80	XLRF	I	Latch signal input from RF amplifier (IC501).
81	CKRF	O	RFCK clock (7.35kHz) signal output.
82	DTRF	I	Serial data input from system controller (IC801).
83	APCREF	I	Laser power setting input.
84	LDDR	–	Not used (Open).
85	TRDR	O	Tracking servo drive signal output (–).
86	TFDR	O	Tracking servo drive signal output (+).
87	DV <sub>DD</sub>	–	Power supply (+2.8V) for digital.
88	FFDR	O	Focus servo drive signal output (+).
89	FRDR	O	Focus servo drive signal output (–).
90	FS 4	O	176.4kHz clock signal output (MCLK).
91	SRDR	O	Sled servo drive signal output (–).
92	SFDR	O	Sled servo drive signal output (+).
93	SPRD	O	Spindle servo drive signal output (–).
94	SPFD	O	Spindle servo drive signal output (+).
95	FGIN	I	FG signal input from spindle motor drive (IC505).
96 – 98	TEST 1 – 3	–	Not used (Ground).
99	DV <sub>SS</sub>	–	Ground terminal.
100	EFMO	–	Not used (Open).

**IC601 RADIO CONTROL /LCD DRIVE****uPD17072GB-900-9EU (EXCEPT Tourist model), uPD17073GB-916-9EU (Tourist model)**

Pin No.	Pin name	I/O	Description
1	SDO	O	Serial data output to EEPROM.
2	CS	O	Chip select output to EEPROM.
3	IFREQ	O	IF request output. "H": Request
4	SELECT	O	L: Area judgment. "H": Radio operating (Except Tourist model)
	LOCAL/DX	O	LOCAL/DX select output. "H": APS (Tourist model)
5	NC	-	Not used (Open).
6	AM	O	AM select signal output. "L": AM
7	FM	O	FM select signal output. "L": FM
8	PCON	O	Audio amplifier ON/OFF control signal output. "H": ON
9	AMUTE	O	Audio mute control signal output. "L": MUTE
10	RACT	O	Radio ACT output. "H": Radio operating
11	RON	I	Radio ON/OFF control signal input. "H": Radio ON
12	NC	-	Not used (Open).
13	BAND	I	BAND/RADIO ON Key input.
14	SETKEY	I	Main unit key input.
15	RMCKEY	I	Remote control key input.
16	HIDC	I	Over voltage detection input. "L": STOP
17	BATT1	I	Battery indicator (1) ON/OFF control input.
18	BATT2	I	Battery indicator (2) ON/OFF control input.
19	IF IN	I	IF count input.
20, 21	GND	-	Ground.
22	EO	O	PLL error output.
23	AMOSC	I	AM VCO oscillator input.
24	FMOSC	I	FM VCO oscillator input.
25	REG 0	O	Voltage output for PLL.
26, 27	VDD	-	Power supply (+2.9V).
28	XOUT	O	Oscillator output (75kHz).
29	XIN	I	Oscillator input (75kHz).
30	REG I	O	Voltage output fo oscillator.
31	REGLCD 0	O	LCD drive voltage output.
32	CAPLCD 0	-	Capacitor terminal for LCD drive voltage generation.
33	CAPLCD 1	-	Capacitor terminal for LCD drive voltage generation.
34	REGLCD 1	O	LCD drive voltage output.
35-37	COM 0 - 2	O	LCD common signal output.
38	NC	-	Not used (Open).
39	COM 3	O	LCD common signal output.
40-44	LCD 0 - 4	O	LCD drive.
45	NC	-	Not used (Open).

Pin No.	Pin name	I/O	Description
46 – 53	LCD 5 – 12	O	LCD drive.
54	NC	–	Not used (Open).
55 – 56	LCD 13 – 14	O	LCD drive.
57	RST	I	Reset terminal.
58	HOLD	I	Hold input. “L” : HOLD
59	NC	–	Not used (Open).
60	BEEP	O	Beep signal output.
61	BATT 3	I	Battery indicator (3) ON/OFF control input.
62	TEST	I	Test mode terminal. “L” : Test mode
63	SCK	O	Serial clock output to EEPROM.
64	SDI	I	Serial data input from EEPROM.

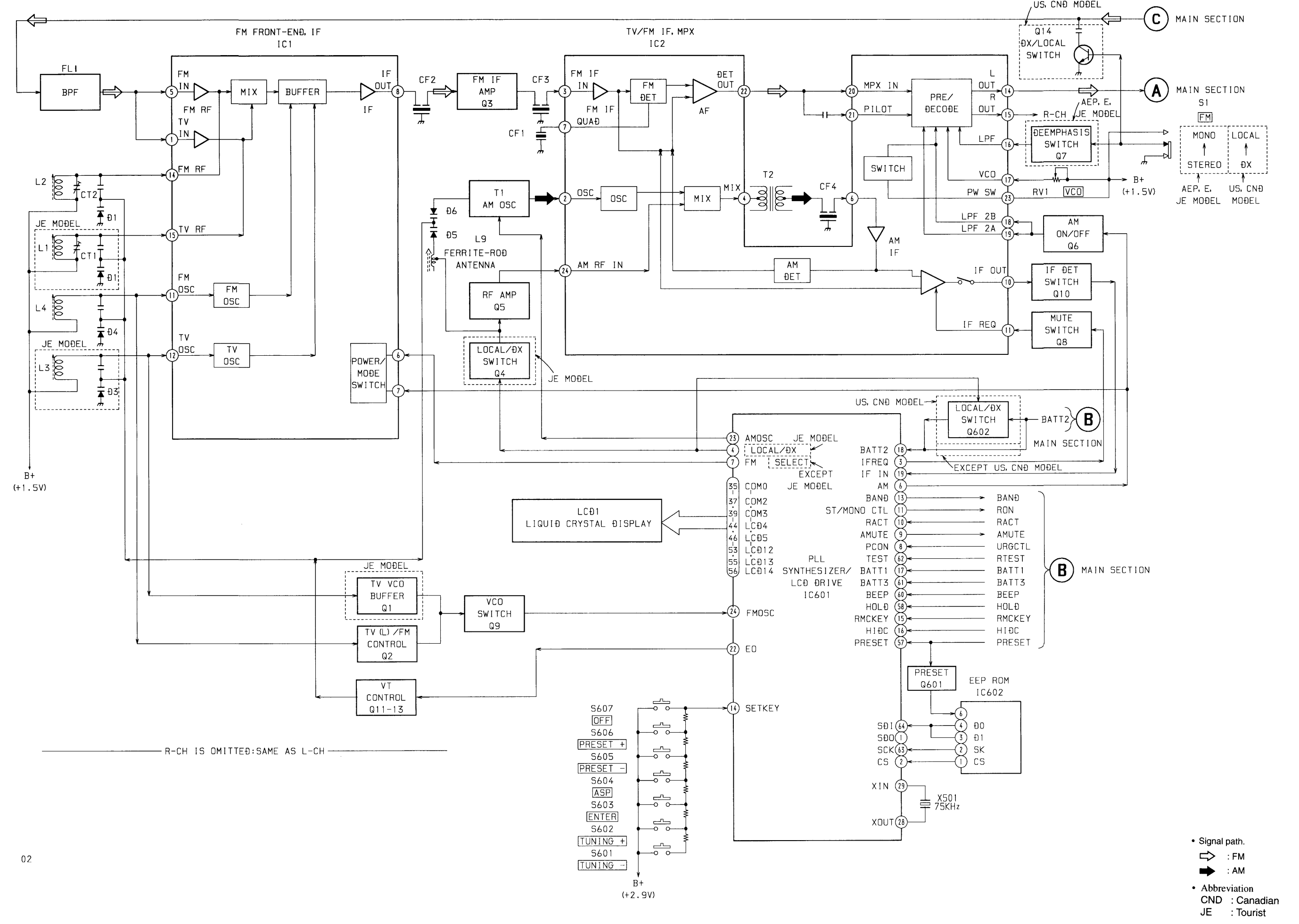
SECTION 7  
DIAGRAMS

IC801 SYSTEM CONTROL (CXP81960M-639R)

Pin No.	Pin name	I/O	Description
1	—	—	Not used (Open).
2	XRST	O	Reset output. "L": Reset
3	—	—	Not used (Open).
4	TX	O	Write data transfer timing output.
5	SENSE	I	Internal status (SENSE) input.
6	LDON	O	Laser ON signal. "H": ON
7	XSHOCK	—	Not used (Ground).
8	PIT/GRV	I	COMP signal input from RF amplifier (IC501).
9	INLS	I	Detecting switch for internal circuit of sledding. Internal circuit: "L"
10	—	—	Not used (Fixed at "H").
11	DATA	O	Data output to remote control.
12	HOLD	I	Hold switch input (Main unit). "L": Hold
13	WP	I	Wake-up signal input from remote control key and main unit key.
14	OPEN/CLOSE	I	Detecting switch for opening and closing of the upper cover. Close: "L"
15	AM3/NI	I	Dry/rechargeable battery detect switch input.
16-18	—	—	Not used (Open).
19	LCD STB	O	LCD standby output.
20	RTEST	O	Test mode output for radio control (IC601).
21	SDI2	I	Serial data input.
22-25	—	—	Not used (Open).
26	MD TEST	I	Test mode terminal. "L": Test mode
27	DCIN	I	DC input detect. "L": DC IN
28, 29	—	—	Not used (Open).
30	PCONT	O	Power control output. "L": ON
31	BATTON	O	Output "L" while operating with a battery.
32-34	—	—	Not used (Open).
35	RFSW	O	Power control output to RF amplifier (IC501).
36	LCD ON	O	LCD ON/OFF control. "L": ON
37	MP	I	Microprocessor mode input (Fixed at "L")
38	MRST	I	Microprocessor reset input.
39	VSS	—	Ground.
40	XTAL	O	System clock (12MHz).
41	EXTAL	I	System clock (12MHz).
42	CS	—	Chip Select input (Connected to +2.8V).
43	—	—	Not used (Fixed at "L").
44	LCDDATA	O	LCD data output.
45	LCDSCK	O	Serial clock output.
46	—	—	Not used (Open).
47	FDMON	I	Focus coil position monitor input.
48	—	—	Not used (Open).
49	KEY2	I	Remote control key input.
50	AVSS	—	A/D converter ground terminal.

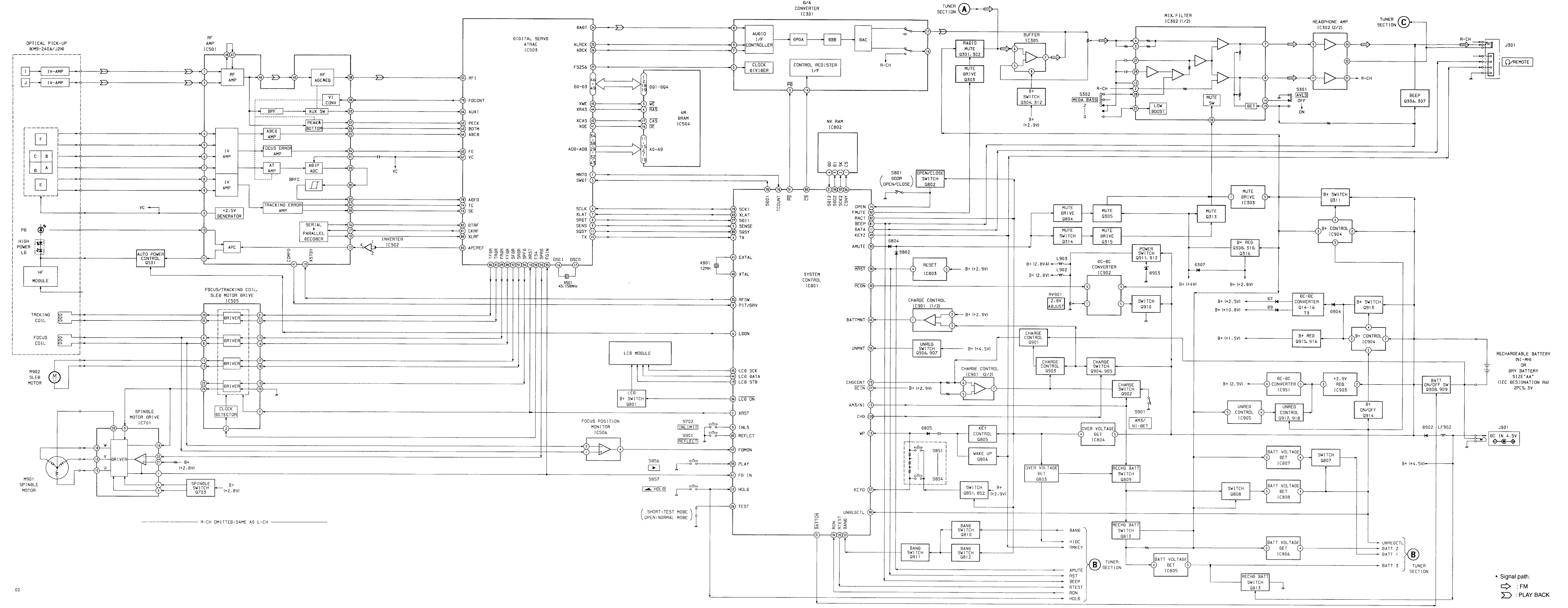
Pin No.	Pin name	I/O	Description
51	AVREF	I	A/D converter reference voltage input.
52	AVDD	—	A/D converter power supply terminal.
53	BAND	I	Band select input.
54	—	—	Not used (Fixed at "H").
55	PLAY	I	PLAY key input.
56	—	—	Not used (Fixed at "H").
57	KEY0	I	Key input.
58	KEY1	—	Not used (Fixed at "H").
59	UNMNT (LI+MNT)	I	UNREG voltage monitor.
60	BATTMNT	I	Battery monitor input.
61	FGIN	I	FG input from monitor driver (IC505).
62, 63	—	—	Not used (Open).
64	INTSW	—	Not used (Fixed at "H").
65-68	—	—	Not used (Open).
69	XLAT	O	Latch output.
70-72	—	—	Not used (Open).
73	CHGCONT	O	Charge current control output.
74	—	—	Not used (Open).
75	DQSY	—	Not used (Ground).
76	TCOUNT	I	Traverse count signal input.
77	SDI1	I	Serial data input.
78	SDO1	O	Serial data output.
79	SCK1	O	Serial clock output.
80	SQSY	I	SUB-Q/ADIP SYNC input.
81	BEEP	O	BEEP sound output control. "H": BEEP sound output
82	RACT	I	Radio operation signal input. "H": Operating
83	REFLECT	I	CD/MO discrimination switch.
84	TEX	—	Not used (Fixed at "L").
85	XT	—	Not used (Open).
86	Vss	—	Ground.
87	VDD	—	Power supply pin (+2.8V).
88	NC	—	Not used (Fixed at "H").
89	DEEMP	O	Deemphasis control output.
90	UNREG CTL	O	UNREG ON/OFF control.
91	PD	O	D/A converter power down detect during recording. "H": Power down
92	—	—	Not used (Open).
93	AMUTE	O	Analog mute control. "L": Mute
94	RON	O	Radio ON/OFF control output.
95	—	—	Not used (Open).
96	CSNV	O	Chip select output.
97	SCK2	O	Serial clock output.
98	—	—	Not used (Open).
99	SDO2	O	Serial data output.
100	CHG	O	Charge control. "H": Charge

7-1. BLOCK DIAGRAM - TUNER SECTION -



• Signal path.  
 ⇨ : FM  
 ⇨ : AM  
 • Abbreviation  
 CND : Canadian  
 JE : Tourist

7-2. BLOCK DIAGRAM - MAIN SECTION -



• Signal path.  
 ◻ : FM  
 ◻ : PLAY BACK



7-3. PRINTED WIRING BOARDS - TUNER SECTION -



**SEMICONDUCTOR LOCATION**

Ref. No.	Location	Ref. No.	Location
D1	C-3	Q2	B-5
D2	C-4	Q3	E-3
D3	C-4	Q4	F-1
D4	D-5	Q5	G-1
D5	G-2		
D6	E-5	Q6	E-12
D601	B-12	Q8	F-13
D602	B-11	Q9	D-9
		Q10	E-10
IC1	D-4	Q11	C-10
IC2	F-5	Q12	C-9
IC601	C-11	Q13	A-10
IC602	C-12	Q14	C-15
		Q601	D-12
Q1	C-5	Q602	B-2

**Note:**

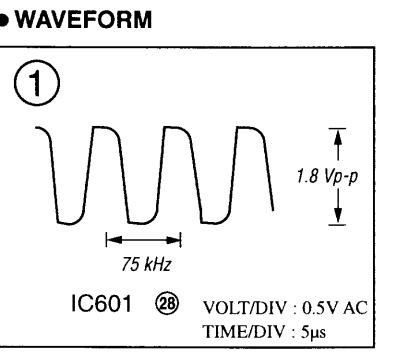
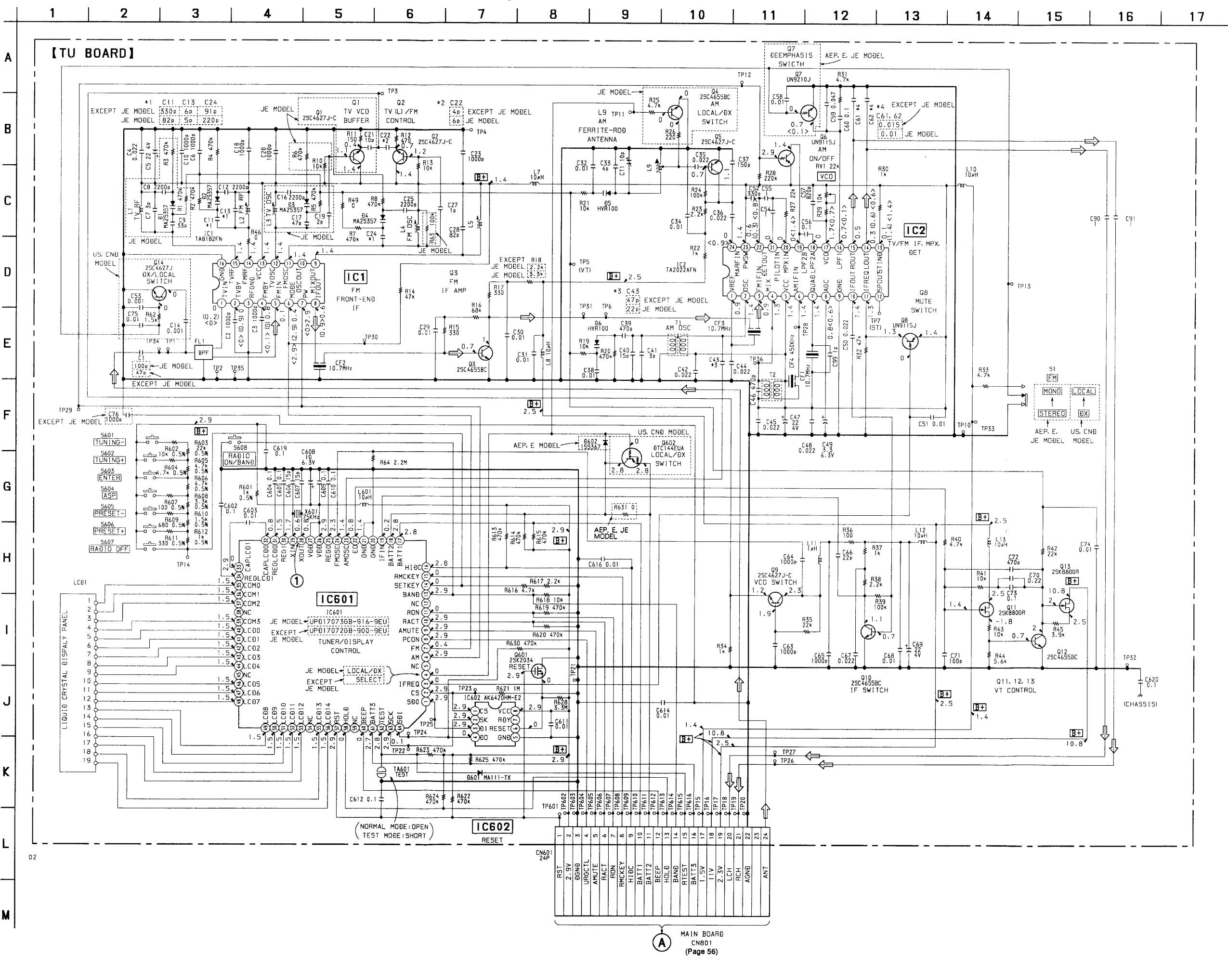
- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

**Caution:**

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

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

7-4. SCHEMATIC DIAGRAM - TUNER SECTION - Refer to page 60 for IC Block Diagrams.

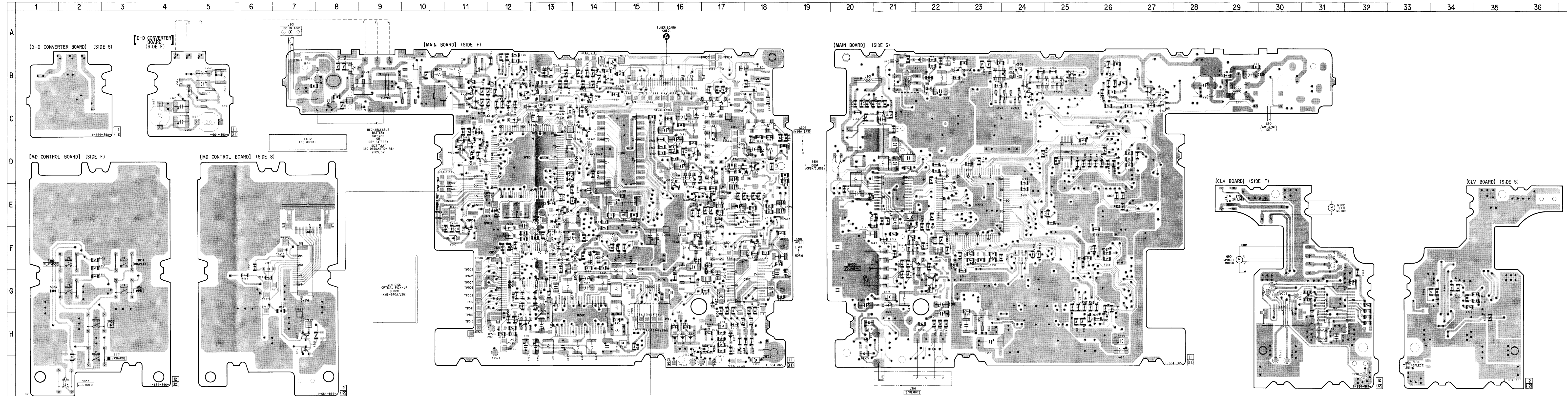


**Note:**

- All capacitors are in µF unless otherwise noted. pF: pF.
- All resistors are in Ω and 1/4-W or less unless otherwise specified.
- % : indicates tolerance.
- [B+] : B+ Line
- [ ] : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack (J901).
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- ( ) : TV (Tourist Model)
- < > : AM
- Voltages are taken with a VOM ( Input impedance 10MΩ). 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.
- ⇨ : FM
- ⇨ : Abbreviation
- CND : Canadian
- JE : Tourist



7-5. PRINTED WIRING BOARDS - MAIN SECTION -



● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D7	C-16	D502	H-15	D903	C-18	IC506	F-14	IC903	B-9	Q306	H-17	Q802	D-11	Q851	H-7
D8	B-22	D504	F-12	D904	B-22			IC904	D-16	Q307	H-16	Q803	B-14	Q852	H-7
D9	B-22			D951	B-5	IC701	G-31	IC905	B-13			Q804	C-14		
D101	H-20	D801	C-13			IC801	D-12	IC951	C-5			Q805	D-11	Q901	B-10
D201	H-17	D802	C-12			IC802	D-25			Q308	F-22	Q806	D-11	Q902	C-27
		D803	C-14	IC301	E-21	IC803	B-24			Q309	F-21			Q903	B-27
D301	G-21	D804	C-12	IC302	G-18	IC804	B-23	Q14	C-17	Q310	G-22			Q904	B-12
D302	H-16	D805	D-11	IC303	E-18			Q15	B-21	Q311	F-16	Q807	B-14	Q905	B-12
D303	H-16			IC304	F-21	IC805	B-25	Q16	C-17	Q312	E-17	Q808	B-24		
D304	H-16			IC305	E-17	IC806	B-24	Q17	C-17			Q809	B-24		
D306	I-18	D806	F-11			IC807	B-23	Q18	C-14			Q810	C-14	Q906	C-11
		D807	C-26	IC501	F-13	IC808	B-24	Q19	E-13	Q501	H-12	Q811	E-13	Q907	B-11
		D851	F-6	IC503	E-23	IC901	B-12	Q20	H-23	Q502	H-23			Q908	B-27
D307	G-16	D901	B-10	IC504	D-15	IC902	C-18	Q21	G-31	Q703	G-31	Q812	E-13	Q909	B-11
D308	G-17	D902	B-10	IC505	H-14			Q22	F-11	Q801	F-11	Q813	B-13	Q910	B-18
D501	F-12							Q23	F-18	Q305	F-18	Q814	B-25		

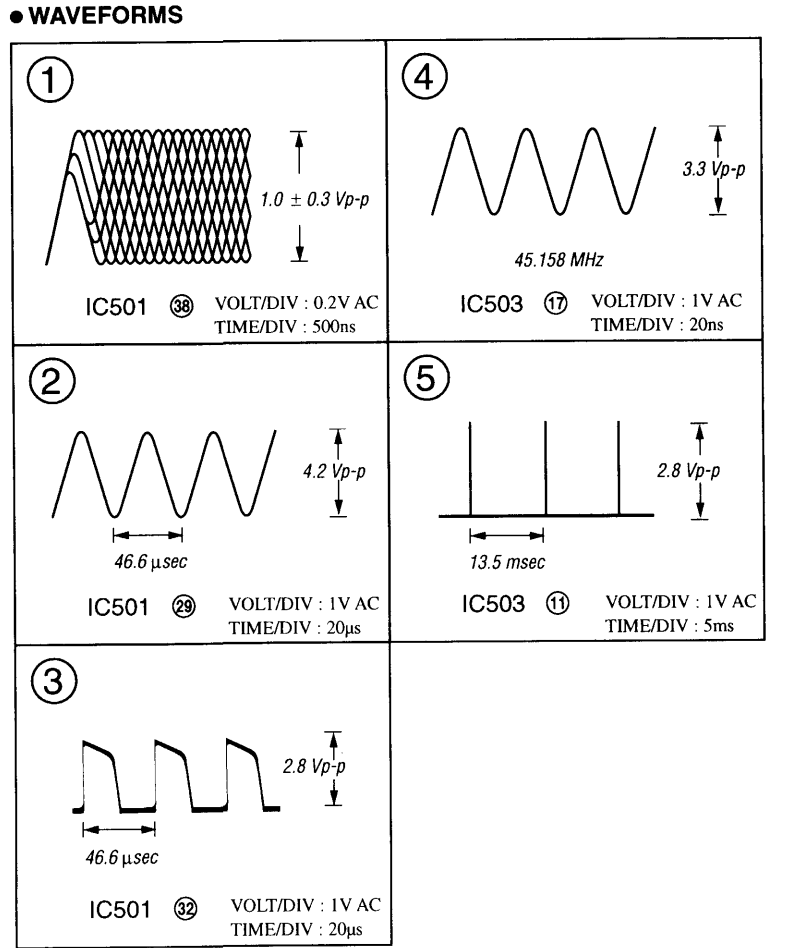
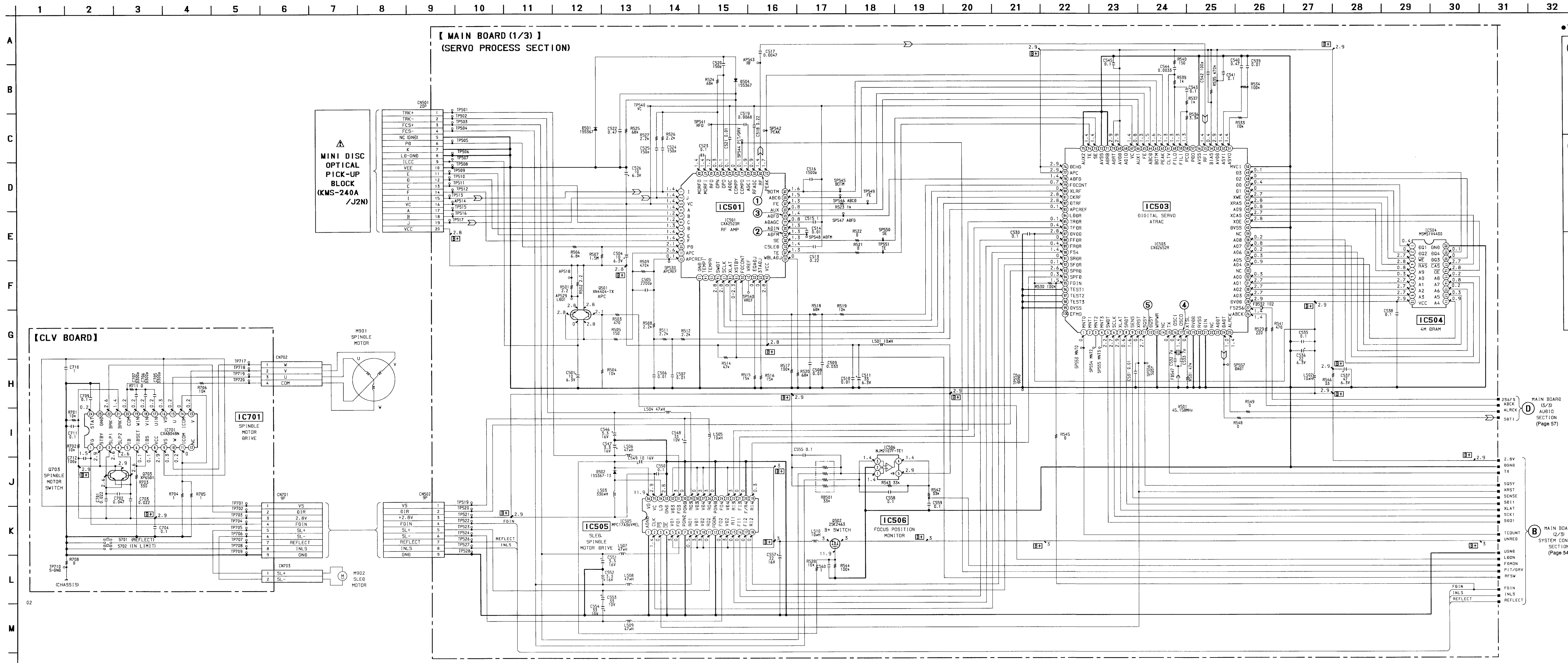
**Note:**

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

**Caution:**

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





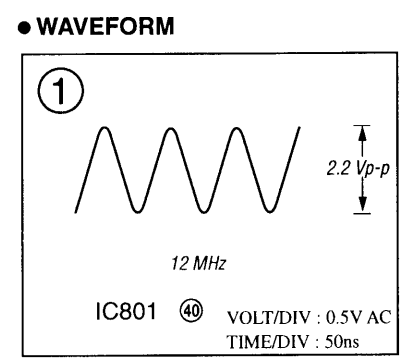
**Note :**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ ,  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- % : indicates tolerance.

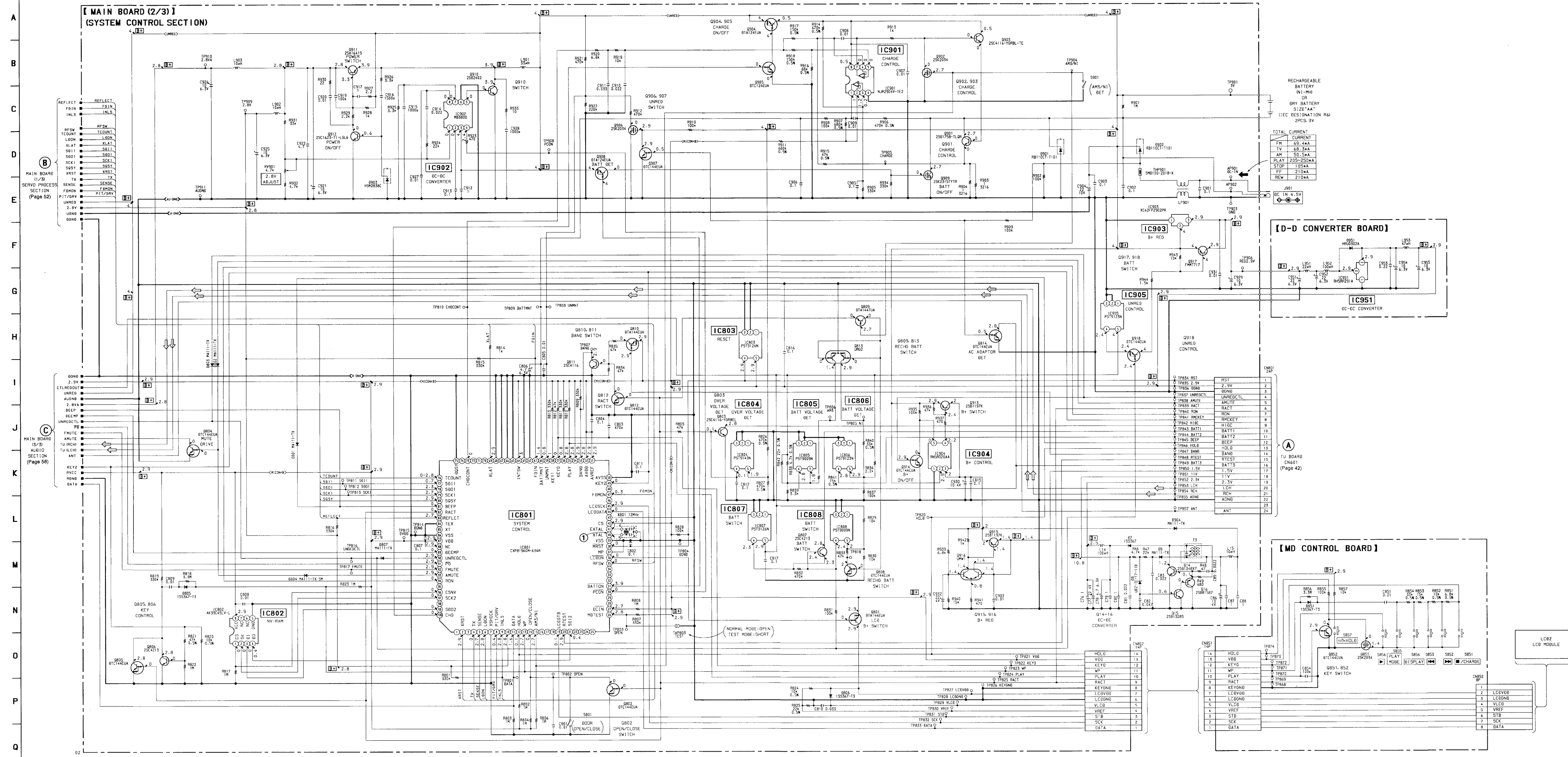
**Note :**  
The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note :**  
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

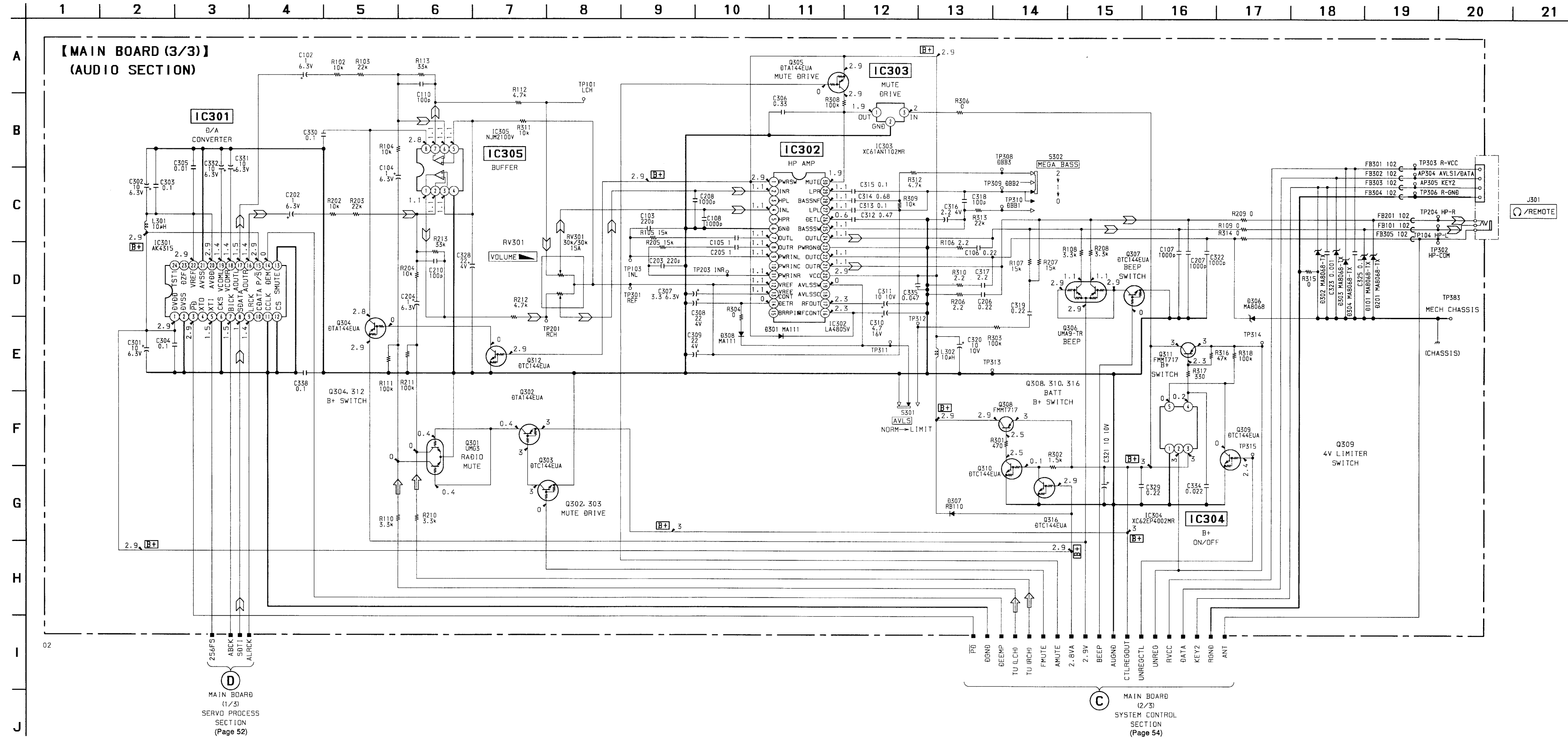
- B +** : B- Line
- $\times$  : selected to yield optimum performance.
- AC voltage readings in the bias oscillator with a VTVM.
- Total current is measured with no cassette installed.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack (J901).
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : PLAY
- Voltages are taken with a VOM ( Input impedance 10M $\Omega$ ). 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.
- $\curvearrowright$  : PLAY



- Note :**
- All capacitors are in  $\mu F$  unless otherwise noted. pF:  $\mu F$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise specified.
  - % : indicates tolerance.
  - $\Delta$  : internal component.
  - **B+** : B+ Line
  - $\square$  : adjustment for repair.
  - Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack (J901).
  - Voltage and waveforms are dc with respect to ground under no-signal conditions.
  - No mark : PLAY
  - Voltages are taken with a VOM ( Input impedance 10M $\Omega$ ). 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
  - $\Rightarrow$  : FM

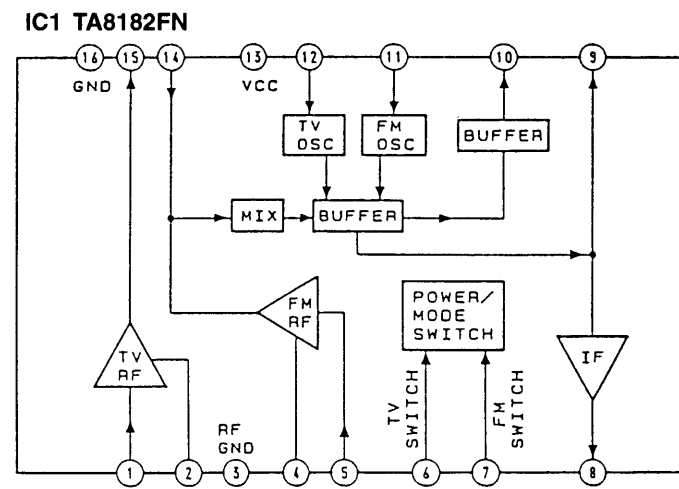


7-8. SCHEMATIC DIAGRAM – MAIN SECTION (3/3) – Refer to page 60 for IC Block Diagrams.

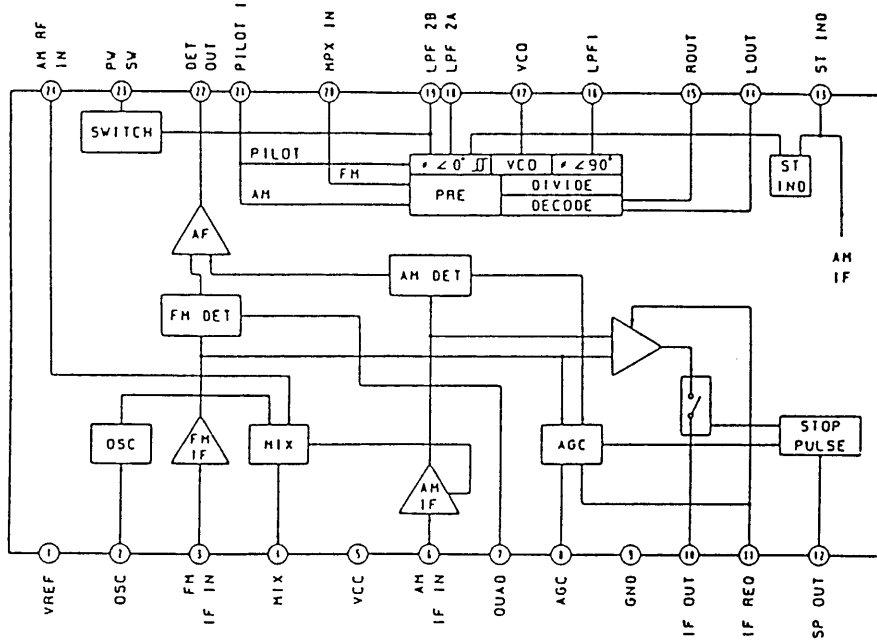


- Note :**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
  - % : indicates tolerance.
  - **[B+]** : B+ Line
  - Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack (J901).
  - Voltage is dc with respect to ground under no-signal conditions. no mark : PLAY
  - Voltages are taken with a VOM ( Input impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
  - Signal path.
  - ◁ : FM
  - ▷ : PLAY

● IC BLOCK DIAGRAM - TUNER SECTION -

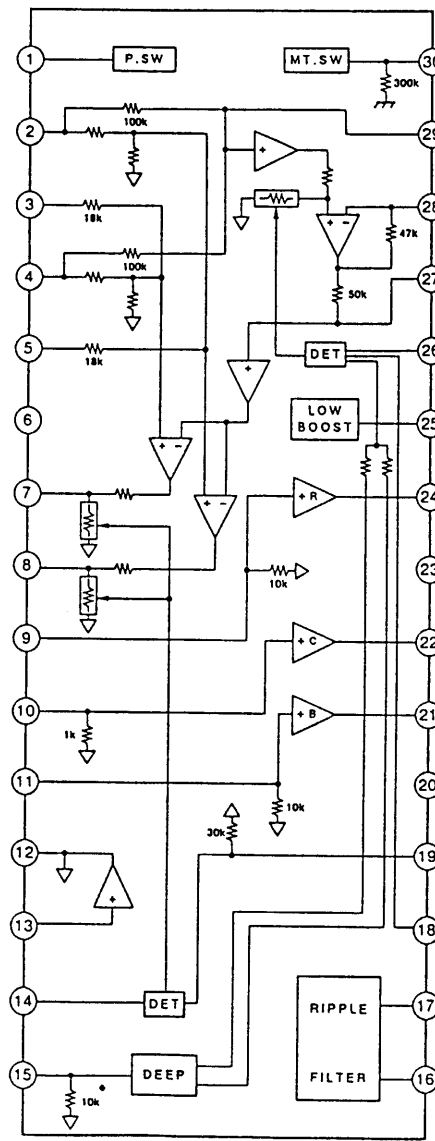


**IC2 TA-2022AFN-EL**

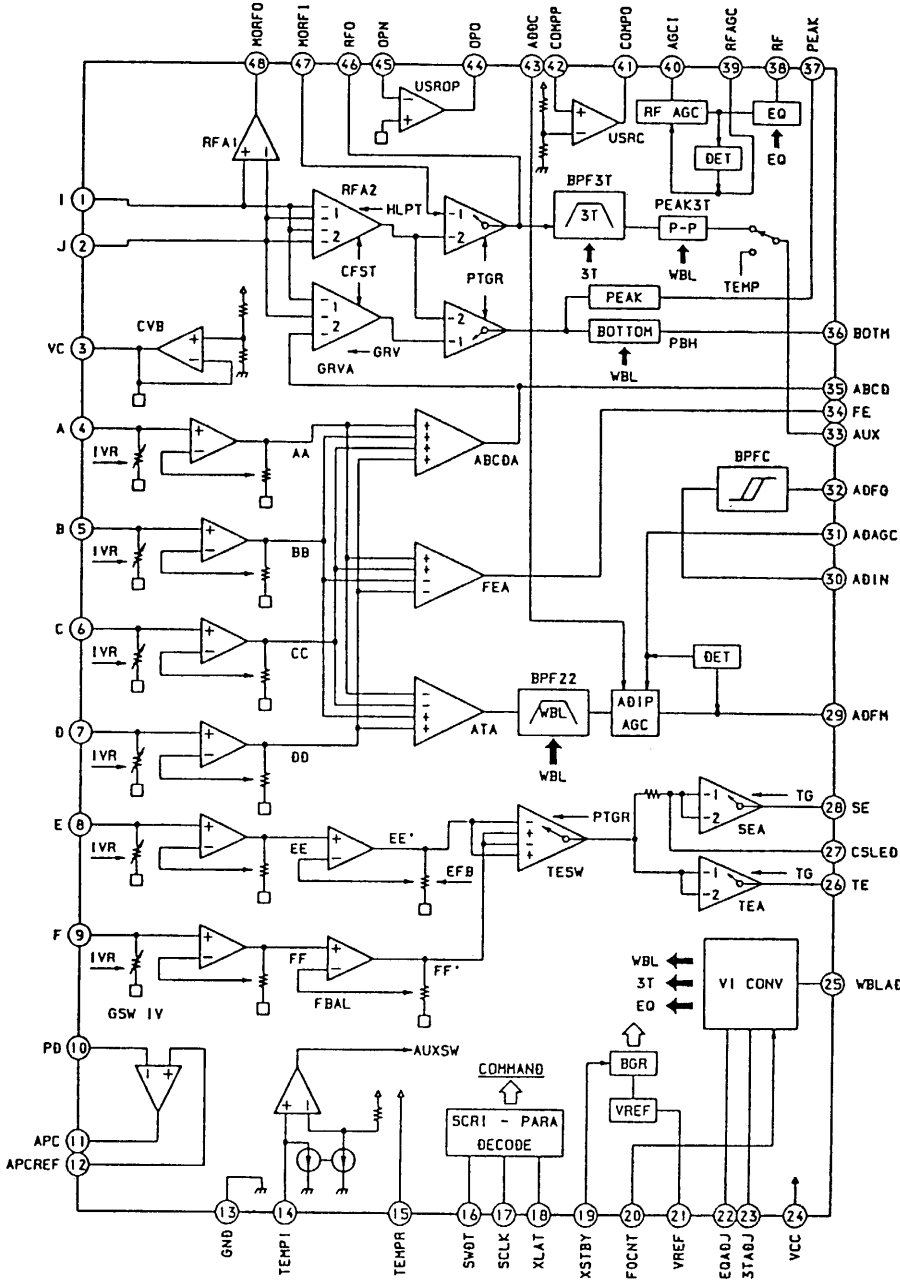


● IC BLOCK DIAGRAM - MAIN SECTION -

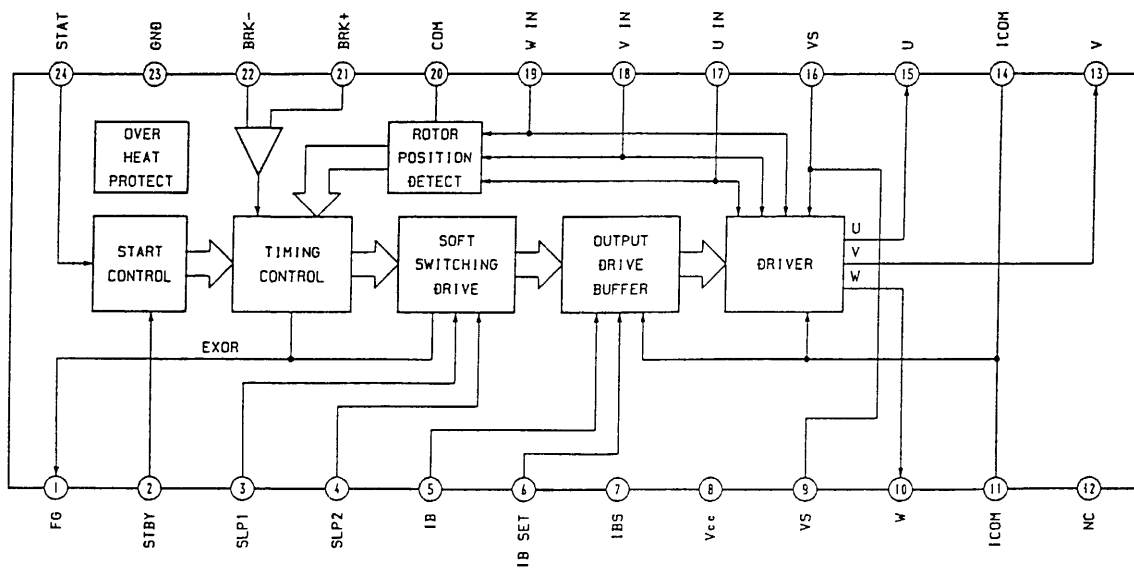
**IC302 LA4805V-TLM**



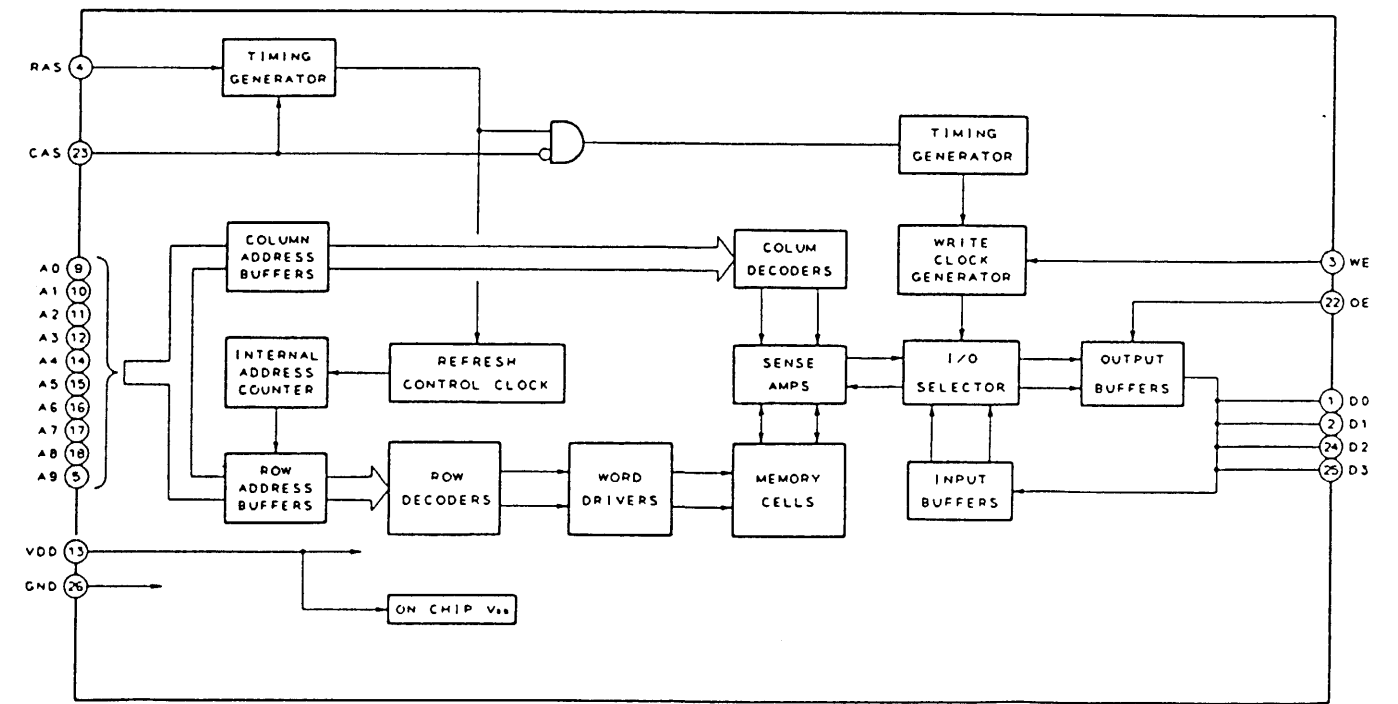
**IC501 CXA2523R**



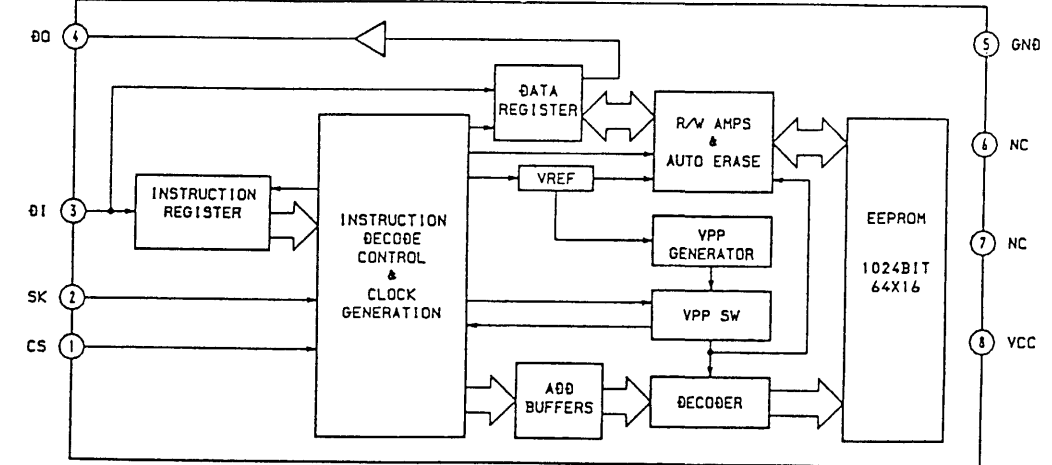
**IC701 CXA8048N**



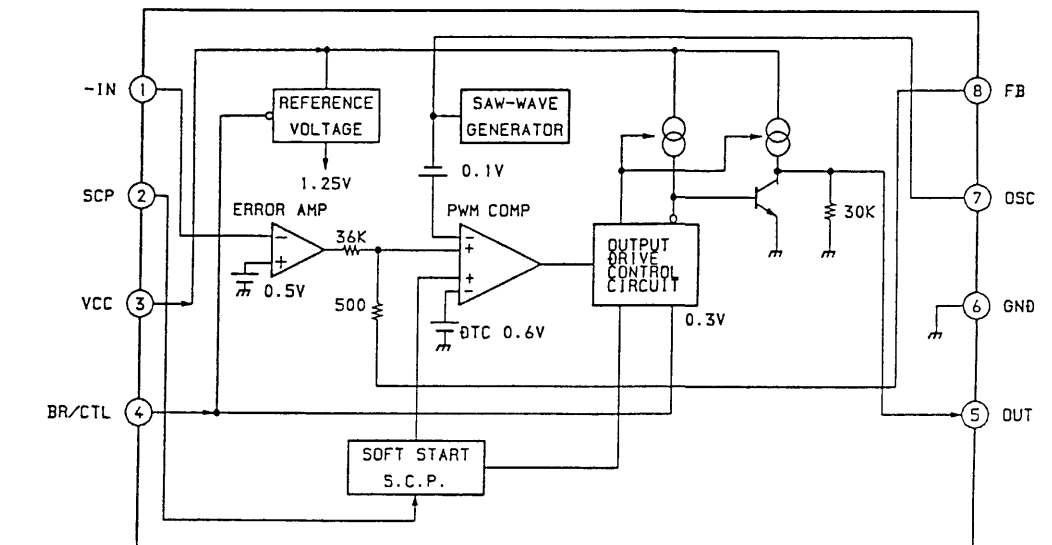
**IC504 MSM51V4400-70TS-K**



**IC802 AK93C45AV-L**



**IC902 MB3800PNF**



## SECTION 8 EXPLODED VIEWS

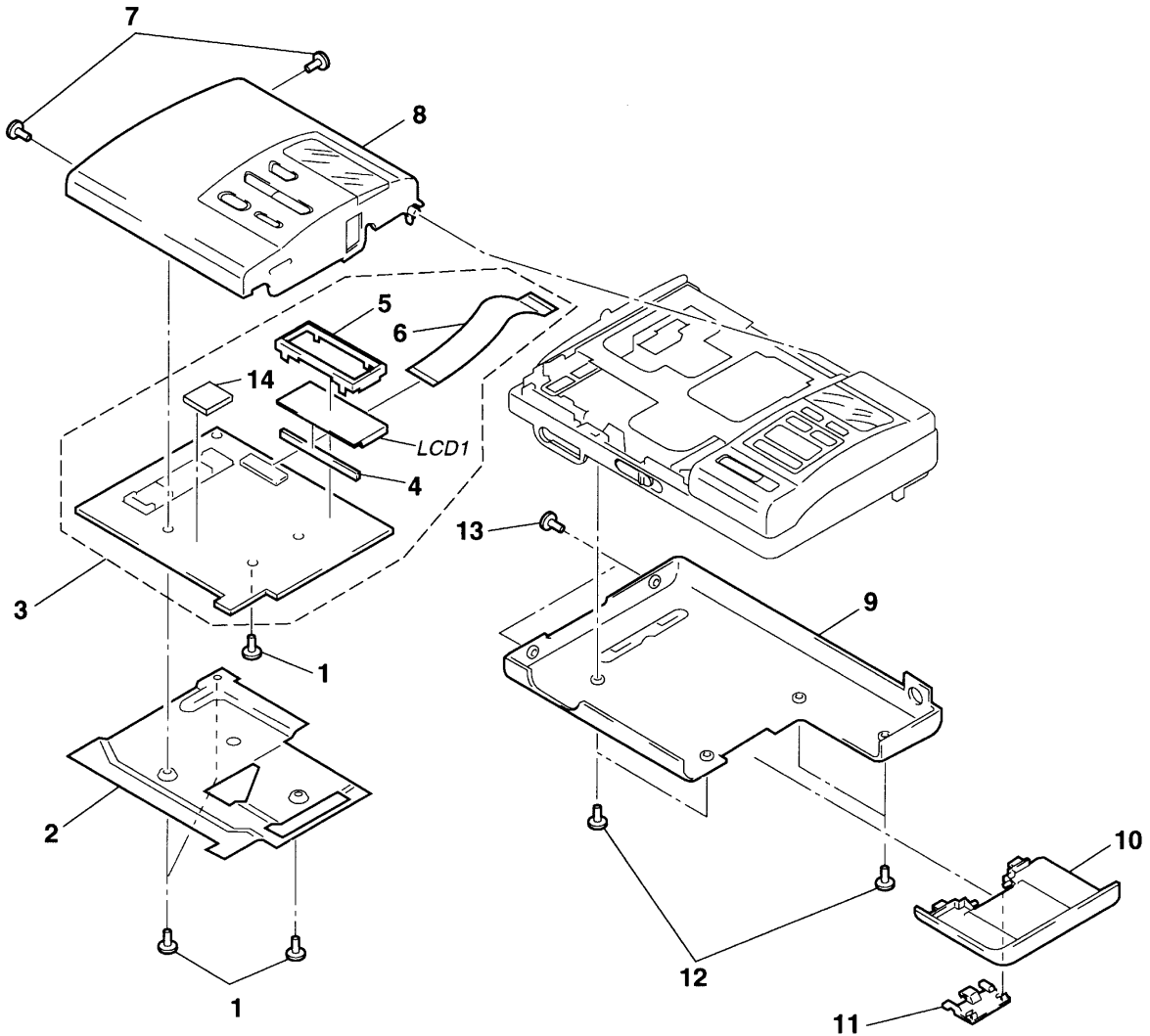
**NOTE :**

- -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.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of this parts list.
- Abbreviation  
CND : Canadian  
JE : Tourist

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

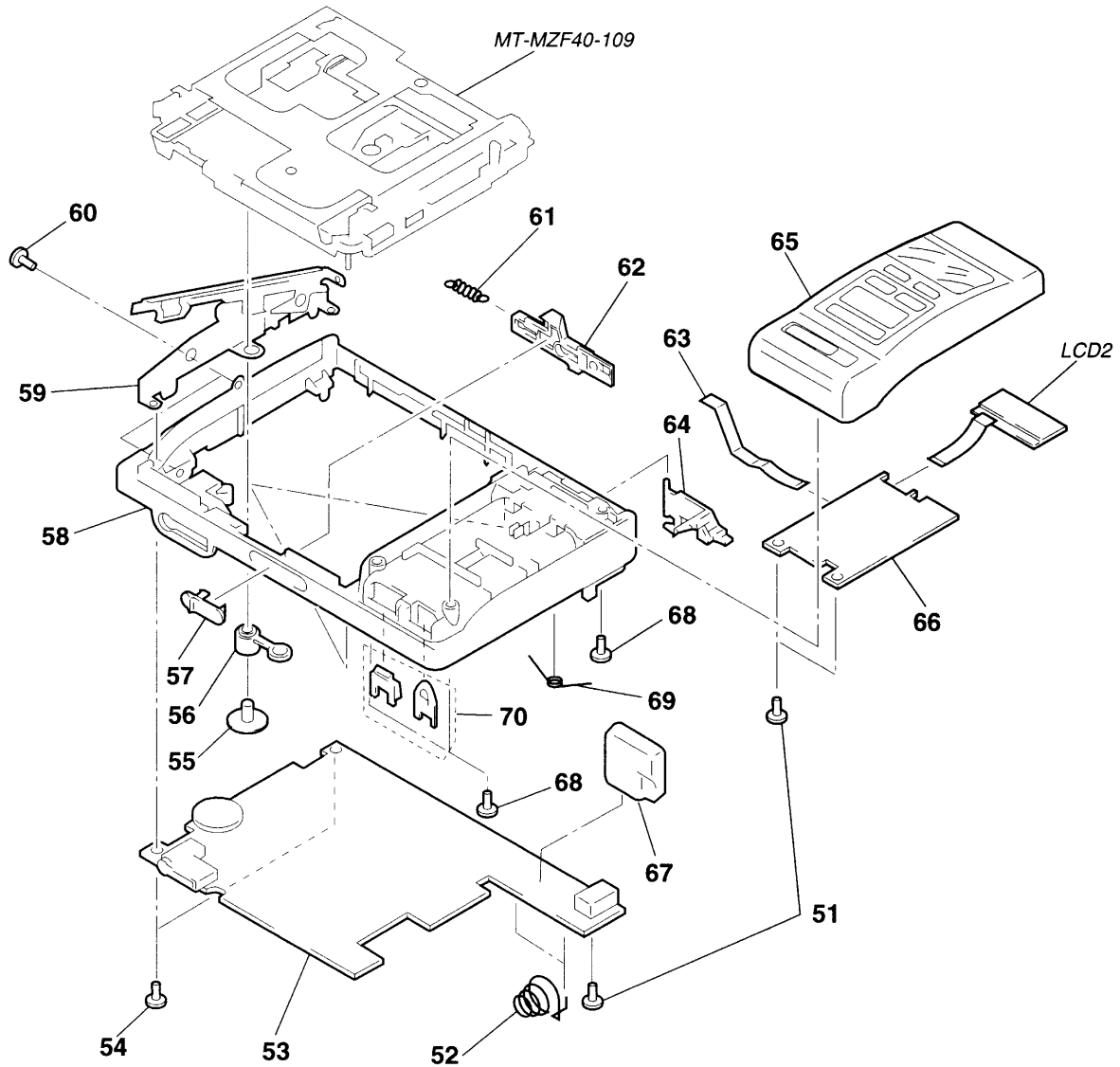
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

### 8-1. UPPER PANEL, BOTTOM PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-375-114-21	SCREW (M1.7X2.5)		8	X-4948-659-1	LID ASSY, UPPER (US,CND)	
* 2	4-990-286-01	COVER (TU)		8	X-4948-660-1	LID ASSY, UPPER (AEPE)	
3	A-3293-391-A	TU BOARD, COMPLETE (JE)		9	X-4948-399-1	PANEL ASSY, BOTTOM	
3	A-3293-524-A	TU BOARD, COMPLETE (US,CND)		10	4-990-304-01	LID, BATTERY CASE	
3	A-3293-525-A	TU BOARD, COMPLETE (AEPE)		11	4-972-499-21	HINGE (BATTERY CASE LID)	
* 4	1-694-275-11	CONDUCTIVE BOARD, CONNECTION		12	4-984-017-11	SCREW (1.7), TAPPING	
5	4-990-301-01	HOLDER (LCD)		13	3-704-197-31	SCREW (M1.4X3.0), LOCKING	
6	1-664-848-11	TU FLEXIBLE BOARD		14	3-348-960-01	SHEET (M)	
7	4-992-624-01	SCREW (1.4X3)		LCD1	1-801-742-11	DISPLAY PANEL, LIQUID CRYSTAL	
8	X-4948-398-1	LID ASSY, UPPER (JE)					

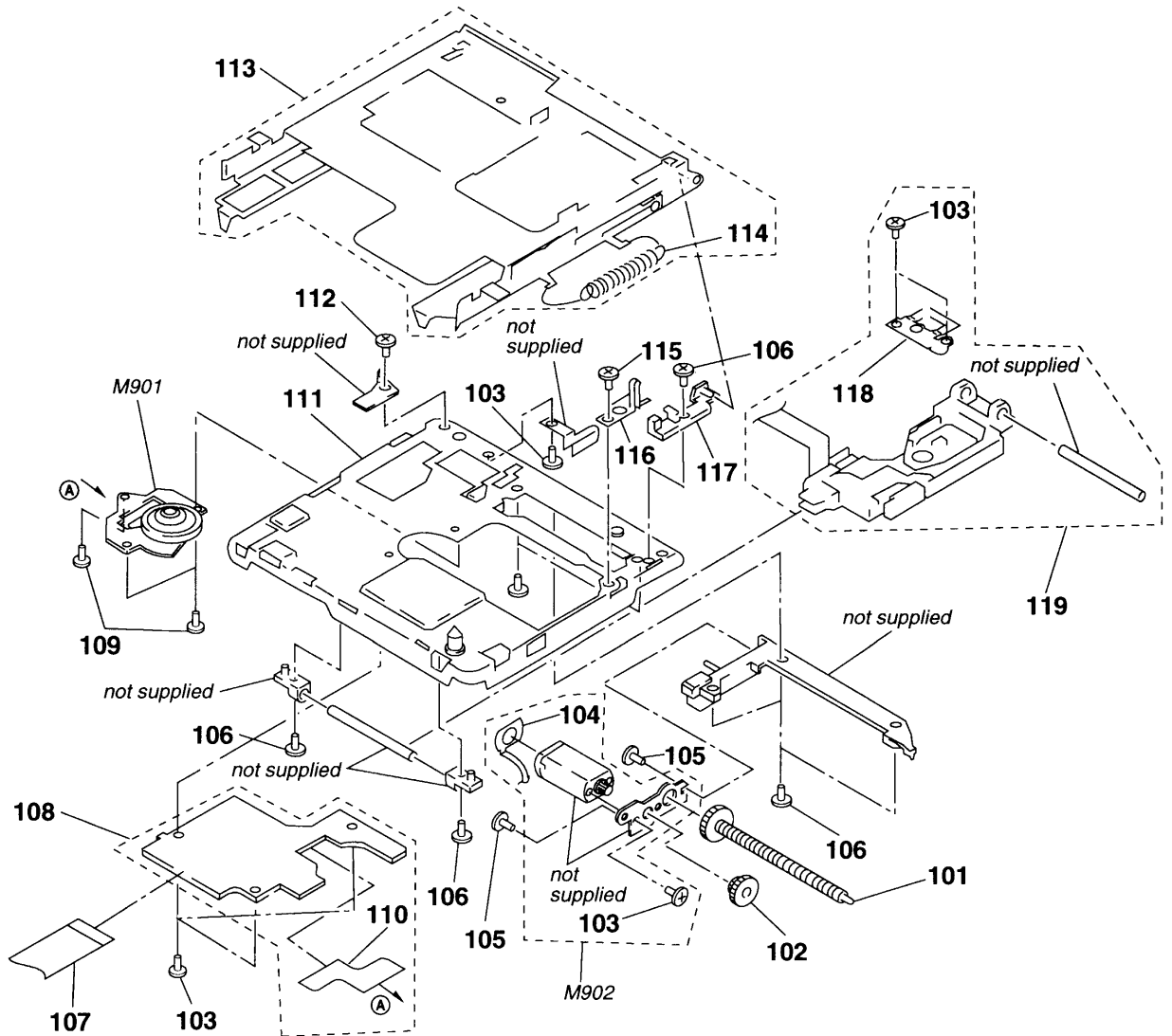
## 8-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-375-114-21	SCREW (M1.7X2.5)		62	4-983-291-01	ARM, LOCK	
52	4-989-371-01	SPRING, BATTERY COIL		63	1-782-260-11	WIRE (FLAT TYPE) (14 CORE)	
53	A-3293-392-A	MAIN BOARD, COMPLETE		64	4-983-302-01	LEVER (DETECTION)	
54	3-335-797-01	SCREW (M1.4X2), TOOTHED LOCK		65	X-4948-397-1	PANEL ASSY, CONTROL	
55	4-963-924-01	SCREW (DAMPER)		66	A-3306-413-A	MD CONTROL BOARD, COMPL	
56	4-983-311-01	DAMPER		67	A-3311-359-A	DD CONVERTER BOARD, COMPLETE	
57	4-983-290-21	KNOB (OPEN)		68	4-984-017-11	SCREW (1.7), TAPPING	
58	4-990-287-01	BELT, ORNAMENTAL		69	4-990-072-01	SPRING (DETECTION), TORSION	
59	X-4948-396-1	PLATE ASSY, FULCRUM		70	X-4947-302-1	BATTERY TERMINAL ASSY	
60	4-963-883-21	SCREW (M1.4), PRECISION PAN		LCD2	1-801-740-11	LCD MODULE	
61	4-983-297-01	SPRING (OPEN), TENSION					



**8-3. MECHANISM DECK SECTION  
(MT-MZF40-109)**



<p>The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	A-3303-501-A	SCREW BLOCK ASSY, LEAD		112	4-964-538-01	SCREW (M1.4X2)	
102	4-972-548-01	GEAR (BH)		113	X-4948-401-1	HOLDER ASSY	
103	3-366-890-11	SCREW (M1.4)		114	4-983-358-01	SPRING, TENSION	
104	1-651-018-11	SLED FLEXIBLE BOARD		115	3-348-160-01	SCREW (M1.4X1.3), PRECISION PAN	
105	4-964-537-01	SCREW (M1.4X4.5), TAPPING		116	4-983-357-01	CLAW, LOCK RELEASE	
106	3-704-197-33	SCREW (M1.4X3.0), LOCKING		* 117	4-983-356-01	GUIDE, HOLDER	
107	1-664-851-11	MD FLEXIBLE BOARD		118	4-963-914-02	RACK (INSERTER)	
108	A-3293-390-A	CLV BOARD, COMPLETE		▲ 119	A-3304-664-A	OPTICAL PICK-UP BLOCK ASSY	(KMS-240A/J2N)
109	4-955-841-01	SCREW		M901	1-698-542-11	MOTOR (SPINDLE)	
110	1-651-017-11	CLV FLEXIBLE BOARD		M902	A-3303-502-A	MOTOR BLOCK ASSY, SLED (SLED)	
* 111	X-4947-311-1	CHASSIS ASSY					

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, -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 :  $\mu$  , for example :  
uA..... :  $\mu$  A..... , uPA..... :  $\mu$  PA.....  
uPB..... :  $\mu$  PB..... , uPC..... :  $\mu$  PC.....  
uPD..... :  $\mu$  PD.....

● CAPACITORS

uF :  $\mu$  F

● COILS

uH :  $\mu$  H

● Abbreviation

CND : Canadian

JE : Tourist

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

Ref. No.	Part No.	Description	Remark
	A-3293-390-A	CLV BOARD, COMPLETE *****	
	1-651-017-11	CLV FLEXIBLE BOARD  < CAPACITOR >	
C701	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C702	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C703	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C704	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C705	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C706	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C707	1-162-967-11	CERAMIC CHIP 0.0033uF 10%	50V
C709	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C710	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C711	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V
C712	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
		< CONNECTOR >	
CN701	1-573-349-21	CONNECTOR, FFC/FPC 9P  < IC >	
IC701	8-759-335-44	IC CXA8048N  < TRANSISTOR >	
Q703	8-729-427-83	TRANSISTOR XP6501  < RESISTOR >	
R701	1-218-871-11	METAL GLAZE 10K 0.50%	1/16W
R702	1-218-871-11	METAL GLAZE 10K 0.50%	1/16W
R703	1-216-815-11	METAL CHIP 330 5%	1/16W
R704	1-217-671-11	METAL CHIP 1 5%	1/10W
R705	1-217-671-11	METAL CHIP 1 5%	1/10W
R706	1-216-833-11	METAL CHIP 10K 5%	1/16W
R708	1-216-864-11	METAL CHIP 0 5%	1/16W
R711	1-216-864-11	METAL CHIP 0 5%	1/16W
		< SWITCH >	
S701	1-692-377-31	SWITCH, PUSH (1 KEY) (REFLECT)	
S702	1-572-467-41	SWITCH, PUSH (1 KEY) (IN LIMIT)	

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Ref. No.	Part No.	Description	Remark
	A-3311-359-A	DD CONVERTER BOARD, COMPLETE *****	
		< CAPACITOR >	
C951	1-104-852-11	TANTAL. CHIP 22uF 20%	6.3V
C952	1-104-852-11	TANTAL. CHIP 22uF 20%	6.3V
C953	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C954	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
C955	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V
		< DIODE >	
D951	8-719-047-73	DIODE HRU0302A-TR	
		< IC >	
IC951	8-759-460-28	IC RH5RH291A-T1	
		< COIL >	
L951	1-416-255-11	COIL, CHOKE 22uH	
L952	1-416-256-21	COIL, CHOKE 100uH	
L953	1-412-031-11	INDUCTOR CHIP 47uH	
*****			
	A-3293-392-A	MAIN BOARD, COMPLETE *****	
		< CAPACITOR >	
C76	1-115-156-11	CERAMIC CHIP 1uF	10V
C77	1-104-847-11	TANTAL. CHIP 22uF 20%	4V
C78	1-135-181-21	TANTALUM CHIP 4.7uF 20%	6.3V
C79	1-115-156-11	CERAMIC CHIP 1uF	10V
C80	1-164-346-11	CERAMIC CHIP 1uF	16V
C81	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C82	1-165-176-11	CERAMIC CHIP 0.047uF 10%	16V
C83	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C85	1-162-966-11	CERAMIC CHIP 0.0022uF 10%	50V
C86	1-135-201-11	TANTALUM CHIP 10uF 20%	4V
C87	1-115-156-11	CERAMIC CHIP 1uF	10V
C88	1-115-156-11	CERAMIC CHIP 1uF	10V
C102	1-135-337-11	TANTAL. CHIP 1uF 20%	6.3V
C103	1-162-960-11	CERAMIC CHIP 220PF 10%	50V
C104	1-135-337-11	TANTAL. CHIP 1uF 20%	6.3V
C105	1-109-982-11	CERAMIC CHIP 1uF 10%	10V
C106	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C107	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C108	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V
C110	1-162-927-11	CERAMIC CHIP 100PF 5%	50V

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
C202	1-135-337-11	TANTAL. CHIP	1uF	20%	6.3V	C524	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C203	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	C525	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C204	1-135-337-11	TANTAL. CHIP	1uF	20%	6.3V	C526	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C205	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C530	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-165-128-11	CERAMIC CHIP	0.22uF		16V	C531	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C207	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C532	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C208	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C533	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C210	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C535	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C301	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C536	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C302	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C537	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C303	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C538	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C304	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C539	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C305	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C540	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-164-718-11	CERAMIC CHIP	0.33uF	10%	16V	C541	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C307	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V	C542	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C308	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C543	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C309	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C544	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C310	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V	C545	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C311	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	C546	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C312	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C547	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C313	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C548	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C314	1-165-321-11	CERAMIC CHIP	0.68uF	10%	16V	C549	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C315	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C550	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C316	1-107-815-11	TANTAL. CHIP	2.2uF	20%	4V	C551	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C317	1-164-505-11	CERAMIC CHIP	2.2uF		16V	C552	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C318	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	C553	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C319	1-165-128-11	CERAMIC CHIP	0.22uF		16V	C554	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C320	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	C555	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C321	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	C557	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C322	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C558	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C323	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C325	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C560	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C328	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C801	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C329	1-165-128-11	CERAMIC CHIP	0.22uF		16V	C802	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C330	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C803	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C331	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C804	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C332	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C805	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C334	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C806	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C335	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	C807	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C338	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C808	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C501	1-115-169-11	TANTALUM	10uF	20%	6.3V	C809	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C810	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C505	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	C811	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C812	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C815	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C508	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C816	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C509	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	C817	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C510	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C901	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C511	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V	C902	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C513	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C514	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C904	1-126-395-11	ELECT	22uF	20%	16V
C515	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C905	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V	C906	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C517	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C907	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C518	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C908	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C519	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	C909	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C520	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	C910	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C521	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C911	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C522	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C912	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C523	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C913	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C914	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V	FB305	1-550-907-21	BEAD, FERRITE (CHIP)	
C915	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	FB532	1-414-385-11	INDUCTOR, FERRITE BEAD	
C916	1-162-965-11	CERAMIC CHIP 0.0015uF 10%	50V	FB547	1-414-385-11	INDUCTOR, FERRITE BEAD	
C917	1-109-982-11	CERAMIC CHIP 1uF 10%	10V			< IC >	
C919	1-162-927-11	CERAMIC CHIP 100PF 5%	50V				
C920	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	IC301	8-759-460-27	IC AK4315-VF-E2	
C921	1-115-169-11	TANTALUM 10uF 20%	6.3V	IC302	8-759-166-95	IC LA4805V-TLM	
C922	1-164-506-11	CERAMIC CHIP 4.7uF	16V	IC303	8-759-173-00	IC XC61AN1102MR	
C925	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V	IC304	8-759-460-33	IC XC62EP4002MR	
C926	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V	IC305	8-759-097-92	IC NJM2100V	
C927	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	IC501	8-752-074-77	IC CXA2523R	
C928	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	IC503	8-752-384-46	IC CXD2652R	
C929	1-135-259-11	TANTAL. CHIP 10uF 20%	6.3V	IC504	8-759-334-38	IC MSM51V4400-70TS-K	
C930	1-135-201-11	TANTALUM CHIP 10uF 20%	4V	IC505	8-759-460-34	IC MPC17A36VMEL	
C931	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	IC506	8-759-710-79	IC NJM2107F	
C932	1-104-847-11	TANTAL. CHIP 22uF 20%	4V	IC801	8-752-886-72	IC CXP81960M-639R	
C933	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	IC802	8-759-457-68	IC AK93C45AV-L	
		< CONNECTOR >		IC803	8-759-427-92	IC PST9126NL	
CN501	1-573-929-11	CONNECTOR, FFC/FPC (ZIF) 20P		IC804	8-759-326-78	IC PST9140NL	
CN502	1-573-918-11	CONNECTOR, FFC/FPC (ZIF) 9P		IC805	8-759-372-71	IC PST9009NL	
CN801	1-691-388-11	CONNECTOR, FFC/FPC (ZIF) 24P		IC806	8-759-460-30	IC PST9123NL	
CN802	1-573-923-21	CONNECTOR, FFC/FPC (ZIF) 14P		IC807	8-759-427-92	IC PST9126NL	
		< DIODE >		IC808	8-759-372-71	IC PST9009NL	
D7	8-719-049-09	DIODE 1SS367-T3SONY		IC901	8-759-337-40	IC NJM2904V(TE2)	
D8	8-719-056-88	DIODE UDZ-TE-17-11B		IC902	8-759-331-73	IC MB3800PNF	
D9	8-719-404-49	DIODE MA111		IC903	8-759-460-32	IC XC62FP2902PR	
D101	8-719-017-58	DIODE MA8068		IC904	8-759-460-35	IC RN5RG20AA-TL	
D201	8-719-017-58	DIODE MA8068		IC905	8-759-460-30	IC PST9123NL	
D301	8-719-404-49	DIODE MA111				< JACK >	
D302	8-719-017-58	DIODE MA8068		J301	1-778-368-11	JACK, HEADPHONE (⊘/REMOTE)	
D303	8-719-017-58	DIODE MA8068		J901	1-778-153-21	JACK,DC(POLARITY UNIFIED TYPE)	(DC IN 4.5V)
D304	8-719-017-58	DIODE MA8068				< COIL >	
D306	8-719-017-58	DIODE MA8068		L14	1-414-404-11	INDUCTOR 100uH	
D307	8-719-975-33	DIODE RB110C		L15	1-414-398-11	INDUCTOR 10uH	
D308	8-719-404-49	DIODE MA111		L301	1-414-398-11	INDUCTOR 10uH	
D501	8-719-049-09	DIODE 1SS367-T3SONY		L302	1-414-398-11	INDUCTOR 10uH	
D502	8-719-049-09	DIODE 1SS367-T3SONY		L501	1-414-398-11	INDUCTOR 10uH	
D504	8-719-049-09	DIODE 1SS367-T3SONY		L502	1-414-398-11	INDUCTOR 10uH	
D801	8-719-404-49	DIODE MA111		L503	1-412-034-11	INDUCTOR CHIP 330uH	
D802	8-719-404-49	DIODE MA111		L504	1-414-402-11	INDUCTOR 47uH	
D803	8-719-404-49	DIODE MA111		L505	1-414-410-21	INDUCTOR 10uH	
D804	8-719-404-49	DIODE MA111		L506	1-414-402-11	INDUCTOR 47uH	
D805	8-719-049-09	DIODE 1SS367-T3SONY		L507	1-414-402-11	INDUCTOR 47uH	
D806	8-719-049-09	DIODE 1SS367-T3SONY		L508	1-414-402-11	INDUCTOR 47uH	
D807	8-719-404-49	DIODE MA111		L509	1-414-402-11	INDUCTOR 47uH	
D901	8-719-975-33	DIODE RB110C		L510	1-414-410-21	INDUCTOR 10uH	
D902	8-719-975-33	DIODE RB110C		L901	1-411-803-21	COIL, CHOKE 33uH	
D903	8-719-975-54	DIODE HSM2838C		L902	1-414-410-21	INDUCTOR 10uH	
D904	8-719-404-49	DIODE MA111		L903	1-414-410-21	INDUCTOR 10uH	
		< FERRITE BEAD INDUCTOR >				< LINE FILTER >	
FB101	1-550-907-21	BEAD, FERRITE (CHIP)		LF901	1-411-312-11	FILTER, COMMON MODE	
FB201	1-550-907-21	BEAD, FERRITE (CHIP)				< TRANSISTOR >	
FB301	1-414-385-11	INDUCTOR, FERRITE BEAD		Q14	8-729-800-37	TRANSISTOR 2SD1048-X7	
FB302	1-414-385-11	INDUCTOR, FERRITE BEAD		Q15	8-729-400-55	TRANSISTOR 2SD1328-S	
FB303	1-414-385-11	INDUCTOR, FERRITE BEAD					
FB304	1-414-385-11	INDUCTOR, FERRITE BEAD					

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q16	8-729-800-71	TRANSISTOR	2SB815B7-TB	R108	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
Q301	8-729-929-60	TRANSISTOR	UMG3-TL	R109	1-216-864-11	METAL CHIP	0 5% 1/16W
Q302	8-729-028-91	TRANSISTOR	DTA144EUA-T106	R110	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
Q303	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R111	1-218-845-11	METAL CHIP	100K 5% 1/16W
Q304	8-729-028-91	TRANSISTOR	DTA144EUA-T106	R112	1-218-863-11	METAL GLAZE	4.7K 0.50% 1/16W
Q305	8-729-028-91	TRANSISTOR	DTA144EUA-T106	R113	1-218-883-11	METAL GLAZE	33K 0.50% 1/16W
Q306	8-729-929-52	TRANSISTOR	UMA9-TR	R202	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W
Q307	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R203	1-218-879-11	METAL GLAZE	22K 0.50% 1/16W
Q308	8-729-039-86	TRANSISTOR	FMMT717TA	R204	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W
Q309	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R205	1-218-875-11	METAL GLAZE	15K 0.50% 1/16W
Q310	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R206	1-216-789-11	METAL CHIP	2.2 5% 1/16W
Q311	8-729-039-86	TRANSISTOR	FMMT717TA	R207	1-216-835-11	METAL CHIP	15K 5% 1/16W
Q312	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R208	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
Q316	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R209	1-216-864-11	METAL CHIP	0 5% 1/16W
Q501	8-729-422-39	TRANSISTOR	XN4404	R210	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
Q502	8-729-041-54	TRANSISTOR	2SK2463-T100	R211	1-216-845-11	METAL CHIP	100K 5% 1/16W
Q801	8-729-028-91	TRANSISTOR	DTA144EUA-T106	R212	1-218-863-11	METAL GLAZE	4.7K 0.50% 1/16W
Q802	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R213	1-218-883-11	METAL GLAZE	33K 0.50% 1/16W
Q803	8-729-230-63	TRANSISTOR	2SC4116-YG	R301	1-216-817-11	METAL CHIP	470 5% 1/16W
Q804	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R302	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
Q805	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R303	1-216-845-11	METAL CHIP	100K 5% 1/16W
Q806	8-729-209-07	TRANSISTOR	2SC4213-B	R304	1-216-864-11	METAL CHIP	0 5% 1/16W
Q807	8-729-209-07	TRANSISTOR	2SC4213-B	R306	1-216-864-11	METAL CHIP	0 5% 1/16W
Q808	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R308	1-216-845-11	METAL CHIP	100K 5% 1/16W
Q809	8-729-028-92	TRANSISTOR	DTA144TUA-T106	R309	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q810	8-729-028-91	TRANSISTOR	DTA144EUA-T106	R310	1-216-789-11	METAL CHIP	2.2 5% 1/16W
Q811	8-729-230-63	TRANSISTOR	2SC4116-YG	R311	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q812	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R312	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
Q813	8-729-927-74	TRANSISTOR	UMG2	R313	1-216-837-11	METAL CHIP	22K 5% 1/16W
Q814	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R314	1-216-864-11	METAL CHIP	0 5% 1/16W
Q901	8-729-922-34	TRANSISTOR	2SD1758F5-QR	R315	1-216-864-11	METAL CHIP	0 5% 1/16W
Q902	8-729-031-34	TRANSISTOR	2SK2034	R316	1-216-841-11	METAL CHIP	47K 5% 1/16W
Q903	8-729-230-63	TRANSISTOR	2SC4116-YG	R317	1-216-815-11	METAL CHIP	330 5% 1/16W
Q904	8-729-028-83	TRANSISTOR	DTA124EUA-T106	R318	1-216-845-11	METAL CHIP	100K 5% 1/16W
Q905	8-729-029-06	TRANSISTOR	DTC124EUA-T106	R501	1-216-789-11	METAL CHIP	2.2 5% 1/16W
Q906	8-729-031-34	TRANSISTOR	2SK2034	R502	1-216-789-11	METAL CHIP	2.2 5% 1/16W
Q907	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R503	1-216-817-11	METAL CHIP	470 5% 1/16W
Q908	8-729-028-83	TRANSISTOR	DTA124EUA-T106	R504	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q909	8-729-024-44	TRANSISTOR	2SK2315TYTR	R505	1-216-811-11	METAL CHIP	150 5% 1/16W
Q910	8-729-031-31	TRANSISTOR	2SD2402	R506	1-216-831-11	METAL CHIP	6.8K 5% 1/16W
Q911	8-729-031-29	TRANSISTOR	2SA1641S	R507	1-216-859-11	METAL GLAZE	1.5M 5% 1/16W
Q912	8-729-120-28	TRANSISTOR	2SC1623-L5L6	R508	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
Q913	8-729-904-87	TRANSISTOR	2SB1197K-R	R509	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q914	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R511	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
Q915	8-729-904-87	TRANSISTOR	2SB1197K-R	R512	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
Q916	8-729-927-68	TRANSISTOR	UMW1	R514	1-216-841-11	METAL CHIP	47K 5% 1/16W
Q917	8-729-039-86	TRANSISTOR	FMMT717TA	R515	1-216-835-11	METAL CHIP	15K 5% 1/16W
Q918	8-729-029-14	TRANSISTOR	DTC144EUA-T106	R516	1-216-835-11	METAL CHIP	15K 5% 1/16W
< RESISTOR >				R517	1-216-845-11	METAL CHIP	100K 5% 1/16W
R46	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	R518	1-216-843-11	METAL CHIP	68K 5% 1/16W
R47	1-216-837-11	METAL CHIP	22K 5% 1/16W	R519	1-216-833-11	METAL CHIP	10K 5% 1/16W
R48	1-216-805-11	METAL CHIP	47 5% 1/16W	R520	1-216-843-11	METAL CHIP	68K 5% 1/16W
R49	1-216-819-11	METAL CHIP	680 5% 1/16W	R521	1-216-864-11	METAL CHIP	0 5% 1/16W
R102	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	R522	1-216-864-11	METAL CHIP	0 5% 1/16W
R103	1-218-879-11	METAL GLAZE	22K 0.50% 1/16W	R523	1-216-821-11	METAL CHIP	1K 5% 1/16W
R104	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	R524	1-216-843-11	METAL CHIP	68K 5% 1/16W
R105	1-218-875-11	METAL GLAZE	15K 0.50% 1/16W	R525	1-216-843-11	METAL CHIP	68K 5% 1/16W
R106	1-216-789-11	METAL CHIP	2.2 5% 1/16W	R526	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R107	1-216-835-11	METAL CHIP	15K 5% 1/16W	R527	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
				R528	1-216-833-11	METAL CHIP	10K 5% 1/16W

# MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R529	1-216-813-11	METAL CHIP	220 5% 1/16W	R901	1-216-857-11	METAL CHIP	1M 5% 1/16W
R530	1-216-845-11	METAL CHIP	100K 5% 1/16W	R902	1-216-845-11	METAL CHIP	100K 5% 1/16W
R531	1-216-841-11	METAL CHIP	47K 5% 1/16W	R903	1-217-806-11	METAL GLAZE	1 5% 1/8W
R533	1-216-833-11	METAL CHIP	10K 5% 1/16W	R904	1-217-806-11	METAL GLAZE	1 5% 1/8W
R534	1-216-845-11	METAL CHIP	100K 5% 1/16W	R905	1-218-907-11	METAL GLAZE	330K 0.50% 1/16W
R535	1-216-853-11	METAL CHIP	470K 5% 1/16W	R906	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W
R536	1-216-827-11	METAL CHIP	3.3K 5% 1/16W	R907	1-218-915-11	METAL GLAZE	680K 0.50% 1/16W
R537	1-216-821-11	METAL CHIP	1K 5% 1/16W	R908	1-216-845-11	METAL CHIP	100K 5% 1/16W
R539	1-216-821-11	METAL CHIP	1K 5% 1/16W	R909	1-216-845-11	METAL CHIP	100K 5% 1/16W
R540	1-216-811-11	METAL CHIP	150 5% 1/16W	R910	1-216-845-11	METAL CHIP	100K 5% 1/16W
R541	1-216-817-11	METAL CHIP	470 5% 1/16W	R911	1-218-915-11	METAL GLAZE	680K 0.50% 1/16W
R542	1-216-839-11	METAL CHIP	33K 5% 1/16W	R912	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W
R543	1-216-839-11	METAL CHIP	33K 5% 1/16W	R913	1-216-821-11	METAL CHIP	1K 5% 1/16W
R544	1-216-845-11	METAL CHIP	100K 5% 1/16W	R914	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W
R545	1-216-864-11	METAL CHIP	0 5% 1/16W	R915	1-218-887-11	METAL GLAZE	47K 0.50% 1/16W
R546	1-216-803-11	METAL CHIP	33 5% 1/16W	R916	1-218-891-11	METAL GLAZE	68K 0.50% 1/16W
R548	1-216-864-11	METAL CHIP	0 5% 1/16W	R917	1-218-899-11	METAL GLAZE	150K 0.50% 1/16W
R549	1-216-864-11	METAL CHIP	0 5% 1/16W	R918	1-218-899-11	METAL GLAZE	150K 0.50% 1/16W
R801	1-216-851-11	METAL CHIP	330K 5% 1/16W	R919	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W
R802	1-216-857-11	METAL CHIP	1M 5% 1/16W	R920	1-218-867-11	METAL GLAZE	6.8K 0.50% 1/16W
R803	1-216-857-11	METAL CHIP	1M 5% 1/16W	R921	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W
R804	1-216-857-11	METAL CHIP	1M 5% 1/16W	R922	1-218-903-11	METAL GLAZE	220K 0.50% 1/16W
R805	1-216-841-11	METAL CHIP	47K 5% 1/16W	R923	1-216-817-11	METAL CHIP	470 5% 1/16W
R806	1-216-857-11	METAL CHIP	1M 5% 1/16W	R924	1-216-837-11	METAL CHIP	22K 5% 1/16W
R807	1-216-851-11	METAL CHIP	330K 5% 1/16W	R925	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
R808	1-216-857-11	METAL CHIP	1M 5% 1/16W	R926	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
R809	1-216-851-11	METAL CHIP	330K 5% 1/16W	R927	1-216-789-11	METAL CHIP	2.2 5% 1/16W
R810	1-216-851-11	METAL CHIP	330K 5% 1/16W	R928	1-216-821-11	METAL CHIP	1K 5% 1/16W
R811	1-216-851-11	METAL CHIP	330K 5% 1/16W	R929	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
R812	1-218-887-11	METAL GLAZE	47K 0.50% 1/16W	R930	1-216-801-11	METAL CHIP	22 5% 1/16W
R813	1-216-851-11	METAL CHIP	330K 5% 1/16W	R931	1-218-883-11	METAL GLAZE	33K 0.50% 1/16W
R814	1-216-821-11	METAL CHIP	1K 5% 1/16W	R932	1-218-863-11	METAL GLAZE	4.7K 0.50% 1/16W
R815	1-216-851-11	METAL CHIP	330K 5% 1/16W	R933	1-216-797-11	METAL CHIP	10 5% 1/16W
R816	1-216-851-11	METAL CHIP	330K 5% 1/16W	R934	1-216-851-11	METAL CHIP	330K 5% 1/16W
R817	1-216-857-11	METAL CHIP	1M 5% 1/16W	R935	1-216-845-11	METAL CHIP	100K 5% 1/16W
R818	1-216-863-11	METAL GLAZE	3.3M 5% 1/16W	R936	1-216-841-11	METAL CHIP	47K 5% 1/16W
R819	1-216-851-11	METAL CHIP	330K 5% 1/16W	R937	1-216-817-11	METAL CHIP	470 5% 1/16W
R820	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	R939	1-216-831-11	METAL CHIP	6.8K 5% 1/16W
R821	1-218-887-11	METAL GLAZE	47K 0.50% 1/16W	R940	1-216-835-11	METAL CHIP	15K 5% 1/16W
R822	1-216-857-11	METAL CHIP	1M 5% 1/16W	R941	1-216-817-11	METAL CHIP	470 5% 1/16W
R823	1-216-857-11	METAL CHIP	1M 5% 1/16W	R942	1-216-821-11	METAL CHIP	1K 5% 1/16W
R824	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	R943	1-216-833-11	METAL CHIP	10K 5% 1/16W
R825	1-218-879-11	METAL GLAZE	22K 0.50% 1/16W	R944	1-216-823-11	METAL CHIP	1.5K 5% 1/16W
R826	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W	< COMPOSITION CIRCUIT BLOCK >			
R827	1-218-911-11	METAL GLAZE	470K 0.50% 1/16W	RB501	1-239-436-11	NETWORK RESISTOR (CHIP) 33K	
R828	1-216-845-11	METAL CHIP	100K 5% 1/16W	< VARIABLE RESISTOR >			
R829	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	RV301	1-225-467-11	RES, VAR, CARBON 30K/30K (VOLUME ▲)	
R830	1-218-871-11	METAL GLAZE	10K 0.50% 1/16W	RV901	1-238-663-11	RES, ADJ, CARBON 4.7K (2.8V ADJUST)	
R831	1-216-845-11	METAL CHIP	100K 5% 1/16W	< SWITCH >			
R832	1-216-853-11	METAL CHIP	470K 5% 1/16W	S301	1-762-078-11	SWITCH, SLIDE (AVLS)	
R833	1-218-887-11	METAL GLAZE	47K 0.50% 1/16W	S302	1-762-079-11	SWITCH, SLIDE (NEGA BASS)	
R834	1-216-841-11	METAL CHIP	47K 5% 1/16W	S801	1-762-342-11	SWITCH, PUSH (1 KEY) (DOOR OPEN/CLOSE)	
R835	1-216-841-11	METAL CHIP	47K 5% 1/16W	S901	1-762-621-21	SWITCH, PUSH (1 KEY) (AM-3/NI DET)	
R836	1-218-855-11	METAL GLAZE	2.2K 0.50% 1/16W	< TRANSFORMER >			
R837	1-218-895-11	METAL GLAZE	100K 0.50% 1/16W	T3	1-429-324-11	TRANSFORMER, DC-DC CONVERTER	
R838	1-218-863-11	METAL GLAZE	4.7K 0.50% 1/16W				
R839	1-218-859-11	METAL GLAZE	3.3K 0.50% 1/16W				
R840	1-218-883-11	METAL GLAZE	33K 0.50% 1/16W				
R841	1-218-875-11	METAL GLAZE	15K 0.50% 1/16W				
R842	1-218-879-11	METAL GLAZE	22K 0.50% 1/16W				

Ref. No.	Part No.	Description	Remark
		< THERMISTOR (POSITIVE) >	
THP901	1-810-792-11	SWITCH, POLYETHYLENE	
		< VIBRATOR >	
X501	1-760-173-11	VIBRATOR, CRYSTAL (45.158MHz)	
X801	1-760-174-11	VIBRATOR, CERAMIC (12MHz)	
*****			
A-3306-413-A		MD CONTROL BOARD, COMPLETE	
*****			
		< CAPACITOR >	
C851	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C854	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	
		< CONNECTOR >	
CN851	1-573-923-21	CONNECTOR, FFC/FPC (ZIF) 14P	
CN852	1-691-487-21	CONNECTOR, FFC/FPC 8P	
		< DIODE >	
D851	8-719-049-09	DIODE 1SS367-T3SONY	
		< TRANSISTOR >	
Q851	8-729-031-34	TRANSISTOR 2SK2034	
Q852	8-729-029-14	TRANSISTOR DTC144EUA-T106	
		< RESISTOR >	
R851	1-218-867-11	METAL GLAZE 6.8K 0.50% 1/16W	
R852	1-218-871-11	METAL GLAZE 10K 0.50% 1/16W	
R853	1-218-875-11	METAL GLAZE 15K 0.50% 1/16W	
R854	1-218-883-11	METAL GLAZE 33K 0.50% 1/16W	
R855	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R856	1-216-863-11	METAL GLAZE 3.3M 5% 1/16W	
R857	1-216-833-11	METAL CHIP 10K 5% 1/16W	
		< SWITCH >	
S851	1-771-138-21	SWITCH, KEY BOARD (■/CHARGE)	
S852	1-771-138-21	SWITCH, KEY BOARD (▶▶▶)	
S853	1-771-138-21	SWITCH, KEY BOARD (◀◀◀)	
S854	1-771-138-21	SWITCH, KEY BOARD (DISPLAY)	
S855	1-771-138-21	SWITCH, KEY BOARD (PLAYMODE)	
S856	1-771-138-21	SWITCH, KEY BOARD (▶)	
S857	1-572-467-41	SWITCH, PUSH (1 KEY) (⇐⇒HOLD)	
*****			
A-3293-524-A		TU BOARD, COMPLETE (US,CND)	
A-3293-525-A		TU BOARD, COMPLETE (AEP,E)	
A-3293-391-A		TU BOARD, COMPLETE (JE)	
*****			
	1-664-848-11	TU FLEXIBLE BOARD	
*	1-694-275-11	CONDUCTIVE BOARD, CONNECTION SHEET (M)	
	3-348-960-01	SHEET (M)	
	4-990-301-01	HOLDER (LCD)	
		< CAPACITOR >	
C1	1-162-923-11	CERAMIC CHIP 47PF 5% 50V (EXCEPT JE)	
C1	1-162-927-11	CERAMIC CHIP 100PF 5% 50V (JE)	
C2	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	

Ref. No.	Part No.	Description	Remark
C3	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C4	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C5	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C6	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C7	1-162-908-11	CERAMIC CHIP 3PF 0.25PF 50V (JE)	
C8	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V (JE)	
C9	1-162-921-11	CERAMIC CHIP 33PF 5% 50V (JE)	
C10	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C11	1-162-926-11	CERAMIC CHIP 82PF 5% 50V (JE)	
C11	1-162-959-11	CERAMIC CHIP 330PF 5% 50V (EXCEPT JE)	
C12	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C13	1-162-910-11	CERAMIC CHIP 5PF 0.25P 50V (JE)	
C13	1-162-911-11	CERAMIC CHIP 6PF 0.5PF 50V (EXCEPT JE)	
C14	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (US,CND)	
C16	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V (JE)	
C17	1-162-923-11	CERAMIC CHIP 47PF 5% 50V (JE)	
C18	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C19	1-162-907-11	CERAMIC CHIP 2PF 0.25PF 50V (JE)	
C20	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C21	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V (JE)	
C22	1-162-909-11	CERAMIC CHIP 4PF 0.25PF 50V (EXCEPT JE)	
C22	1-162-911-11	CERAMIC CHIP 6PF 0.5PF 50V (JE)	
C23	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C24	1-162-957-11	CERAMIC CHIP 220PF 5% 50V (JE)	
C24	1-164-382-11	CERAMIC CHIP 91PF 5% 50V (EXCEPT JE)	
C25	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V	
C27	1-162-905-11	CERAMIC CHIP 1PF 0.25PF 50V	
C28	1-162-926-11	CERAMIC CHIP 82PF 5% 50V	
C29	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C30	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C31	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C32	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C33	1-162-909-11	CERAMIC CHIP 4PF 0.25PF 50V	
C34	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C35	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C36	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C37	1-164-217-11	CERAMIC CHIP 150PF 5% 50V	
C38	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C39	1-164-315-11	CERAMIC CHIP 470PF 5% 50V	
C40	1-162-917-11	CERAMIC CHIP 15PF 5% 50V	
C41	1-162-908-11	CERAMIC CHIP 3PF 0.25PF 50V	
C42	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C43	1-162-919-11	CERAMIC CHIP 22PF 5% 50V (JE)	
C43	1-162-923-11	CERAMIC CHIP 47PF 5% 50V (EXCEPT JE)	
C44	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C45	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C46	1-164-315-11	CERAMIC CHIP 470PF 5% 50V	
C47	1-135-202-21	TANTAL. CHIP 22uF 20% 4V	
C48	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C49	1-104-912-11	TANTAL. CHIP 3.3uF 20% 6.3V	
C50	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C51	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C52	1-162-959-11	CERAMIC CHIP 330PF 5% 50V	
C53	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V (US,CND)	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C54	1-115-156-11	CERAMIC CHIP	1uF 10V			< DIODE >	
C55	1-115-156-11	CERAMIC CHIP	1uF 10V				
C56	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D1	8-719-053-30	DIODE MA2S357-(TX) (JE)	
C57	1-164-218-11	CERAMIC CHIP	820PF 5% 25V	D2	8-719-053-30	DIODE MA2S357-(TX)	
C58	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V (AEP,E,JE)	D3	8-719-053-30	DIODE MA2S357-(TX) (JE)	
C59	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V	D4	8-719-053-30	DIODE MA2S357-(TX)	
C60	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	D5	8-719-055-61	DIODE HVR100-9TRU	
C61	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V (JE)	D6	8-719-055-61	DIODE HVR100-9TRU	
C61	1-164-245-11	CERAMIC CHIP	0.015uF 10% 25V (EXCEPT JE)	D601	8-719-404-49	DIODE MA111	
C62	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V (JE)	D602	8-719-049-09	DIODE 1SS367-T3SONY (AEP,E)	
C62	1-164-245-11	CERAMIC CHIP	0.015uF 10% 25V (EXCEPT JE)			< FILTER >	
C63	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	FL1	1-233-260-11	FILTER, BAND PASS	
C64	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V			< IC >	
C65	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	IC1	8-759-245-96	IC TA8182FN	
C66	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	IC2	8-759-362-25	IC TA-2022AFN-EL	
C67	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	IC601	8-759-466-77	IC uPD17073GB-916-9EU (JE)	
C68	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	IC601	8-759-470-02	IC uPD17072GB-900-9EU (EXCEPT JE)	
C69	1-104-847-11	TANTAL. CHIP	22uF 20% 4V	IC602	8-759-357-58	IC AK6420HM-E2	
C70	1-115-467-11	CERAMIC CHIP	0.22uF 10% 10V			< COIL >	
C71	1-162-927-11	CERAMIC CHIP	100PF 5% 50V	L1	1-416-202-11	COIL, TV/RF (JE)	
C72	1-164-315-11	CERAMIC CHIP	470PF 5% 50V	L2	1-416-204-11	COIL, FM/RF (JE)	
C73	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L2	1-416-292-11	COIL, FM RF (US,CND,AEP,E)	
C74	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L3	1-416-203-11	COIL, TV/OSC (JE)	
C75	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V (US,CND)	L4	1-416-205-11	COIL, FM/OSC (JE)	
C76	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V (EXCEPT JE)	L4	1-416-291-11	COIL, FM OSC (US,CND,AEP,E)	
C90	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	L5	1-409-837-11	COIL (WITH CORE) (IF)	
C91	1-109-982-11	CERAMIC CHIP	1uF 10% 10V	L7	1-412-006-31	INDUCTOR CHIP 10uH	
C99	1-162-905-11	CERAMIC CHIP	1PF 0.25PF 50V	L8	1-412-006-31	INDUCTOR CHIP 10uH	
C602	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L9	1-501-872-11	ANTENNA, FERRITE-ROD (MW)	
C603	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	L10	1-414-398-11	INDUCTOR 10uH	
C604	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L11	1-412-979-21	INDUCTOR 1uH	
C605	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	L12	1-412-006-31	INDUCTOR CHIP 10uH	
C606	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	L13	1-412-006-31	INDUCTOR CHIP 10uH	
C607	1-162-917-11	CERAMIC CHIP	15PF 5% 50V	L601	1-412-006-31	INDUCTOR CHIP 10uH	
C608	1-135-259-11	TANTAL. CHIP	10uF 20% 6.3V			< LIQUID CRYSTAL DISPLAY >	
C609	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	LCD1	1-801-742-11	DISPLAY PANEL, LIQUID CRYSTAL	
C610	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V			< TRANSISTOR >	
C611	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	Q1	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO (JE)	
C612	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	Q2	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
C614	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	Q3	8-729-028-69	TRANSISTOR 2SC4655-BC(TX)	
C616	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	Q4	8-729-028-69	TRANSISTOR 2SC4655-BC(TX) (JE)	
C619	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	Q5	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
C620	1-107-826-11	CERAMIC CHIP	0.1uF 10% 16V	Q6	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
		< FILTER >		Q7	8-729-037-71	TRANSISTOR UN9210J-(TX).SO (AEP,E,JE)	
CF1	1-767-357-11	FILTER, CERAMIC		Q8	8-729-037-63	TRANSISTOR UN9115J-(TX).SO	
CF2	1-767-313-11	FILTER, CERAMIC		Q9	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO	
CF3	1-767-313-11	FILTER, CERAMIC		Q10	8-729-028-69	TRANSISTOR 2SC4655-BC(TX)	
CF4	1-579-823-21	FILTER, CERAMIC		Q11	8-729-231-96	TRANSISTOR 2SK880GR-TE85L	
		< CONNECTOR >		Q12	8-729-028-69	TRANSISTOR 2SC4655-BC(TX)	
CN601	1-691-388-11	CONNECTOR, FFC/FPC (ZIF) 24P		Q13	8-729-231-96	TRANSISTOR 2SK880GR-TE85L	
		< TRIMMER >		Q14	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO (US,CND)	
CT1	1-141-327-11	CAP, CHIP TYPE TRIMMER 10PF		Q601	8-729-031-34	TRANSISTOR 2SK2034	
				Q602	8-729-029-14	TRANSISTOR DTC144EUA-T106 (US,CND)	



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< RESISTOR >				R63	1-216-845-11	METAL CHIP 100K 5%	1/16W (JE)
R1	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R64	1-216-278-11	METAL GLAZE 2.2M 5%	1/8W
R2	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R601	1-218-847-11	METAL GLAZE 1K 0.50%	1/16W
R3	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R602	1-218-871-11	METAL GLAZE 10K 0.50%	1/16W
R4	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R603	1-218-879-11	METAL GLAZE 22K 0.50%	1/16W
R5	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R604	1-218-863-11	METAL GLAZE 4.7K 0.50%	1/16W
R6	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R605	1-218-863-11	METAL GLAZE 4.7K 0.50%	1/16W
R7	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R606	1-218-863-11	METAL GLAZE 4.7K 0.50%	1/16W
R8	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R607	1-218-823-11	METAL GLAZE 100 0.50%	1/16W
R10	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	R608	1-218-859-11	METAL GLAZE 3.3K 0.50%	1/16W
R11	1-216-811-11	METAL CHIP 150 5%	1/16W (JE)	R609	1-218-843-11	METAL GLAZE 680 0.50%	1/16W
R12	1-216-817-11	METAL CHIP 470 5%	1/16W (JE)	R610	1-218-851-11	METAL GLAZE 1.5K 0.50%	1/16W
R13	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	R611	1-218-835-11	METAL GLAZE 330 0.50%	1/16W
R14	1-216-841-11	METAL CHIP 47K 5%	1/16W (JE)	R612	1-218-847-11	METAL GLAZE 1K 0.50%	1/16W
R15	1-216-815-11	METAL CHIP 330 5%	1/16W (JE)	R613	1-216-853-11	METAL CHIP 470K 5%	1/16W
R16	1-216-843-11	METAL CHIP 68K 5%	1/16W (JE)	R614	1-216-853-11	METAL CHIP 470K 5%	1/16W
R17	1-216-815-11	METAL CHIP 330 5%	1/16W (EXCEPT JE)	R615	1-216-853-11	METAL CHIP 470K 5%	1/16W
R18	1-216-825-11	METAL CHIP 2.2K 5%	1/16W (JE)	R616	1-218-863-11	METAL GLAZE 4.7K 0.50%	1/16W
R18	1-216-827-11	METAL CHIP 3.3K 5%	1/16W (JE)	R617	1-218-855-11	METAL GLAZE 2.2K 0.50%	1/16W
R19	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	R618	1-216-833-11	METAL CHIP 10K 5%	1/16W
R20	1-216-853-11	METAL CHIP 470K 5%	1/16W (JE)	R619	1-216-853-11	METAL CHIP 470K 5%	1/16W
R21	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	R620	1-216-853-11	METAL CHIP 470K 5%	1/16W
R22	1-216-821-11	METAL CHIP 1K 5%	1/16W (JE)	R621	1-216-857-11	METAL CHIP 1M 5%	1/16W
R23	1-216-825-11	METAL CHIP 2.2K 5%	1/16W (JE)	R622	1-216-853-11	METAL CHIP 470K 5%	1/16W
R24	1-216-845-11	METAL CHIP 100K 5%	1/16W (JE)	R623	1-216-853-11	METAL CHIP 470K 5%	1/16W
R25	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (JE)	R624	1-216-853-11	METAL CHIP 470K 5%	1/16W
R26	1-216-813-11	METAL CHIP 220 5%	1/16W (JE)	R625	1-216-853-11	METAL CHIP 470K 5%	1/16W
R27	1-216-837-11	METAL CHIP 22K 5%	1/16W (JE)	R628	1-216-863-11	METAL GLAZE 3.3M 5%	1/16W
R28	1-216-849-11	METAL CHIP 220K 5%	1/16W (JE)	R630	1-216-853-11	METAL CHIP 470K 5%	1/16W
R29	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	R631	1-216-864-11	METAL CHIP 0 5%	1/16W (AEPE,JE)
R30	1-216-821-11	METAL CHIP 1K 5%	1/16W (JE)	< VARIABLE RESISTOR >			
R31	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (JE)	RV1	1-223-578-11	RES, ADJ, METAL GLAZE 22K (VCO)	
R32	1-216-841-11	METAL CHIP 47K 5%	1/16W (JE)	< SWITCH >			
R33	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (JE)	S1	1-762-078-11	SWITCH, SLIDE (FM STEREO/MONO) (AEPE,JE)	
R34	1-216-821-11	METAL CHIP 1K 5%	1/16W (JE)	S1	1-762-078-11	SWITCH, SLIDE (FM LOCAL/DX)(US,CND)	
R35	1-216-837-11	METAL CHIP 22K 5%	1/16W (JE)	S601	1-762-833-11	SWITCH, TACTILE (TUNING -)	
R36	1-216-809-11	METAL CHIP 100 5%	1/16W (JE)	S602	1-762-833-11	SWITCH, TACTILE (TUNING +)	
R37	1-216-821-11	METAL CHIP 1K 5%	1/16W (JE)	S603	1-762-833-11	SWITCH, TACTILE (ENTER)	
R38	1-216-825-11	METAL CHIP 2.2K 5%	1/16W (JE)	S604	1-771-138-21	SWITCH, KEY BOARD (ASP)	
R39	1-216-845-11	METAL CHIP 100K 5%	1/16W (JE)	S605	1-771-138-21	SWITCH, KEY BOARD (PRESET -)	
R40	1-216-829-11	METAL CHIP 4.7K 5%	1/16W (JE)	S606	1-771-138-21	SWITCH, KEY BOARD (PRESET +)	
R41	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	S607	1-771-138-21	SWITCH, KEY BOARD (AUDIO OFF)	
R42	1-216-837-11	METAL CHIP 22K 5%	1/16W (JE)	S608	1-771-138-21	SWITCH, KEY BOARD (AUDIO ON/BAND)	
R43	1-216-833-11	METAL CHIP 10K 5%	1/16W (JE)	< TRANSFORMER >			
R44	1-216-830-11	METAL CHIP 5.6K 5%	1/16W (JE)	T1	1-406-404-11	COIL (MW OSCILATION)	
R45	1-216-828-11	METAL CHIP 3.9K 5%	1/16W (JE)	T2	1-411-615-11	TRANSFORMER, IF	
R46	1-216-864-11	METAL CHIP 0 5%	1/16W (US,CND)	< VIBRATOR >			
R49	1-216-864-11	METAL CHIP 0 5%	1/16W (US,CND)	X601	1-760-423-11	VIBRATOR, CRYSTAL (75kHz)	
R62	1-216-823-11	METAL CHIP 1.5K 5%	1/16W (US,CND)	*****			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *****	
* 4	1-694-275-11	CONDUCTIVE BOARD, CONNECTION	
6	1-664-848-11	TU FLEXIBLE BOARD	
63	1-782-260-11	WIRE (FLAT TYPE) (14 CORE)	
104	1-651-018-11	SLED FLEXIBLE BOARD	
107	1-664-851-11	MD FLEXIBLE BOARD	
110	1-651-017-11	CLV FLEXIBLE BOARD	
△ 119	A-3304-664-A	OPTICAL PICK-UP BLOCK ASSY (KMS-240A/J2N)	
LCD1	1-801-742-11	DISPLAY PANEL, LIQUID CRYSTAL	
LCD2	1-801-740-11	LCD MODULE	
M901	1-698-542-11	MOTOR (SPINDLE)	
M902	A-3303-502-A	MOTOR BLOCK ASSY, SLED (SLED)	
*****			
		ACCESSORIES & PACKING MATERIALS *****	
△	1-467-550-11	ADAPTOR, AC (AC-E455A) (JE)	
	1-475-153-11	REMORT CONTROL UNIT	
△	1-569-007-11	ADAPTOR, CONVERSION 2P (JE)	
	3-859-562-01	MANUAL, INSTRUCTION (ENGLISH,JAPANESE,CHINESE,KOREAN) (JE)	
	3-859-562-11	MANUAL, INSTRUCTION (ENGLISH) (US,CND,AEP,E)	
	3-859-562-21	MANUAL, INSTRUCTION (FRENCH) (CND,AEP,E)	
	3-859-562-31	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	3-859-562-41	MANUAL, INSTRUCTION (SPANISH) (AEP)	
	3-859-562-51	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	3-859-562-61	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	3-859-562-71	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	3-859-562-81	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	3-859-562-91	MANUAL, INSTRUCTION (CHINESE) (E)	
	4-972-888-01	CASE, CARRYING	
	8-953-091-90	HEADPHONE MDR-E838MP SET	
	X-3329-657-1	ATTACHMENT ASSY	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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