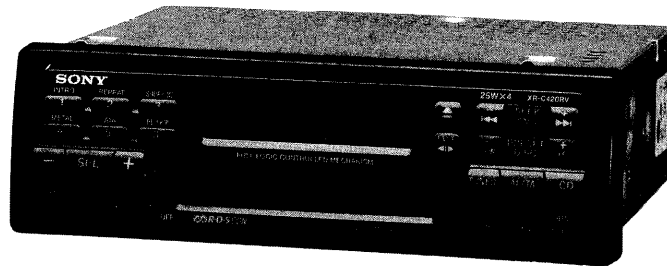


# XR-C420RV

## SERVICE MANUAL

AEP Model  
UK Model



Model Name Using Similar Mechanism	XR-6690RDS
Tape Transport Mechanism Type	MG-50EX2-39

### SPECIFICATIONS

#### Cassette player section

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

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

#### Tuner section

<b>FM</b>	
Tuning range	87.5 - 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 - 15,000 Hz
Capture ratio	2 dB

#### MW/LW

Tuning range	MW: 531 - 1,602 kHz LW: 153 - 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	MW: 30 $\mu$ V LW: 50 $\mu$ V

#### Power amplifier section

Outputs	Speaker outputs (sure seal connectors) 4 - 8 ohms
Speaker impedance	4 - 8 ohms
Maximum power output	25 W x 4 (at 4 ohms)

#### General

Tone controls	Bass $\pm$ 8 dB at 100 Hz Treble $\pm$ 8 dB at 10 kHz
Power requirements	24 V DC car battery (negative ground)
Dimensions	Approx. 188 x 58 x 177 mm (w/h/d)
Mounting dimension	Approx. 182 x 53 x 155 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) S Commander RM-X15

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

FM/MW/LW CASSETTE CAR STEREO  
**SONY**®

## CAUTION

Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type  
recommended by the equipment manufacturer.  
Discard used batteries according to manufacture's  
instructions.

### ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri  
af samme fabrikat og type.  
Lever det brugte batteri tilbage til leverandøren.

### ADVARSEL


Eksplosjonsfare ved feilaktig skifte av batteri.  
Benytt samme batteritype eller en tilsvarende  
type anbefalt av apparatfabrikanten.  
Brukte batterier kasseres i henhold til fabrikantens  
instruksjoner.

### WARNING

Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en likvärdig typ som  
rekommenderas av apparattillverkaren.  
Kassera använt batteri enligt gällande föreskrifter.

### VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan  
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden  
mukaisesti.

Dolby noise reduction manufactured under license from Dolby Labora-  
tories Licensing Corporation.  
"DOLBY" and the double-D symbol  are trademarks of Dolby Labora-  
tories Licensing Corporation.

### 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.

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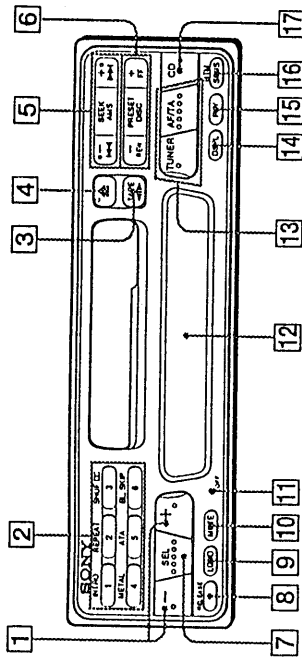
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## Location of controls



Refer to the pages for further details.

- 1 (volume/bass/treble/balance) fader control) button 11
- 2 During radio reception: Preset number buttons 6, 7
- During tape/CD playback:
  - 1 INTRO button 5, 12
  - 2 REPEAT button 5, 12
  - 3 SHUF/DJ (Dolby B NR) button 5, 12
  - 4 METAL button 6
  - 5 ATA (Automatic Tuner Activation) button 6
  - 6 BL-SKIP button 6
- 3 TAPE/◀▶ (playback/transport direction change) button 5
- 4 (eject) button 5
- 5 SEEK/AMS button 5, 6, 7, 8, 10, 12
- 6 PRESET/DISC button 5, 6, 7, 12
- 7 SEL (control mode select) button 9, 11
- 8 RELEASE (front panel release) button 4, 15
- 9 LOUD (loudness) button 11
- 10 MUTE button 11
- 11 OFF button 4, 5
- 12 Display window
- 13 TUNER (radio on/band select) button 6, 7
- 14 AF/TA (alternative frequency/traffic announcement) button 8, 9
- 14 DSPL (display mode change/time set) button 7
- 15 PTY (programme type) button 10
- 16 SENS/BTM (sensitivity adjust/Best tuning memory function) button 6, 7, 9
- 17 CD (disc play/CD changer select) button 12

EN

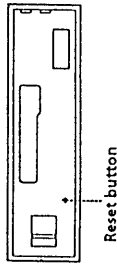
## Additional Information

EN

## Getting Started

### Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit. Press the reset button with a pointed object, such as a ball-point pen.

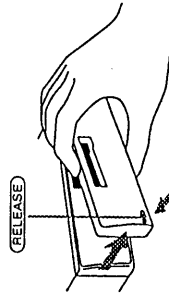


Note  
Pressing the reset button will erase all the memorized programme and memory functions.

### Detaching the front panel

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

- 1 Press **OFF**.
- 2 Press **(RELEASE)** to open up the front panel, and detach the panel by pulling it towards you.



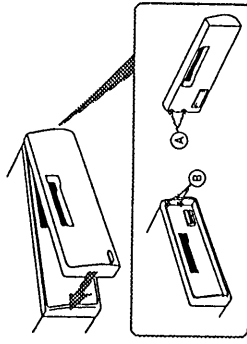
Notes  
• Be sure not to drop the panel when detaching it from the unit.  
• If you press **(RELEASE)** to detach the panel while the unit is still turned on, the power will be automatically turned off in order to protect the speakers from being damaged.

## SECTION 1 GENERAL

This section is extracted from instruction manual.

### Attaching the front panel

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



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

### Caution alarm

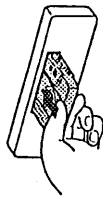
If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.

If your car has no accessory position on the ignition key switch, the caution alarm will not work.

# Cassette Player

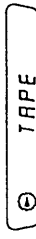
## Listening to the tape

Insert the cassette.

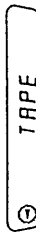


Playback will start automatically.

If the cassette is already inserted, press **(TAPE)** to start playback.



The side facing up is being played.



The side facing down is being played.

### Tip

To change the tape transport direction, press **(TAPE)** during tape playback.

To

Stop playback **(OFF)**

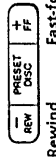
Eject the cassette **(↑)**

### Note

If your car has no ACC position on the ignition switch, be sure to press **(OFF)** to turn off the unit before turning the ignition switch off. Turning the ignition off during tape playback causes tape damage.

## Fast-winding the tape

During playback, press either side of **(PRESET/DISC)**.



Fast-forward

To start playback during fast-forwarding or rewinding, press **(TAPE)**.

Locating the beginning of the tracks — Automatic Music Sensor (AMS) You can skip up to nine tracks at one time.

During playback, press either side of **(SEEK/AMS)** momentarily.



To locate the previous tracks To locate the succeeding the tracks

### Note

The AMS function may not work when:  
• the blanks between tracks are shorter than 4 seconds  
• there are noises  
• there are long sections of low volume or quiet sections.

## Playing the tape in various modes

Searching the desired track

— Intro scan

Press **(1)** during playback.

"INTRO" appears on the display.

The first 10 seconds of all the tracks are played.

When you find the desired track, press again. The unit returns to the normal playback mode.

Playing tracks repeatedly

— Repeat play

Press **(2)** during playback.

"REP" appears on the display.

When the currently played track is over, it will be played again from the beginning.

To cancel this mode, press again.

Playing a tape recorded in the Dolby B NR system

Press the **(3)** when you want to listen to a tape recorded in the Dolby® B NR system.

"D" appears on the display.

\* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol **(D)** are trademarks of Dolby Laboratories Licensing Corporation.

## Playing a CrO<sub>2</sub> or metal tape

Press **(4)** when you want to listen to a CrO<sub>2</sub> (TYPE II) or metal (TYPE IV) tape. "MTL" appears on the display.

To cancel, press again.

Switching to the radio during fast-winding the tape

— Automatic Tuner Activation (ATA)

Press **(5)** during playback.

"ATA" appears on the display.

When fast-forwarding or rewinding with **(PRESET/DISC)**, the tuner will turn on automatically.

Skipping blanks during tape playback — Blank skip

Press **(6)** during playback.

"BL-SKIP" appears on the display.

Blanks longer than eight seconds will be automatically skipped during tape playback.

# Radio

## Memorizing stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorizes them in the order of their frequencies. You can store up to 6 stations on each band (FM 1, FM 2, FM 3, MW and LW).

### Caution

When tuning in the station while driving, use Best Tuning Memory to prevent accidents.

1 Press **(TUNER)** repeatedly and select the band.

Each time you press **(TUNER)**, the band changes as follows:  
FM1 → FM2 → FM3 → MW → LW

2 Press **(SENS/BTM)** for two seconds.

3 FM1, FM2 and FM3 only:  
Press the number button **(1)** to **(6)** momentarily, then press again for two seconds until you hear a beep. The unit stores the stations.

### Notes

- The unit does not store stations with weak signals. If only a few stations are received, some number buttons remain empty.
- When a preset number is indicated in the display, the unit starts storing stations from the one currently displayed.

## Memorizing only the desired stations

You can store up to 6 stations on each band (18 for FM 1, FM 2 and FM 3, 6 for MW or LW) in the order of your choice.

1 Press **(TUNER)** repeatedly, and select the band.

2 Press **(SEEK/AMS)** to search for the station which you want to store on the number button.

EN

EN

Getting Started/Cassette Player

6

5

- Press the desired number button (0) to beep. (0) for two seconds until you hear a beep.

The number button indication appears in the display.

**Note**

If you try to store another station on the same number button, the previously stored station will be erased.

## Receiving the memorized stations

- Press (TUNER) repeatedly, and select the band.
- Press the preset number button (0) to (0) momentarily where the desired station is stored.

**Tip**

Press either side of (PRESET/DISO) momentarily to receive in order the stations stored in the memory (Preset Search Function).

If FM stereo reception is poor — Monaural mode

Press (SENS/BTM) momentarily until "MONO" appears. The sound improves, but it becomes monaural. (The "ST" disappears.)

If you cannot tune in a preset station

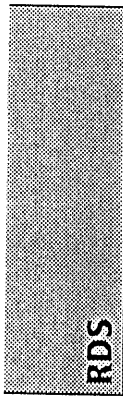
Press either side of (SEEK/VMS) momentarily to search for the station (automatic tuning). Scanning stops when the unit receives a station. Press either side of (SEEK/VMS) repeatedly until the desired station is received.

**Note**

If the automatic tuning stops too frequently, press (SENS/BTM) momentarily until "LCL" lights up on the display (local seek mode). Only the stations with relatively strong signals can be tuned in.

**Tip**

If you know the frequency, press and hold either side of (PRESET/DISO) until the desired station is received (manual tuning).



## Overview of the RDS function

Radio Data System (RDS) is a broadcasting service that allows FM stations to send additional digital information along with the regular radio programme signal. Your car stereo offers you a variety of services. Here are just a few: Re-tuning the same programme automatically, Listening to traffic announcements and Locating a station by programme type.

**Notes**

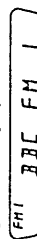
- Depending on the country or region, not all of the RDS functions are available.
- RDS may not work properly if the signal strength is weak or if the station you are tuned in is not transmitting RDS data.

## Displaying the station name

The name of the station currently received lights up on the display.

Select an FM station.

When you tune in an FM station that transmits RDS data, the station name lights up on the display.



**Note**

The "FH" indication means that an RDS station is being received.

## Changing the displayed items

Each time you press (AF/TA), the displayed frequency → Station Name

**Note**

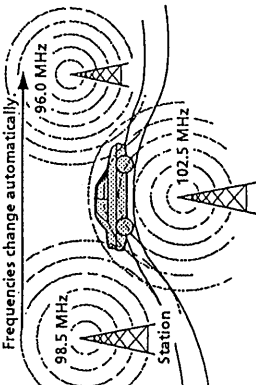
"---" lights up if the station received does not transmit RDS data.

## Re-tuning the same programme automatically

— Alternative Frequencies (AF)

The Alternative Frequencies (AF) function automatically selects and re-tunes the station with the strongest signal in a network. By using this function, you can continuously listen to the same programme during a long-distance drive without having to re-tune the station manually.

Frequencies change automatically.



- Select an FM station.

- Press (AF/TA) until "AF" appears.

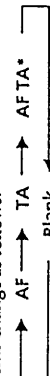
The unit starts searching for an alternative station with a stronger signal in the same network.

**Note**

When there is no alternative station in the area, and you don't need to search for an alternative station, turn the AF function off by pressing (AF/TA) until "AF TA" disappears.

## Changing the displayed items

Each time you press (AF/TA), the displayed items change as follows:



- Select this to turn on both AF and TA functions.

**Notes**

- "NO AF" and the station name flashes alternately, if the unit cannot find an alternative station in the network.
- If the station service name starts flashing after you've made the preset selection, it means that no alternative frequency is available and the unit cannot receive the PI (Programme Identification) data of the memorized station. Press (SEEK/VMS) while the station service name is flashing (for about eight seconds) so the unit starts searching for a station with the same PI data, but with another frequency ("PI SEEK" lights up and no sound is heard). If the unit still cannot find an alternative station, "NO PI" lights up and the unit goes back to the original preset station.

**Listening to a regional programme**  
The "REG" (regional on) function of this unit lets you stay tuned to a regional programme without being switched to another regional station. (Note that you must turn the AF function on.) The unit is factory preset to "REG" but if you want to turn off the function, do the following.

Press (AF/TA) for two seconds until "REG" disappears.

Note that turning the "REG" function off might cause the unit to switch to another regional station within the same network.

**Note**

This function does not work in the United Kingdom and in some other areas.

## Local link function (United Kingdom only)

The Local Link function lets you select other local stations in the area, even though they are not stored on your number buttons.

- Press a number button that has a local station stored on it.
- Within five seconds, press the number button of the local station again.
- Repeat this procedure until the desired local station is received.

## Listening to traffic announcements

The Traffic Announcement (TA) and Traffic Programme (TP) data let you automatically tune in an FM station that is broadcasting traffic announcements even though you are listening to other programme sources.

Press (AF/TA) repeatedly until "TA" or "AF TA" appears.

The unit starts searching for traffic information stations. "TP" lights up in the display when the unit finds a station broadcasting traffic announcements. When the traffic announcement starts, "TA" flashes, then flashing stops when the traffic announcement is over.

**Tip**  
When the traffic announcement starts while you are listening to another programme source, the unit automatically switches to the announcement and goes back to the original source when the announcement is over.

**Notes**

- "NO TP" flashes for five seconds if the received station doesn't broadcast traffic announcements. Then, the unit starts searching for a station that does broadcast traffic announcements.
- When the "EON" indication appears with "TP" on the display, the current station makes use of broadcast traffic announcements of other stations in the same network.

**To cancel the current traffic announcement**

Press **(AFTA)** momentarily.  
To cancel all traffic announcements, turn off the function by pressing **(AFTA)** until "TA" disappears.

**Presetting the volume of traffic announcements**

You can preset the volume level of the traffic announcements beforehand, so you will not miss the announcement. When a traffic announcement starts, the volume will be automatically adjusted to the preset level.

- 1 Select the desired volume level.
- 2 Press **(3)** while holding down **(SEL)**.  
A beep sounds, and the setting is stored.

**Receiving emergency announcements**

If an emergency announcement comes in while you are listening to the radio, the programme will be automatically switched to the announcement. If you are listening to a source other than the radio, the emergency announcements will only be heard if you set AF or TA to on. The unit will then automatically switch to these announcements no matter what you are listening to at the time.

**Memorizing the RDS stations automatically**

— Best Tuning Memory (BTM)

You can store only the RDS stations.

**Presetting the same setting for all preset stations**

- 1 Select an FM band.
- 2 Press **(AFTA)** repeatedly until "AF" appears.
- 3 Press **(SENS/BTM)** for two seconds.

**Locating a station by programme type**

You can locate the station you want by displaying the programme type of the current station shown below.

**Note**

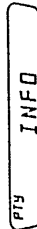
In the countries or regions where EON data is not transmitted, you can use this function only for the stations you have tuned in once.

Programme types	Display
News	NEWS
Current Affairs	AFFAIRS
Information	INFO
Sports	SPORT
Education	EDUCATE
Drama	DRAMA
Culture	CULTURE
Science	SCIENCE
Varied	VARIED
Popular Music	POP M
Rock Music	ROCK M
Middle of the Road Music	M.O.R. M
Light Classical	LIGHT M
Classical	CLASSICS
Other Music Type	OTHER M
Not specified	NONE

**Note**

You cannot use this function in some countries where no PTY (Programme Type selection) data is available.

- 1 Press **(PTY)** during FM reception until "PTY" appears.



The current programme type name appears if the station is transmitting the PTY data. "....." appears if the received station is not an RDS station or if the RDS data has not been received.  
Note that you cannot search "NONE" (Not specified).

- 2 Press either side of **(SEEK/AMS)**.  
The unit starts searching for a station broadcasting the same programme type. When the unit finds the programme, the programme type appears again for five seconds. "....." for five seconds if the unit cannot find the programme type and it returns to the previous station.



RDS

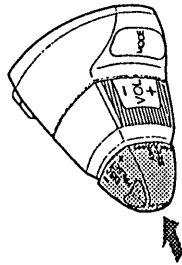


**Other Functions**

**Using the S commander**

The S commander works by pressing buttons or rotating/moving controls. You can control the optional CD changer with the S commander.

**By pressing the control (the SOURCE button)**

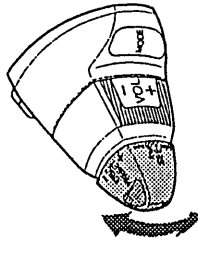


Each time you press **(SOURCE)**, the source changes as follows:  
TUNER → CD → TAPE

**Note**

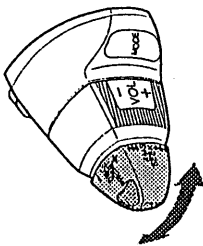
You cannot turn on this unit by S commander.

**By moving the control (the SEEK/AMS control)**



- Move the control and release it to:
- Locate the beginning of the tracks on the tape.
  - Locate a specific track on a disc.
  - Tune in the stations automatically.

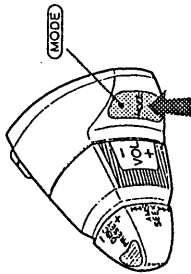
By moving the control  
(the PRESET/DISC control)



Move the control to:

- Fast-wind the tape. To playback, press (MODE)
- Change the disc.
- Receive the stations memorized on the number button.

By pressing the button  
(the MODE button)



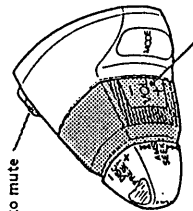
Press (MODE) to:

- Change the tape transport direction.
- Change the radio band.

FM1 → FM2 → FM3 → MW → LW

Other operations

Press (MUTE) to mute the sound.



Rotate the VOL control to adjust the volume.

## Adjusting the sound characteristics

- 1 Select the item you want to adjust by pressing (SEL) repeatedly.  
VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader)
- 2 Adjust the selected item by pressing (+) or (-).

Adjust within three seconds after selecting. (After three seconds the button will again serve as volume control button.)

## Muting the sound

Press (MUTE).  
The "MUTE" flashes.

To restore the previous volume level, press (MUTE) again.

## Changing the sound and display settings

Enjoying bass and treble even at Low Volume → Loudness

Bass and treble will be reinforced.

Press (LOUD).  
"LOUD" appears.

To cancel, press (LOUD) again.

Turn off the beeps

Press (B) while pressing (SEL).  
To turn on the beeps, press these buttons again.

Changing the illumination color

Press (I) while pressing (SEL).

You can change the color to amber or green.

## With the Optional Equipment CD Changer

### Playing a CD

Press (CD).  
CD playback starts.

When a CD changer is connected, all the tracks play from the beginning.

### Locating a specific track

→ Automatic Music Sensor (AMS)  
During playback, press either side of (SEEK/AMS) once for each track you want to skip.



To locate previous tracks  
To locate succeeding tracks

### Locating a specific point in a track

→ Manual Search

During playback, press and hold either side of (PRESET/DISC). Release the button when you have found the desired point.



To reverse  
To forward

### Locating a disc

During playback, press either side of (PRESET/DISC) momentarily.



To locate previous disc  
To locate next disc

### Scanning the tracks

→ Intro scan

You can play the first 10 seconds of all the tracks on the currently selected disc.

Press (I) during playback.  
"INTRO" appears.

When you find the desired track, press (I) again. The unit returns to the normal playback mode.

## Playing tracks repeatedly

→ Repeat play

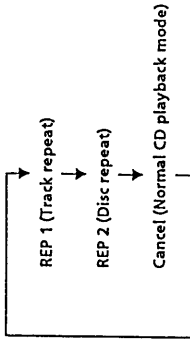
To repeat a track

Press (R) repeatedly during CD playback until "REP 1" appears.

To repeat a disc

Press (R) repeatedly during CD playback until "REP 2" appears.

Each time you press (R) the display changes as follows:



## Playing tracks in random order

→ Shuffle play

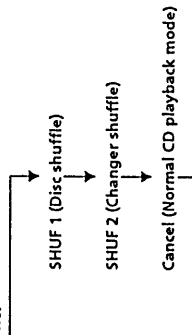
To play the tracks on the current disc in a random order

Press (S) repeatedly during CD playback until "SHUF 1" appears.

To play the tracks in the current changer in a random order

Press (S) repeatedly during CD playback until "SHUF 2" appears.

Each time you press (S) the display changes as follows:



If you press (S) during shuffle play, the first 10 seconds of all tracks will be played in random order.

## Additional Information

### Precautions

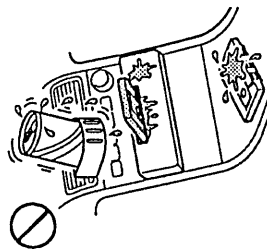
- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before switching on.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers of a 2-speaker system, set the fader control to the centre position.
- When the tape is played back for a long period, the cassette shell may become warm because of the built-in power amplifier. However, this is not a sign of a malfunction.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

### To maintain high quality sound

If you have drink holders near your audio equipment, be careful not to splash juice or other soft drinks onto the car audio. Sugary residues on this unit or cassette tapes may contaminate the playback heads, reduce the sound quality, or prevent sound reproduction altogether.

Cassette cleaning kits do not remove sugar from the tape heads.

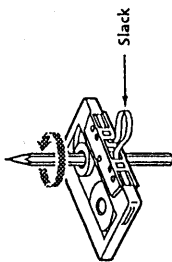


### Notes on cassette deck tape heads

- Long use of cassette tapes contaminates the tape head causing poor sound quality or complete sound dropout. Therefore, we recommend cleaning the tape head once a month or so with the separately available Sony Cassette Cleaning Set. If the sound does not improve after using a cleaning cassette, please consult your nearest Sony dealer.
- In case of old or inferior cassette tapes, the tape head gets contaminated much more quickly. Depending on the tape, one or two playbacks may cause poor sound.

### Cassette care

- Do not touch the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with built-in magnets such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.
- Slack in the tape may cause the tape to be caught in the machine. Before you insert the tape, use a pencil or similar object to turn the reel and take up any slack.



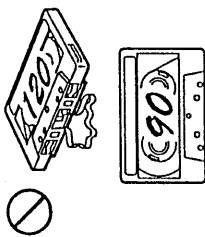
- Distorted cassettes and loose labels can cause problems when inserting or ejecting tapes. Remove or replace loose labels.



continue to next page →

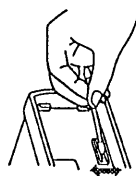
### Cassettes longer than 90 minutes

The use of cassettes longer than 90 minutes is not recommended except for long continuous play. The tapes used for these cassettes are very thin and tend to be stretched easily. Frequent playing and stopping of these tapes may cause them to be pulled into the cassette deck mechanism.



### Cleaning the Connectors

The unit may not function properly if the connectors between the unit and the front panel are not clean. In order to prevent this, open the front panel by pressing (RELEASE), then detach it and clean with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connector may get damaged.



Main unit

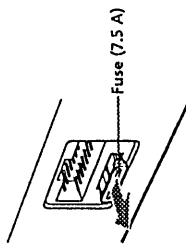


Back of the front panel

## Maintenance

### Fuse Replacement

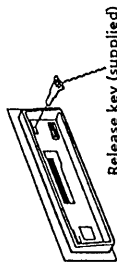
When replacing the fuse, be sure to use one matching the amperage described on the fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.



**Warning**  
Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

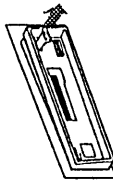
## Dismounting the unit

1



Release key (supplied)

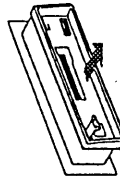
2



3



4





## Connections

### Caution

- This unit is designed for negative ground 24 V DC operation only.
- Connect the power connecting cord ③ to the unit and speakers before connecting it to the auxiliary power connector.
- Run all ground wires to a common ground point.

### Reset Button

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

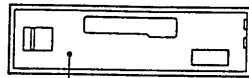
## Connexions

### Précautions

- Cet appareil est conçu pour fonctionner sur un courant continu de 24 V avec masse négative.
- Brancher le cordon d'alimentation ③ sur l'appareil et les haut-parleurs avant de le brancher sur le connecteur d'alimentation auxiliaire.
- Rassembler tous les fils de terre en un point de masse commun.

### Touche de réinitialisation

Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou un objet pointu.



Reset button  
Touche de réinitialisation  
Rücksetztaste

## Anschluß

### Vorsicht

- Dieses Gerät ist ausschließlich für eine negativ geerdete 24-V-Autobatterie bestimmt.
- Verbinden Sie das Netzverbindungskabel ③ mit dem Gerät und den Lautsprechern, bevor Sie es mit dem Hilfsstromanschluß verbinden.
- Schließen Sie alle Erdungskabel an einen gemeinsamen Massepunkt an.

### Rücksetztaste

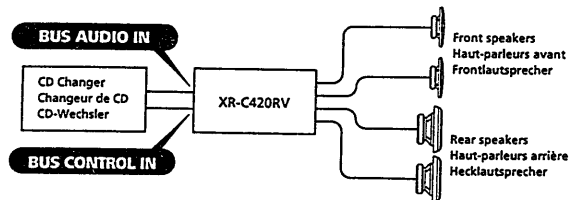
Nach der Installation und dem Anschluß muß die Rücksetztaste mit einem Kugelschreiber o.ä. gedrückt werden.

## Connection Diagram

## Schémas de connexion

## Anschlußdiagramm

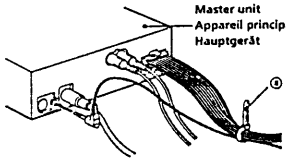
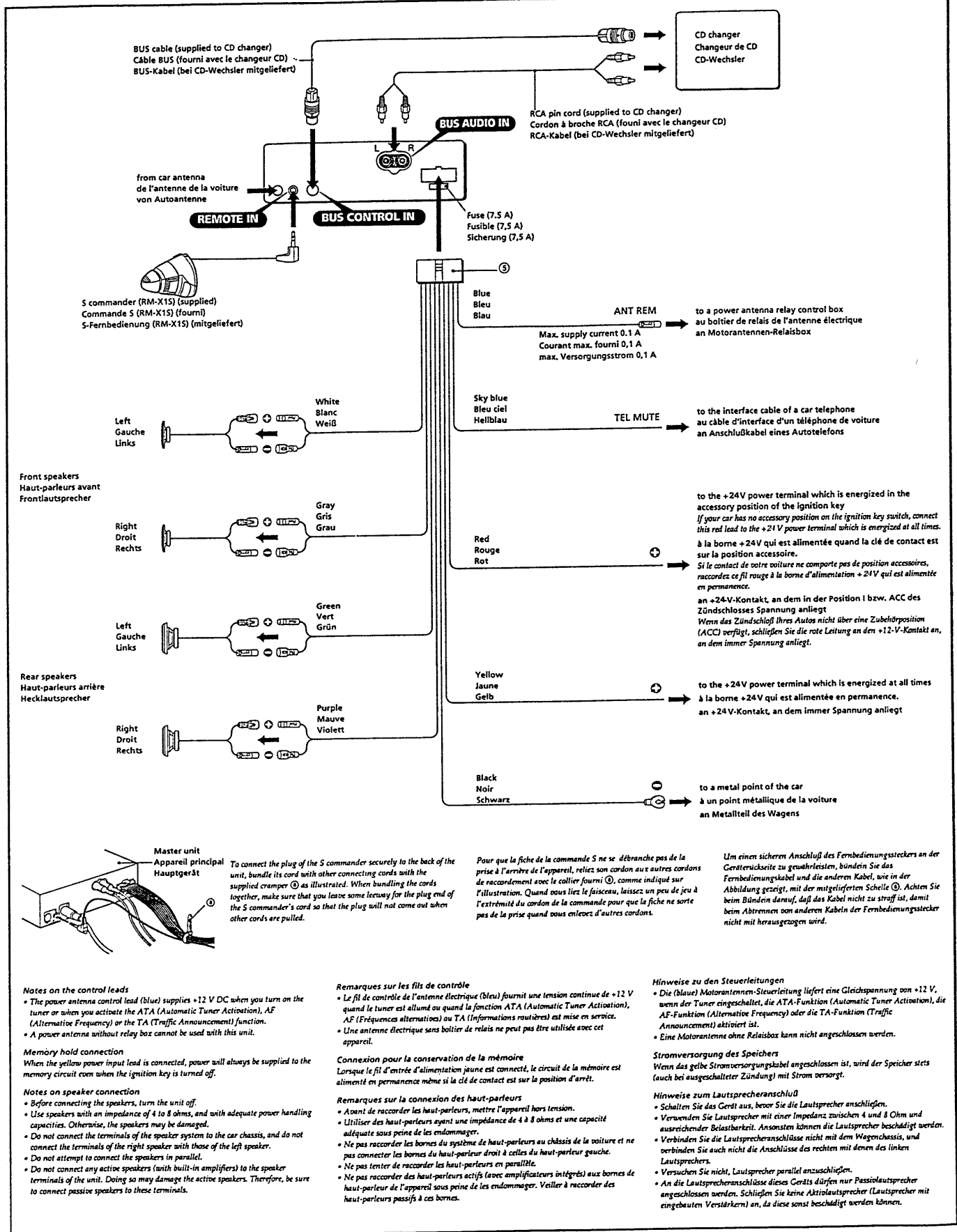
Example/Exemple/Beispiel



Connections of Example

Connexions de l'exemple

Anschlußbeispiel



To connect the plug of the S commander securely to the back of the unit, bundle its cord with other connecting cords with the supplied crammer ① as illustrated. When bundling the cords together, make sure that you leave some leeway for the plug end of the S commander's cord so that the plug will not come out when other cords are pulled.

Pour que la fiche de la commande S ne se débranche pas de la prise à l'arrière de l'appareil, reliez son cordon aux autres cordons de raccordement avec le collier fourni ①, comme indiqué sur l'illustration. Quand vous liez le faisceau, laissez un peu de jeu à l'extrémité du cordon de la commande pour que la fiche ne sorte pas de la prise quand vous enlevez d'autres cordons.

Um einen sicheren Anschluß des Fernbedienungssteckers an der Gerätehinterrückseite zu gewährleisten, bündeln Sie das Fernbedienungskabel und die anderen Kabel, wie in der Abbildung gezeigt, mit der mitgelieferten Schelle ①. Achten Sie beim Bündeln darauf, daß das Kabel nicht zu straff ist, damit beim Abtrennen von anderen Kabeln der Fernbedienungsstecker nicht mit herausgezogen wird.

**Notes on the control leads**

- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation), AF (Alternative Frequency) or the TA (Traffic Announcement) function.
- A power antenna without relay box cannot be used with this unit.

**Memory hold connection**

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

**Notes on speaker connection**

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

**Remarques sur les fils de contrôle**

- Le fil de contrôle de l'antenne électrique (bleu) fournit une tension continue de +12 V quand le tuner est allumé ou quand la fonction ATA (Automatic Tuner Activation), AF (Fréquences alternatives) ou TA (Informations routières) est mise en service.
- Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.

**Connexion pour la conservation de la mémoire**

Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

**Remarques sur la connexion des haut-parleurs**

- Assurez-vous de raccorder les haut-parleurs, mettez l'appareil hors tension.
- Utilisez des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.
- Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.
- Ne pas tenter de raccorder les haut-parleurs en parallèle.
- Ne pas raccorder des haut-parleurs actifs (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veillez à raccorder des haut-parleurs passifs à ces bornes.

**Hinweise zu den Steuerleitungen**

- Die (blaue) Motorantennen-Steuerverleitung liefert eine Gleichspannung von +12 V, wenn der Tuner eingeschaltet, die ATA-Funktion (Automatic Tuner Activation), die AF-Funktion (Alternative Frequency) oder die TA-Funktion (Traffic Announcement) aktiviert ist.
- Eine Motorantenne ohne Relaisbox kann nicht angeschlossen werden.

**Stromversorgung des Speichers**

Wenn das gelbe Stromversorgungs-kabel angeschlossen ist, wird der Speicher stets (auch bei ausgeschalteter Zündung) mit Strom versorgt.

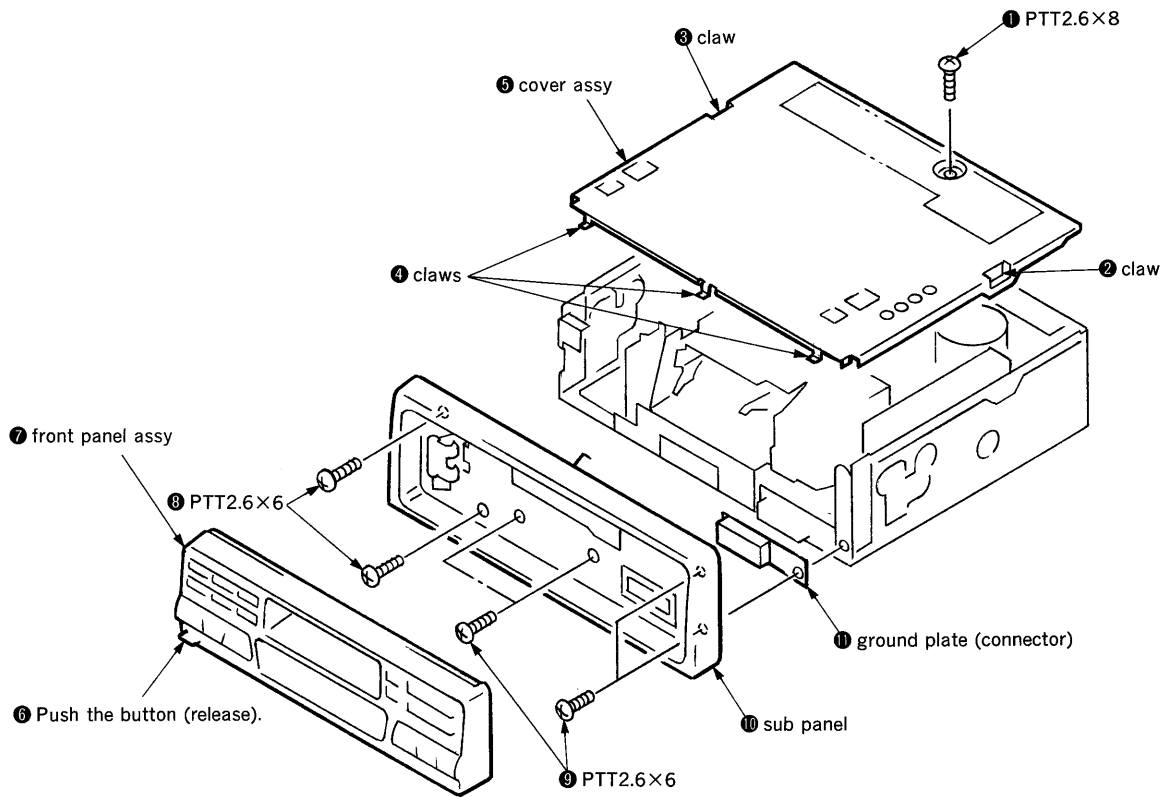
**Hinweise zum Lautsprecheranschluß**

- Schalten Sie das Gerät aus, bevor Sie die Lautsprecher anschließen.
- Verwenden Sie Lautsprecher mit einer Impedanz zwischen 4 und 8 Ohm und ausreichender Belastbarkeit. Ansonsten können die Lautsprecher beschädigt werden.
- Verbinden Sie die Lautsprecheranschlüsse nicht mit dem Wagenchassis, und verbinden Sie auch nicht die Anschlüsse des rechten mit denen des linken Lautspeichers.
- Versuchen Sie nicht, Lautsprecher parallel anzuschließen.
- An die Lautsprecheranschlüsse dieses Geräts dürfen nur Passivlautsprecher angeschlossen werden. Schließen Sie keine Aktivlautsprecher (Lautsprecher mit eingebauten Verstärkern) an, da diese sonst beschädigt werden können.

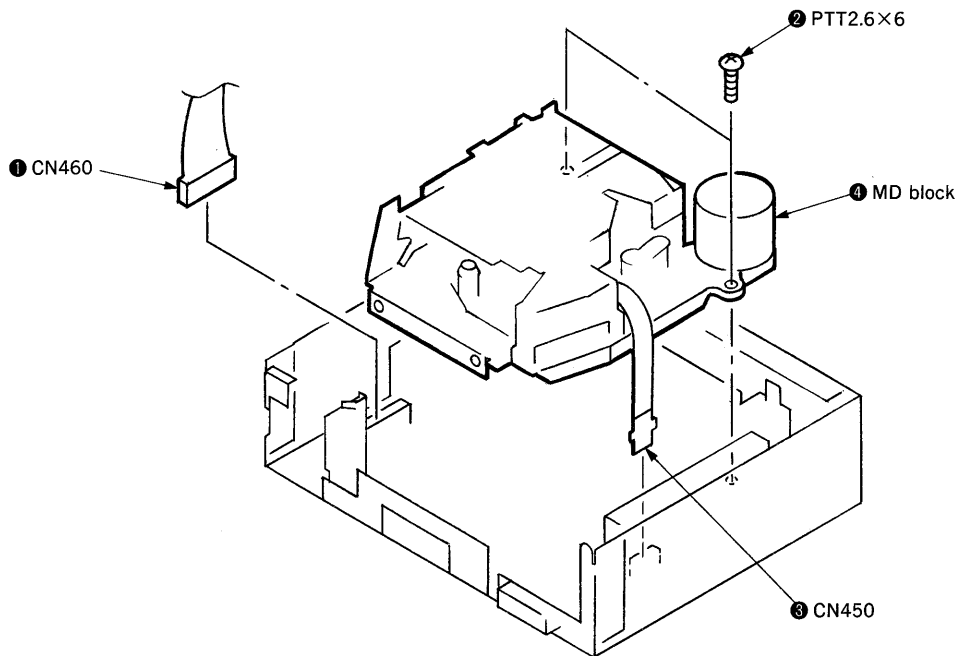
## SECTION 2 DISASSEMBLY

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

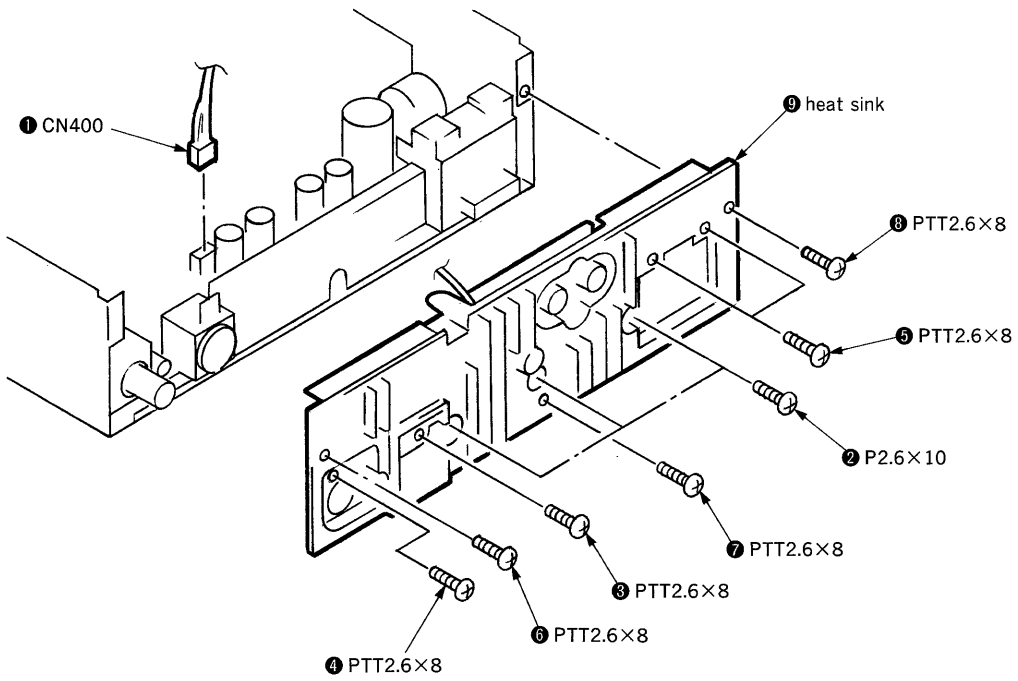
### 2-1. SUB PANEL



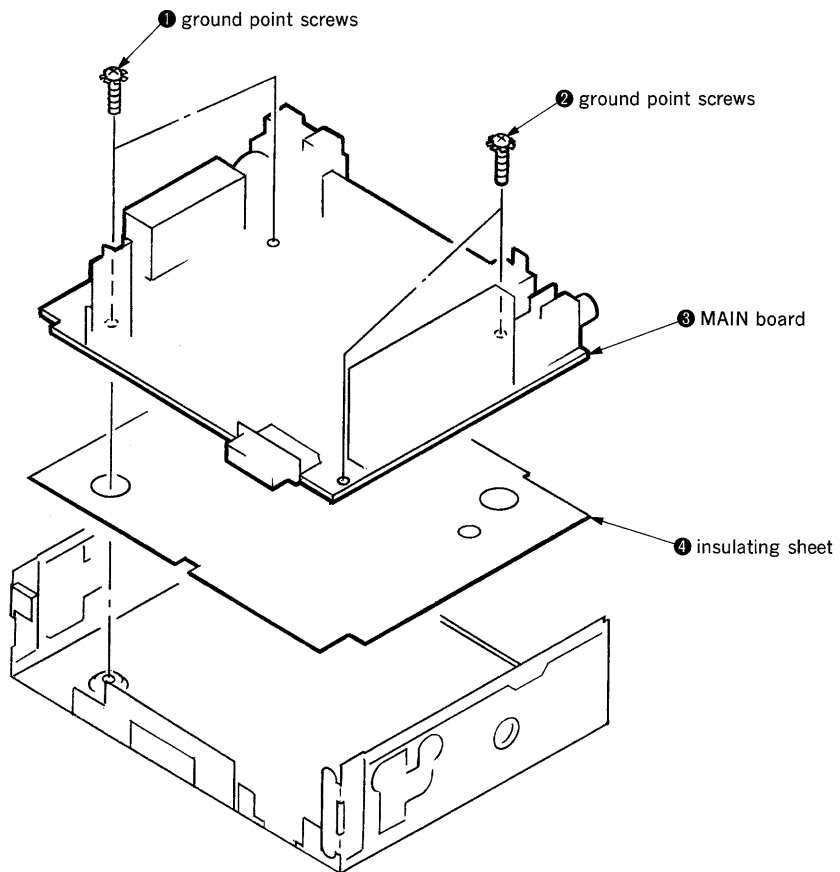
### 2-2. MD BLOCK



### 2-3. HEAT SINK



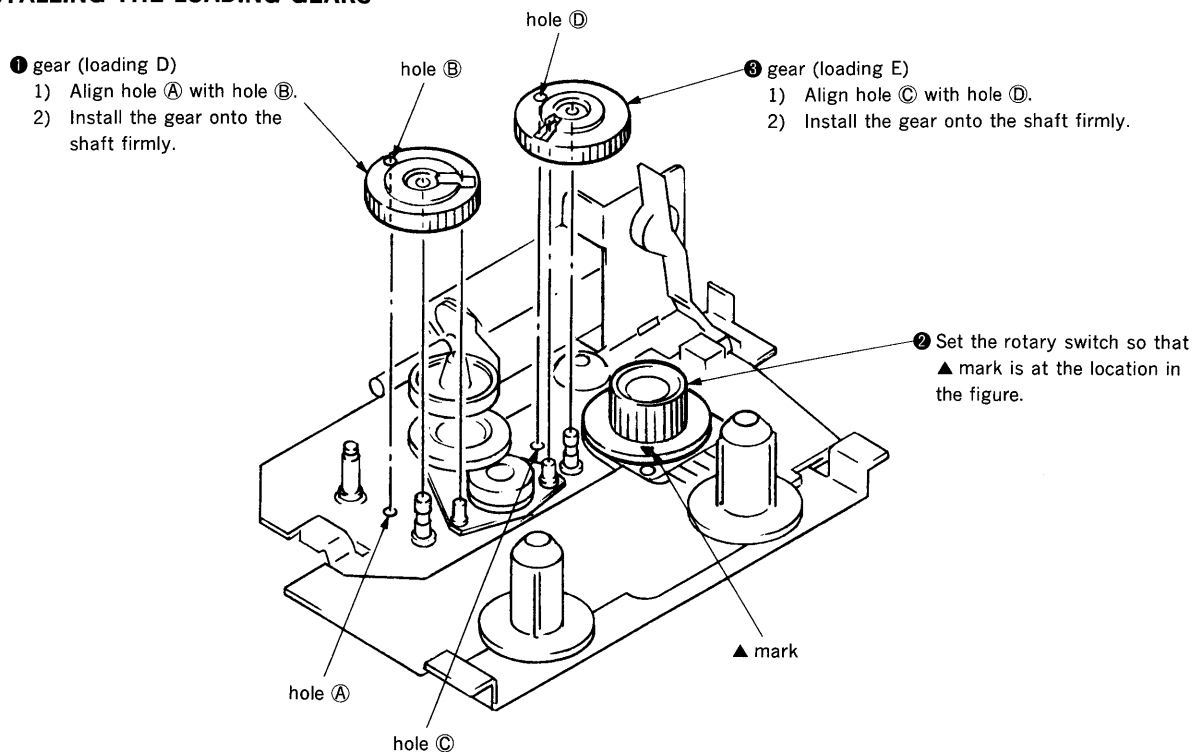
### 2-4. MAIN BOARD



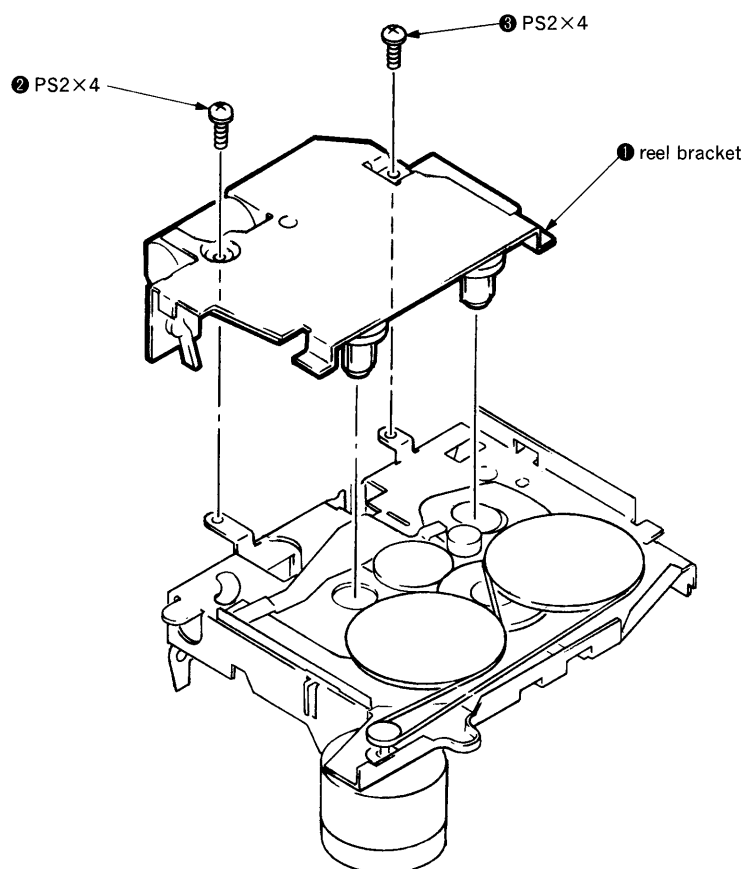
## SECTION 3 ASSEMBLY OF MECHANISM DECK

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

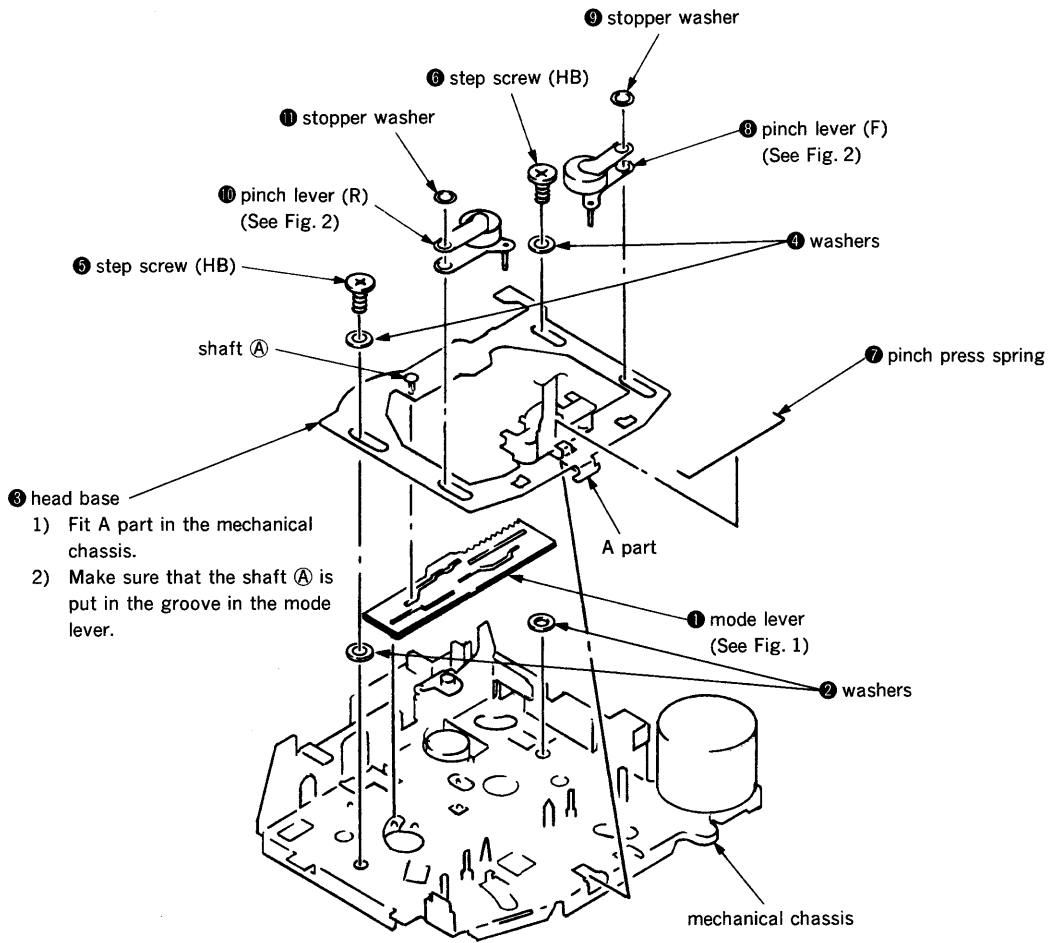
### 3-1. INSTALLING THE LOADING GEARS



### 3-2. INSTALLING THE REEL BRACKET



### 3-3. INSTALLING THE MODE LEVER AND PINCH LEVERS



- 1) Align ● mark on the rotary switch with hole on the mode lever.
- 2) Make sure that the two shafts and three projections are located as shown below.

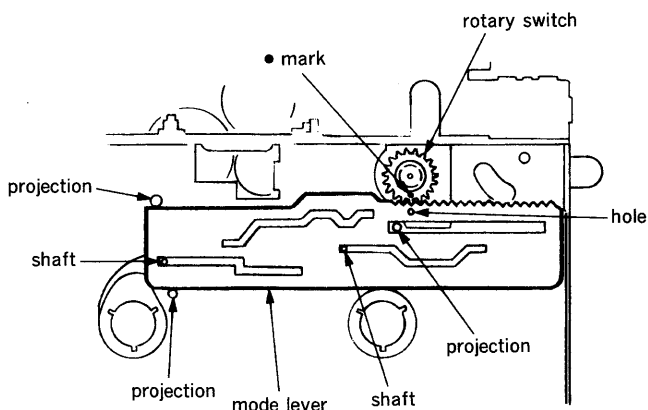


Fig. 1

- 1) Put the shafts of the pinch levers in the pinch press spring on its head side.

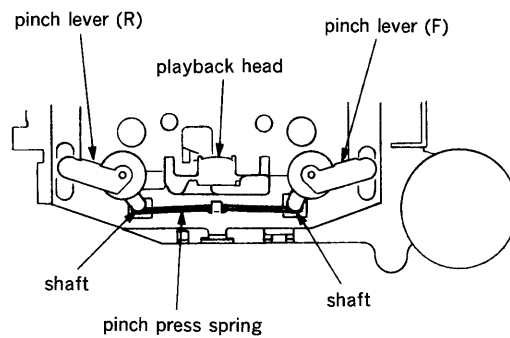


Fig. 2

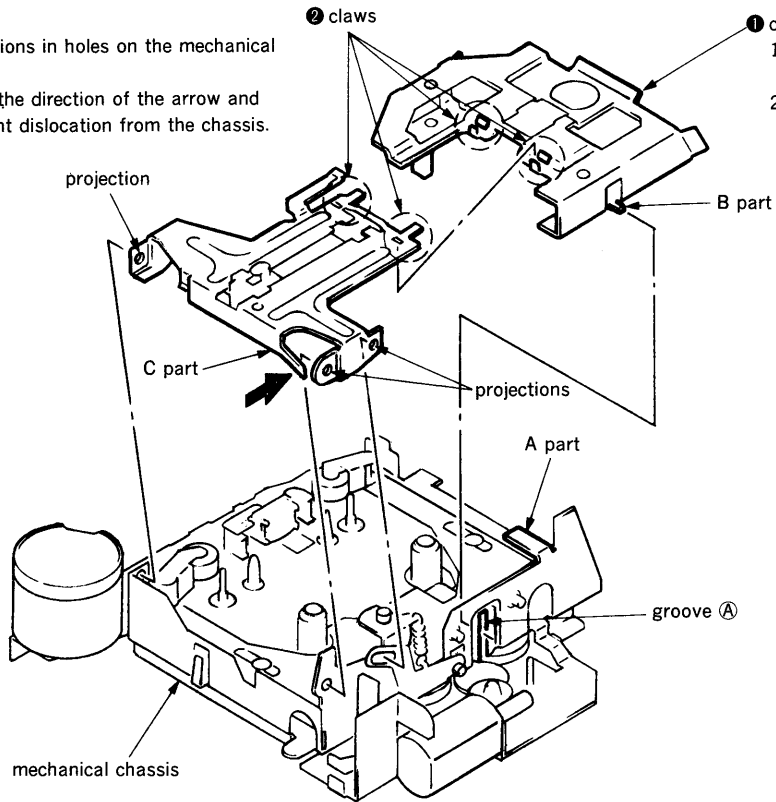
### 3-4. INSTALLING THE CASSETTE HOUSING

④ housing hanger

- 1) Fit three projections in holes on the mechanical chassis.
- 2) Bend C part in the direction of the arrow and fasten to prevent dislocation from the chassis.

① cassette housing

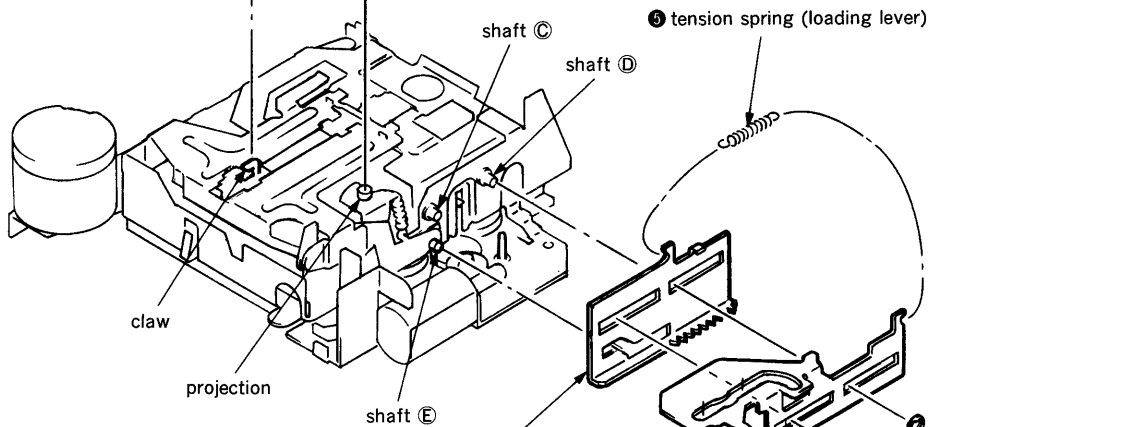
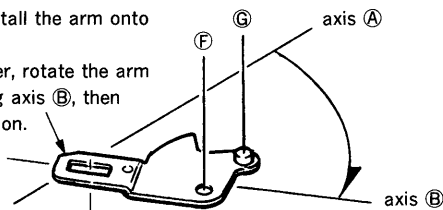
- 1) Put the cassette housing under A part.
- 2) Fit B part in groove ①.



### 3-5. INSTALLING THE LOADING LEVER

① suction arm

- 1) Align with axis ① and install the arm onto the claw.
- 2) With the claw in the center, rotate the arm so as to be directed along axis ②, then fit the arm on the projection.



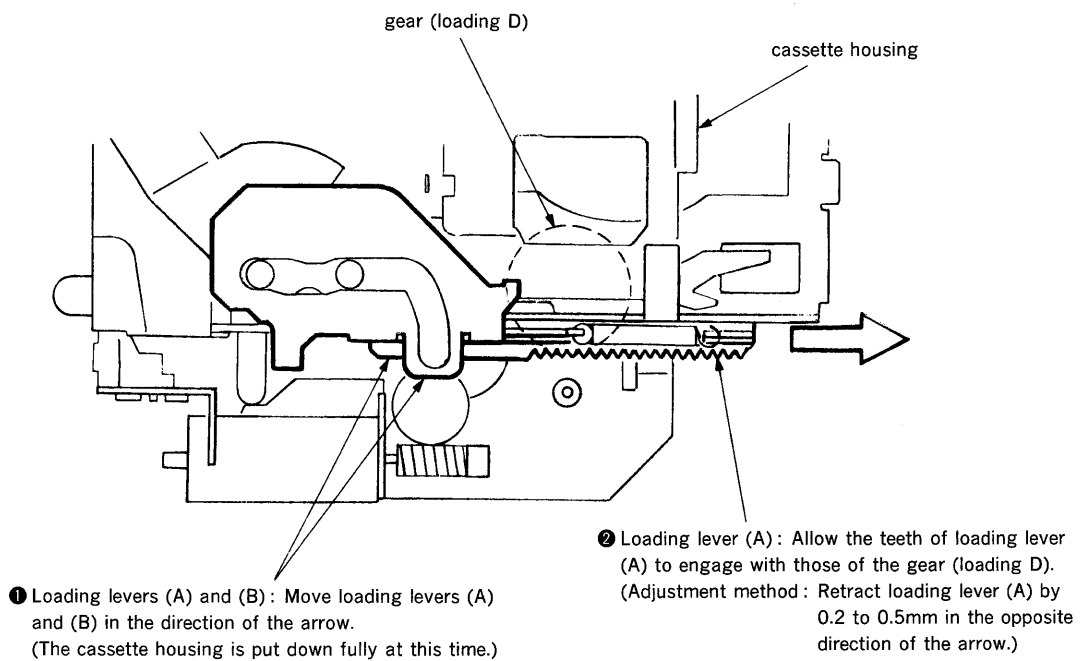
② loading lever (A)

- 1) Align the respective grooves with shafts ③, ④ and ⑤.

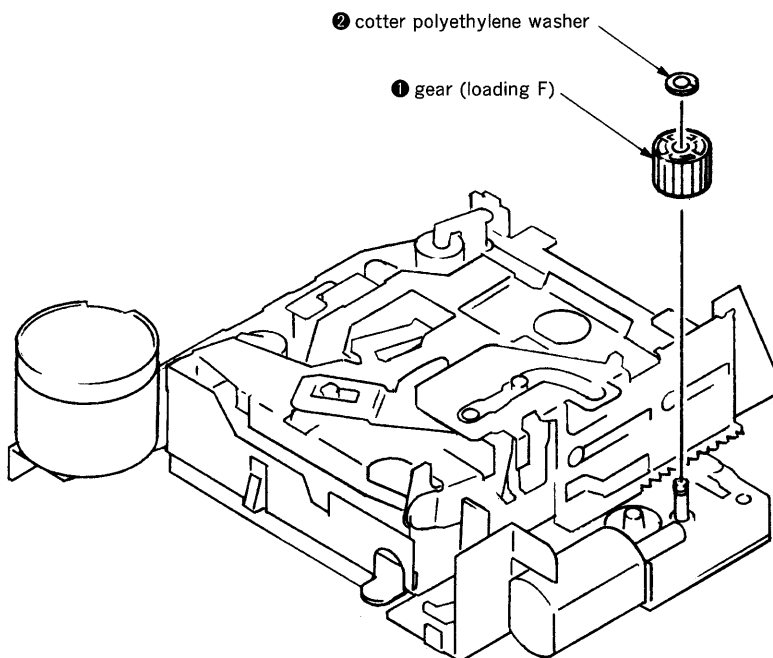
③ loading lever (B)

- 1) Align the respective grooves with shafts ③ and ④.
- 2) Align the groove with ⑥ and ⑦.

### 3-6. POSITIONING THE LOADING LEVERS



### 3-7. INSTALLING THE GEAR (LOADING F)





## SECTION 4 MECHANICAL ADJUSTMENTS

### PRECAUTION

- Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :
 

PB head	Pinch roller
Idler	Rubber belt
Capstan	
- Demagnetize the PB head using a head demagnetizer.
- Be careful not to use a magnetized screwdriver.
- After the adjustment is completed, lock the adjustment parts using screws.
- Unless otherwise specified, make adjustments at the specified voltage (26.0V).

### Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30–65g•cm (0.42–0.90 oz•inch)
FWD Back Tension		0.5–4.5g•cm (0.01–0.06 oz•inch)
REV	CQ-102RC	30–65g•cm (0.42–0.90 oz•inch)
REV Back Tension		0.5–4.5g•cm (0.01–0.06 oz•inch)
FF, REW	CQ-201B	60–200g•cm (0.83–2.78 oz•inch)

### Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 90g (more than 3.18 oz)
REV	CQ-403R	

## SECTION 5 ELECTRICAL ADJUSTMENTS

### TEST MODE

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

<Set the Test Mode>

- Set the "OFF" mode.
- Push the preset **[4]** button.
- Push the preset **[5]** button.
- Press the preset **[1]** button for more than two seconds.
- Then the display indicates all lights, the test mode is set.

<Release the Test Mode>

- Push the "OFF" button.

See the adjustment location from on page 21 for the adjustment.

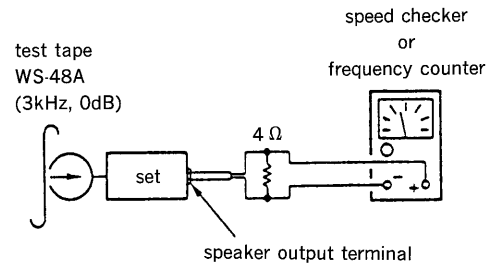
### DECK SECTION

**0dB=0.775V**

### Tape Speed Adjustment

#### Procedure :

- Put the set into the FWD PB mode.



#### Specification : Constant speed

Speed checker	Frequency counter
–1.5 to +2.5%	2,955 to 3,075Hz

**Adjustment Location :** See page 21.

### DOLBY Level Adjustment

#### Setting :

Preset **[3]** (DOLBY) button : OFF

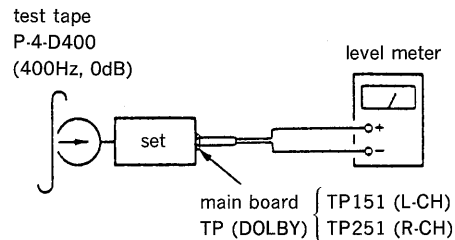
SEL (BAS) button : Center

SEL (TRE) button : Center

SEL (BAL) button : Center

SEL (FAD) button : Center

SEL (VOL) button : Maximum



#### Procedure :

- Put the set into the FWD PB mode.
- Adjust RV151 (L-CH) and RV251 (R-CH) so that level meter reading is  $-6 \pm 0.5$  dB (0.37 to 0.41V).
- Put the set into the REV PB mode.
- Confirm that level meter reading is within specification value.

**Adjustment Location :** See page 21.

**TUNER SECTION**

**0dB=1 $\mu$ V**

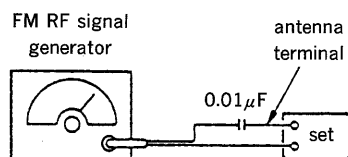
**Cautions during repair**

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

**FM Auto Scan/Stop Level Adjustment**

**Setting :**

TUNER button : FM

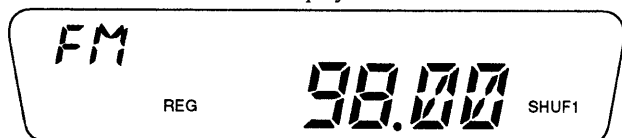


Carrier frequency : 98.00MHz  
 Output level : 22dB (12.6 $\mu$ V)  
 Mode : mono  
 Modulation : 1kHz, 22.5kHz deviation (30%)

**Procedure :**

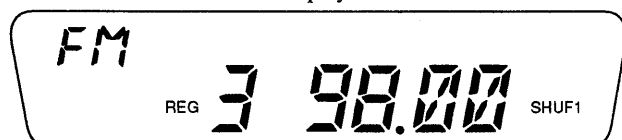
1. Set to the test mode. (See page 17.)
2. Push the **TUNER** button and set to FM.

Display



3. Push the preset **3** button.

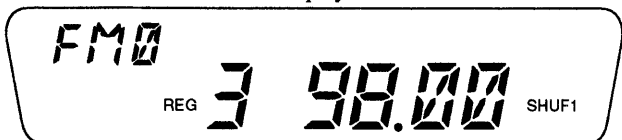
Display



4. Adjust with the volume RV2 on TU1 so that the "FM" indication turns to "FM0" indication on the display window.

But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

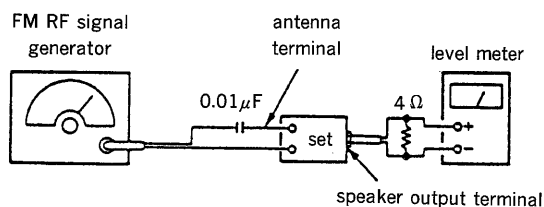


**Adjustment Location :** See page 21.

**FM Stereo Separation Adjustment**

**Setting :**

TUNER button : FM



Carrier frequency : 98.00MHz  
 Output level : 70dB (3.2mV)  
 Mode : stereo  
 Modulation : main : 1kHz, 20kHz deviation (26%)  
 sub : 1kHz, 20kHz deviation (26%)  
 19kHz pilot : 7.5kHz deviation (10%)

**Procedure :**

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation : Ⓐ - Ⓑ

R-CH Stereo separation : Ⓒ - Ⓓ

The separations of both channels should be equal.

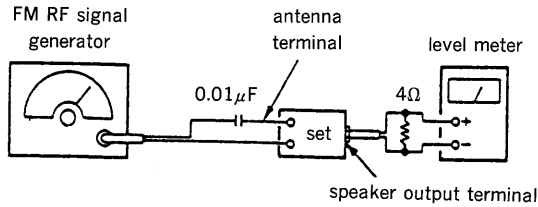
**Specification :** Separation more than 26dB

**Adjustment Location :** See page 21.

### FM Noise Focus Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.00MHz  
 Output level : 60dB (1mV)  
 Mode : stereo  
 Modulation : 1kHz, 75kHz deviation (100%)

#### Procedure :

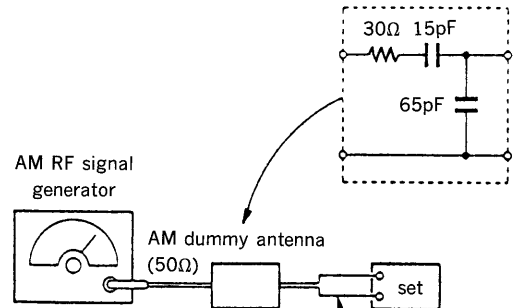
1. Tune the 98.00MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A)−30±1dB then signal generator input set to −20dB.

Adjustment Location : See page 21.

### MW Auto Scan/Stop Level Adjustment

Setting :

TUNER button : MW

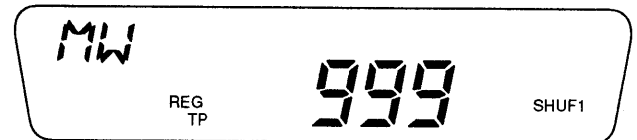


Carrier frequency : 999kHz  
 30% amplitude modulation by 1kHz signal  
 Output level : 33dB (44.7μV)

#### Procedure :

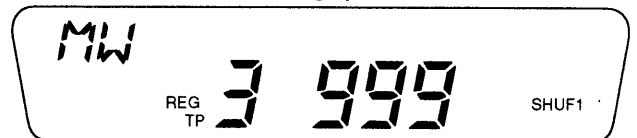
1. Set to the test mode. (See page 17.)
2. Push the **TUNER** button and set to MW.

Display



3. Push the preset **[3]** button.

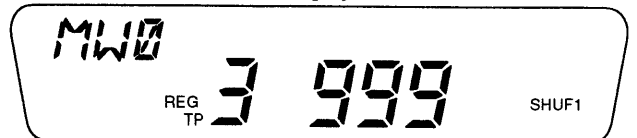
Display



4. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MW0" indication on the display window.

But, in case of already indicated "MW0", turn the RV1 so that put out light "0" indication and adjustment.

Display

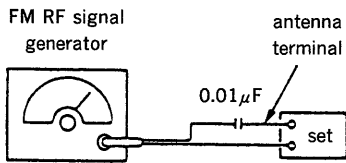


Adjustment Location : See page 21.

## RDS S-Meter Adjustment

### Setting :

TUNER button : FM

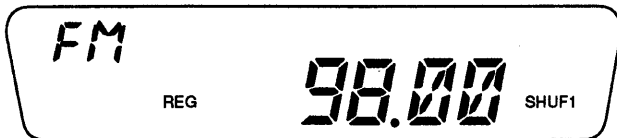


Carrier frequency : 98.00MHz  
Output level : 35dB (56.2μV)  
Mode : mono  
Modulation : no modulation

### Procedure :

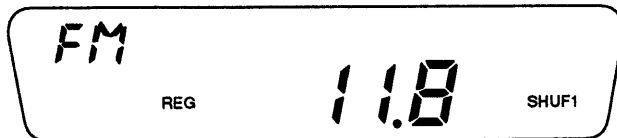
1. Set to the test mode. (See page 17.)
2. Push the **TUNER** button and set to FM.

Display



3. Push the preset **6** button.
4. Adjust RV331 so that the display indication is "11.8".

Display

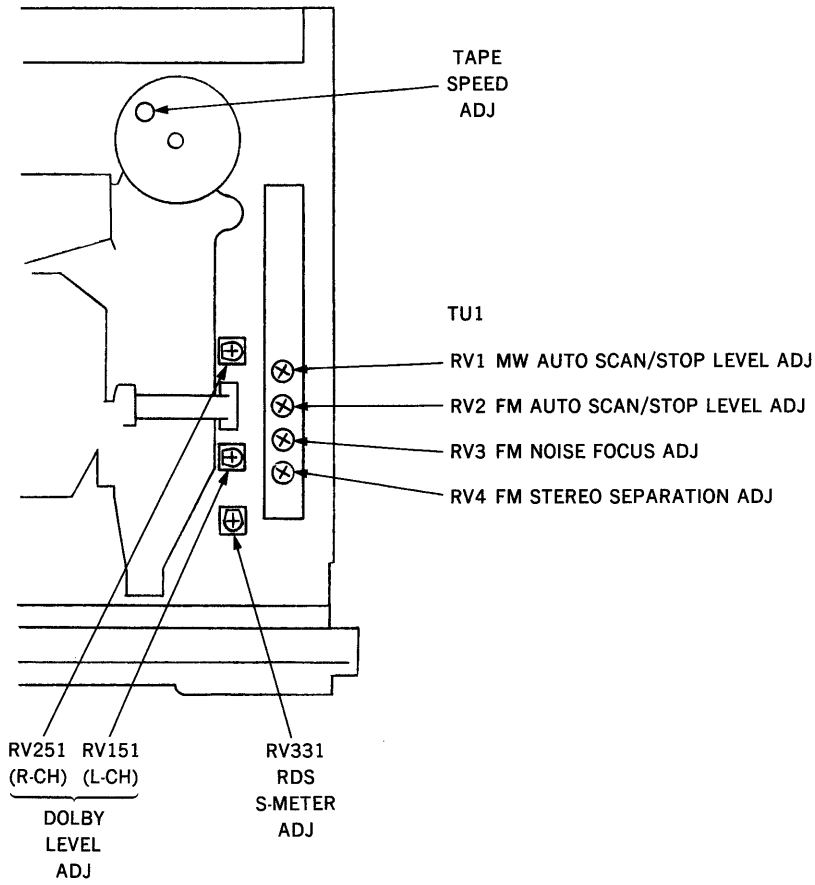


**Specification :** Display indication : 11.6 to 12.0

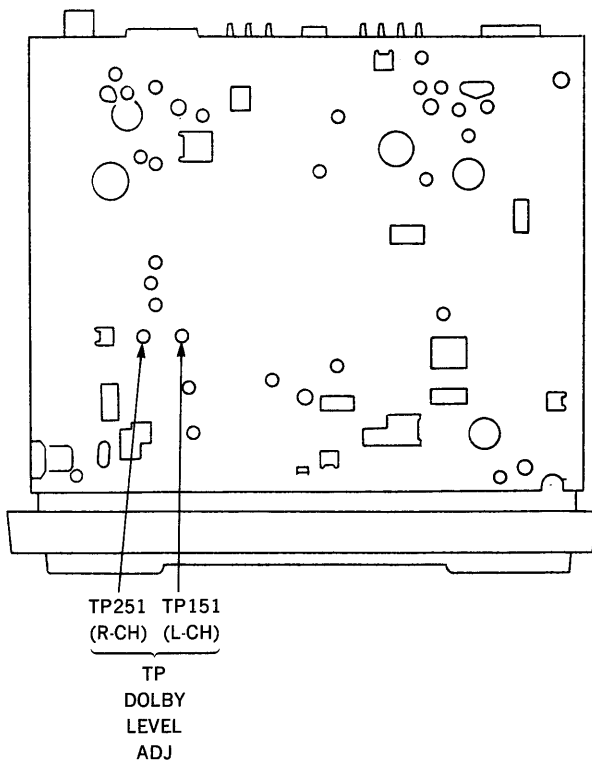
**Adjustment Location :** See page 21.

**Adjustment Location :**

—SET UPPER VIEW—



—SET LOWER VIEW—



## SECTION 6 DIAGRAMS

### 6-1. IC PIN DESCRIPTIONS

#### • IC301 $\mu$ PD75518GF-327-3B9 (System Control)

Pin No.	Pin Name	I/O	Pin Description
1	KI0	I	KEY input
2	VREF	I	A/D reference voltage input
3, 4	VDD	—	Power supply terminal
5	NC	—	No connection
6	P-ON	O	At P-ON : High output
7	ILL-ON	O	At ACC-ON : High output (P-SEL : ON). At P-ON : High output (P-SEL : OFF). Not used in this set.
8	COLOR	O	At AMBER : Low output, at GREEN : High output
9	MUTE	O	At MUTE : High output
10	AUX-MUTE	—	Not used in this set.
11	DOLBY-ON/OFF	O	At DOLBY-NR ON : Low output
12	—	—	No connection
13	TAPE-MUTE	O	Except for TAPE PLAYBACK : Low output (At movement on FF, REW and AMS : High output)
14	AMP-ON	O	Inner power amplifier control terminal. At AMP-ON : High output
15	C-MOTOR	O	Capstan motor control terminal. At MOTOR-ON : High output
16	LCD-INH	O	INHIBIT signal to LCD driver IC. At Low output : Light off
17	TEST MODE	I	At Low input : TEST MODE 1. Input available at timing only of RESET L to H and BU CHECK L to H.
18	LCD-DATA	O	DATA output terminal to LCD driver IC.
19	LCD-CLK	O	CLOCK output terminal to LCD driver IC.
20	LCD-CE	O	LATCH output terminal to LCD driver IC.
21	VOL-CE	O	LATCH output terminal to VOL IC.
22	—	—	No connection
23	CLK OUT-VOL	O	CLOCK output terminal to VOL IC.
24	DATA OUT-VOL	O	DATA output terminal to VOL IC
25	—	—	No connection
26	NOR/MTL	I/O	At AUTO METAL : METAL input terminal. At METAL : Low input, at NORMAL : High input. At no AUTO METAL : METAL output terminal. At METAL : Low input, at NORMAL : High input.
27	EJECT	O	LOADING MOTOR control terminal. At moving in the direction of EJECT : High output.
28	LOAD	O	LOADING MOTOR control terminal. At moving in the direction of LOAD and PLAY : High output
29—32	POS4—POS1	I	MD position detection terminal
33	GND	—	GND
34	REEL2	I	MD reel table rotation detection terminal. FWD supply side
35	REEL1	I	MD reel table rotation detection terminal. FWD take-up side
36	AUTO-MTL	—	Connect to GND.
37	AMS-IN	I	TAPE music with/without detection terminal. Low input : With music, High input : Without music
38	EEPROM-DATA	—	Connect to GND.
39	EEPROM-CLK	—	Not used.
40	N/R	O	NORMAL/REVERSE output terminal
41	TAPE ON	O	OR output of LM•EJECT and LM•LOAD. At one side ACTIVE : High output, at REEL detection : High output
42	SYSTEM RESET	O	UNILINK SYSTEM RESET terminal. Low output : SYSTEM RESET

Pin No.	Pin Name	I/O	Pin Description
43	BUS-ON	O	For UNILINK terminal
44	CLK-OUT	O	For UNILINK terminal
45	BEEP	O	For piezoelectric buzzer output terminal
46	ACC-CHECK	I	Accessory detection terminal. Low input : ACC ON
47	KEY-ACK	I	KEY ACKNOWLEDGE input terminal. For KEY insert input
48	C-ALARM	I	Caution alarm with/without initial setting terminal. Low input : With caution alarm. Connect to GND in this set.
49	SIRCS-IN	I	SIRCS (REM DET) input terminal
50	DATA-IN	I	For UNILINK terminal
51	DATA-OUT	O	For UNILINK terminal
52	CLK-IN	I	For UNILINK terminal
53	BU. CHECK	I	Back Up voltage detection terminal
54	VSS	—	GND
55	XT1	—	Connect to GND.
56	XT2	—	Not used.
57	IO	—	Connect to GND.
58	X1	—	Connect to crystal. (4.19MHz)
59	X2	—	Connect to crystal. (4.19MHz)
60	RESET	I	RESET input
61	COLOR (ON/OFF)	I	Illumination color select with/without initial setting terminal. Low input : Without select
62	COLOR. SEL	—	Connect to GND in this set.
63—65	—	—	Connect to GND.
66	TEL-MUTE	I	Low input : 20dB audio mute
67	—	—	Connect to GND.
68	N-SW	I	Low input : With front panel
69	—	—	No connection
70	—	O	(ILL ON 2)
71	KEY-ACT	O	Reverse pin ⑤ and Active output terminal
72	AMP MUTE	O	MUTE output terminal to inner power amplifier control terminal at AMP-OFF : Low output
73	A. GND	—	GND
74	DOLBY. SEL	I	DOLBY NR function with/without initial setting terminal. Low input : With DOLBY
75	P-SEL	I	POWER SELECT switch input. Normally, fixed at Low input in this set. High input : ON, Low input : OFF. (Low input : Setting without ACC position)
76—79	—	—	No connection
80	KI1	I	KEY input terminal

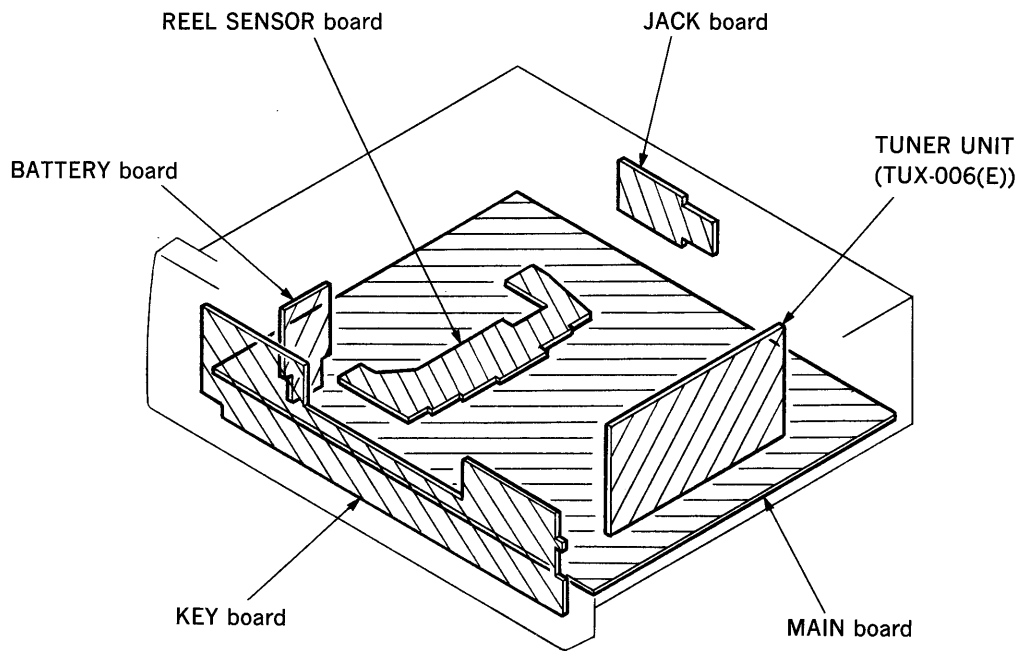
• IC331 MN1883220SZF (Tuner Control)

Pin No.	Pin Name	I/O	Pin Description
1—6	—	—	Not used. (open)
7	VDD	—	Power supply terminal (+5V)
8	X1	I	Clock input (8MHz)
9	X2	O	Clock output (8MHz)
10	GND	—	GND
11	XI	I	Not used. (open)
12	—	—	Not used. (open)
13	XO	O	Not used. (Connect to GND.)
14	RESET	I	Reset signal input
15	RDS-CLK	I	RDS CLK signal input from the RDS decoder (IC332).
16	BU-CHECK	I	Backup power supply detection input. "H" : Backup ON
17	BUS-ON-IN	I	BUS interface ON/OFF selection input from the system control (IC301).
18—29	—	—	Not used. (open)
30	RDS-DATA	I	RDS DATA signal input from the RDS decoder (IC332).
31	—	—	Not used. (Connect to GND.)
32—35	—	—	Not used. (open)
36, 37	—	—	Not used. (Connect to GND.)
38	PLL-DI	I	Data input from the PLL (IC2).
39	PLL-DO	O	Data output to the PLL (IC2).
40	PLL-CLK	O	Clock output to the PLL (IC2).
41	PLL-CE	O	Chip enable output to the PLL (IC2).
42	RQ	O	BUS interface request output. Terminal for requesting communication Requests at "H".
43	LINK-OFF	O	BUS interface link ON/OFF selection output. "H" : LINK OFF
44	SCK	I	Serial clock input from the system control (IC301).
45	SI	I	Data input from the BUS interface (IC381).
46	SO	O	Data output to the BUS interface (IC381).
47	VDD	—	Power supply terminal (+5V)
48	AVDD	—	Power supply terminal (+5V)
49	VREF	I	Reference voltage input terminal of A/D conversion.
50—53	—	—	Not used. (Connect to GND.)
54	DIST-SEL1	I	Model selection input terminal. (Connect to GND.)
55	DIST-SEL2	I	Model selection input terminal. (Connect to GND.)
56	AM-S-METER	I	AM S meter voltage detection input
57	FM-S-METER	I	FM S meter voltage detection input. Uses the A/D conversion functions during BTM and RDS.
58—60	—	—	Not used. (Connect to GND.)
61	MODE2	O	Tuner ON/OFF selection output to the power regulator (IC501).
62	—	—	Not used. (open)
63	RECEIVE	O	Receive input. Input level "L" when change the frequency.
64	—	—	Not used. (open)
65	MODE1	O	FM ON/OFF selection output to the power regulator (IC501).
66	TUNER-MUTE	O	Muting control signal output

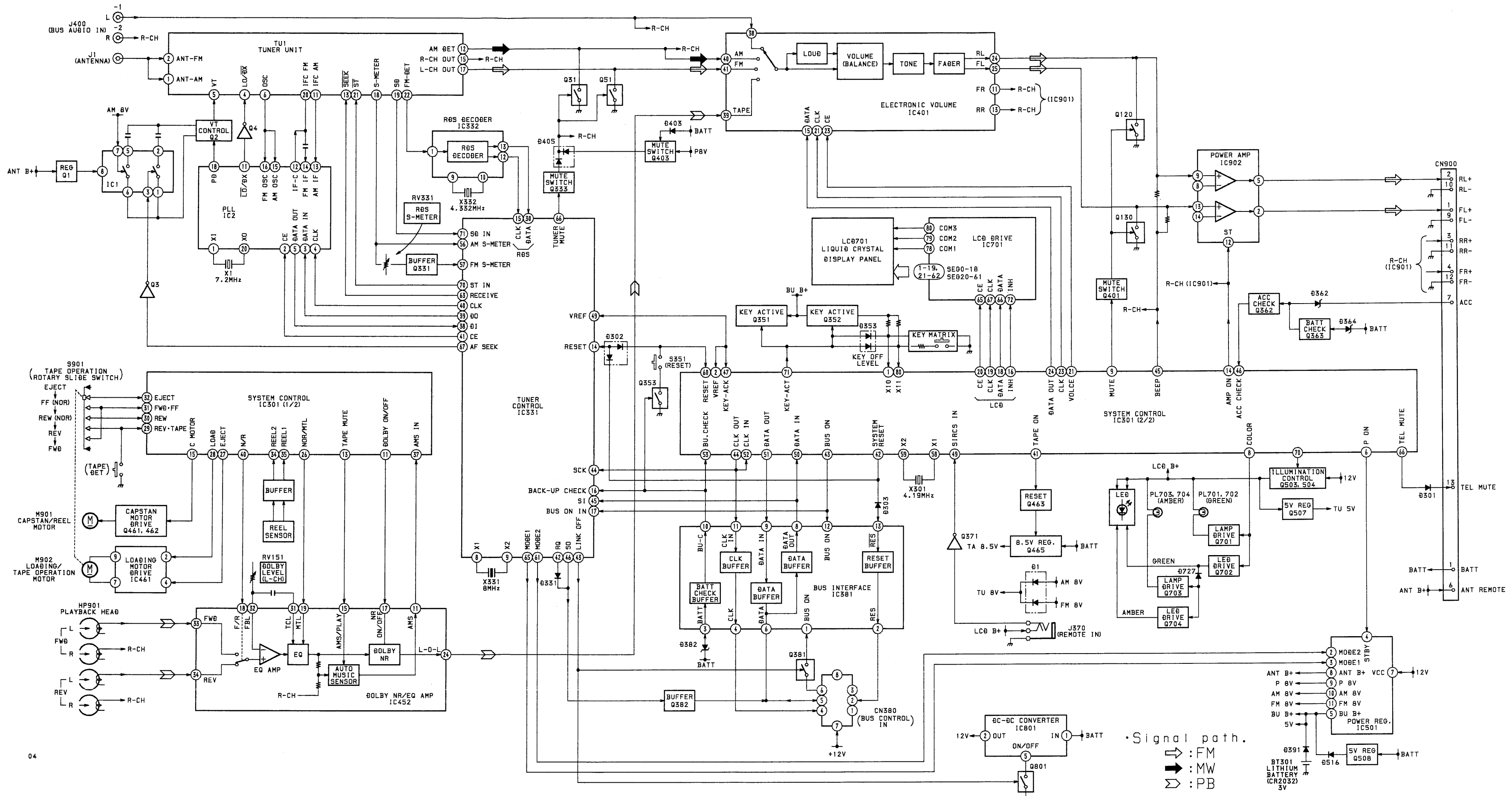


Pin No.	Pin Name	I/O	Pin Description
67	AF-SEEK	O	AF seek control output
68	—	—	Not used. (Connect to GND.)
69	—	O	Not used. (open)
70	ST-IN-MONO	I/O	Stereo indicator control input
71	SD-IN	I	SD input
72—80	—	—	Not used. (open)

## 6-2. CIRCUIT BOARDS LOCATION



6-3. BLOCK DIAGRAM

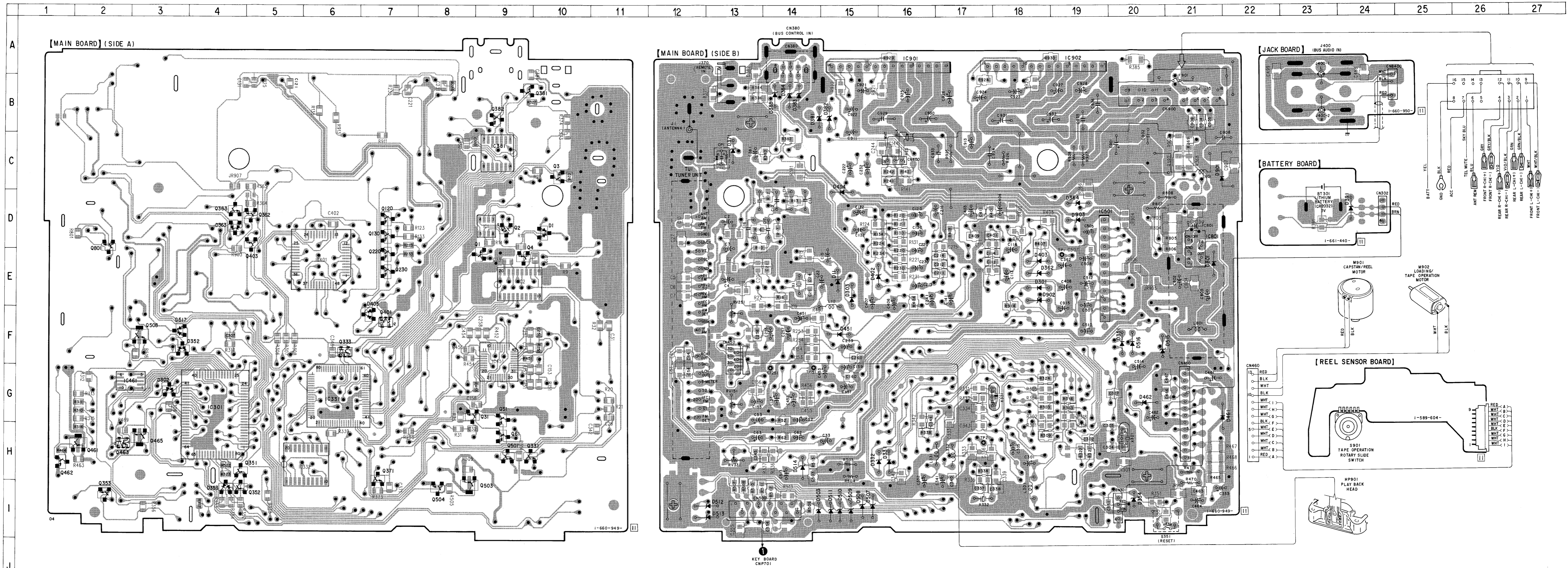


6-4. PRINTED WIRING BOARDS—MAIN SECTION—

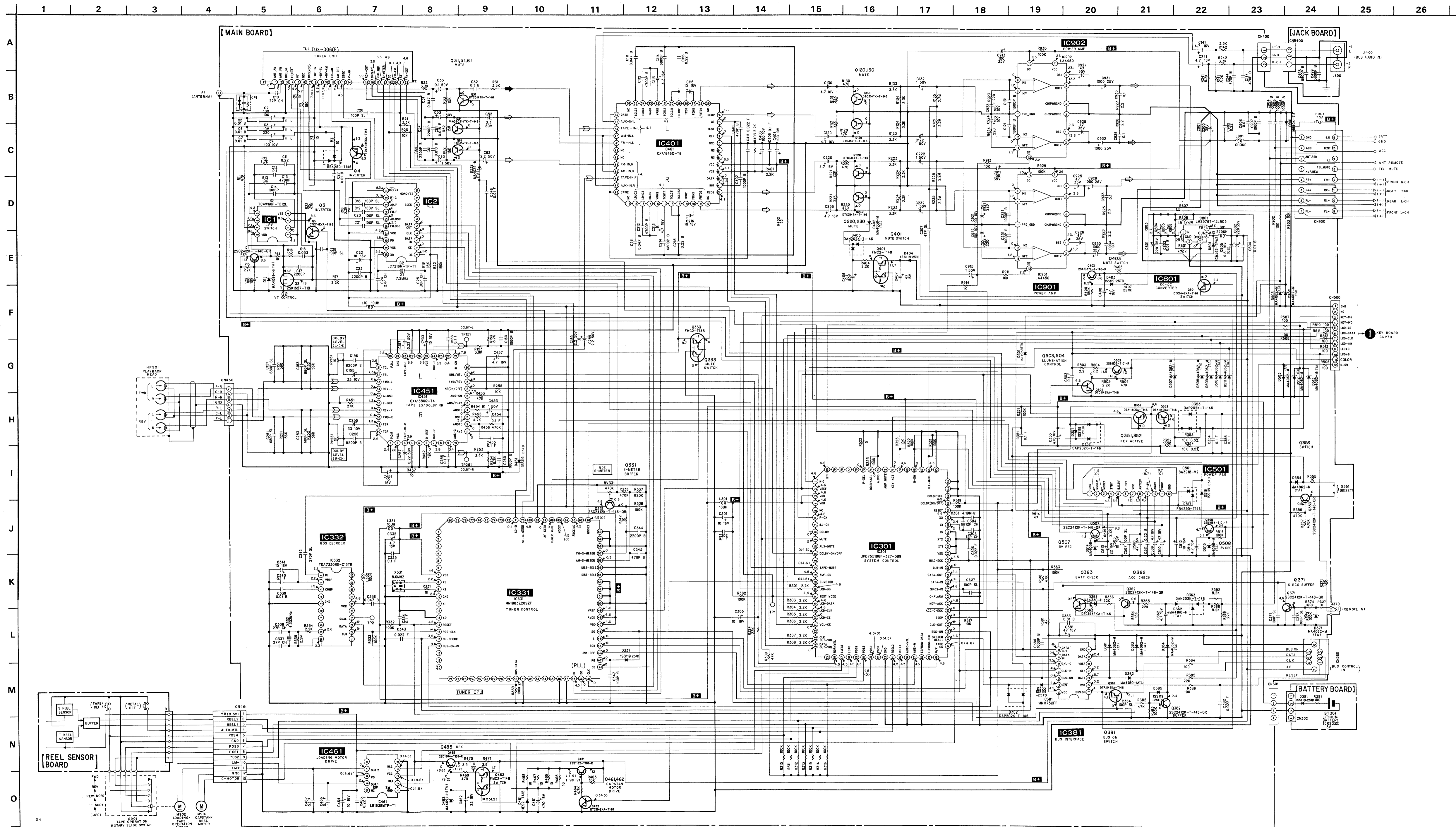
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1	D-10	IC2	E-9
D11	E-15	IC301	G-4
D301	E-18	IC331	G-6
D302	G-3	IC332	H-6
D303	E-15	IC381	C-9
D331	H-16	IC401	E-6
D332	H-15	IC451	F-9
D351	F-20	IC461	G-2
D352	F-3	IC501	D-19
D353	I-4	IC801	D-21
D354	I-20	IC901	A-16
D362	E-18	IC902	A-19
D363	D-4		
D364	D-19	Q1	E-9
D371	C-13	Q2	D-9
D381	B-14	Q3	C-10
D382	B-15	Q4	E-9
D383	B-14	Q31	G-8
D384	B-14	Q51	G-9
D385	B-14	Q61	H-9
D391	D-24	Q120	D-7
D402	E-15	Q130	D-7
D403	E-18	Q220	E-7
D404	C-15	Q230	E-7
D405	F-7	Q331	H-9
D451	F-15	Q333	F-6
D461	G-21	Q351	H-5
D462	G-20	Q352	I-5
D503	I-14	Q353	I-2
D507	I-15	Q362	D-5
D508	I-15	Q363	D-4
D509	I-15	Q371	H-7
D510	I-15	Q381	B-9
D511	I-15	Q382	B-9
D512	I-13	Q401	F-7
D513	I-13	Q403	D-5
D514	H-14	Q461	H-2
D515	F-20	Q462	H-1
D516	F-20	Q463	H-2
D517	F-3	Q465	H-3
D801	E-21	Q503	I-8
D901	C-21	Q504	I-8
D902	E-18	Q507	H-9
D903	D-19	Q508	F-3
		Q801	D-2
IC1	D-9		

Note:  
 ○ : parts extracted from the component side.  
 ● : Through hole.  
 ■ : Pattern on the side which is seen.  
 (The other layer's patterns are not indicated.)



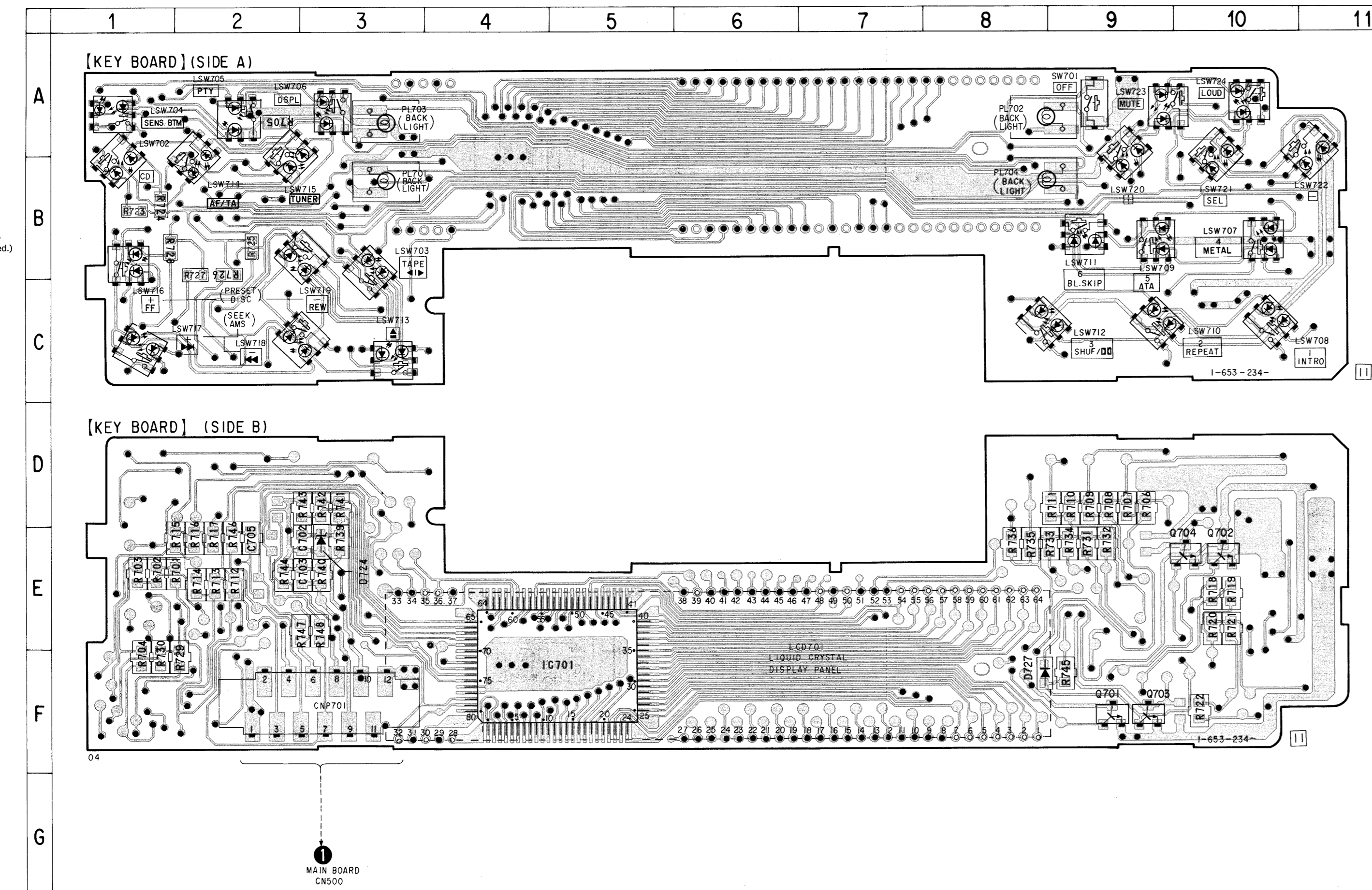
6-5. SCHEMATIC DIAGRAM—MAIN SECTION— Refer to page 43 for IC Block Diagrams.



**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 W or less unless otherwise specified.
- $\Delta$  : internal component.
- $\text{S}_c$  : indicates tolerance.
- $\text{B}+$  : B+ Line
- $\text{+}$  : adjustment for repair.
- Power voltage is dc 26.0V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- $\leftarrow$  : MW
- $<$  : PB
- $\times$  : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path:
  - $\rightarrow$  : FM
  - $\rightarrow$  : MW
  - $\rightarrow$  : PB

6-6. PRINTED WIRING BOARD—PANEL SECTION—

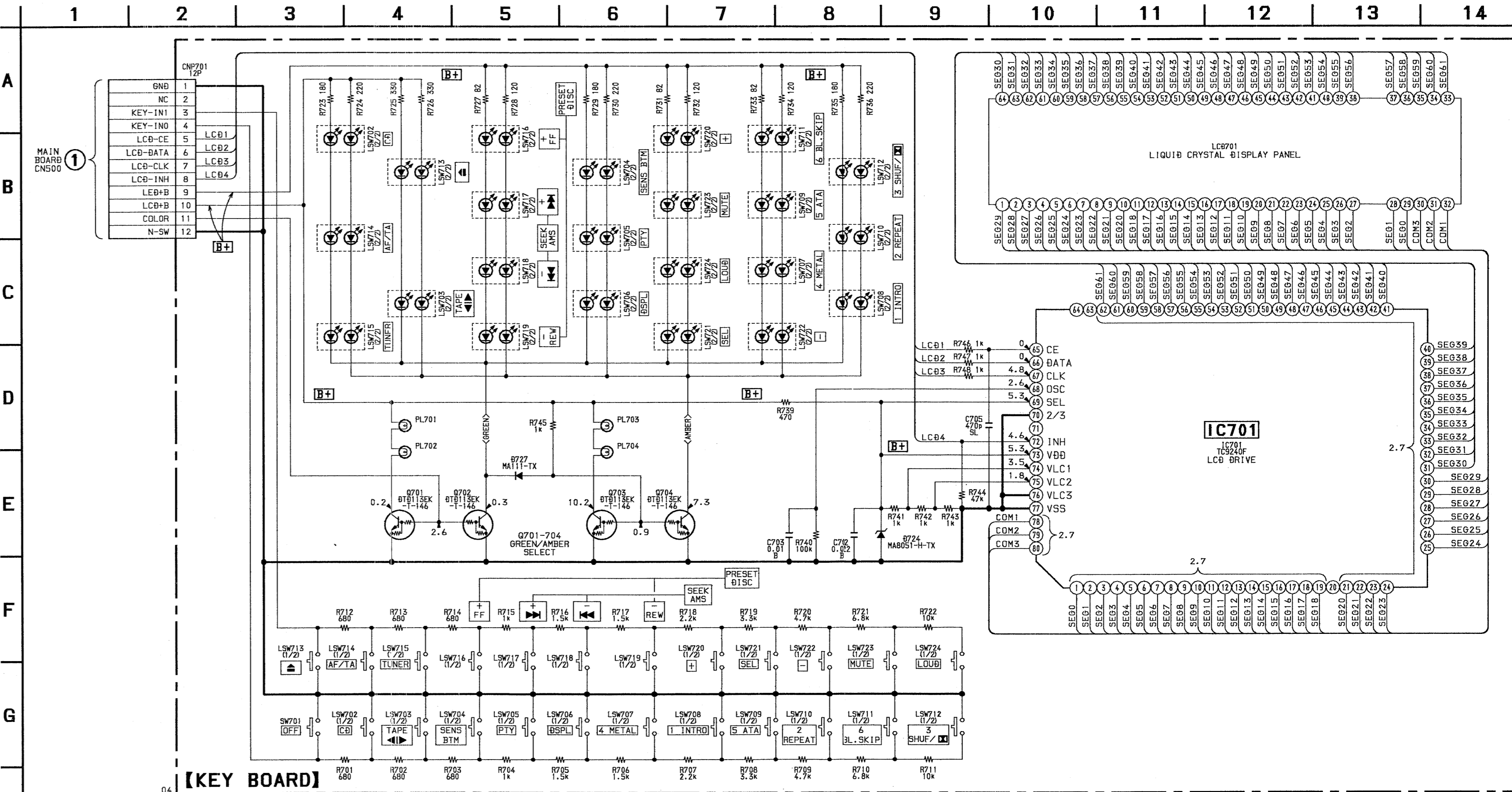


• Semiconductor Location

Ref. No.	Location
D724	E-3
D727	F-8
IC701	F-5
Q701	F-9
Q702	E-10
Q703	F-9
Q704	E-10

Note:  
 • : Through hole.  
 • : Pattern on the side which is seen.  
 (The other layer's patterns are not indicated.)

6-7. SCHEMATIC DIAGRAM—PANEL SECTION—

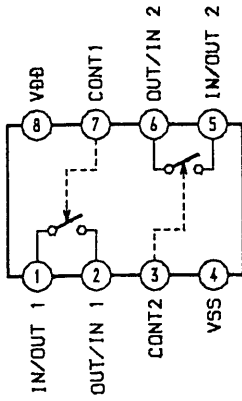


Note:

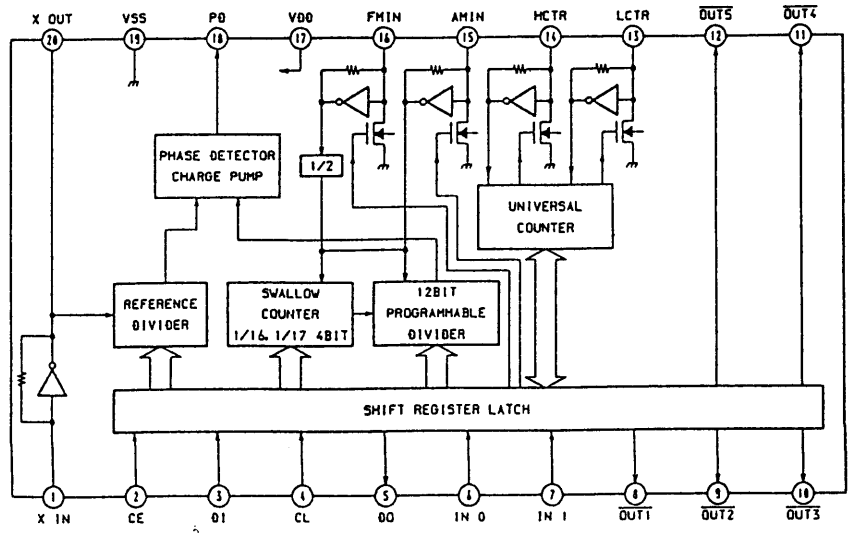
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 26.0V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.

• IC Block Diagrams

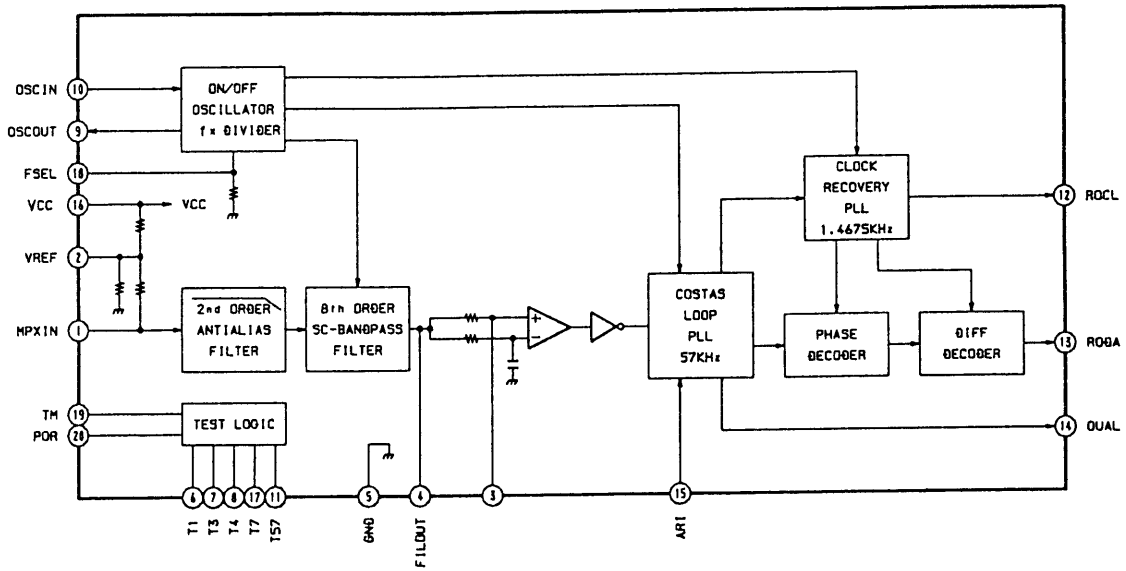
IC1 TC4W66F-TE12L



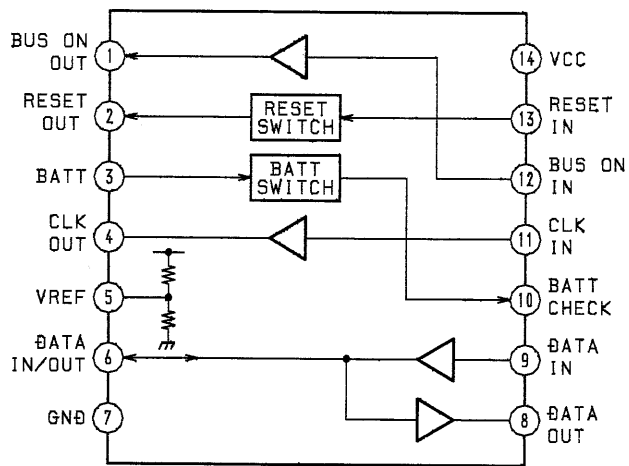
IC2 LC7216M-TP-T1



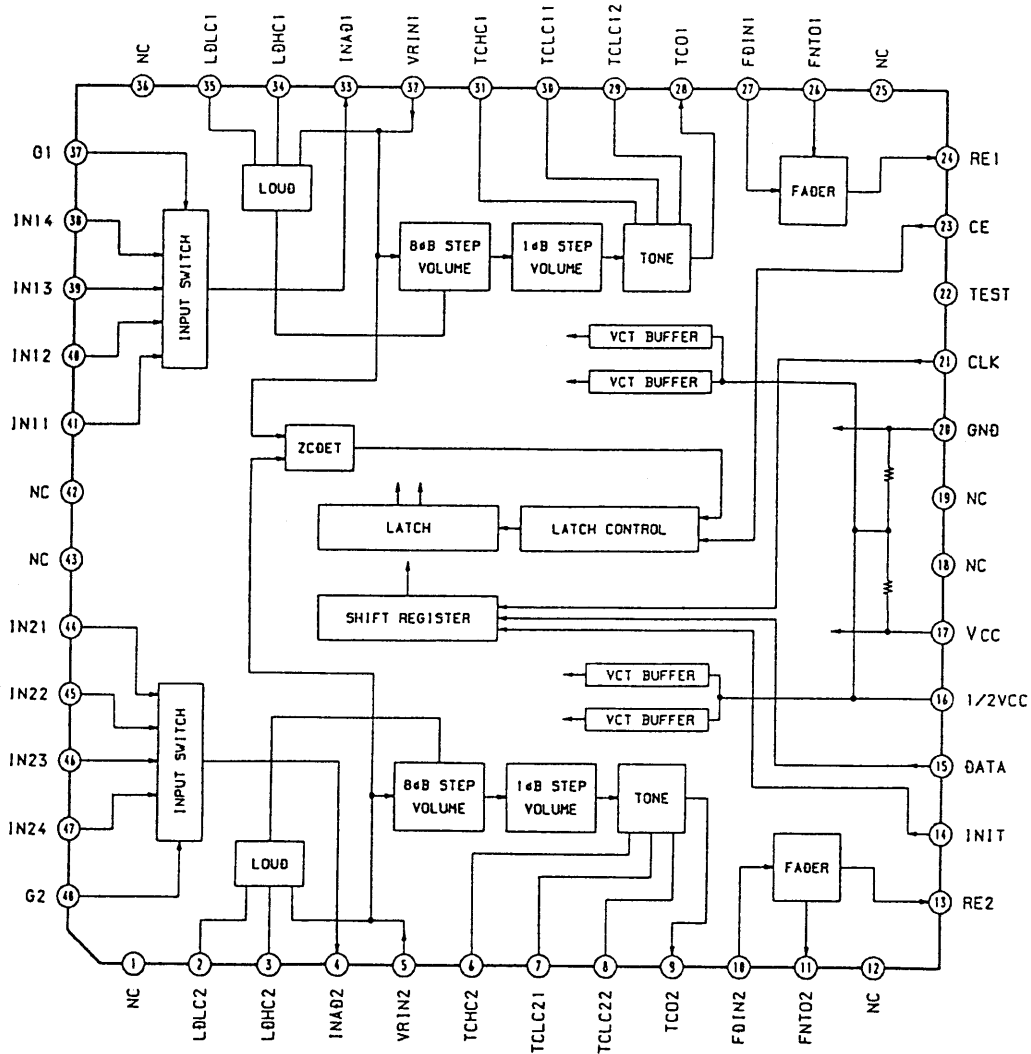
IC332 TDA7330BD-C13TR



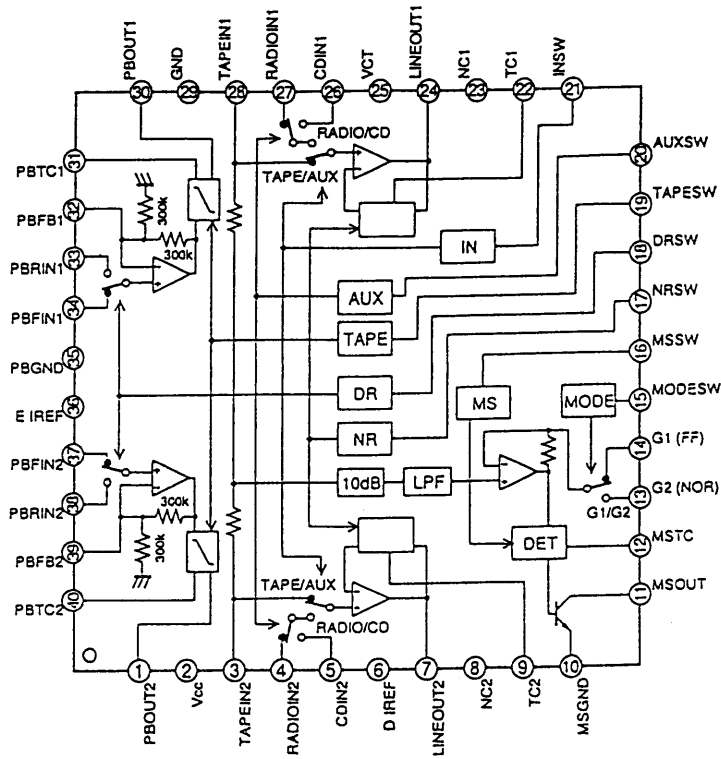
**IC381 MM1175XFF**



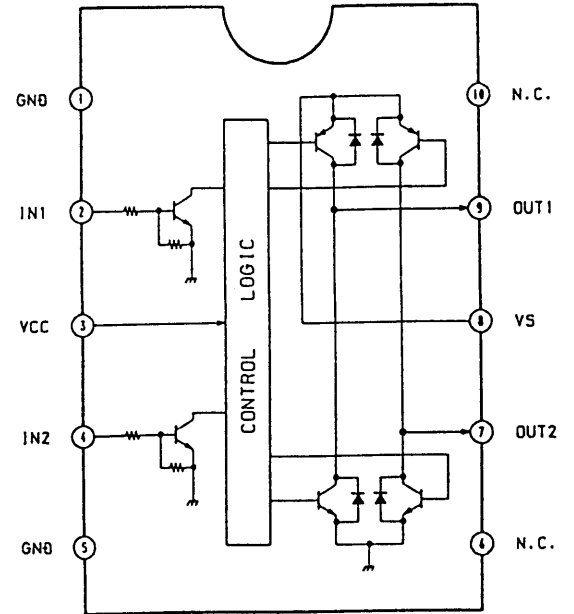
**IC401 CXA1646Q-T6**



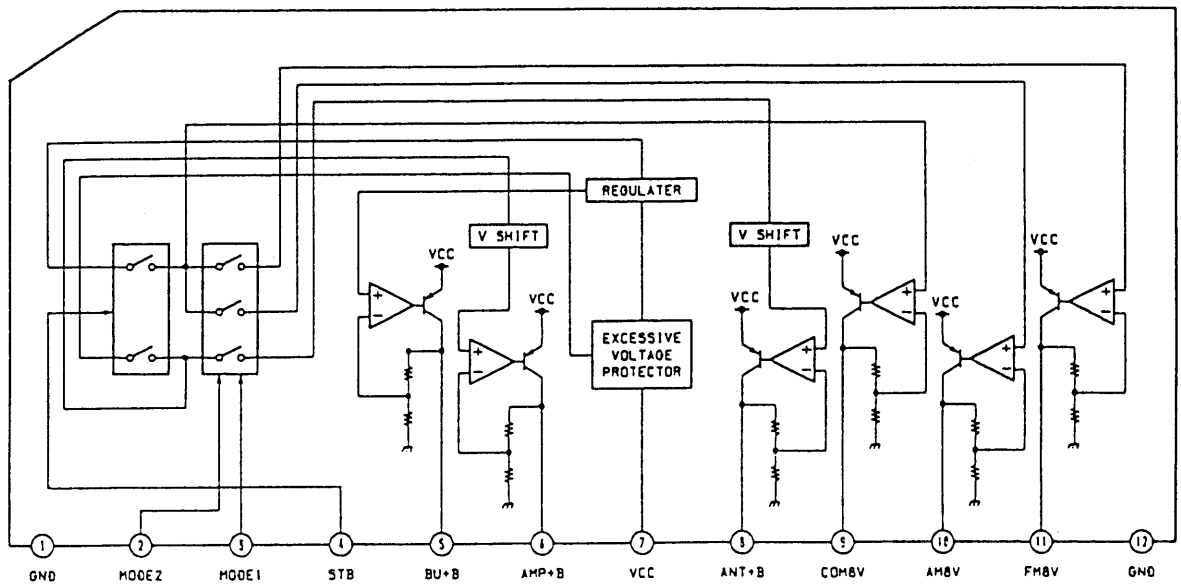
IC451 CXA1580Q-T4



IC461 LB1638MTP-T1



IC501 BA3918-V2





## SECTION 7 EXPLODED VIEWS

**NOTE:**

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

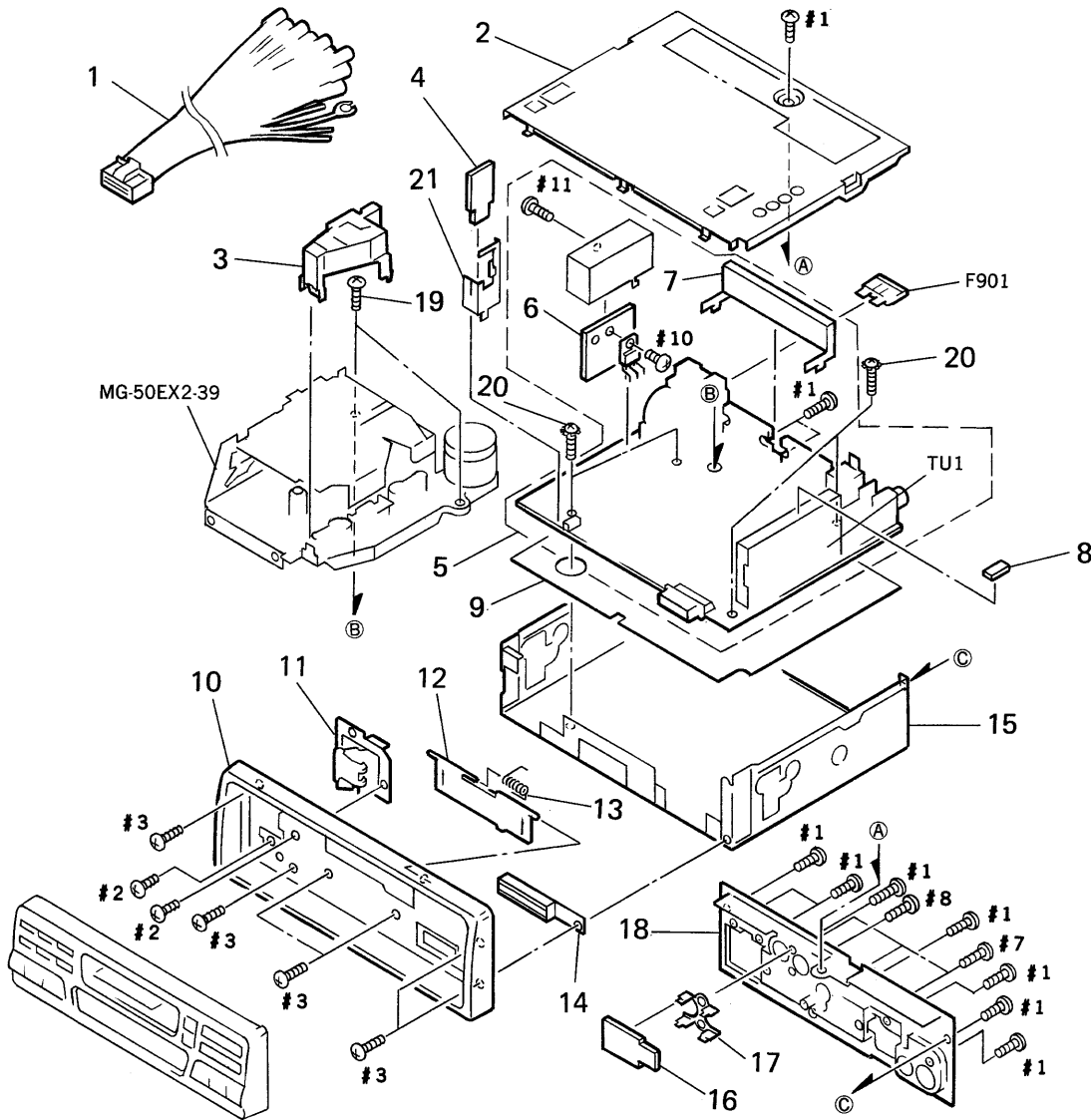
Example :

KNOB, BALANCE (WHITE)... (RED)

↑                      ↑  
 Parts Color    Cabinet's Color

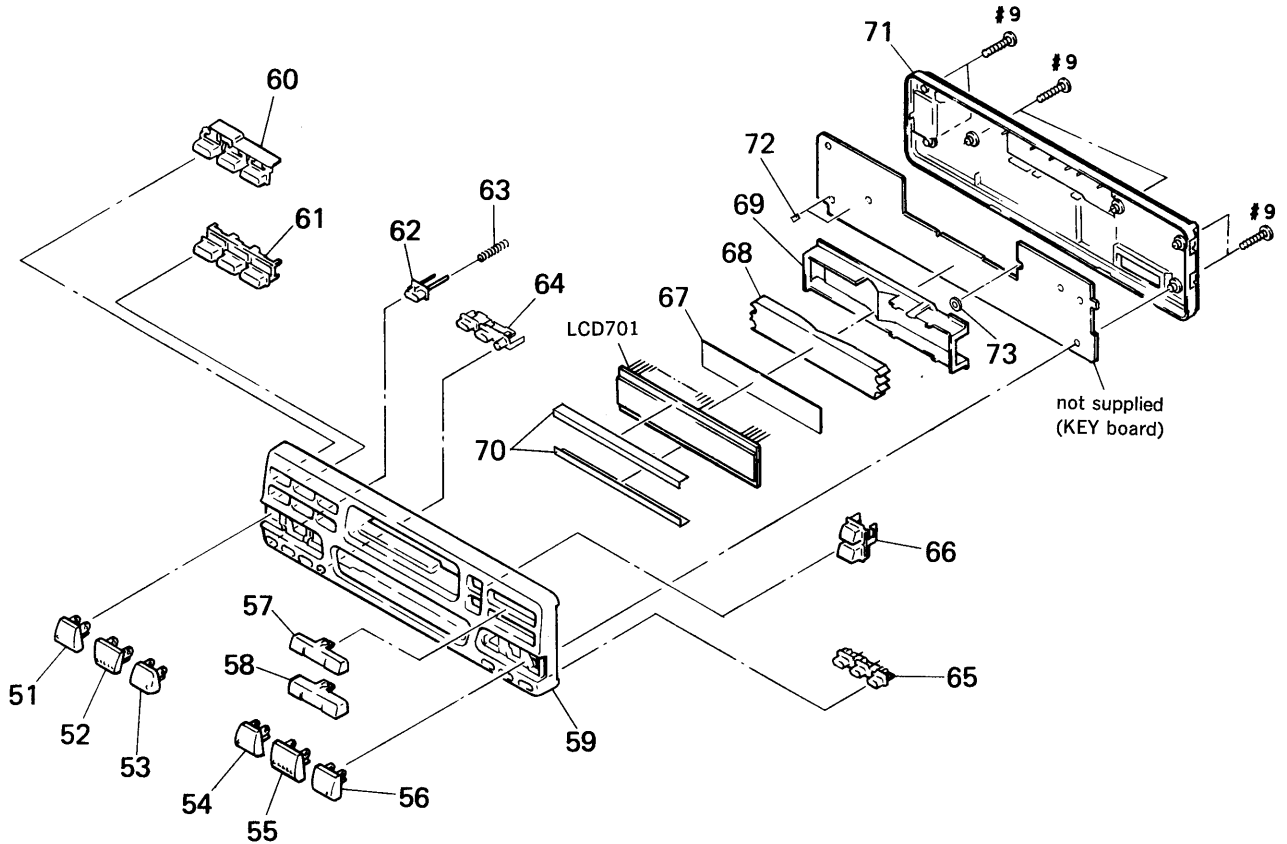
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

### 7-1. CHASSIS SECTION



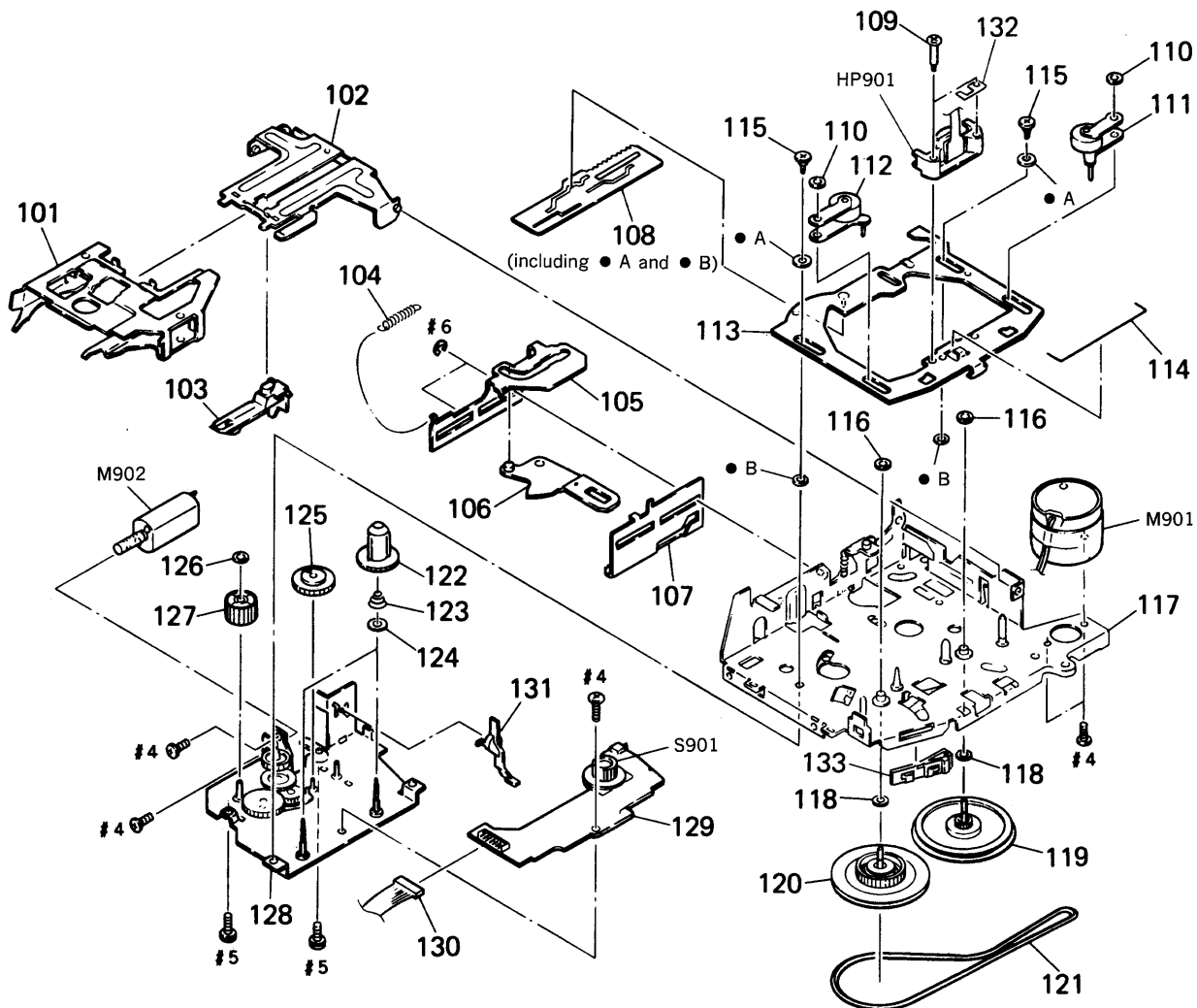
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	1-776-207-51	CORD (WITH CONNECTOR)		13	3-913-076-01	SPRING (C DOOR), TORSION	
* 2	X-3369-736-1	COVER ASSY		* 14	3-920-129-01	PLATE (CONNECTOR), GROUND	
3	3-927-799-01	GUIDE (CASSETTE)		* 15	X-3369-735-1	CHASSIS ASSY	
* 4	1-661-440-11	BATTERY BOARD		* 16	1-660-950-11	JACK BOARD	
* 5	A-3309-280-A	MAIN BOARD, COMPLETE		* 17	3-935-387-01	BRACKET (P)	
6	3-935-390-01	SINK (A), HEAT		* 18	3-935-384-01	SINK, HEAT	
* 7	3-935-385-01	HOLDER (IC)		19	3-919-171-01	SCREW (2.6X6) (C TIGHT)	
8	9-911-840-XX	CUSHION (U)		20	3-915-923-01	SCREW, GROUND POINT	
* 9	3-935-386-01	INSULATING (SHEET)		* 21	3-936-457-01	BRACKET (B)	
10	3-935-383-01	PANEL, SUB		F901	1-532-797-11	FUSE (BLADE TYPE) (AUTO FUSE) 7.5A	
11	X-3367-636-1	LOCK ASSY		TU1	A-3282-012-A	TUNER UNIT (TUX-006 (E))	
12	3-922-165-21	DOOR, CASSETTE					

## 7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-909-316-01	BUTTON (-)		63	3-904-193-01	SPRING (RELEASE)	
52	3-909-317-01	BUTTON (SEL)		64	3-916-369-01	BUTTON (MUTE)	
53	3-909-318-01	BUTTON (+)		65	3-916-371-11	BUTTON (FILE)	
54	3-909-319-01	BUTTON (C)		66	3-916-366-01	BUTTON (EJECT)	
55	3-909-320-31	BUTTON (D)		67	3-937-152-01	SHEET (REFLECTOR)	
56	3-909-321-11	BUTTON (E)		* 68	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE	
57	3-916-367-01	BUTTON (S/A)		* 69	3-913-756-01	HOLDER (LCD)	
58	3-916-368-11	BUTTON (P/D)		70	3-928-637-01	SHEET (LCD), ELECTROSTATIC	
59	3-935-704-01	PANEL, FRONT		71	3-916-363-01	PANEL, FRONT BACK	
60	3-916-364-01	BUTTON (1-3)		72	3-327-119-01	SPACER (A)	
61	3-916-365-01	BUTTON (4-6)		73	3-387-948-01	SPACER (W)	
62	3-904-245-21	BUTTON (RELEASE)		LCD701	1-810-571-21	DISPLAY PANEL, LIQUID CRYSTAL	

7-3. MECHANISM DECK SECTION  
(MG-50EX2-39)



Ref. No.	Part No.	Description	Remark
101	3-928-222-01	HOUSING (2), CASSETTE	
102	3-912-882-01	HANGER (2), HOUSING	
103	3-912-884-01	CATCHER	
104	3-912-885-01	SPRING (LOADING LEVER), TENSION	
* 105	3-912-892-01	LEVER (B), LOADING	
* 106	3-912-883-01	ARM, SUCTION	
107	3-922-941-01	LEVER (LOADING A)	
* 108	X-3370-516-1	LEVER (SV) ASSY, MODE	
109	3-927-100-11	SCREW (+PS 2X10), SPECIAL	
110	3-579-788-01	WASHER, STOPPER	
111	X-3368-266-1	PINCH LEVER (F) ASSY	
112	X-3368-267-1	PINCH LEVER (R) ASSY	
113	X-3370-824-1	BASE ASSY (HD2), HEAD	
114	3-912-879-01	SPRING, PINCH PRESS	
115	3-931-184-01	SCREW (HB2), STEP	
116	3-364-151-01	WASHER	
117	X-3368-841-1	CHASSIS (SV) ASSY (A), MECHANICAL	
118	3-701-437-21	WASHER	
119	3-930-932-01	FLYWHEEL (F) (SEF)	

Ref. No.	Part No.	Description	Remark
120	X-3371-303-1	CLUTCH (SEF) ASSY, FR	
121	3-912-896-01	BELT	
122	X-3368-843-1	GEAR ASSY, REEL	
123	3-917-222-01	SPRING (B-T), COIL	
124	3-917-324-01	WASHER (B-T)	
125	3-912-888-03	GEAR (LOADING E)	
126	3-321-813-01	WASHER, COTTER POLYETHYLENE	
127	3-912-889-01	GEAR (LOADING F)	
128	X-3368-842-1	BRACKET (SV) ASSY, REEL	
129	1-589-604-11	REEL SENSOR BOARD	
130	1-765-460-12	CORD (WITH CONNECTOR)	
131	3-916-358-01	LEVER (TAPE IN 2)	
* 132	3-917-258-01	PLATE, GROUND	
133	3-919-553-01	GUIDE (BELT)	
HP901	1-500-196-21	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

# SECTION 8 ELECTRICAL PARTS LIST

BATTERY
JACK
KEY

**NOTE:**

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

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS  
In each case, u:  $\mu$ , 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

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

Ref. No.	Part No.	Description	Remark
*	1-661-440-11	BATTERY BOARD *****	
		< BATTERY >	
BT301	1-528-225-11	BATTERY, LITHIUM (CR2032) 3V	
		< CONNECTOR >	
* CN302	1-566-673-11	SOCKET, CONNECTOR 4P	
		< DIODE >	
D391	8-719-911-19	DIODE 1SS119	
		< RESISTOR >	
R391	1-216-025-00	METAL GLAZE 100 5% 1/10W	
*****			
*	1-660-950-11	JACK BOARD *****	
*	3-935-387-01	BRACKET (P)	
		< CAPACITOR >	
C498	1-163-018-00	CERAMIC CHIP 0.0056uF 5% 50V	
C499	1-163-018-00	CERAMIC CHIP 0.0056uF 5% 50V	
		< JACK >	
J400	1-766-452-11	JACK, PIN 2P (BUS AUDIO IN)	
*****			
		KEY BOARD *****	
*	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE	
*	3-913-756-01	HOLDER (LCD)	
	3-937-152-01	SHEET (REFLECTOR)	
		< CAPACITOR >	
C702	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C703	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C705	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
GNP701	1-764-423-11	PIN, CONNECTOR 12P	
		< DIODE >	
D724	8-719-422-43	DIODE MA8051-H	
D727	8-719-404-49	DIODE MA111	
		< IC >	
IC701	8-759-246-16	IC TC9240F	
		< LIQUID CRYSTAL DISPLAY >	
LCD701	1-810-571-21	DISPLAY PANEL, LIQUID CRYSTAL	
		< SWITCH >	
LSW702	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (CD)	
LSW703	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (TAPE ◀▶)	
LSW704	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (SENS, BTM)	
LSW705	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (PTY)	
LSW706	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (DSPL)	
LSW707	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (4 METAL)	
LSW708	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (1 INTRO)	
LSW709	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (5 ATA)	
LSW710	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (2 REPEAT)	
LSW711	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (6 BL. SKIP)	
LSW712	1-762-143-12	SWITCH, KEY BOARD (WITH LED)	(3 SHUF/ ◻◻)
LSW713	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (▲)	
LSW714	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (AF/TA)	
LSW715	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (TUNER)	
LSW716	1-762-143-12	SWITCH, KEY BOARD (WITH LED)	(PRESET +, DISC FF)
LSW717	1-762-143-12	SWITCH, KEY BOARD (WITH LED)	(SEEK +, AMS ▶▶)
LSW718	1-762-143-12	SWITCH, KEY BOARD (WITH LED)	(SEEK -, AMS ◀◀)
LSW719	1-762-143-12	SWITCH, KEY BOARD (WITH LED)	(PRESET -, DISC REW)
LSW720	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (+)	
LSW721	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (SEL)	

KEY	MAIN
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Ref.No.	Part No.	Description	Remark
LSW722	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (-)	
LSW723	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (MUTE)	
LSW724	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (LOUD)	
< PILOT LAMP >			
PL701	1-517-407-21	LAMP, PILOT	
PL702	1-517-407-21	LAMP, PILOT	
PL703	1-517-406-21	LAMP, PILOT	
PL704	1-517-406-21	LAMP, PILOT	
< TRANSISTOR >			
Q701	8-729-904-66	TRANSISTOR DTD113EK	
Q702	8-729-904-66	TRANSISTOR DTD113EK	
Q703	8-729-904-66	TRANSISTOR DTD113EK	
Q704	8-729-904-66	TRANSISTOR DTD113EK	
< RESISTOR >			
R701	1-216-045-00	METAL CHIP 680 5%	1/10W
R702	1-216-045-00	METAL CHIP 680 5%	1/10W
R703	1-216-045-00	METAL CHIP 680 5%	1/10W
R704	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R705	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R706	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R707	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R708	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R709	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R710	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R711	1-216-073-00	METAL CHIP 10K 5%	1/10W
R712	1-216-045-00	METAL CHIP 680 5%	1/10W
R713	1-216-045-00	METAL CHIP 680 5%	1/10W
R714	1-216-045-00	METAL CHIP 680 5%	1/10W
R715	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R716	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R717	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
R718	1-216-057-00	METAL CHIP 2.2K 5%	1/10W
R719	1-216-061-00	METAL CHIP 3.3K 5%	1/10W
R720	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
R721	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R722	1-216-073-00	METAL CHIP 10K 5%	1/10W
R723	1-216-031-00	METAL CHIP 180 5%	1/10W
R724	1-216-033-00	METAL CHIP 220 5%	1/10W
R725	1-216-037-00	METAL CHIP 330 5%	1/10W
R726	1-216-037-00	METAL CHIP 330 5%	1/10W
R727	1-216-023-00	METAL CHIP 82 5%	1/10W
R728	1-216-027-00	METAL CHIP 120 5%	1/10W
R729	1-216-031-00	METAL CHIP 180 5%	1/10W
R730	1-216-033-00	METAL CHIP 220 5%	1/10W
R731	1-216-023-00	METAL CHIP 82 5%	1/10W
R732	1-216-027-00	METAL CHIP 120 5%	1/10W

Ref.No.	Part No.	Description	Remark
R733	1-216-023-00	METAL CHIP 82 5%	1/10W
R734	1-216-027-00	METAL CHIP 120 5%	1/10W
R735	1-216-031-00	METAL CHIP 180 5%	1/10W
R736	1-216-033-00	METAL CHIP 220 5%	1/10W
R739	1-216-041-00	METAL CHIP 470 5%	1/10W
R740	1-216-097-11	METAL GLAZE 100K 5%	1/10W
R741	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R742	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R743	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R744	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R745	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R746	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R747	1-216-049-11	METAL GLAZE 1K 5%	1/10W
R748	1-216-049-11	METAL GLAZE 1K 5%	1/10W
< SWITCH >			
SW701	1-692-037-31	SWITCH, KEY BOARD (OFF)	
*****			
*	A-3309-280-A	MAIN BOARD, COMPLETE	
*****			
*	3-935-385-01	HOLDER (IC)	
	3-935-390-01	SINK (A), HEAT	
	7-682-544-09	SCREW +B 3X3	
	7-621-773-86	SCREW +PTT 2.6X4 (S)	
	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
< CAPACITOR >			
C2	1-126-933-11	ELECT 100uF	20% 10V
C3	1-104-666-11	ELECT 220uF	20% 10V
C4	1-126-933-11	ELECT 100uF	20% 10V
C5	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C6	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C7	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C10	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
C11	1-115-330-00	FILM 0.22uF	5% 50V
C12	1-115-326-00	FILM 0.1uF	5% 50V
C13	1-130-479-00	MYLAR 0.0047uF	5% 50V
C14	1-110-351-11	MYLAR 0.001uF	5% 50V
C15	1-124-584-00	ELECT 100uF	20% 10V
C16	1-115-320-00	FILM 0.033uF	5% 50V
C17	1-130-475-00	MYLAR 0.0022uF	5% 50V
C18	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C19	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C20	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C21	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C22	1-126-157-11	ELECT 10uF	20% 16V
C23	1-164-161-11	CERAMIC CHIP 0.0022uF	10% 100V
C24	1-163-237-11	CERAMIC CHIP 27PF	5% 50V

Ref. No.	Part No.	Description	Remark		
C25	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C26	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C27	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C32	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C33	1-124-463-00	ELECT	0.1uF	20%	50V
C51	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C52	1-124-257-00	ELECT	2.2uF	20%	50V
C53	1-126-301-11	ELECT	1uF	20%	50V
C54	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C61	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C62	1-124-257-00	ELECT	2.2uF	20%	50V
C63	1-126-301-11	ELECT	1uF	20%	50V
C64	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C111	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C112	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C113	1-126-288-11	ELECT	4.7uF	20%	16V
C114	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C115	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C116	1-126-157-11	ELECT	10uF	20%	16V
C120	1-126-288-11	ELECT	4.7uF	20%	16V
C121	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C122	1-126-301-11	ELECT	1uF	20%	50V
C130	1-126-288-11	ELECT	4.7uF	20%	16V
C131	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C132	1-126-301-11	ELECT	1uF	20%	50V
C141	1-126-288-11	ELECT	4.7uF	20%	16V
C144	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C151	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C153	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C155	1-124-229-00	ELECT	33uF	20%	10V
C156	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C157	1-124-464-11	ELECT	0.22uF	20%	50V
C158	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C159	1-124-257-00	ELECT	2.2uF	20%	50V
C160	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C211	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C212	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C213	1-126-288-11	ELECT	4.7uF	20%	16V
C214	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C215	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C216	1-126-157-11	ELECT	10uF	20%	16V
C220	1-126-288-11	ELECT	4.7uF	20%	16V
C221	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C222	1-126-301-11	ELECT	1uF	20%	50V
C230	1-126-288-11	ELECT	4.7uF	20%	16V
C231	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C232	1-126-301-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description	Remark		
C241	1-126-288-11	ELECT	4.7uF	20%	16V
C244	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C251	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C253	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C255	1-124-229-00	ELECT	33uF	20%	10V
C256	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C257	1-124-464-11	ELECT	0.22uF	20%	50V
C258	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C259	1-124-257-00	ELECT	2.2uF	20%	50V
C260	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-126-157-11	ELECT	10uF	20%	16V
C302	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C303	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C304	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C305	1-126-157-11	ELECT	10uF	20%	16V
C306	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C307	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C327	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C332	1-126-288-11	ELECT	4.7uF	20%	16V
C333	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C334	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C336	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C337	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C338	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C339	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C340	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C341	1-126-157-11	ELECT	10uF	20%	16V
C342	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C343	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C344	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C345	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C346	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C347	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C351	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C353	1-126-925-11	ELECT	470uF	20%	10V
C354	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C355	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C362	1-126-288-11	ELECT	4.7uF	20%	16V
C371	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C373	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C380	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C381	1-124-589-11	ELECT	47uF	20%	16V
C382	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C383	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C384	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C401	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C402	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C403	1-124-584-00	ELECT	100uF	20%	10V
C404	1-124-584-00	ELECT	100uF	20%	10V

**MAIN**

Ref. No.	Part No.	Description	Remark
C406	1-124-463-00	ELECT	0. 1uF 20% 50V
C407	1-124-589-11	ELECT	47uF 20% 16V
C408	1-124-589-11	ELECT	47uF 20% 16V
C409	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C411	1-163-033-00	CERAMIC CHIP	0. 022uF 50V
C451	1-126-157-11	ELECT	10uF 20% 16V
C452	1-126-157-11	ELECT	10uF 20% 16V
C453	1-126-301-11	ELECT	1uF 20% 50V
C454	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C455	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C457	1-126-288-11	ELECT	4. 7uF 20% 16V
C461	1-126-935-11	ELECT	470uF 20% 16V
C462	1-124-234-00	ELECT	22uF 20% 16V
C463	1-164-222-11	CERAMIC CHIP	0. 22uF 25V
C464	1-126-157-11	ELECT	10uF 20% 16V
C466	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C467	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C503	1-163-038-00	CERAMIC CHIP	0. 1uF 25V
C505	1-126-157-11	ELECT	10uF 20% 16V
C507	1-163-117-00	CERAMIC CHIP	100PF 5% 50V
C508	1-124-589-11	ELECT	47uF 20% 16V
C509	1-124-589-11	ELECT	47uF 20% 16V
C510	1-124-589-11	ELECT	47uF 20% 16V
C511	1-164-489-11	CERAMIC CHIP	0. 22uF 10% 16V
C512	1-126-157-11	ELECT	10uF 20% 16V
C513	1-124-234-00	ELECT	22uF 20% 16V
C514	1-126-288-11	ELECT	4. 7uF 20% 16V
C801	1-111-084-11	ELECT	220uF 20% 35V
C802	1-111-084-11	ELECT	220uF 20% 35V
C803	1-164-232-11	CERAMIC CHIP	0. 01uF 50V
C804	1-164-232-11	CERAMIC CHIP	0. 01uF 50V
C805	1-127-496-00	ELECT (SOLID)	6. 8uF 20% 16V
C901	1-126-953-11	ELECT	2200uF 20% 35V
C902	1-115-330-00	FILM	0. 22uF 5% 50V
C904	1-163-009-11	CERAMIC CHIP	0. 001uF 10% 50V
C905	1-163-009-11	CERAMIC CHIP	0. 001uF 10% 50V
C906	1-163-009-11	CERAMIC CHIP	0. 001uF 10% 50V
C907	1-163-009-11	CERAMIC CHIP	0. 001uF 10% 50V
C908	1-115-314-00	FILM	0. 01uF 5% 50V
C911	1-126-948-11	ELECT	100uF 20% 35V
C913	1-126-948-11	ELECT	100uF 20% 35V
C915	1-126-301-11	ELECT	1uF 20% 50V
C921	1-126-933-11	ELECT	100uF 20% 10V
C922	1-126-933-11	ELECT	100uF 20% 10V
C923	1-126-933-11	ELECT	100uF 20% 10V
C924	1-126-933-11	ELECT	100uF 20% 10V
C925	1-126-947-11	ELECT	47uF 20% 35V
C926	1-126-947-11	ELECT	47uF 20% 35V
C927	1-126-947-11	ELECT	47uF 20% 35V

Ref. No.	Part No.	Description	Remark
C928	1-126-947-11	ELECT	47uF 20% 35V
C929	1-126-942-61	ELECT	1000uF 20% 25V
C930	1-126-942-61	ELECT	1000uF 20% 25V
C931	1-126-942-61	ELECT	1000uF 20% 25V
C932	1-126-942-61	ELECT	1000uF 20% 25V
C933	1-115-326-00	FILM	0. 1uF 5% 50V
C934	1-115-326-00	FILM	0. 1uF 5% 50V
C935	1-115-326-00	FILM	0. 1uF 5% 50V
C936	1-115-326-00	FILM	0. 1uF 5% 50V
< CONNECTOR >			
* CN301	1-566-672-11	PIN, CONNECTOR 4P	
CN380	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)	
* CN400	1-506-985-11	PIN, CONNECTOR (PC BOARD) 3P	
CN450	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CN460	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CN500	1-764-422-11	PLUG, CONNECTOR 12P	
CN900	1-774-701-11	PIN, CONNECTOR 16P	
< DISCHARGE GAP >			
CP1	1-519-504-11	GAP, DISCHARGE	
< DIODE >			
D1	8-719-991-75	DIODE RB425D	
D11	8-719-035-91	DIODE MA4091-H(TA)	
D301	8-719-911-19	DIODE 1SS119-25	
D302	8-719-914-44	DIODE DAP202K	
D303	8-719-911-19	DIODE 1SS119-25	
D331	8-719-911-19	DIODE 1SS119-25	
D332	8-719-035-54	DIODE MA4039-M(TA)	
D351	8-719-911-19	DIODE 1SS119-25	
D352	8-719-914-44	DIODE DAP202K	
D353	8-719-914-44	DIODE DAP202K	
D354	8-719-035-74	DIODE MA4062-M(TA)	
D362	8-719-036-19	DIODE MA4160-H(TA)	
D363	8-719-914-43	DIODE DAN202K	
D364	8-719-036-47	DIODE MA4330-H(TA)	
D371	8-719-035-74	DIODE MA4062-M(TA)	
D381	8-719-035-74	DIODE MA4062-M(TA)	
D382	8-719-036-14	DIODE MA4150-M(TA)	
D383	8-719-035-74	DIODE MA4062-M(TA)	
D384	8-719-035-74	DIODE MA4062-M(TA)	
D385	8-719-911-19	DIODE 1SS119-25	
D402	8-719-035-54	DIODE MA4039-M(TA)	
D403	8-719-911-19	DIODE 1SS119-25	
D404	8-719-911-19	DIODE 1SS119-25	
D405	8-719-914-43	DIODE DAN202K	
D451	8-719-911-19	DIODE 1SS119-25	

Ref. No.	Part No.	Description	Remark
D461	8-719-200-82	DIODE 11ES2	
D462	8-719-035-91	DIODE MA4091-H(TA)	
D503	8-719-035-74	DIODE MA4062-M(TA)	
D507	8-719-035-74	DIODE MA4062-M(TA)	
D508	8-719-035-74	DIODE MA4062-M(TA)	
D509	8-719-035-74	DIODE MA4062-M(TA)	
D510	8-719-035-74	DIODE MA4062-M(TA)	
D511	8-719-035-74	DIODE MA4062-M(TA)	
D512	8-719-035-74	DIODE MA4062-M(TA)	
D513	8-719-035-74	DIODE MA4062-M(TA)	
D514	8-719-034-42	DIODE MA4056-M(QZ)	
D515	8-719-034-42	DIODE MA4056-M(QZ)	
D516	8-719-911-19	DIODE 1SS119-25	
D517	8-719-991-75	DIODE RB425D	
D801	8-719-821-35	DIODE 1GWJ42	
D901	8-719-049-38	DIODE 1N5404TU	
D902	8-719-035-74	DIODE MA4062-M(TA)	
D903	8-719-035-74	DIODE MA4062-M(TA)	
< FUSE >			
F901	1-532-797-11	FUSE (BLADE TYPE) (AUTO FUSE) 7.5A	
< IC >			
IC1	8-759-242-66	IC TC4W66F	
IC2	8-759-823-81	IC LC7216M	
IC301	8-759-392-04	IC uPD75518GF-327-3B9	
IC331	8-759-330-63	IC MN1883220SZF	
IC332	8-759-163-63	IC TDA7330BD-013TR	
IC381	8-759-096-16	IC MM1175XFF	
IC401	8-752-063-44	IC CXA1646Q	
IC451	8-752-070-22	IC CXA1580Q-T4	
IC461	8-759-823-87	IC LB1638M	
IC501	8-759-347-49	IC BA3918-V2	
IC801	8-759-391-72	IC LM2576T-12LB03	
IC901	8-759-391-71	IC LA4450	
IC902	8-759-391-71	IC LA4450	
< JACK >			
J1	1-770-279-12	JACK (ANTENNA)	
J370	1-566-822-41	JACK (REMOTE IN)	
< JUMPER RESISTOR >			
JR522	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR901	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR902	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR904	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR905	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR906	1-216-296-00	CONDUCTOR, CHIP	(3216)

Ref. No.	Part No.	Description	Remark
JR907	1-216-295-00	CONDUCTOR, CHIP	(2012)
< COIL >			
L10	1-410-509-11	INDUCTOR 10uH	
L301	1-410-509-11	INDUCTOR 10uH	
L331	1-410-509-11	INDUCTOR 10uH	
L332	1-410-509-11	INDUCTOR 10uH	
L801	1-414-698-11	INDUCTOR 270uH	
L901	1-411-669-12	COIL, CHOKE	
< TRANSISTOR >			
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q3	8-729-900-53	TRANSISTOR DTC114EK	
Q4	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q31	8-729-920-21	TRANSISTOR DTC314TKH04	
Q51	8-729-920-21	TRANSISTOR DTC314TKH04	
Q61	8-729-920-21	TRANSISTOR DTC314TKH04	
Q120	8-729-920-21	TRANSISTOR DTC314TKH04	
Q130	8-729-920-21	TRANSISTOR DTC314TKH04	
Q220	8-729-920-21	TRANSISTOR DTC314TKH04	
Q230	8-729-920-21	TRANSISTOR DTC314TKH04	
Q331	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q333	8-729-921-25	TRANSISTOR FMC2	
Q351	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q352	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q362	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q363	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q371	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q381	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q382	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q401	8-729-921-25	TRANSISTOR FMC2	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q461	8-729-106-60	TRANSISTOR 2SB1115A	
Q462	8-729-900-53	TRANSISTOR DTC114EK	
Q463	8-729-921-25	TRANSISTOR FMC2	
Q465	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q503	8-729-106-60	TRANSISTOR 2SB1115A	
Q504	8-729-900-53	TRANSISTOR DTC114EK	
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q508	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q801	8-729-027-59	TRANSISTOR DTC144EKA-T146	
< RESISTOR >			
R1	1-216-150-00	METAL GLAZE 10 5% 1/8W	
R2	1-216-150-00	METAL GLAZE 10 5% 1/8W	
R9	1-216-031-00	METAL CHIP 180 5% 1/10W	



**MAIN**

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R10	1-216-049-11	METAL GLAZE	1K	5%	1/10W	R253	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R11	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R254	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R12	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R255	1-216-073-00	METAL CHIP	10K	5%	1/10W
R13	1-216-073-00	METAL CHIP	10K	5%	1/10W	R301	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R14	1-216-049-11	METAL GLAZE	1K	5%	1/10W	R302	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R15	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R303	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W	R304	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R17	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R18	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R306	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R19	1-216-077-00	METAL CHIP	15K	5%	1/10W	R307	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R20	1-216-073-00	METAL CHIP	10K	5%	1/10W	R308	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R21	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R309	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R22	1-216-101-00	METAL CHIP	150K	5%	1/10W	R310	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R23	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R311	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R31	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R312	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R32	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R313	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R33	1-216-077-00	METAL CHIP	15K	5%	1/10W	R314	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R52	1-216-077-00	METAL CHIP	15K	5%	1/10W	R315	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R62	1-216-077-00	METAL CHIP	15K	5%	1/10W	R316	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R120	1-216-041-00	METAL CHIP	470	5%	1/10W	R317	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-081-00	METAL CHIP	22K	5%	1/10W	R318	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R123	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R319	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R124	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R321	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R125	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R322	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R130	1-216-041-00	METAL CHIP	470	5%	1/10W	R323	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R131	1-216-081-00	METAL CHIP	22K	5%	1/10W	R324	1-216-081-00	METAL CHIP	22K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R325	1-216-073-00	METAL CHIP	10K	5%	1/10W
R134	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R327	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R135	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R331	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R141	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R332	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R142	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R333	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R151	1-216-091-00	METAL CHIP	56K	5%	1/10W	R334	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R152	1-216-091-00	METAL CHIP	56K	5%	1/10W	R335	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R153	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	R336	1-216-113-00	METAL CHIP	470K	5%	1/10W
R154	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R337	1-216-119-00	METAL CHIP	820K	5%	1/10W
R220	1-216-041-00	METAL CHIP	470	5%	1/10W	R338	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R221	1-216-081-00	METAL CHIP	22K	5%	1/10W	R339	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R223	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R342	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R224	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R351	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R225	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R352	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R230	1-216-041-00	METAL CHIP	470	5%	1/10W	R353	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R231	1-216-081-00	METAL CHIP	22K	5%	1/10W	R354	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R233	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R355	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R234	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R356	1-216-113-00	METAL CHIP	470K	5%	1/10W
R235	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R357	1-216-113-00	METAL CHIP	470K	5%	1/10W
R241	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	R363	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R242	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R364	1-216-077-00	METAL CHIP	15K	5%	1/10W
R251	1-216-091-00	METAL CHIP	56K	5%	1/10W	R365	1-216-081-00	METAL CHIP	22K	5%	1/10W
R252	1-216-091-00	METAL CHIP	56K	5%	1/10W	R366	1-216-230-00	METAL GLAZE	22K	5%	1/8W

Ref. No.	Part No.	Description	Remark		
R368	1-216-220-00	METAL GLAZE	8.2K	5%	1/8W
R369	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R371	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R373	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R374	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R381	1-216-166-00	METAL GLAZE	47	5%	1/8W
R382	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R383	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R384	1-216-174-00	METAL GLAZE	100	5%	1/8W
R385	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R386	1-216-174-00	METAL GLAZE	100	5%	1/8W
R392	1-216-220-00	METAL GLAZE	8.2K	5%	1/8W
R401	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R402	1-216-158-00	METAL GLAZE	22	5%	1/8W
R403	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R404	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R405	1-216-103-00	METAL GLAZE	180K	5%	1/10W
R406	1-216-073-00	METAL CHIP	10K	5%	1/10W
R407	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R451	1-216-083-00	METAL CHIP	27K	5%	1/10W
R452	1-216-079-00	METAL CHIP	18K	5%	1/10W
R453	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R454	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R455	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R456	1-216-113-00	METAL CHIP	470K	5%	1/10W
R457	1-216-001-00	METAL CHIP	10	5%	1/10W
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W
R464	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R465	1-216-150-00	METAL GLAZE	10	5%	1/8W
R466	1-216-150-00	METAL GLAZE	10	5%	1/8W
R467	1-216-150-00	METAL GLAZE	10	5%	1/8W
R468	1-216-150-00	METAL GLAZE	10	5%	1/8W
R469	1-216-041-00	METAL CHIP	470	5%	1/10W
R470	1-249-388-11	CARBON	3.9	5%	1/6W
R471	1-249-388-11	CARBON	3.9	5%	1/6W
R503	1-249-385-11	CARBON	2.2	5%	1/6W
R504	1-249-385-11	CARBON	2.2	5%	1/6W
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R506	1-216-025-00	METAL GLAZE	100	5%	1/10W
R507	1-216-025-00	METAL GLAZE	100	5%	1/10W
R508	1-216-025-00	METAL GLAZE	100	5%	1/10W
R509	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R510	1-216-025-00	METAL GLAZE	100	5%	1/10W
R511	1-216-025-00	METAL GLAZE	100	5%	1/10W
R512	1-216-025-00	METAL GLAZE	100	5%	1/10W
R513	1-216-025-00	METAL GLAZE	100	5%	1/10W
R514	1-216-017-00	METAL GLAZE	47	5%	1/10W
R515	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R516	1-216-097-00	METAL GLAZE	100K	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R522	1-216-295-00	CONDUCTOR, CHIP			(2012)
R801	1-216-113-00	METAL CHIP	470K	5%	1/10W
R803	1-216-136-00	METAL GLAZE	2.7	5%	1/8W
R804	1-216-136-00	METAL GLAZE	2.7	5%	1/8W
R805	1-216-136-00	METAL GLAZE	2.7	5%	1/8W
R806	1-216-136-00	METAL GLAZE	2.7	5%	1/8W
R807	1-249-383-11	CARBON	1.5	5%	1/4W
R808	1-249-383-11	CARBON	1.5	5%	1/4W
R902	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R903	1-216-073-00	METAL CHIP	10K	5%	1/10W
R911	1-216-073-00	METAL CHIP	10K	5%	1/10W
R913	1-216-073-00	METAL CHIP	10K	5%	1/10W
R914	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R921	1-216-033-00	METAL CHIP	220	5%	1/10W
R922	1-216-033-00	METAL CHIP	220	5%	1/10W
R923	1-216-033-00	METAL CHIP	220	5%	1/10W
R924	1-216-033-00	METAL CHIP	220	5%	1/10W
R925	1-249-385-11	CARBON	2.2	5%	1/6W
R926	1-249-385-11	CARBON	2.2	5%	1/6W
R927	1-249-385-11	CARBON	2.2	5%	1/6W
R928	1-249-385-11	CARBON	2.2	5%	1/6W
R929	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R930	1-216-097-00	METAL GLAZE	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV151	1-238-597-11	RES, ADJ, CARBON	1K		
RV251	1-238-597-11	RES, ADJ, CARBON	1K		
RV331	1-238-605-31	RES, ADJ, CARBON	470K		
		< SWITCH >			
S351	1-571-532-21	SWITCH, TACTILE (RESET)			
		< TUNER >			
TU1	A-3282-012-A	TUNER UNIT (TUX-006(E))			
		< VIBRATOR >			
X1	1-577-126-51	VIBRATOR, CRYSTAL (7.2MHz)			
X301	1-760-096-31	VIBRATOR, CRYSTAL (4.19MHz)			
X331	1-579-952-21	VIBRATOR, CERAMIC (8MHz)			
X332	1-760-556-11	VIBRATOR, CRYSTAL (4.332MHz)			

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Ref. No.	Part No.	Description	Remark
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MISCELLANEOUS  
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1	1-776-207-51	CORD (WITH CONNECTOR)	
130	1-765-460-12	CORD (WITH CONNECTOR)	
F901	1-532-797-11	FUSE (BLADE TYPE) (AUTO FUSE) 7.5A	
HP901	1-500-196-21	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

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ACCESSORIES & PACKING MATERIALS

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1-467-623-11	REMOTE COMMANDER (RM-X1S)
3-367-968-01	SCREW (M5X8)
3-856-111-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN)
3-856-112-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN)
7-682-560-04	SCREW +P 4X6

X-3369-665-1 CASE ASSY

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**HARDWARE LIST**  
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#1	7-621-770-XX	SCREW +PTT 2.6X8 (S)
#2	7-621-772-10	SCREW +B 2X4
#3	7-621-773-95	SCREW +PTT 2.6X6 (S)
#4	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3
#5	7-628-253-00	SCREW +PS 2X4
#6	7-624-104-04	STOP RING 2.0, TYPE -E
#7	7-621-773-87	SCREW +P 2.6X10
#8	7-685-135-14	SCREW +P 2.6X10 TYPE2 NON-SLIT
#9	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT
#10	7-682-544-09	SCREW +B 3X3
#11	7-621-773-86	SCREW +PTT 2.6X4 (S)

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Ref. No.	Part No.	Description	Remark
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PARTS FOR INSTALLATION AND CONNECTIONS  
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* 151	3-937-712-02	FRAME	
152	3-386-828-01	SCREW, FITTING	
153	3-349-410-01	BUSHING	
154	3-388-078-01	KEY	
155	X-3371-057-1	SCREW ASSY	
156	1-776-207-51	CORD (WITH CONNECTOR)	
157	X-3368-170-1	BRACKET ASSY	

