XR-C520

SERVICE MANUAL

US Model

Model Name Using Similar Mechanism	XR-C410
Tape Transport Mechanism Type	MG-50C2-39

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
12 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1% total harmonic distortion.

Other Specifications

Cassette player section

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

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

Tuner section

FM

Tuning range	87.5 – 107.9 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

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 μV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	30 W × 4 (at 4 ohms)

General

Output lead	Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 186 × 57 × 170 mm ($7\,^3/_8 \times 2\,^1/_4 \times 6\,^3/_4$ in.) (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 153 mm ($7\,^1/_4 \times 2\,^1/_8 \times 6\,^1/_8$ in.) (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.3 kg (2 lb. 14 oz.)
Supplied accessories	Power connecting cord (1) Mounting hardware (1 set) Front panel case (1)

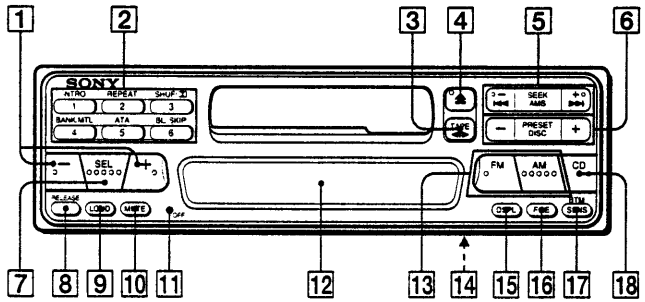
Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO

SONY®

TABLE OF CONTENTS

Button Locations



Refer to the pages in ● for details.

EN EN

1 (volume/bass/treble/balance/fader control) button ❻❿⓭⓮

2 During radio reception:
Preset number buttons ❾

During tape/CD playback:

INTRO button ❽❿⓫⓬

REPEAT button ❽⓫⓬

SHUF/DD (Dolby B NR) button ❼⓬

BANK/METAL button ❼⓯

ATA (Automatic Tuner Activation) button ❽⓮

BL.SKIP button ❽❿

3 TAPE/◀II▶ (playback/transport direction change) button ❼

4 ⏏ (eject) button ❼❿

5 SEEK/AMS button ❼❽⓫⓮

6 PRESET/DISC button ❼❽❾⓫⓭

7 SEL (control mode select) button ❻❿⓭⓮⓯

8 RELEASE (front panel release) button ❺

9 LOUD (loudness) button ❿

10 MUTE button ❿

11 OFF button ❻❼❿

12 Display window

13 (radio on/band select) button ❼❽❾

14 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the installation/Connections manual.

15 DSPL (display mode change/time set) button ❻⓭

16 FILE (custom file mode select • set) button ⓭⓮

17 SENS/BTM (Sensitivity adjust/Best Tuning Memory Function) button ❽❾

18 CD (disc play/CD changer select) button ❼⓫⓭

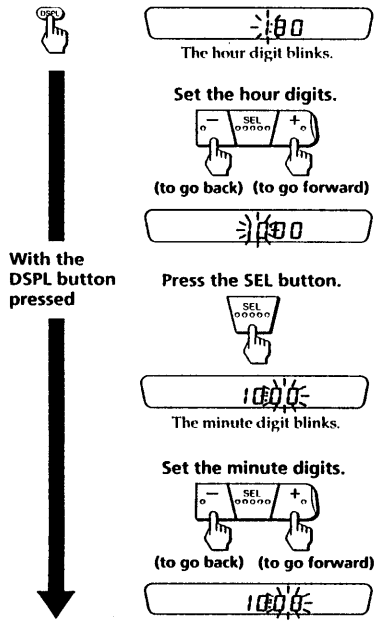
Setting the Clock

The clock has a digital indication.

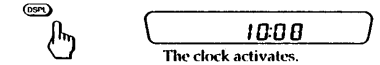
For example, setting it to 10:08

1 Display the time.
(Press the OFF or the DSPL button during the unit operation.)

2 Press the DSPL button for more than two seconds.



3 Release the DSPL button.



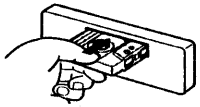
SECTION 1
GENERAL

This section is extracted from instruction manual.

Cassette Player Operation

Listening to Tape Playback

After inserting the cassette, playback will start automatically.



If a cassette is already inserted, press the [TAPE] button to start playback.
If you press during playback, the tape transport direction will change.

Indication of Tape Transport Direction

The side facing up is being played.

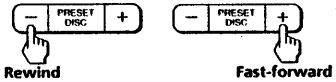
The side facing down is being played.

To stop playback,
eject the cassette by pressing the [⏏] button or press the OFF button.
Playback stops also when you select another source (radio, CD) by pressing the [FM], [AM] or [CD] button.

Ejecting the Cassette

Press the [⏏] button.

Fast-winding the Tape



Rewind **Fast-forward**

To start playback during rewinding or fast-forwarding, press the [TAPE] button.

Playing a Tape Recorded in the Dolby B NR System

Press the [3] button when you want to listen to a tape recorded in the Dolby B NR system. → "DD" appears on the display.
To cancel, press again.

Playing a CrO_2 or Metal Tape

Press the [4] button when you want to listen to a CrO_2 (TYPE II) or metal (TYPE IV) tape. → "MTL" will appear on the display.
To cancel, press again.

Locating the Beginnings of the Tracks

— AMS (Automatic Music Sensor) Function

During playback, press either side of the SEEK/AMS button the number of times you wish to skip the tracks.

To locate the previous tracks **To locate the succeeding tracks**

Up to nine tracks can be skipped.

If the blanks between the tracks are shorter than four seconds, or if there are noises, the AMS function will not work. Also, the unit may read long sections of low volume music or quiet sections on a track as blanks between tracks.

Searching the Desired Track

— Intro Scan Function

Press the [1] button during playback. → "INTRO" appears on the display.
The first 10 seconds of all the tracks are played. When you find the desired track, press the button once more. The unit returns to the normal playback mode.

Playing Tracks Repeatedly

— Repeat Play Function

Press the [2] button 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 the button again.

Radio Reception during Fast-forwarding or Rewinding of a Tape

— ATA (Automatic Tuner Activation) Function

Press the [5] button during playback. → "ATA" appears on the display.
When fast-forwarding or rewinding with the [PRESET DISC] button, the tuner will turn on automatically.

Skipping Blanks Automatically during Tape Playback

— Blank Skip Function

Press the [6] button during playback. → "BL.SKIP" appears on the display.
Blanks longer than eight seconds will be automatically skipped during tape playback.

Radio Reception

Searching for the Stations Automatically

— Automatic Tuning

1 Select the desired band.

FM1 → FM2 → FM3 → FM1

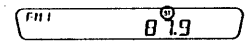
AM1 ⟷ AM2

2 Press either side of the SEEK/AMS button to search for the station (automatic tuning).

For lower frequencies **For higher frequencies**

The scanning stops when a station is received. Press either side of the button repeatedly until the desired station is received.

When an FM stereo program with a sufficient signal strength is tuned in,



The "ST" indication will appear.

To avoid the automatic tuning from stopping on stations too frequently (local seek mode), press the [SENS] button momentarily to get the "LCL" indication.
Only the stations with relatively strong signals can be tuned in. The local seek mode functions only when the automatic tuning is in operation.

If FM Stereo Reception is Poor — Monaural Mode

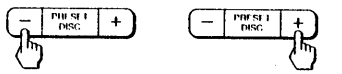
Press the [SENS] button momentarily. → "MONO" appears on the display.
The sound will improve, but it will become monaural.

Tuning in by Adjusting the Frequency

— Manual Tuning

1 Select the desired band.

2 Press and hold either side of the PRESET/DISC button.
Release the button when the desired station is received.



For lower frequencies

For higher frequencies

PREVENTING ACCIDENTS!
When tuning in during driving, use the automatic tuning and the memory preset tuning instead of the manual tuning.

Memorizing Stations Automatically

— BTM (Best Tuning Memory) Function

This function selects from the currently received band the stations with the strongest signals and memorizes them in order of their frequency.

1 Select the desired band.

2 Press the BTM button for more than two seconds.
- When there is no preset number indicated on the display window, stations will be stored on all preset number buttons on the currently selected band.
- When there is a preset number indicated on the display window, the unit will store stations on all preset number buttons from the one currently displayed.

For example, when you select FM2 and preset number 3 is displayed,
the operation will start from preset number 3 on FM2, and will stop at preset number 6 on FM3.

Memorizing Only the Desired Stations

1 Select the desired band.

2 Tune in the station which you wish to store on the preset number button.

3 Keep the desired preset number button (INTRO 1 to BL SKIP 6) pressed for about two seconds until you hear a beep tone.

The number of the pressed preset number button appears on the display window.

Up to 6 stations on each band (FM1, FM2, FM3, AM1 and AM2) can be stored on the preset number buttons in order of your choice. Therefore, 18 stations can be memorized on FM.
If you try to store another station on the same preset number button, the previously stored station will be erased.

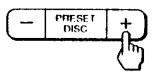
Receiving the Memorized Stations

1 Select the desired band.

2 Press momentarily the preset number button on which the desired station is stored.

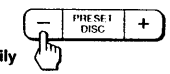
Note
If you press the preset number button for more than two seconds, the currently received station will be memorized again. To receive the previously memorized station, make sure that the preset number button is pressed only momentarily.

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



Press momentarily

1 → 2 → ... → 5 → 6 → 1 → ...



Press momentarily

1 → 6 → 5 → ... → 2 → 1 → ...

Other Functions

Adjusting the Sound Characteristics

1 Select the item you want to adjust by pressing the SEL button repeatedly.
VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader) → VOL (volume)

2 Adjust the selected item by pressing either the + or − button.

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

Enjoying Bass and Treble even at Low Volume

— Loudness Function

Press the LOUD button. → "LOUD" will appear on the display.
Bass and treble will be reinforced. To cancel, press again.

Muting the Sound Quickly

— Mute Function

Press the MUTE button. → The "MUTE" indication flashes.
The sound is muted at once. To restore the previous volume level, press again.

This function will be also canceled when:
— the + or OFF button is pressed.
— ejecting a cassette by pressing the ⏏ button during tape playback.

Changing the Illumination Color

Press the INTRO 1 button while pressing the SEL button.
You can chose the color between amber and green.

Muting the Beep Tone

Press the BL SKIP 6 button while pressing the SEL button.
To obtain the beep tone again, press these buttons once more.

CD Changer Operation

with the optional CD changer(s) connected

Playing a CD

Press the ▷ button.
CD playback starts.

Locating the Beginnings of the Tracks

— AMS (Automatic Music Sensor) Function

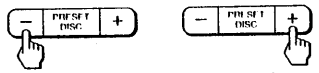
During playback, press either side of the SEEK/AMS button the number of times you wish to skip the tracks.

To locate the previous tracks

To locate the succeeding tracks

Locating the Desired Part of a Track — Manual Search

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

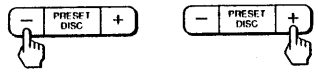


To reverse

To forward

Changing CDs

During playback, press either side of the PRESET/DISC button momentarily.



To return to the previous CD

To advance to the next CD

Selecting CD Changers

(with several CD changers connected)

Press the ▷ button during CD playback.
Each time you press, another CD changer will be selected.

Searching for the Desired Track — Intro Scan Function

Press the INTRO (1) button during playback.
→ "INTRO" appears on the display.
The first 10 seconds of all the tracks on the currently selected disc are played in order. After the first disc is over, the next CD is played. When two or more CD changers are connected, after the last disc is played, CD playback moves on to the next CD changer.

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

Playing Repeatedly

— Repeat Play Functions

Playing the currently selected track repeatedly
— Track repeat

Press the REPEAT (2) button during CD playback to get the "REP 1" indication.

Playing the currently selected disc repeatedly
— Disc repeat

Press the REPEAT (2) button during CD playback to get the "REP 2" indication.

continue to next page →

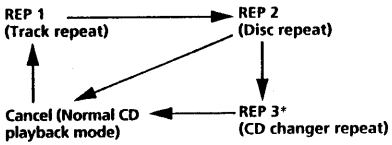
When the last track on the currently selected disc is over, CD playback is repeated from the beginning of that disc.

Playing the discs in the currently selected CD changer repeatedly
— CD changer repeat (when two or more CD changers are connected)

Press the REPEAT (2) button during CD playback to get the "REP 3" indication.

When the last disc in the currently selected CD changer has been played, CD playback will be repeated from the first CD in this changer.

The function of the REPEAT (2) button changes cyclically as follows:



** CD changer repeat (REP 3) mode functions only when two or more CD changers are connected to the unit. When only one CD changer is connected, the "REP 3" indication will not be displayed. In case you press the REPEAT (2) button again while the "REP 2" indication is being displayed, the repeat mode will be canceled.*

Playing Tracks Randomly

— Shuffle Play Functions

Playing the tracks on the currently selected disc randomly
— Disc shuffle play

Press the SHUF (3) button during CD playback to get the "SHUF 1" indication.

All tracks on the currently selected CD are played in random order. After each track has been played once, shuffle play will continue with the next CD.

Playing each track on each CD in the currently selected CD changer randomly
— CD changer shuffle play

Press the SHUF (3) button during CD playback to get the "SHUF 2" indication.

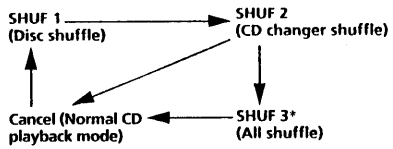
All tracks on each CD in the currently selected CD changer are played in random order.

Playing each track on each CD in all connected CD changers randomly
— All shuffle play (when two or more CD changers are connected)

Press the SHUF (3) button during CD playback to get the "SHUF 3" indication.

All tracks on each CD in each CD changer connected are played in random order.

The function of the SHUF (3) button changes cyclically as follows:



** The all shuffle (SHUF 3) mode functions only when two or more changers are connected to the unit. When only one changer is connected, "SHUF 3" indication will not be displayed. In case you press the SHUF (3) button again while "SHUF 2" is displayed, the shuffle play will be canceled.*

If you press the INTRO (1) button during shuffle play, the first 10 seconds of all tracks will be played randomly.

CD Custom File Function

with the optional CD changer(s) connected

When (a) CD changer(s) with custom file feature* is (are) connected, you can display the customized titles (Disc Memo Function) and play selected tracks (Bank Function) on the discs.
These settings are stored in the memory of the CD changer. Therefore, even if you take a custom filed disc out of the CD changer, you can still use the same custom file function the next time you play that disc in the same CD changer. (You can register the customized titles and the PLAY/SKIP settings on up to 110 discs** per CD changer.)

* *If your system has several CD changers connected, you can play that disc in another CD changer and can still use the same custom file function, provided that the CD changers are inter-connected with the Bus (Unilink) cables.*

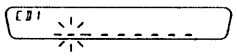
** *If you try to register more than 110 discs, the unit will display the "FULL" indication and will not accept the command for custom -filing. In this case, you will have to erase other discs from the CD changer memory before you enter the new ones.*

Putting Your Personalized Titles onto the Discs

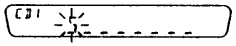
— Disc Memo Function

1 Play the disc that you wish to title (page 11).

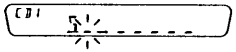
2 Press the FILE button for more than two seconds.
Enter the name edit mode.



3 Press either the ◁ or ▷ button to select the desired characters.



4 Press the SEL button after locating the desired character.



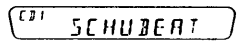
The flashing part moves to the next space on the right. Repeat steps 3 and 4 to enter the entire title. Up to eight characters can be used per disc.

Notes
- *If you press the SEL button when the eighth character (farthest right character) is flashing, the flashing part goes back to the first character (farthest left character).*
- *If you wish to put a blank space after a character, select "_" (under bar).*

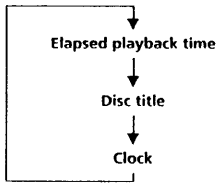
5 Ⓐ To return to the normal CD play mode,
— press the FILE button for more than two seconds.
— press the TUNER button to select the next CD changer (when two or more CD changers are connected).
Ⓑ To continue to the put titles onto the discs,
press either side of the – PRESET DISC + button momentarily to another disc.

Displaying the Registered Titles — Disc Memo Function

Press the DSPL button during CD playback.



Each time you press the DSPL button during CD playback, the display on the display window changes as follows:



continue to next page →

Title display modes
While loading the discs, whatever display mode the unit is in, the indication on the display window automatically changes as follows:

The title of the disc
↓
Disc and track number
↓
Currently selected display mode

Changing a Registered Title — Disc Memo Function

Play the disc whose title you wish to change, and perform steps 2 to 5 to enter the name edit mode.

Erasing a Registered Title

— Disc Memo Function

1 Select the CD changer and play any disc.

2 Press the FILE button for more than two seconds.
Enter the name edit mode.

3 Press the 5 button while pressing the SEL button.

4 Press either the ◁ or ▷ button to select the title that you wish to erase.

5 Press the SEL button for more than two seconds.
Now, the title and the PLAY/SKIP settings of the bank function are erased.
Repeat step 4 and step 5 if necessary.

6 Press the FILE button for more than two seconds.
The unit returns to the normal CD playback mode.

The alternative method to erase a title
You can erase a title by selecting eight "_"s (under-bar) as described in step 3 of "Putting Your Personalized Titles onto the Discs" (page 13).

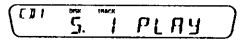
Setting the Play and Skip Modes on the Discs

— Bank Function

1 Play the disc to which you wish to set these modes.

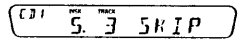
2 Press the FILE button for more than two seconds
Enter name edit mode.
See page 13 for details about registering a title. If the title has already been registered, go to step 3.

3 Press the TUNER button momentarily.
Enter the PLAY/SKIP edit mode.



Note
When the title is not registered, you cannot enter the PLAY/SKIP edit mode even if you press the FILE button.

4 Press either side of the ⏮ SEEK/MAN ⏭ button to select the track number you wish to skip and press the SEL button.



The indication changes from "PLAY" to "SKIP". If you wish to return to "PLAY", press the SEL button again.
Repeat the operation in this step to set either the "PLAY" or "SKIP" mode on all the tracks.

Note
You can set the "SKIP" mode only onto up to 24 tracks. If a disc has more than 24 tracks, you will not be able to set the "SKIP" mode on the tracks after the 24th track.

5 Press the FILE button for more than two seconds.
The unit returns to the normal CD playback mode.

Playing Selected Tracks on the Discs — Bank Function

Press the (BANK/NTL 4) button. → The "BANK" indication appears on the display window.

The unit starts playing the tracks with "PLAY" settings which have been set by the PLAY/SKIP edit mode.

To cancel, press it again.

Playing the tracks with "SKIP" settings

Press the (BANK/NTL 4) button while pressing the (SEL/PHASE) button.

The unit starts playing the tracks with "SKIP" settings which have been set by the PLAY/SKIP edit mode.

To go back to the normal playing mode, press the (BANK/NTL 4) button again while pressing the (SEL/PHASE) button.

Note

Even when you play a disc with the PLAY/SKIP settings, if the "BANK" indication has not appeared on the display window, the disc will not be played according to the settings.

Maintenance

Fuse Replacement

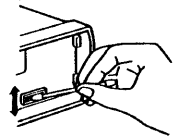
When replacing the fuse, be sure to use one with the correct amperage which is stated on the fuse case. Never use a fuse whose amperage rating exceeds the one supplied to the unit as this could cause a malfunction of the unit.

Warning

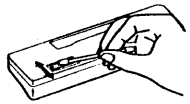
Use a fuse with the specified amperage.
Use of a fuse with higher amperage may cause serious damage.

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 the RELEASE button, then detach it and clean the connectors with a cotton swab as illustrated. Be sure to clean them vertically, otherwise you could damage the connecting points.



Main unit



Back of the front panel

Error displays (with the operational CD changer(s) connected)

The following indications will flash for about five seconds and an alarm sound will be heard.

Display	Cause	Solution
NO MAG	The disc magazine is not inserted in the CD changer.	Insert the disc magazine with discs into the CD changer.
NO DISC	No disc is inserted in the disc magazine.	Take out the magazine and insert the discs.
ERROR	The disc is dirty.	Clean the disc.
	The disc is inserted upside down.	Insert the disc correctly.
RESET	The CD changer cannot be operated because of some problem.	Press the reset button of the unit.

If the above-mentioned solutions do not help to improve the situation, consult your nearest Sony dealer.

Connections

Caution

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

When the Unit is Used in a Car with No Accessory Position on the Ignition Key

— POWER SELECT Switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if the unit is used in a car with no accessory position on the ignition key.** To avoid this battery wear when using the unit in such a car, **set the POWER SELECT switch located on the bottom of the unit to the OFF position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Note

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

Connexions

Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoire.
- **Rassembler tous les fils de terre en un point de masse commun.**

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoire

— Interrupteur POWER SELECT

L'éclairage du panneau avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne possède pas de position accessoire.** Pour éviter d'épuiser la batterie, régler l'interrupteur **POWER sur le socle de l'appareil sur OFF, puis appuyer sur la touche de réinitialisation.** L'éclairage est réglé pour rester éteint quand l'appareil n'est pas utilisé.

Remarque

Quand l'interrupteur POWER SELECT est réglé sur OFF, l'avertisseur du panneau avant ne fonctionne pas.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Antes de realizar las conexiones, desconecte el conductor de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarillo** y **rojo** solamente después de haber conectado los demás.
- Cerciórese de conectar el cable conector de alimentación rojo a un terminal de 12 V positivo que se energice al poner la llave de encendido en la posición para accesorios.
- **Conecte todos los conductores de puesta a masa a un punto común.**

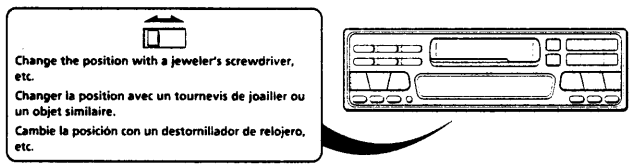
Empleo de la unidad en un automóvil con llave de encendido sin posición para accesorios

— Selector POWER SELECT

La iluminación del panel frontal ha sido ajustada en fábrica para que esté activada incluso aunque la unidad no se encuentre en reproducción. Sin embargo, este ajuste puede provocar cierta descarga de la batería del automóvil **si la unidad se utiliza en un automóvil sin posición para accesorios en la llave de encendido.** Para evitar esto, **ponga el selector POWER SELECT situado en la base de la unidad en la posición OFF, y después presione el botón de reposición.** La iluminación estará desactivada cuando la unidad no se encuentre en reproducción.

Nota

La alarma de precaución no se activará cuando el selector POWER SELECT se encuentre en la posición OFF.

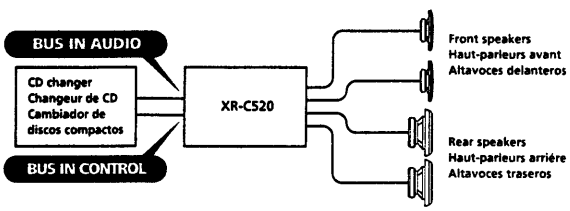


Connection Diagram

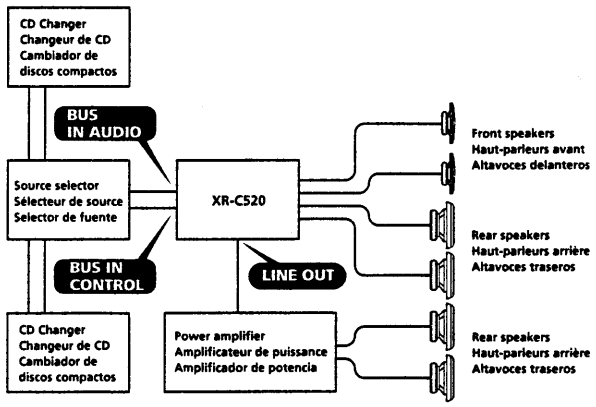
Schémas de connexion

Diagrama de conexiones

Example 1/Exemple 1/Ejemplo 1

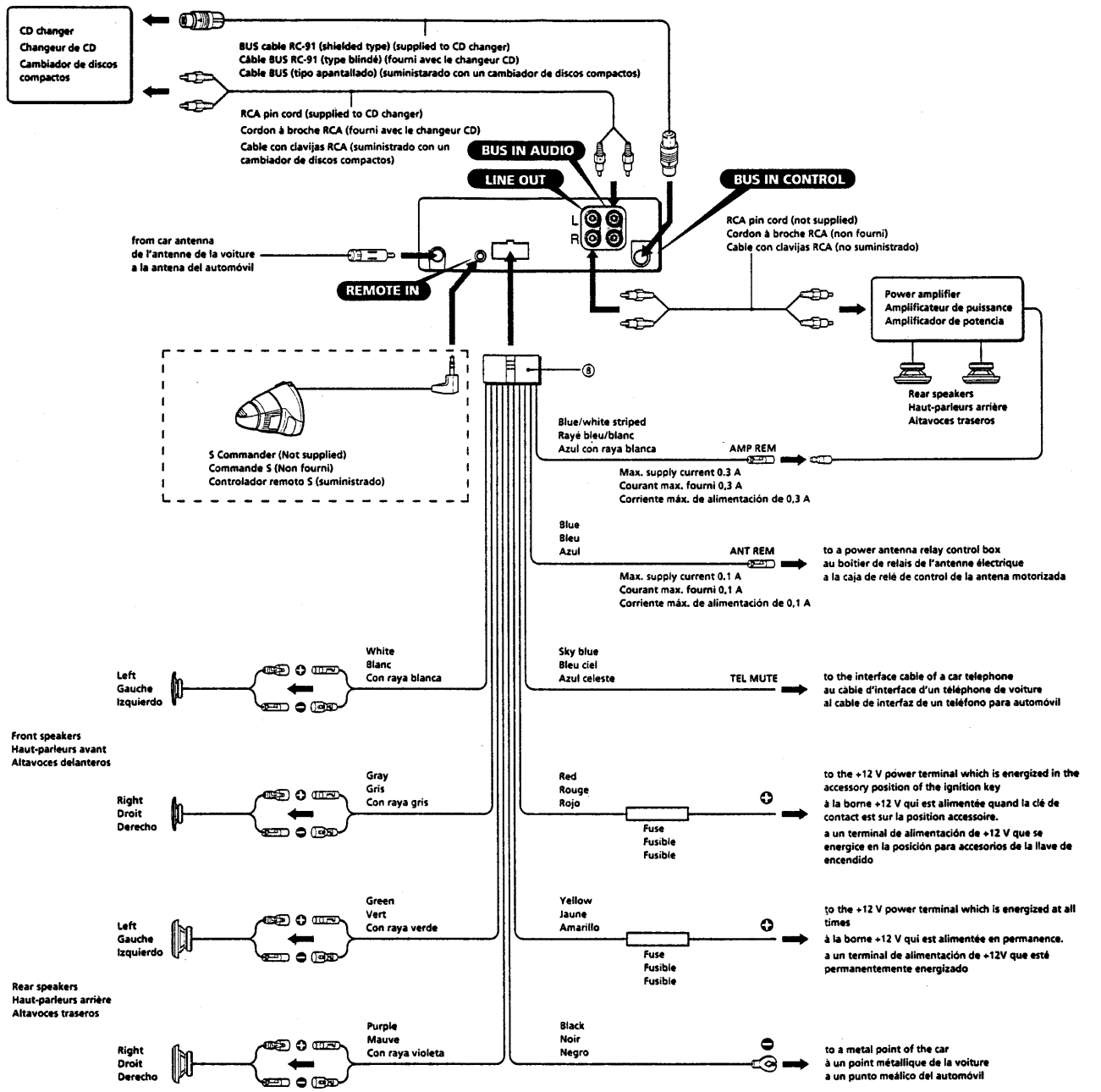


Example 2/Exemple 2/Ejemplo 2



If you connect two or more CD changers, the source selector XA-U20 or XA-U40 is required.
Vous devrez utiliser le sélecteur de source XA-U20 or XA-U40, si vous raccordez au moins deux changeurs.
Cuando desee conectar dos o más cambiadores de discos compactos, necesitará un selector de fuente XA-U20 o XA-U40.

Connections of Example — Connexions de l'exemple — Ejemplo de conexiones



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) 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 du courant continu de +12 V quand le tuner est mis sous tension ou quand la fonction ATA (Automatic Tuner Activation) est activée.*
- *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

- *Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.*
- *Utiliser 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. Veiller à raccorder des haut-parleurs passifs à ces bornes.*

Notas sobre conductores de control

- *El conductor de control de la antena motorizada (azul) suministrará +12 V CC cuando conecte la alimentación del sintonizador o cuando active la función de activación automática del sintonizador (ATA).*
- *Con esta unidad no podrá emplearse una antena motorizada desprovista de caja de relé.*

Conexión para protección de la memoria

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

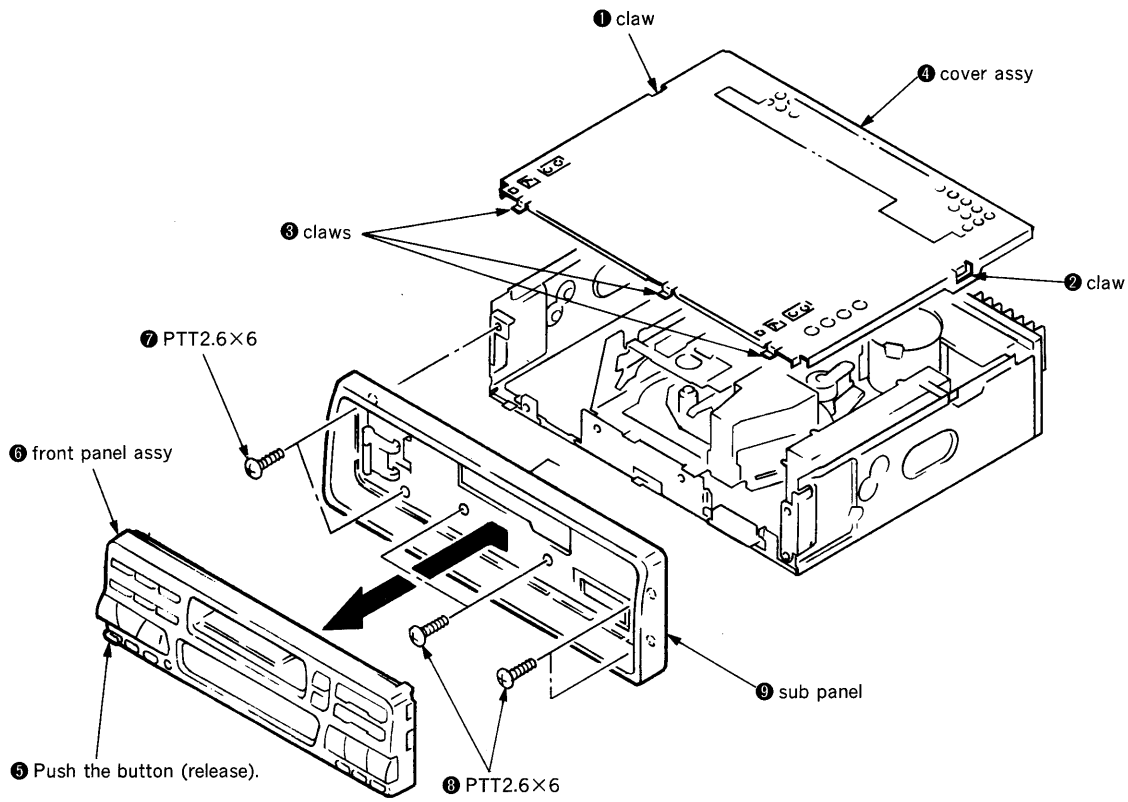
Notas sobre la conexión de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 Ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificador incorporado) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

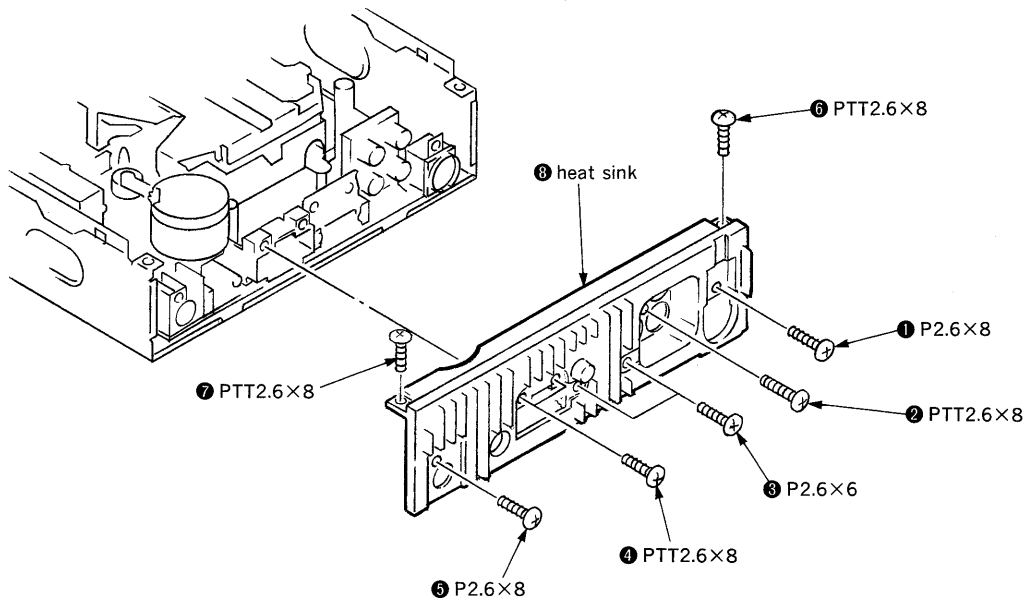
SECTION 2
DISASSEMBLY

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

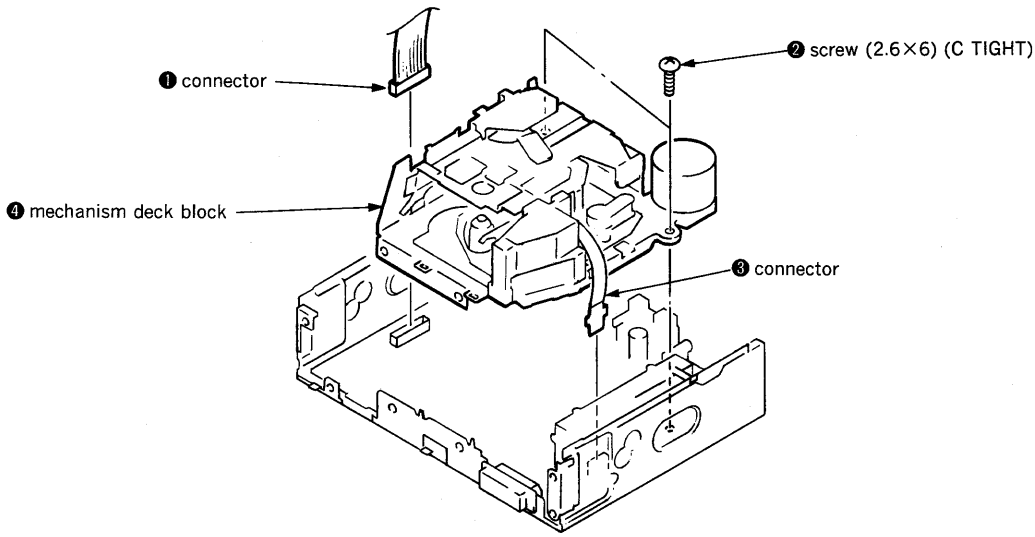
2-1. SUB PANEL



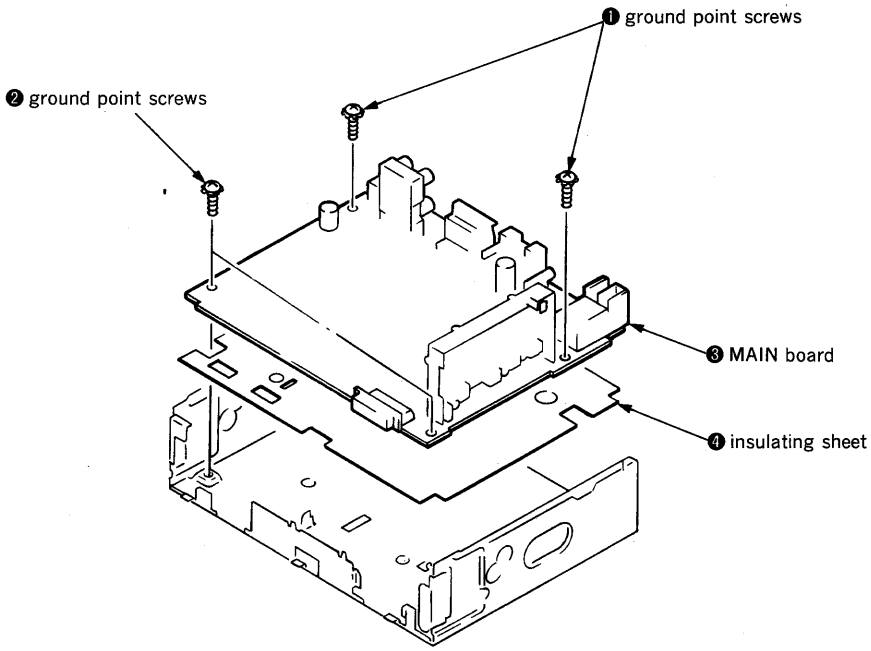
2-2. HEAT SINK



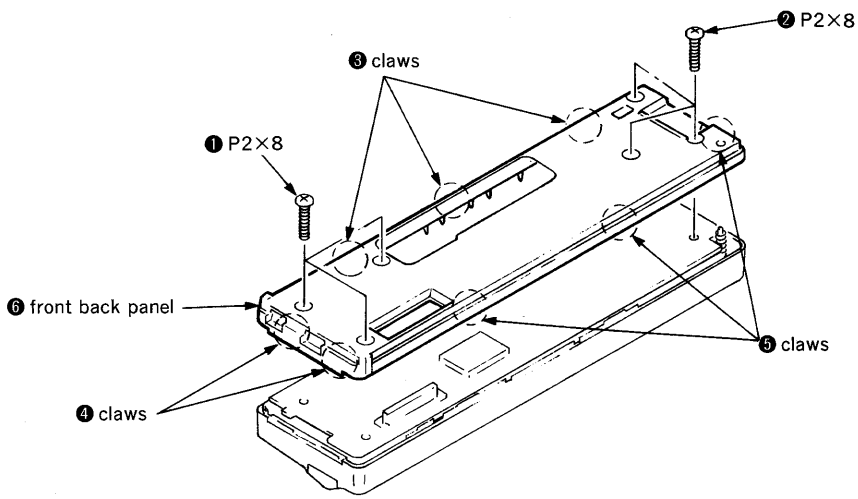
2-3. MECHANICAL DECK BLOCK



2-4. MAIN BOARD



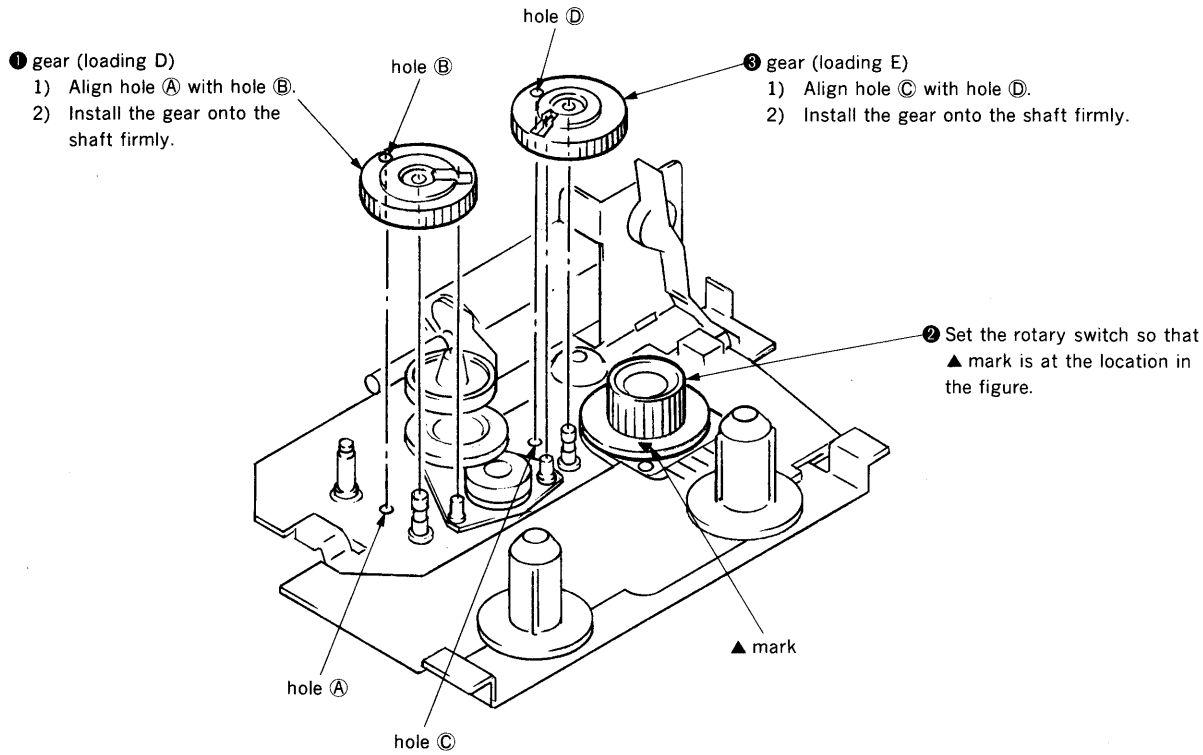
2-5. FRONT BACK PANEL



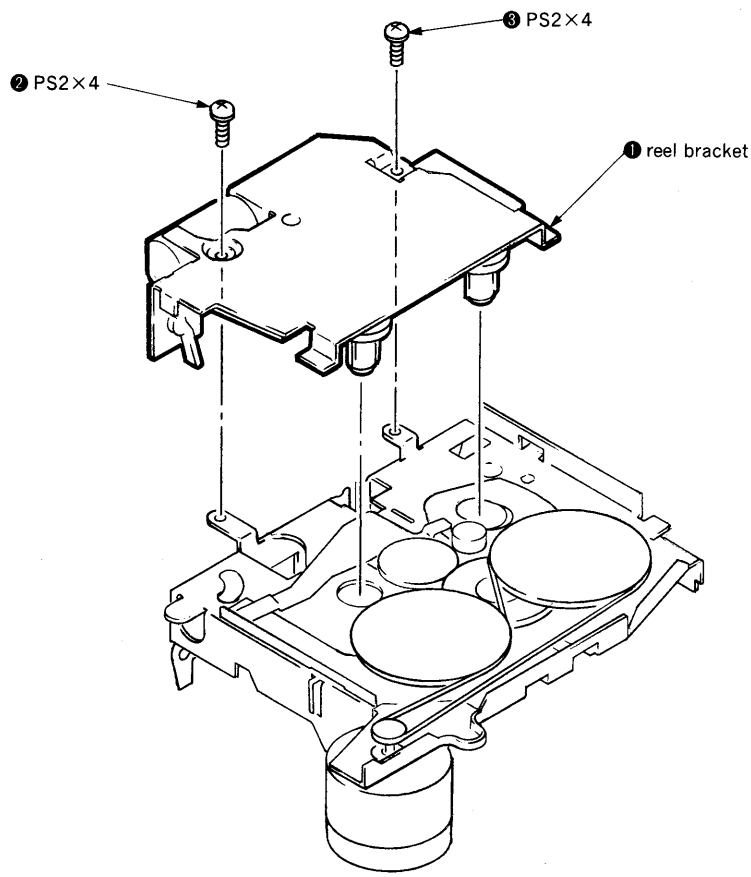
SECTION 3
ASSEMBLY OF MECHANISM DECK

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

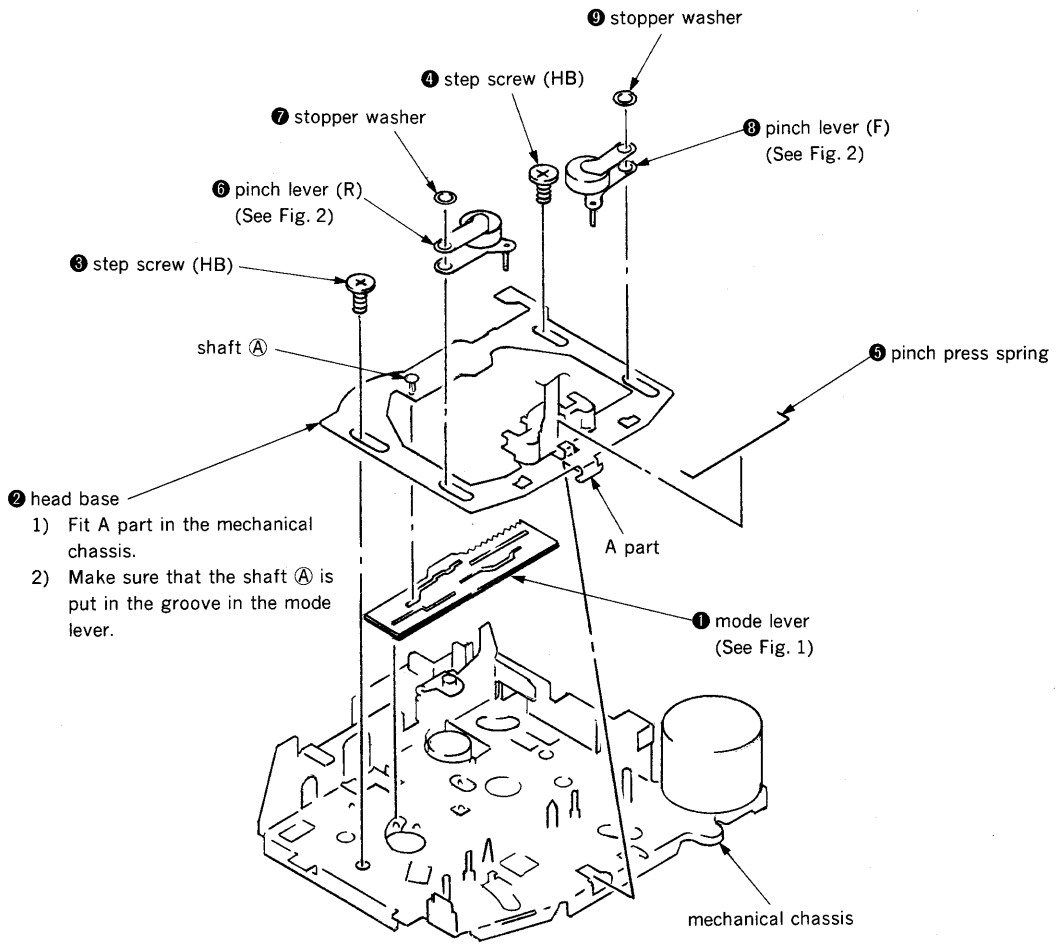
3-1. INSTALLING THE LOADING GEARS



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.

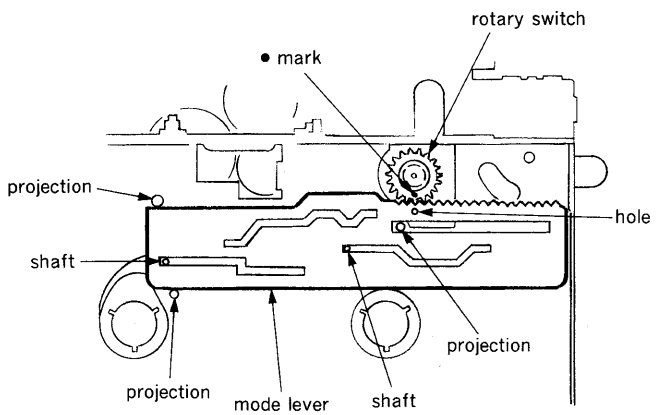


Fig. 1

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

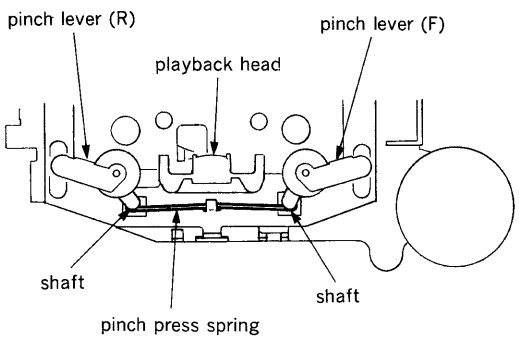


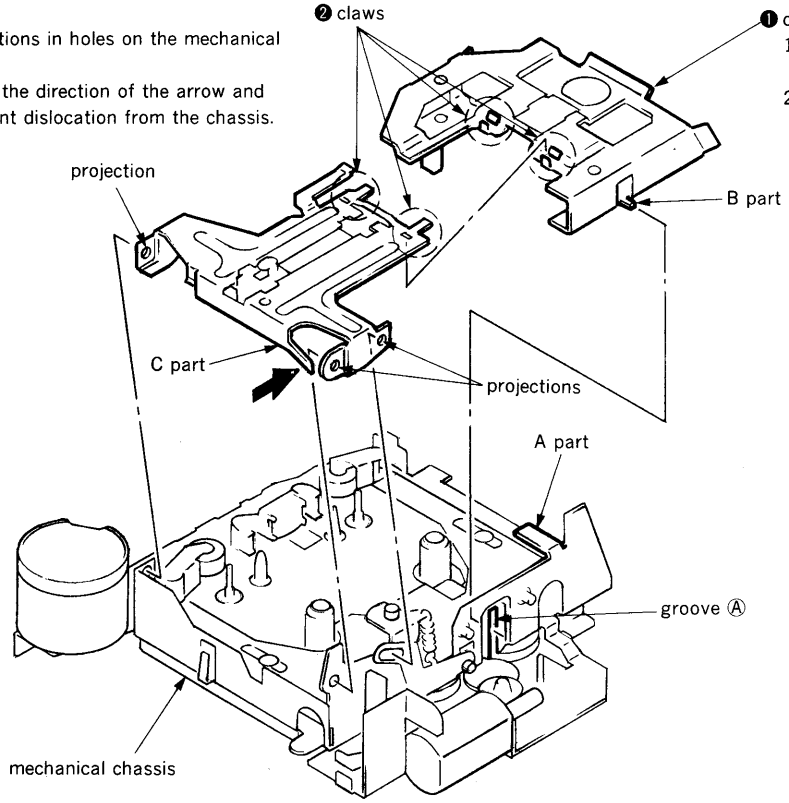
Fig. 2

3-4. INSTALLING THE CASSETTE HOUSING

❸ 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.

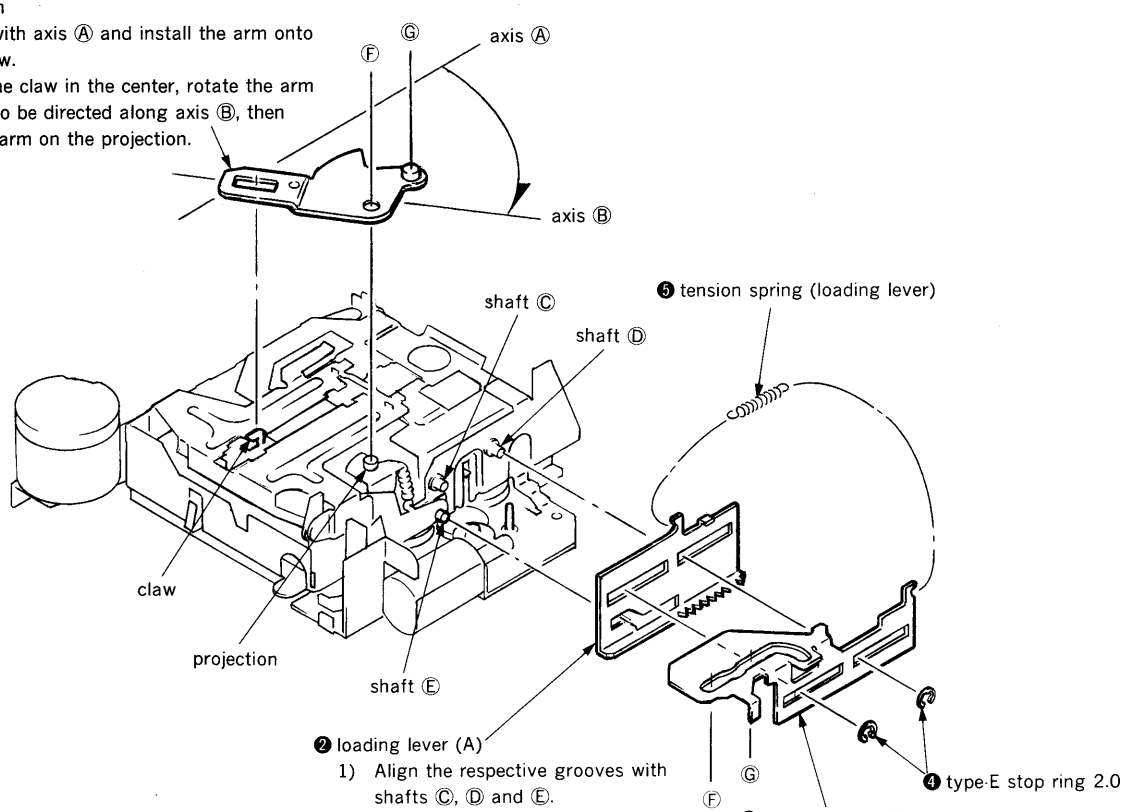
❷ claws

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

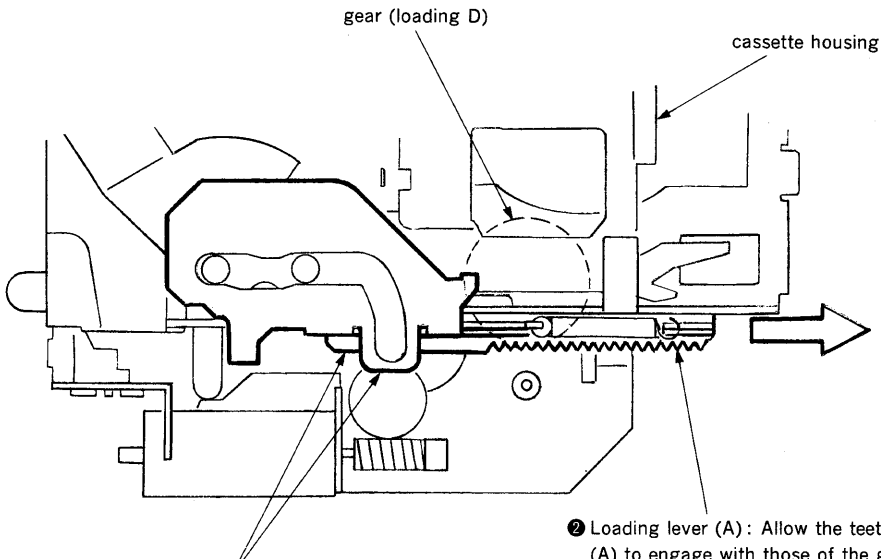


3-5. INSTALLING THE LOADING LEVER

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



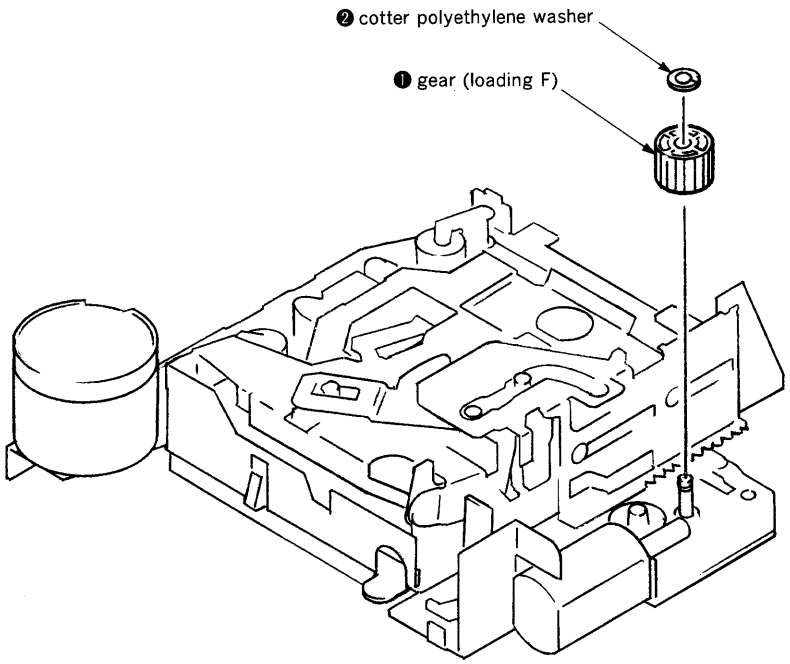
3-6. POSITIONING THE LOADING LEVERS



❶ Loading levers (A) and (B) : Move loading levers (A) and (B) in the direction of the arrow.
(The cassette housing is put down fully at this time.)

❷ Loading lever (A) : Allow the teeth of loading lever (A) to engage with those of the gear (loading D).
(Adjustment method : Retract loading lever (A) by 0.2 to 0.5mm in the opposite direction of the arrow.)

3-7. INSTALLING THE GEAR (LOADING F)



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment :
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

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 AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinaly procedure.

〈Set the Test Mode〉

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

〈Release the Test mode〉

1. Push the "OFF" button.

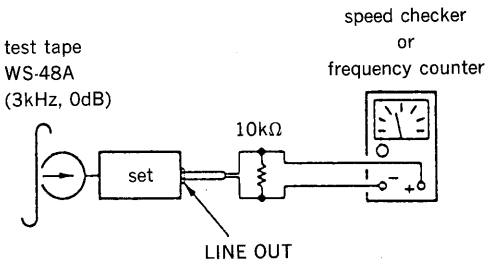
See the adjustment location from on page 20 for the adjustment.

DECK SECTION　**0dB=0.775V**

Tape Speed Adjustment

Procedure :

1. Put the set into the FWD PB mode.



Specification : Constant speed

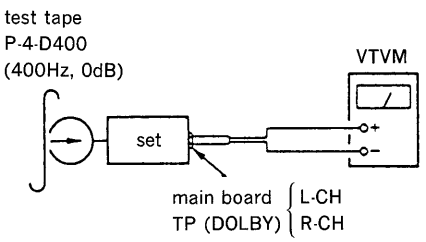
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location : See page 20.

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 :

1. Put the set into the FWD PB mode.
2. Adjust RV101 (L-CH) and RV201 (R-CH) so that VTVM reading is −6±0.5 dB (0.37 to 0.41V).

Adjustment Location : See page 20.

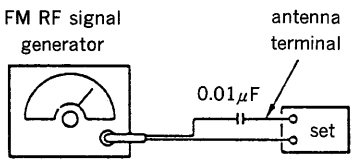
TUNER SECTION | **0dB=1μV**

Cautions during repair
When the front end is defective, replace it by a new one because its internal block is difficult to repair.

FM Auto Scan/Stop Level Adjustment

Setting :

FM button : FM

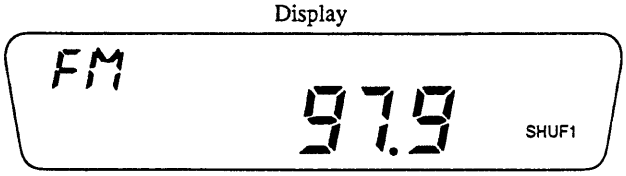


Carrier frequency : 97.9MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : 1kHz, 75kHz deviation

Procedure :

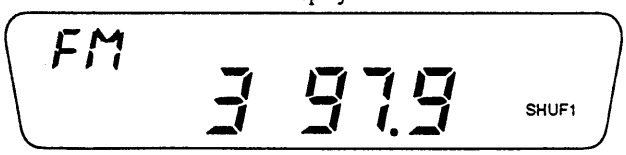
1. Set to the test mode. (See page 17.)
2. Push the [FM] button and set to FM.

Display



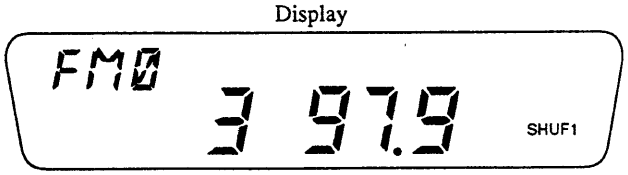
3. Push the preset [3] button.

Display



4. Adjust with the volume RV3 on TU1 so that the "FM" indication turns to "FM0" indication on the display window.
   But, in case of already indicated "FM0", turn the RV3 so that put out light "0" indication and adjustment.

Display

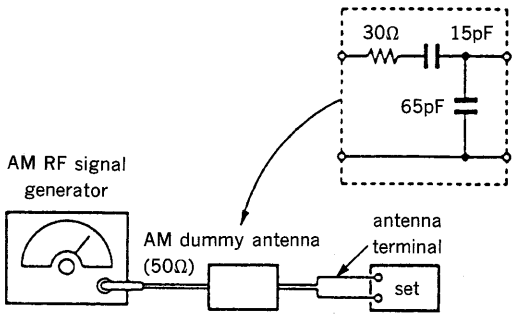


Adjustment Location : See page 20.

AM Auto Scan/Stop Level Adjustment

Setting :

AM button : AM

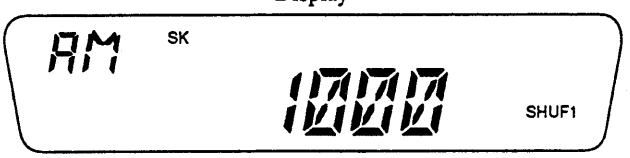


Carrier frequency : 1000kHz
30% amplitude modulation by 400Hz signal
Output level : 33dB (44.7μV)

Procedure :

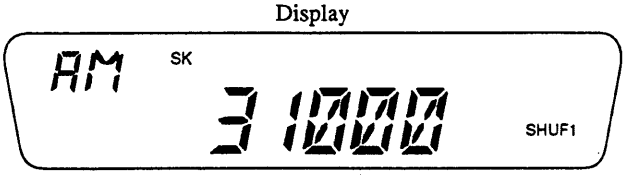
1. Set to the test mode. (See page 17.)
2. Push the [AM] button and set to AM.

Display



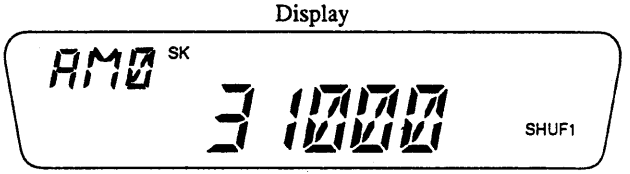
3. Push the preset [3] button.

Display



4. Adjust with the volume RV1 on TU1 so that the "AM" indication turns to "AM0" indication on the display window.
   But, in case of already indicated "AM0", turn the RV1 so that put out light "0" indication and adjustment.

Display

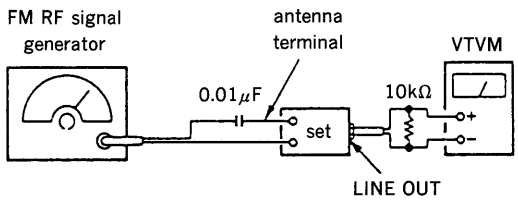


Adjustment Location : See page 20.

High Cut Control Effect Adjustment

Setting :

FM button : FM



Carrier frequency : 97.9MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 10kHz, 40kHz deviation

Procedure :

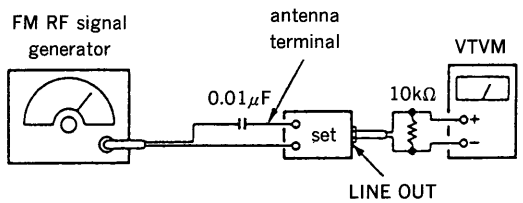
1. Tune the 97.9MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV2 on TU1 so that the output level is (A)−5dB then signal generator input set to 20dB.

Adjustment Location : See page 20.

FM Noise Focus Adjustment

Setting :

FM button : FM



Carrier frequency : 97.9MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation

Procedure :

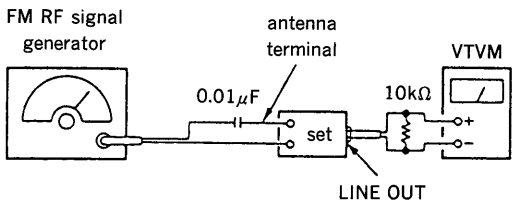
1. Tune the 97.9MHz.
2. The then output level is supposing that (B) dB.
3. Adjust with the volume RV5 on TU1 so that the output level is (B)−30dB then signal generator input set to −20dB.

Adjustment Location : See page 20.

FM Stereo Separation Adjustment

Setting :

FM button : FM



Carrier frequency : 97.9MHz
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 :

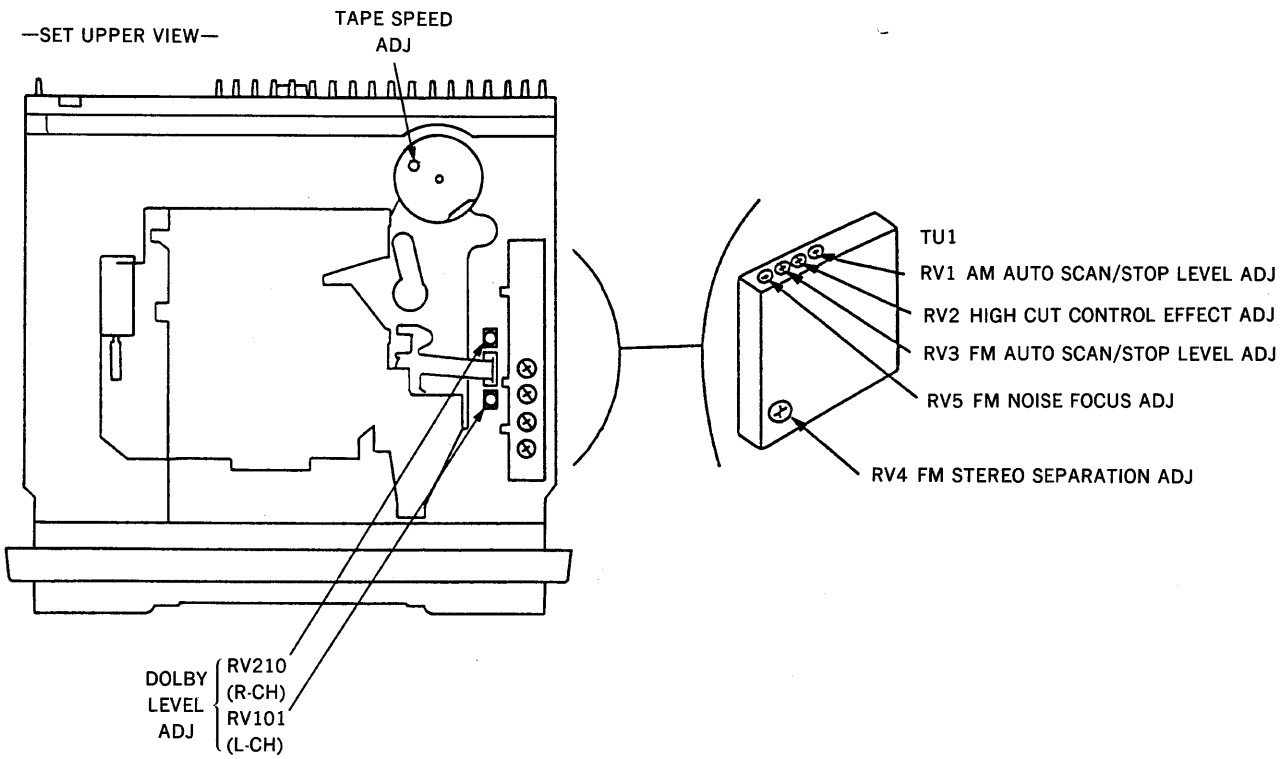
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

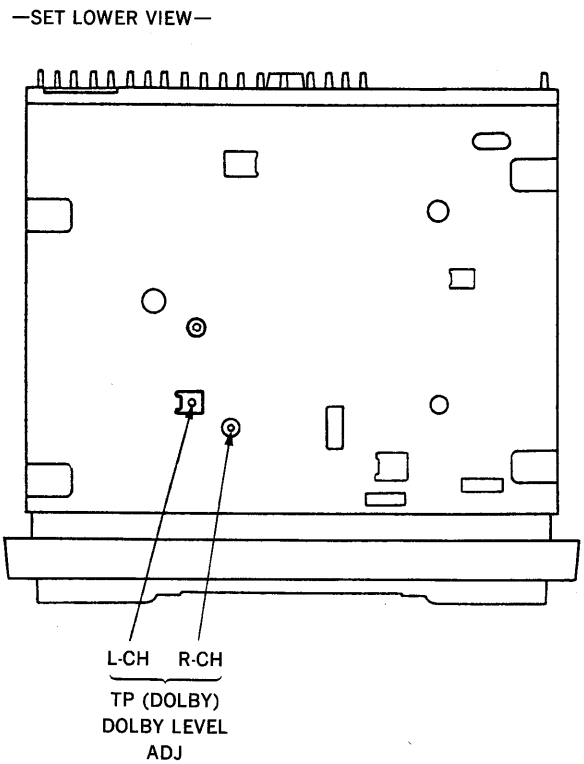
L-CH Stereo separation : Ⓐ−Ⓑ
R-CH Stereo separation : Ⓒ−Ⓓ
The separations of both channels should be equal.

Specification : Separation more than 30dB

Adjustment Location : See page 20.

Adjustment Location :





SECTION 6
DIAGRAMS

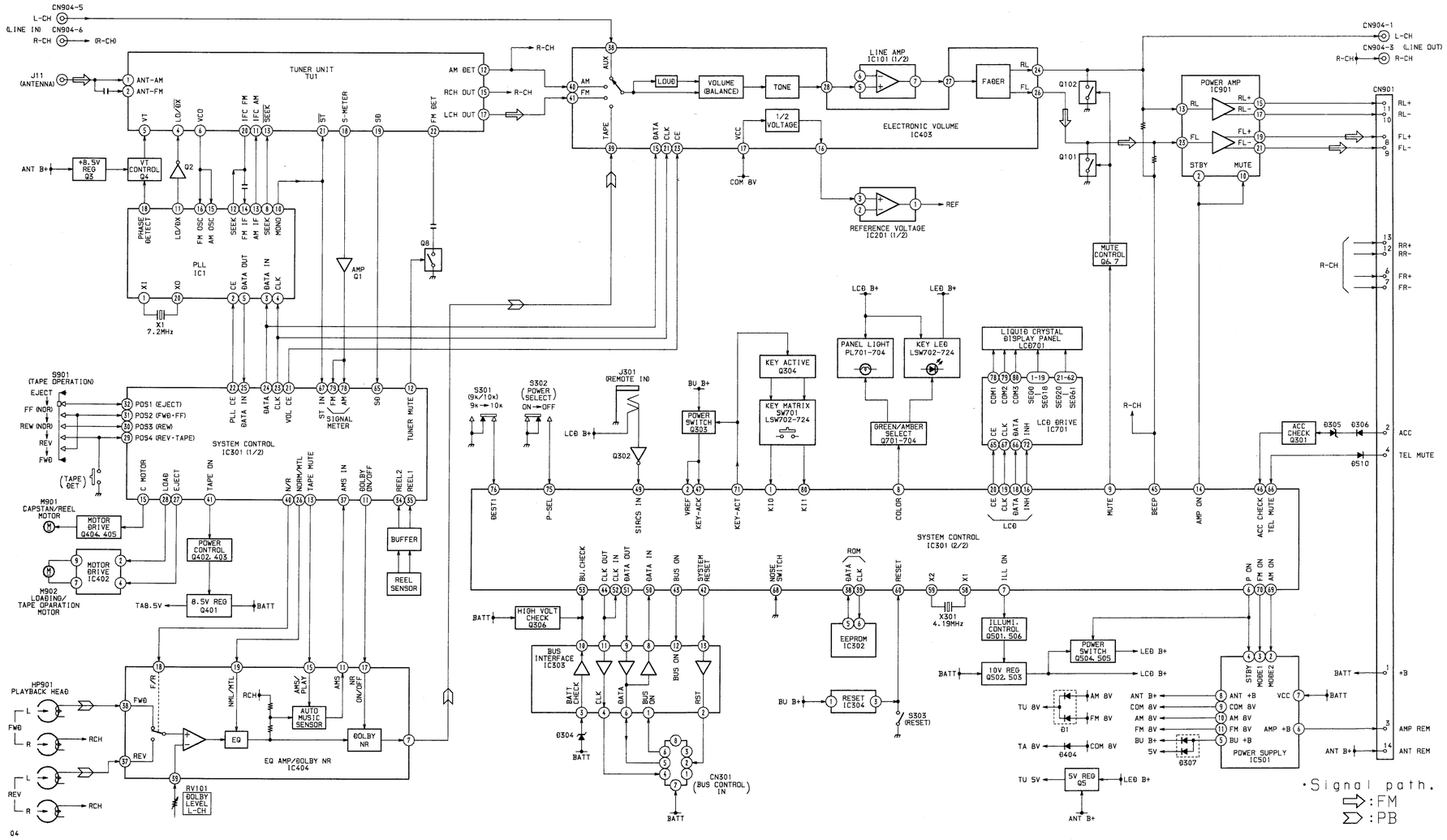
6-1. IC PIN DESCRIPTION

• IC301 μPD75518GF-267-3B9 (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)
8	COLOR	—	Not used.
9	MUTE	O	At MUTE : High output
10	AUX-MUTE	—	Not used.
11	DOLBY-ON/OFF	O	At DOLBY-NR ON : Low output
12	TUNER-MUTE	—	Not used.
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	PLL-CE	O	LATCH output terminal to PLL IC.
23	VOL. PLL-CLK	O	CLOCK output terminal to VOL and PLL IC.
24	VOL. PLL-DATA	O	DATA output terminal to VOL and PLL IC.
25	DATA IN	I	DATA input terminal from PLL IC.
26	NORM 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 output, 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	ROM-DATA	—	Connect to GND.
39	ROM-CLK	—	Not used.
40	N/R	O	NORMAL/$\overline{\text{REVERSE}}$ 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	SYS-RST	O	UNILINK $\overline{\text{SYSTEM RESET}}$ terminal. Low output : SYSTEM RESET

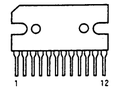
Pin No.	Pin Name	I/O	Pin Description
43	BUS-ON	O	For UNILINK terminal
44	CLK-OUT	O	For UNILINK terminal
45	BEEP	O	For piezoelectric buzzer output terminal
46	ACC-CHK	I	Accessory detection terminal. Low input : ACC ON
47	KEY-ACK	I	KEY ACKNOWLEDGE input terminal. For KEY insert input
48	C-ALARM	I	Caution alarm with/without initial setting terminal. Low input : With caution alarm
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-CHK	I	Back Up voltage detection terminal
54	VSS	—	GND
55	XT1	—	Connect to GND.
56	XT2	—	Not used.
57	—	—	Connect to GND.
58	X1	—	Connect to crystal. (4.19MHz)
59	X2	—	Connect to crystal. (4.19MHz)
60	RESET	I	RESET input
61, 62	—	—	Connect to GND.
63	SK	—	Connect to GND.
64	DK	—	Connect to GND.
65	SD	I	High input : With SD
66	TEL-MUTE	I	Low input : 20dB audio mute
67	ST-IN	I	Low input : Stereo
68	N-SW	I	Low input : With front panel
69	AM-ON	O	At TUNER ON : High output
70	FM-ON	O	At FM (both playing and behind) : High output
71	KEY-ACT	O	At A/D port input possible mode : Low output
72	—	—	Not used.
73	A. GND	—	A/D GND
74	DOLBY-SEL	—	Connect to GND.
75	P-SEL	I	POWER SELECT switch input. High input : ON, Low input : OFF. (Low input : Setting without ACC position)
76	DEST1	I	Destination setting terminal
77	DEST0	I	Destination setting terminal
78	AM-S-METER	I	AM S meter input terminal
79	FM-S-METER	I	FM S meter input terminal
80	KI1	I	KEY input terminal

6-2. BLOCK DIAGRAM

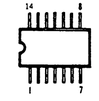


6-3. SEMICONDUCTOR LEAD LAYOUTS

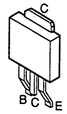
BA3910B-V2



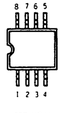
MM1175XFF



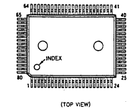
2SD1802-S



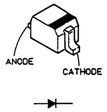
BA4558F
X24C04S8IC7000



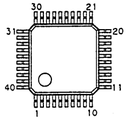
MSM6660-01GS-V1K
μPD75518GF-267
-3B9



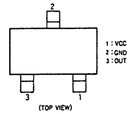
MA111
MA8051-H
1SS332



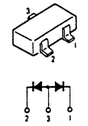
CXA1580Q-T4



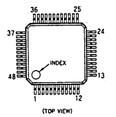
PST600EMT-T1



MA152WA



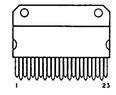
CXA1646Q



DTC314TKH04
DTD113EK
UN2111
UN2211
2SC2712-YG

MA721WK-(TX)
1SS184

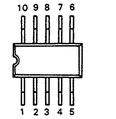
HA13150A



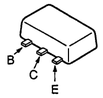
2SK1657-T1B

MTZJ-T-77-16B
MTZJ-11B
MTZJ-6.2B
MTZJ-7.5B
RD3.9ESB2
RD5.6ESB2
RD6.2M-B1
RD6.8ESB2
RD9.1ESB3
1N5404TU
1SS133
11ES2

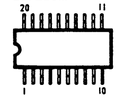
LB1638M



2SB1115A-YQ



LC7216M



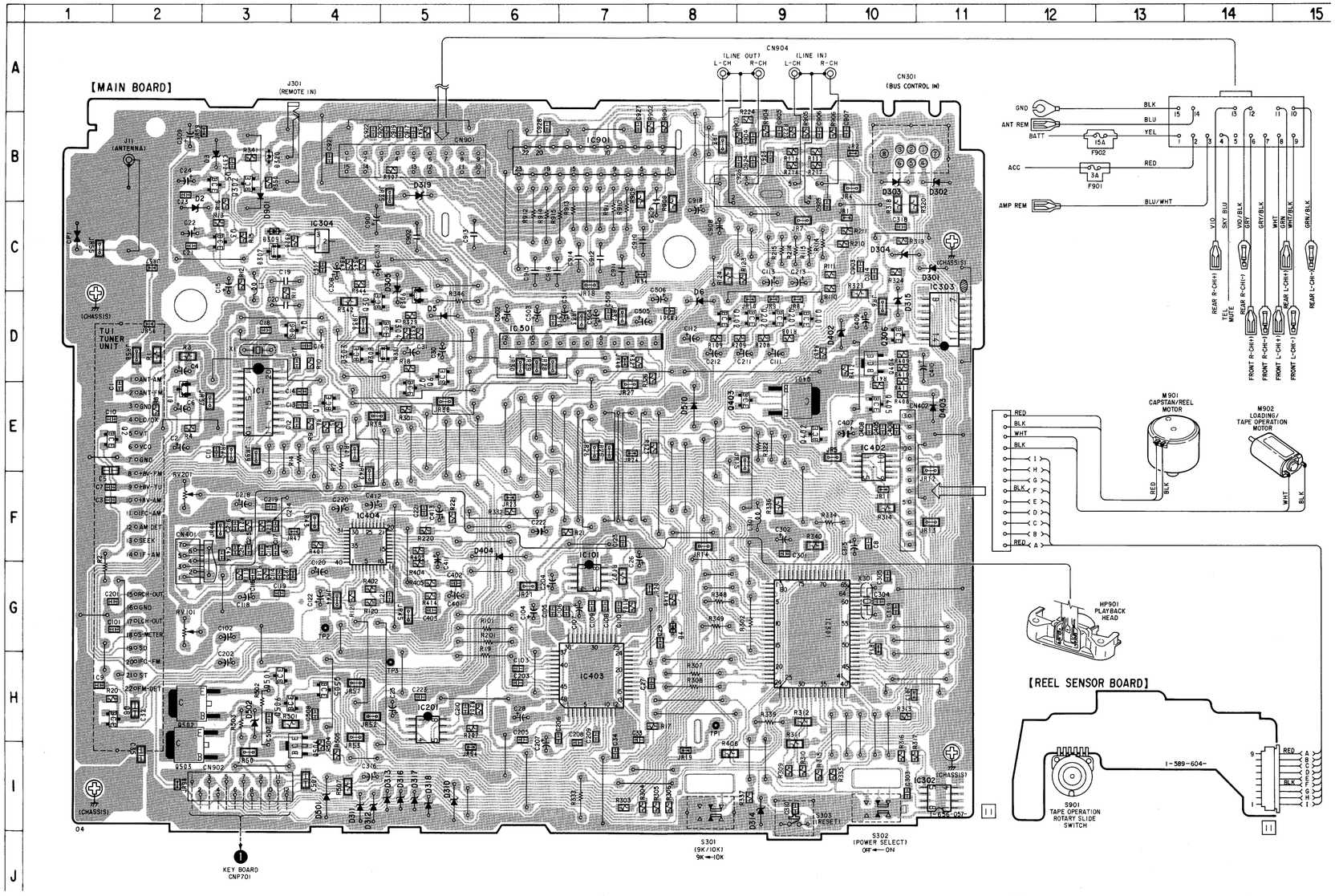
6-4. PRINTED WIRING BOARDS—MAIN SECTION— • Refer to page 25 for Semiconductor Lead Layouts.

• Semiconductor Location

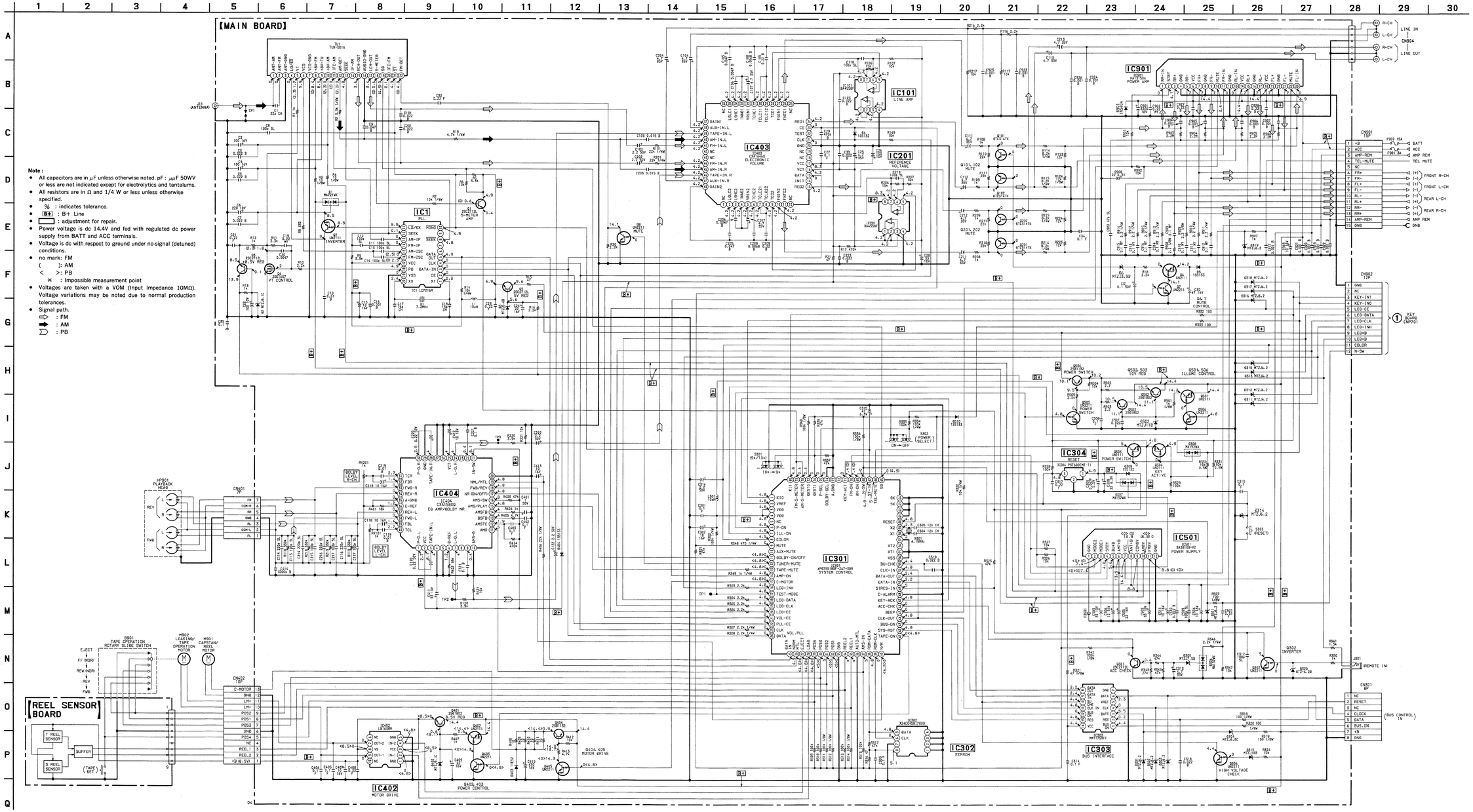
Ref. No.	Location	Ref. No.	Location
D1	E-2	IC302	I-11
D2	C-2	IC303	D-11
D3	B-3	IC304	C-4
D4	G-8	IC402	E-10
D5	D-5	IC403	H-7
D6	D-8	IC404	F-4
D301	C-11	IC501	D-6
D302	B-11	IC901	B-7
D303	B-10		
D304	C-10	Q1	E-4
D305	C-5	Q2	E-2
D306	D-5	Q3	C-3
D307	C-3	Q4	D-4
D308	D-4	Q5	B-3
D309	C-3	Q6	D-5
D310	I-5	Q7	E-5
D311	I-4	Q8	H-2
D312	I-4	Q101	D-9
D313	I-5	Q102	D-8
D314	I-9	Q201	D-9
D315	D-10	Q202	D-9
D316	I-5	Q301	D-4
D317	I-5	Q302	B-3
D318	I-5	Q303	D-4
D319	B-5	Q304	D-5
D320	B-3	Q306	D-10
D402	D-10	Q401	E-9
D403	E-11	Q402	E-9
D404	F-6	Q403	E-8
D501	I-4	Q404	D-10
D502	H-3	Q405	E-10
D510	E-8	Q501	H-3
D901	C-3	Q502	H-2
		Q503	I-2
IC1	E-3	Q504	I-4
IC101	G-7	Q505	H-4
IC201	H-5	Q506	H-3
IC301	G-9		

Note :

- ○— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.



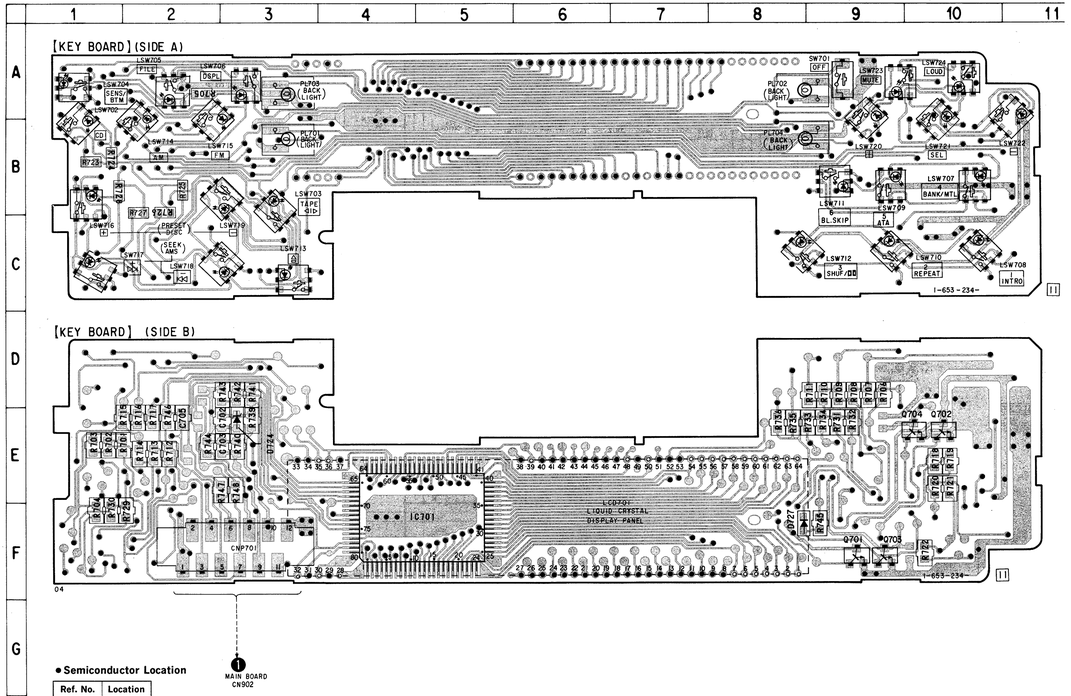
6-5. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 37 for IC Block Diagrams.



Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- B+ : B+ Line
- : adjustment for repair.
- Power voltage is dc 14.4V 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
  ( ): AM
  < >: PB
  ✻ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : PB

6-6. PRINTED WIRING BOARD—PANEL SECTION— • Refer to page 25 for Semiconductor Lead Layouts.

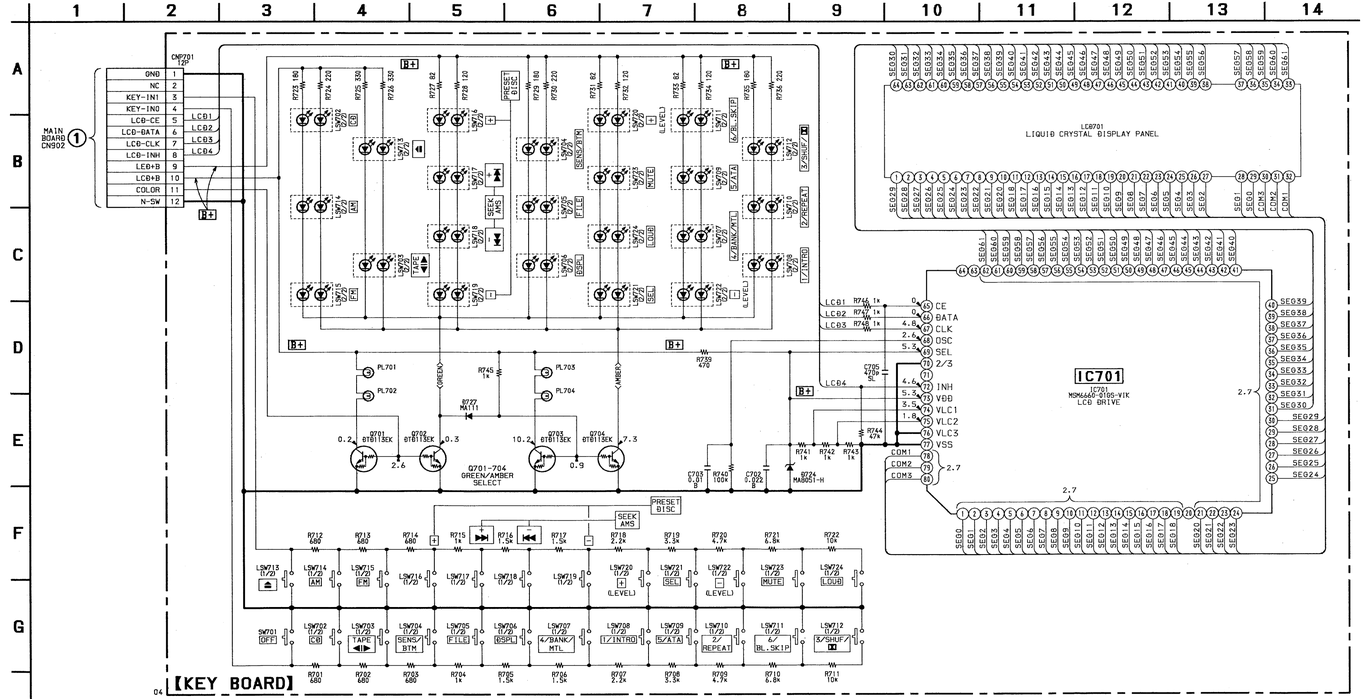


• Semiconductor Location

Ref. No.	Location
D724	E-3
D727	F-8
IC701	F-4
Q701	F-9
Q702	E-10
Q703	F-9
Q704	E-10

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

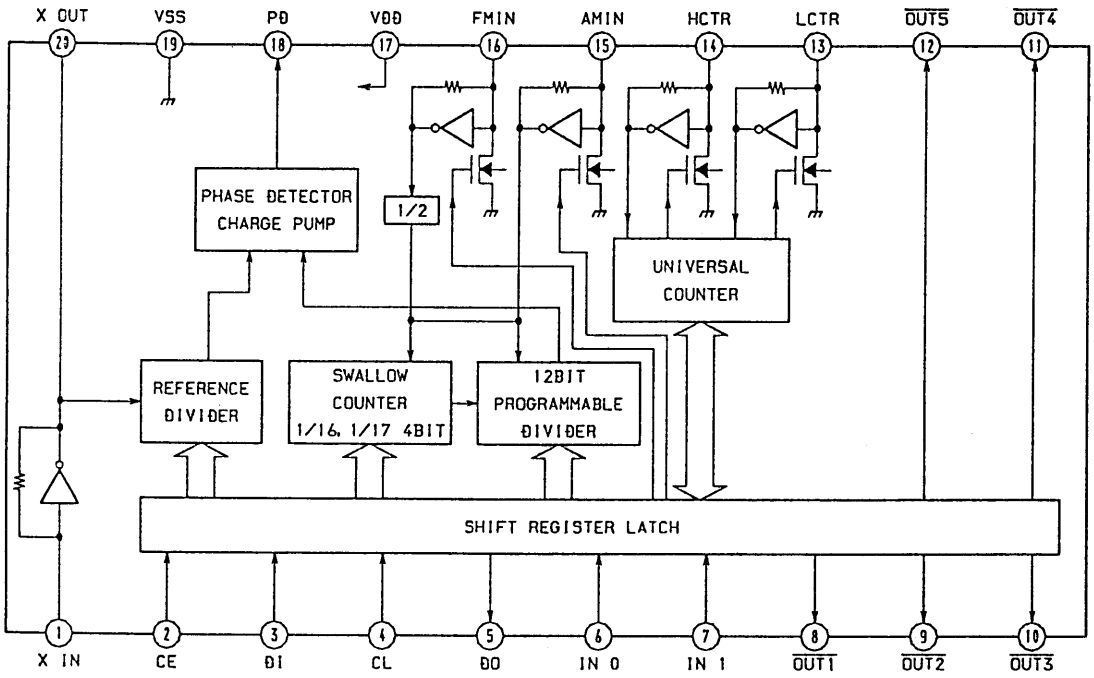
6-7. SCHEMATIC DIAGRAM—PANEL SECTION—



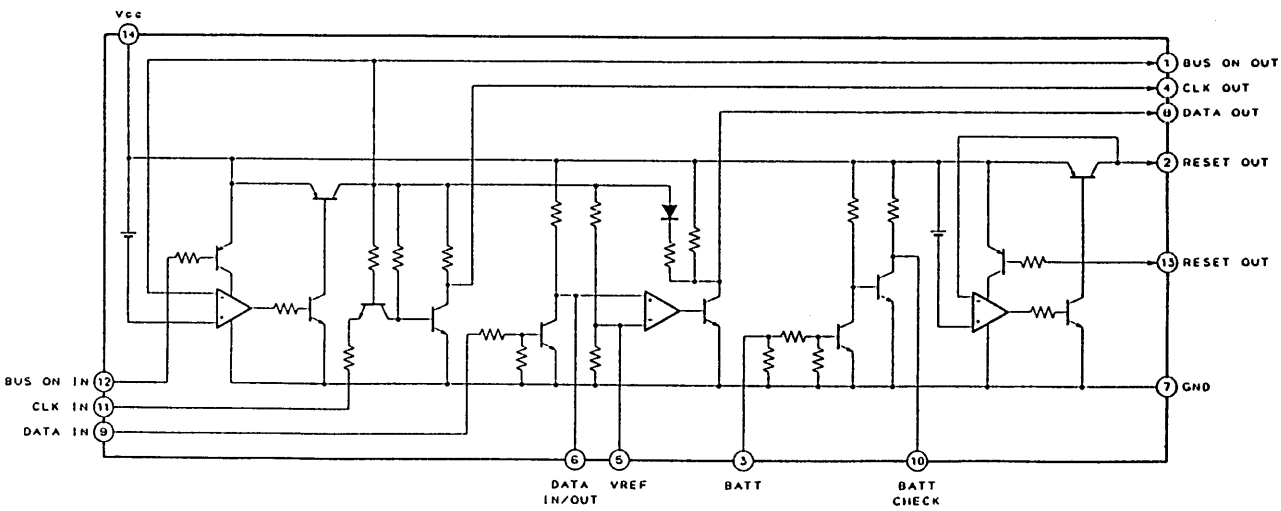
Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT 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 10MΩ). Voltage variations may be noted due to normal production tolerances.

• IC Block Diagrams

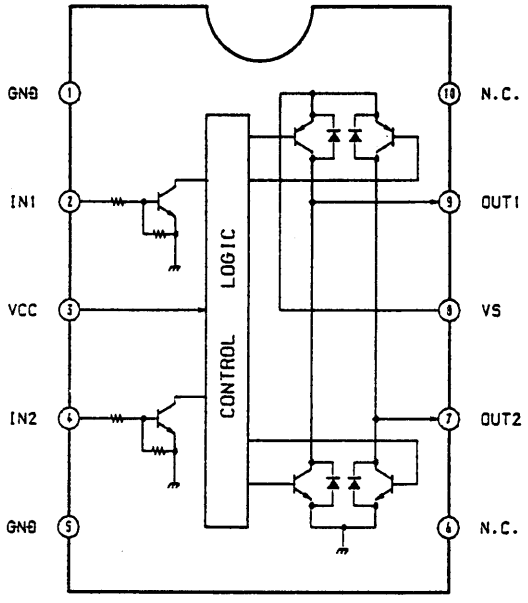
IC1 LC7216M



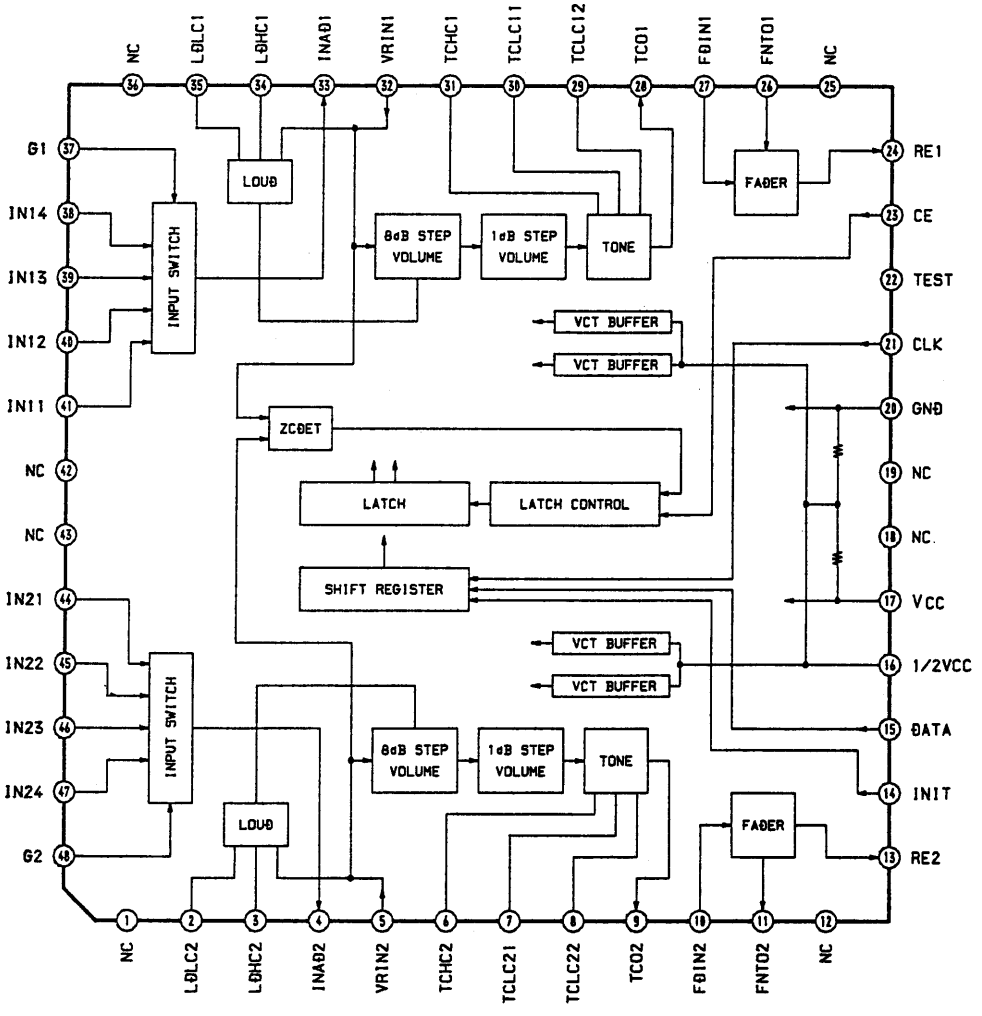
IC303 MM1175XFF



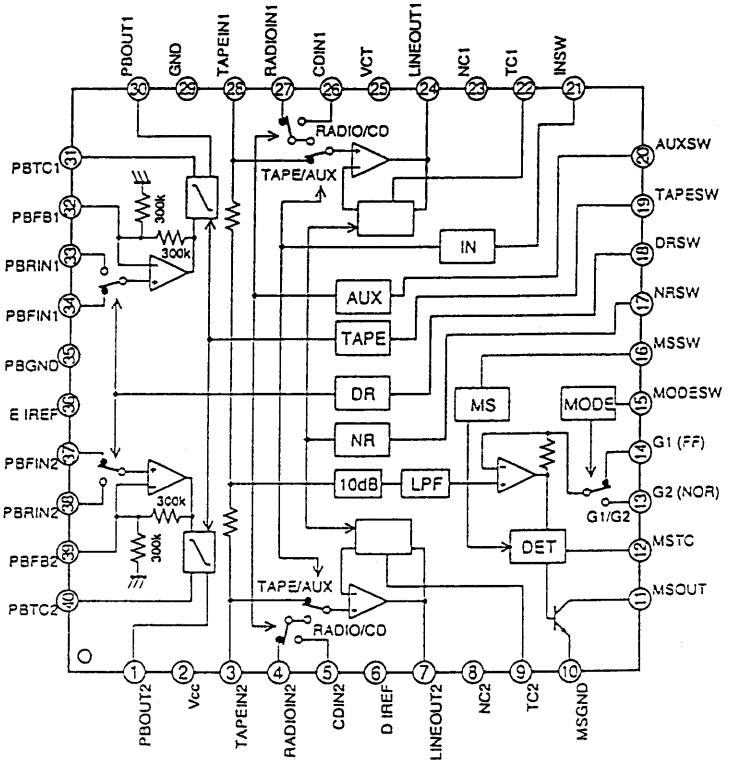
IC402 LB1638M



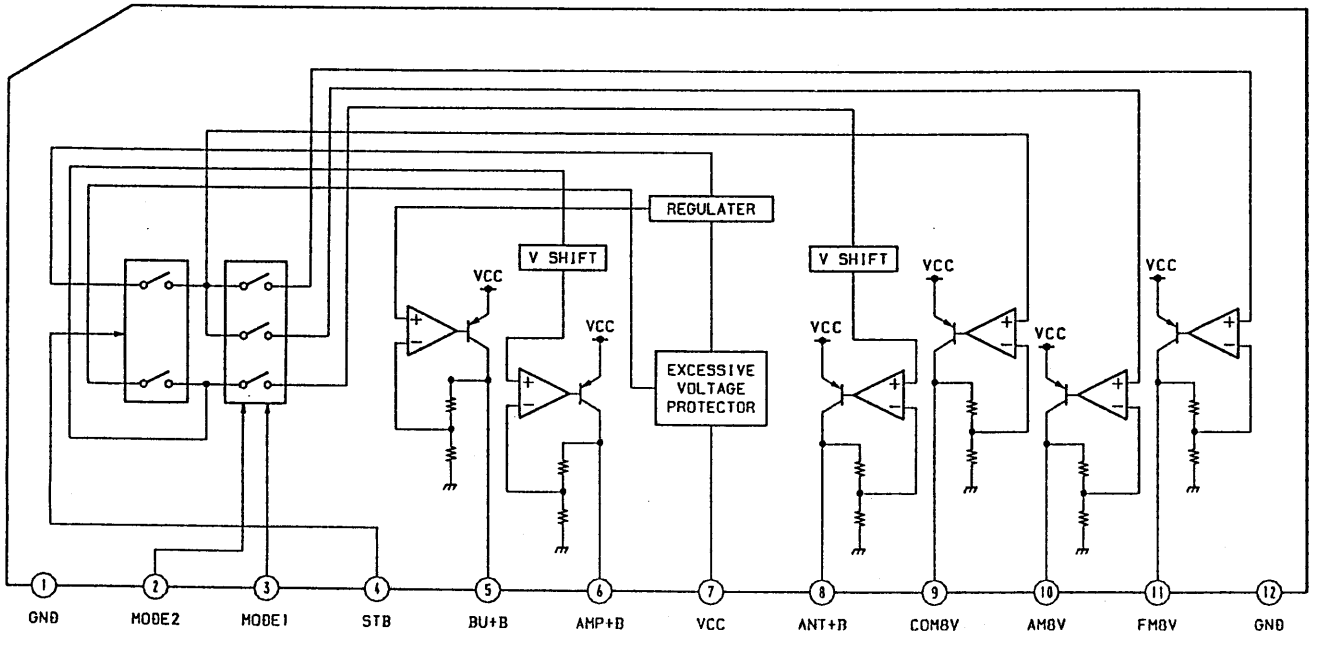
IC403 CXA1646Q



IC404 CXA1580Q



IC501 BA3910B-V2

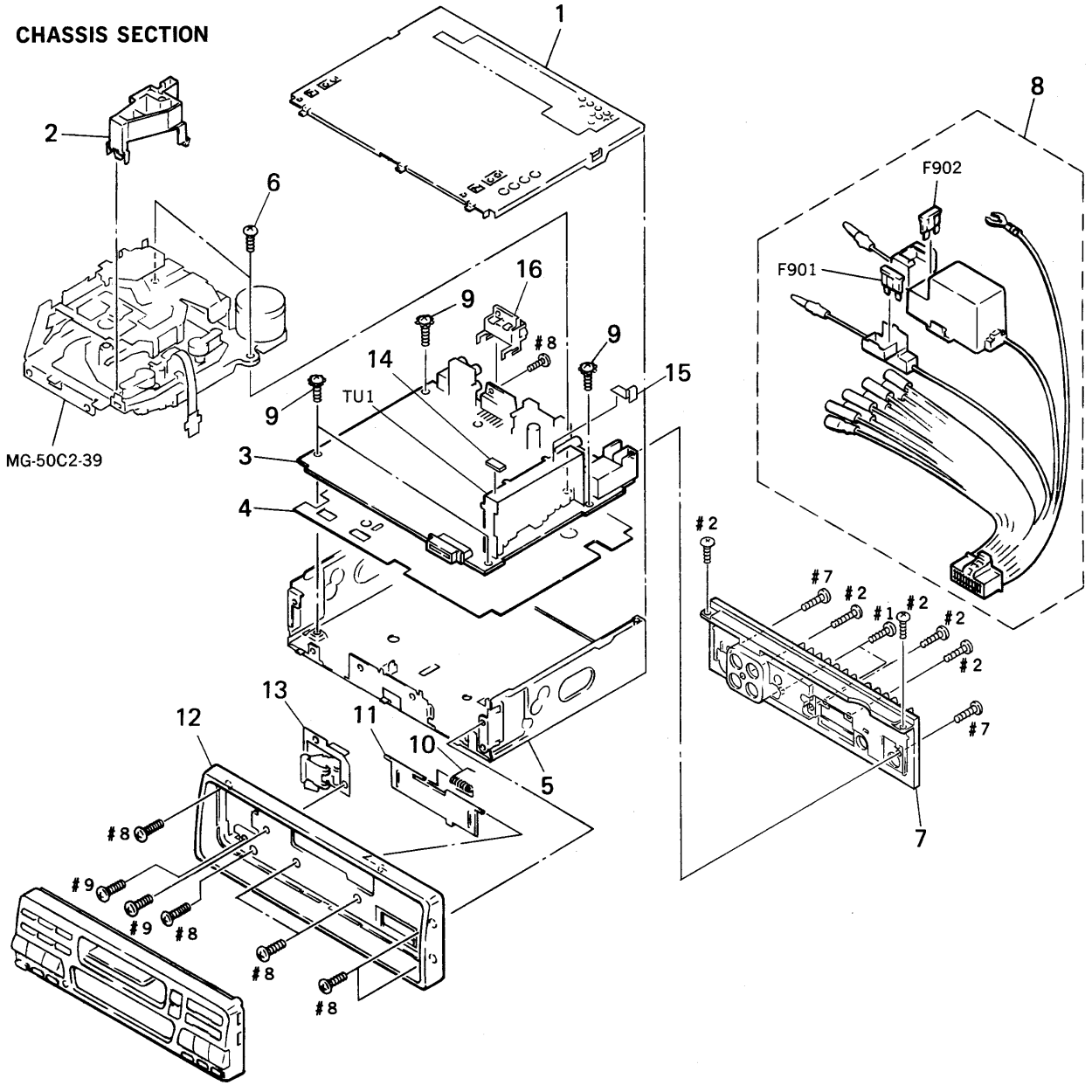


SECTION 7
EXPLODED VIEWS

NOTE:

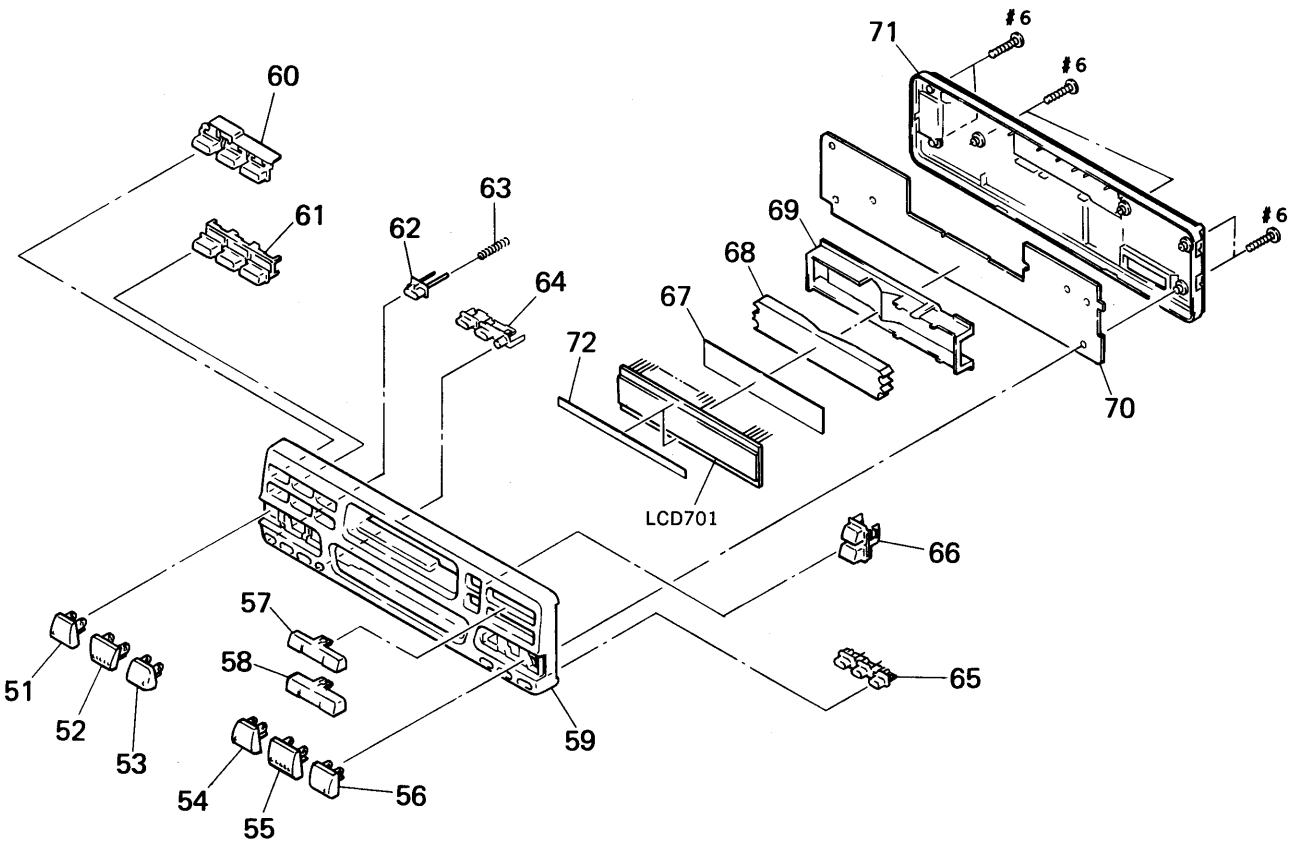
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference 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



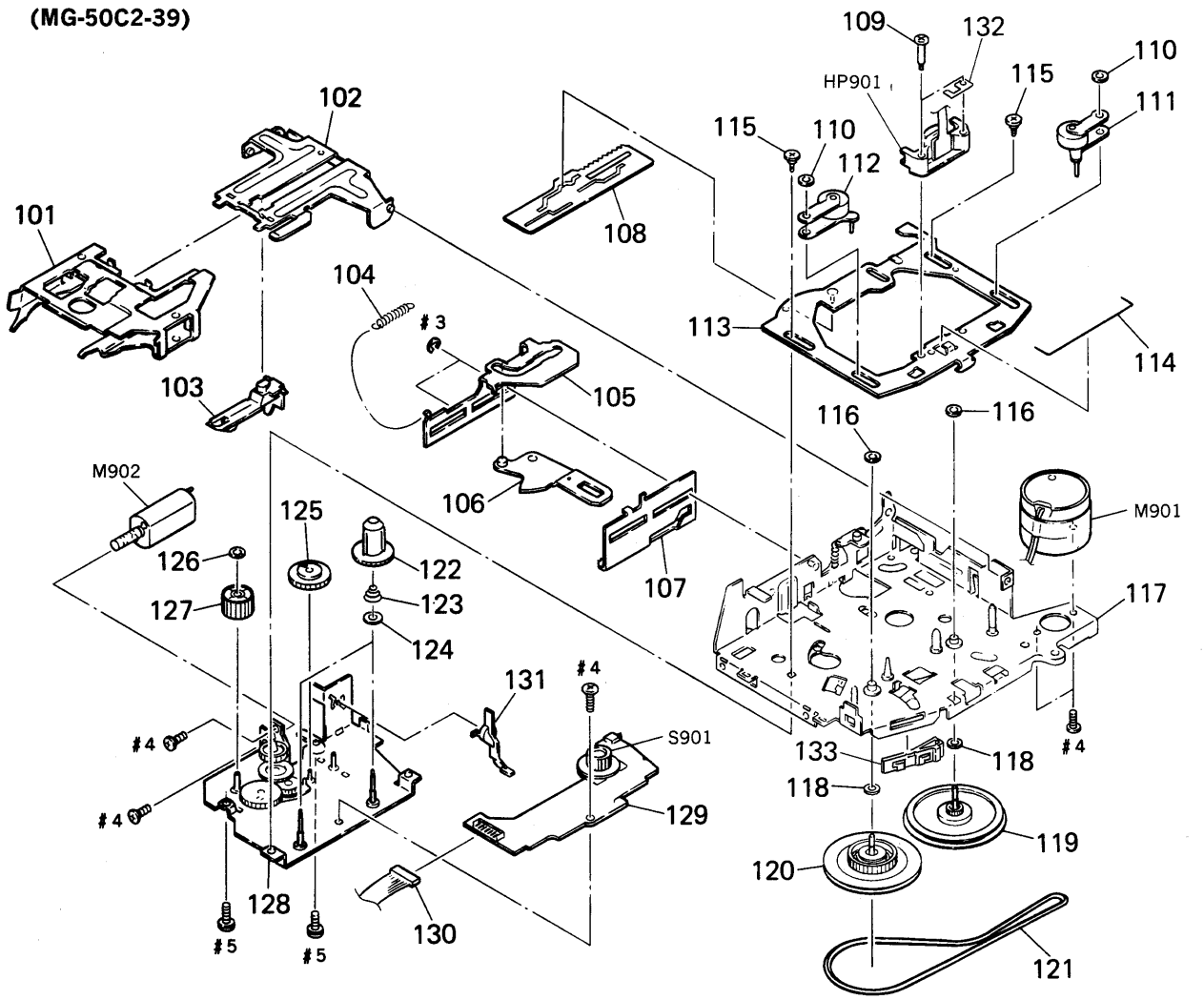
Ref. No.	Part No.	Description	Remark
* 1	X-3368-833-1	COVER ASSY	
2	3-916-872-01	GUIDE	
* 3	A-3298-584-A	MAIN BOARD, COMPLETE	
* 4	3-922-170-01	SHEET, INSULATING	
* 5	X-3368-832-1	CHASSIS ASSY	
6	3-919-171-01	SCREW (2.6X6) (C TIGHT)	
* 7	3-921-319-01	HEAT SINK	
8	1-765-081-11	CORD (WITH CONNECTOR)	
9	3-915-923-01	SCREW, GROUND POINT	
10	3-913-076-01	SPRING (C DOOR), TORSION	
11	3-922-165-31	DOOR, CASSETTE	
12	3-916-373-01	PANEL, SUB	
13	X-3367-636-1	LOCK ASSY	
14	9-911-840-XX	CUSHION (U)	
* 15	3-355-209-01	PLATE (B), GROUND	
* 16	3-921-320-01	HOLDER (IC)	
F901	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) (3A)	
F902	1-533-331-11	FUSE (BLADE TYPE) (AUTO FUSE) (15A)	
TU1	A-3282-003-A	TUNER UNIT (TUX-001A)	

7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-909-316-01	BUTTON (-)	
52	3-909-317-01	BUTTON (SEL)	
53	3-909-318-01	BUTTON (+)	
54	3-909-319-21	BUTTON (C)	
55	3-909-320-21	BUTTON (D)	
56	3-909-321-11	BUTTON (E)	
57	3-916-367-01	BUTTON (S/A)	
58	3-916-368-01	BUTTON (P/D)	
59	3-916-362-91	PANEL, FRONT	
60	3-916-364-01	BUTTON (1-3)	
61	3-916-365-01	BUTTON (4-6)	
62	3-904-245-21	BUTTON (RELEASE)	
63	3-904-193-01	SPRING (RELEASE)	
64	3-916-369-01	BUTTON (MUTE)	
65	3-916-371-01	BUTTON (FILE)	
66	3-916-366-01	BUTTON (EJECT)	
* 67	3-917-845-01	REFLECTOR, SHEET	
* 68	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE	
* 69	3-913-756-01	HOLDER (LCD)	
* 70	A-3298-580-A	KEY BOARD, COMPLETE	
71	3-916-363-11	PANEL, FRONT BACK	
* 72	3-917-781-01	SHEET (B)	
LCD701	1-810-571-11	DISPLAY PANEL, LIQUID CRYSTAL	

7-3. MECHANISM DECK SECTION (MG-50C2-39)



Ref. No.	Part No.	Description	Remark
101	3-912-881-01	HOUSING, CASSETTE	
* 102	3-912-882-01	HANGER, 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 (A2), LOADING	
* 108	3-912-876-01	LEVER, MODE	
109	3-912-893-01	SCREW, HEAD FITTING	
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-3368-268-1	BASE ASSY, HEAD	
114	3-912-879-01	SPRING, PINCH PRESS	
115	3-912-897-01	SCREW (HB), STEP	
116	3-364-151-01	WASHER	
117	X-3368-841-1	CHASSIS (SV) ASSY (A), MECHANICAL	
118	3-701-437-21	WASHER	
119	3-913-825-01	FLYWHEEL (FZ)	

Ref. No.	Part No.	Description	Remark
120	X-3369-124-1	CLUTCH (S) 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	3-912-888-01	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	1-500-157-21	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

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:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

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

Ref. No.	Part No.	Description			Remark
*	A-3298-580-A	KEY BOARD, COMPLETE			
		**********			
*	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE			
*	3-913-756-01	HOLDER (LCD)			
*	3-917-781-01	SHEET (B)			
*	3-917-845-01	REFLECTOR, SHEET			
		< 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	
		< CONNECTOR >			
CNP701	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	8-759-171-74	IC	MSM6660-01GS-V1K		
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-810-571-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
LSW702	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(CD)
LSW703	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(TAPE◀■▶)
LSW704	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(SENS/BTM)
LSW705	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(FILE)
LSW706	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(DSPL)
LSW707	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (4, BANK/MTL)			
LSW708	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(1, INTRO)
LSW709	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(5, ATA)
LSW710	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(2, REPEAT)
LSW711	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (6, BL.SKIP)			
LSW712	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(3, SHUF/□□)
LSW713	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(⏏)
LSW714	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(AM)
LSW715	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(FM)
LSW716	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (+ (PRESET/DISC))			
LSW717	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (▶▶ (SEEK/AMS))			
LSW718	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (◀◀ (SEEK/AMS))			
LSW719	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (- (PRESET/DISC))			
LSW720	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(+)
LSW721	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(SEL)
LSW722	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(-)
LSW723	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(MUTE)
LSW724	1-762-143-11	SWITCH, KEY BOARD (WITH LED)			(LOUD)
		< PILOT LAMP >			
PL701-704	1-517-166-21	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 >			
R701-703	1-216-045-00	METAL CHIP	680	5% 1/10W	
R704	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R705	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R706	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R707	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R708	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R709	1-216-065-00	METAL CHIP	4.7K	5% 1/10W	
R710	1-216-069-00	METAL CHIP	6.8K	5% 1/10W	
R711	1-216-073-00	METAL CHIP	10K	5% 1/10W	

KEY **MAIN**

Ref. No.	Part No.	Description			Remark
R712-714					
	1-216-045-00	METAL CHIP	680	5%	1/10W
R715	1-216-049-00	METAL CHIP	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
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	1-216-097-00	METAL CHIP	100K	5%	1/10W
R741-743					
	1-216-049-00	METAL CHIP	1K	5%	1/10W
R744	1-216-089-00	METAL CHIP	47K	5%	1/10W
R745-748					
	1-216-049-00	METAL CHIP	1K	5%	1/10W
		< SWITCH >			
SW701	1-692-037-31	SWITCH, KEY BOARD (OFF)			
**********					
*	A-3298-584-A	MAIN BOARD, COMPLETE			
		**********			
*	1-537-738-11	TERMINAL, EARTH			
*	3-921-320-01	HOLDER (IC)			
	7-621-773-95	SCREW +PTT 2.6X6 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-126-933-11	ELECT	100uF	20%	16V
C3	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C4	1-126-933-11	ELECT	100uF	20%	16V
C5	1-163-063-00	CERAMIC CHIP	0.022uF	10%	50V
C6	1-126-923-11	ELECT	220uF	20%	10V

Ref. No.	Part No.	Description			Remark
C7	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C8	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C9	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C10	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C11-14					
	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C15	1-126-157-11	ELECT	10uF	20%	16V
C16	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C17	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C18	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C19	1-136-169-00	FILM	0.22uF	5%	50V
C20	1-130-479-00	MYLAR	0.0047uF	5%	50V
C21	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C22	1-124-584-00	ELECT	100uF	20%	10V
C23	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C24	1-124-234-00	ELECT	22uF	20%	16V
C25	1-126-163-11	ELECT	4.7uF	20%	50V
C26	1-124-584-00	ELECT	100uF	20%	10V
C27	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C28	1-124-229-00	ELECT	33uF	20%	10V
C29	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C30	1-124-589-11	ELECT	47uF	20%	16V
C31	1-124-463-00	ELECT	0.1uF	20%	50V
C32	1-163-081-00	CERAMIC CHIP	0.22uF		25V
C33	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C34	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C35	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C101	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C102	1-124-257-00	ELECT	2.2uF	20%	50V
C103	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C104	1-126-163-11	ELECT	4.7uF	20%	50V
C105	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C106	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C107	1-126-163-11	ELECT	4.7uF	20%	50V
C108	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C109	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C110	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C111-113					
	1-126-163-11	ELECT	4.7uF	20%	50V
C114	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C115	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C116	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C117	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C118	1-126-157-11	ELECT	10uF	20%	16V
C119	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C120	1-124-464-11	ELECT	0.22uF	20%	50V
C121	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C122	1-124-257-00	ELECT	2.2uF	20%	50V
C123	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V

Ref. No.	Part No.	Description			Remark
C201	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C202	1-124-257-00	ELECT	2.2uF	20%	50V
C203	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C204	1-126-163-11	ELECT	4.7uF	20%	50V
C205	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C206	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C207	1-126-163-11	ELECT	4.7uF	20%	50V
C208	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C209	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C210	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C211-213					
	1-126-163-11	ELECT	4.7uF	20%	50V
C214	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C215	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C216	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C217	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C218	1-126-157-11	ELECT	10uF	20%	16V
C219	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C220	1-124-464-11	ELECT	0.22uF	20%	50V
C221	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C222	1-124-257-00	ELECT	2.2uF	20%	50V
C223	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C301	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C302	1-126-157-11	ELECT	10uF	20%	16V
C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C305	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C308	1-126-153-11	ELECT	22uF	20%	6.3V
C309	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C310	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C312	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C313	1-126-163-11	ELECT	4.7uF	20%	50V
C314	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C315	1-126-154-11	ELECT	47uF	20%	6.3V
C316	1-124-257-00	ELECT	2.2uF	20%	50V
C317	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C318	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C319	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C401	1-126-301-11	ELECT	1uF	20%	50V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C405	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C406	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C407	1-126-157-11	ELECT	10uF	20%	16V
C408	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C409	1-124-234-00	ELECT	22uF	20%	16V
C410	1-126-935-11	ELECT	470uF	20%	16V
C411	1-124-229-00	ELECT	33uF	20%	10V
C412	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C413	1-126-157-11	ELECT	10uF	20%	16V
C414	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C502	1-124-229-00	ELECT	33uF	20%	10V
C503	1-124-229-00	ELECT	33uF	20%	10V
C504	1-126-157-11	ELECT	10uF	20%	16V
C505	1-124-234-00	ELECT	22uF	20%	16V
C506	1-126-157-11	ELECT	10uF	20%	16V
C507	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C508	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C509	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C510	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C511	1-126-157-11	ELECT	10uF	20%	16V
C901	1-126-936-11	ELECT	3300uF	20%	16V
C902	1-136-169-00	FILM	0.22uF	5%	50V
C903	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C904-907					
	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C908	1-126-153-11	ELECT	22uF	20%	6.3V
C909-916					
	1-136-165-00	FILM	0.1uF	5%	50V
C917	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C918	1-126-157-11	ELECT	10uF	20%	16V
C919-922					
	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C923	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C924-926					
	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C927	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C928	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V

< CONNECTOR >

CN301	1-580-907-31	PLUG, CONNECTOR (BUS IN CONTROL)	
CN401	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CN402	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CN901	1-764-426-11	PLUG, CONNECTOR 15P	
CN902	1-764-422-11	PLUG, CONNECTOR 12P	
CN904	1-764-697-11	JACK, PIN 4P (LINE IN/OUT)	

< DISCHARGE GAP >

CP1	1-519-504-11	GAP, DISCHARGE

< DIODE >

D1	8-719-040-04	DIODE	MA721WK-(TX)
D2	8-719-110-14	DIODE	RD9.1ESB3
D3	8-719-109-89	DIODE	RD5.6ESB2
D4	8-719-976-31	DIODE	1SS332
D5	8-719-901-33	DIODE	1SS133

MAIN

Ref. No.	Part No.	Description	Remark
D6	8-719-109-72	DIODE RD3.9ESB2	
D301	8-719-921-54	DIODE MTZJ-6.2B	
D302	8-719-921-54	DIODE MTZJ-6.2B	
D303	8-719-921-54	DIODE MTZJ-6.2B	
D304	8-719-109-97	DIODE RD6.8ESB2	
D305	8-719-921-63	DIODE MTZJ-7.5B	
D306	8-719-801-78	DIODE 1SS184	
D307	8-719-400-20	DIODE MA152WA	
D308	8-719-400-20	DIODE MA152WA	
D309	8-719-976-31	DIODE 1SS332	
D310	8-719-921-54	DIODE MTZJ-6.2B	
D311	8-719-921-54	DIODE MTZJ-6.2B	
D312	8-719-921-54	DIODE MTZJ-6.2B	
D313	8-719-921-54	DIODE MTZJ-6.2B	
D314	8-719-921-54	DIODE MTZJ-6.2B	
D315	8-719-923-92	DIODE MTZJ-T-77-16B	
D316	8-719-921-54	DIODE MTZJ-6.2B	
D317	8-719-921-54	DIODE MTZJ-6.2B	
D318	8-719-921-54	DIODE MTZJ-6.2B	
D319	8-719-921-54	DIODE MTZJ-6.2B	
D320	8-719-105-99	DIODE RD6.2M-B1	
D402	8-719-110-14	DIODE RD9.1ESB3	
D403	8-719-200-82	DIODE 11ES2	
D404	8-719-901-33	DIODE 1SS133	
D501	8-719-921-54	DIODE MTZJ-6.2B	
D502	8-719-921-80	DIODE MTZJ-11B	
D510	8-719-901-33	DIODE 1SS133	
D901	8-719-049-38	DIODE 1N5404TU	
		< FERRITE BEAD >	
FB501	1-414-233-21	INDUCTOR, FERRITE BEAD	
		< IC >	
IC1	8-759-823-81	IC LC7216M	
IC101	8-759-909-71	IC BA4558F	
IC201	8-759-909-71	IC BA4558F	
IC301	8-759-335-10	IC uPD75518GF-267-3B9	
IC302	8-759-165-36	IC X24C04S8IC7000	
IC303	8-759-096-16	IC MM1175XFF	
IC304	8-759-167-83	IC PST600EMT-T1	
IC402	8-759-823-87	IC LB1638M	
IC403	8-752-063-44	IC CXA1646Q	
IC404	8-752-070-22	IC CXA1580Q-T4	
IC501	8-759-182-75	IC BA3910B-V2	
IC901	8-759-260-77	IC HA13150A	
		< JACK >	
J11	1-764-808-11	JACK (ANTENNA)	
J301	1-566-822-41	JACK (REMOTE IN)	
		< JUMPER RESISTOR >	
JR1	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR2	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR3-7	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR8-11	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR12-15	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR16	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR17	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR18	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR19	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR20	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR21	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR22-24	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR25-30	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR32	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR33	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR34	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR35-46	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR47	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR48	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR50-53	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR54	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR55	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR56	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR57	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR58	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR59	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR98	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR99	1-216-295-00	CONDUCTOR, CHIP (2012)	
		< COIL >	
L1	1-410-509-61	INDUCTOR 10uH	
L301	1-410-509-61	INDUCTOR 10uH	
		< TRANSISTOR >	
Q1	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q2	8-729-424-08	TRANSISTOR UN2111	
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q4	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG	

Ref. No.	Part No.	Description		Remark
Q6	8-729-424-08	TRANSISTOR	UN2111	
Q7	8-729-421-22	TRANSISTOR	UN2211	
Q8	8-729-421-22	TRANSISTOR	UN2211	
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q102	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q202	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q301	8-729-230-49	TRANSISTOR	2SC2712-YG	
Q302	8-729-421-22	TRANSISTOR	UN2211	
Q303	8-729-424-08	TRANSISTOR	UN2111	
Q304	8-729-424-08	TRANSISTOR	UN2111	
Q306	8-729-421-22	TRANSISTOR	UN2211	
Q401	8-729-807-12	TRANSISTOR	2SD1802-S	
Q402	8-729-424-08	TRANSISTOR	UN2111	
Q403	8-729-421-22	TRANSISTOR	UN2211	
Q404	8-729-106-60	TRANSISTOR	2SB1115A-YQ	
Q405	8-729-421-22	TRANSISTOR	UN2211	
Q501	8-729-424-08	TRANSISTOR	UN2111	
Q502	8-729-807-12	TRANSISTOR	2SD1802-S	
Q503	8-729-807-12	TRANSISTOR	2SD1802-S	
Q504	8-729-106-60	TRANSISTOR	2SB1115A-YQ	
Q505	8-729-421-22	TRANSISTOR	UN2211	
Q506	8-729-421-22	TRANSISTOR	UN2211	

< RESISTOR >

R1	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R2	1-249-423-11	CARBON	3.3K	5%	1/4W
R3	1-216-150-00	METAL GLAZE	10	5%	1/8W
R4	1-216-150-00	METAL GLAZE	10	5%	1/8W
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-249-429-11	CARBON	10K	5%	1/4W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R10	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R11	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R12	1-216-049-00	METAL CHIP	1K	5%	1/10W
R13	1-216-049-00	METAL CHIP	1K	5%	1/10W
R14	1-249-429-11	CARBON	10K	5%	1/4W
R15	1-216-017-00	METAL CHIP	47	5%	1/10W
R16	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R17	1-216-113-00	METAL CHIP	470K	5%	1/10W
R18	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R19	1-249-425-11	CARBON	4.7K	5%	1/4W
R20	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R21	1-216-017-00	METAL CHIP	47	5%	1/10W
R101	1-247-863-91	CARBON	22K	5%	1/4W
R106	1-216-077-00	METAL CHIP	15K	5%	1/10W
R107	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R108	1-216-049-00	METAL CHIP	1K	5%	1/10W
R109	1-216-049-00	METAL CHIP	1K	5%	1/10W
R110	1-216-081-00	METAL CHIP	22K	5%	1/10W
R111	1-216-081-00	METAL CHIP	22K	5%	1/10W
R114	1-249-428-11	CARBON	8.2K	5%	1/4W
R115	1-249-428-11	CARBON	8.2K	5%	1/4W
R116	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-109-00	METAL CHIP	330K	5%	1/10W
R119	1-216-109-00	METAL CHIP	330K	5%	1/10W
R120	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-075-00	METAL CHIP	12K	5%	1/10W
R124	1-216-224-00	METAL GLAZE	12K	5%	1/8W
R149	1-216-073-00	METAL CHIP	10K	5%	1/10W
R201	1-249-433-11	CARBON	22K	5%	1/4W
R206	1-216-077-00	METAL CHIP	15K	5%	1/10W
R207	1-216-073-00	METAL CHIP	10K	5%	1/10W
R208	1-216-049-00	METAL CHIP	1K	5%	1/10W
R209	1-216-049-00	METAL CHIP	1K	5%	1/10W
R210	1-216-081-00	METAL CHIP	22K	5%	1/10W
R211	1-216-081-00	METAL CHIP	22K	5%	1/10W
R214	1-249-428-11	CARBON	8.2K	5%	1/4W
R215	1-249-428-11	CARBON	8.2K	5%	1/4W
R216	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R217	1-216-073-00	METAL CHIP	10K	5%	1/10W
R218	1-216-109-00	METAL CHIP	330K	5%	1/10W
R219	1-216-109-00	METAL CHIP	330K	5%	1/10W
R220	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R221	1-216-073-00	METAL CHIP	10K	5%	1/10W
R223	1-216-075-00	METAL CHIP	12K	5%	1/10W
R224	1-216-075-00	METAL CHIP	12K	5%	1/10W
R301	1-216-089-00	METAL CHIP	47K	5%	1/10W
R302	1-249-441-11	CARBON	100K	5%	1/4W
R303-306	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R307	1-249-421-11	CARBON	2.2K	5%	1/4W
R308	1-249-421-11	CARBON	2.2K	5%	1/4W
R309	1-216-097-00	METAL CHIP	100K	5%	1/10W
R310	1-216-097-00	METAL CHIP	100K	5%	1/10W
R311	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R312	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R313	1-216-097-00	METAL CHIP	100K	5%	1/10W
R314	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R315	1-216-097-00	METAL CHIP	100K	5%	1/10W
R316	1-216-017-00	METAL CHIP	47	5%	1/10W
R317	1-216-089-00	METAL CHIP	47K	5%	1/10W
R318	1-216-174-00	METAL GLAZE	100	5%	1/8W
R319	1-216-073-00	METAL CHIP	10K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R320	1-216-174-00	METAL GLAZE	100	5%	1/8W
R321	1-216-166-00	METAL GLAZE	47	5%	1/8W
R322	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-216-089-00	METAL CHIP	47K	5%	1/10W
R324	1-216-073-00	METAL CHIP	10K	5%	1/10W
R326	1-216-073-00	METAL CHIP	10K	5%	1/10W
R327	1-216-073-00	METAL CHIP	10K	5%	1/10W
R328	1-216-097-00	METAL CHIP	100K	5%	1/10W
R329	1-216-097-00	METAL CHIP	100K	5%	1/10W
R330	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R331	1-216-675-11	METAL CHIP	10K	0.5%	1/10W
R332	1-216-025-00	METAL CHIP	100	5%	1/10W
R333	1-247-807-11	CARBON	100	5%	1/4W
R334	1-249-441-11	CARBON	100K	5%	1/4W
R335	1-216-097-00	METAL CHIP	100K	5%	1/10W
R336	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R337	1-216-089-00	METAL CHIP	47K	5%	1/10W
R339	1-249-437-11	CARBON	47K	5%	1/4W
R340	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R341	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R342	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R343	1-216-083-00	METAL CHIP	27K	5%	1/10W
R344	1-216-089-00	METAL CHIP	47K	5%	1/10W
R345	1-216-089-00	METAL CHIP	47K	5%	1/10W
R346	1-249-421-11	CARBON	2.2K	5%	1/4W
R347	1-216-073-00	METAL CHIP	10K	5%	1/10W
R348	1-249-413-11	CARBON	470	5%	1/4W
R349	1-249-417-11	CARBON	1K	5%	1/4W
R350	1-216-049-00	METAL CHIP	1K	5%	1/10W
R401	1-216-079-00	METAL CHIP	18K	5%	1/10W
R402	1-216-079-00	METAL CHIP	18K	5%	1/10W
R403	1-216-089-00	METAL CHIP	47K	5%	1/10W
R404	1-216-049-00	METAL CHIP	1K	5%	1/10W
R405	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R406	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R407	1-216-049-00	METAL CHIP	1K	5%	1/10W
R408-411					
	1-216-001-00	METAL CHIP	10	5%	1/10W
R412	1-216-073-00	METAL CHIP	10K	5%	1/10W
R413	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R414	1-216-113-00	METAL CHIP	470K	5%	1/10W
R501	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R502	1-249-385-11	CARBON	2.2	5%	1/6W
R503	1-249-385-11	CARBON	2.2	5%	1/6W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R507	1-216-174-00	METAL GLAZE	100	5%	1/8W
R901	1-216-073-00	METAL CHIP	10K	5%	1/10W
R902	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R903-906					
	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R907	1-216-049-00	METAL CHIP	1K	5%	1/10W
R908	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R909	1-216-134-00	METAL CHIP	2.2	5%	1/8W
R910-915					
	1-249-385-11	CARBON	2.2	5%	1/6W
		< VARIABLE RESISTOR >			
RV101	1-238-597-11	RES, ADJ, CARBON 1K			
RV201	1-238-597-11	RES, ADJ, CARBON 1K			
		< SWITCH >			
S301	1-571-478-11	SWITCH, SLIDE (9K/10K)			
S302	1-571-426-11	SWITCH, SLIDE (POWER SELECT)			
S303	1-692-431-21	SWITCH, TACTILE (RESET)			
		< TUNER >			
TU1	A-3282-003-A	TUNER UNIT (TUX-001A)			
		< VIBRATOR >			
X1	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)			
X301	1-567-821-11	VIBRATOR, CRYSTAL (4.19MHz)			

****

MISCELLANEOUS

****

8	1-765-081-11	CORD (WITH CONNECTOR)
130	1-765-460-12	CORD (WITH CONNECTOR)
F901	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) (3A)
F902	1-533-331-11	FUSE (BLADE TYPE) (AUTO FUSE) (15A)
HP901	1-500-157-21	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)

****

ACCESSORIES & PACKING MATERIALS

****

	3-798-386-21	MANUAL, INSTRUCTION (ENGLISH)
	3-798-633-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH)
	X-3367-795-1	CASE ASSY

****

Ref. No.	Part No.	Description	Remark

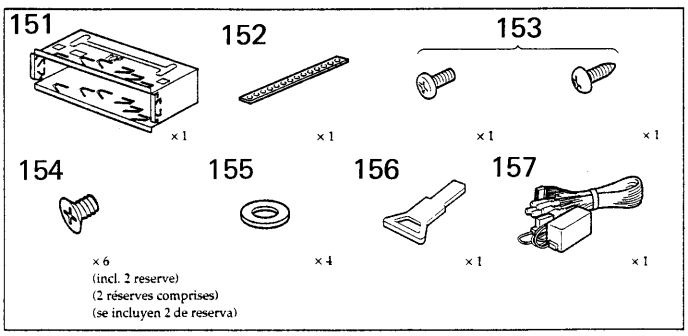
****
HARDWARE LIST
****

#1	7-621-770-67	SCREW +P 2.6X6	
#2	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
#3	7-624-104-04	STOP RING 2.0, TYPE -E	
#4	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#5	7-628-253-05	SCREW +PS 2X4	
#6	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
#7	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#8	7-621-773-95	SCREW +PTT 2.6X6 (S)	
#9	7-621-772-10	SCREW +B 2X4	

****

MOUNTING HARDWARE
****

* 151	3-916-161-01	FRAME, FITTING	
152	NOT SUPPLIED		
153	X-3368-725-1	SCREW ASSY, FITTING	
154	3-916-830-01	SCREW (5X8) (TP), +K	
155	3-918-090-02	WASHER	
156	3-388-078-01	KEY	
157	1-765-081-11	CORD (WITH CONNECTOR)	



9-960-040-11

Sony Corporation
Mobile Electronics Company

English
95B047026-1
Printed in Singapore

Published by Home A & V Products Div.
Quality Engineering Dept.