

CDX-4170R

SERVICE MANUAL

AEP Model
UK Model



Model Name Using Similar Mechanism	NEW
CD Drive Mechanism Type	MG-363X-121
Optical Pick-up Name	KSS-520A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 - 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 - 108 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	60 dB (stereo), 65 dB (mono)
Harmonic distortion at 1 kHz	0.8% (stereo), 0.5% (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
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz / 450 kHz
Sensitivity	MW : 30 μ V LW : 35 μ V

Power amplifier section

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

– Continued on next page –

FM/MW/LW COMPACT DISC PLAYER



SONY®

General

Outputs	Power aerial 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. 188 × 58 × 175 mm (w/h/d)
Mounting dimensions	Approx. 183 × 53 × 160 mm (w/h/d)
Mass	Approx. 1.25 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

SERVICE NOTE

CAUTION

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

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.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

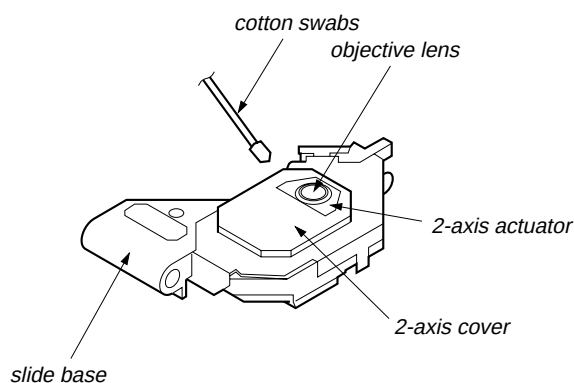
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.

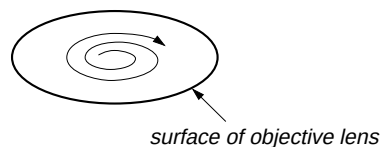
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

NOTES ON CLEANING THE OBJECTIVE LENS



Apply CD lens cleaner B-4 (Part No.:J-2501-000-A) to cotton swabs (narrow type) (Part No.:J-2501-023-A) to be lightly wet. Use a force (about 5 g) to make the objective lens in contact with the bottom lightly, and clean the lens by spirals as following below.

Replace the cotton swab and repeat this cleaning two or three times.



Notes:

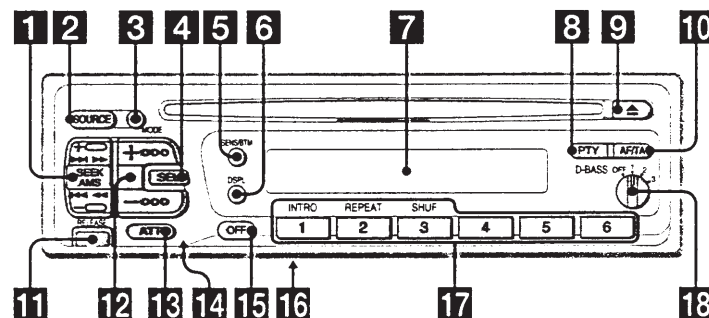
Do not force to push the objective lens. Otherwise, the plate spring supporting the objective lens will be bent, causing a deteriorated RF waveform.

Never touch anything other than the objective lens. Otherwise, a significant deterioration occurs in the RF waveform.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK $\triangle$ OR DOTTED LINE WITH MARK $\triangle$ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Location of controls



EN

Refer to the pages for details.

- | | |
|---|--|
| <p>1 SEEK/AMS (seek/Automatic Music Sensor/manual search) button 7, 8, 9, 10, 13</p> <p>2 SOURCE (source select) button 6, 8</p> <p>3 MODE (band select) button 8</p> <p>4 SEL (control mode select) button 6, 11, 13, 15, 16</p> <p>5 SENS/BTM (sensitivity adjust/Best tuning memory) button 8, 9, 12</p> <p>6 DSPL (display mode change/time set) button 6, 9</p> <p>7 Display window</p> <p>8 PTY (programme type) button 13</p> <p>9 Δ (eject) button 6</p> <p>10 AF/TA (alternative frequency/traffic announcement) button 10, 11, 12</p> <p>11 RELEASE (front panel release) button 5, 17</p> | <p>12 $\oplus \ominus$ (volume/bass/treble/balance/fader control) buttons 6, 15</p> <p>13 ATT button 15</p> <p>14 Reset button (located on the front side of the unit hidden by the front panel) 5</p> <p>15 OFF button 5, 6</p> <p>16 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.</p> <p>17 During radio reception:
Number buttons 8, 9, 10, 12
During CD playback:
① INTRO button 7
② REPEAT button 7
③ SHUF button 7</p> <p>18 D-BASS dial 16</p> |
|---|--|

Getting Started

Resetting the unit

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

Press the reset button with a pointed object, such as a ballpoint pen.



Reset button

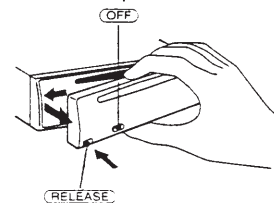
Notes

- Pressing the reset button will erase all the memorized programme and memory functions.
- When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. Do not insert a disc within these 10 seconds; otherwise, the unit will not be reset, and you will have to press the reset button again.

Detaching the front panel

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

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

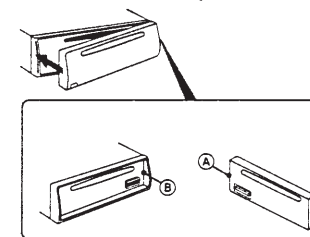


Notes

- Be sure not to drop the panel when detaching it from the unit.
- If you press **RELEASE** to detach the panel while the unit is still on, the unit will turn off automatically to prevent the speakers from being damaged.
- When you carry the front panel with you, put it in the supplied front panel case.

Attaching the front panel

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



Notes

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

Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the **A** position, and connecting an optional power amplifier to LINE OUT).

EN

Getting Started

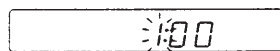
Setting the clock

The clock has a 24-hour digital indication.

Example: Set the clock to 10:08

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

2 Press **DSPL** for more than two seconds.



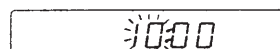
The hour digit flashes.

① Set the hour digits.

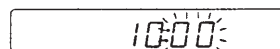


to go forward

to go back



② Press **SEL** momentarily.



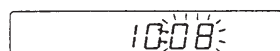
The minute digits flash.

③ Set the minute digits.

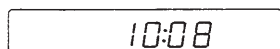


to go forward

to go back



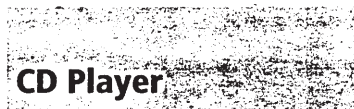
3 Press **DSPL** momentarily.



The clock is activated.

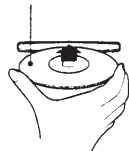
Note

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

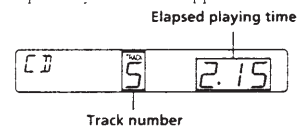


Listening to a CD

Simply insert the CD.
Playback starts automatically.
Labelled side up



If a CD is already inserted, press **SOURCE** repeatedly until "CD" appears.



Elapsed playing time

Track number

Note

To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	⏮ or OFF
Eject the CD	⏮

Changing the displayed items

Each time you press **DSPL**, the item changes as follows:

Track number ↔ Clock

Locating a specific track

— Automatic Music Sensor (AMS)

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



To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track

— Manual Search

During playback, press and hold either side of **SEEK/AMS** for two seconds. Release the button when you have found the desired point.



To search forward

To search backward

Note

If "LLLLL" or "rrrrr" appears in the display, you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

Searching for the desired track

— Intro Scan

Press **①** during playback.
"INTRO" appears in 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 in the display.

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

To cancel this mode, press again.

Playing tracks in random order

— Shuffle Play

Press **③** during playback.
"SHUF" appears in the display.

All tracks on the CD are played in random order.

To cancel this mode, press again.

Radio

Memorising stations automatically

— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorises them in the order of their frequencies. You can store up to 6 stations on each band (FM1, FM2, FM3, MW and LW).

Caution

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

- 1 Press **(SOURCE)** repeatedly to select the tuner.

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

- 2 Press **(MODE)** repeatedly to select the band.

Each time you press **(MODE)**, the band changes as follows:

→ FM1 → FM2 → FM3 → MW → LW

- 3 Press **(SENS/BTM)** for two seconds.

The unit stores stations in the order of their frequencies on the number buttons.

Notes

- The unit does not store stations with weak signals. If only a few stations are received, some number buttons remain empty.
- When a number is indicated in the display, the unit starts storing stations from the one currently displayed.
- If a CD is not in the unit, only the tuner band appears even if you press **(SOURCE)**.

Memorising only the desired stations

You can store up to 6 stations on each band (18 for FM1, FM2 and FM3, 6 for each MW and LW) in the order of your choice.

- 1 Press **(SOURCE)** repeatedly to select the tuner.

- 2 Press **(MODE)** repeatedly to select the band.

- 3 Press either side of **(SEEK/AMS)** to tune in the station that you want to store on the number button.

- 4 Press the desired number button (1 to 6) for two seconds until "MEM" appears.

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 memorised stations

- 1 Select the desired band (page 8).

- 2 Press the number button (1 to 6) momentarily where the desired station is stored.

If you cannot tune in a preset station

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

Scanning stops when the unit receives a station. Press either side of **(SEEK/AMS)** repeatedly until the desired station is received.

Note

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

Tip

If you know the frequency of the station you want to listen to, press and hold either side of **(SEEK/AMS)** for two seconds until the desired frequency appears (manual tuning).

If FM stereo reception is poor

— Monaural Mode

Press **(SENS/BTM)** momentarily until "MONO" appears.

The sound improves, but becomes monaural ("ST" disappears).

To go back to the normal mode, press again until "MONO" disappears.

Changing the displayed items

Each time you press **(DSPL)**, the items alternate between the frequency and time.

RDS

Overview of the RDS function

The 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 to is not transmitting RDS data.

Displaying the station name

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

Select an FM station (page 8).

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

FM1 BBC 1 FM

Note

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

Changing the displayed items

Each time you press **(DSPL)**, the item changes as follows:

→ Frequency → Clock → Station Name

Note

"NO NAME" appears if the station received does not transmit RDS data.

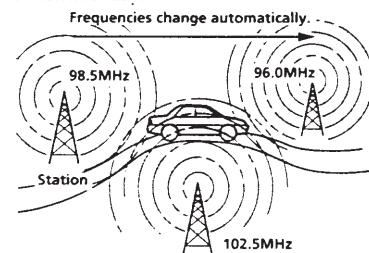
EN

Radio/RDS

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.



1 Select an FM station (page 8).

2 Press **(AF/TA)** repeatedly 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 do not need to search for an alternative station, turn the AF function off by pressing **(AF/TA)** repeatedly until "AF TA" disappears.

Changing the displayed items

Each time you press **(AF/TA)**, the item changes as follows:



* Select this to turn on both the AF and TA functions.

Notes

- "NO AF" and the station name flash alternately, if the unit cannot find an alternative station in the network.
- If the station name starts flashing after selecting a station with the AF function on, this indicates that no alternative frequency is available. Press **(SEEK/AMS)** while the station name is flashing (within eight seconds). The unit starts searching for another frequency with the same PI (Programme Identification) data ("PI SEEK" appears and no sound is heard). If the unit cannot find another frequency, "NO PI" appears, and the unit returns to the originally selected frequency.

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 more than 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.

1 Press a number button that has a local station stored on it.

2 Within five seconds, press the number button of the local station again.

3 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" appears in the display when the unit finds a station broadcasting traffic announcements.

When the traffic announcement starts, "TA" flashes. "TA" stops flashing when the traffic announcement is over.

Tips

- If you press **(AF/TA)** while tuning in the traffic announcement, the unit can play a CD.
- If 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 does not broadcast traffic announcements. Then, the unit starts searching for a station that broadcasts traffic announcements.
- When "EON" appears with "TP" in the display, the current station makes use of traffic announcements broadcast by other stations in the same network.

To cancel the current traffic announcement

Press **(AF/TA)** momentarily.

To cancel all traffic announcements, turn off the function by pressing **(AF/TA)** until "AF" and "TA" disappear.

Presetting the volume of traffic announcements

You can preset the volume level of the traffic announcements beforehand so you won't 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 pressing **(SEL)**. "TA VOL" appears 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 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.

EN

RDS

Presetting RDS stations with the AF and TA data

When you preset RDS stations, the unit stores each station's data as well as its frequency, so you don't have to turn on the AF or TA function every time you tune in the preset station. You can select a different setting (AF, TA, or both) for individual preset stations, or the same setting for all preset stations.

Presetting the same setting for all preset stations

- 1 Select an FM band (page 8).
- 2 Press **(AF/TA)** repeatedly to select either "AF," "TA" or "AF TA" (for both AF and TA functions).
Note that turning the "AF TA" function off stores RDS stations as well as non-RDS stations.

- 3 Press **(SENS/BT)** for two seconds.

Presetting different settings for each preset station

- 1 Select an FM band, and tune in the desired station (page 8).
- 2 Press **(AF/TA)** repeatedly to select either "AF," "TA" or "AF TA" (for both AF and TA functions).
- 3 Press the desired number button for two seconds until "MEM" appears.
Repeat from step 1 for presetting other stations.

Tip
If you want to change the preset AF and/or TA setting after you tune in the preset station, you can do so by turning on/off the AF or TA function.

Locating a station by programme type

You can locate the station you want by selecting one of the programme types shown below.

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

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 Types	OTHER M
Weather	WEATHER
Finance	FINANCE
Children's programmes	CHILDREN
Social Affairs	SOCIAL A
Religion	RELIGION
Phone In	PHONE IN
Travel	TRAVEL
Leisure	LEISURE
Jazz Music	JAZZ
Country Music	COUNTRY
National Music	NATION M
Oldies Music	OLDIES
Folk Music	FOLK M
Documentary	DOCUMENT
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.

PTY INFO

The current programme type name appears if the station is transmitting PTY data. "----" appears if the received station is not an RDS station, or if the RDS data has not been received.

- 2 Press **(PTY)** repeatedly until the desired programme type appears.

The programme types appear in the order shown in the above table. Note that you cannot select "NONE" (Not specified) for searching.

PTY SPORT

- 3 Press either side of **(SEEK/AMS)**.
The unit starts searching for a station broadcasting the selected programme type. When the unit finds the programme, the programme type appears again for five seconds.
"NO" and the programme type appear alternately for five seconds if the unit cannot find the programme type. It then returns to the previous station.

Setting the clock automatically

The CT (Clock Time) data from the RDS transmission sets the clock automatically.

During FM reception, press **(2)** while pressing **(SEL)**.

"CT" is displayed, and the clock is set.

FM 1:00

To cancel the CT function

Repeat the above procedure.

Notes

- The CT function may not work even though an RDS station is being received.
- There might be a difference between the time set by the CT function and the actual time.

EN
RDS

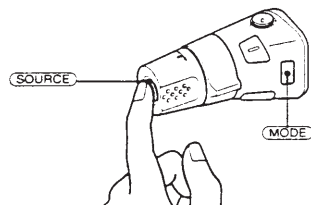
Other Functions

You can connect an optional rotary commander (RM-X4S) with this unit.

Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.

By pressing buttons (the SOURCE and MODE buttons)



Each time you press **SOURCE**, the source changes as follows:

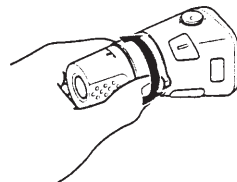
TUNER → CD

Pressing **MODE** changes the operation in the following ways;

Tuner: FM1 → FM2 → FM3 → MW → LW

Tip
When the POWER SELECT switch is set to position **Ⓚ**, you can turn on this unit by pressing **SOURCE** on the rotary commander.

By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:

- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to tune in a specific station.

By pushing in and rotating the control (the PRESET/DISC control)

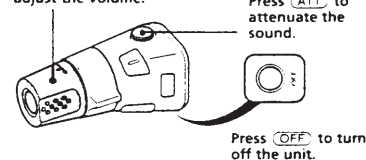


Push in and rotate the control to:

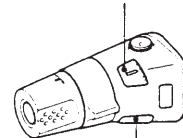
Receive the stations memorised on the number buttons.

Other operations

Rotate the VOL control to adjust the volume.



Press **SEL** to adjust and select.

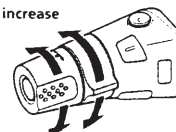


Press **DSPL** to change the displayed items.

Changing the operative direction

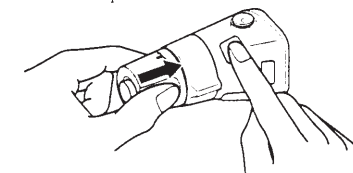
The operative direction of controls is factory-set as in the illustration below.

To increase



To decrease

If you need to mount the rotary commander on the right side of the steering column, you can reverse the operative direction.



Press **SEL** for two seconds while pushing the VOL control.

Adjusting the sound characteristics

You can adjust the bass, treble, balance and fader. Each source can store the bass and treble level settings independently.

1 Select the item you want to adjust by pressing **SEL** repeatedly.

VOL (volume) → BAS (bass) →
TRE (treble) → BAL (left-right) →
FAD (front-rear)

2 Adjust the selected item by pressing **+** or **-**.

Adjust within three seconds after selecting the item. (After three seconds, the buttons work as volume control buttons.)

Attenuating the sound

Press **ATT**.
"ATT" flashes.

To restore the previous volume level, press **ATT** again.

EN

Other Functions

Changing the sound and beep tone

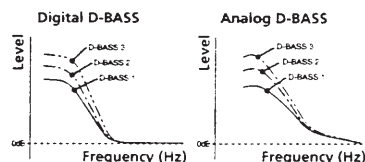
Boosting bass sound — D-bass

You can enjoy clear and powerful bass sound. The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.

You can hear the bass line more clearly even if the vocal sound is the same volume. You can emphasize and adjust the bass sound easily with the D-BASS dial. This effect is similar to the one you get when you use an optional subwoofer system.

Moreover, the Digital D-bass* function creates even sharper and more powerful bass sound than Analog D-bass.

* Digital D-bass is available during CD playback.



Adjusting the bass curve

Turn the D-BASS dial to adjust the bass level (1, 2 or 3).

"D-BASS" appears in the display.
During CD playback, "DIGITAL D-BASS" appears in the display.

To cancel, turn the dial to the OFF position.

Note

If the bass sound becomes distorted, adjust the D-BASS dial or the volume control.

Attenuating the beep tone

Press **6** while pressing **SEL**.

To obtain the beep tone again, press these buttons again.

Note

When connecting an optional power amplifier to the LINE OUT, the beep tone is disabled.

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 operating it.
- 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 two-speaker system, set the fader control to the centre position.
- If your car is equipped with a power aerial, note that it will extend automatically while the unit is operating.

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

Notes on handling CDs

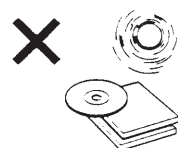
A dirty or defective disc may cause sound dropouts while playing. To enjoy optimum sound, handle the disc as follows. Handle the disc by its edge. To keep the disc clean, do not touch the surface.



Do not stick paper or tape on the labelled surface.



Do not expose the discs to direct sunlight or heat sources such as hot air-ducts, or leave them in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car.



Before playing, clean the discs with an optional cleaning cloth. Wipe each disc from the centre out.

Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.



Notes on moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the CD player. Should this occur, the unit will not operate properly. In this case, remove the disc and wait for about an hour until the moisture evaporates.

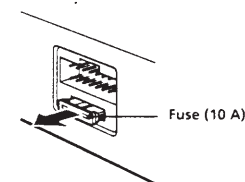
When you play 8 cm CDs

Use the optional Sony compact disc single adapter (CSA-8) to protect the CD player from being damaged.

Maintenance

Fuse replacement

When replacing the fuse, be sure to use one that matches 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.

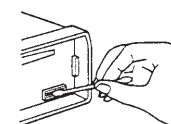


Warning

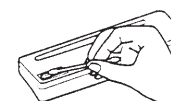
Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Cleaning the connectors

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

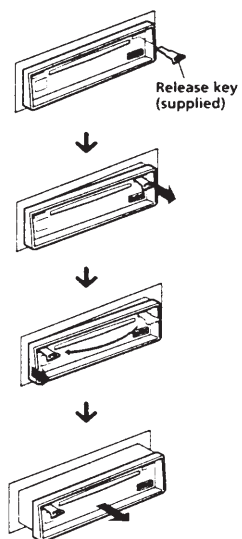


Main unit



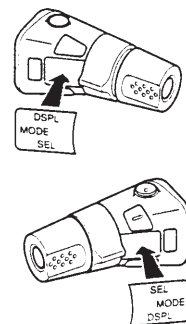
Back of the front panel

Dismounting the unit



Attaching the label to the rotary commander

You can control this unit with the optional rotary commander (RM-X4S). Several labels are supplied with the rotary commander. Attach the label that matches the functions of this unit and the mounting position of the rotary commander. After you mount the rotary commander, attach the label in the illustration below.



EN

Connections

Caution

- This unit is designed for negative earth 12 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 earth wires to a common earth point.
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

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

The illumination on the front panel is factory-set to be on even when the unit is not being used. However, this setting may cause some car battery wear if your car has no accessory position on the ignition key switch. To avoid this battery wear, set the POWER SELECT switch located on the bottom of the unit to the ③ position, then press the reset button. The illumination is reset to stay off while the unit is not being used.

Notes

- The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ③ position.
- Do not use excessive force when changing the POWER SELECT switch.

Reset button

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

Notes of connection example

Note on the control leads

The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the AF (Alternative Frequency) or the TA (Traffic Announcement) functions.

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.

Warning

If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ③ may damage the aerial.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse solamente con 12 V CC, negativo a masa.
- Conecte el cable de conexión de alimentación ③ a la unidad y a los altavoces antes de hacerlo al conector de alimentación auxiliar.
- Conecte todos los conductores de puesta a masa a un punto común.
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estereofónicos, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente. Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de ésta, no se interrumpa ningún otro circuito.

Si el automóvil no dispone de posición para accesorios en la llave de encendido — Selector POWER SELECT

La iluminación del panel frontal ha sido ajustada en fábrica para que permanezca activada aunque la unidad no se encuentre en funcionamiento. Sin embargo, este ajuste puede provocar cierta descarga de la batería del automóvil si éste no dispone de posición para accesorios en la llave de encendido. Para evitar esto, coloque el selector POWER SELECT, situado en la base de la unidad, en la posición ③ y, después, presione el botón de reposición. La iluminación estará desactivada cuando la unidad no se encuentre en funcionamiento.

Notes

- La alarma de precaución del panel frontal no se activará cuando el selector POWER SELECT se encuentre en la posición ③.
- No utilice excesiva fuerza al cambiar el selector POWER SELECT.

Botón de reposición

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

Notas de ejemplo de conexiones

Nota 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 frecuencia alternativa (AF) o la función de anuncios de tráfico (TA).

Conexión para protección de la memoria

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

Notes sobre la conexión de los altavoces

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

Advertencia

Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ③ suministrado puede dañar la antena.

Connexions

Advertência

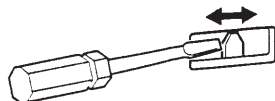
- Este aparelho foi projectado para funcionar somente com corrente contínua de 12 V com massa negativa.
- Ligue o cabo de alimentação de corrente ③ ao aparelho e aos alifalantes antes de o ligar ao conector de corrente auxiliar.
- Ligue todos os fios de terra num ponto de massa comum.
- Ligue o cabo amarelo a um circuito livre do automóvel com uma capacidade nominal superior à do fusível do aparelho. Se ligar este aparelho em série com outros componentes estéreo, o circuito do automóvel a que estão ligados deve ter uma capacidade nominal superior à soma da capacidade dos fusíveis de cada componente. Se nenhum circuito do automóvel tiver uma capacidade tão alta como a do fusível do aparelho, ligue o aparelho directamente à bateria. Se o automóvel não tiver nenhum circuito disponível para ligação do aparelho, ligue-o a um circuito com uma capacidade superior à do fusível do aparelho para que se o fusível do aparelho se fundir, nenhum dos outros circuitos seja cortado.

Se o seu automóvel não estiver equipado com uma chave de ignição com posição acessórios — Interruptor POWER SELECT

A iluminação do painel frontal é regulada na fábrica para se manter acesa, mesmo quando o aparelho não estiver ligado. No entanto, esta regulação pode provocar a descarga da bateria se o aparelho for utilizado em automóveis sem chave de ignição com posição acessórios. Para evitar a descarga da bateria, regule o interruptor POWER SELECT, situado na base do aparelho, para a posição ③. Em seguida, carregue no botão de reinicialização. A iluminação é regulada para ficar apagada enquanto o aparelho estiver desligado.

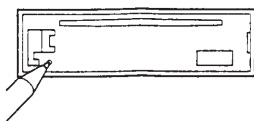
Notes

- O alarme de advertência do painel frontal não é activado quando o interruptor POWER SELECT estiver regulado para a posição ③.
- Não faça demasiada força ao mudar a posição do interruptor POWER SELECT.



Botão de reinicialização

Quando terminar a instalação e as ligações, não se esqueça de carregar no botão de reinicialização com a ponta de uma caneta, etc.



Notas sobre o exemplo de ligação

Nota sobre os fios de controlo

O fio de controlo da antena eléctrica (azul) fornece uma corrente contínua (CC) de +12 V quando se liga o sintonizador ou se activa a função AF (frequência alternativa) ou TA (informações de trânsito).

Ligação para alimentação contínua da memória

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

Notes sobre a ligação dos altifalantes

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

Atenção

Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar esta aparelho com a cabo de alimentação ③ fornecido, pode provocar danos na antena.

Anslutning

Sökerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Anslut strömkabeln ③ till enheten och högtalarna innan du ansluter den till den yttre strömanslutningen.
- Dra samtliga jordledningar till en och samma jordningspunkt.
- Anslut den gula kabeln till en ledig bilkrets som har en säkring med ett högre än ampere än enheten. Om du seriekopplar denna enhet med andra stereokomponenter, måste den bilkrets du är kopplad till ha en säkring med en högre ampere än summan av de enskilda komponenternas ampere. Om det inte finns någon bilkrets som har en säkring med ett lika högt ampere som enheten, ska du ansluta enheten direkt till batteriet. Om det inte finns några bilkretsar att ansluta denna enhet till ska du ansluta enheten till en enhet som har en säkring med ett högre ampere än enheten för att förhindra att inga andra kretsar klipps av om säkringen smälter.

Montera bilstereon i en bil vars tändlås inte har något strömläge — Omkopplaren POWER SELECT

Innan bilstereon levererades från fabriken ställdes belysningen i teckenfonstret in så att den lyser också när bilstereon inte används. Detta kan emellertid orsaka urladdning av batteriet när du använder bilstereon i en bil, vars tändlås saknar läget ACC (strömläge). Skjut omkopplaren POWER SELECT på bilstereons undersida till läge ③, och tryck sedan på återställningsknappen för att undvika att bilbatteriet laddas ur. Nu lyser inte längre belysningen i teckenfonstret när bilstereon inte används.

Obsövara

- Varningssignalen, som varnar om du inte har tagit loss frontpanelen, lyder inte när omkopplaren POWER SELECT står i läge ③.
- Ta inte i för hårt när du byter omkopplaren POWER SELECT.

Nollställningsknappen

Kom ihåg att använda en penna eller något annat spetsigt föremål för att trycka på nollställningsknappen när anslutningen och monteringen är klar.

Att observera angående anslutningsexempen

Att observera angående de olika styrkablarna

Motorantennens styrkabel ANT REM (blå) leder 12 V likström när bilradion slås på eller när radiomottagningsautomatiken alternativa frekvenser (AF) eller trafikmeddelanden (TA).

Anslutning för minnesstöd

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

Att observera angående högtalarnas anslutning

- Slå av bilstereon innan du ansluter högtalarna.
- Anslut endast högtalare, vars impedans varierar från 4 till 8 ohm och som har tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.
- Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.
- Anslut inte högtalarna parallellt.
- Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna.
- Var noga med att bara ansluta passiva högtalare till dessa uttag.

Varning

Om du har en motorantenn utan reläoska kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ③.

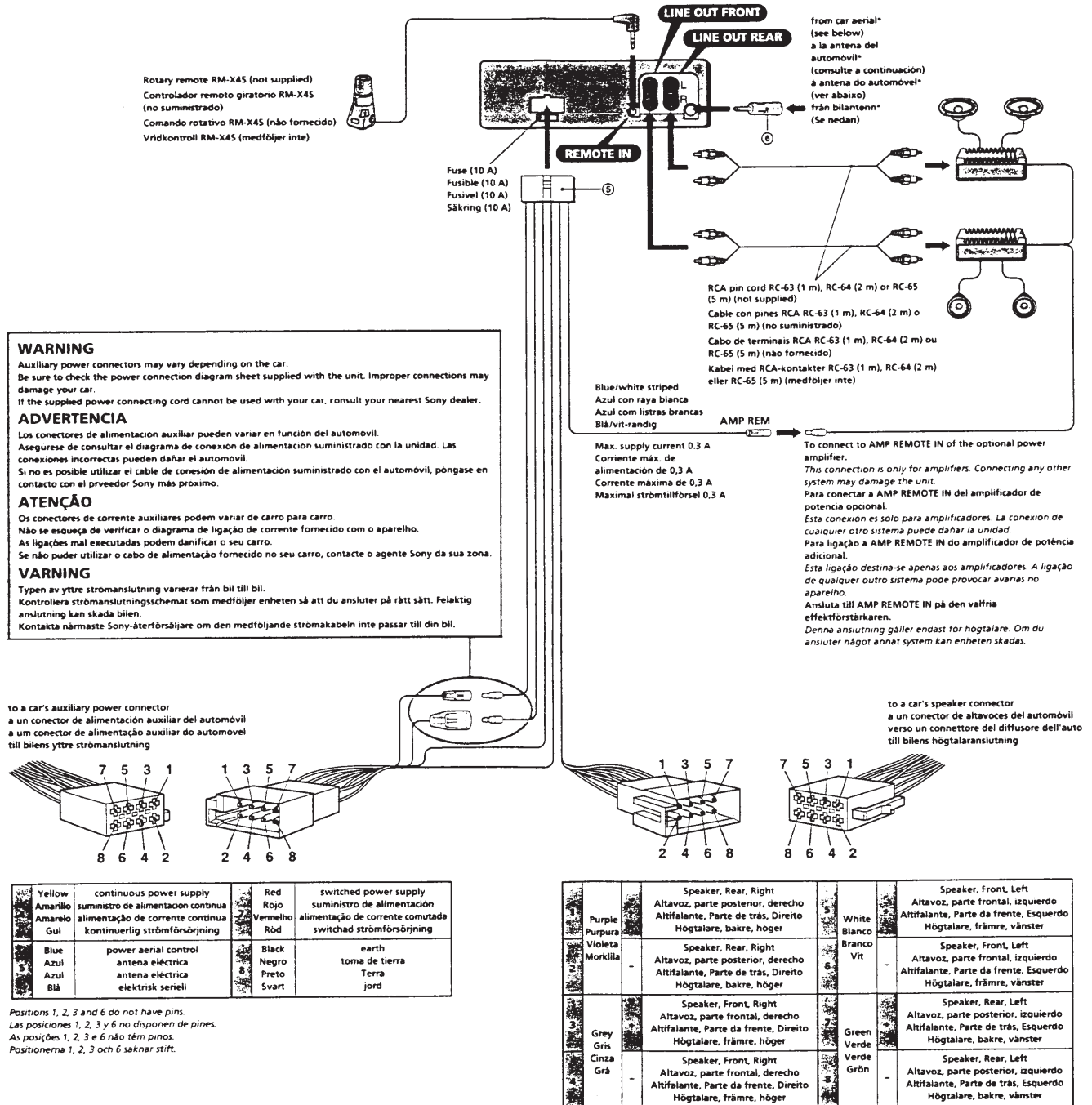
Connection example
Ejemplo de conexiones
Exemplo de ligações
Anslutningarna enligt exemplet

* Note for the aerial connecting
 If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adapter ① to connect it. First connect the car aerial to the supplied adapter, then connect it to the aerial jack of the master unit.

* Nota sobre la conexión de la antena
 Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado para ① conectarla. En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.

* Nota referente à ligação da antena
 Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido ① para fazer a ligação respectiva. Ligue primeiro a antena do automóvel ao adaptador fornecido e depois a ficha tipo jack do sistema principal.

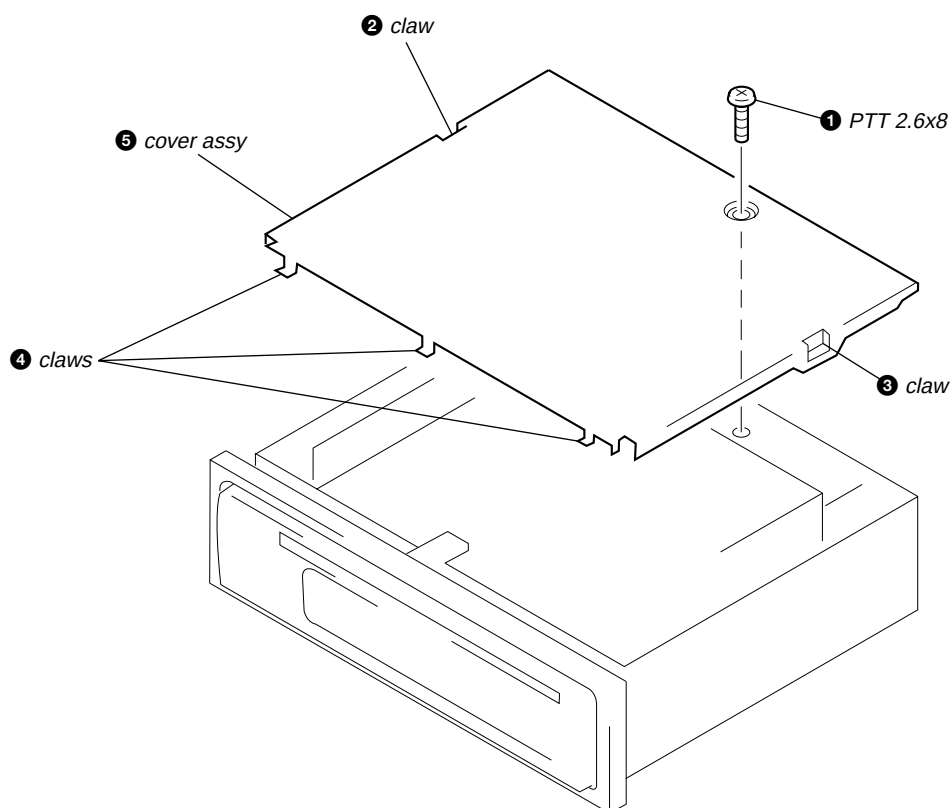
* Angående antennanslutning
 Om motorantennen är av ISO-typ (International Organization for Standardization), använd den medföljande adapter ① för att ansluta den. Anslut först motorantennen till medföljande adapter och därefter till antennuttaget på huvudenheten.



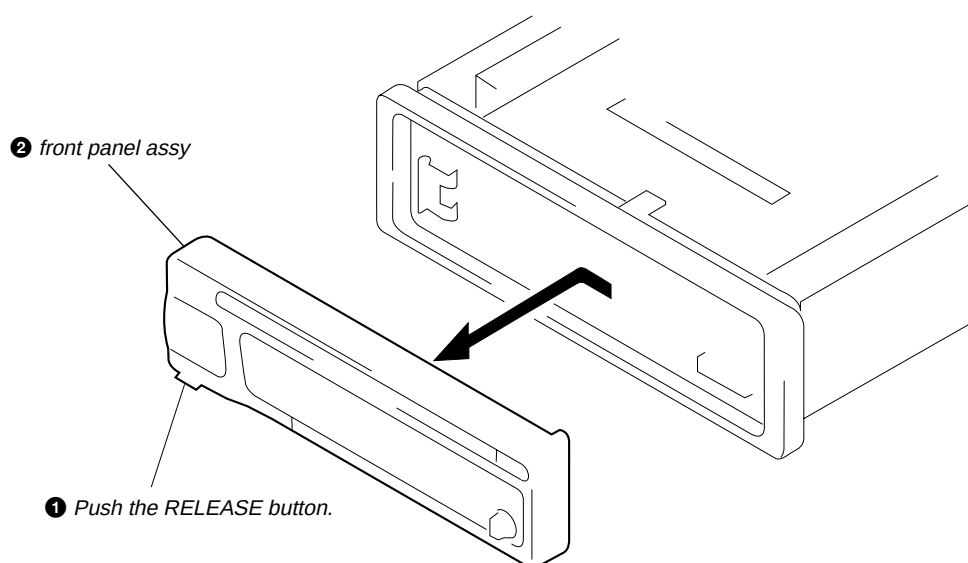
SECTION 2 DISASSEMBLY

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

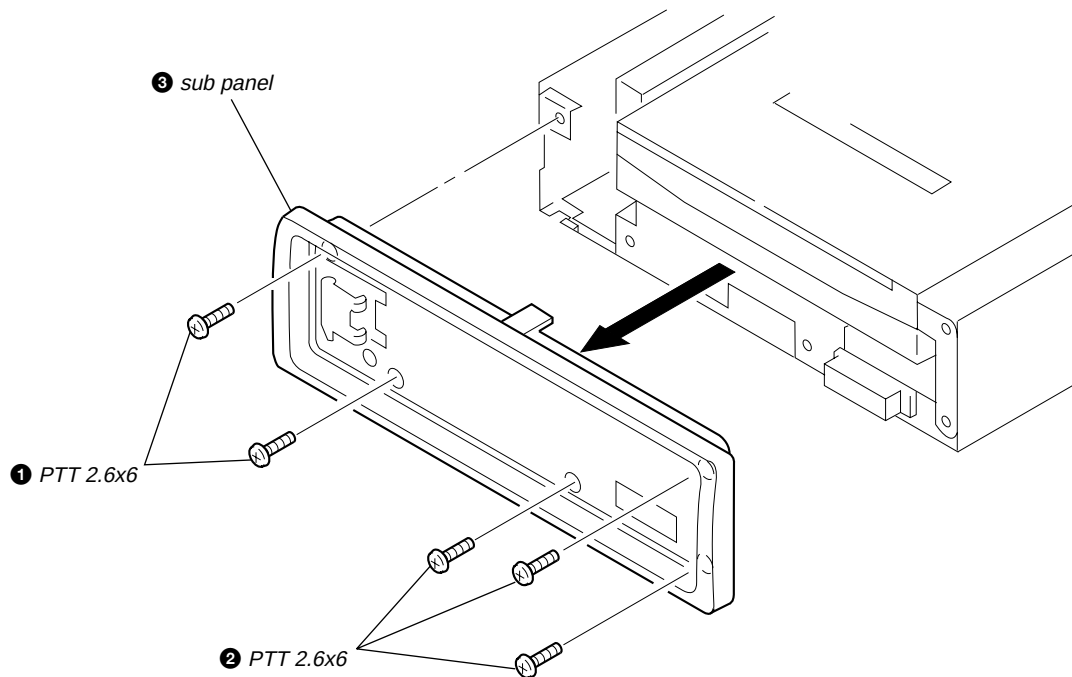
2-1. COVER ASSY



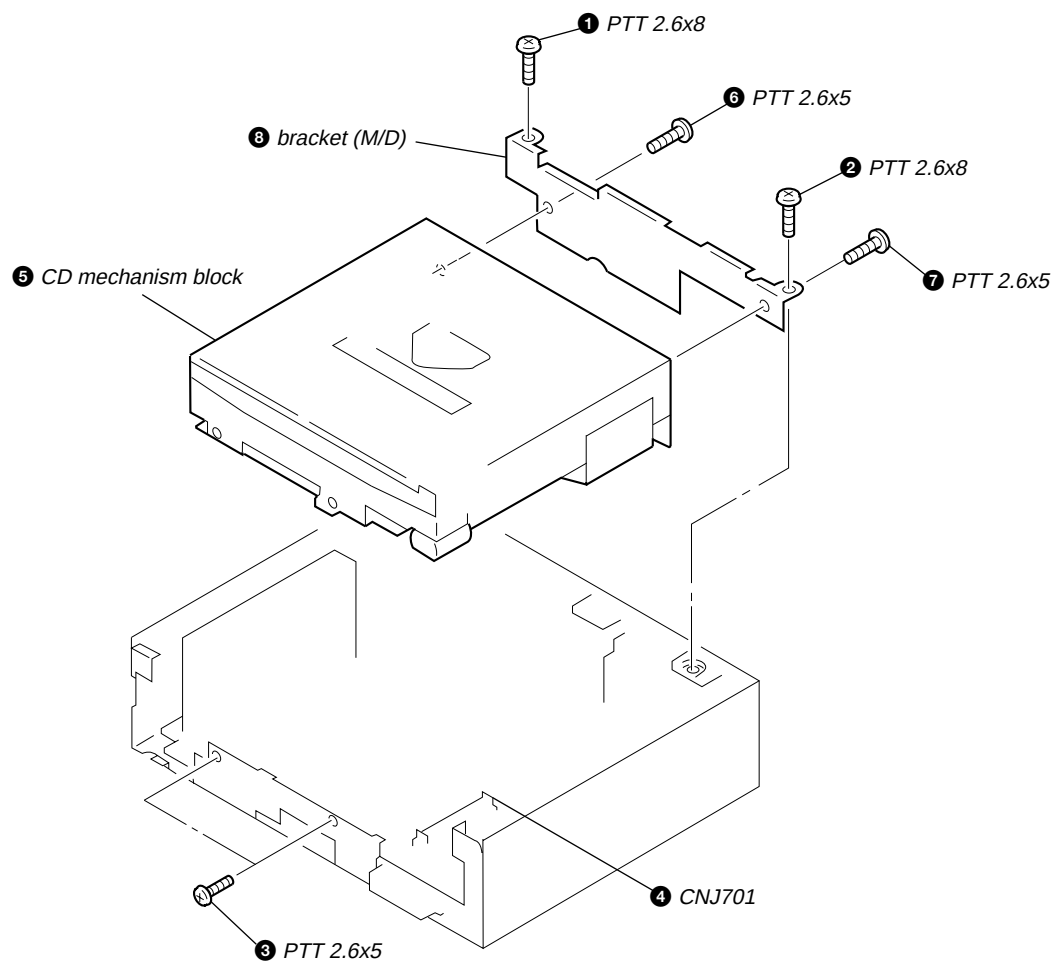
2-2. FRONT PANEL ASSY



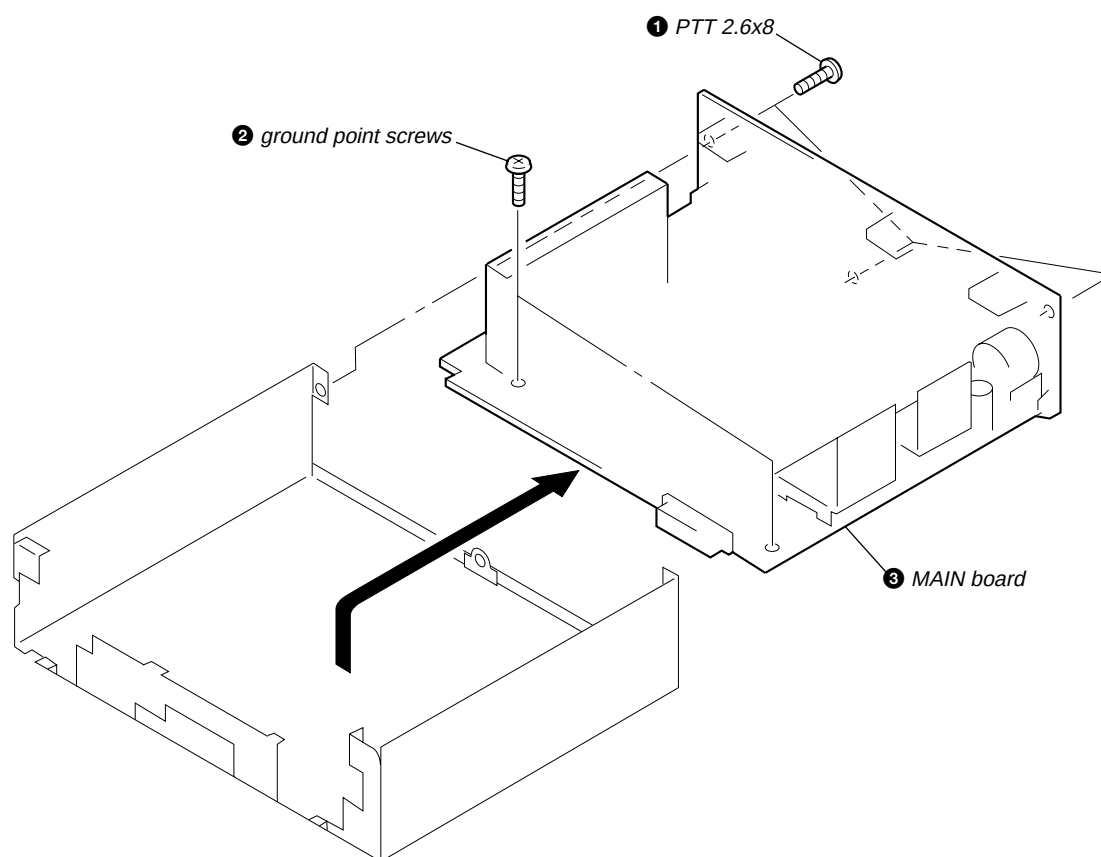
2-3. SUB PANEL



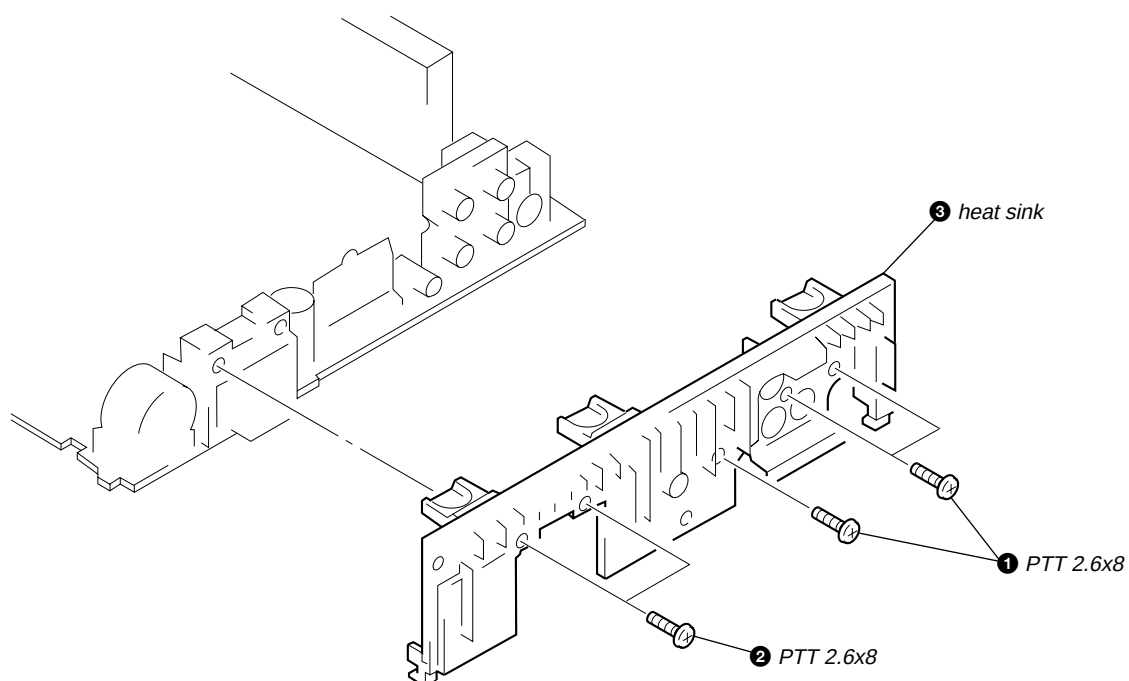
2-4. CD MECHANISM BLOCK



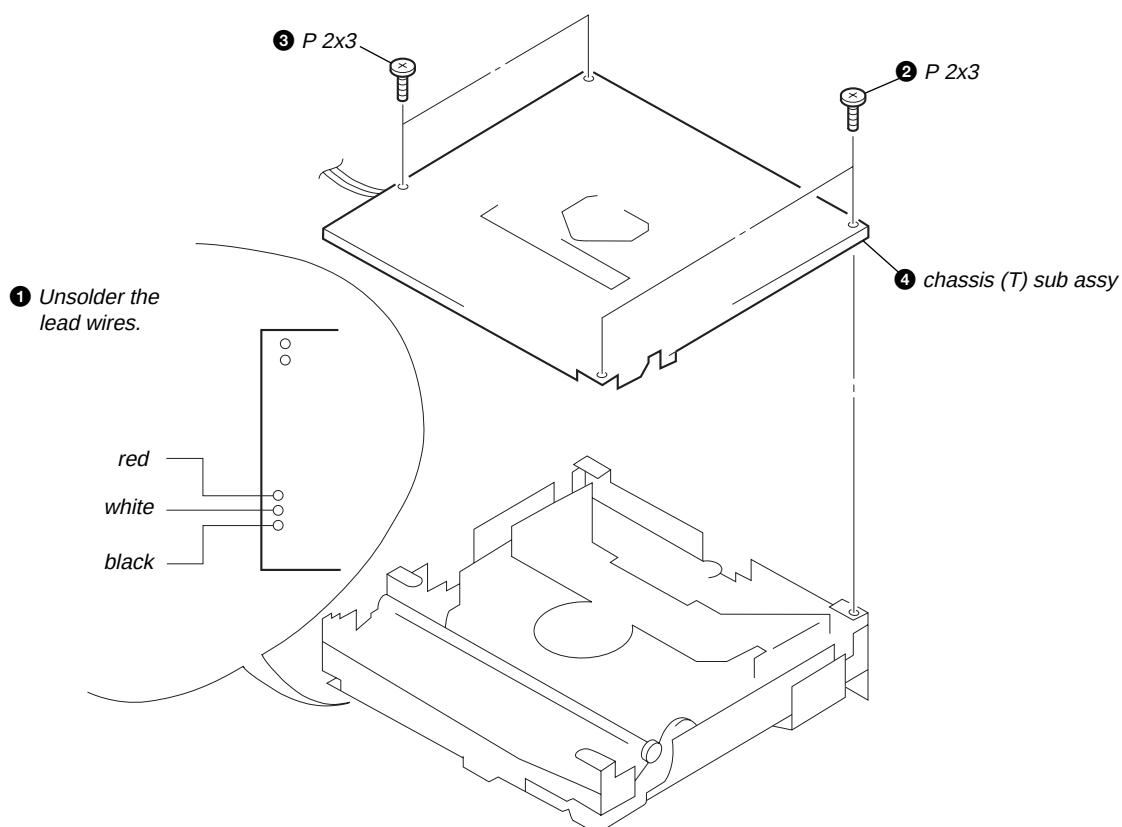
2-5. MAIN BOARD



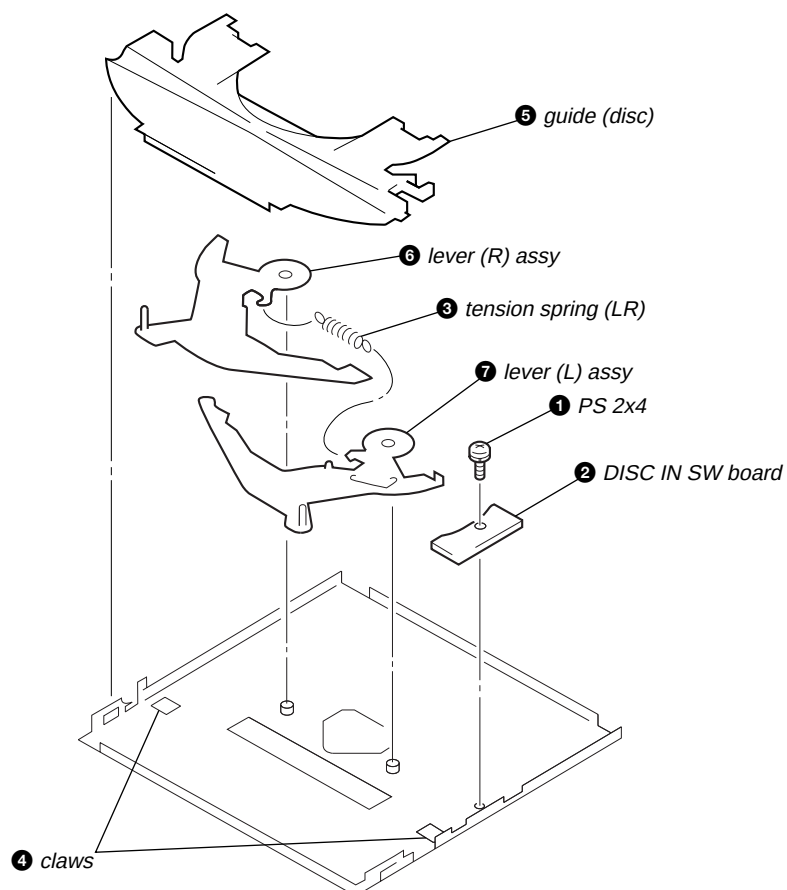
2-6. HEAT SINK



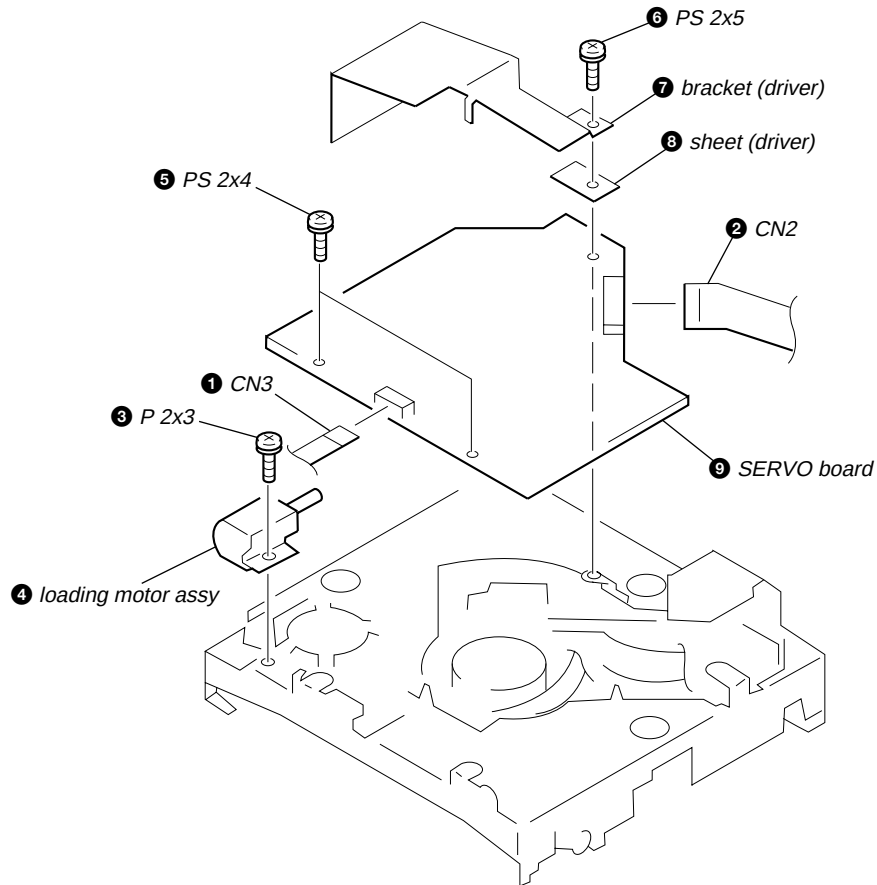
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY

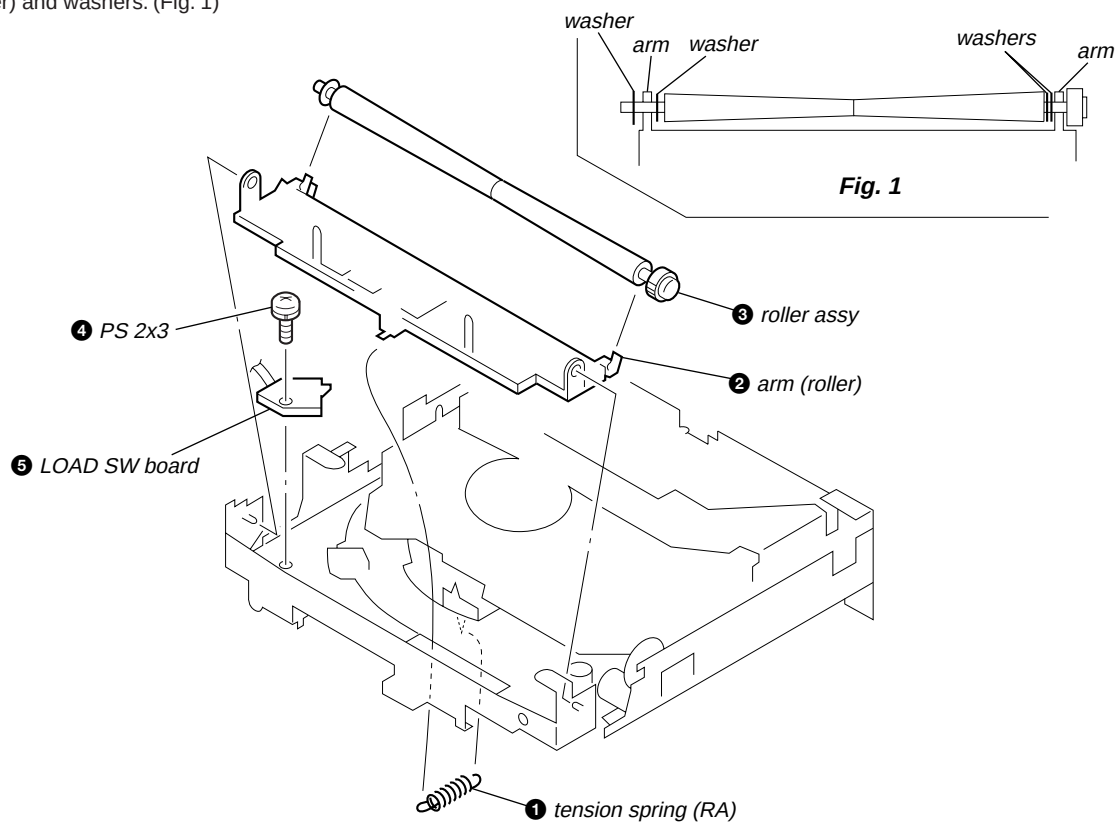


2-9. SERVO BOARD

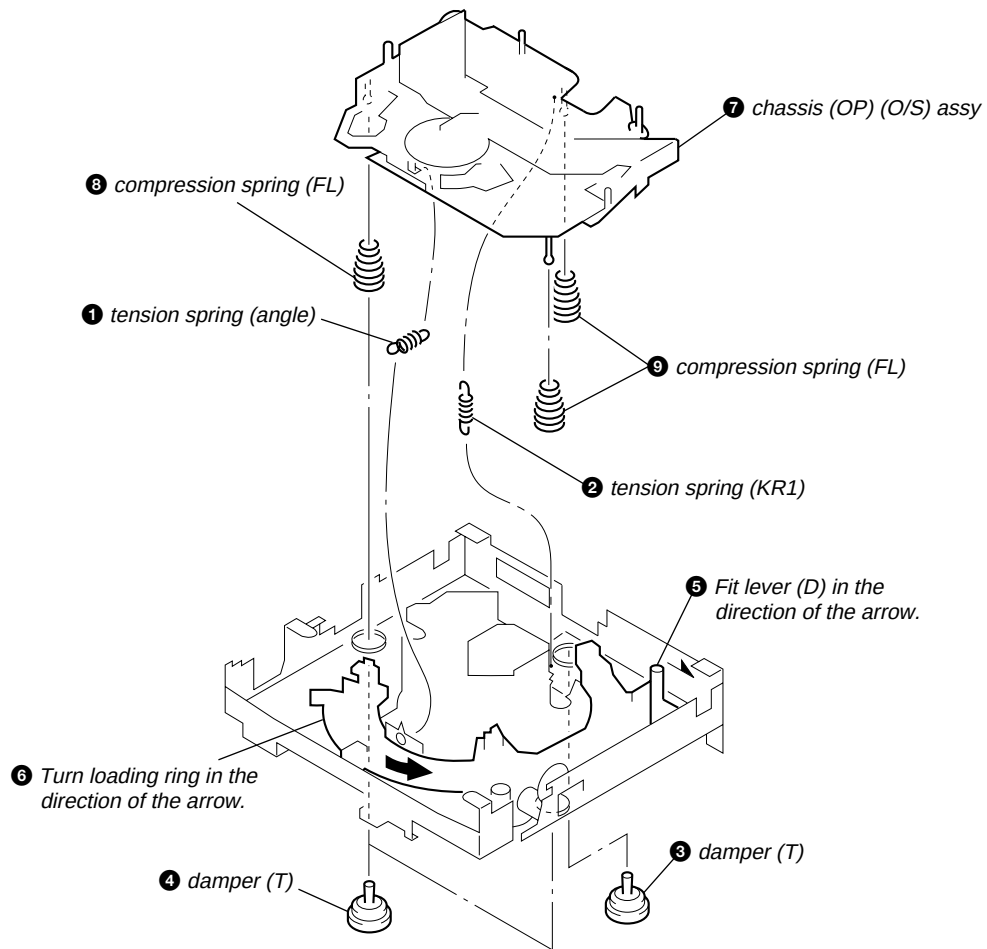


2-10. ROLLER ASSY

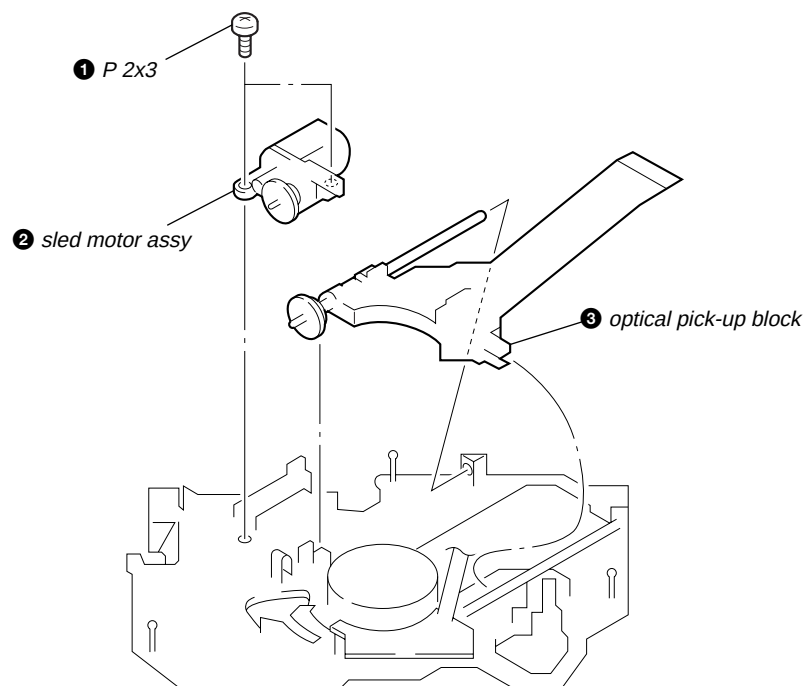
- When installing, take note of the positions arm (roller) and washers. (Fig. 1)



2-11. CHASSIS (OP) (O/S) ASSY



2-12. OPTICAL PICK-UP BLOCK



SECTION 3 ELECTRICAL ADJUSTMENTS

TEST MODE

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

<Set the Test Mode>

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

<Release the Test Mode>

1. Push the **[OFF]** button.

TUNER SECTION

0 dB = 1 μ V

Cautions during repair

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

Note on Adjustment

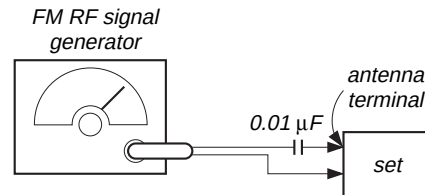
The adjustments of tuner section, should be performed according to the following sequence.

1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. FM RDS S-Meter Adjustment
5. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM



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

Procedure :

1. Set to the test mode.
2. Push the **[SOURCE]** button and set to FM.
Display



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



4. Adjust with the volume RV2 on TU101 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

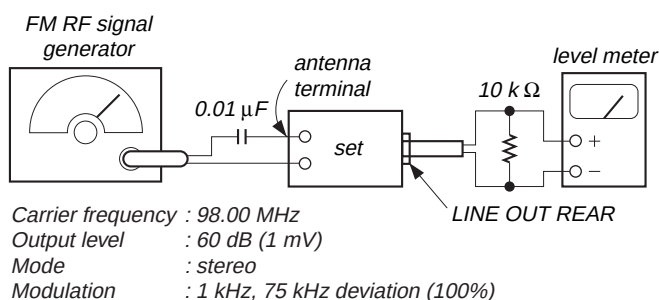


Adjustment Location : See page 22.

FM Noise Focus Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM



Procedure :

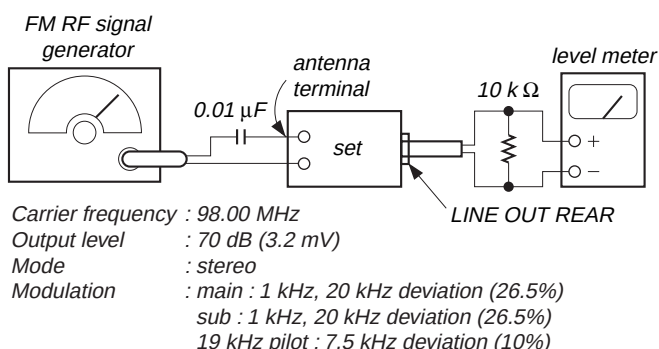
1. Tune the 98.00 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU101 so that the output level is (A) – 30 ± 1 dB then signal generator input set to – 20 dB.

Adjustment Location : See page 22.

FM Stereo Separation Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM



Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	(A)
R-CH	L-CH	(B) Adjust RV4 on TU101 for minimum reading.
R-CH	R-CH	(C)
L-CH	R-CH	(D) Adjust RV4 on TU101 for minimum reading.

L-CH stereo separation : (A) – (B)

R-CH stereo separation : (C) – (D)

The separations of both channels should be equal.

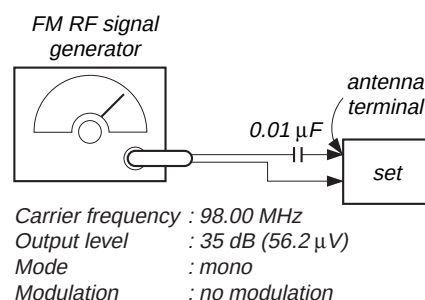
Specification : Separation more than 28 dB

Adjustment Location : See page 22.

FM RDS S-Meter Adjustment

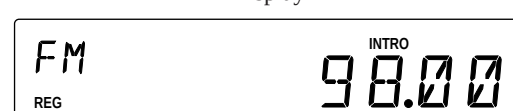
Setting :

D-BASS switch : OFF
SOURCE button : FM

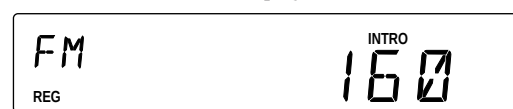


Procedure :

1. Set to the test mode. (See page 20.)
2. Push the **[SOURCE]** button and set to FM.



3. Push the preset **[6]** button.
4. Adjust RV101 so that the display indication is "160".



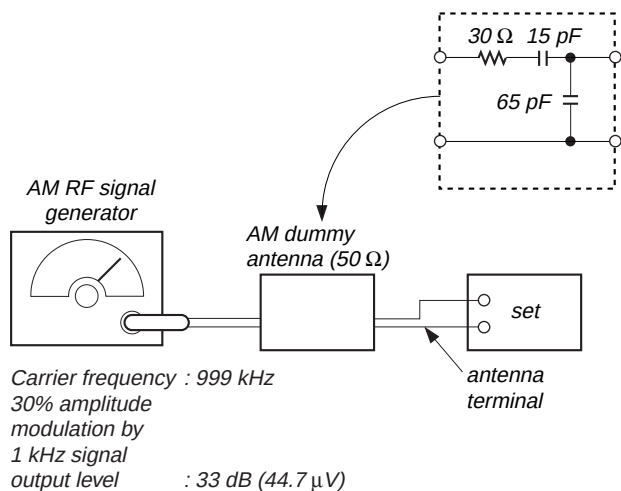
Specification : Display indication : 158 to 162.

Adjustment Location : See page 22.

MW Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE → MODE button : MW



Procedure :

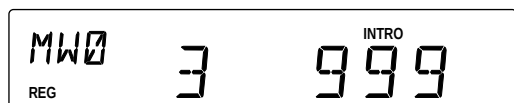
1. Set to the test mode. (See page 20.)
2. Push the **SOURCE** button.
3. Push the **MODE** button and set to MW.
Display



4. Push the preset **3** button.
Display

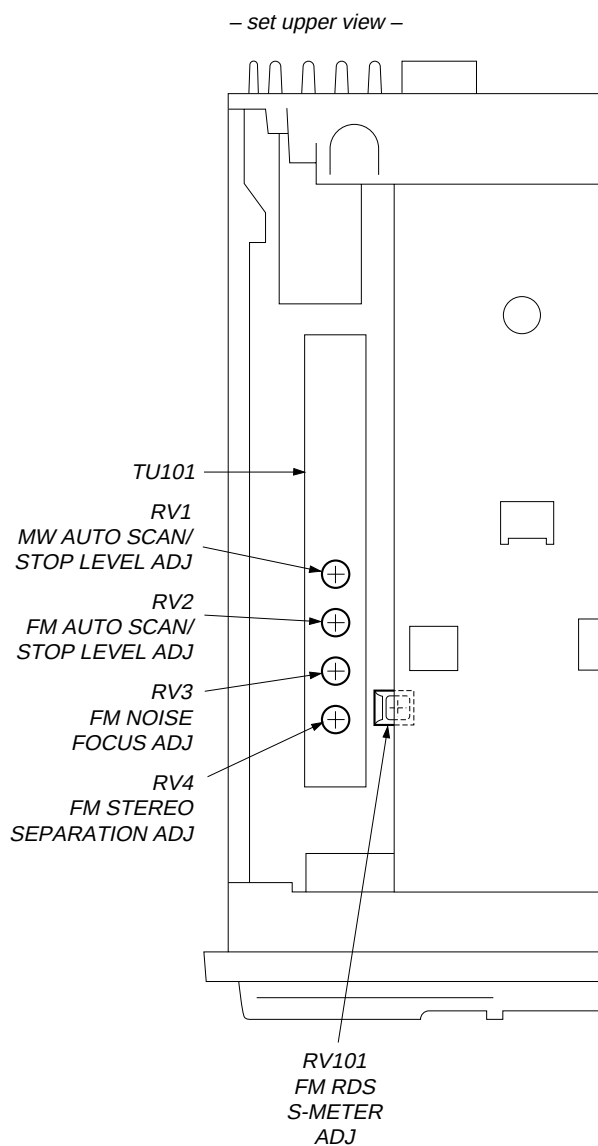


5. Adjust with the volume RV1 on TU101 so that the "MW" indication turns to "MW0" indication on the display window. But, in case of already indicated "MW0", turn the RV1 so that put out light "0" indication and adjustment.
Display



Adjustment Location : tuner unit (TU101)

Adjustment Location : tuner unit (TU101)



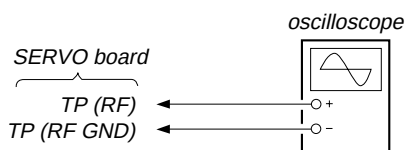
CD SECTION

Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 M Ω impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

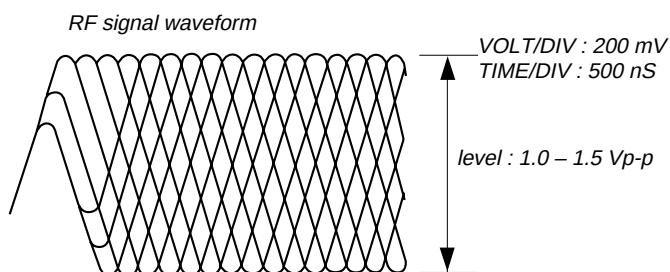
Setting : This adjustment is performed with the set placed horizontally.



Procedure :

1. Connect an oscilloscope between TP (RF) and TP (RF GND) on the SERVO board.
2. Connect the power supply.
3. Push the **RESET** button (S502) on the MAIN board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note : Clear RF signal waveform means that the sharp “ $\approx$ ” can be clearly distinguished at the center of the waveform.



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location : servo board

Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:

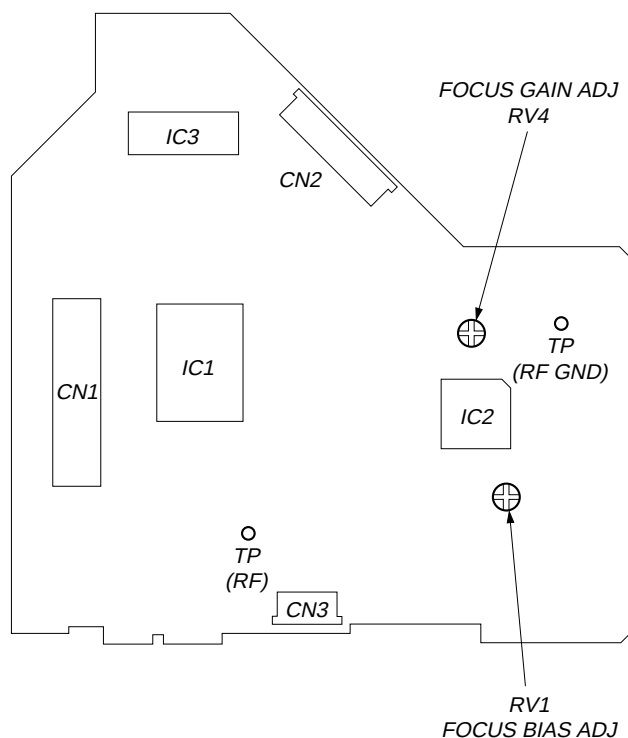
- Optical pick-up
- RV4

Procedure :

1. Set RV4 to the standard position. (mechanical center)
 2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low :
Focus does not function and no music is selected.
 - If the gain is too high :
Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location : servo board

Adjustment Location : servo board (component side)



SECTION 4 DIAGRAMS

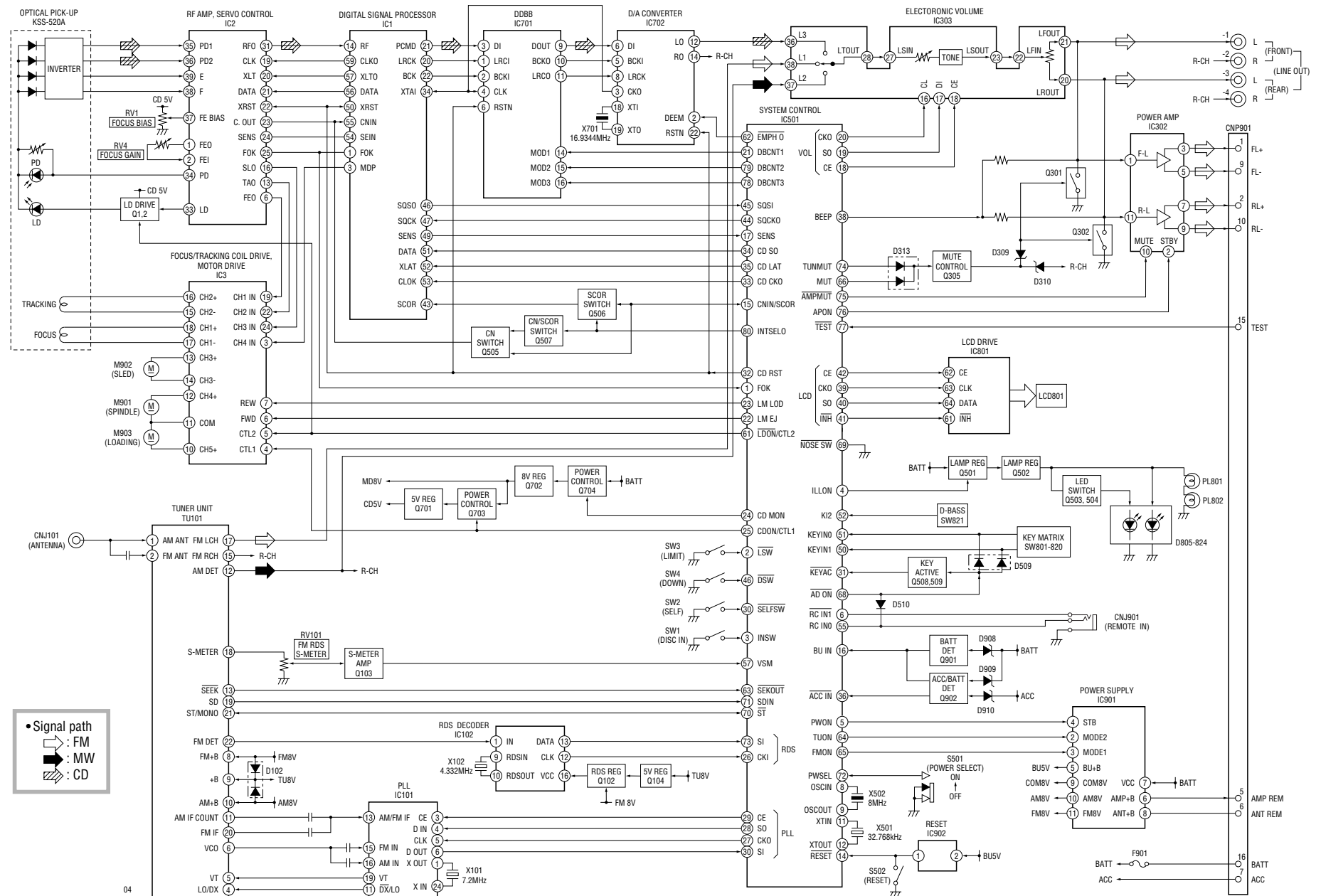
4-1. IC PIN DESCRIPTION

• IC501 MN1886426SD (SYSTEM CONTROL)

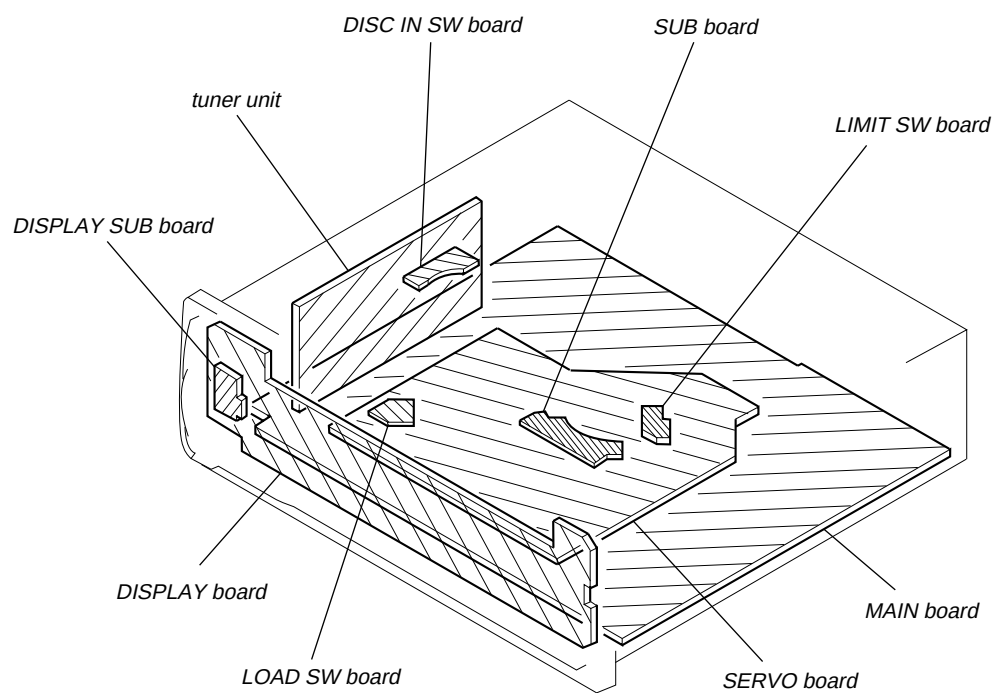
Pin No.	Pin Name	I/O	Pin Description
1	F OK	I	Focus signal detection input
2	L SW	I	Sled limit detection switch input
3	IN SW	I	Disc insert detection input
4	ILLON	O	Illumination power control output
5	PW ON	O	System power control output
6	RC IN1	I	Rotary commander shift input
7	VDD	—	Power supply (+5 V)
8	OSCIN	I	Ceramic oscillator connection input pin (8 MHz)
9	OSCOUT	O	Ceramic oscillator connection output pin (8 MHz)
10	GND	—	GND
11	XT IN	I	Sub crystal (for clock) oscillator connection input pin (32.768 kHz)
12	XT OUT	O	Sub crystal (for clock) oscillator connection output pin (32.768 kHz)
13	EX2	I	Connect to GND.
14	RESET	I	Reset input (“L” : Reset)
15	CNIN, SCOR	I	CNIN and SCOR common port
16	BU IN	I	Back-up detection input
17	SENS	I	SENS input from CXD2507AQ.
18	VOLCE	O	Electric volume serial chip enable output
19	VOLSO	O	Electric volume serial data output
20	VOLCKO	O	Electric volume serial clock output
21	DBCNT1	O	D-BASS level select port
22	LM EJ	O	Loading motor control output (Eject direction)
23	LM LOD	O	Loading motor control output (Loading direction)
24	CDMON	O	Power control output for CD mechanism deck drive.
25	CD ON/CTL1	O	CD ON and CTL1 common port
26	RDSCKI	I	RDS-CLK input
27	PLLCKO	O	PLL CLK output
28	PLL SO	O	PLL DATA output
29	PLLCE	O	PLL CE output
30	SELF SW	I	Disc self store detection input
31	KEYAC	I	Key input acknowledge
32	CD RST	O	CD signal process IC reset output
33	CD CKO	O	CD signal process serial clock output
34	CD SO	O	CD signal process serial data output
35	CD LAT	O	CD signal process latch output
36	ACCIN	I	Accessory power detection input
37	PLLSI	I	PLL DATA input
38	BEEP	O	Buzzer control output
39	LCDCO	O	LCD serial clock output
40	LCDSO	O	LCD serial data output
41	LCDINH	O	LCD blank display control output
42	LCDCE	O	LCD chip enable output
43	GFS	I	GFS signal detection input
44	SQ CKO	O	SUBQ clock output
45	SQ SI	I	SUBQ data input
46	D SW	I	DOWN switch detection input

Pin No.	Pin Name	I/O	Pin Description
47	VDD	—	Power supply (+5 V)
48	AVDD	—	Power supply for AD conversion input. (+5 V)
49	AVREF+	—	Reference voltage input (+ side) for AD conversion input. (+5 V)
50	KEYIN1	I	Key input
51	KEYIN0	I	Key input
52	KEYIN2	I	Key input
53	TBTGSEL	I	Automatic adjustment process with/without setting port
54	DSTSEL	I	Destination select setting port
55	RC IN0	I	Rotary commander input
56	NIL	I	Connect to GND.
57	VSM	I	FM and AM common signal meter A/D conversion input
58	AVREF-	—	Reference voltage input (- side) for AD conversion input. (GND)
59	AVSS	—	GND for AD conversion input.
60	GND	—	GND
61	LD ON, CTL2	O	LD ON and CTL2 common port
62	EMPH O	O	Emphasis control output
63	SEKOUT	O	SEEK OUT output
64	TUNON	O	TUNER power control output
65	FM ON	O	FM power control output
66	MUTE	O	System mute output
67	NCO	—	Not used.
68	AD ON	O	Power control output for AD conversion.
69	NOSESW	I	Front panel connect detection input (“L” : with front panel, “H” : without front panel)
70	ST	I/O	Used for both STEREO indicator display input and force MONO output. (FM)
71	SD IN	I	Signal detector input
72	PW SEL	I	Power select initial setting input
73	RDSS1	I	RDS-DATA input
74	TUNMUT	O	TUNER MUTE output
75	AMPMUT	O	Power amplifier mute control output
76	AMPON	O	Power amplifier power control output
77	TEST	I	Test mode setting input
78	DBCNT3	O	D-BASS level select port
79	DBCNT2	O	D-BASS level select port
80	INTSEL0	O	CNIN and SCOR signal select control port (“H” : CNIN, “L” : SCOR)

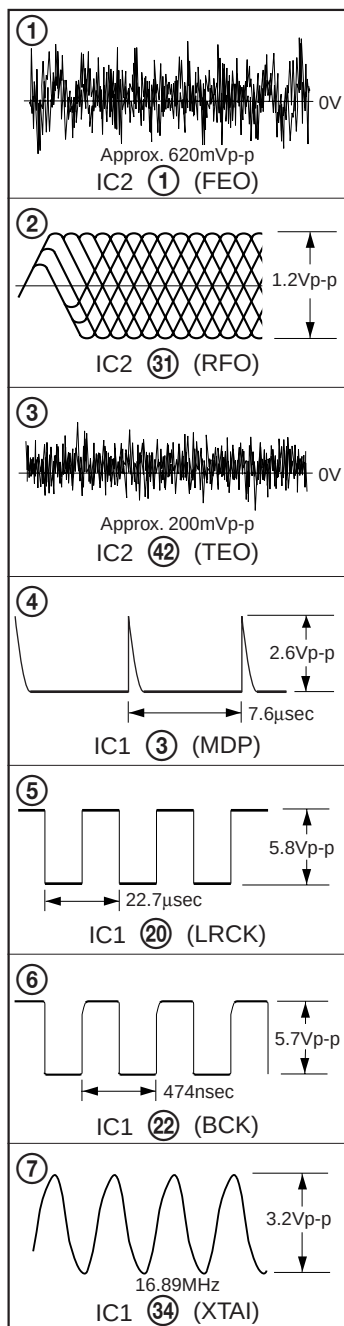
4-2. BLOCK DIAGRAM



4-3. CIRCUIT BOARDS LOCATION



• Waveforms (MODE:PLAY)



Note:

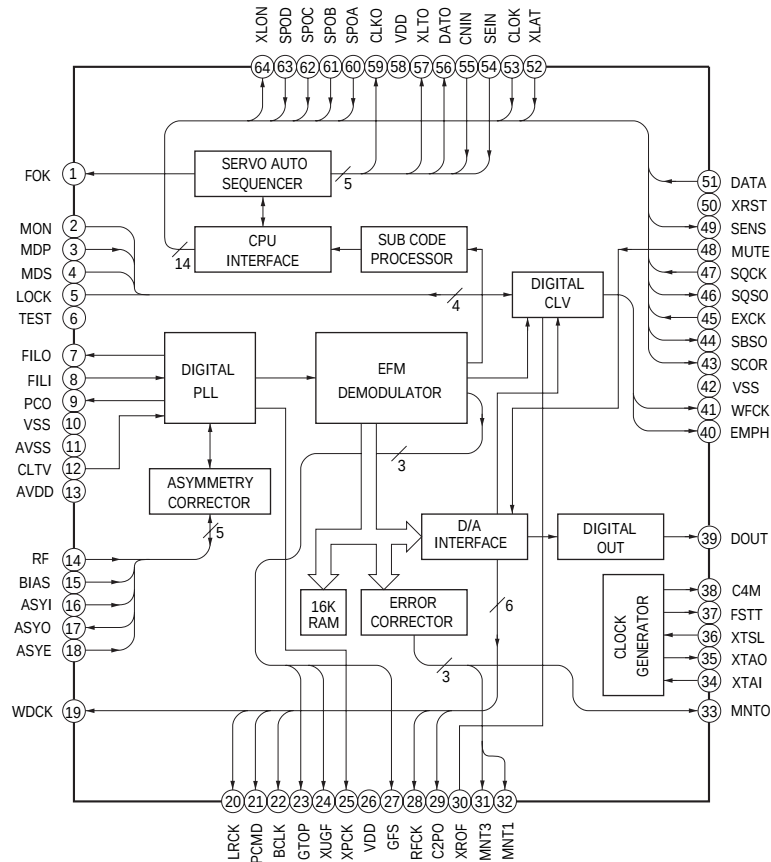
- All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.

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

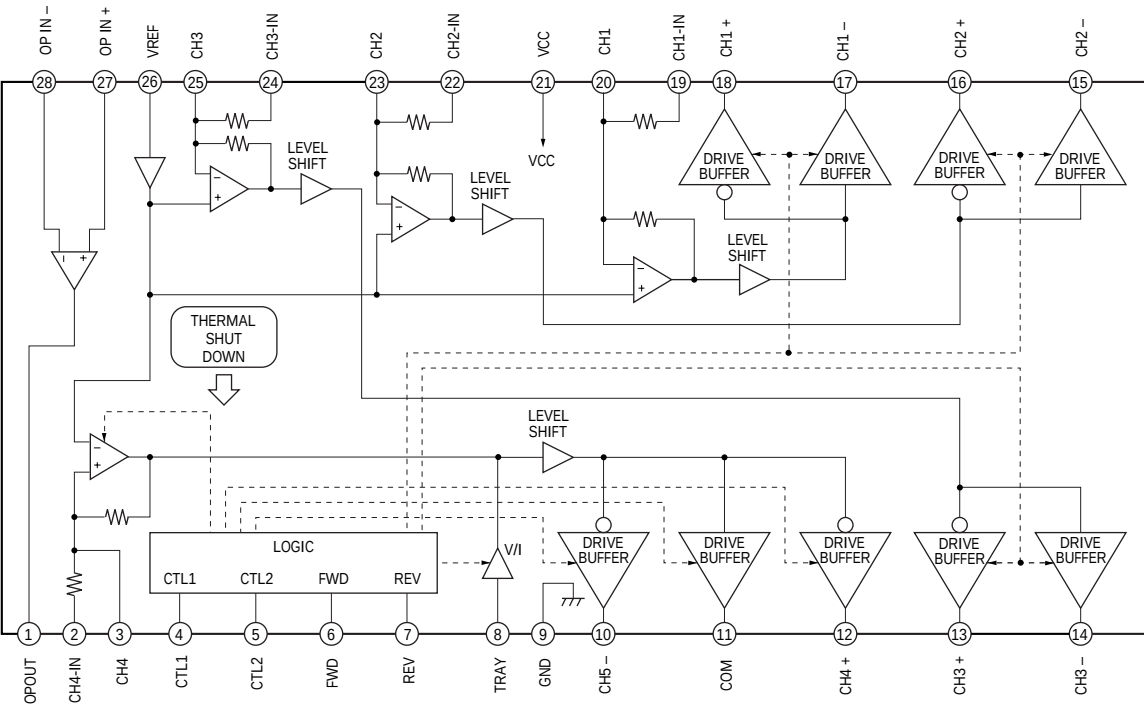
- **B +** : B+ Line.
- **□** : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : CD PLAY
* : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 $\Rightarrow$: CD

• IC Block Diagrams

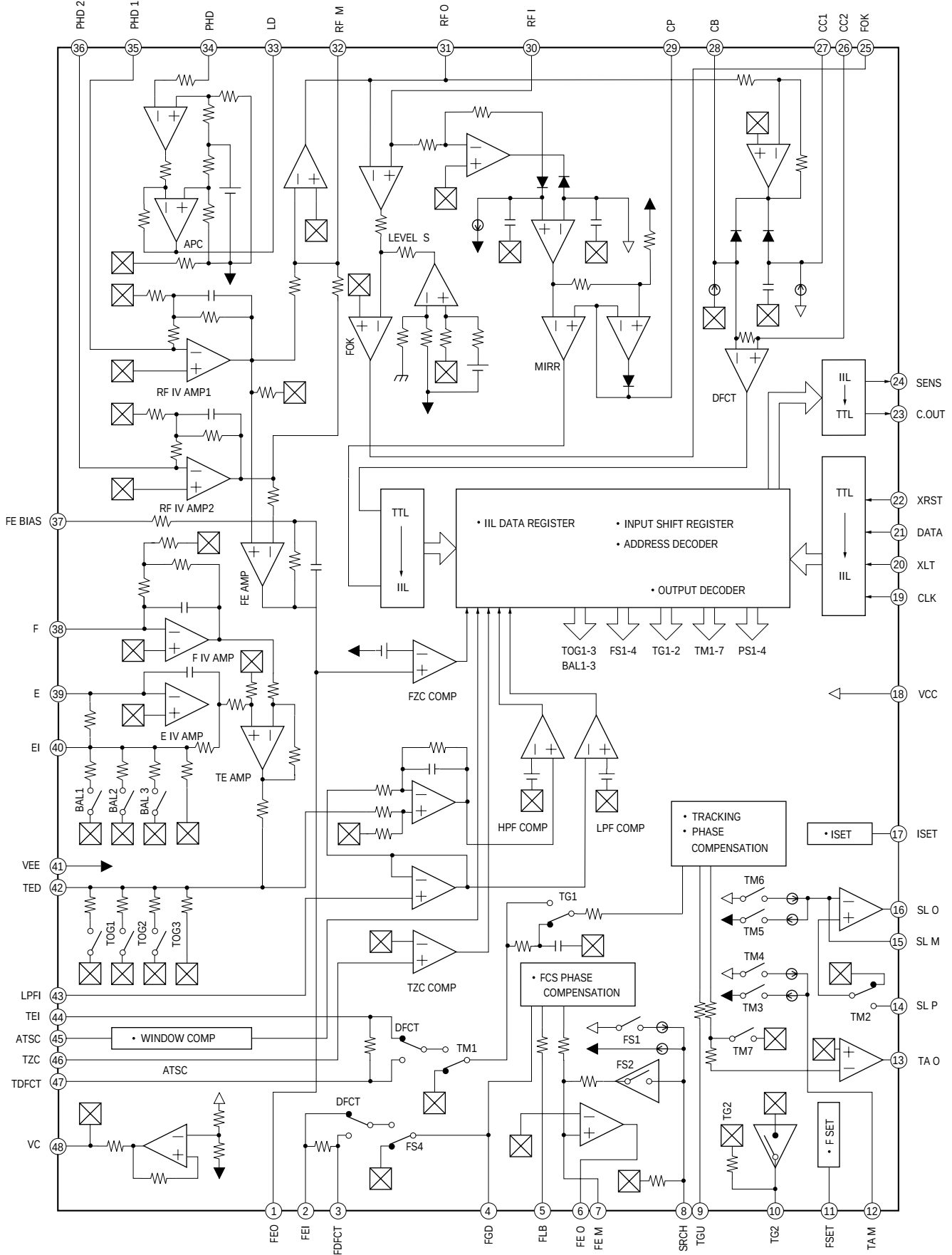
IC1 CXD2507AQ



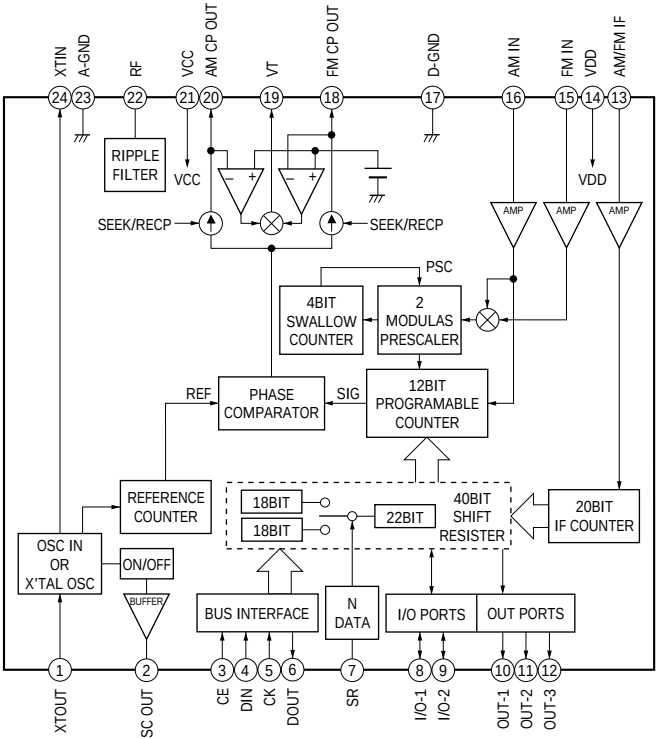
IC3 BA6796FP-T1



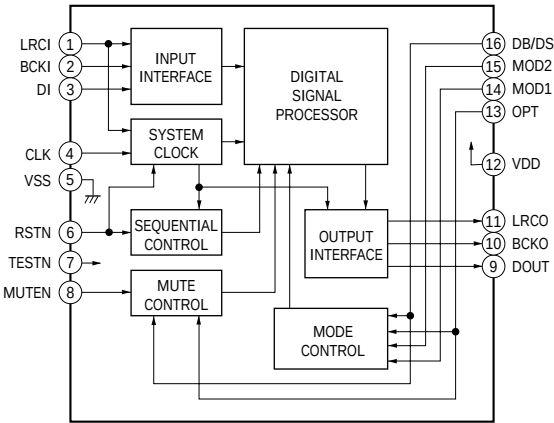
IC2 CXA1782BQ



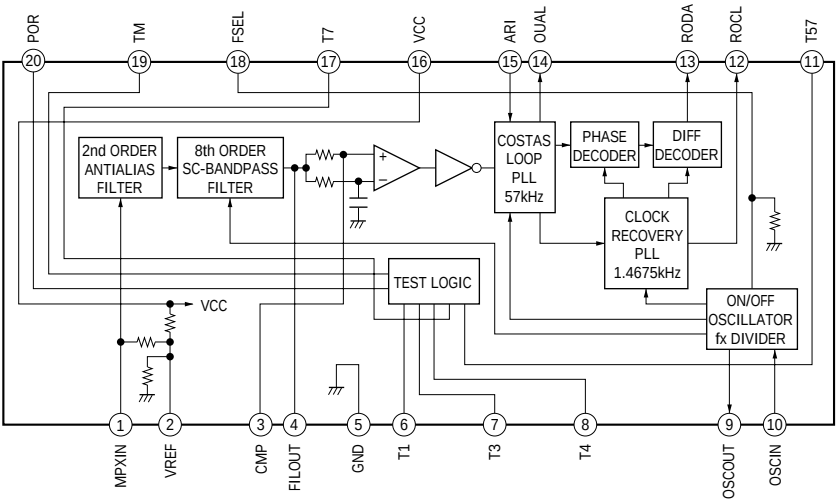
IC101 TB2114F



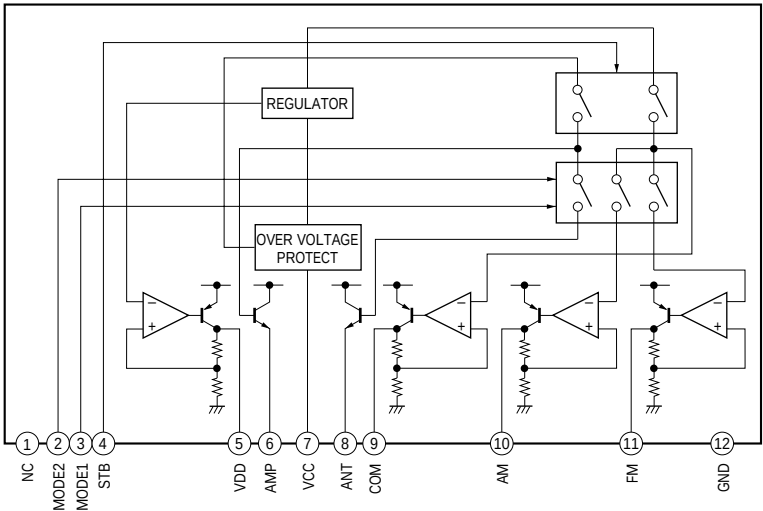
IC701 SM5852ES-E2



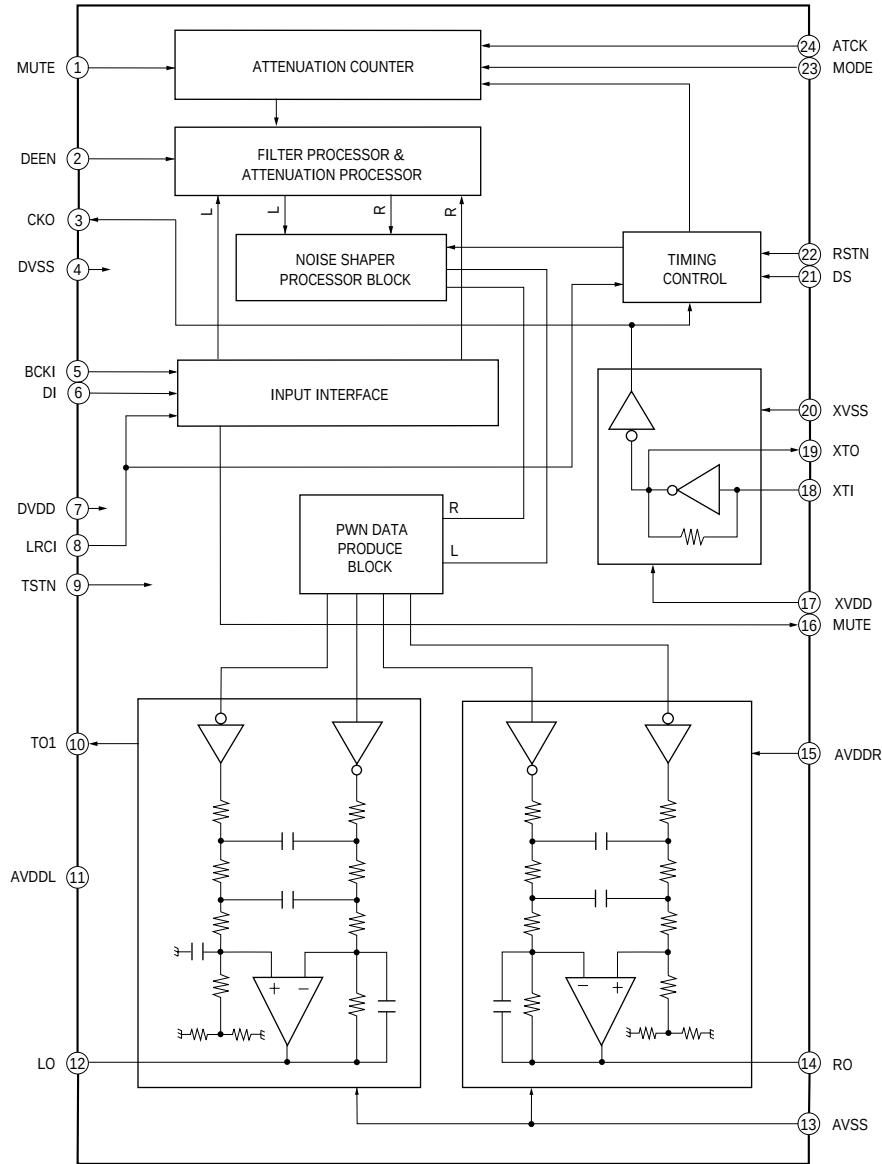
IC102 TDA7330BD



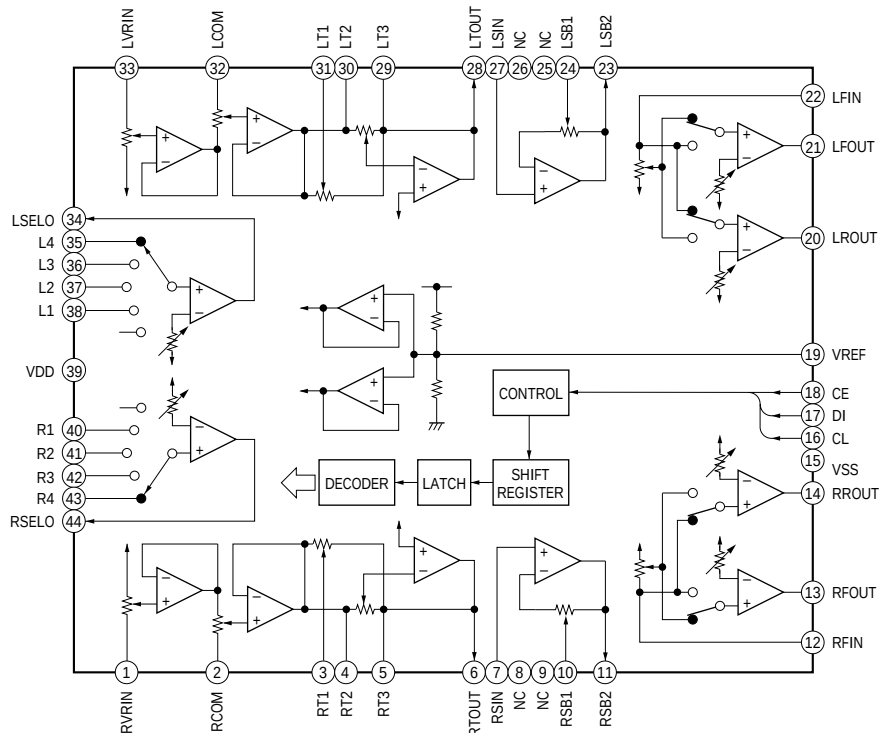
IC901 BA3918-V2



IC702 SM5877AM-E2



IC303 LC75374E



SECTION 5 EXPLODED VIEWS

NOTE:

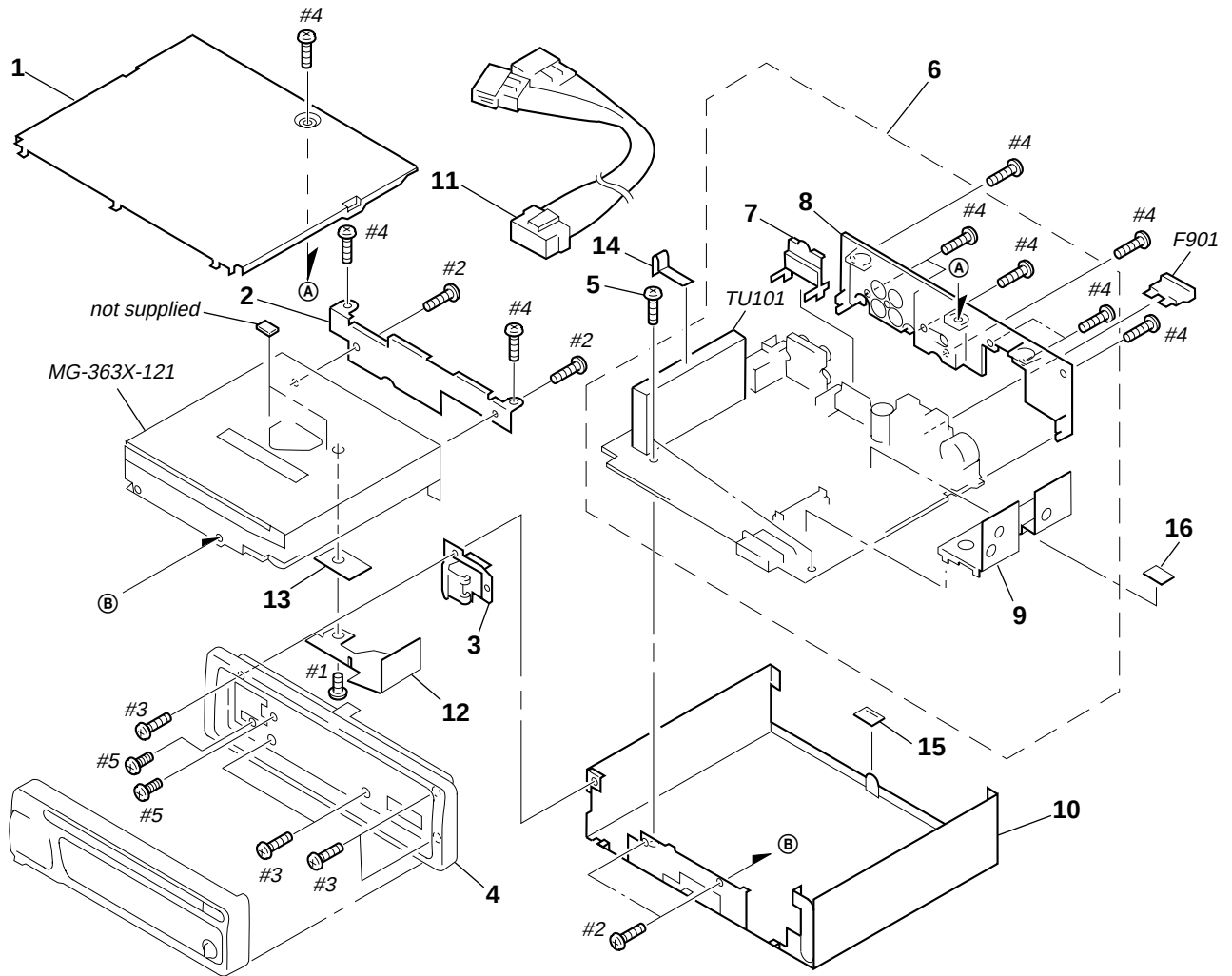
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
G : German model

- -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.

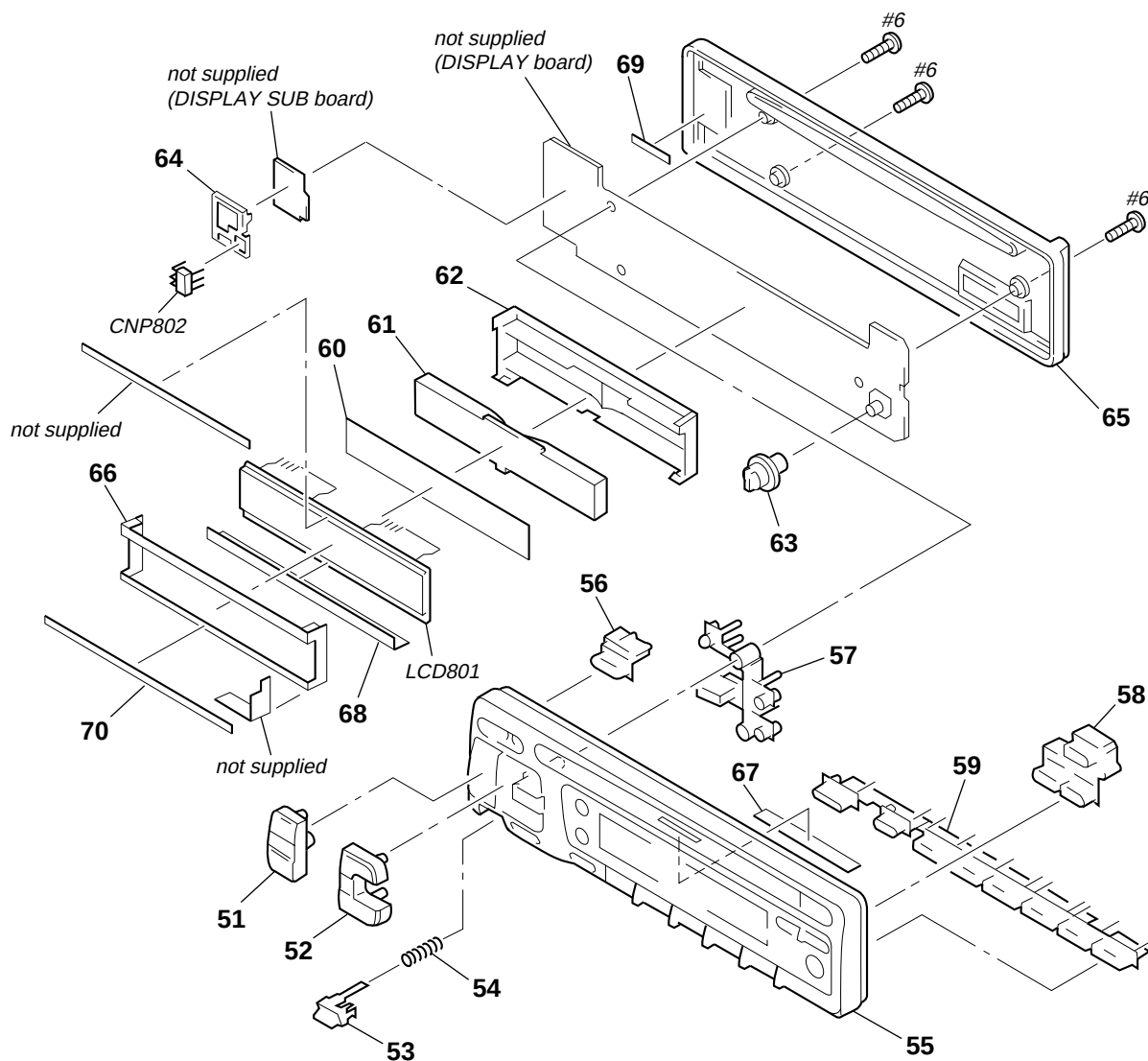
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

5-1. CHASSIS SECTION



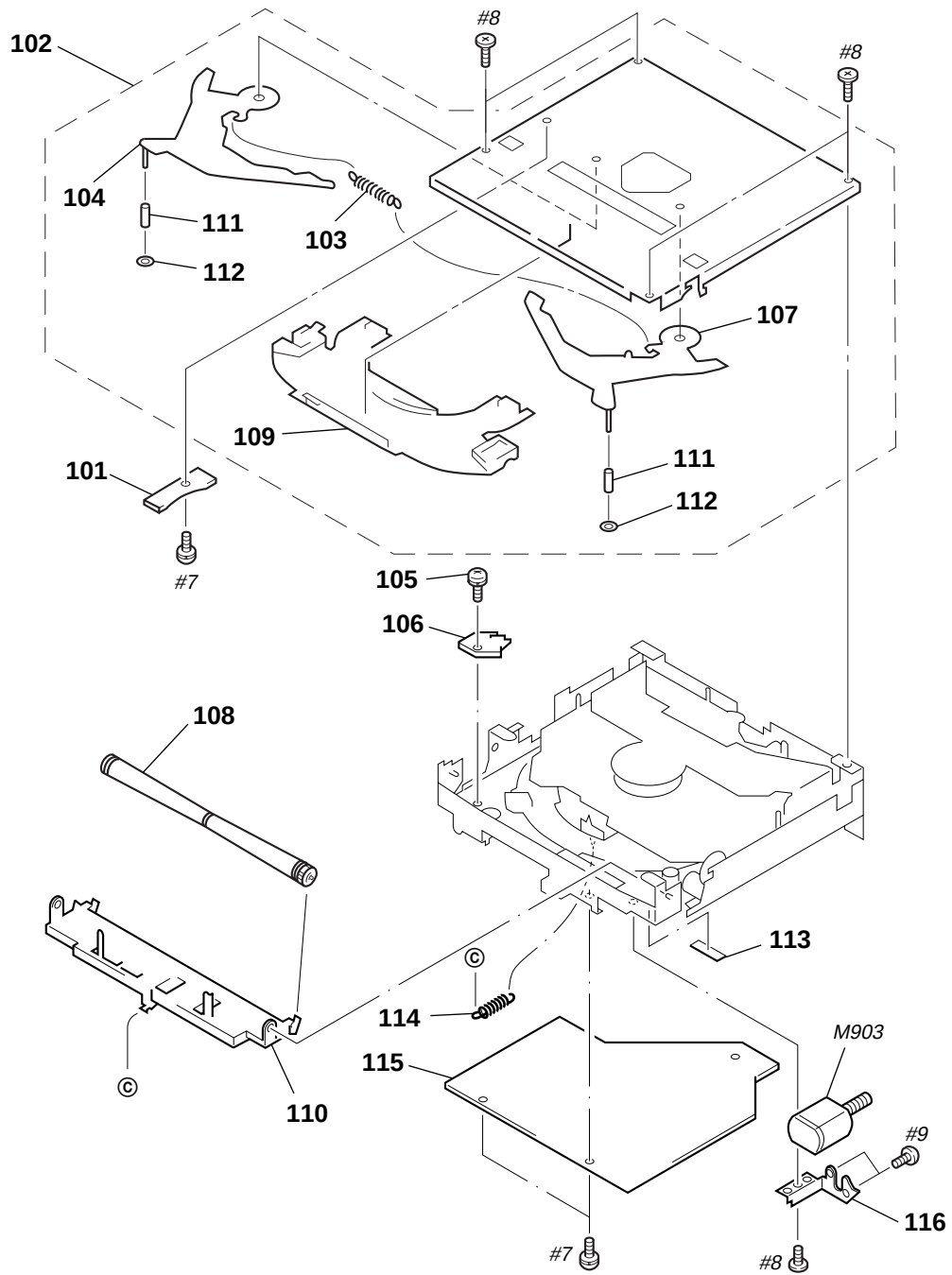
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	X-3372-357-1	COVER ASSY		* 10	3-009-840-21	CHASSIS (MAIN)	
* 2	3-009-349-01	BRACKET (M/D)		11	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
3	X-3367-636-1	LOCK ASSY		* 12	3-012-798-01	BRACKET (DRIVER)	
4	X-3373-956-2	PANEL (1) ASSY, SUB		* 13	3-013-134-01	SHEET (DRIVER)	
5	3-915-923-01	SCREW, GROUND POINT		14	3-937-650-01	PLATE (C), GROUND	
* 6	A-3294-342-A	MAIN BOARD, COMPLETE (AEP,UK)		* 15	3-013-744-01	SHEET (INSULATING.A)	
* 6	A-3294-344-A	MAIN BOARD, COMPLETE (G)		* 16	3-014-067-01	SPACER (DRIVER)	
* 7	3-931-260-01	BRACKET (IC)		F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
* 8	3-009-844-01	HEAT SINK		TU101	1-693-373-11	TUNER UNIT	
* 9	3-009-842-01	BRACKET (REG)					

5-2. FRONT PANEL SECTION



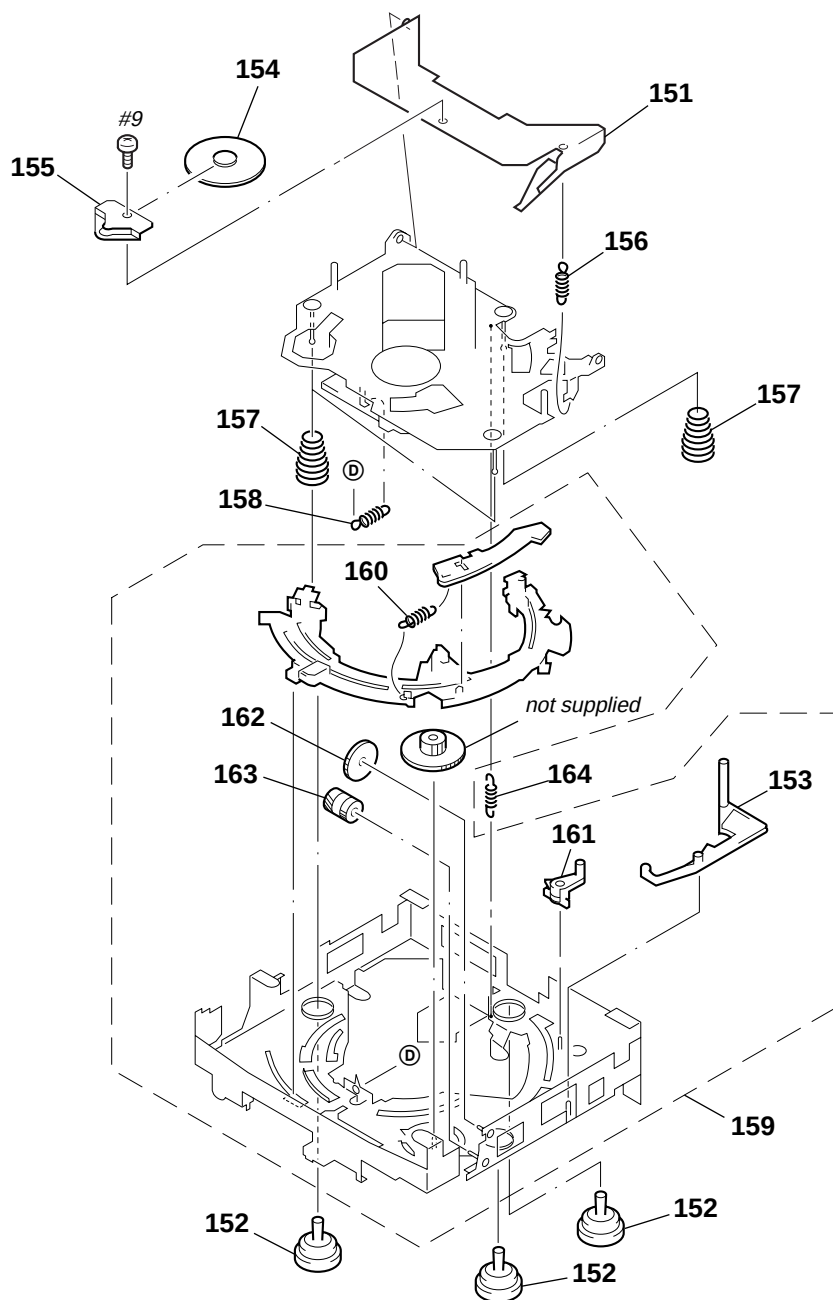
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-009-376-01	BUTTON (SEEK/AMS)		* 62	3-009-337-01	HOLDER (LCD)	
52	3-009-332-01	BUTTON (+/-)		63	3-009-339-01	KNOB (D-BASS)	
53	3-009-329-01	BUTTON (RELEASE)		* 64	3-009-371-01	BRACKET (PCB)	
54	3-013-634-01	SPRING (RELEASE)		65	3-009-355-01	PANEL, FRONT BACK	
55	X-3374-752-1	PANEL (S) ASSY, FRONT		* 66	3-014-202-23	BRACKET (LCD)	
56	3-009-334-01	BUTTON (SOURCE)		* 67	3-013-243-01	SHEET (F)	
57	3-009-333-11	BUTTON (DSPL)		* 68	3-015-323-01	SHEET (PIN)	
58	3-009-331-11	BUTTON (EJECT CD)		* 69	3-014-601-01	SPACER (B)	
59	3-009-330-11	BUTTON (1-6)		70	3-015-857-01	SHEET (BRACKET)	
* 60	3-010-974-01	SHEET (DIFFUSION)		* CNP802	1-779-129-11	PIN, CONNECTOR 3P	
* 61	3-009-335-02	PLATE (LCD), LIGHT GUIDE		LCD801	1-801-997-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-363X-121)



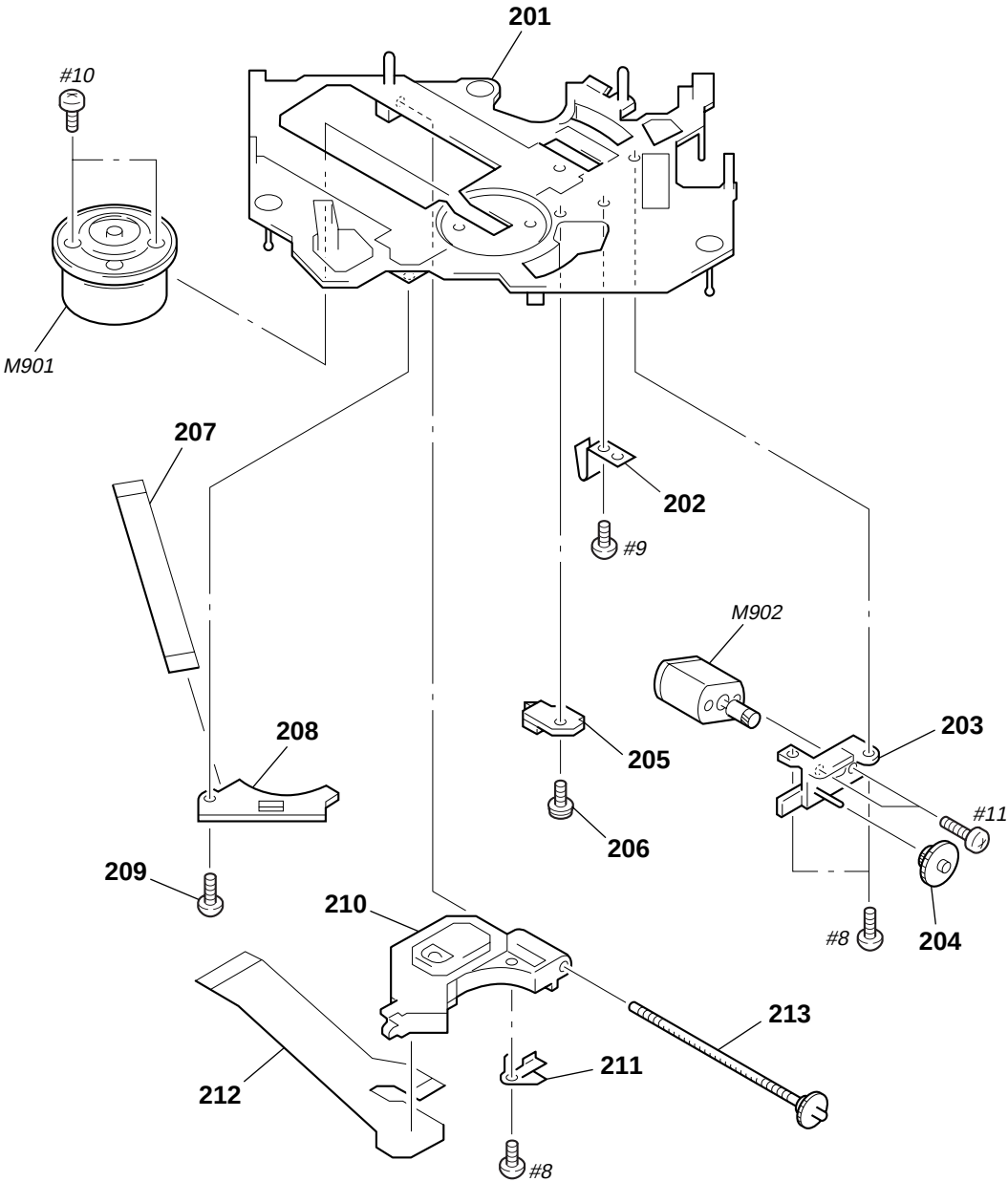
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD		110	3-931-902-03	ARM (ROLLER)	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY		111	3-936-756-01	ROLLER (D)	
103	3-931-909-01	SPRING (LR), TENSION		112	3-321-393-01	WASHER, STOPPER	
104	X-3371-501-1	LEVER (L) ASSY		* 113	3-939-139-01	SPACER	
105	3-338-737-01	SCREW (2X3), + PS		114	3-931-916-01	SPRING (RA), TENSION	
* 106	1-659-837-11	LOAD SW BOARD		* 115	A-3309-227-A	SERVO BOARD, COMPLETE	
107	X-3371-502-1	LEVER (R) ASSY		* 116	3-007-530-01	BRACKET (MOTOR)	
108	A-3301-203-A	ROLLER ASSY		M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	
109	3-931-908-01	GUIDE (DISC)					

5-4. CD MECHANISM SECTION (2)
(MG-363X-121)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING		158	3-019-805-01	SPRING (KF1), TENSION	
152	3-931-897-01	DAMPER (T)		* 159	A-3291-677-G	CHASSIS (M) ASSY	
153	3-931-879-02	LEVER (D)		160	3-931-883-01	SPRING (TR), TENSION	
* 154	3-913-404-11	RETAINER (DISC)		161	3-931-881-01	LEVER (LOCK)	
155	3-931-894-01	BRACKET (CP)		162	3-931-882-02	GEAR (MDL)	
156	3-931-895-01	SPRING (CH), TENSION		163	3-007-537-01	WHEEL (U), WORM	
157	3-931-898-01	SPRING (FL), COMPRESSION		164	3-019-806-01	SPRING (KR1), TENSION	

5-5. CD MECHANISM SECTION (3)
(MG-363X-121)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 201	X-3371-503-1	CHASSIS (OP) (O/S) ASSY		209	3-909-607-01	SCREW	
202	3-931-829-01	SPRING (SL), PLATE		Δ 210	8-848-402-02	PICK-UP, OPTICAL KSS-520A/J2NP	
203	X-3371-504-1	BASE (DRIVING) ASSY		211	3-931-834-01	SPRING (FEED), PLATE	
204	3-931-832-01	GEAR (SL MIDWAY)		212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
* 205	1-659-835-12	LIMIT SW BOARD		213	A-3291-669-A	SHAFT (FEED) ASSY	
206	3-338-737-01	SCREW (2X3), + PS		M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD		M902	A-3291-674-A	MOTOR ASSY, SLED	
* 208	1-659-834-11	SUB BOARD					

DISC IN SW

DISPLAY

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

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

- 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.. : μ A.. uPA.. : μ PA..
uPB.. : μ PB.. uPC.. : μ PC.. uPD.. : μ PD..
- CAPACITORS
uF : μ F
- COILS
uH : μ H

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-659-836-11	DISC IN SW BOARD *****		D821	8-719-033-13	LED CL-170Y-CD-T (OFF)	
		< SWITCH >		D822	8-719-033-13	LED CL-170Y-CD-T (MODE)	
SW1	1-572-288-11	SWITCH, PUSH (DISC IN)		D823	8-719-033-13	LED CL-170Y-CD-T (SEL)	
SW2	1-572-288-11	SWITCH, PUSH (SELF)		D824	8-719-033-13	LED CL-170Y-CD-T (ATT)	
*****				D825	8-719-422-43	DIODE MA8051-H	
		DISPLAY BOARD *****				< IC >	
				IC801	8-759-365-90	IC LC75824W	
						< LIQUID CRYSTAL DISPLAY >	
*	3-009-335-02	PLATE (LCD), LIGHT GUIDE		LCD801	1-801-997-11	DISPLAY PANEL, LIQUID CRYSTAL	
*	3-009-337-01	HOLDER (LCD)				< PILOT LAMP >	
*	3-009-371-01	BRACKET (PCB)		PL801	1-517-633-21	LAMP, PILOT	
*	3-010-974-01	SHEET (DIFFUSION)		PL802	1-517-633-21	LAMP, PILOT	
*	3-014-202-23	BRACKET (LCD)				< RESISTOR >	
*	3-015-323-01	SHEET (PIN)		R801	1-216-045-00	METAL CHIP 680 5% 1/10W	
		< CAPACITOR >		R802	1-216-045-00	METAL CHIP 680 5% 1/10W	
C801	1-164-222-11	CERAMIC CHIP 0.22uF 25V		R803	1-216-045-00	METAL CHIP 680 5% 1/10W	
C802	1-163-251-11	CERAMIC CHIP 100PF 5% 50V		R804	1-216-049-11	RES, CHIP 1.0K (2012)	
		< CONNECTOR >		R805	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
CNP801	1-764-423-11	PIN, CONNECTOR 12P		R806	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
* CNP802	1-779-129-11	PIN, CONNECTOR 3P		R807	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
		< DIODE >		R808	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
D801	8-719-056-83	DIODE UDZ-TE-17-6.8B		R809	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
D802	8-719-056-83	DIODE UDZ-TE-17-6.8B		R810	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
D803	8-719-056-83	DIODE UDZ-TE-17-6.8B		R811	1-216-045-00	METAL CHIP 680 5% 1/10W	
D804	8-719-056-83	DIODE UDZ-TE-17-6.8B		R812	1-216-045-00	METAL CHIP 680 5% 1/10W	
D805	8-719-033-13	LED CL-170Y-CD-T (SOURCE)		R813	1-216-045-00	METAL CHIP 680 5% 1/10W	
D806	8-719-033-13	LED CL-170Y-CD-T (Δ)		R814	1-216-049-11	RES, CHIP 1.0K (2012)	
D809	8-719-033-13	LED CL-170Y-CD-T (+)		R815	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
D810	8-719-033-13	LED CL-170Y-CD-T (-)		R816	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
D811	8-719-033-13	LED CL-170Y-CD-T (1)		R817	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
D812	8-719-033-13	LED CL-170Y-CD-T (2)		R818	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
D813	8-719-033-13	LED CL-170Y-CD-T (3)		R819	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
D814	8-719-033-13	LED CL-170Y-CD-T (4)		R820	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
D815	8-719-033-13	LED CL-170Y-CD-T (AF/TA)		R821	1-216-081-00	METAL CHIP 22K 5% 1/10W	
D816	8-719-033-13	LED CL-170Y-CD-T (PTY)		R822	1-216-041-00	METAL CHIP 470 5% 1/10W	
D817	8-719-033-13	LED CL-170Y-CD-T (6)		R823	1-216-029-00	METAL CHIP 150 5% 1/10W	
D818	8-719-033-13	LED CL-170Y-CD-T (5)		R824	1-216-029-00	METAL CHIP 150 5% 1/10W	
D819	8-719-033-13	LED CL-170Y-CD-T (SENS/BTM)		R825	1-216-029-00	METAL CHIP 150 5% 1/10W	
D820	8-719-033-13	LED CL-170Y-CD-T (DSPL)		R826	1-216-037-00	METAL CHIP 330 5% 1/10W	
				R827	1-216-037-00	METAL CHIP 330 5% 1/10W	

DISPLAY
DISPLAY SUB
LIMIT SW
LOAD SW
MAIN

Ref. No.	Part No.	Description	Remark
R828	1-216-041-00	METAL CHIP 470 5%	1/10W
R829	1-216-049-11	RES, CHIP 1.0K (2012)	
R830	1-216-049-11	RES, CHIP 1.0K (2012)	
R831	1-216-049-11	RES, CHIP 1.0K (2012)	
R832	1-216-113-00	METAL CHIP 470K 5%	1/10W
R833	1-216-049-11	RES, CHIP 1.0K (2012)	
R834	1-216-049-11	RES, CHIP 1.0K (2012)	
R835	1-216-049-11	RES, CHIP 1.0K (2012)	
R836	1-216-049-11	RES, CHIP 1.0K (2012)	
R837	1-216-053-00	METAL CHIP 1.5K 5%	1/10W
< SWITCH >			
SW801	1-572-704-31	SWITCH, KEY BOARD (▲)	
SW802	1-572-704-31	SWITCH, KEY BOARD (PTY)	
SW803	1-572-704-31	SWITCH, KEY BOARD (AF/TA)	
SW804	1-572-704-31	SWITCH, KEY BOARD (SENS/BTM)	
SW805	1-572-704-31	SWITCH, KEY BOARD (1/INTRO)	
SW806	1-572-704-31	SWITCH, KEY BOARD (2/REPEAT)	
SW807	1-572-704-31	SWITCH, KEY BOARD (3/SHUF)	
SW808	1-572-704-31	SWITCH, KEY BOARD (4)	
SW809	1-762-357-11	SWITCH (5)	
SW810	1-572-704-31	SWITCH, KEY BOARD (6)	
SW811	1-572-704-31	SWITCH, KEY BOARD (OFF)	
SW812	1-572-704-31	SWITCH, KEY BOARD (SOURCE)	
SW813	1-572-704-31	SWITCH, KEY BOARD (MODE)	
SW815	1-572-704-31	SWITCH, KEY BOARD (- I◀◀ ◀◀ (SEEK/AMS))	
SW816	1-572-704-31	SWITCH, KEY BOARD (-)	
SW817	1-572-704-31	SWITCH, KEY BOARD (SEL)	
SW818	1-572-704-31	SWITCH, KEY BOARD (+)	
SW819	1-572-704-31	SWITCH, KEY BOARD (ATT)	
SW820	1-572-704-31	SWITCH, KEY BOARD (DSPL)	
SW821	1-762-937-11	SWITCH, ROTARY (D-BASS)	

DISPLAY SUB BOARD			

< DIODE >			
D807	8-719-033-13	LED CL-170Y-CD-T (- I◀◀ ◀◀ (SEEK/AMS))	
D808	8-719-033-13	LED CL-170Y-CD-T (+ ▶▶▶ ▶▶ (SEEK/AMS))	
< SWITCH >			
SW814	1-572-704-31	SWITCH, KEY BOARD (+ ▶▶▶ ▶▶ (SEEK/AMS))	

*	1-659-835-12	LIMIT SW BOARD	

< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)	

Ref. No.	Part No.	Description	Remark
*	1-659-837-11	LOAD SW BOARD	*****
< SWITCH >			
SW4	1-572-288-11	SWITCH, PUSH (DOWN)	*****
*	A-3294-342-A	MAIN BOARD, COMPLETE (AEP,UK)	
*	A-3294-344-A	MAIN BOARD, COMPLETE (G)	*****
*	3-009-842-01	BRACKET (REG)	
*	3-009-844-01	HEAT SINK	
*	3-931-260-01	BRACKET (IC)	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
< CAPACITOR >			
C101	1-115-185-11	CERAMIC CHIP 0.033uF 10%	50V
C102	1-124-257-00	ELECT 2.2uF 20%	50V
C103	1-104-760-11	CERAMIC CHIP 0.047uF 10%	50V
C104	1-163-010-11	CERAMIC CHIP 0.0012uF 10%	50V
C105	1-124-589-11	ELECT 47uF 20%	16V
C106	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C107	1-163-099-00	CERAMIC CHIP 18PF 5%	50V
C108	1-163-010-11	CERAMIC CHIP 0.0012uF 10%	50V
C109	1-124-257-00	ELECT 2.2uF 20%	50V
C110	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C111	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C112	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C113	1-163-035-00	CERAMIC CHIP 0.047uF	50V
C114	1-163-099-00	CERAMIC CHIP 18PF 5%	50V
C119	1-164-161-11	CERAMIC CHIP 0.0022uF 10%	100V
C120	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C121	1-163-127-00	CERAMIC CHIP 270PF 5%	50V
C122	1-136-157-00	FILM 0.022uF 5%	50V
C123	1-136-173-00	FILM 0.47uF 5%	50V
C124	1-115-185-11	CERAMIC CHIP 0.033uF 10%	50V
C125	1-126-157-11	ELECT 10uF 20%	16V
C126	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C127	1-163-229-11	CERAMIC CHIP 12PF 5%	50V
C128	1-163-229-11	CERAMIC CHIP 12PF 5%	50V
C129	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C131	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C133	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C134	1-124-589-11	ELECT 47uF 20%	16V
C135	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C136	1-124-589-11	ELECT 47uF 20%	16V
C137	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C138	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C139	1-163-038-00	CERAMIC CHIP 0.1uF	25V
C140	1-163-024-00	CERAMIC CHIP 0.018uF 10%	50V
C141	1-126-933-11	ELECT 100uF 20%	16V
C142	1-126-933-11	ELECT 100uF 20%	16V
C143	1-126-933-11	ELECT 100uF 20%	16V

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C144	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V	C370	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C145	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C501	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C146	1-164-232-11	CERAMIC CHIP	0.01uF		50V	C502	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C147	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C503	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C148	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	C504	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C149	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C505	1-124-589-11	ELECT	47uF	20%	16V
C151	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C507	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C301	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	C701	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C302	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	C702	1-124-584-00	ELECT	100uF	20%	10V
C303	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	C703	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	C704	1-126-933-11	ELECT	100uF	20%	16V
C305	1-126-160-11	ELECT	1uF	20%	50V	C705	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C306	1-163-127-00	CERAMIC CHIP	270PF	5%	50V	C706	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C307	1-126-157-11	ELECT	10uF	20%	16V	C707	1-124-234-00	ELECT	22uF	20%	16V
C308	1-126-157-11	ELECT	10uF	20%	16V	C708	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C310	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	C709	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C311	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C710	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C313	1-126-157-11	ELECT	10uF	20%	16V	C711	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C315	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	C712	1-124-584-00	ELECT	100uF	20%	10V
C316	1-126-157-11	ELECT	10uF	20%	16V	C713	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C317	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C714	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C319	1-164-346-11	CERAMIC CHIP	1uF		16V	C715	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C320	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C716	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C322	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C717	1-124-584-00	ELECT	100uF	20%	10V
C323	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	C718	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C324	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C719	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C325	1-126-934-11	ELECT	220uF	20%	16V	C720	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C326	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C721	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C327	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C723	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C329	1-163-038-00	CERAMIC CHIP	0.1uF		25V	C901	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C331	1-164-346-11	CERAMIC CHIP	1uF		16V	C902	1-126-157-11	ELECT	10uF	20%	16V
C335	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	C903	1-126-157-11	ELECT	10uF	20%	16V
C336	1-126-157-11	ELECT	10uF	20%	16V	C904	1-126-157-11	ELECT	10uF	20%	16V
C337	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C905	1-126-933-11	ELECT	100uF	20%	16V
C339	1-126-157-11	ELECT	10uF	20%	16V	C906	1-126-157-11	ELECT	10uF	20%	16V
C340	1-126-160-11	ELECT	1uF	20%	50V	C907	1-125-710-11	DOUBLE LAYERS	0.1F		5.5V
C341	1-126-157-11	ELECT	10uF	20%	16V	C908	1-126-157-11	ELECT	10uF	20%	16V
C342	1-126-157-11	ELECT	10uF	20%	16V	C909	1-126-157-11	ELECT	10uF	20%	16V
C343	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	C910	1-126-157-11	ELECT	10uF	20%	16V
C344	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V	C911	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C345	1-126-157-11	ELECT	10uF	20%	16V	C912	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C346	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V	C913	1-128-339-11	ELECT	2200uF	20%	16V
C347	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	C915	1-126-768-11	ELECT	2200uF	20%	16V
C348	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	C916	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C349	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C917	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C350	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	< JACK >					
C351	1-124-234-00	ELECT	22uF	20%	16V	CNJ101	1-764-808-21	JACK (ANTENNA)			
C352	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	CNJ301	1-764-697-11	JACK, PIN 4P (LINE OUT)			
C353	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	CNJ901	1-566-822-41	JACK (REMOTE IN)			
C355	1-126-160-11	ELECT	1uF	20%	50V	< CONNECTOR >					
C356	1-126-160-11	ELECT	1uF	20%	50V	CNJ701	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
C358	1-124-589-11	ELECT	47uF	20%	16V						
C361	1-126-157-11	ELECT	10uF	20%	16V						

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
CNP501	1-764-422-11	PLUG, CONNECTOR 12P		IC302	8-759-490-48	IC HA13158	
CNP901	1-774-701-11	PIN, CONNECTOR 16P		IC303	8-759-487-82	IC LC75374E	
		< DISCHARGE GAP >		IC501	8-759-494-45	IC MN1886426SD	
				IC701	8-759-473-70	IC SM5852FS-E2	
CP101	1-519-504-11	GAP, DISCHARGE		IC702	8-759-364-34	IC SM5877AM	
		< DIODE >		IC901	8-759-347-49	IC BA3918-V2	
				IC902	8-759-503-60	IC S-80740AN-D4-S	
D102	8-719-040-04	DIODE MA721WK-(TX)				< JUMPER RESISTOR >	
D103	8-719-422-49	DIODE MA8056-L		JR101	1-216-296-00	SHORT 0	
D110	8-719-404-49	DIODE MA111				< COIL >	
D301	8-719-970-02	DIODE 1SR139-400		L101	1-410-513-11	INDUCTOR 22uH	
D302	8-719-970-02	DIODE 1SR139-400		L102	1-410-513-11	INDUCTOR 22uH	
				L103	1-410-513-11	INDUCTOR 22uH	
D303	8-719-970-02	DIODE 1SR139-400		L104	1-410-983-31	INDUCTOR CHIP 0.15uH	
D304	8-719-970-02	DIODE 1SR139-400		L501	1-410-513-11	INDUCTOR 22uH	
D305	8-719-970-02	DIODE 1SR139-400					
D306	8-719-970-02	DIODE 1SR139-400		L701	1-410-513-11	INDUCTOR 22uH	
D307	8-719-970-02	DIODE 1SR139-400		L702	1-410-513-11	INDUCTOR 22uH	
				L703	1-410-513-11	INDUCTOR 22uH	
D308	8-719-970-02	DIODE 1SR139-400		L901	1-411-823-21	COIL, CHOKE (TROIDAL)	
D309	8-719-421-24	DIODE MA8039-H				< TERMINAL >	
D310	8-719-421-24	DIODE MA8039-H		* LUG1	1-537-738-21	TERMINAL, EARTH	
D311	8-719-404-49	DIODE MA111		* LUG2	1-537-738-21	TERMINAL, EARTH	
D313	8-719-914-43	DIODE DAN202K				< TRANSISTOR >	
D501	8-719-423-10	DIODE MA8100-M-TX		Q102	8-729-921-25	TRANSISTOR FMC2	
D502	8-719-109-97	DIODE RD6.8ES-B2		Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D503	8-719-109-97	DIODE RD6.8ES-B2		Q104	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D504	8-719-109-97	DIODE RD6.8ES-B2		Q301	8-729-920-21	TRANSISTOR DTC314TKH04	
D505	8-719-109-97	DIODE RD6.8ES-B2		Q302	8-729-920-21	TRANSISTOR DTC314TKH04	
D506	8-719-109-97	DIODE RD6.8ES-B2		Q303	8-729-920-21	TRANSISTOR DTC314TKH04	
D507	8-719-109-97	DIODE RD6.8ES-B2		Q304	8-729-920-21	TRANSISTOR DTC314TKH04	
D508	8-719-109-97	DIODE RD6.8ES-B2		Q305	8-729-921-25	TRANSISTOR FMC2	
D509	8-719-914-44	DIODE DAP202K		Q501	8-729-921-25	TRANSISTOR FMC2	
D510	8-719-404-49	DIODE MA111		Q502	8-729-019-00	TRANSISTOR 2SD2394-G	
D511	8-719-109-97	DIODE RD6.8ES-B2		Q503	8-729-901-00	TRANSISTOR DTC124EK	
D701	8-719-422-49	DIODE MA8056-L		Q504	8-729-903-46	TRANSISTOR 2SB1132-P	
D702	8-719-420-14	DIODE MA8082-M		Q505	8-729-028-62	TRANSISTOR DTA115EKA-T146	
D901	8-719-977-12	DIODE DTZ6.8B		Q506	8-729-027-23	TRANSISTOR DTA114EKA-T146	
D902	8-719-977-12	DIODE DTZ6.8B		Q507	8-729-900-53	TRANSISTOR DTC114EK	
D903	8-719-914-44	DIODE DAP202K		Q508	8-729-900-53	TRANSISTOR DTC114EK	
D905	8-719-970-02	DIODE 1SR139-400		Q509	8-729-925-46	TRANSISTOR IBM11-T110	
D906	8-719-970-02	DIODE 1SR139-400		Q701	8-729-920-85	TRANSISTOR 2SD1664-QR	
D907	8-719-049-38	DIODE 1N5404TU		Q702	8-729-019-00	TRANSISTOR 2SD2394-G	
D908	8-719-109-97	DIODE RD6.8ES-B2		Q703	8-729-921-25	TRANSISTOR FMC2	
D909	8-719-034-90	DIODE MA4160-M(QZ)		Q704	8-729-921-25	TRANSISTOR FMC2	
D910	8-719-109-97	DIODE RD6.8ES-B2		Q901	8-729-903-10	TRANSISTOR FMW1	
D911	8-719-977-12	DIODE DTZ6.8B		Q902	8-729-035-63	TRANSISTOR FMG9A-T148	
		< FUSE >					
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A					
		< IC >					
IC101	8-759-448-88	IC TB2114F(EL)					
IC102	8-759-163-63	IC TDA7330BD-013TR					

MAIN

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
< RESISTOR >						R502	1-216-049-11	RES, CHIP	1.0K	(2012)	
R101	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R503	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R102	1-216-097-00	RES, CHIP	100K	(2012)		R504	1-216-049-11	RES, CHIP	1.0K	(2012)	
R103	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R505	1-216-049-11	RES, CHIP	1.0K	(2012)	
R105	1-216-081-00	METAL CHIP	22K	5%	1/10W	R506	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-222-00	RES, CHIP	10K	(3216)		R507	1-216-073-00	METAL CHIP	10K	5%	1/10W
R107	1-216-081-00	METAL CHIP	22K	5%	1/10W	R508	1-208-806-11	RES, CHIP	10K		
R108	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R509	1-208-806-11	RES, CHIP	10K		
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W	R510	1-208-806-11	RES, CHIP	10K		
R110	1-216-129-00	METAL CHIP	2.2M	5%	1/10W	R511	1-216-097-00	RES, CHIP	100K	(2012)	
R111	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R512	1-216-097-00	RES, CHIP	100K	(2012)	
R112	1-216-075-00	METAL CHIP	12K	5%	1/10W	R513	1-216-097-00	RES, CHIP	100K	(2012)	
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W	R514	1-216-097-00	RES, CHIP	100K	(2012)	
R114	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	R515	1-216-025-00	RES, CHIP	100	(2012)	
R115	1-216-210-00	RES, CHIP	3.3K	(3216)		R516	1-216-025-00	RES, CHIP	100	(2012)	
R116	1-216-073-00	METAL CHIP	10K	5%	1/10W	R517	1-216-049-11	RES, CHIP	1.0K	(2012)	
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W	R518	1-216-049-11	RES, CHIP	1.0K	(2012)	
R118	1-216-049-11	RES, CHIP	1.0K	(2012)		R519	1-216-049-11	RES, CHIP	1.0K	(2012)	
R119	1-216-119-00	METAL CHIP	820K	5%	1/10W	R520	1-216-097-00	RES, CHIP	100K	(2012)	
R120	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R521	1-216-295-00	SHORT	0		
R121	1-216-041-00	METAL CHIP	470	5%	1/10W	R522	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R123	1-216-049-11	RES, CHIP	1.0K	(2012)		R525	1-216-295-00	SHORT	0 (AEP,UK)		
R124	1-216-295-00	SHORT	0			R527	1-216-097-00	RES, CHIP	100K	(2012) (G)	
R128	1-216-025-00	RES, CHIP	100	(2012)		R528	1-216-097-00	RES, CHIP	100K	(2012)	
R301	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R529	1-216-105-00	RES, CHIP	220K	(2012)	
R302	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	R530	1-216-105-00	RES, CHIP	220K	(2012)	
R304	1-216-111-00	RES, CHIP	390K	(2012)		R531	1-216-105-00	RES, CHIP	220K	(2012)	
R311	1-216-182-00	RES, CHIP	220	(3216)		R532	1-216-097-00	RES, CHIP	100K	(2012)	
R312	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	R533	1-216-105-00	RES, CHIP	220K	(2012)	
R313	1-216-117-00	METAL CHIP	680K	5%	1/10W	R534	1-216-049-11	RES, CHIP	1.0K	(2012)	
R314	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	R535	1-216-049-11	RES, CHIP	1.0K	(2012)	
R315	1-216-089-00	RES, CHIP	47K	(2012)		R536	1-216-073-00	METAL CHIP	10K	5%	1/10W
R318	1-216-117-00	METAL CHIP	680K	5%	1/10W	R537	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R320	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	R538	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R321	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	R539	1-216-109-00	METAL CHIP	330K	5%	1/10W
R322	1-216-089-00	RES, CHIP	47K	(2012)		R541	1-216-097-00	RES, CHIP	100K	(2012)	
R324	1-216-182-00	RES, CHIP	220	(3216)		R542	1-216-073-00	METAL CHIP	10K	5%	1/10W
R326	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	R543	1-216-025-00	RES, CHIP	100	(2012)	
R327	1-216-117-00	METAL CHIP	680K	5%	1/10W	R551	1-216-105-00	RES, CHIP	220K	(2012)	
R328	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	R552	1-216-105-00	RES, CHIP	220K	(2012)	
R330	1-216-182-00	RES, CHIP	220	(3216)		R553	1-216-105-00	RES, CHIP	220K	(2012)	
R331	1-216-089-00	RES, CHIP	47K	(2012)		R554	1-216-105-00	RES, CHIP	220K	(2012)	
R332	1-216-117-00	METAL CHIP	680K	5%	1/10W	R555	1-216-097-00	RES, CHIP	100K	(2012)	
R334	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	R701	1-216-049-11	RES, CHIP	1.0K	(2012)	
R337	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	R702	1-216-049-11	RES, CHIP	1.0K	(2012)	
R340	1-216-089-00	RES, CHIP	47K	(2012)		R703	1-216-049-11	RES, CHIP	1.0K	(2012)	
R341	1-216-182-00	RES, CHIP	220	(3216)		R704	1-216-025-00	RES, CHIP	100	(2012)	
R346	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	R705	1-216-025-00	RES, CHIP	100	(2012)	
R347	1-216-295-00	SHORT	0			R706	1-216-025-00	RES, CHIP	100	(2012)	
R350	1-216-070-00	METAL CHIP	7.5K	5%	1/10W	R707	1-216-174-00	RES, CHIP	100	(3216)	
R351	1-216-049-11	RES, CHIP	1.0K	(2012)		R708	1-216-174-00	RES, CHIP	100	(3216)	
R501	1-216-049-11	RES, CHIP	1.0K	(2012)		R709	1-216-174-00	RES, CHIP	100	(3216)	
						R710	1-216-037-00	METAL CHIP	330	5%	1/10W

Ref. No.	Part No.	Description	Remark		
R711	1-216-001-00	METAL CHIP	10	5%	1/10W
R712	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R713	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R714	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R715	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R716	1-216-150-00	RES, CHIP	10	(3216)	
R717	1-216-073-00	METAL CHIP	10K	5%	1/10W
R718	1-216-073-00	METAL CHIP	10K	5%	1/10W
R720	1-216-113-00	METAL CHIP	470K	5%	1/10W
R721	1-216-121-00	RES, CHIP	1.0M	(2012)	
R723	1-216-295-00	SHORT	0		
R901	1-216-025-00	RES, CHIP	100	(2012)	
R902	1-216-025-00	RES, CHIP	100	(2012)	
R903	1-216-097-00	RES, CHIP	100K	(2012)	
R904	1-216-073-00	METAL CHIP	10K	5%	1/10W
R905	1-216-081-00	METAL CHIP	22K	5%	1/10W
R906	1-216-105-00	RES, CHIP	220K	(2012)	
R907	1-216-089-00	RES, CHIP	47K	(2012)	
R908	1-216-073-00	METAL CHIP	10K	5%	1/10W
R909	1-216-081-00	METAL CHIP	22K	5%	1/10W
R910	1-216-073-00	METAL CHIP	10K	5%	1/10W
R911	1-216-105-00	RES, CHIP	220K	(2012)	
R912	1-216-295-00	SHORT	0		
< VARIABLE RESISTOR >					
RV101	1-238-605-31	RES, ADJ, CARBON	470K		
< SWITCH >					
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S502	1-692-431-21	SWITCH, TACTILE (RESET)			
< TUNER >					
TU101	1-693-373-11	TUNER UNIT			
< VIBRATOR >					
X101	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)			
X102	1-579-242-41	VIBRATOR, CRYSTAL (4.332MHz)			
X501	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
X502	1-579-125-11	VIBRATOR, CERAMIC (8MHz)			
X701	1-760-793-11	VIBRATOR, CERAMIC (16.9344MHz)			

*	A-3309-227-A	SERVO BOARD, COMPLETE			

< CAPACITOR >					
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V

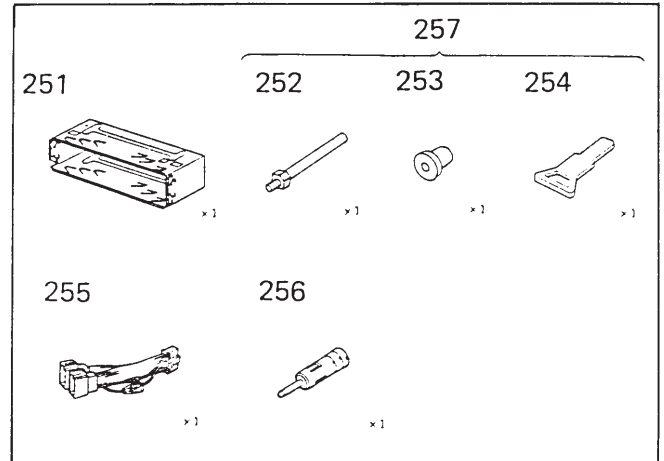
Ref. No.	Part No.	Description	Remark		
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C24	1-163-259-11	CERAMIC CHIP	220PF	5%	50V
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
< CONNECTOR >					
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-565-728-11	CONNECTOR, FPC 17P			
CN3	1-770-347-21	CONNECTOR, FPC 6P			
< IC >					
IC1	8-752-372-94	IC CXD2507AQ			
IC2	8-752-074-34	IC CXA1782BQ			
IC3	8-759-354-16	IC BA6796FP-T1			
< JUMPER RESISTOR >					
JR1	1-216-296-00	SHORT	0		
JR2	1-216-296-00	SHORT	0		
JR3	1-216-296-00	SHORT	0		
JR4	1-216-296-00	SHORT	0		
JR5	1-216-296-00	SHORT	0		
JR6	1-216-296-00	SHORT	0		
JR7	1-216-296-00	SHORT	0		
JR8	1-216-296-00	SHORT	0		
JR9	1-216-296-00	SHORT	0		

SERVO

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JR10	1-216-296-00	SHORT	0	R6	1-216-073-00	METAL CHIP 10K 5%	1/10W
JR11	1-216-296-00	SHORT	0	R7	1-216-009-00	METAL CHIP 22 5%	1/10W
JR12	1-216-296-00	SHORT	0	R8	1-216-119-00	METAL CHIP 820K 5%	1/10W
JR13	1-216-296-00	SHORT	0	R9	1-216-119-00	METAL CHIP 820K 5%	1/10W
JR14	1-216-296-00	SHORT	0	R10	1-216-073-00	METAL CHIP 10K 5%	1/10W
JR15	1-216-296-00	SHORT	0	R11	1-216-073-00	METAL CHIP 10K 5%	1/10W
JR16	1-216-296-00	SHORT	0	R14	1-216-085-00	METAL CHIP 33K 5%	1/10W
JR17	1-216-296-00	SHORT	0	R15	1-216-085-00	METAL CHIP 33K 5%	1/10W
JR18	1-216-296-00	SHORT	0	R16	1-216-077-00	METAL CHIP 15K 5%	1/10W
JR19	1-216-296-00	SHORT	0	R17	1-216-081-00	METAL CHIP 22K 5%	1/10W
JR20	1-216-296-00	SHORT	0	R19	1-216-079-00	METAL CHIP 18K 5%	1/10W
JR21	1-216-296-00	SHORT	0	R20	1-216-105-00	RES, CHIP 220K (2012)	
JR22	1-216-296-00	SHORT	0	R21	1-216-105-00	RES, CHIP 220K (2012)	
JR23	1-216-296-00	SHORT	0	R22	1-216-085-00	METAL CHIP 33K 5%	1/10W
JR24	1-216-296-00	SHORT	0	R23	1-216-121-00	RES, CHIP 1.0M (2012)	
JR25	1-216-296-00	SHORT	0	R24	1-216-073-00	METAL CHIP 10K 5%	1/10W
JR26	1-216-296-00	SHORT	0	R27	1-216-295-00	SHORT 0	
JR27	1-216-296-00	SHORT	0	R28	1-216-101-00	METAL CHIP 150K 5%	1/10W
JR28	1-216-296-00	SHORT	0	R29	1-216-097-00	RES, CHIP 100K (2012)	
JR29	1-216-296-00	SHORT	0	R30	1-216-097-00	RES, CHIP 100K (2012)	
JR30	1-216-296-00	SHORT	0	R31	1-216-081-00	METAL CHIP 22K 5%	1/10W
JR31	1-216-296-00	SHORT	0	R32	1-216-109-00	METAL CHIP 330K 5%	1/10W
JR32	1-216-296-00	SHORT	0	R33	1-216-105-00	RES, CHIP 220K (2012)	
JR33	1-216-296-00	SHORT	0	R34	1-216-009-00	METAL CHIP 22 5%	1/10W
JR34	1-216-296-00	SHORT	0	R35	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
JR35	1-216-296-00	SHORT	0	R36	1-216-097-00	RES, CHIP 100K (2012)	
JR36	1-216-296-00	SHORT	0	R37	1-216-117-00	METAL CHIP 680K 5%	1/10W
JR37	1-216-296-00	SHORT	0	R38	1-216-109-00	METAL CHIP 330K 5%	1/10W
JR38	1-216-296-00	SHORT	0	R39	1-216-101-00	METAL CHIP 150K 5%	1/10W
JR39	1-216-296-00	SHORT	0	R40	1-216-114-00	RES, CHIP 510K (2012)	
JR40	1-216-296-00	SHORT	0	R41	1-216-093-00	METAL CHIP 68K 5%	1/10W
JR41	1-216-296-00	SHORT	0	R42	1-216-103-00	METAL CHIP 180K 5%	1/10W
JR43	1-216-296-00	SHORT	0	R43	1-216-097-00	RES, CHIP 100K (2012)	
JR44	1-216-296-00	SHORT	0	R44	1-216-085-00	METAL CHIP 33K 5%	1/10W
JR45	1-216-296-00	SHORT	0	R45	1-216-081-00	METAL CHIP 22K 5%	1/10W
JR46	1-216-296-00	SHORT	0	R46	1-216-097-00	RES, CHIP 100K (2012)	
		< COIL >		R47	1-216-105-00	RES, CHIP 220K (2012)	
L1	1-412-058-11	INDUCTOR CHIP 10uH		R48	1-216-073-00	METAL CHIP 10K 5%	1/10W
L2	1-412-058-11	INDUCTOR CHIP 10uH		R49	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
L3	1-412-058-11	INDUCTOR CHIP 10uH		R50	1-216-065-00	METAL CHIP 4.7K 5%	1/10W
		< TRANSISTOR >		R51	1-216-295-00	SHORT 0	
Q1	8-729-904-60	TRANSISTOR DTB113ZK				< VARIABLE RESISTOR >	
Q2	8-729-904-86	TRANSISTOR 2SB1197K-Q		RV1	1-238-091-11	RES, ADJ, CERMET 22K	
		< RESISTOR >		RV4	1-238-091-11	RES, ADJ, CERMET 22K	
R1	1-216-073-00	METAL CHIP 10K 5%	1/10W	*****			
R2	1-216-097-00	RES, CHIP 100K (2012)					
R3	1-216-121-00	RES, CHIP 1.0M (2012)					
R4	1-216-061-00	METAL CHIP 3.3K 5%	1/10W				
R5	1-216-061-00	METAL CHIP 3.3K 5%	1/10W				

Ref. No.	Part No.	Description	Remark
*	1-659-834-11	SUB BOARD *****	
		< CONNECTOR >	
CN1	1-770-347-21	CONNECTOR, FPC 6P *****	
		MISCELLANEOUS *****	
11	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
△ 210	8-848-402-02	PICK-UP, OPTICAL KSS-520AJ2NP	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING *****	
		ACCESSORIES & PACKING MATERIALS *****	
3-861-518-11		MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH) (AEP,UK)	
3-861-518-21		MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN) (AEP)	
3-861-518-31		MANUAL, INSTRUCTION (GERMAN) (G)	
3-861-519-11		MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (AEP,UK)	
3-861-519-21		MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN) (AEP,G)	
X-3373-412-1		CASE (PANEL) ASSY *****	
		***** HARDWARE LIST *****	
#1	7-628-253-15	SCREW +PS 2X5	
#2	7-685-791-09	SCREW +PTT 2.6X5 (S)	
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#4	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#5	7-621-772-10	SCREW +B 2X4	
#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE 3	
#9	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE 3	
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE 3	
#11	7-627-850-28	SCREW, PRECISION +P 1.4X3 *****	

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS *****	
251	3-916-161-31	FRAME ASSY	
252	3-386-828-01	SCREW, FITTING	
253	3-349-410-01	BUSHING	
254	3-388-078-01	KEY	
255	1-776-527-11	CORD (WITH CONNECTOR) (ISO) (POWER)	
256	1-465-459-21	ADAPTOR, ANTENNA	
257	X-3370-077-1	SCREW ASSY (AE.KEY), FITTING	



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

