KENWOOD

FM/AM COMPACT DISC PLAYER

KDC-9R

INSTRUCTION MANUAL

Take the time to read through this instruction manual. Familiarity with installation and operation procedures will help you obtain the best performance from your new compact disc player.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your KENWOOD dealer for information or service on this product.

Model KDC-9R Seria number _____

When asking the service to KENWOOD dealer, be sure to send both the main unit and the tuner unit.

Information

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna

Relocate the equipment with respect to the receiver

Move this equipment away from the receiver

Plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

Precautions

● Cleaning of CD Player

If the front panel has been stained, clean it by wiping with silicon cloth or dry soft cloth. Do not wipe with hard cloth or cloth moistened with thinner, alcohol or volatile substance because the panel might be damaged or letters marked on the panel might be removed.

● Abnormality

If you have found any abnormality in the CD Player, contact the shop where you bought it, KENWOOD service center or branch office. Do not attempt to repair the abnormality yourself.

● As the laser beam used in this compact disc player is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.
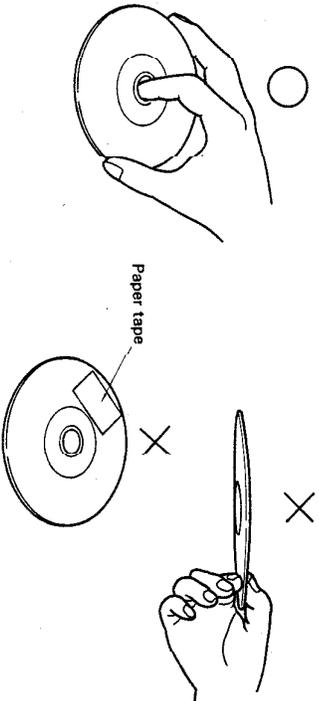
Before use

- The CD Player is designed to be connected to 12 V DC and negative grounding. If you want to use 24 V power source in your vehicle, please ask your local shop, KENWOOD service center or branch office.

- Avoid mounting the CD Player where it is likely to be exposed to direct sunlight, hot air or water. Also, avoid mounting it where there is excessive vibration. Take care not to allow any metal objects or water to enter the interior of the CD Player.

- If you are going to use the CD Player for the first time, or if you have replaced the battery, push the RESET button with the tip of a pencil or similar pointed object.

- If an alarm sound (intermittent beep) is given and the disc has been ejected while you are operating the CD Player, remove the disc from the slot and perform the operation steps from the beginning.

- If your vehicle is left exposed to the sun with the window shut, the temperature inside the vehicle will rise considerably. If the temperature exceeds 50°C (120°F), the built-in protection circuit in the CD Player functions to stop the CD Player. In this case, activate the vehicle's air conditioner or run the vehicle with the windows open for a while. Then, use the CD Player.

- Droplets may be formed on lenses of the optical system inside the CD Player in a cold season if the atmospheric temperature is suddenly raised -e.g. immediately after switching on the heater. This is called condensation. Condensation will hinder reading of laser, disabling the CD Player. In this case, remove the disc from the slot, and condensation will disappear in a short time and the CD Player will work normally although dependent on environmental conditions. If the CD Player will not work normally for many hours, contact the shop where you bought the CD Player, KENWOOD service center or branch office.

Handling of compact disc

Stain, dust or scratches on the disc or warping of the disc will cause malfunction such as sound skipping. Handle the disc in the following manner so that you may enjoy the beautiful sound of the CD Player for a long time.

<**Handling the disc**>
Hold the disc without touching the music storing area (glistening in rainbow colors). Do not apply a paper tape to the label on the disc nor to the music storing area.

Paper tape
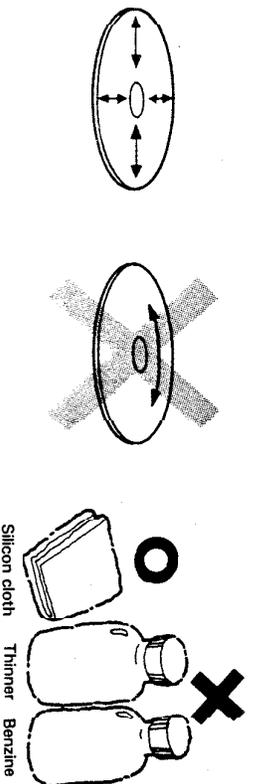
<**Storage of compact disc**>
- Do not put the disc where it is exposed to direct sunlight, heat or humidity.

- Especially in summer, never leave the disc exposed to direct sunlight or placed on the seat or dashboard with the windows closed because the temperature will rise considerably and the disc will warp.

- If the disc is not to be played for a long time, remove it from the player and put it in the case for storage. Be sure to place it in its case. Do not place discs stacked or leaning against something because they may warp.

<**Cleaning of compact disc**>
If there are fingerprints or stains on the disc, remove them by lightly wiping it with silicon cloth or soft cotton cloth from the center toward the outside edge. Never use thinner or benzine. Also, avoid using conventional record cleaner.

Silicon cloth   Thinner   Benzine

Controls and indicators

Bass switch

When this switch is set to ON, the indicator illuminates and the bass control can be performed with the up/down keys. Pressing the up key increases bass, and pressing the down key decreases it.

Fader switch

When this switch is set to ON, the indicator illuminates and the fader adjustment can be performed with the up/down keys. Pressing the up key increases the volume level of the rear speakers, and pressing the down key increases the volume level of the front speakers.

Reset button

When the installation and all the wiring is finished, press this button. Not usually used however, when the microprocessor (micro-computer) malfunctions, press this button using a sharp-pointed object. When this button is pressed, the unit is reset to its initial state. Therefore, all the memories and clock needs to be adjusted.

Treble switch

When this switch is set to ON, the indicator illuminates and treble control can be performed with the up/down keys. Pressing the up key increases treble, and pressing the down key decreases it.

Band selector/indicators

Selects reception band. Indicates the current receiving band.

Balance switch

When this switch is set to ON, the indicator illuminates and the balance adjustment can be performed with the up/down keys. Pressing the up key increases the volume level of the right speakers, and pressing the down key increases the volume level of the left speakers.

Manual tuning/Search switches

Press this switch in radio mode to manually tune to the station. When the ◁◁ switch is pressed, the reception frequency decreases. When the ▷▷ switch is pressed, the reception frequency increases.

During either CD play or pause, press either side of this key to search for a particular point on the disc.

◁◁ : To go backwards at high speed.

▷▷ : To skip ahead at high speed.

When setting the clock, press the ◁◁ switch to set the hour digits and the ▷▷ switch to set the minute digits.

Tuner power switch

Press to turn the tuner on. Press again to turn it off. When a compact disc is inserted during radio reception, tuner is automatically turned off. When the tuner power switch is pressed during CD play, the tuner is turned on and the compact disc is automatically stopped.
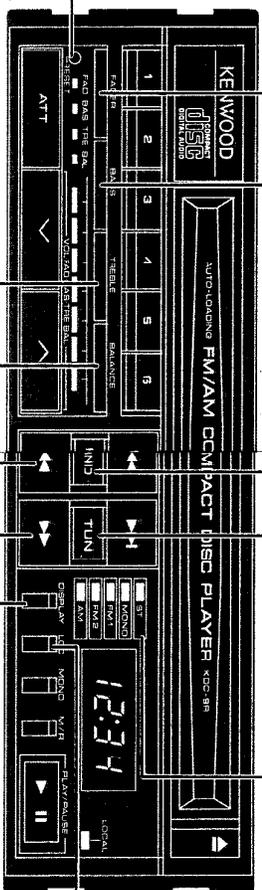
Stereo indicator

When an FM stereo broadcast with sufficient signal strength is received, this indicator illuminates.

Local switch

When this switch is ON, interference, distortion and noise is reduced in a strong signal area. When seek tuning is activated with this switch set to ON, only strong signal stations are received.

Display switch

Each time this switch is pressed in CD play mode, the display shows the track number or current time. Pressing this switch during radio reception changes the display between frequency and current time.

Disc slot

Insert a compact disc with its label surface facing up. The disc is then automatically loaded into the unit and play will start.

Preset station switches (1 – 6)

One switch can memorize one of each FM1, FM2, and AM.

Scan/Music search switch

During radio reception, press this switch for automatic scanning. When a station with a sufficient signal strength is received, the scanning stops for about 5 seconds. When you want to listen to that station, press the switch again.

During CD play, press either side of this switch to start playback at the beginning of a particular selection.

⊲⊲: To go back to the beginning of a previous selection.

⊳⊳: To skip ahead to the beginning of a later selection.

When the switch is pressed in the pause mode, the unit pauses at the beginning of the selected selection.

Attenuator switch

When this switch is pressed ON, the volume level indicator blinks and the volume drops instanteneously. When this switch is pressed again, the volume indicator lights and the previous volume resumes.
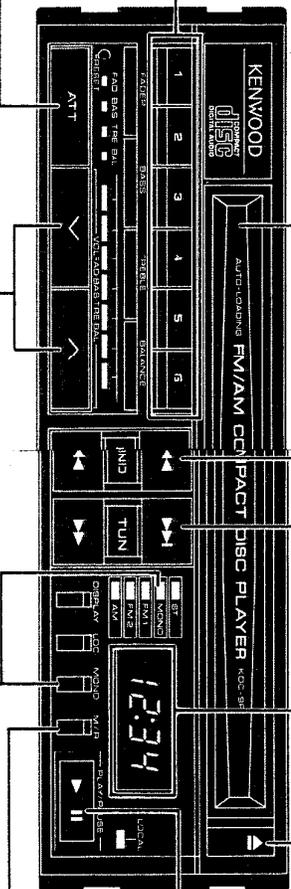
Volume up (∧)/down (∨) keys

Used for volume adjustment. These keys are also used to adjust the balance, fader, bass or treble.

Mono switch

During FM reception, press this switch if background noise makes it hard to hear the listening program. The stereo indicator in the display window will go out and the mono indicator will light up. The reception will be more sable and the noise will be reduced. In this mode, there is no stereo separation.

Display window

When the ignition key is turned on, the current time is displayed.

When the "tune" is operated, the recaption frequency is displayed. When the tuner is turned off, the current time is displayed.

When disc play is started, the track number is cisplayed. When the play/pause switch is pressed for more than 2 seconds or the eject switch is pressed during playback, the current time is displayed.

If the ⊳⊳ switch is kept pressed at the end of the disc, the indication is replaced by ----.

When the display switch is pressed during CD play or radio reception, the current time is displayed.

When the display switch is pressed again, the original display (frequency or track number) is resumed.

Eject button

Press this button to remove the disc. If the disc is ejected and left for more than 15 seconds, the disc is automatically inserted into the unit again and the unit enters the stop mode.

Play/Pause switch

When a disc is loaded, the unit automatically enters play mode and the ⊳ indicator illuminates. To suspend play temporarily, press this key. The ∎∎ indicator illuminates. When the key is pressed for more than 2 seconds during play, the disc stops rotating. To resume play, press the key again.

When the unit is left in the pause mode for about 5 minutes, the unit automatically enters stop mode.

Return/Memory switch

When this switch is pressed during CD play, the unit starts playback at the beginning of the disc. Pressing this switch in the pause mode returns the unit to the beginning of the disc and the unit will stand by in the pause mode.

Press this switch to memorize the frequency during radio reception.

■ Disc play

1 Insert a compact disc into the disc slot with the label surface facing up.
The disc is automatically loaded into the unit and play starts at the beginning of the first selection. The ▷ indicator illuminates and track number ⅰ is displayed in the display window.

2 Adjust the sound level and quality with volume, bass and treble controls.

3 If necessary, adjust the balance control and fader control to obtain a good stereo effect.

When the last selection has been played, the player will automatically go back to the beginning of the first selection and play will restart (automatic repeat function). The track number indicator shows ⅰ.

Note:
If a compact disc has already been inserted, do not try to insert another disc. Doing so may result in trouble.

■ To stop during play

To take out the disc
Press the eject switch. The disc comes out automatically. When the disc is left for more than 15 seconds, the disc is automatically loaded again and the unit enters the stop mode. When the disc is slightly inserted or the play/pause switch is pressed, the disc is loaded again and play starts form the beginning of the first selection.

To pause (temporarily) during play
Press the play/pause switch. The ‖ indicator illuminates and the unit enters the pause mode. To release the pause mode, press the key again. Play restarts from the same point.

■ How to set the clock

When the car ignition is on, the time digits are displayed on the display window.

Note:
When the unit is in radio or CD play mode, the clock cannot be set even when the display switch is pressed to set to time display. When setting the clock, make sure that the disc has been ejected and that the tuner is turned off.

How to set hour digits
Press the ◁◁ switch while pressing the memory switch.
Each time the ◁◁ switch is pressed, the hour digit is incremented.
When the switch is kept pressed, the digits are progressively advanced.

How to set minute digits
Press the ▷▷ switch while pressing the memory switch.
Each time the ▷▷ switch is pressed, the minute digit is incremented. After 59 minutes, the indication returns to 00. When the key is kept pressed, the digits are progressively advanced.

■ To reset to the beginning of the first selection

Press the return/memory switch.
When the switch is pressed during play, play restarts from the beginning of the first selection.
During pause mode, the unit stands by at the beginning of the first selection.

If the ignition key is turned OFF during play and is set to ON or the accessory position more than 15 seconds afterwards, the unit will enter the stop mode.

Sound skip
When you are driving on a very rough road, the sound may skip intermittently.
This is inevitable and will not cause damage to the machine or cause, disc scratches, etc.
When you return to good road conditions, you will enjoy superb sound.

Beep signal
When the power is supplied or a key is pressed, a beep signal sounds. When the signal tone is not necessary, press the ◁◁ switch for more than 2 seconds while pressing the return/memory switch.
To resume the beep signal, press the ▷▷ switch for more than 2 seconds while pressing the return/memory switch.

Note:
The beep signal of the fader, bass, treble, balance, attenuator and the volume up/down controls cannot be stopped.

An important point to remember
In the CD system, a wider dynamic range is achieved than that of the conventional analog system, and the peaks or high level inputs are recorded with high-fidelity. In addition, the noise level is very low.
If you turn up the volume inadvertently while listening to a portion where no audio signals of very low level inputs are recorded, the speakers may be damaged when the portion with peak levels is played.

■ To search for a particular selection
— Music search function

Using the music search switch, you can quickly locate a desired selection ahead or behind during either play or pause. The display window shows the track number of the selection being searched for.

To search for a previous selection

Press the ⋘ switch during play or pause.

When the ⋘ switch is pressed once, the beginning of the selection being played is searched for.

When the key is repeatedly pressed, the previous selection is searched for.

Press the ⋘ switch repeatedly until the desired music number is displayed.

If you press the ⋘ switch after the first selection is located, the track number indication will not change.

To search for a selection ahead

Press the ⋙ switch during play or pause.

When the ⋙ switch is pressed once, the next selection after that being played is searched for.

When the key is repeatedly pressed, the selection ahead of the next one is searched for.

Press the ⋙ switch repeatedly until the desired music number is displayed.

If you press the ⋙ switch after the last selection is located, the track number indication will not change.

■ To search for a particular point in a selection
—Search selection

Using the search switch, you can locate a particular point of a selection during play or pause. While one side of the search switch is pressed, the disc playing goes ahead or back. Release the key at the desired point found by observing the display window or monitoring the high-speed sound (only during play).

Manual tuning/Search switch

To go back at a high speed.   To go ahead at a high speed.

What is this indication?

This indication is displayed when you have passed the end of the disc by keeping the ⋙ switch pressed. The indication returns to normal display when the ⋘ switch or ◁◁ switch is pressed.

When the ◁◁ switch is kept pressed at the beginning of the disc., the track number will not change.

■ Manual tuning

1. Turn the tuner power ON. (Press the tuner power switch.)
2. Select the required band.
3. Using the manual tuning switch, tune in to the required station frequency. Tap the switch once to vary the frequency one step, hold the switch to vary the frequency continuously.

■ Auto tuning (scan)

1. Turn the tuner power ON. (Press the tuner power switch.)
2. Select the required band.
3. Press the scan switch.

Press the ⋙ switch to scan the higher frequencies and press ⋘ switch to scan the lower frequencies. When a signal of sufficient strength is received, the scanning stops for about 5 seconds. To listen to the scanned station, press the scan switch again.

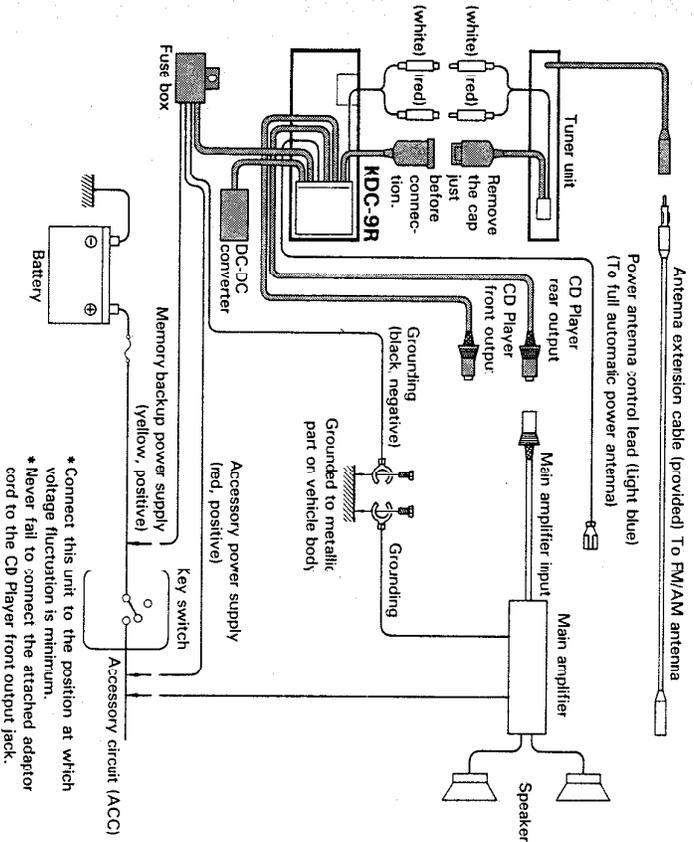## ■ How to store the selected station frequency in the memory

1. Turn the tuner power ON.
2. Receive the desired station.
3. Press the Memory switch. The displayed frequency flashes for about 5 seconds.
4. While the displayed frequency is flashing, press the channel key to store the received station frequency.

Connection

- For connection to the speaker, see the operation manual for your main amplifier.

- Connect wires by following the steps below.
  1. Connect the grounding wire first.
  2. Connect the input and output cords for the system.
  3. Connect the backup power supply.
  4. Connect the accessory power supply.
- When the wires and cords have been connected correctly, press the RESET button.

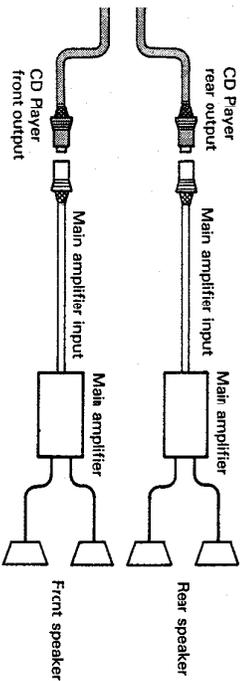## • Direct connection to main amplifier

KDC-9R

Tuner unit

Fuse box

Remove the cap just before connection.

DC-DC converter

Battery

Memory backup power supply (yellow, positive)

Key switch

Accessory power supply (red, positive)

Accessory circuit (ACC)

* Connect this unit to the position at which voltage fluctuation is minimum.
* Never fail to connect the attached adaptor cord to the CD Player front output jack.

Grounding (black, negative)

Grounded to metallic part on vehicle body

Grounding

CD Player front output

CD Player rear output

(white) (red)

(white) (red)

Antenna extension cable (provided) To FM/AM antenna

Power antenna control lead (light blue) (To full automatic power antenna)

Main amplifier input

Main amplifier

Speaker

- Before making the connection, remove the cap attached to the plug-jack section of the square-type (box-type) connector. This connection should be used between the main unit and the tuner of this unit. Furthermore, do not touch the connector directly with your hand.
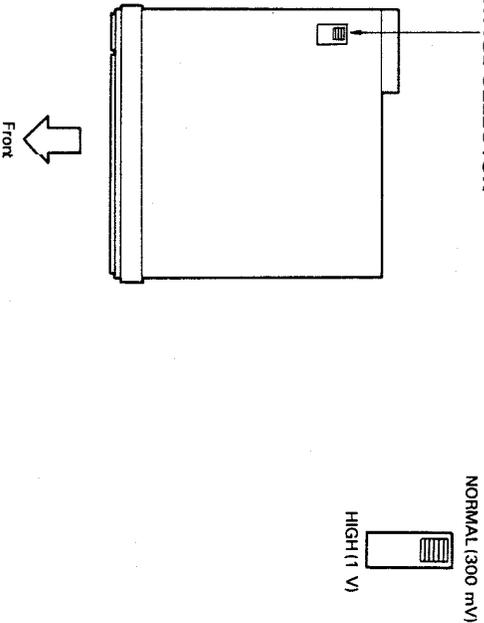
14 (En)

• Connection of two main amplifiers

CD Player rear output

CD Player front output

Main amplifier input

Main amplifier input

Main amplifier

Main amplifier

Front speaker

Rear speaker

- If the fuse blows, check to see if there is a short circuit in the wiring, then replace the fuse as shown in the drawing below.

Fuse 3 A

Fuse 3 A

- When listening with the cassette tuner/cassette receiver, stop the CD Player.

PREAMP OUTPUT VOLTAGE SELECTOR

Front

NORMAL (300 mV)

HIGH (1 V)
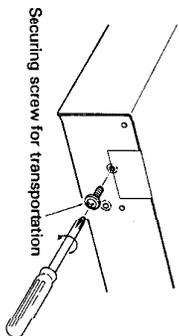
(En) 15

Securing screw for transportation

Before starting installation, remove the securing screw for transportation at the rear of the CD Player. Store t in a safe place because you may wish to use it to transport the CD Player later.
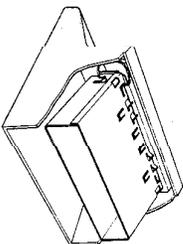
Securing screw for transportation

Mounting angle

The CD Player has a built-in anti-vibration mechanism to protect the CD Player from vibration caused by uneven road surfaces while the vehicle is running. Mount the CD Player horizontally so that the anti-vibration mechanism may function normally. If the CD Player is to be left tilted, the tilt angle should be less than 20°.
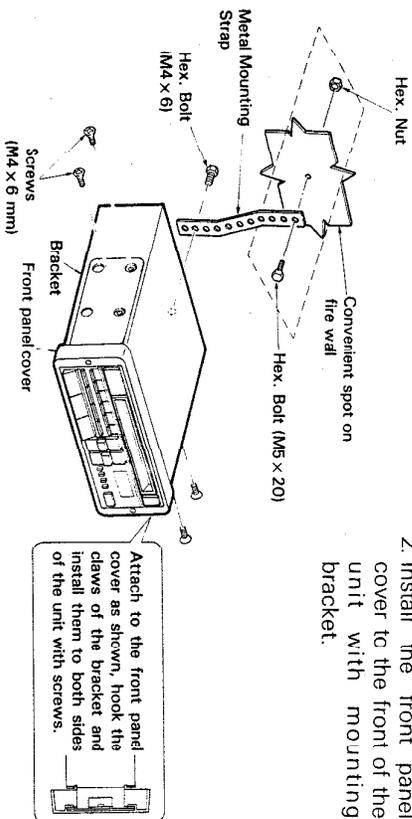
Installation

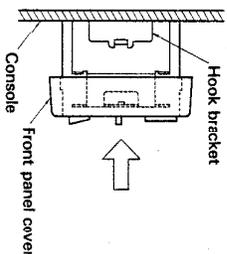• Use screws supplied as accessories when installing the unit.

1. Insert the mounting case into the console and bend the claws to secure it.

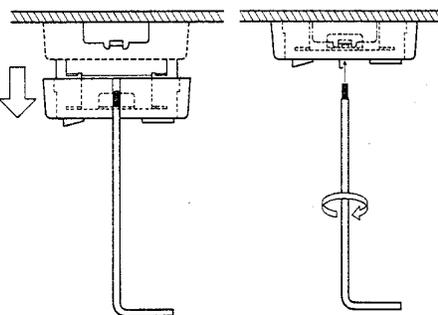2. Install the front panel cover to the front of the unit with mounting bracket.

Hex. Nut

Convenient spot on fire wall

Hex. Bolt (M5 × 20)

Metal Mounting Strap

Hex. Bolt (M4 × 6)

Screws (M4 × 6 mm)

Bracket

Front panel cover

Attach to the front panel cover as shown, hook the claws of the bracket and install them to both sides of the unit with screws.

16 (En)

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3. Insert the unit into the mounting case.

Hook bracket

Console

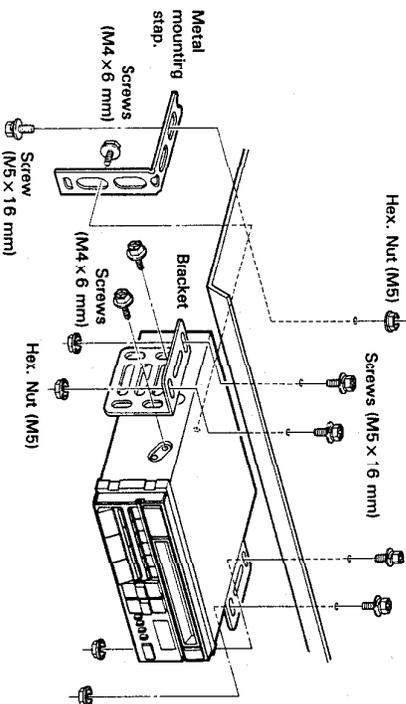Front panel cover

<Removing unit>

1. Screw in the handles to the center holes in both sides of the front panel cover.

2. To pull out the unit, grasp by the handle.
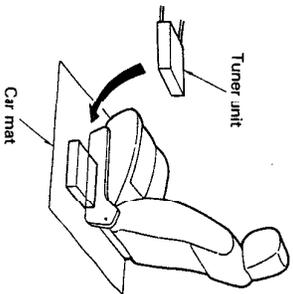
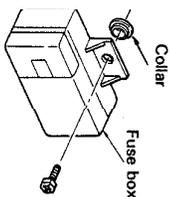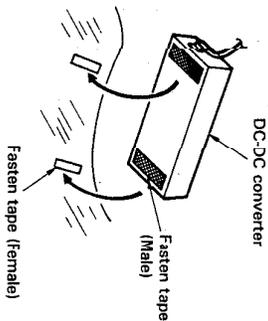## Under-dash installation

CAUTION!

• Use screws supplied as accessories when installing the unit.

Hex. Nut (M5)

Screws (M5 × 16 mm)

Metal mounting strap.

Screws (M4 × 6 mm)

Bracket

Screws (M4 × 6 mm)

Screw (M5 × 16 mm)

Hex. Nut (M5)

(En) 17

- Install the fuse box and DC-DC converter connected to the rear of the unit with cable with the supplied mounting angle and fasten tape so that they do not disturb driving.

DC-DC converter

Fasten tape
(Male)

Fasten tape (female)

Tuner unit

Collar

Fuse box

Car mat

- Install the DC-DC converter away from the KDC-9R and tuner unit.

- If the mounting position is made of steel or plastic, stick the supplied fasten tape (female) here.

- When installing the fuse box and DC-DC converter on the carpet, secure them to the carpet with the fasten tape (male) stuck onto the unit.

These specifications and design are subject to change without notice for the purpose of technical improvements.

FM Tuner Section

Frequency Range	87.9 MHz ~ 107.9 MHz
Channel Space	200 kHz
Usable Sensitivity	12.0 dBf (1.3 μV/75 ohms)
50 dB Quieting Sensitivity	18.0 dBf (2.2 μ7f ohms)
Frequency Response (± dB)	30 Hz ~ 15 kHz
Signal to Noise Ratio (IEC-A)	73 dB
Alternate Channel Selectivity	80 dB
Capture Ratio	1.5 dB
Image Response Ratio	70 dB
IF Response Ratio	75 dB
Stereo Separation (1 kHz)	40 dB

AM Tuner Section

Frequency Range	530 kHz ~ 1620 kHz
Channel Space	10 kHz
Usable Sensitivity	29 dBμ

Disc Section

D-A Conversion	16 bit linear
Spindle Speed	500 ~ 200 rpm (CLV)
Frequency Responce	5 Hz ~ 20 kHz ± 1.0 dB
Wow & Flutter	Below Measurable limit
T.H.D.	0.005% (1 kHz)
Dynamic Range	90 dB
Signal to Noise Ratio	90 dB
Channel Separation	85 dB
Laser Diode Properties	
Material	GaAlAs
Wavelength	780 nm
Emission Duration	Continuous
Laser Output	Max. 0.4 mW*

* This output is the value measured at a distance of about 1.6 mm from the objective lens surface on the Optical Pick-up Block.

Audio Section

Tone Action (Bass)	100 Hz ± 10 dB
(Treble)	10 kHz ± 10 dB
Freamp Output	300 mV/10 k ohms load (Normal)
Freamp Output	1 V/10 k ohms load (High)

General

Operating Voltage	14.4 V (11 - 16 V allowable)
Current Consumption (MAX)	1.0 A
Body Size (Main Unit)	180×50×145 mm (7-1/16×2×5-3/4 in.)
(Tuner Unit)	180×25×135 mm (7-1/16×1×5-5/16 in.)
Weight (Main Unit)	2.2 kg (4.8 lb)
(Tuner Unit)	0.7 kg (1.5 lb)