

KRC-960

INSTRUCTION MANUAL

KENWOOD CORPORATION

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 cassette-tuner.

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 the product.

Model KRC-960 Serial number _______

©PRINTED IN JAPAN 864-0235-00 (K) (MC) 94/12 11 10 9 8 7 6 5 4 3 2 1 93/12 11 10 9 8 7 6 5 4 3 2 1

SAFETY PRECAUTIONS

▲WARNING

To prevent fire and avoid personal injury in case of accidents

- Make sure the faceplate is securely locked in place.
- When extending the power supply, memory backup or ground lead, avoid short circuits by using 0.75mm² (AWG 18) or larger automotive grade cable.
- Check to be sure that no metal objects (tools, needles, coins) are left inside the unit.
- If you smell or see smoke, disconnect the unit immediately and consult your KENWOOD dealer. Continued use can cause a fire or permanent damage to the unit.

FCC WARNING

This equipment generates and uses radio frequency energy. Changes or modifications other than those expressly approved in the instruction manual may cause interference with radio and television reception. Unauthorized changes may lead to the user's loss of the authority to operate this equipment.

ACAUTION

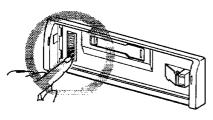
To keep the unit in proper working order

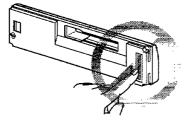
- Be sure it's connected to a 12V DC power supply with a minus ground connection.
- Do not open front panel or top or bottom cover.
- Do not expose this unit to direct sunlight or high heat.
- Keep it clean and dry.
- Be sure it is fastened securely and not exposed to excess vibration.

ACAUTION

This unit is equipped with a theft deterrent faceplate. To prevent damage to the faceplate and case

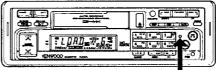
- Avoid exposure to direct sunlight and heat. High temperatures can cause deformation and warping.
- Avoid exposure to water.
- The faceplate is a high-precision instrument. When the faceplate is detached, store it in its special case. Never drop it or subject it to other shocks.
- Do not touch the faceplate terminal or faceplate mount with your fingers.





NOTE

- If you have difficulty in installing this unit in your vehicle, please contact your KENWOOD dealer.
- If it doesn't seem to be working properly, first press the Reset button.
 If the malfunction persists, consult your KENWOOD dealer.



Reset buttor

Be careful with your tapes

- Before loading a cassette, check for slack tape. If the tape is slack, use a pencil to turn one of the spools in the cassette shell to tighten it up. Playing a slack tape can cause tape to tangle and other problems.
- Do not leave cassettes exposed to direct sunlight, high heat, or moisture. These can deform the cassette shell and make it impossible to eject.
- Avoid use of 120-minute tapes. These tapes are thin and easily become tangled.

CARE AND MAINTENANCE

Cleaning

- 1. Always turn the power OFF before cleaning.
- Wipe the front panel and other exterior surfaces with a soft dry cloth or a soft cloth lightly moistened with a neutral detergent.

ACAUTION

 DO NOT use abrasive pads or paint thinner, benzene, or other volatile solvents. These may remove the indicator characters.

Head cleaning

As you listen to cassettes, magnetic dust and other grime accumulates around the heads and eventually causes noise that lowers sound quality. To clean the heads use a cleaning tape or cleaning kit. Both can be purchased at audio specialty or recorded music shops. Make sure you purchase a kit suited to car audio use.

Cleaning the faceplate terminal

If the faceplate terminal or faceplate mount terminal become dirty, wipe them clean with a soft, dry cloth.

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FFATURES

■ TUNER FEATURES

- Auto seek tuning (p.10) Automatically searches for stations you can receive.
- Preset stations (p. 15) Stores the frequencies of your favorite stations in memory, for one-touch tuning.
- Auto memory (p.16) Automatically stores the strongest stations you can pick up, for one-touch tuning.
- Priority preset (p.17) This feature allows instant one-touch access to a station you often listen to (for news, traffic information, etc.), regardless of your tuner's operating mode.
- Local scan (p.12) When this feature is turned on, it combines scanning and Auto Memory and presets only strong stations offering good reception.

■ CASSETTE PLAYER FEATURES

- Auto tape type selection (p.14) Determines whether the tape you insert is a metal/chrome or normal tape and sets the tape position accordingly.
- Direct program search (p. 18) This function lets you select tracks up to 9 positions before or after the one you are playing.
- To scan (p.19) Automatically plays the first part of each track on the tape in sequence, to help you find the one you want.
- To repeat (p.20) Allows you to play the same track repeatedly.
- To skip blank (p.21) When the player detects a blank section longer than 10 seconds, it automatically fast forwards to the start of the next track.
- Tuner call (p.22) Allows you to listen to the tuner while rewinding or fast forwarding a cassette.

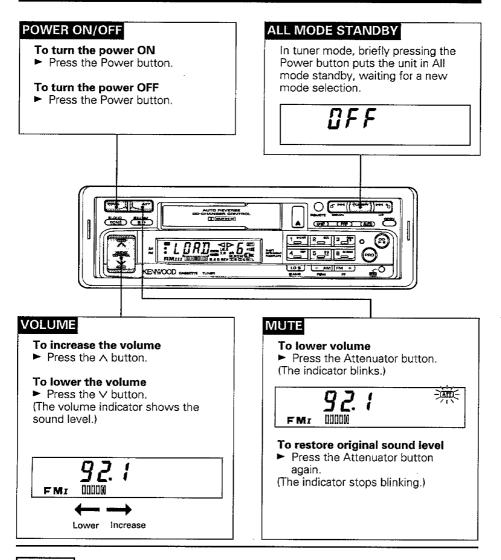
■ CD AUTO CHANGER FEATURES

- · CD auto changer control (p.23~29) Controls operations of the CD autochanger,
- Track repeat (p.25) Plays the same track repeatedly.
- Disc repeat (p.25) Plays the same disc repeatedly.
- Track scan (p.26) Automatically plays the first part of each track on the disc in sequence, to help you find the one you want.
- Disc scan (p.27) Automatically plays the first part of each disc in the CD auto changer, to help you find the one you want. Especially helpful when you cannot remember the number of the disc you want.
- Random play (p.28) Plays the tracks on a CD in random order.
- Magazine random play (p.29) Plays discs and tracks of discs in your auto changer in random order.

■ CONVENIENT FEATURES

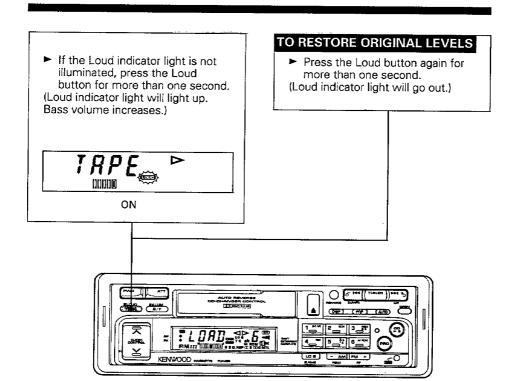
- Remote control (p. 30~31) Requires optional KCA-R2 remote controller
- Selectable illumination (p.36) Allows illumination color to be switched between green and orange.
- Selectable display type (p.37) Lets you change the display from negative to positive or vice-versa.
- Clock display (p. 38) Displays the time in the display window.
- Phone interface (p.39) Pauses the player automatically whenever a call is received.
- Theft deterrent faceplate (p. 40) When you leave the vehicle, you can take the faceplate with you, to help prevent theft.
- Channel band selection (p.41) Allows you to switch bands between FM:200kHz/AM:10kHz and FM:50kHz/AM:9kHz.
- Mute (p. 8) Lets you quickly lower and restore volume with one-touch ease.
- Automatic illumination Causes the display panel to light up when the vehicle's lights are on. When the faceplate is not installed, the lamp on the installation block lights up to facilitate the mounting.
- Dimmer control Automatically dims the display when interior lights are turned on.

ON/OFF, ALL MODE STANDBY & VOLUME CONTROLS

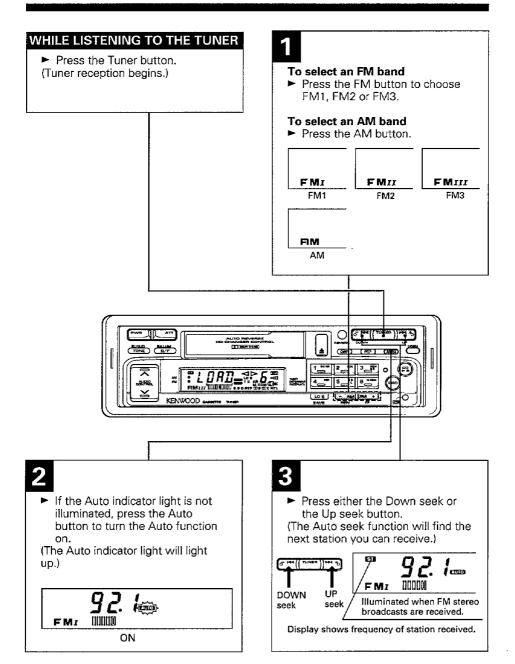


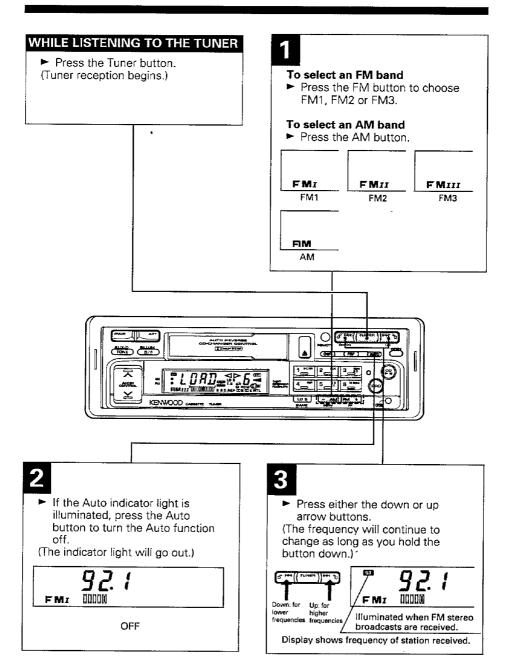
NOTE

- Turning the power ON automatically restores the settings in use when the unit was turned OFF.
- · Perform these operations with the power ON.

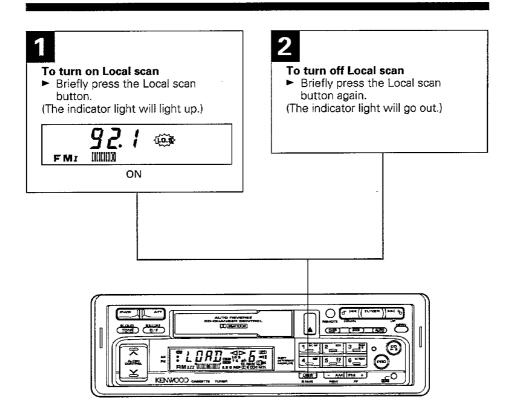


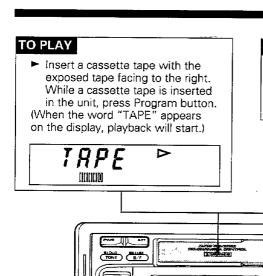
AUTO SEEK TUNING





LOCAL SCAN TUNING





TO STOP AND EJECT

Press the Eject button. (The player will eject the cassette.)

TO FAST FORWARD/REWIND

Operation	Press
Fast-forward	FF
Rewind	REW

To stop, press the Program button.

TO SWITCH SIDES

Press the Program button. (The player will play the reverse side.)

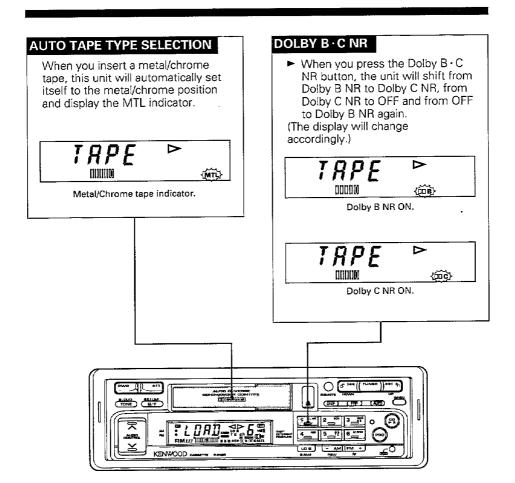
TAPE PLAY INDICATORS

When you insert the cassette with side A up.

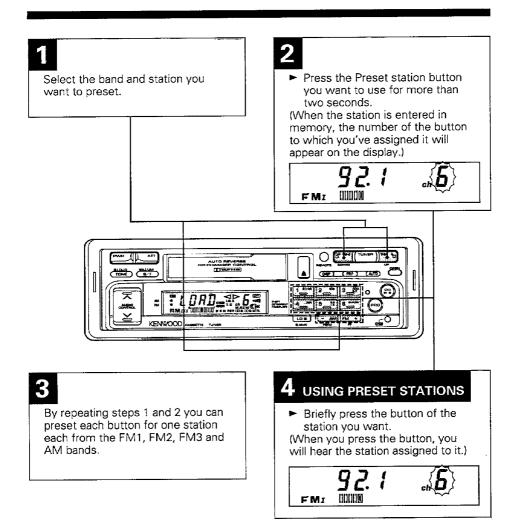
Please note: If side B is up, the indicators will be reversed.

Indicator	Tape side playing
\triangleright	Side A
□ □ □	Side B
	The tape is stopped. The player is in another mode.

AUTO TAPE TYPE SELECTION/DOLBY B·C NR



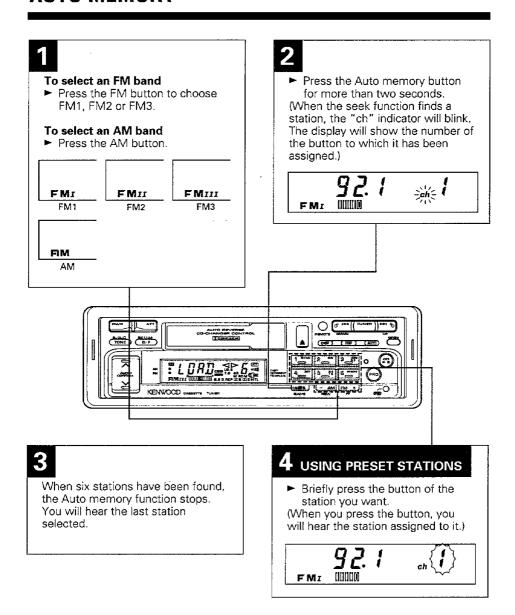
PRESET STATIONS



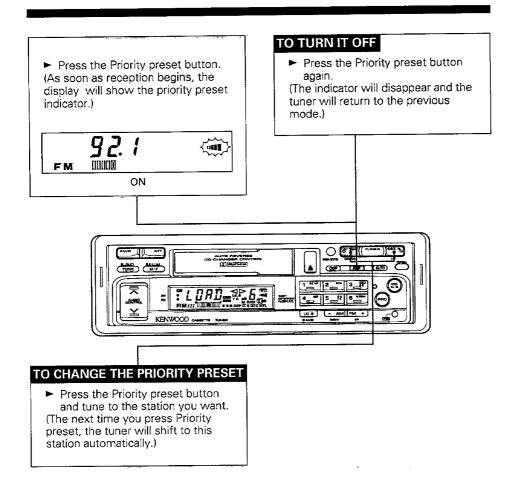
NOTE

When you assign a preset station to a button, the previous setting will be erased.

AUTO MEMORY



PRIORITY PRESET



NOTE

Only seek and manual tuning can be used in Priority preset mode.

DIRECT PROGRAM SEARCH

1 SKIP BACKWARD

Press the I◄◄ button as many times as the number of tracks you want to skip. The display will show the numbers of the tracks you skip.

For example:



.....When you press once, starting with your present



...When you press four times, starting with your present track.

1 SKIP FORWARD

Press the ►►I button as many times as the number of tracks you want to skip. The display will show the numbers of the tracks you skip.

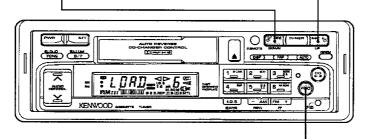
For example:



.....When you press once, starting with your present track.



.....When you press five times, starting with your present track.



2

Skipping stops and playback starts from the track you have selected.

TO STOP DIRECT PROGRAM PLAY

► Press the Program button.

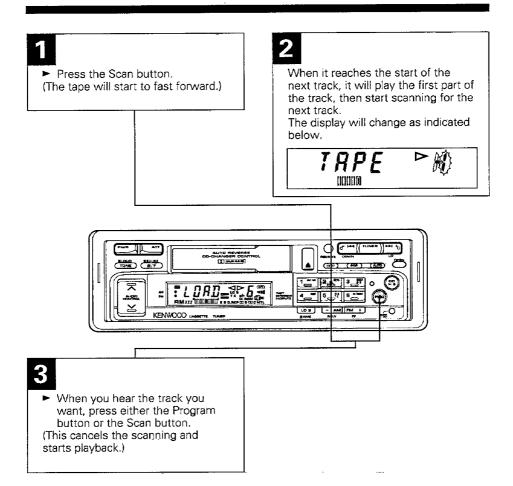
NOTE

In the following cases, this function may not work as described.

- If the blank space between tracks is less than four seconds, preventing the player from detecting the break.
- If the volume is low for more than four seconds, causing the function to detect a break.

If you press the I◄◀ button within three seconds after a track starts playing, the previous track will be counted as the 0 track.

18 Cassette player features

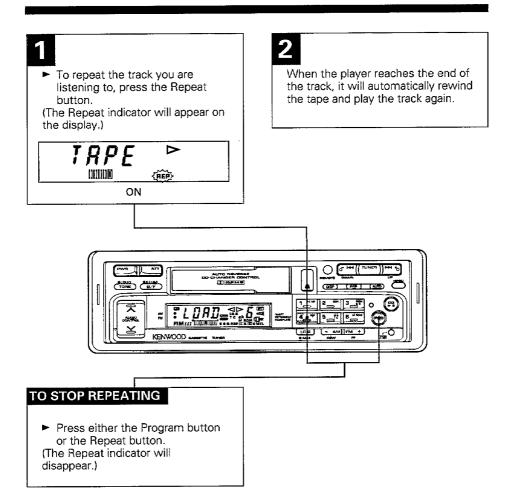


NOTE

In the following cases, this function may not work as described.

- If the blank space between tracks is less than four seconds, preventing the player from detecting the break.
- If the volume is low for more than four seconds, causing the function to detect a break.

TO REPEAT

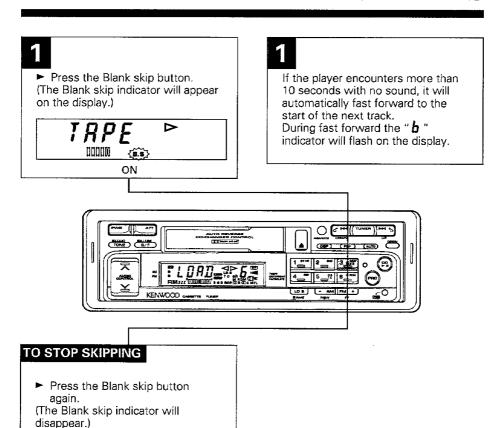


NOTE

In the following cases, this function may not work as described.

- If there is not at least a four second break before the start of the track you are listening
 to, the player may not be able to rewind the tape properly.
- If the volume is low for more than four seconds, it may cause the player to start rewinding before the track is finished.

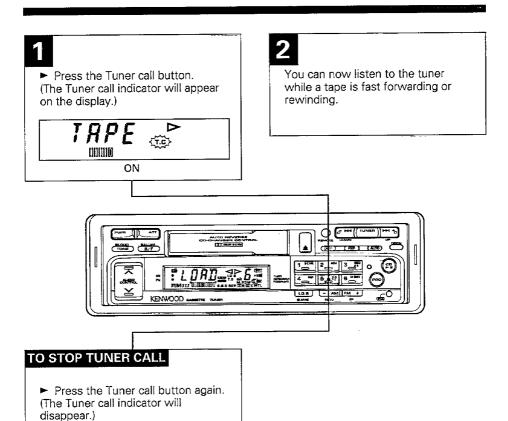
TO SKIP BLANKS



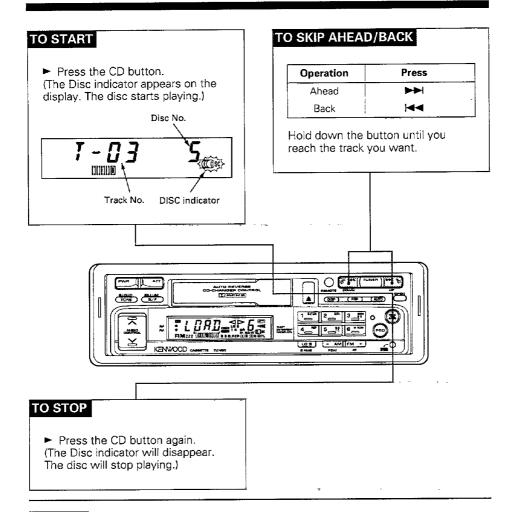
NOTE

• In some forms of music pauses longer than 10 seconds may be expected. (Classical music is a good example.) In this case, please turn the Blank skip function off.

TUNER CALL



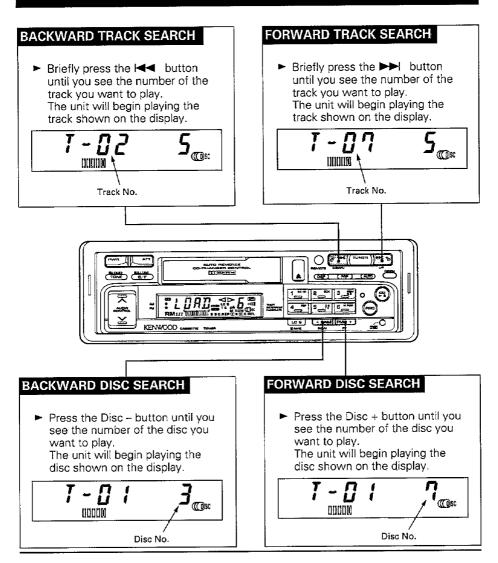
TO PLAY COMPACT DISCS



NOTE

- When the player reaches the end of the last track on the disc you are playing, it will shift automatically to the first track on the next disc in order.
- · When you change the discs in the autochanger, the Load indicator will appear on the display.
- "0" indicates the No. 10 disc.

TRACK/DISC SEARCH



NOTE

- If you try Backward track search while playing track No. 1, the player will resume play
 at the start of track No. 1.
- If you try Forward track search while playing the last track on a disc, nothing will happen.

TRACK/DISC REPEAT

TO START TRACK REPEAT

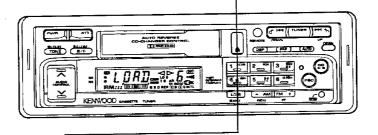
► Press the Repeat button. (The Repeat indicator will appear on the display, and the player will repeat the track you are playing until vou cancel repeat.)



TO START DISC REPEAT

Press the Repeat button twice. (To use Track repeat function, press the Repeat button once.) (The Disc repeat indicator will appear on the display, and the player will repeat the disc you are playing until you cancel repeat.)

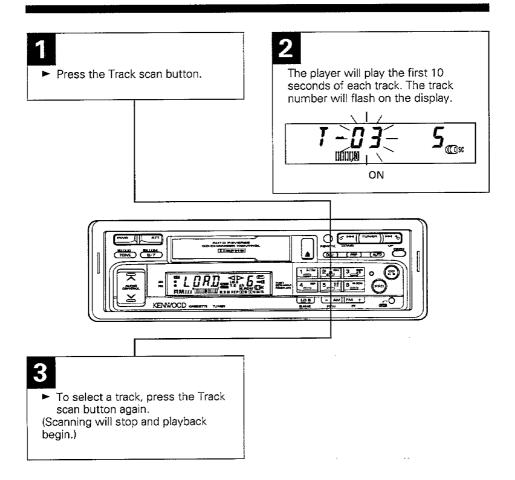




TO STOP

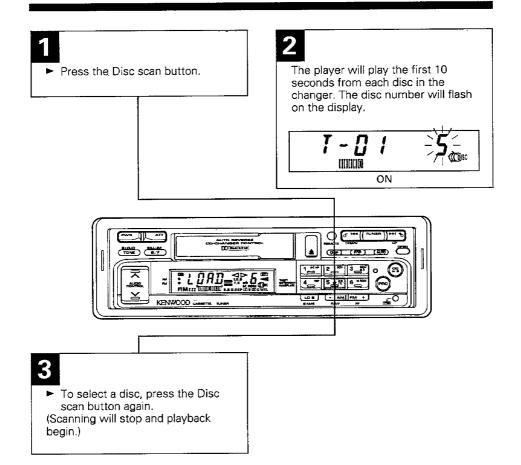
Press the Repeat button again. (To use Track repeat function, press the Repeat button twice. To use Disc repeat function, press the Repeat button once.) (The Disc repeat indicator will disappear.)

TRACK SCAN

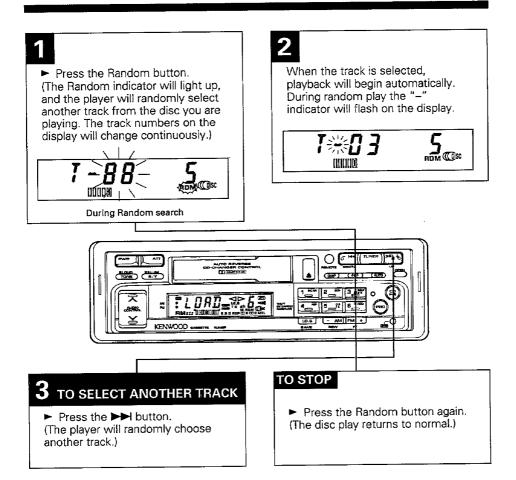


NOTE

• The Track scan function will repeatedly play the beginnings of all the tracks on a disc until you select the track you want to play.



RANDOM PLAY



NOTE

 When all the tracks on a disc have been played, the player will randomly select the next disc.

MAGAZINE RANDOM PLAY



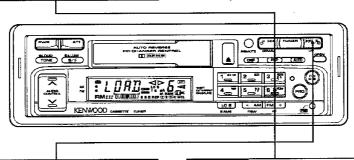
► Press the Magazine random button.

(The Magazine random indicator will light up, and the player will randomly select a disc and track from the magazine in the changer. The track numbers and disc numbers on the display will change continuously.)



When the search is complete, playback will begin automatically. During magazine random play the "-" indicator will flash on the display.





3 TO SELECT ANOTHER TRACK

► Press the ►► button. (The player will randomly choose another disc and track.)

TO STOP

 Press the Magazine random button again.

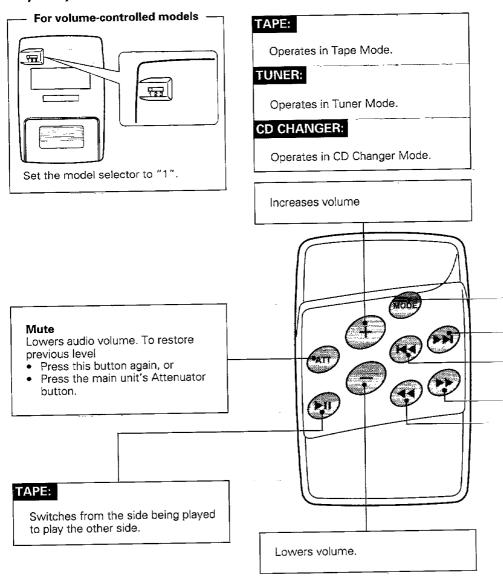
(The disc play returns to normal.)

NOTE

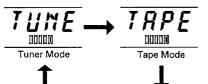
• This function is not available if you use the KDC-C100/C200/C300/C400/C301/C401 as the CD auto changer.

HOW TO OPERATE THE OPTIONAL KCA-R2 REMOTE CONTROL

■ The optional KCA-R2 wireless remote control unit can be used to control your system as follows:



Switches mode to Tape, Tuner, CD Changer, or All Mode Standby. The display shows the current mode.



All Mode Standby

CD-changer Mode

TAPE:

Plays the next track.

TUNER:

Shifts to higher frequency.

CD CHANGER:

Plays the next track.

TAPE:

Plays the previous track.

TUNER:

Shifts to lower frequency.

CD CHANGER:

Plays the previous track.

TAPE:

Rewinds the tape.

TUNER:

Switches to AM bands.

CD CHANGER:

Plays the previous disc.

TAPE:

Fast forwards the tape.

TUNER:

Switches to FM1/FM2/FM3 bands.

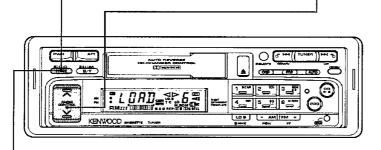
CD CHANGER:

Plays the next disc.

TONE CONTROLS

► To select Bass, Mid-Bass, Treble, or return to volume, briefly press the Tone button until the function indicator appears on the display.

Use the control button to adjust the level of the function you've chosen (For details, see the table on page 33).



PLEASE OBSERVE

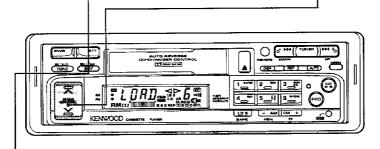
If you press the Tone button for more than one second, or do nothing for five seconds, the control returns automatically to the Volume setting.

Display	Tone Control Operation	
	Press the ∨ button	Press the ∧ button
To adjust Bass		
Bass Weaker Flat Bass stronger	Bass weaker	Bass stronger
To adjust Mid-Bass		
Mid-Bass weaker ← : M: → Mid-Bass stronger	Mid-Bass weaker	Mid-Bass stronger
Treble weaker Flat	Trebie weaker	Treble stronger

BALANCE/FADER CONTROL

► To select Balance/Fader, or return to volume, briefly press the Balance/Fader button until the function indicator appears on the display.

Use the control button to adjust the level of the function you've chosen (For details, see the table on page 35).



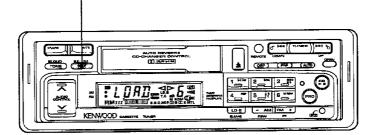
PLEASE OBSERVE

If you press the Balance/Fader button for more than one second, or do nothing for five seconds, the control returns automatically to the Volume setting.

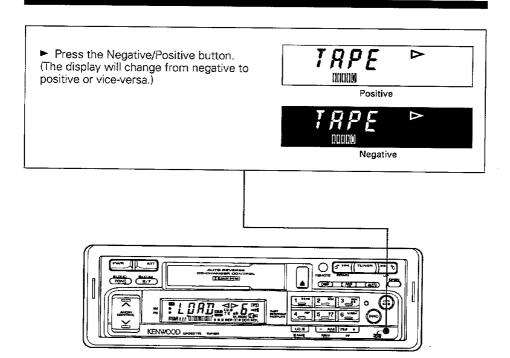
Display	Balance/Fader Control Operation	
Display	Press the ∨ button	Press the ∧ button
To adjust Right/Left Channel Balance		
BAL FMr Left stronger ← □ → Right stronger	Left channel stronger	Right channel stronger
To adjust Front/Rear Channel Balance FRI FMI Rear stronger Flat Front stronger	Rear channel stronger	Front channel stronger

SELECTABLE ILLUMINATION

► Press the Illumination button for more than one second. (The illumination will change from green to orange or vice-versa.)



SELECTABLE DISPLAY TYPE



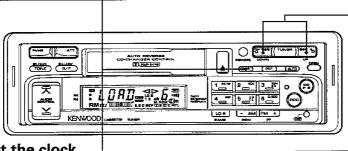
CLOCK DISPLAYS/SETTING

■ Displays change like this

► Pressing the Display button changes displays as indicated to the right.

Time Display (A dot appears beside the PM or AM indicator.)

Mode	Displays	
Tuner	Frequency ⇔ Time	
Tape	"TAPE" ⇔ Time	
CD Changer	Track Number ⇔ Time	
All Mode Standby	"OFF" ⇔ Time	



■ To set the clock

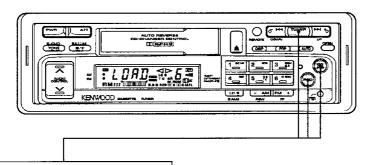
► If the time is not being displayed, press the Display button.

➤ While holding down the Display button, press I◀◀ to change the hour and ▶►I to change the minute.

PHONE INTERFACE

Connect the phone interface lead. (See. p. 45).

When a telephone call is received, the display shows CALL, and the current function pauses.



► To resume use of the previous function, restart by pressing any other button.

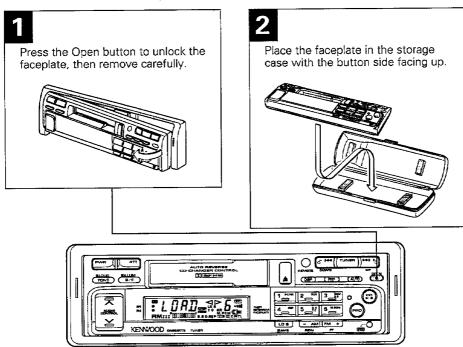
(The Call indicator will disappear.)

NOTE

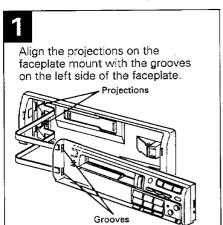
• This function does not start operating for 10 seconds after turning the ignition ON.

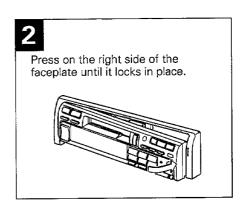
THEFT DETERRENT FACEPLATE

■ To remove the faceplate

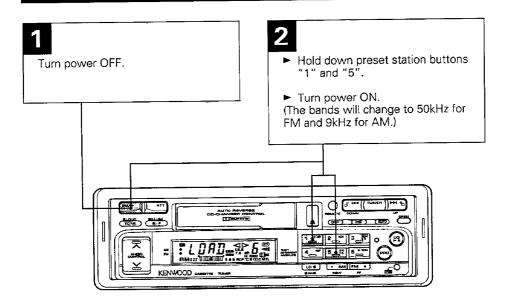


■ To install the faceplate





CHANNEL BAND SELECTION



Repeating steps 1 and 2 will change the bands back to 200kHz for FM and 10kHz for AM.

NOTE

- When the bands are changed, all memory settings will be erased.
- This feature is not used in the United States and Canada.

ACCESSORIES

Part Name	External View	Number of Items
Mounting case		1
Power cord		1
Metal mounting strap	@0000000000000000000000000000000000000	1
Removal tool	0 1	1
Assembly screw with washer (M4×8)		1
Machine screw (M5×6)		4

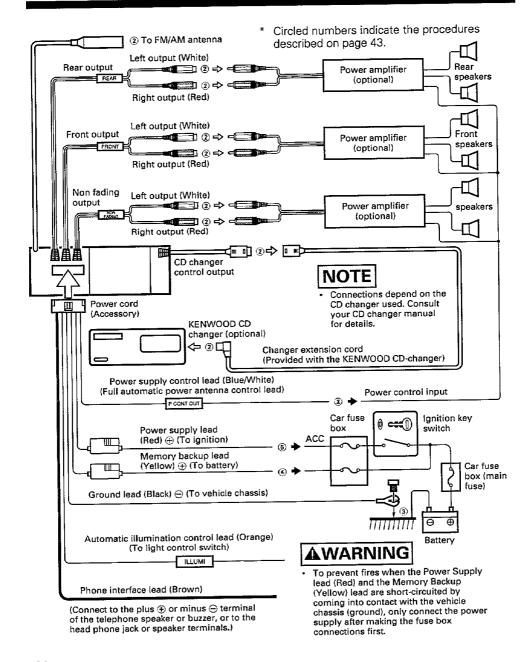
INSTALLATION PROCEDURE

- Before starting installation, disconnect the negative (-) terminal of the battery. This will
 prevent short circuits.
- 2. Connect the Input and Output leads (p.44).
- 3. Connect the Ground lead (Black) to the metal body of the car. (**p.44).
- 4. Connect the Memory backup lead (Yellow) (PPp.44).
- 5. Connect the Power supply lead (Red) (@p.44).
- 6. Install the unit in the car (map.46).
- 7. Connect the negative (-) terminal of the battery.
- 8. Press the Reset button.

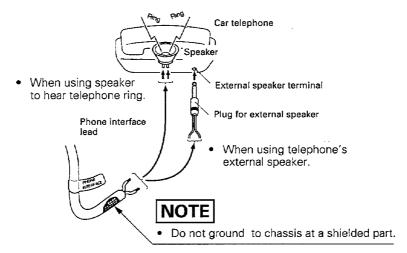
ACAUTION

- A short circuit may cause a blown fuse. A short circuit is a serious problem that could
 also cause a fire. Check the wiring carefully and, if any wires are short-circuited, rewire
 immediately. If no short-circuits are found, replace the fuse with one having the same
 rating (see indication in fuse box).
- Check that no unconnected wires or connectors are in contact with the body of the car. Extraneous noise or current entering the system can cause malfunction or damage.

CONNECTIONS

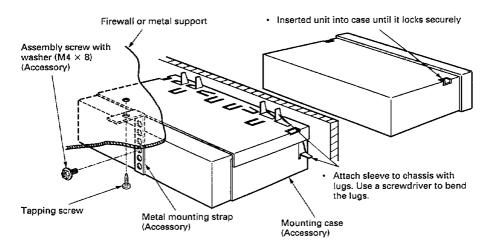


■ Example of telephone interface connection

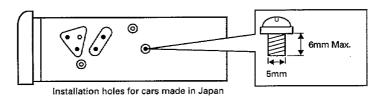


^{*}Be sure to use a shielded cable.

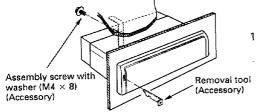
■ Using the Metal mounting strap



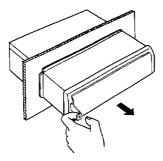
■ When installing in some cars made in Japan, Machine screw (M5 × 6) screws into the four holes indicated below.



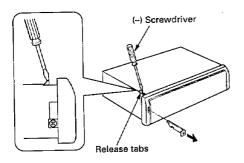
■ To remove the unit



1. Remove the assembly screw and washer holding on the back panel. Then insert removal tool into slot.



2. Use the removal tool to pull out the unit.



3. While using a screwdriver to press down the release tabs on the side of the chassis, pull out the removal tool.

TROUBLESHOOTING GUIDE

Often, what appears to be a malfunction is due to user error. Before calling for service, please consult the following table.

Symptom	Cause	Remedy
No sound from one channel.	The balance/fader control is turned all the way to one side.	Adjust the balance/fader control.
Poor reception.	The antenna is not extended.	Extend the antenna.
Sound quality is poor.	The tape head is dirty.	Use a head cleaning kit to clean head.
Controls do not function properly.	A power surge has caused the problem.	Press the Reset button on the front panel.
The phone interface isn't working.	The phone interface lead is not connected properly.	Reconnect it, following the instructions provided.
Phone interface signals "CALL" when no call has been received.	The phone interface lead is short- circuited; it may be worn or the cap at the tip may be missing.	Rewire, ensuring that there are no short circuits.
The tuner cannot be operated in the modes other than the Auto seek tuning and the Manual seek tuning.	The tuner is set to the Priority preset mode.	Cancel the Priority preset mode.

■ When the KENWOOD CD Changer is part of your system

Symptom	Cause	Remedy	
CD play does not start.	Power button is not set at ON.	Turn power button ON, then press the CD button.	
The specified disc is not played; the next disc is played instead.	 The specified disc is dirty The disc is upside down. Two discs are in the same position. The disc you want is in a different position from that indicated by the number you specify. The disc is scratched or seriously damaged. 	 Clean the disc. Eject magazine and reinsert disc right side up. Eject magazine and reposition the discs. Eject magazine to check disc and position numbers, then specify again. Play other discs. 	
No sound is heard even though the changer indicator appears on the display.	Volume is set to minimum level. The microprocessor is not operating correctly. The system is not properly connected.	Raise the volume level. Press the Reset button. Check connections and reconnect if necessary.	
The specified track is not played.	The player is set to RANDOM PLAY.	Turn off RANDOM PLAY.	

In some cases, you may see one of the following error messages on your unit's display:

- E-01: No disc magazine in changer, or magazine is not inserted properly.
- E-02: No discs in disc magazine.
- E-04: Disc is too dirty. There is water on the disc. The disc is upside down.
- E-99: Incorrect operation. ⇒ Press the Reset button. If the "E-99" message does not disappear, contact your nearest KENWOOD service agent.
- **E-0d:** When the temperature exceeds 60°C, a protection circuit will stop all operations. This error message will then appear.
 - ⇒ As soon as the space where the changer is located cools off, this message will disappear automatically. If this message appears frequently, you should think about putting the changer in another location.

SPECIFICATIONS

Specifications subject to change without notice.

FM Tuner Section
Frequency Range (200 kHz space)87.9 MHz~107.9 MHz
(50 kHz space)87.5 MHz~108.0 MHz
Usable Sensitivity
50 dB Quieting Sensitivity15.2 dBt (1.6 μV//5 ohms)
Frequency Response (±3 dB)
Signal to Noise Ratio
Selectivity100 dB
Capture Ratio
Image Response Ratio
IF Response Ratio
Stereo Separation (1 kHz)40 dB
AM Tuner Section
Frequency Range (10 kHz space)530 kHz~1,700 kHz
(9 kHz space)
Usable Sensitivity
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Cassette Deck Section
Tape Speed4.76 cm/sec
Wow & Flutter (WRMS)
Fast Winding Time (C-60)
Frequency Response (120 µs)
(70 μs)30 Hz~21 kHz (±3 dB)
Stereo Separation (1 kHz) 43 dB
Signal to Noise Ratio (Dolby NR OFF)
(Dolby-B NR ON)
(DOIDY-C NA ON)73 db
Audio Section
Tone ActionBass: 70 Hz ±10 dB
Mid-Bass:200 Hz ±10 dB
Treble: 10 kHz ±10 dB
Preout level/load
General 14.437/44 10.7/41/40 10.7/41/40
Operating Voltage14.4 V (11~16 V allowable)
Current Consumption
Installation size (W×H×D)
(7-3/16 2 2-1/16 2 6-1/16 in.)
Weight