

KENWOOD

CASSETTE-RECEIVER

KRC-460

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-receiver.

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-460 Serial number _____

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 (AWG18) 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.

▲CAUTION

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.

▲ CAUTION

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.

NOTE

- If you have difficulty in installing this unit in your vehicle, please contact your KENWOOD dealer.

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.
2. Wipe the front panel and other exterior surfaces with a soft dry cloth or a soft cloth lightly moistened with a neutral detergent.

▲CAUTION

- 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.

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FEATURES

■ TUNER FEATURES

- **Auto seek tuning (p.9)**
Automatically searches for stations you can receive.
- **Local scan (p.11)**
When this feature is turned on, it combines scanning and Auto Memory and presets only strong stations offering good reception.
- **Preset stations (p.14)**
Stores the frequencies of your favorite stations in memory, for one-touch tuning.
- **Auto memory (p.15)**
Automatically stores the strongest stations you can pick up, for one-touch tuning.

■ CASSETTE PLAYER FEATURES

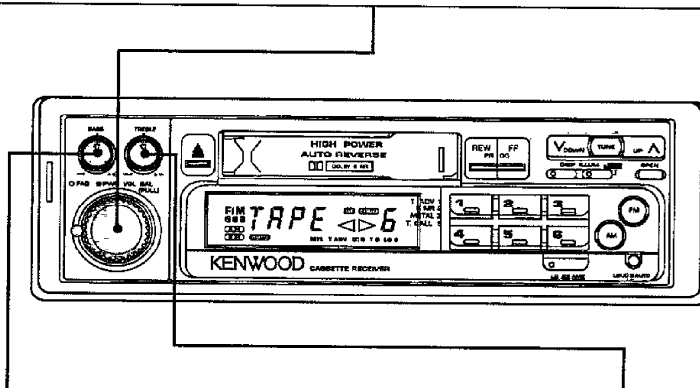
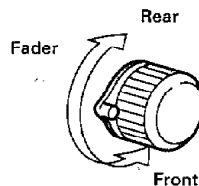
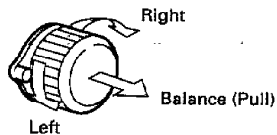
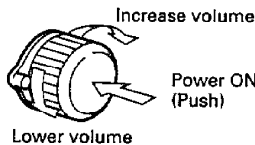
- **Tape advance (p.16)**
Allows you to skip ahead to the next track from the one you are playing.
- **Tuner call (p.17)**
Allows you to listen to the tuner while rewinding or fast forwarding a cassette.

■ CONVENIENT FEATURES

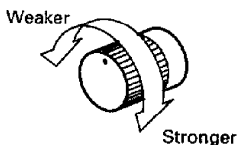
- **Selectable illumination (p.18)**
Allows illumination color to be switched between green and orange.
- **Selectable display type (p.19)**
Lets you change the display from negative to positive or vice-versa.
- **Clock display (p.20)**
Displays the time in the display window.
- **Theft deterrent faceplate (p.21)**
When you leave the vehicle, you can take the faceplate with you, to help prevent theft.
- **Channel band selection (p.22)**
Allows you to switch bands between FM:200kHz/AM:10kHz and FM:50kHz/AM:9kHz.

ON/OFF, VOLUME & BALANCE CONTROLS

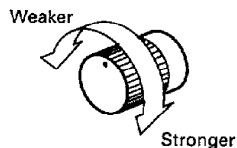
POWER AND VOLUME



BASS



TREBLE

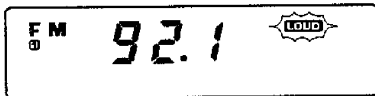


NOTE

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

INTENSITY

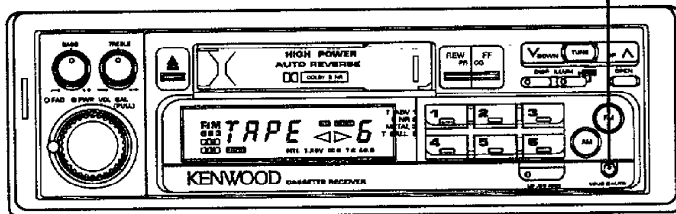
- ▶ If the Loud indicator light is not illuminated, briefly press the Loud button. (Loud indicator light will light up. Bass volume increases.)



ON

TO RESTORE ORIGINAL LEVELS

- ▶ Briefly press the Loud button again. (Loud indicator light will go out.)



AUTO SEEK TUNING

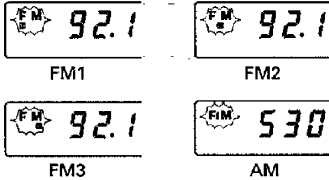
1

To select an FM band

- ▶ Press the FM button to choose FM1, FM2 or FM3.

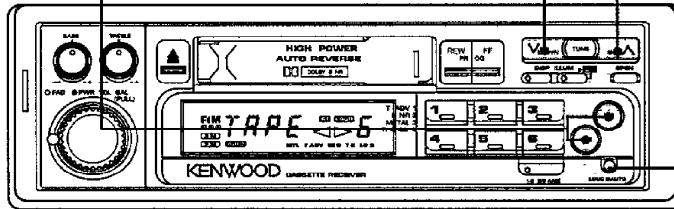
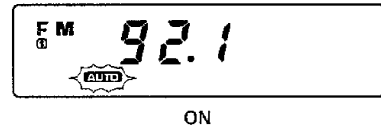
To select an AM band

- ▶ Press the AM button.



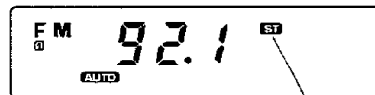
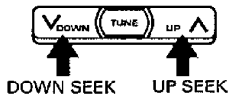
2

- ▶ If the Auto indicator light is not illuminated, press the Auto button for more than two seconds to turn the Auto function on. (The Auto indicator light will light up.)



3

- ▶ Press either the Down seek or the Up seek button. (The Auto seek function will find the next station you can receive.)



Display shows frequency of station received.

Illuminated when FM stereo broadcasts are received.

MANUAL TUNING

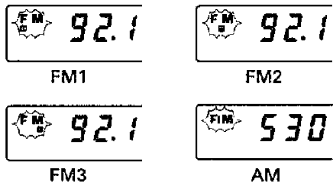
1

To select an FM band

- ▶ Press the FM button to choose FM1, FM2 or FM3.

To select an AM band

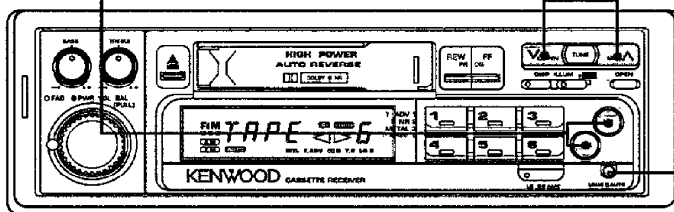
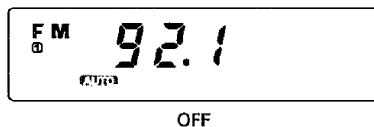
- ▶ Press the AM button.



2

- ▶ If the Auto indicator light is illuminated, press the Auto button for more than two seconds to turn the Auto function off.

(The indicator light will go out.)



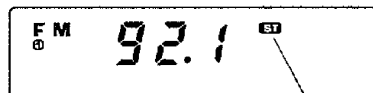
3

- ▶ Press either the down or up arrow buttons.
(The frequency will continue to change as long as you hold the button down.)



Down: for lower frequencies

Up: for higher frequencies



Display shows frequency of station received.

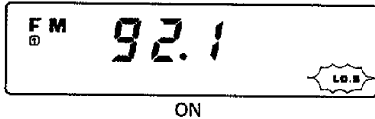
Illuminated when FM stereo broadcasts are received.

LOCAL SCAN

1

To turn on Local scan

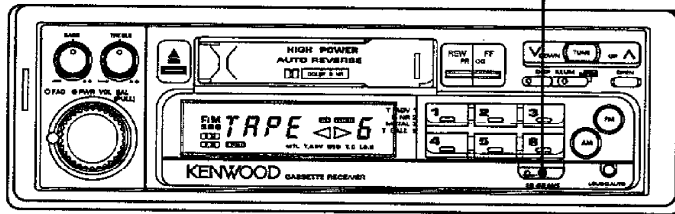
- ▶ Briefly press the Local scan button.
(The indicator light will light up.)



2

To turn off Local scan

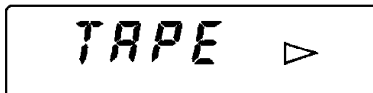
- ▶ Briefly press the Local scan button again.
(The indicator light will go out.)



TO PLAY CASSETTES

TO PLAY

- ▶ Insert a cassette tape with the exposed tape facing to the right. (It will start to play automatically.)

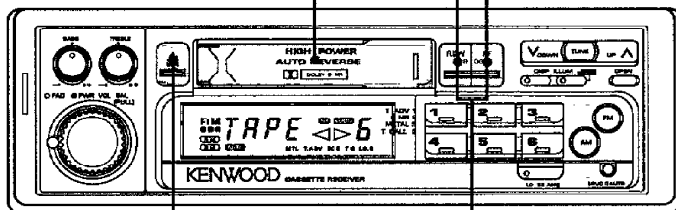


(While it plays, you will see this display.)

TO FAST FORWARD/REWIND

Operation	Press
Fast Forward	FF
Rewind	REW

- ▶ To stop Fast forward, press REW button and to stop Rewind, press FF button. (The <> display will blink during Fast Forward/Rewind.)



TO STOP AND EJECT

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

TO SWITCH SIDES

- ▶ Press the FF and REW buttons simultaneously. (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
▷	Side A
◁	Side B

MANUAL TAPE TYPE SELECTION/ DOLBY B NR

■ TAPE TYPE SELECTION

FOR METAL/CHROME CASSETTES

- ▶ If you don't see the Metal indicator on the display, press the Metal button.

(When you see the indicator, the unit is set in metal/chrome position.)

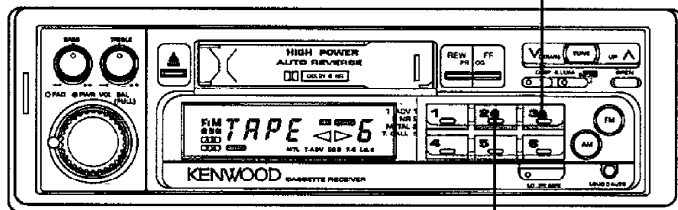


Metal/Chrome tape indicator.

FOR NORMAL CASSETTES

- ▶ If you see the Metal indicator on the display, press the Metal button.

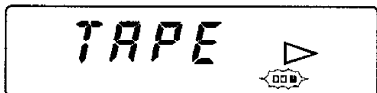
(When you don't see the indicator, the unit is set in normal position.)



■ DOLBY B NR

FOR DOLBY B NR

- ▶ Press the Dolby B NR button. (The DOLBY B NR indicator will be displayed.)



ON

TO TURN OFF DOLBY B NR

- ▶ Press the Dolby B NR button again. (The indicator will disappear.)

PRESET STATIONS

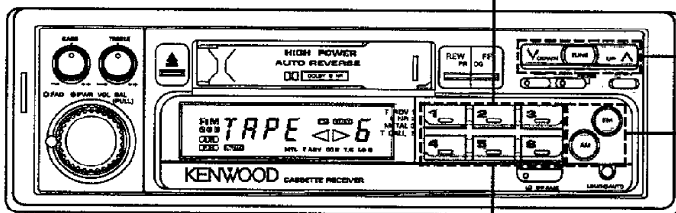
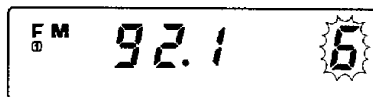
1

Select the band and station you want to preset.

2

▶ Press the Preset station button you want to use for more than two seconds.

(When the station is entered in memory, the number of the button to which you've assigned it will appear on the display.)



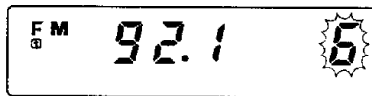
3

By repeating steps 1 and 2 you can preset each button for one station each from the FM1, FM2, FM3 and AM bands.

4

USING PRESET STATIONS

▶ Briefly press the button of the station you want.
(When you press the button, you will hear the station assigned to it.)



NOTE

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

AUTO MEMORY

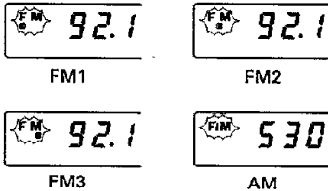
1

To select an FM band

- ▶ Press the FM button to choose FM1, FM2 or FM3.

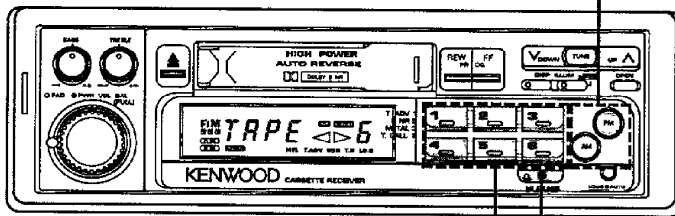
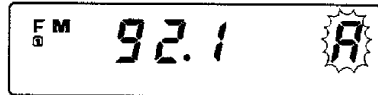
To select an AM band

- ▶ Press the AM button.



2

- ▶ Press the Auto memory button for more than two seconds. (When the seek function finds a station, the "A" indicator will light up. The display will show the number of the button to which it has been assigned.)

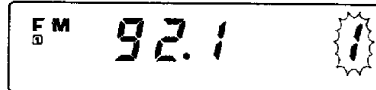


3

When six stations have been found, the Auto memory function stops. You will hear the last station selected.

4 USING PRESET STATIONS

- ▶ Briefly press the button of the station you want. (When you press the button, you will hear the station assigned to it.)



TAPE ADVANCE

1

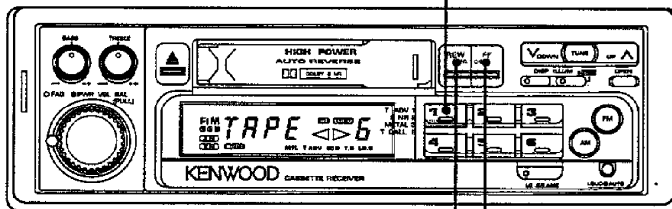
- ▶ Press the Tape advance button. (The Tape advance indicator will appear on the display.)



ON

TO STOP TAPE ADVANCE

- ▶ Press the Tape advance button again. (The Tape advance indicator will disappear.)



2 To return to the start of the current track

- ▶ Press the REW button. (The tape will rewind and the player will replay the track.)

2 To advance to the next track

- ▶ Press the FF button. (The tape will fast forward and start playing the next track.)

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 player to detect a break.

TUNER CALL

1

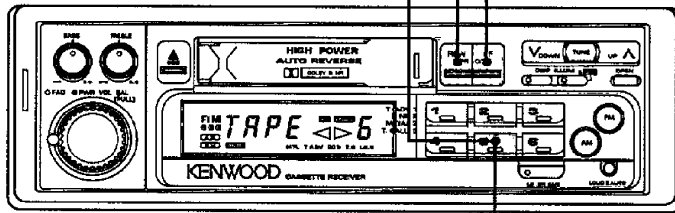
- ▶ Press the Tuner call button.
(The Tuner call indicator will appear on the display.)



ON

2

- You can now listen to the tuner while a tape is fast forwarding or rewinding.

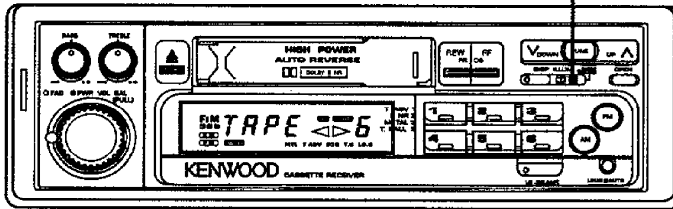


TO STOP TUNER CALL

- ▶ Press the Tuner call button again.
(The Tuner call indicator will disappear.)

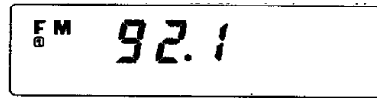
SELECTABLE ILLUMINATION

- Briefly press the Illumination button.
(The illumination will change from green to orange or vice-versa.)



SELECTABLE DISPLAY TYPE

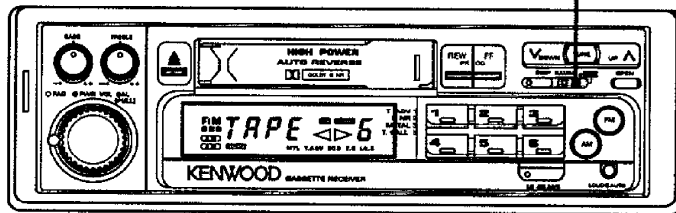
- ▶ Press the Positive/Negative button for more than one second. (The display will change from negative to positive or vice-versa.)



Positive



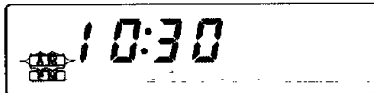
Negative



CLOCK DISPLAYS/SETTING

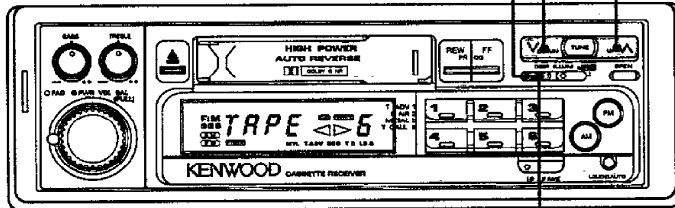
■ Displays change like this

- ▶ Pressing the Display button changes displays as indicated to the right.



Time Display

Mode	Displays
Tuner	Frequency ↔ Time
Tape	"TAPE" ↔ Time



■ To set the clock

1

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

2

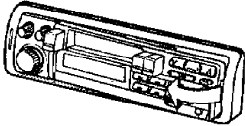
- ▶ While holding down the Display button, press ∇ to change the hour and \wedge to change the minute.

THEFT DETERRENT FACEPLATE

■ To remove the faceplate

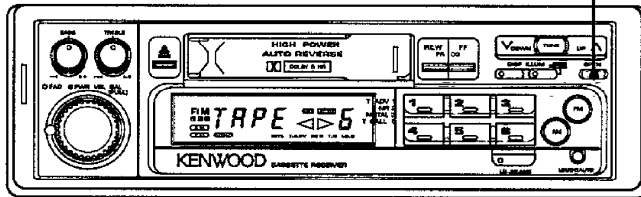
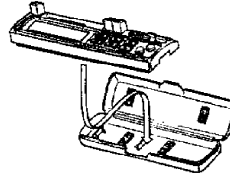
1

Press the Open button to unlock the faceplate, then remove carefully.



2

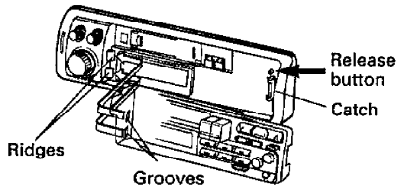
Place the faceplate in the storage case with the button side facing up.



■ To install the faceplate

1

Align the groove in the bottom of the faceplate with the ridges on the faceplate mount.

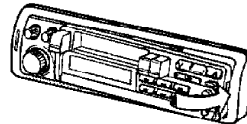


NOTE

- Press the Release button to disengage the unit from the catch.

2

Press on the upper part of the faceplate until it locks in place.



NOTE

Disabled system indicator

- To deter theft, this unit is equipped with a Disabled system indicator. Turn power OFF while holding down preset station buttons "1" and "3". When power is turned ON again, the Disabled system indicator can be turned ON and OFF.

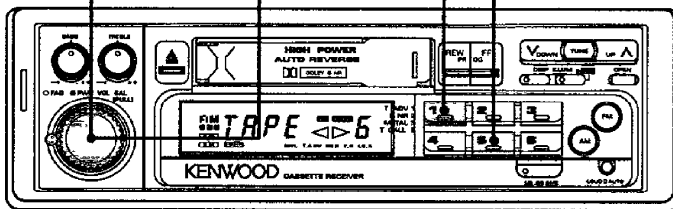
CHANNEL BAND SELECTION

1

- ▶ Hold down preset station buttons "1" and "5".
- ▶ Turn power OFF.

2

- ▶ Hold down preset station buttons "1" and "5".
- ▶ Turn power ON.
(The bands will change to 50kHz for FM and 9kHz for AM.)



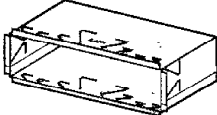
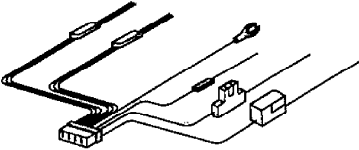
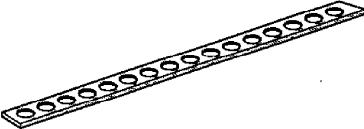



3

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
Wiring harness		1
Metal mounting strap		1
Removal tool		1
Assembly screw with washer (M4 x 8)		1
Machine screw (M5 x 6)		4

INSTALLATION PROCEDURE

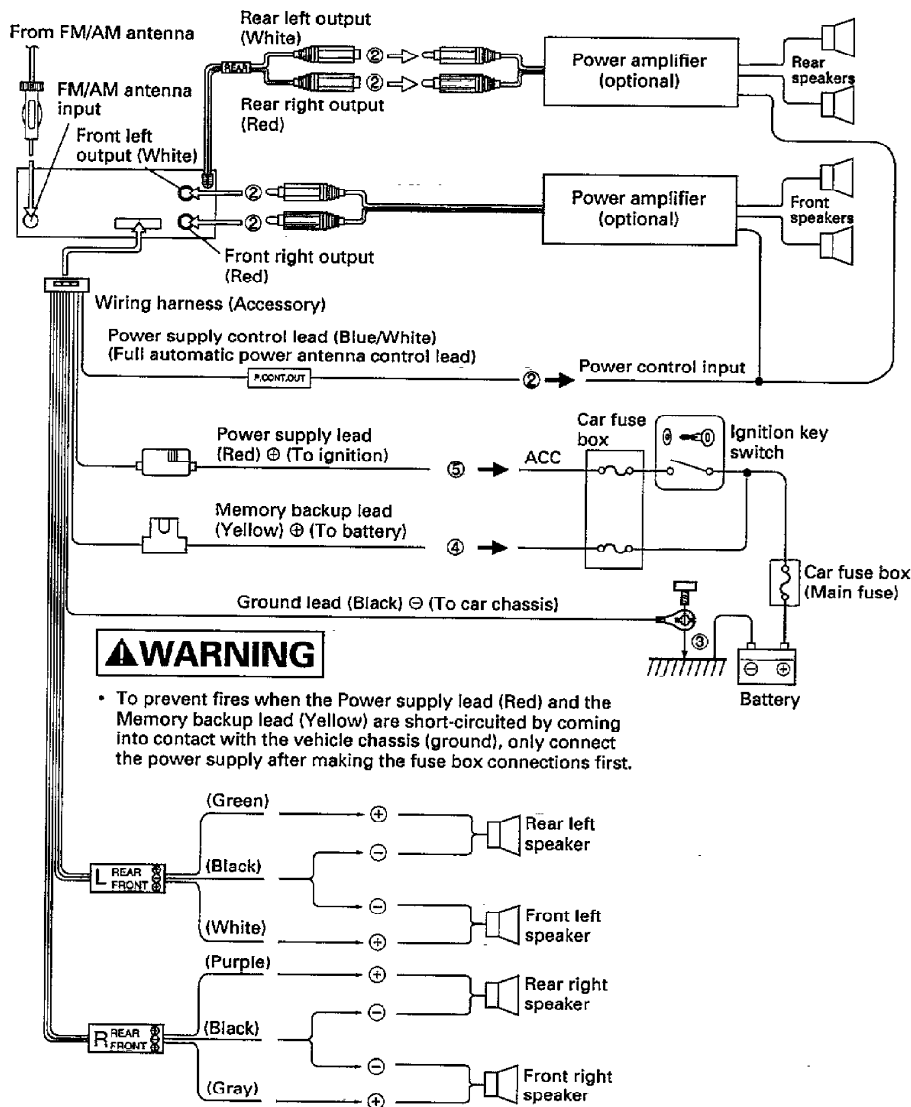
- ① Before starting installation, disconnect the negative (-) terminal of the battery. This will prevent short circuits.
- ② Connect the Input and Output leads (see p.25).
- ③ Connect the Ground lead (Black) to the metal body of the car (see p.25).
- ④ Connect the Memory backup lead (Yellow) (see p.25).
- ⑤ Connect the Power supply lead (Red) (see p.25).
- ⑥ Install the unit in the car (see p.26).
- ⑦ Connect the negative (-) terminal of the battery.

CAUTION

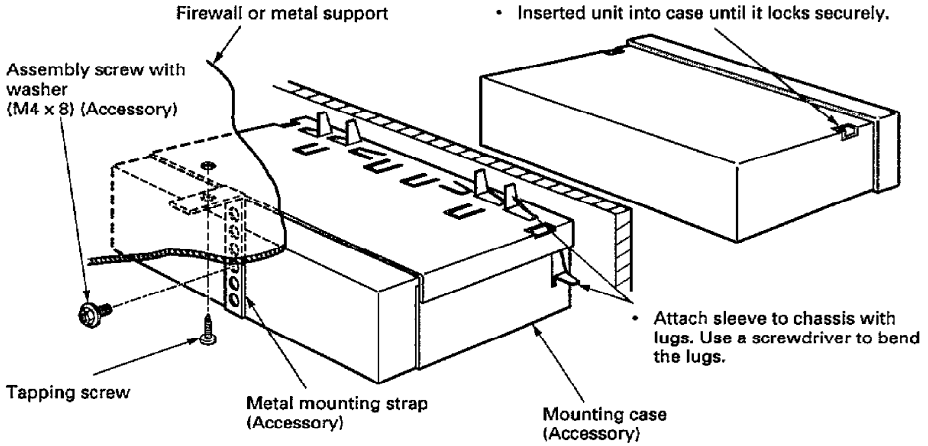
- A short circuit may cause a blown fuse. A short circuit is a serious problem that could also cause a fire. Check the wiring carefully and, if any wires are short-circuited, rewire immediately. If no short-circuits are found, replace the fuse with one having the same rating (see indication in fuse box).
- 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.
- To provide more power, this product is equipped with a BTL (Balanced Transformer Less) system. But in this type of system, sharing different speaker terminals or connecting or grounding speaker terminals to the car can cause distortion or damage.
- Please check that all electrical equipment in the car functions normally after installing the unit.

CONNECTIONS

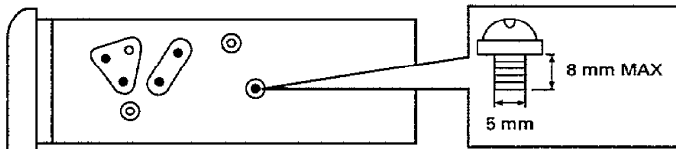
* Circled numbers indicate the procedures described on page 24.



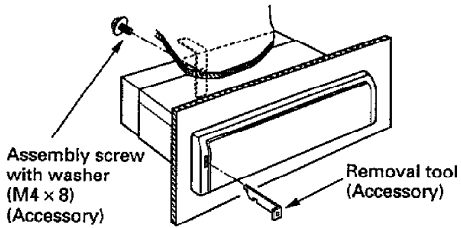
INSTALLATION



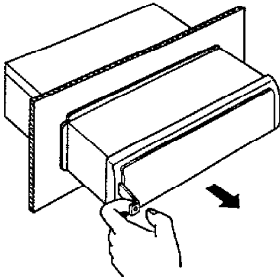
- When installing in some cars made in Japan, insert Machine screws (M5 x 6) into 2 of the holes indicated below.



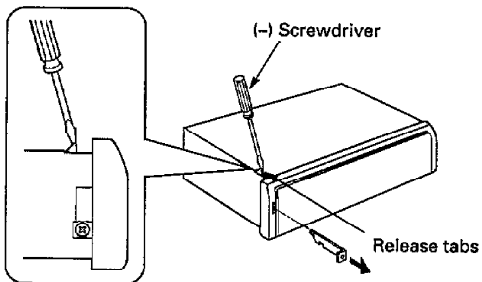
■ To remove the unit



1. Remove the assembly screw with 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.

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	12.0 dBf (1.1 μ V/75 ohms)
50 dB Quieting Sensitivity	15.2 dBf (1.6 μ V/75 ohms)
Frequency Response (\pm 3 dB).....	30 Hz - 15 kHz
Signal to Noise Ratio	73 dB
Selectivity.....	100 dB
Capture Ratio	1.5 dB
Image Response Ratio.....	70 dB
IF Response Ratio.....	120 dB
Stereo Separation (1 kHz)	40 dB

AM Tuner Section

Frequency Range (10 kHz space)	530 kHz - 1700 kHz
(9 kHz space)	531 kHz - 1611 kHz
Usable Sensitivity	28 dB (30 μ V)

Cassette Deck Section

Tape Speed.....	4.76 cm/sec.
Wow & Flutter (WRMS)	0.12% (WRMS)
Fast Winding Time (C-60)	100 sec.
Frequency Response (120 μ s)	30 Hz - 14 kHz (\pm 3 dB)
(70 μ s)	30 Hz - 16 kHz (\pm 3 dB)
Stereo Separation (1 kHz)	43 dB
Signal to Noise Ratio (Dolby-B NR OFF)	54 dB
(Dolby-B NR ON).....	63 dB

Audio Section

Maximum Output Power	25 W \times 2
Output Power (10%THD, 1 kHz, 4 ohms)	20 W \times 2
(1%THD, 30 Hz - 20 kHz, 4 ohms)	15 W \times 2
Tone Action	Bass: 100 Hz \pm 10 dB
	Treble: 10 kHz \pm 10 dB
Preout Level/Load	1000 mV (MAX.)/10 kohms

General

Operating Voltage	14.4 V (11-16 V allowable)
Current Consumption.....	6 A at Rated Power
Installation Size (W \times H \times D).....	182 \times 52 \times 153 mm
	(7-3/16 \times 2-1/16 \times 6 in.)
Weight	1.4 kg
	(3.1 lb)

KENWOOD