RadioShack®
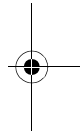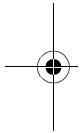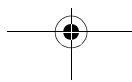
www.radioshack.com℠

Flat-Face Car CD Player
with Signal Level Meter Display

Owner's Manual
Please read before using this equipment.

❑ *Contents*

☐ *Features*

Your RadioShack Flat-Face Car CD Player has many practical, easy-to-use features, and you can install it in almost any vehicle using the supplied mounting bracket, hardware, and cables. Your CD player is easy to operate, so you can concentrate on driving safely.

Your CD player's features include:

Detachable Flat-Face Front Panel — lets you quickly remove and store the CD player's control panel in the supplied carry case. This discourages theft because the CD player cannot operate without the control panel.

Audio Mute — lets you silence the CD player by pressing a single button.

Bass, Treble, Fader, and Balance Controls — let you easily adjust the high and low sounds and the balance between the left/right and front/rear speakers, so you can tailor the sound to your preferences.

Loudness Button — lets you boost the volume of sounds at very high and low ranges, so you do not lose these sounds when the CD player's volume is set very low.

Line-Out Jacks — make it easy to connect an equalizer/amplifier.

Built-In Noise Suppression Choke — reduces the noise caused by your vehicle's electrical system.

Liquid Crystal Display With Clock — shows the current operation of the CD and tuner with bar spectrum signal level display.

Buzzer Alarm — alerts you when the speaker wires are connected in such a way that circuit damage could result.

Audible Search — lets you rapidly play a CD forward or backward to locate a desired track or section of a track.

Random Play — randomly selects and plays tracks.

Repeat Play — automatically repeats the current track.

Intro Scan — scans and plays the first 10 seconds of each track so you can find a specific track.

Local/Distance Tuning Control — lets you set the radio to stop on only strong local stations or both local and weaker, distant stations.

This CD player is made and tested to meet exacting safety standards. It meets FCC requirements and complies with safety performance standards of the U.S. Department of Health and Human Services.

Warnings:

• This system employs a laser light beam. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

• The use of controls, adjustments, or procedures other than those specified herein might result in hazardous radiation exposure.

❒ *Installation*

Before you install your CD player, read all the instructions in this owner's manual. You should be able to answer all of these questions about your vehicle's electrical and sound systems.

- Which terminal in my vehicle's fuse box supplies power even when the ignition is turned off?

- Which terminal in my vehicle's fuse box is for accessories?

- How do I connect a wire to the fuse box?

- Which CD player wires are line-level outputs and which are speaker outputs?

Also, be aware that installation in your vehicle might require cutting or modifying your vehicle.

We recommend that you install the CD player by temporarily connecting it to ground and power, optional components, and your speakers. Then test the connections, disconnect the CD player, mount it in your vehicle, and reconnect it. The instructions in this manual are arranged in this order.

PREPARING THE MOUNTING AREA

Before you mount the CD player, be sure you have all the necessary materials. Then confirm that the CD player fits your vehicle's mounting area. This auto sound CD player system is a DIN-E size unit that requires a $2^1/4$-inch high by $7^1/4$-inch wide by $7^1/2$-inch deep (57 × 184 × 190 mm) mounting area.

Cautions:

- Make sure your vehicle's mounting area is as level as possible.

- Be sure to avoid obstructions behind the mounting surface.
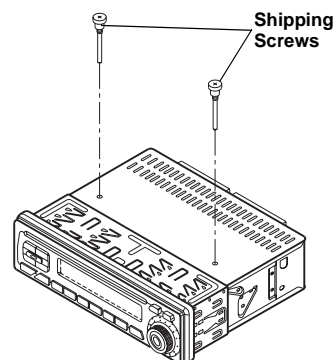
Note: If the mounting area is too large, you might be able to mount the CD player with an in-dash installation kit, available at your local RadioShack store. Follow the installation kit's instructions to mount the CD player.

ROUTING SPEAKER WIRES

If you install speakers, avoid routing the speaker wires near moving parts or sharp edges. You can usually route them along the wiring channel beneath the vehicle's door facings by carefully removing the molding that holds the carpet in place. After you route the speaker wires, replace the molding.

REMOVING THE SHIPPING SCREWS

The shipping screws help protect the CD player from being damaged during shipment. Before you mount the CD player, use a Phillips screwdriver to remove the two screws from the top of the CD player.

Note: We suggest you tape the screws to the back of the CD player in case you ever want to mail or ship the CD player.

MAKING THE CONNECTIONS

The supplied harness with the 14-pin connector includes all the lead wires you need to connect the CD player to ground, power, optional components, and speakers.

Important: Do not cut these wires. If you cut any wire, you cannot obtain a refund or exchange on this product. However, your RadioShack store will provide warranty service if you cut a wire and find the product is defective.

You might need additional wire, depending on your individual auto sound system, to complete the connections. Your local RadioShack store carries a full line of wire and wire management accessories.

Cautions:

• For added safety and to protect your CD player, disconnect the cable from your vehicle battery's negative (–) terminal before you begin.

• Be sure your speakers can handle 50 watts of power (25 watts per channel if you are using one pair of speakers). Each speaker must have an impedance of at least 4 ohms. Your local RadioShack store carries a full line of speakers.

• You must connect the GROUND (–), +12V TO IGNITION, and +12V TO BATTERY wires first, then make all other connections as described in the following sections before you plug the harness with the 14-pin connector into the CD player. If you do not make connections in the order shown, damage to the CD player is possible if any wire connections are made incorrectly.

• You must connect a separate wire to each speaker terminal as described in

the following procedure. Do not use a common wire or chassis ground for any speaker connection.

The CD player's buzzer alarm sounds if you make an incorrect connection that could damage the circuit.

Using an Adapter Harness

If you are replacing an existing CD player, or if your vehicle has been factory-wired for auto sound components, you might be able to use an adapter harness to connect the power and speakers. RadioShack sells adapter harnesses for most vehicles.

Follow the directions that come with the adapter harness to temporarily connect the ground, power optional components and speakers. Then go to "Completing the Connection" on Page 7.

Connecting Ground, Power, and Optional Components

1. Disconnect the cable from your vehicle's negative (–) battery terminal.

2. Connect the black ground wire (with filter and fuse box) to a chassis ground, such as a metal screw attached to a metal part of the vehicle's frame. Be sure that the screw is not insulated from the chassis by a plastic part.

3. Connect the red power wire (with in-line fuse holder) to a point in your vehicle's fuse block that has power only when you turn the vehicle's key to either the accessory (ACC) or the START position. This prevents your vehicle's battery from being drained if you leave the CD player on when you turn off the ignition.

4. Connect the yellow power/memory wire (with filter and fuse box) to your vehicle battery's positive (+) terminal or to a

point in your vehicle's fuse block that provides a continuous source of 12 volts. This provides power for the CD player's components, and continuous power for the CD player's memory when the ignition is turned off.

5. Connect the blue/white wire to any optional equipment designed to run from a switched source that you want the CD player to turn on and off (such as a booster or a power antenna). To use this wire you must first remove the insulation and strip the wire.

   This wire does not provide power to the components. If you do not use this wire, secure it with a wire tie and do not let it touch metal.

Testing the Power Connections

Temporarily connect:

- the harness to the CD player's 14-pin wiring socket

- your vehicle battery's negative (–) cable

Turn on your vehicle's ignition and install the CD player's control panel. See "Installing/Removing the Control Panel" on page 10. Verify that the CD player works properly when the display lights.

If the display does not light, **immediately turn off your vehicle's ignition and disconnect your vehicle battery's negative (–) cable.** Then recheck your connections.

If the CD player works properly, remove the CD player's control panel and disconnect:
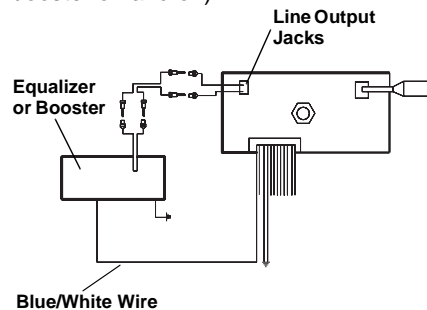
- your vehicle battery's negative (–) cable

- the harness from the CD player's 14-pin wiring socket

Then proceed with the installation.

Connecting an Equalizer/Booster

If you are connecting the CD player to a separate equalizer or booster, you need additional wires (not included).

To increase the total power output from your system, connect an equalizer or booster to the R (right) and L (left) line output jacks on the back of the CD player (and the 14-pin connector's blue/white wire if you want to use the CD player to turn the equalizer or booster on and off).

Line Output Jacks

Equalizer or Booster

Blue/White Wire

Check the equalizer/booster's owner's manual for directions.

Connecting the Speakers

To connect the harness to two pairs of speakers:

1. Connect the white wire to the left front speaker's positive terminal. This terminal is usually marked with a plus (+) sign or red mark.

2. Connect the white/black wire to the left front speaker's negative terminal. This terminal might be marked with a minus (–) sign or it might not be marked at all.

3. Connect the gray wire to the right front speaker's positive terminal.

4. Connect the gray/black wire to the right front speaker's negative terminal.

5. Connect the green wire to the left rear speaker's positive terminal.

6. Connect the green/black wire to the left rear speaker's negative terminal.

7. Connect the violet wire to the right rear speaker's positive terminal.

8. Connect the violet/black wire to the right rear speaker's negative terminal.

To connect the harness to one pair of speakers:

1. Connect the gray wire to the right speaker's positive terminal.

2. Connect the violet/black wire to the right speaker's negative terminal.

3. Connect the white wire to the left speaker's positive terminal.

4. Connect the green/black wire to the left speaker's negative terminal.

Completing the Connection

Connect the vehicle's antenna cable to the CD player's antenna connector at the back of the unit.

Make sure you have securely made all the connections described in the preceding sections, then plug the harness connector into the CD player's 14-pin wiring socket. Reconnect the cable to the vehicle's negative (–) battery terminal.

Testing the Connections

Reset your CD player's display (see "Resetting the Display" on Page 11), then install your CD player's control panel (see "Installing/Removing the Control Panel" on Page 10). The display should light, and you should hear a station through the speakers

when you play the radio (see "Radio Operation" on Page 11).

If the display does not light and you do not hear a station, **immediately turn off your vehicle's ignition and disconnect your vehicle battery's negative (–) cable.** Then recheck your connections.
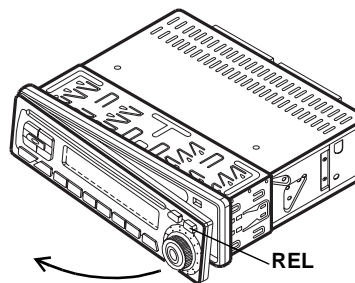
After you verify that the display lights and you hear a station, follow the instructions in "Mounting the CD Player."

Caution: If you played a CD while testing the connections, be sure to remove the CD from the CD Player before continuing.
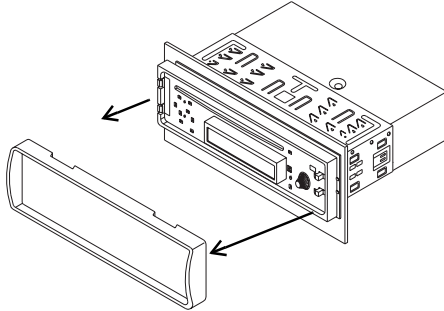
MOUNTING THE CD PLAYER

Be sure you verify that the CD player is connected properly (see "Testing the Connections" on Page 7) before mounting in the dash.
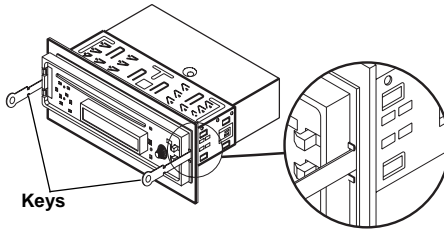
1. Make sure the ignition is turned off, then disconnect the cable from the vehicle's negative (–) battery terminal.

2. Disconnect the 14-wire harness and disconnect the antenna.

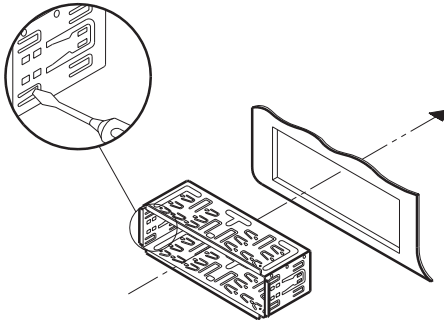3. Press **REL** on the upper right corner of the control panel to remove the control panel.

4. Take off the plastic trim ring by lifting the top of the trim ring.

5. Insert the supplied keys into the slots on both sides of the CD player. Push them all the way in, then slide the CD player out of the sleeve.
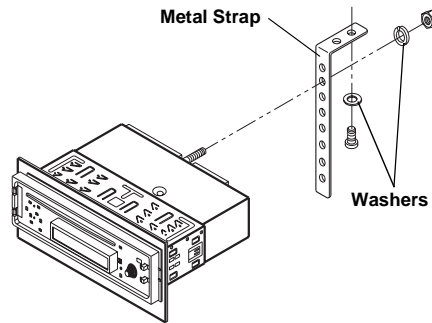
Keys

6. Insert the sleeve into the dash. Then secure it by bending out all the tabs with a flat-blade screwdriver.

7. Reconnect the harness to the CD player's 14-pin wiring socket, then reconnect the antenna.

8. Slide the CD player into the sleeve until it locks in place.

9. To further secure the CD player, use the supplied hardware to attach one end of the supplied metal strap to the mounting bolt on the back of the CD player. If necessary, bend the metal strap to fit your vehicle's mounting area. Then use the supplied sheet metal screw to attach the other end of the strap to a solid metal part of the vehicle under the dashboard. This strap also helps ensure proper electrical grounding of the CD player.

Metal Strap

Washers

10. Reconnect the cable to the vehicle's negative (–) battery terminal. Then replace the trim ring and install the CD player's control panel (see "Installing/Removing the Control Panel" on Page 10).

You might need to reset the CD player's clock after you reconnect the cable to the vehicle battery. (See "Setting the Clock" on Page 10.)

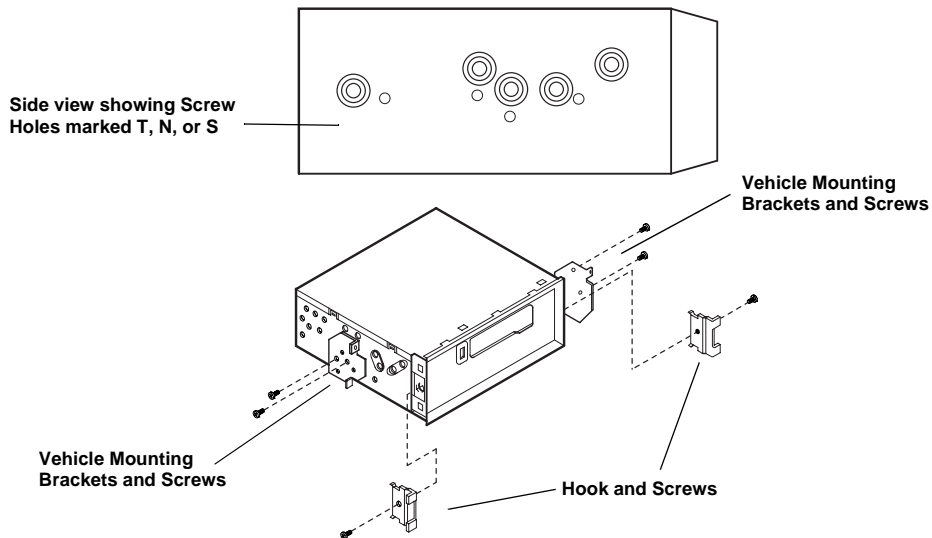## Removing the CD Player from the Dash

1. Make sure the ignition is turned off and disconnect the cable from the vehicle's negative (–) battery terminal.

2. If the metal strap is used, remove the nut holding it to the back of the CD player.

3. Press **REL** to remove the CD player's control panel.

4. Remove the plastic trim ring by lifting the top of the trim ring.

5. Insert the supplied keys into the slots at both sides of the CD player, and slide the CD player out of the dash.

6. Remove the keys from the slots.

7. Disconnect the 14-wire harness and the antenna.

8. If you are mailing or shipping the CD player, reinstall the shipping screws in the top of the CD player.

9. Reconnect the cable to the vehicle's negative (–) battery terminal.

Mounting in Toyota, Nissan and Suzuki Vehicles

If your vehicle is a Nissan, Toyota, or Suzuki, follow these mounting instructions or contact your nearest Toyota, Nissan or Suzuki dealer for installation information.

Use the screw holes marked T (Toyota), N (Nissan) or S (Suzuki), located on both sides of the CD player to fasten the CD player to the factory radio mounting brackets supplied with your vehicle.

Side view showing Screw Holes marked T, N, or S

Vehicle Mounting Brackets and Screws

Vehicle Mounting Brackets and Screws

Hook and Screws

1. Use a Phillips screwdriver to loosen and remove the hook's screws on the front left and right side of the CD player.

2. Align the screw holes on the bracket with the screw holes on the CD player, then tighten the screws on each side.

3. Fasten with the supplied truss screws (5 $\times$ 5 mm) or flush surface screws (4 $\times$ 5 mm), depending on the shape of the screw holes in the bracket.

Note: The mounting box, outer trim ring, and sleeve are not needed for this type of installation.

Screw Selection Guide

Screw Type	Quantity	Car Type
M 5 $\times$ 5 mm	4	T (Toyota), N (Nissan)
M 4 $\times$ 5 mm	4	S (Suzuki)

INSTALLING/REMOVING THE CONTROL PANEL

The CD player's control panel must be in place for the CD player to operate. When you remove it, the display turns off and the CD player cannot be used. This is a simple but effective security measure. Any stored stations remain in memory when the control panel is removed.
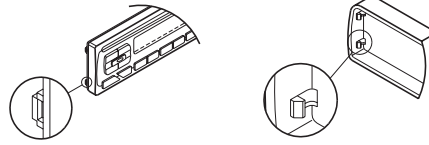
Follow these steps to install the control panel:

1. Insert the left edge of the control panel into the left edge of the recess. Make

sure the pins in the recess fill the slots in the edge of the control panel.

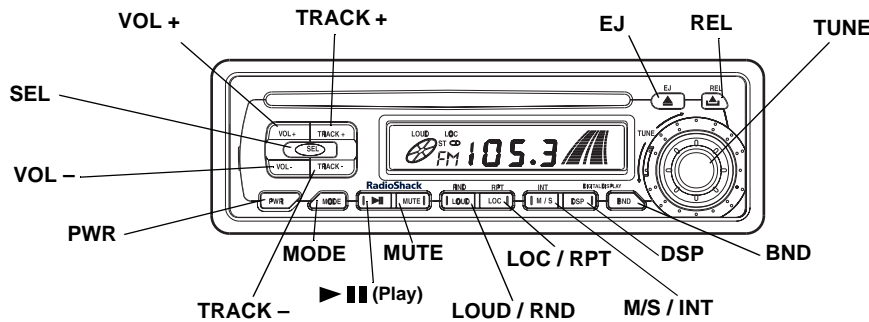**Control Panel**   **CD Player**

2. Gently push the right edge of the control panel into the recess until you hear a click.

To remove the control panel, press **REL**. The control panel swings out. Remove it and store it in the supplied carry case.

Caution: To keep the metal connecting pins clean, do not touch the connecting pins in the recess or on the back of the control panel.

☐ *Operation*

Caution: Do not change your CD player's settings in heavy traffic or during hazardous driving conditions.

To turn on the CD player, press **PWR**. The buttons and display light. To turn off the CD player, press **PWR** again.

Setting the Clock

1. Press **PWR**. Hold down **DSP** for about 2 seconds until the display flashes, then

repeatedly press **VOL +** until the correct hour displays then repeatedly press **VOL –** until the correct minute displays.

Note: The **PM** indicator appears at 12 noon and disappears at 12 midnight.

Press **DSP** while the radio or a CD is playing to display the clock. To return to the display, press **DSP** or **BND** (while the radio is playing) or **MODE** to choose radio or CD mode. The CD player also automatically returns to the

display after about 5 seconds if you do not press any buttons.

Adjusting the Sound

1. Press **VOL +** or **VOL –** to adjust the volume or repeatedly press **SEL** until **VOL** appears on the display. Then adjust the volume by pressing **VOL +** or **VOL –.**
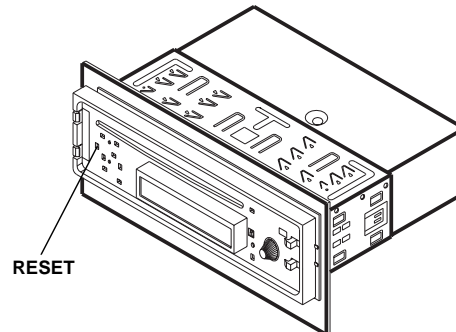
   Warning: To protect your hearing, do not listen at high volume levels. Slowly increase the volume to a comfortable listening level.

   Note: The player is initially set to volume mode.

2. Repeatedly press **SEL** until **BAS** appears, then press **VOL +** or **VOL –** to adjust the bass level.

3. Repeatedly press **SEL** until **TRE** appears, then press **VOL +** or **VOL –** to adjust the treble level.

4. Repeatedly press **SEL** until **BAL** appears, then press **VOL +** or **VOL –** to adjust the left/right sound balance. **BAl** (balance left) or **BAr** (balance right) appears.

5. Repeatedly press **SEL** until **FAd** appears. Then press **VOL +** or **VOL –** to adjust the sound balance between the front and rear speakers. **FAF** (fade front) or **FaR** (fade rear) appears.

6. To increase bass output, press **LOUD. LOUD** appears. To return bass output to normal, press **LOUD** again and **LOUD** disappears.

To temporarily silence the CD player, press **MUTE. MUTE** appears. To resume listening, press **MUTE** again and **MUTE** disappears.

Resetting the Display

RESET

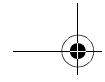Use a ballpoint pen to press **RESET** at the top left side of the inside panel:

- during initial installation, once all wiring is completed

- if the stereo's controls do not operate

- if an error symbol (**ER-1** through **ER-8**) appears on the display

RADIO OPERATION

1. Press **PWR**. The radio automatically tunes to the last station and band selected.

2. Press **BND** to select the desired band, either FM (**FM** appears) or AM (**AM** appears).

3. Rotate **TUNE** to adjust the frequency.

Notes:

- In FM mode, the tuner stops on both strong and weak stations. To limit seek tuning to only strong stations, press **LOC** until **LOC** appears.

- To improve reception of weak FM stations, press **M/S** until **ST** disappears. The sound is no longer in stereo, but the reception should improve. To return to stereo sound, press **M/S** again and **ST**

appears. If you get a steady FM signal, ⊙ appears to the right side of **ST**.

Adjust the CD player's controls to your listening preference (see "Adjusting the Sound" on Page 11).

CD PLAYER OPERATION

Cautions:

- Play only CDs that have this mark on them:

- The CD player has a wide dynamic range. As a result, if you turn your CD player's volume up too high during low-volume sections of a program, your speakers might be damaged when a sudden loud passage occurs.

- If the CD player is jolted during play, the rotation speed might suddenly change or the CD player might make an unusual noise. This is not a malfunction.

- Driving on bumpy roads may cause the CD player to skip. Performance will improve after a short break-in period. Skipping does not damage CDs.

- Moisture and high humidity can cause malfunction of the CD player. Turn on the vehicle's heater and allow moisture to evaporate before use.

- Do not expose the CD player to extremely high or low temperatures.

- Do not drive with an ejected CD in the slot.

Playing a CD

1. Insert a CD, label side up, into the slot. The radio stops. **LOAdcd** appears, then **CdP** (CD play), then **TRACK 01**, and the CD plays from Track 1.

   - If a CD is already in the CD player, simply press **MODE** to play the CD. The CD player displays the number of the last track you played, and the CD starts to play from that track.

   - After the CD player plays the entire CD, it automatically repeats all tracks, starting with Track 1.

   Note: If you turn off your vehicle's ignition or the CD player when a CD is loaded, you must wait about 5 seconds after turning the ignition back on before operation.

2. Repeatedly press **VOL +** or **VOL –** to increase or decrease the volume.

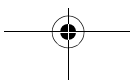   **Note:** See "Adjusting the Sound" on Page 11 for information about changing the CD player's other settings.

3. Press ▶️❙❙ to pause play. ⊘ flashes. Press ▶️❙❙ again to resume play.

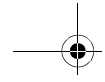4. To remove a CD from the CD player, press **EJ**.

   Notes:

   - If you eject a CD while it is playing and do not remove it from the CD player, the CD player automatically draws the CD back in after about 5 seconds.

   - If you eject a CD and remove it from the CD player, the CD player switches to radio operation.

Selecting a Track

To select a track on the loaded CD, press **TRACK +** during play to advance to the next track or **TRACK –** to go back to the beginning of the current track. Repeatedly press

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TRACK + or **TRACK –** to select the next or previous track.

Audible Search

To search for a particular section within a track, hold down **TRACK +** or **TRACK –** during play. The CD player rapidly plays the CD either forward or backward, and the volume lowers. When you hear the section you want, release **TRACK +** or **TRACK –** to resume normal play.

Scanning the Tracks

You can set the CD player to play the first 10 seconds of each track on the loaded CD, so you can find the track you want to hear.

1. To begin scanning, press **INT**.

2. Press **INT** again to resume normal play.

Repeat Play

1. To repeat a track, press **RPT** during play. When the track ends, it automatically repeats.

2. Press **RPT** again to resume normal play.

Random Play

You can set the CD player to randomly select and play tracks from the loaded CD.

1. To begin random play, hold down **RND** for about 2 seconds until **RND** appears.

2. To stop random play, hold down **RND** for about 2 seconds until **RND** disappears.

☐ *Troubleshooting*

If your CD player is not working properly, it displays an error indicator (**ER-1** through **ER-8**). Press **EJ** to eject the CD and check it for scratches and condensation (see "CD Care Tips" on Page 14). Reload the CD and try again to play it, or try a different CD. If the CD player still does not operate properly, take it to your local RadioShack for assistance.
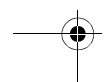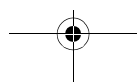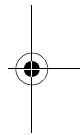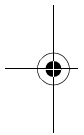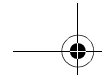
CARE

Your CD Player is an example of superior design and craftsmanship. The following suggestions will help you care for the CD player so you can enjoy it for years.

- Keep the CD player dry. If it gets wet, wipe it dry immediately. Liquids can contain minerals that can corrode electronic circuits.

- Use and store the CD player only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.

- Keep the CD player away from dust and dirt, which can cause premature wear of parts.

- Handle the CD player gently and carefully. Dropping it can damage the circuit boards and case and can cause it to work improperly.

- Wipe the CD player with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the CD player.

Modifying or tampering with the CD player's internal parts can cause a malfunction and might invalidate your CD player's warranty

and void your FCC authorization to operate it. If your CD player is not performing as it should, take it to your local RadioShack for assistance.

THE FCC WANTS YOU TO KNOW

Your CD player might cause TV or radio interference even when it is operating properly. To determine whether your CD player is causing the interference, turn off your CD player. If the interference goes away, your CD player is causing it. Try to eliminate the interference by:

- moving your CD player away from the receiver

- contacting your local RadioShack store for help

If you cannot eliminate the interference, the FCC requires that you stop using your CD player.

CD CARE TIPS

Even though a CD is very durable, you should handle it with care. We recommend the following precautions.

- Keep the CD in its protective case or sleeve when you are not playing it.

- Handle a CD by its edges to avoid fingerprints which can prevent the CD player's laser beam from accurately reading the CD. Your local RadioShack store sells a suitable CD cleaner kit.

- Do not write on either side of the CD, particularly the non-label side. (Signals are read from the non-label side.)

- Keep the CD dry. A water drop can act as a lens and affect the laser beam's focus.

- If you park your vehicle in the sun, temperatures inside the vehicle can easily reach levels that could damage your CDs. To prevent heat damage, avoid leaving your CDs in your vehicle.

If a CD skips when you try to play it, it might be scratched. Your local RadioShack store sells a Scratch 'n' Fix kit that might help remove the scratch and stop the skip.
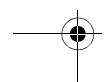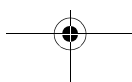
REPLACING A FUSE

If the CD player does not operate, you might need to replace the red power wire's 0.5A fuse with the supplied spare fuse. If the clock resets or stored stations are lost when the ignition is off, you might need to replace the black ground wire's/yellow continuous power wire's 5A fuse inside the filter and fuse box with the supplied spare fuse. Check both fuses.

Note: A fuse's amp rating is stamped on its metal end. Be sure to use the correct spare fuse to replace a failed fuse.

1. Disconnect the cable from the vehicle battery's negative (–) terminal.

2. Unlatch the two latches on the red power wire's fuse holder until it springs apart.

3. Pull up the latch on the filter and fuse box until the box springs open.

4. If either fuse is blown, replace it. Use only $1^1/_4 \times {}^1/_4$-inch fast-acting fuses with the proper rating. The red power wire's fuse must be 0.5 amps, and the yellow continuous power wire's fuse must be 5 amps.

   Caution: Make sure you replace a fuse only with another fuse of the same rating.

5. Reassemble the red power wire's fuse holder by squeezing it together until it latches.

6. Reassemble the filter and fuse box by closing it then pushing the latch until it clicks.

7. Reconnect the cable to the vehicle battery's negative (–) terminal.

❏ *Specifications*

Radio

	FM (Nominal)	AM (Nominal)
Frequency Range	88–108 MHZ	530–1710 kHz
Frequency Response	(±3 dB) 50-12000 Hz	N/A
IF Rejection	100 dB	80 dB
Image Rejection	55 dB	50 dB
Selectivity	30 dB	30 dB
Signal-to-Noise (S/N) Ratio	60 dB	45 dB
CD Player Separation	30 dB	N/A
Usable Sensitivity	5.0 μV (3% THD)	32 μV (20 dB S/N)

CD Player

Frequency Response (–3 dB) .... 50-15000 Hz

Signal-to-Noise Ratio .... 65 dB

Harmonic Distortion [Ref] 0.3%

CD Used (diameter) 5-inch
(120 mm)

Signal Format

D-A Conversion .... 1Bit Linear

Transmission Bit Rate .... 1.4 Mbit/Sec

Sampling Frequency .... 8 Times

Pick-Up System .... Optical Pick-Up

Optical Source .... Laser

Number of Channels 4-Ch

General

Power Source .... 12V DC Negative Ground

Speaker Output Impedance .... 4 or 8 Ohms

Maximum Power:

One Pair of Speakers (Max Output) .... 25 Watts RMS/Channel

Power Output (10% THD @ 1kHz) .... 16W × 2 or 5W ×4

Two Pairs of Speakers (Max Output) .... 7 Watts RMS/Channel

Chassis Size (HWD) .... $2^1/4$ × $7^1/4$ × $7^1/2$ Inches
(59 x 181 x 178 mm)

Weight .... 3.9 lb
(1.76 kg)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.