

The Optimus In-Dash AM/FM Stereo Cassette with Auto-Stop has many practical, easy-to-use features, and you can install it in almost any vehicle. The tuner's digital synthesized circuitry gives you precise tuning and drift-free reception.

The stereo's anti-theft control panel lets you quickly remove and store it, making the stereo inoperative.

The stereo contains many features that let you operate it easily so you can drive safely. The auto-stop cassette deck, memory tuning, seek tuning, and the FM optimizer circuitry all help make this stereo's operation simple and quick.

Caution: Use common sense. Do not change the stereo's operation in heavy traffic or during hazardous driving conditions.

This stereo's useful features include:

Anti-Theft Control Panel - lets you quickly remove and store the stereo control panel in the included carry case. This discourages theft because the stereo does not operate without the control panel.

Auto-Stop Cassette Deck - stops the tape when it reaches the end, to reduce wear on your tape and the cassette deck.

Bass, Treble, and Balance Controls - let you adjust high and low sounds and the balance between speakers, letting you tailor the sound to suit your preference.

Digital Clock - displays the time even when the Anti-Theft Control Panel is removed from the stereo.

Memory Tuning - lets you quickly store and tune up to 30 of your favorite stations (12 AM and 18 FM).

Seek Tuning - searches forward or backward to the next strong station in the selected band. This makes finding a favorite station quick and easy.

CD Input Jack - lets you quickly connect this portable LCD player to the stereo, so you can play your favorite CDs in your vehicle.

Locking Fast Forward - quickly fast-forwards the cassette tape with the touch of a button.

Advanced FM Optimizer Circuitry - Automatically adjusts the tuner's stereo separation and high-frequency response regardless of the signal level, giving you the best possible sound.

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

BEFORE YOU BEGIN THE INSTALLATION

Before you install the stereo, carefully read all instructions and see if you can answer these questions about the vehicle's electrical and sound systems.

- * Does my vehicle have a 12-volt negative ground system?
- * Which of the stereo's wires is the power wire?
- * Which terminal on my vehicle's fuse box is for accessories?
- * How do I connect a wire to the fuse box?
- * Which stereo wires are line-level outputs and which are speaker outputs?

If you are unsure about any of the above questions or any part of the installation process, we recommend you have a professional auto sound system installer complete the installation.

Cautions:

- * If installation requires cutting or modifying your vehicle, or if obstructions are behind the mounting surface, we recommend you have a professional installer complete the installation.
- * Before you mount the stereo or install any speakers, temporarily connect the speakers, power wires, and antenna to test the stereo.

Preparing the Mounting Area

Before you mount the stereo, make sure you have all the necessary materials. Then confirm that the stereo fits your vehicle's stereo mounting area. The mounting area must be at least 7 inches (17.8 cm) deep.

Note: If the mounting area is too large, you might be able to mount the stereo with an in-dash installation kit, available at your local Radio Shack store. Follow the installation kit's instructions to mount the stereo.

Routing Speaker Wire

If you install speakers, avoid routing the speaker wire near moving parts or sharp edges. You can usually route it 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 wire, replace the molding.

Testing the Stereo

Before you mount the stereo or any speakers you are installing, test the stereo by temporarily connecting the speakers, power wires, and antenna.

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

MAKING THE CONNECTIONS

The supplied 14-wire harness includes all the lead wires you need to connect the stereo to speakers, power, and optional components. You might need additional wire, depending on your individual auto sound system, to complete connections. Your local Radio Shack store carries a full line of wire and wire management accessories.

Cautions:

- * For added safety and to protect your stereo, disconnect the cable from your vehicle battery's negative (-) terminal before you begin.
- * Be sure your speakers can handle 9 watts of power (4.5 watts per channel). Each speaker must have an impedance of at least 4 ohms. Your local Radio Shack store carries a full line of speakers.
- * 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.

Using an Adapter Harness

If you are replacing an existing stereo, or if your vehicle has been factory-wired for autosound components, you might be able to use an adapter harness to connect the power and speakers. Radio Shack stores sell adapter harnesses for most vehicles.

Follow the directions that come with the adapter harness to temporarily

connect the power and speakers.

Connecting the Speakers

1. Connect the gray wire to the right speaker's positive terminal. This terminal is usually marked with a plus(+) sign or red mark.
2. Connect the gray/black wire to the right speaker's negative terminal. This terminal might be marked with a minus (-) sign or it might not be marked at all.
3. Connect the white wire to the left speaker's positive terminal.
4. Connect the white/black wire to the left speaker's negative terminal.

Connecting Power

Follow these steps to connect ground and primary, memory backup, and remote power.

1. Connect the black ground wire 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.
2. Connect the yellow wire (with in-line fuse holder) to your vehicle battery's positive (+) terminal or to a fuse that provides a continuous source of 12 volts. The connection provides continuous power for the clock and tuner memory when the ignition is turned off.
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 accessory (ACC) or START position.

This connection provides power to the stereo when you turn on the ignition or turn the key to ACC, and turns off power when you turn off the ignition. This prevents your vehicle's battery from being drained if you leave the stereo on when you turn off the ignition.

4. Connect the blue wire to any optional equipment that you want the stereo to turn on and off, such as a power antenna.

This wire does not provide power to the component. It simply turns other equipment on or off. If you do not use this wire, secure it with a wire tie and do not let it touch metal.

5. Plug the 14-pin wire harness into the stereo's 14-pin wiring socket.

Connecting the Antenna and the Battery

Connect the vehicle's antenna cable to the stereo's large black antenna connector, then reconnect the cable to the vehicle battery's negative terminal.

TESTING THE CONNECTIONS

Turn on your vehicle's ignition and test the stereo.

If the stereo does not work, immediately disconnect your vehicle battery's negative (-) terminal. Then, recheck your connections, or have a professional auto sound system installer install the stereo.

After you test the stereo and verify that everything works, make sure the connections are correctly marked or identified.

MOUNTING THE STEREO

Be sure you test the stereo first and verify that it works properly.

Follow these steps to mount the stereo.

1. Disconnect the cable from the vehicle battery's negative (-) terminal.
2. Temporarily disconnect the wiring harness and the antenna.
3. Insert the supplied sleeve into the dash. Then secure the sleeve to the dash by bending out the appropriate tabs with a screwdriver.

Bend out all the side tabs.

4. Reconnect the wiring harness and the antenna.
5. Slide the stereo into the sleeve until it locks into place.
6. To further secure the stereo, use the supplied hardware to attach one end of the supplied metal strap to the back of the stereo. If necessary, bend the metal strap to fit your vehicle's mounting area. Then attach the other end of the strap to an existing bolt on a solid metal part of the vehicle.

This strap also helps ensure proper electrical grounding of the stereo.

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

REMOVING THE STEREO FROM THE DASH

1. Disconnect the cable from the vehicle battery's negative (-) terminal.
2. Remove the metal strap attached to the back of the stereo.
3. Insert both of the provided keys into the slots at the lower left and right sides of the stereo. Then slide the stereo out of the dash.
4. Remove the keys from the slots by pressing the latches either below the keys or on the lower left and right sides of the stereo.
5. Disconnect the wiring harness and the antenna.
6. Reconnect the cable to the vehicle battery's negative (-) terminal.

CONNECTING A COMPACT DISC PLAYER

You can connect a portable CD player (or other audio component with a line-level output) to the stereo.

Use a stereo mini-jack cable with 1/8-inch plugs, such as Cat. No. 420-2387. Connect one end of the cable to the stereo's CD IN jack. Connect the cable's other end to the output jack of the CD player when you are not using it.

The stereo's control panel must be in place for the stereo to operate. When you remove it, the clock will display, but the stereo cannot be used. This is a simple, but effective, security feature

REMOVING THE CONTROL PANEL

1. Push down DOWN ARROW until you hear a click. The control panel swings out.
2. Remove the control panel, then store it in the supplied case.

REINSTALLING THE CONTROL PANEL

1. Gently squeeze the sides of the supplied case until the control panel pops out.
2. Insert the right edge of the control panel into the right edge of the recess. Make sure the pins in the recess fill the holes in the edge of the control panel.
3. Gently push the left edge of the control panel into the recess until you hear a click.

UNDERSTANDING THE CONTROLS

When you listen to your stereo, adjust the following controls to suit your listening preferences.

ON/VOL-To turn on the stereo, turn this knob clockwise until you hear it click. Turn the knob further clockwise to adjust the volume. To turn off the stereo, turn the knob counterclockwise until you hear it click.

Warning: To protect your hearing, do not listen at high volume levels. Slowly increase the volume to a comfortable listening level.

BAL - Rotate to adjust the balance between the left and right speakers.

BASS - Turn to increase or decrease low sounds.

TREBLE - Turn to increase or decrease high sounds.

SETTING THE CLOCK

1. Press F/C if necessary until the display shows the clock.
2. While you press and hold down F/C, repeatedly press TUN/SEEK DOWN ARROW until the display shows the correct hour. To make the hour advance quickly, press and hold down TUN/SEEK DOWN ARROW.
3. Continue holding down F/C and repeatedly press TUN/SEEK UP ARROW until the display shows the correct minute. To make the minute advance quickly press and hold down TUN/SEEK UP ARROW.
4. When the display shows the correct time, release F/C.

USING THE RADIO

1. Turn ON/Vol clockwise to turn on the stereo.
2. Press BAND to select between the 2 AM and 3 FM bands. AM1 or AM2 appears on the display when an AM band is selected. FM1, FM2, or FM3 appears on the display when an FM band is selected.

When you turn off the stereo, then turn it back on, the radio automatically tunes to the last station and band you selected.

3. Tune to the desired station in one of the following ways.

Manual Tuning: Repeatedly press TUN/SEEK UP ARROW or DOWN ARROW to tune up or down the selected band.

Seek Tuning: Press and hold TUN/SEEK UP ARROW or DOWN ARROW for about 1 second to tune to the next higher or lower station with a strong signal.

4. Adjust ON/VOL, BASS, TREBLE and BAL as desired.

Notes:

- * ST appears on the display when an FM stereo signal is received.
- * To improve reception of a weak FM stereo station, change the sound to monaural by pressing M/S. MO appears on the display. Press M/S again to return to stereo sound.
- * If the stereo does not find a strong station when seeking, the stereo searches the band again and stops on weaker stations.
- * To temporarily display the frequency of the station currently playing, press F/C. The display shows the frequency for 5 seconds, then returns to the time display.

Storing Stations

You can store up to 12 AM and 18 FM stations in memory. You can then select a stored station by pressing the correct memory location button.

1. Press BAND to select the desired band.
2. Use either of the tuning methods to tune to the station you want to store.
3. Press and hold the desired memory location button for about 2 seconds until it sounds a beep.

The band number, the frequency, and the memory location number appear on the display to show that the station is stored.

Automatically Storing Stations

You can let the stereo automatically store stations. You can then select a stored station by pressing the correct memory location button.

1. Press BAND to select the desired band (AM1, AM2, FM1, FM2, or FM3).
2. Use either of the tuning methods to tune to the frequency just before the first station you want to store.
3. Press and hold down AMS for about 3 seconds. The stereo scans the selected band, then, after about 2 seconds, automatically stores the first six stations it finds. The stereo beeps as it stores the first and last stations.

The band number, the frequency, and the memory location number appear on the display.

4. Press AMS when the stereo has stored the six stations.

Note: If you do not press AMS, the stereo will scan the band again and tune to each stored station for about 5 seconds.

Selecting a Stored Station

To select a stored station, simply press the desired memory location button. To scan stations you already stored press AMS.

USING THE CASSETTE PLAYER

Warning: To prevent hearing damage, always turn the volume to its lowest level before you begin listening to a tape.

Note: Avoid using C-120 cassette tapes. They are very thin and easily become tangled in the tape-handling parts.

Follow these steps to play a cassette tape.

1. Take up any slack by turning the cassette's hub with your finger or a pencil.

Avoid touching the tape.

2. Insert the tape into the cassette compartment with its open edge to the right and the side you want to hear facing up. The tape begins to play.
3. Adjust ON/VOL, BASS, TREBLE, and BAL to suit your listening preferences.
4. Press the eject button halfway to fast-forward the tape. To stop fast-forward, gently press the eject button again.
5. Push the eject button all the way to stop the tape and eject the cassette.

RADIO

	FM	AM
Frequency Range	88-108 MHz	530-1710KHz
IF Rejection	75 dB	60 dB
Image Rejection	45 dB	70 dB
Selectivity	60 dB	30 dB
Signal-to-Noise (S/N) Ratio	66 dB	50 dB
Stereo Separation	30 dB	-
Usable Sensitivity	2.5uV (3% THD)	32uV (20 dB S/N)

CASSETTE PLAYER

Cassette Mechanism.....	Auto-stop
Wow and Flutter.....	Less than 0.35% WRMS
Signal-to-Noise Ratio.....	50 dB
Separation.....	38 dB
Frequency Response (-3 dB).....	125 to 8,000 Hz

GENERAL

Power Source.....	12 Volts DC Negative Ground
Speaker Output Impedance.....	4 ohms or 8 ohms
Output Power.....	9 Watts (4.5 Watts Per Channel)
Chassis Size.....	2 5/16 x 7 3/8 x 7 9/16 Inches (58.7 x 187.3 x 192.1 Millimeters)
Weight.....	3 lbs 5 oz (1.5kg)

CD PLAYER INPUT

Input Type.....	Line Level, Stereo Mini-Jack, 1/8-inch
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Specifications are typical; individual units may vary. Specifications are subject to change without notice.

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