**Tools Needed:** (depending upon vehicle)

<table>
<thead>
<tr>
<th>Tool</th>
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<tbody>
<tr>
<td>Flat Blade Screwdriver</td>
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<tr>
<td>Phillips Screwdriver</td>
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<tr>
<td>Panel Tool</td>
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<tr>
<td>Pliers</td>
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<tr>
<td>Drill &amp; Bit Set</td>
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<tr>
<td>Utility Knife</td>
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<tr>
<td>Wire Stripper/Crimp Tool</td>
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<tr>
<td>Socket &amp; Ratchet Set</td>
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<tr>
<td>Torx Driver Set</td>
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**Important**

Before starting, compare items on your invoice with items received. Carefully check through packaging material. If any item is missing, please call: Crutchfield Customer Service at 1-800-955-9091

Although reasonable attempts are made to verify the accuracy of the information contained in this guide, it is presented without warranties or guarantees of any type due to the constantly changing nature of this type of information and running changes in vehicle production. Any person or entity using this information does so at his or its own risk. If you find that our instructions do not apply to your vehicle, or if you have questions, do not continue with your installation. Contact our toll-free technical support for assistance (Tech phone number is on your invoice).

**A note about wiring:** In addition to the tools listed, your peripheral installation may require power and ground wiring, plus RCA cables, terminals, and a remote turn-on lead. The easiest way to get all of these items is in an amplifier wiring kit, available at crutchfield.com.

As with any car audio/video installation, your first step is to disconnect the negative terminal of your car battery to prevent short circuits. Check your MasterSheet™ (if available) or vehicle owner’s manual for specific directions. In some vehicles, disconnecting the battery may require you to re-enter a security code or have the dealer reset the internal computer.
Configurations for Connecting a CD Changer to Your In-dash Receiver

Aftermarket receiver to same-brand changer
Connecting a same-brand CD changer to an aftermarket receiver requires mounting the changer (securing it in the location that you choose), running the proprietary cable, and then making a connection at the back of the receiver. You’ll need to remove the receiver from the dash to access the rear of the receiver’s housing — refer to your Crutchfield MasterSheet™ (available for most vehicles) for instructions on removing the receiver.

Note: When connecting a same-brand peripheral to a receiver, be certain that the components are able to work together. Sometimes the proprietary operating protocol, plug, or software change over time within a brand. If you have any questions about the compatibility of a receiver/peripheral combination, contact a Sales Advisor.

Factory receiver with changer controls to factory-matched CD changer
CD changer/adapter packages from USA SPEC work with the factory sound systems of many vehicles. An adapter cable (included) runs from the changer to the port on the back of the factory radio. Availability of these packages changes frequently, as do makes and models of compatible vehicles. Click "What Fits My Car" online at crutchfield.com or contact a Sales Advisor to learn more about the specific options available for your vehicle.

Factory receiver with changer controls to aftermarket changer via vehicle-specific adapter
If your factory receiver has built-in controls for a CD changer or other peripheral source, you may be able to connect an aftermarket changer via a vehicle-specific adapter. These adapters are available for a number of vehicles. Installation involves connecting the adapter to the aftermarket CD changer and to the factory receiver. Some vehicles already have a factory-installed CD changer cable, so the vehicle-specific adapter is connected at the changer location (typically in the trunk). In most vehicles, you will have to run the cable from the changer up to the dash (see page 6).

Vehicle-specific adapters allow you to connect an aftermarket changer to a factory stereo with changer controls.
If your factory or aftermarket receiver doesn’t have changer controls, an auxiliary input, or an available adapter, you can add an external source to your system with an FM modulator (sometimes called an RF, or radio frequency, modulator). A wireless FM modulator transmits the source signal to your receiver over a standard FM frequency, which you can tune on your receiver. A wired FM modulator offers slightly better performance, since it plugs into the antenna input of the receiver.

**Installing wired FM modulators**

To install a wired FM modulator, first find a good mounting location. Keep in mind that you will need to access your factory radio through its antenna input, and connect the peripheral source to the modulator. Common locations include the trunk, under a seat, behind an interior panel, and in the cavity behind the receiver (see page 5).

FM modulators require a 12-volt connection to a switched (on/off) power source. Since you have to remove your radio to get to the antenna input, you’ll have easy access to the power and ground wires in your factory radio harness. If you don’t want to splice into your factory wires, you can make the power connections at your fuse panel. Look for empty fuse holders and insert fuse taps. Attach your 12-volt power wire, which normally comes out of the FM modulator hideaway box, to the fuse tap. You’ll also have a black ground wire that must be secured beneath a nearby screw that makes contact with bare metal on the body of the vehicle.

Following the instructions on your Crutchfield MasterSheet™ (available for most vehicles), remove your receiver from the dash and unplug the antenna from the rear of the unit. Plug the vehicle’s antenna cable into the antenna input on the FM modulator. Next, run the output of the modulator to your receiver’s antenna input (certain vehicles require an antenna adapter — use the online Vehicle Selector or call a Sales Advisor to inquire about a specific vehicle). If this leaves slack in your antenna lead, secure it with a wire tie to prevent interference with safe vehicle operation.

Install your new component and connect its audio output at the FM modulator. Determine which of the available modulation frequencies is least likely to be shared by a strong local radio signal and set it on the hideaway box before you mount the unit (on some models you can change this setting on the fly).

**Wireless FM modulators**

Installation is even easier with a wireless FM modulator, allowing you to make connections without removing your receiver or running extra wires. The trade-off, however, is in sound quality. While wireless modulators are convenient, they are susceptible at times to outside interference and static. Installation is easy — just connect the modulator to your source and plug in its cigarette lighter power adapter.

**SAFETY CHECK**

✓ Check that wires do not interfere with vehicle operation.
Auxiliary Inputs

An auxiliary input makes it easy to connect almost any aftermarket peripheral to your receiver, preserving the sound quality of the original source. Depending on your receiver, you’ll either have a 1/8” mini jack or a pair of RCA connectors on the back of the unit. Some models offer a mini jack input on the front panel of the receiver, which can be great for connecting a portable player that you’ll be taking in and out of the car. Some radios require an adapter to convert the CD changer port into an auxiliary input, so check your manual or call a Sales Advisor if you have any questions.

To connect a peripheral via an auxiliary input, install your new component (connecting it to power and ground if needed; the AUX IN only receives the audio signal). Run a cable from the audio out of the peripheral to your receiver. If your input is located on the rear of your receiver, remove it from your dash using the instructions in your vehicle’s Crutchfield MasterSheet™ (available for most vehicles). It may be convenient to connect an extension cable to the rear auxiliary inputs, and to position the cable’s female inputs at an easy-access location in your vehicle. This allows you to plug in your component (you may need a mini jack to RCA adapter) without removing the receiver every time. Then, set the receiver to recognize the new AUX IN connection (if necessary).

Cassette Adapters

A wired cassette adapter provides a convenient way to add a peripheral to a cassette-based audio system. In fact, it’s a great way to connect a portable player or satellite radio tuner to a rented or leased car, since you don’t need to remove the receiver or disturb the installation in any way. A cassette adapter, however, is a less-than-perfect solution compared to a permanent installation because it doesn’t provide power for your source, won’t sound as clear as a direct-wired connection, and clutters your dash with unsightly wires.

With that in mind, connecting a cassette adapter is a relatively simple installation. The cassette unit loads into your receiver and trails a cord with a 1/8” mini jack plug on the end. Just connect your source, plug it into the adapter, power it up (with either batteries or a cigarette lighter adapter), and go.
As portable music players like the Apple iPod Music Player have become more popular, mobile audio manufacturers have sought ways to integrate them into the car without sacrificing sound quality or usability.

Many manufacturers now offer a hideaway box that allows users to listen to their iPod through their car speakers, control song and folder selection from the receiver's display, and charge the iPod's batteries via a single connection. The compact box typically connects to the changer input on the rear of a compatible, same-brand receiver, and connects to the iPod's dock connector with a 6-pin FireWire cable. The box can be secured under a front seat (or any convenient location) with self-tapping screws or Velcro® strips. See our iPod Installation Guide for more details.

### Mounting Tips:

**Trunk**
If you plan to suspend a CD changer or hideaway box from the bottom of the rear deck, first make sure the component won't interfere with the torsion bar of the trunk lid. Observe how it moves as you close the lid before you settle on the exact mounting spot.

Many changers come with mounting brackets that connect to the vehicle with bolts or screws. Get a helper to attach the nuts to the mounting bolts while you hold the changer in place. Drill holes in the deck and run the bolts through to secure your CD changer. If your changer mounts with self-tapping screws instead, you might be able to handle this step by yourself.

**Under a seat**
When mounting a peripheral source component under a seat, be certain that the component is well-ventilated and that it will not interfere with any seat adjustment controls. You may find it necessary to remove the seat to access the floorboard. If you use self-tapping screws or drill to set holes for securing the component to the vehicle, make sure you know what you're drilling into. Check that the gas tank, brake line, and other parts are not on the other side of where you are drilling/screwing. Most components also include the option of using Velcro strips.

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**CAUTION:**
Always be careful when drilling or cutting in a vehicle. Be aware of things such as wiring, windows, fuel lines and safety devices. Check drilling/cutting depth and location to avoid damage to vehicle appearance.
Cable Routing

If you’re mounting your peripheral source in the trunk, you’ll probably want to run the signal/controller cable(s) from the in-dash receiver down one side of your car. You’ll have to remove your receiver from the dash to access the changer connection. If you also have an amplifier in the trunk, run the source’s cables on the side opposite the amp’s 12-volt power cable; you’ll be less likely to introduce engine noise into your system.

In most cars, you’ll be able to find a hole or crevice to slide the cable from the trunk into the passenger compartment. You may have to remove the rear seat to find it. To hide the cable beneath your carpeting, you will have to remove the door scuff. As you pass the cable along the floorboard, make sure it doesn’t sit too close to a seat rail, where it could be pinched or damaged when the seat is adjusted.

If you’re running the cable along the driver’s side, you’ll want to make sure it doesn’t end up in the way of the pedals, the steering column, or hood latch. Tie it firmly in place with wire ties and coil up any excess cable, to ensure safe operation of the vehicle.

Remember to test the new source thoroughly before you fully reinstall your in-dash receiver.

See below and page 7 for tips on removing panels to conceal cables.

Panel Removal

The instructions below address, in general, what panels may need to be removed and how they typically come off. Often, panels can be pried up at edges. Screws and retaining clips might also be present that will require removal (Figure 1). To prevent damage, use a panel removal tool available at crutchfield.com. Always use care when removing panels.

Door Scuff Plate removal
The plates are usually removed by prying up the edges to release clips. Some vehicles will have screws present which will need to be removed (Figure 2).

Seat Belt removal
A seat belt may be located on the panel that needs to be removed. Most seat belt anchor covers pry off. The seat belt anchor is secured with a large nut or bolt (Figure 3).

(Continued on next page)
Panel Removal (Continued)

**Pillar Trimpanel removal**
Remove seat belt if present. Remove screw covers, screws and plastic retaining clips, if present. Pry up edges of panel to remove (Figures 4 & 5).

**Kickpanel removal**
Look for screws and pry-out retaining clips to remove. Pry out edges of panel to release and remove (Figure 6).

**Routing wire behind dash**
Route wire behind dash and secure with plastic wire ties. Be sure that wire does not interfere with any moving parts to ensure safe operation of vehicle.

**Routing wire for components and power connections**
Determine desired locations for each component. Use the most direct route for wires. Remove panels necessary to route and conceal wires. Test system before reinstalling panels.

**Tech Tips**

- Changer connection may be found at tuner amp module for select Ford vehicles, or in the trunk area at the factory changer location. The factory changer cable plug is usually found underneath the trunk carpet. Volkswagen Jetta and select Volkswagen vehicles may have a dummy plug over the changer cable, which must be removed before connection is made.

- Most USA SPEC remote mount changers will not mount in factory location. Velcro strips may be used to keep changer in place instead of drilling screw holes.

- RF modulated changers can use the factory stereo power wires.

- GM or Chevrolet vehicles may have a factory mini antenna plug. An antenna adapter will be required when installing an RF modulated changer.

![SAFETY CHECK]

✔ Check that wires do not interfere with safe vehicle operation.
✔ Make sure seats and seat belts are secured to manufacturers’ specifications if removed.