

CRUTCHFIELD®

iPod Installation Guide

IMPORTANT

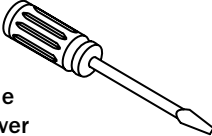
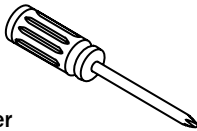
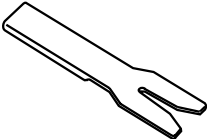
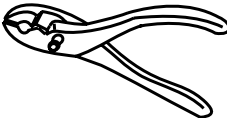
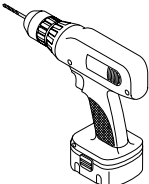
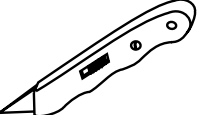
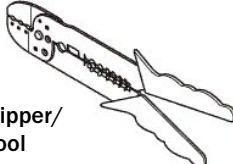
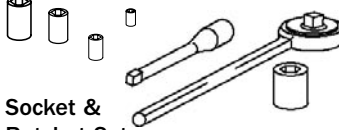
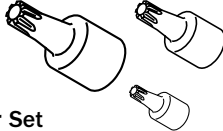
Before starting, compare items on your invoice with items received. Carefully check through packaging material. If any item is missing, please call: **Crutchfield Customer Service at 1-800-955-9091**

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 support phone number is on your invoice) (Tech support phone number is on your invoice).



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 Crutchfield MasterSheet™ (available for most vehicles) 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.

Tools Needed: (depending upon vehicle)

 <p>Flat Blade Screwdriver</p>	 <p>Phillips Screwdriver</p>	 <p>Panel Tool</p>
 <p>Pliers</p>	 <p>Drill & Bit Set</p>	 <p>Utility Knife</p>
 <p>Wire Stripper/ Crimp Tool</p>	 <p>Socket & Ratchet Set</p>	 <p>Torx Driver Set</p>

Three Requirements For Using An iPod In Your Car

You need to take three things into account in order to listen to your iPod safely in your car:

1. Signal Transfer

You need a way to transfer the audio signal from your iPod to your car stereo and car speakers.

2. Power Supply

You'll want to have a way to keep your iPod charged while using it in your car.

3. Car Mount

You don't want your iPod sliding around the floor of your vehicle — this is a potential hazard should you have to stop quickly, and will likely result in your iPod getting scratched. Depending on how you choose to connect your iPod to your car stereo, you will either want to have a secure mount that safely displays the iPod, or you will want to stow your iPod away in a glove compartment or console.



An iPod adapter for a factory stereo.



An iPod cigarette lighter power adapter.



An iPod cup-holder car mount.

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Signal Transfer: iPod Adapters

There are four different ways to connect your iPod to your car stereo. Each option presents a different level of sound quality, degree of difficulty to install, and requirements for making the audio connections.

iPod adapters

Adapters specifically designed for connecting an iPod to your car stereo will provide the best possible sound quality. There are two types of special adapters for connecting your iPod to your car stereo: factory stereo adapters and aftermarket stereo adapters. There are important differences between these adapters. One is for connecting your iPod to the factory stereo and the other is for connecting your iPod to a brand-name (or aftermarket) car stereo.

Factory stereo iPod adapters

To connect your iPod via a factory stereo iPod adapter, you will need to access the CD changer port on your factory stereo. The CD changer port is usually located on the rear of the stereo — follow the directions on your Crutchfield MasterSheet™ (available for most vehicles) or the In-Dash Receiver Installation Guide to remove the factory stereo from the dash to access the port. Some vehicles, however, are equipped with a pre-installed CD changer cable in the trunk. In these vehicles, you will need to disconnect the changer (if installed) and plug the adapter into the cable in the trunk (see photo).

Once you have connected the adapter to the factory stereo CD changer port, simply plug the other end of the cable into the iPod's dock connector (most factory stereo iPod adapters work only with iPods with a dock connector). Now that you have the iPod connected to your stereo, find a good place to mount the adapter box (use self-tapping screws, Velcro strips, or zip ties). Good locations include behind the dash, under a seat, in the glove compartment, or in the center console.

Factory stereo iPod Adapters give you control of the iPod from your car stereo, including your steering wheel stereo controls. Most of these adapters also charge the iPod when connected, so you don't have to worry about running down the iPod's battery or having to use a cigarette lighter power adapter.

Aftermarket stereo iPod adapters

If you have replaced your factory car stereo with an aftermarket car stereo, chances are that the same company that made your stereo has an adapter that will allow you to connect and control your iPod from the stereo.

These adapters will install just like a factory stereo iPod adapter. You will have to remove the stereo from the dash, connect a cable to your CD changer port, and connect another cable to your iPod. Mount the compact hideaway box in a convenient location and secure it with self-tapping screws, Velcro strips, or zip ties. Some of these aftermarket iPod adapters will offer a "pass-through" connection, so you can keep your changer or other audio device connected to your stereo in addition to your iPod. Like factory stereo iPod adapters, aftermarket adapters will charge the iPod when connected.



You will need to remove the factory radio to connect a factory iPod adapter to your car stereo.



In some vehicles, the factory CD changer connections are made in the trunk.

! 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.



A brand-name radio iPod adapter connects to your radio's CD changer port and the iPod.

Auxiliary Inputs

Auxiliary inputs are typically found only on brand-name car radios. There are adapters, however, that can convert the CD changer port on the back of both factory and brand-name radios into an auxiliary input (check your car stereo manual or call a Sales Advisor to see if you need an adapter for your stereo). Depending on your receiver, an auxiliary input may be a 1/8" mini-jack (located on the back of the stereo, or sometimes, on the face), or a pair of RCA connectors (located on the back of the unit).

To connect your iPod to an auxiliary input, run a cable from the headphones jack on your iPod to your receiver (you will need a mini-jack-to-RCA adapter if your stereo uses RCA inputs; otherwise, you can use a mini-jack-to-mini-jack cable). If your input is located on the rear of your receiver, remove it from the dash by using the instructions in your vehicle's Crutchfield MasterSheet™ (available for most vehicles), or our In-Dash Receiver Installation Guide. It may be convenient to connect an extension cable to the rear auxiliary inputs, and to position the cable's female inputs at a location that is easy to access from the front seat. This allows you to plug in your iPod without removing the receiver every time. Then, set the receiver to recognize the new auxiliary connection (if necessary).

Using an auxiliary input to connect your iPod gives you the same high level of sound quality as an iPod adapter. However, an auxiliary input will not provide power to your iPod. If you plan to use your iPod in your car frequently, or for a long trip, you'll want to invest in a cigarette lighter power adapter — most power adapters plug into your iPod's dock connector.



Using an auxiliary input to connect your iPod will give you sound quality that is as good as that from an iPod adapter.

FM Modulators: Wired

FM modulators

If your factory or aftermarket receiver doesn't have changer controls, an auxiliary input, or an available adapter, you can listen to your iPod via an FM modulator (sometimes called an RF, or radio frequency, modulator). A wireless FM modulator transmits the iPod's playback 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.

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 you'll need to connect the iPod to the modulator. Common locations include under a seat, behind an interior panel, and in the cavity behind the receiver.

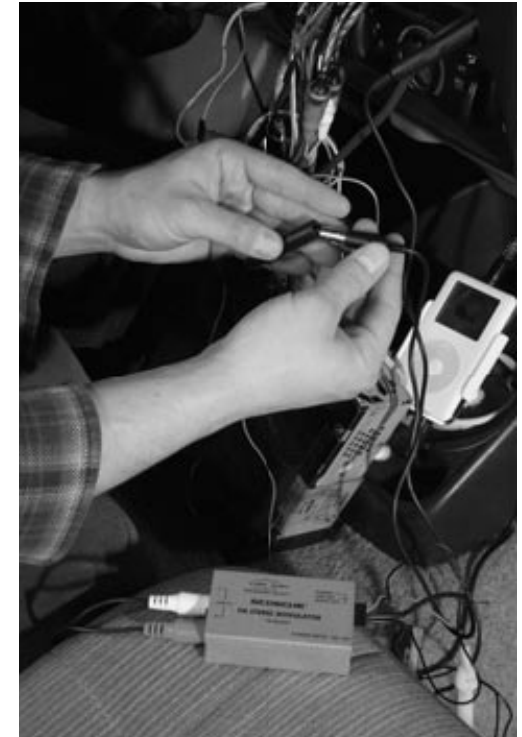
FM modulators require a 12-volt connection to a switched (on/off) source. Since you have to remove your radio to get to the antenna input, you'll have easy access to the power and ground wires in your factory radio harness. If you don't want to splice into your factory wires, you can make the power connections at your fuse panel. Look for empty fuse holders and insert fuse taps. 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) or our In-Dash Receiver Installation Guide, 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 antenna adapters — use the online Vehicle Selector at crutchfield.com or call a Sales Advisor to inquire about your specific vehicle). Tie up any slack in the cable so it won't interfere with safe vehicle operation.

Most wired FM modulators accept RCA inputs, so you'll need a mini-jack-to-RCA cable to connect your iPod. Once you have connected the iPod, 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).



You can tap power and ground for a wired FM modulator from the car radio wiring harness.



A wired FM modulator connects between the vehicle antenna and your radio.

! 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.



Use a mini-jack-to-RCA cable to connect your iPod to the FM modulator.

Wireless FM Modulators & Cassette Adapters

Wireless FM modulators

Wireless FM modulators make it even easier to listen to your iPod, 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 iPod and turn it on. Some iPod accessories combine a wireless FM modulator, a power adapter, and a mount for your iPod.

Cassette adapters

Wired cassette adapters are a convenient way to connect your iPod to a cassette-based audio system. In fact, it's a great way to connect an iPod 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 to the iPod, 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 it to your iPod, plug it into the adapter, power it up, and go. We suggest investing in a cigarette lighter power adapter to keep your iPod charged up while you're on the road.



A wireless FM transmitter plugs into the iPod's headphone jack.



A cassette adapter remains a popular way to play an iPod through a car stereo.

Power Adapters & Car Mounts

Power adapters

If you plan to use your iPod in your car everyday, or are just gearing up for a long road trip, you'll want to be sure to have an auxiliary power supply with you. There are two types of power supply accessories for using your iPod in the car. Each connects to your iPod via the dock connector.

1. Cigarette Lighter Power Adapters

Pros: A cigarette lighter power adapter provides a steady supply of power to your iPod and charges the internal iPod batteries, so you don't have to worry about running out of juice while you're on the road.

Cons: Unsightly wires hang over your dash.

2. Backup Battery Packs

Pros: Whether you have a rechargeable battery pack or one that accepts AA batteries, these backups typically attach directly to your iPod via suction cups or clips. You don't have to worry about wires draped across the dash.

Cons: These provide anywhere from 8 - 20 hours of battery life (depending on the type of iPod you have), but once they are drained, you'll have to replace the batteries or charge them up again. Most iPod car mounts are not designed to accommodate battery packs.

Car mounts

There are several different ways to securely mount your iPod in your car:

1. Cup-holder mounts

Simply place this mount in one cup holder and use the suction cup to attach your iPod.

2. Flexible gooseneck arms

These may screw into the floor, fit in a cup holder, or attach to a cigarette lighter power adapter. They offer the best viewing angle.

3. Vehicle-specific mounts

Custom mounts designed to clip to vents, screw onto the dash, or be secured with Velcro.

If you do not have a good option for mounting your iPod in your car, experiment with placing the iPod in various console pockets or your glove compartment. The last thing you want is to place the iPod directly on a seat or the floor, where it can move about freely.



A battery pack can keep your iPod charged for a long road trip; most car mounts, however, are not designed to accept an iPod with a battery pack.



A cup-holder mount is a convenient way to secure an iPod in a vehicle.

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Tech Tips

- CD changer ports may be located on remote factory tuner amp modules.
- If your vehicle already has an in-dash six disc CD changer separate from the factory radio, the adapter slot is already in use. Owners must unplug the unit from the slot; otherwise, loss of the in-dash unit will occur.
- GM and Chevrolet vehicles may have a factory mini antenna plug. If using an RF modulator, antenna adapters must be used.