

Getting Internet Access on the Road

Getting Internet access while traveling in an RV is different than at home. With no cable or phone line to the RV, there is generally no way to get the high speed cable or DSL services many of us have become accustomed to. Fortunately there are alternatives.

Wi-Fi—Connecting Without Cables

Wi-Fi is one of the easiest and least expensive ways to get Internet access while on the road. Wi-Fi itself is not an Internet service, but it can provide the means to get to the Internet. Many campgrounds now provide Internet access via Wi-Fi and it is often free or a few dollars a day. In addition, many restaurants, motels, truck stops and public libraries have Internet via Wi-Fi that may be available for your use.

What is Wi-Fi? Wi-Fi is a wireless Local Area Network (LAN). LANs are designed to share things among computers, so if one of the computers on the LAN has Internet access, all the others can use it too. You don't have to know how LANs work to use a Wi-Fi connection—it's all pretty much automatic with today's PC or Mac computers. Many newer laptops, notebooks or netbook computers have a Wi-Fi device built in and in others it can be added by simply plugging a small device into a USB port. Windows and the Mac OS have excellent Wi-Fi support and will automatically detect available Wi-Fi networks you may be able to use, and once connected will automatically find and use a shared Internet access point.

Access to Wi-Fi... Typically a campground or other business will have its own high speed Internet access, perhaps via cable or, and shares that with its customers via a Wi-Fi wireless LAN. This is known as a *hot spot*. A hot spot may theoretically extend for several hundred yards in all directions

from its source antenna, but Wi-fi signals are easily blocked by walls, trees, buildings and other RVs, so most are quite limited in range. Your computer's Wi-Fi adapter is always listening for hot spots and will list those within range for your selection. Exactly how to do that depends on your operating system and the adapter software, but most require only a keystroke or two to access the list.

McDonald's and Panera Bread Company are two businesses that offer free Wi-Fi hot spots to their customers in most of their locations. Public libraries often have free Wi-fi hotspots as well. Some businesses may have Wi-fi networks but do not make them available for public use. Your Wi-Fi adapter will "see" these networks and display their names, but you won't be able to access the internet via them.

In some cases the Wi-Fi hot spot will be provided by a third party and there will be a charge for its use. This is typical in truck stops such as Flying J and also in some campgrounds. Boingo and Tingo are two such services you may encounter. In most cases you can pay by the day or month right from your computer at the time you make the connection. You may be able to buy a monthly subscription that is good wherever that company offers Wi-Fi services.

Wi-Fi Connection Speeds... Wi-Fi does not guarantee fast Internet access either. The Internet link itself may be fairly slow, or there may be so many people sharing it that it slows down for everybody. Last, you generally cannot pull into a rest area or supermarket parking lot and expect to find a Wi-Fi "hot spot" to get online to locate a campground or an RV service center. Sure, there are other ways to do that sort of thing, but it sure is convenient to be able to use the Internet when you want to find something

in an unfamiliar area. If you could carry your Internet access around with you, life could be much easier. Read on – there are ways to do just that!

Wi-Fi Etiquette... There often are multiple Wi-Fi networks available in each area, but just because they are there does not mean they are available for your. Both etiquette and law require that you have permission to use the services of someone else’s Wi-Fi network. In fact, using a Wi-Fi network without the owner’s permission is considered theft of services, so you really want to have it. As a customer of a business that provides free Wi-Fi service, you can assume it is ok, but for other networks be sure to ask first. Some Wi-Fi networks will require a password to join in the LAN, and you will be given (or sold) the password as your “permit” to use it.

If Wi-Fi is often free and so easy to use, why use anything else? First of all, Wi-Fi is not available in every campground – far from it. And Wi-Fi has very limited range, often only a few hundred feet from the source and rarely more than several hundred feet. And it is easily blocked by trees, buildings and even other RVs. That means you may have to take your computer and move close to the source, e.g. the campground office or a local restaurant, in order to get online.

Improving Your Reception... A typical USB port Wi-Fi adapter looks like this:



Photo 1- Belkin USB Wi-Fi adapter

These small adapters are convenient but its radio is relatively weak and its internal antenna is small. You can improve your Wi-Fi reception by using a more powerful Wi-Fi adapter. A larger, more powerful, adapter can get you better quality Wi-Fi and at longer distances. With the addition of an external antenna, you can do even better. An example of a more powerful Wi-Fi adapter is the Senao EUB-362 shown here with a small external antenna:



Photo 2 - Senao Engenius Long range Wifi adapter

The Senao uses a stronger radio plus an external antenna to improve both range and speed.

Cellular Internet

The major cellular phone services also offer cellular Internet access. Verizon, Sprint, AT&T and T-Mobile are the most widely available and there are Canadian services too for those north of the border. Verizon claims to have the largest high speed data network, while AT&T claims to have the fastest. However, cellular is very competitive and the technology and services change rapidly, so take the claims with a grain of salt.

An advantage of cellular Internet is that it is your own personal connection that you carry with you. You can be instantly online most anywhere you go, including while driving down the highway. If you have more than one computer in the family, you can even share it via a cellular data router, which creates your own Wi-Fi hotspot to share the connection.

Speed and cost

Modern cellular data is much faster than the dial-up telephone service you may remember from years ago and can achieve speeds similar to cable or DSL broadband Internet. Cellular data service is an extra service with an extra fee, but it is wide spread and ultra convenient. Typical cost will be \$60/month for unlimited online time and up to 5 gigabytes of data transfer. Five gigabytes is a lot of data, far more than atypical person ever uses just for email and web surfing or even downloading photos and files. However, if you watch a lot of video or use other *data streaming* applications such as stock tickers or TV over the Internet, you can quickly use that much. Charges for extra data can be high, so you may want to think about how you use this service.

A drawback of cellular data is that all the users in an area share the same cell tower. Sometimes there are so many users that the tower cannot handle them all at once and has to slow each of them down. Sometimes, such as at a major RV rally, there are so many users that the service slows to a crawl. Mostly, though, it works well.

Cellular is also affected by distance and radio interference from mountains and tall buildings. The further you are from the cell tower, the poorer the signal quality and therefore the slower the data transfer speed. As with wifi, this can sometimes be improved with the addition of an *external antenna* or a *cellular amplifier* (or both). If you frequent places that are far from any city or has mountainous terrain, you may need to look into those accessories.

What is “tethering”?

There are two different methods of obtaining cellular data service. One uses a cellular telephone that includes data *modem* capability and connects to the computer, a procedure called *tethering*. While the phone is “tethered” to the computer, it can still make and receive phones, but it may interrupt or slow down the Internet access (depends on the specific equipment in use). The connection from phone to computer is typically a USB cable, but may also be done wireless via Bluetooth, similar to the way wireless headsets are used. Not every phone has data modem capability and those that do may offer USB cable, Bluetooth or both. Be sure to ask when selecting a phone.



Photo 3-Tethered cell phone and laptop

If you wish to “tether” a cell phone for Internet data service, you will need an extra cost service on your voice phone account, but once you have it the Internet connection time is separate from your phone’s voice minutes. Tethering works well for people who don’t need cellular Internet access all the time, because you can usually add the service to your phone account for a few days or weeks and remove it when you no longer need it. Details vary, so be sure to discuss with your phone service provider.

What is an “air card”?

The second method for cellular Internet access is the use of a dedicated *cellular data modem*, often inappropriately referred to as an *air card*. “Air Card” is a trademark of the Sierra Wireless company and should not be used generically. A cellular data modem has no voice capability and plugs directly into the computer, usually a USB port. It also has its own phone number, so it does not interfere or interact with voice service. The cellular data modem is very convenient in size and shape too, with no cables to deal with. And since connect time is unlimited in most cases and only the data transfer amount is counted, it can be left connected to the computer at all times, giving you an around the clock Internet connection.



Photo 4- Novatel USB 727 cellular data modem

A cellular data modem has its own phone number and generally requires a longer term commitment than tethering, so there will typically be additional fees if you cancel or suspend the service when not needed. Check with the cellular provider to learn the current details and options.

Satellite Internet

For some people, mobile Internet via satellite will be the way to go. It’s a reliable, high speed Internet connection you take with you and it works [almost] anywhere. Forget that lovely site in the forest, though, because your Internet dish must be able “see” the southern sky. And unlike cellular Internet, you must be parked – it does not work while you drive down the road.

The satellite dish used for Internet service transmits as well as receives, so it requires a special, larger, dish and very critical aiming. It is possible for a skilled person to set one up on a tripod on the ground, but it is tricky and requires special training, so few do so. Roof mounted, automatic aiming dishes are the way to go. The mobile internet dish is separate from your TV satellite dish, though it is possible to mount an LNB for a TV signal on a special adapter on an internet dish. This is called *bird on a wire* but does not perform as well as a separate tv dish.



Photo 5 - Mobile internet dish

Cost and speed

Motosat is the leader in Internet data dishes with its Datastorm dish and Hughes Net the primary mobile satellite Internet provider. iDirect and Gilat are other service providers. A mobile data account with Hughes-Net will cost about \$70/month for approximately 1 mbps download, 125 kbps upload, basic mobile service. Plans with faster data upload speeds can be up to \$180/month, but most RVers seem happy with the base plan. Equipment cost for the fully automatic Motosat Datastorm dish is about \$5300-\$7500 installed on the roof of your RV, depending on where you buy.

What about long term campsites?

If you are a snowbird and don't move your RV to another site very often, you may be able to get the local cable or DSL provider to wire your campsite just like a fixed

residence. Some sites may already be wired and you merely have to activate the service, either yourself or through the campground office. Some snowbird parks in Florida, Texas and Arizona have permanent cable or phone wiring in the park, making service to your site simple and no more expensive than at a fixed home.

Who is my ISP?

An ISP is an Internet Service Provider. They provide the physical path to get your data onto the Internet and may also provide you with an email mailbox (your address, e.g. myname@myhouse.com), and an email transmittal service called SMTP. If you sell the house and cancel your Internet service account, what happens to the email that used to go there? Well, it still goes there, but if your email account is with the ISP and you cancelled that, you lose your access to that mailbox as well. But you can also have an email mailbox with a third party such as Gmail, Yahoo or. That mailbox will stay around and you can still access it from anywhere you may be on the Internet. Yahoo, AOL and Gmail also provide an SMTP service, so you can send mail as well. If you usually read and store your mail online (called *webmail*), nothing changes for you. However, if you download your email to your own computer with an email client such as Outlook or Thunderbird, you may need to adjust your account settings to reflect the change to a new email mailbox and SMTP service.

When you are on the road and getting your Internet via Wi-Fi, the campground or other business that supplies the Internet connection is your temporary ISP. They provide physical access to the Internet, but not email mailboxes or SMTP mail services. You have to “bring your own” and have your own account with somebody like Gmail, Yahoo or AOL. Same thing if you use cellular Internet – the cell services do not provide email addresses or SMTP services. A satellite service account, however, gets you the email mailbox and services just like at home.

What's the best choice?

Internet on the Road comes down to a tradeoff between convenience and cost. Free Wi-Fi hotspots are great where they are available, but you usually have to go to them rather than sit at your campsite with all the comforts of home. Cellular (tethering or data modem) works great in most areas and is very convenient, but the monthly cost may be more than many want to pay, especially for weekend or vacation use. Satellite internet is just plain expensive both up front and monthly, but may be a necessity if you camp far from cellular towers and Wi-Fi hot spots. Whichever you choose, you don't have to leave the internet behind when you go on the road in your RV.