



# High-Speed Internet on the Road

**Wi-Fi, Cellular, and Satellite:** As RVers, we may want to 'get away', but we also want to 'stay connected.' We want our phones, email and web-based resources. With today's technology, we have it. The only problem is that there are too many choices! All of them can work great if you know what you're doing. None of them are perfect.

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## Satellite

### 1. Datastorm Satellite Internet (see Video: Satellite Internet)

- For our first 5 years of fulltime RVing we used a Datastorm™ automatic, roof-mount satellite dish. It's the only thing that guarantees we will have Internet \*anywhere\* even where we have no cell phone service. After we park, we push a button and we're online in within 15 minutes.
- The cost to purchase and install an automatic, roof-mount satellite dish is about \$5 – 6,000. Monthly service is usually \$80.
- You do need a clear view of the southern sky. It won't work in the bottom of a narrow canyon, or when the sky is obscured with heavy tree cover.

### 2. Is there a less-expensive Satellite option?

- Yes, you can buy a satellite dish on a tripod for approximately \$1,500, and the service is about \$60/mo
- You must have the space to store it while traveling and you must be willing to spend the time and effort to set it up yourself.

### 3. Can Satellite get me Internet in Mexico, Canada, or Alaska?

- Yes, but you may have to get recommissioned to connect thru a different satellite. Satellites have names like 'SatMex 5', or 'Horizons 1.' They each have their own coverage area or 'footprint.'

### 4. Are trees a problem with Satellite Internet?

- Yes – all you need is a small hole thru the trees, but it must be in the exact right spot! This is one reason why people get the tripod type.

### 5. Can I get the Internet while I'm driving?

- No. The satellite dish will be in a stowed position while you're driving. To lock on to the satellite signal, you simply press a button. It takes just a few minutes, normally, to acquire the signal and get online. Cellular aircards are the only way to be online while you're moving.

### 6. Is there a usage limit? (see Video: Bandwidth Limitations – FAP)

- Yes, it depends on your contract, but standard is 350 Megabytes/day. If you go over, your connection will be throttled back for 24 hours. It will be no better than dial up during that period, but it will return to normal the next day and there are no extra charges. The hours between 3 and 6am Eastern are limit-free.



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## Cellular (see Video: Intro to Cellular Internet)



### 7. What do I need to get high-speed Internet access thru my cellular provider?

- You need a mobile broadband device and a Cellular provider Internet service contract.
- Verizon, AT&T, TMobile etc, offer high-speed data connections using mobile broadband devices 'Data Cards'. The technology has many flavors with many names (EVDO, GSM, HSDPA.) Find more info on [EVDOInfo.com](http://EVDOInfo.com) Most commonly referred to as '3G' and the newest/fastest is '4G' Verizon refers to their 4G as 'LTE' Sprint calls theirs WiMax
- Data cards are basically cell phones for computers. They don't transmit voice, they transmit data.
- Although often called Data 'cards' most mobile broadband devices are USB style. Also referred to as cellular modems.
- Verizon or Sprint now offers the 'MiFi' which is a data card and router all in one small, battery operated, package.



### 8. How fast is it? (see Video: Connecting with Cellular)

- Speed is usually quite good, but it depends on the capabilities of your nearest cell tower. Expect excellent speed in metropolitan areas. 4G areas are the fastest yet and can be many times faster than Cable. Be aware that all providers have holes in their service - In non-digital areas, you may only get dial-up speeds.

### 9. What is the range?

- Usually, you need to be within a few miles of a cell tower.
- There are external antennas, and amplifiers that you can buy to extend the range of your aircards

### 10. Can more than one computer use one card?

- You can remove the card from one computer then insert it into another.
- You can also buy a 'router.' Then, you insert the device into the router. The router then creates a little Wi-Fi hotspot that several computers can connect to. We recommend the Cradlepoint router. See [3gstore.com](http://3gstore.com)
- Verizon or Sprint now offers the 'MiFi' which allows 5 connections.

### 11. Is there a usage limit?

- It depends on your contract. Cellular Internet plans usually limit you to 5 Gigabytes of data transfer per month. You are charged for overages on our bill. 5 Gigabytes is plenty for one person's web browsing needs. Do not download full length movies! Multiple people using one card could go over the limit.
- There is a charge for overages. Check your contract. The current charge from Verizon is \$10/GB overage.

### 12. Can I use my cell phone to get online with my computer?

- The newer Android phones (Plus, X) can be used to tether to your computer, or you can make them into a Wi-Fi hotspot like the Mi-Fi. This requires software from your cellular provider (Verizon) and another plan.
- If you have an Android, Palm, or Blackberry phone you can use PDANet at [www.junefabrics.com](http://www.junefabrics.com) PDANet also has a version for iPhone but it requires 'jailbreaking' which voids your warranty. This is a third party option, not supported by Verizon. It uses the unlimited data plan on your phone to provide Internet to your computer. It works quite well. See our video on tethering the Droid at <http://tinyurl.com/2uopx4z>
- If you're running Windows 7, you may even turn your tethered cellphone/computer combination into a temporary Wi-Fi hotspot with [www.connectify.me](http://www.connectify.me)



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# Wi-Fi

## 13. What is Wi-Fi?

- a. Wi-Fi is a marketing term to distinguish it from other Wireless Internet access technologies such as Cellular or Satellite. A public wireless network is known as a 'hotspot'. It usually covers a very small area like an office, a coffee shop – or your RV. The speed of the Wi-Fi depends on the speed of the source connection – whatever the park is using, that's what you're sharing.

## 14. Where can I use Wi-Fi?

- a. Anywhere that you are in range of a Hotspot's Access Point. 'In range' is from 50 to 300 feet or more depending on the equipment at the Access Point AND your equipment AND the current environment.
- b. Truck stops, coffee shops, hotels, airports, public libraries, some highway rest areas, lots of RV parks.

## 15. Do I need to have an Internet Service Provider to use Wi-Fi?

- a. No. You are sharing the Hotspot's service provider.

## 16. My Laptop has built-in Wi-Fi capability. Will that work?

- a. Maybe. First of all, make sure the internal Wi-Fi is turned on. On most laptops you need to press a button, a switch, or some keys to turn it on/off. Learn where your Wi-Fi switch is!
- b. If you are close enough to an Access Point (antennas that send the Internet signal), it should work fine.

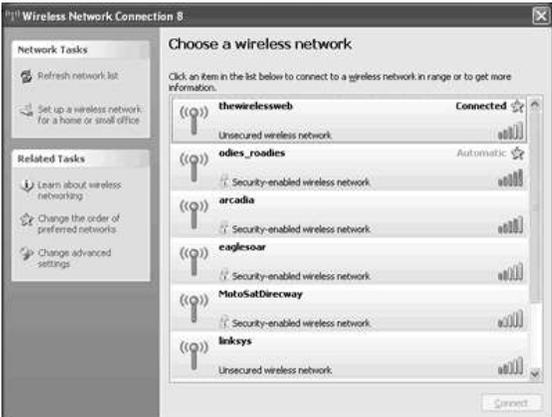
## 17. Can I buy a better antenna to achieve a stronger connection?

- a. YES! We recommend the USB type adapters as the best for the RV park environment, mainly because they are on a wire and can be positioned for the best connection (remember the old 'rabbit ears'?). Costs are from \$30 to \$200. Look for 802.11 (b, g or n). Radio power and range are more important than advertised speeds. Speeds will be limited by the Internet service, so high speed devices are unimportant. See articles and links on [www.WiFiSavvy.com](http://www.WiFiSavvy.com) for more information. Samples with estimated costs:



## 18. How do I connect to a Wi-Fi hotspot (see tutorial Videos: Connecting to Wi-Fi, XP and Vista)

 Click on Windows XP WiFi icon



 click on Windows Vista WiFi icon



 click Windows 7 icon



**High-Speed Internet While Traveling: Comparison Chart**

Prepared by GeeksOnTour.com, much of this information is our experience, check details before making a purchase

	WiFi	Cellular Data Card/USB Stick & Mi-Fi	Cellular: Tethered Smart Phone	Satellite (Auto or Manual)
<b>Cost of Equipment</b>	\$0 if WiFi is built in to your computer \$30 - \$250 for adapters. Wide variety of adapters.	\$20 – 150, new cards coming out all the time Sometimes \$0 with 2 yr contract	Your phone: \$?? Cable and software < \$50 May need 3d party software to tether smartphones like Droid	Auto:\$5,000 - \$6,000 installed Manual: \$700 - \$1500 depending on the type of tripod
<b>Cost of Service</b>	\$ - lots of hotspots are free \$2-7/day;\$7-25/week; \$10-50/month	\$50/month for 5GB, \$35 for 3GB Some offer \$20-30/mo for 250 MG (don't do it – that's way too small, you'll go over)	Mobile Broadband Connect – special plans – ask provider Smart Phone has it's own data plan \$0-\$30 extra to tether.	Auto: \$80/mo Manual: \$60/mo
<b>Coverage (where it works)</b>	Very localized to the hotspot. Coffee shops, bookstores, libraries. Many RV parks. Number of hotspots growing daily.	Good in and around major metropolitan areas and major highway corridors. Spotty or non-existent in rural areas.	Same as card.	Anywhere you have a view of the southern sky
<b>Ease of Use</b>	Usually just turn it on and start browsing. Configuration and other computer issues can become complicated.	Usually just turn it on and start browsing. Mi-Fi is the easiest – one button on/off	Plug it in, run software on phone, and on computer. Can be a little cumbersome.	<b>Auto:</b> Usually just push a button and wait 3 – 15 minutes <b>Manual:</b> .5min - 1 hour.
<b>Dependability</b>	Low. When it works it's great, but you can't count on it as you travel.	Good as long as you're within range of a cell tower	Same as card. Incoming phone call will suspend data connection	Very Good. Occasional satellite or weather issues or trees.
<b>Usage Limits</b>	Usually none.	Depends on contract. Usually 5 Gigabytes/month. Overage charges will apply.	Usually 3 or 5GB / mo If 'piggybacking on Smart Phone's data plan = unlimited	Depends on contract. Usually 2-350 Megabytes/day. 3-6am = unlimited usage. Overage will start a 24 hr extreme slowdown.
<b>Speed of Browsing</b>	Usually excellent. Depends on the source of Internet to the hotspot. Can be anything from slow satellite to ultra high-speed T1.	Very Good as long as you're in a digital cellular location. May drop down to dial-up speeds in other locations.	Same as card, except many phones can't use the Highest speed towers (Rev A)	Very good. Downloads (browsing) is very fast. Uploads not so fast. Latency (delay due to distance) can be a problem.
<b>Works 'In Motion'</b>	No	Yes	Yes	No
<b>Support</b>	Basically non-existent. Some nationwide hotspots (like TengolInternet or Boingo) will have 800 numbers that are good.	Support from your cellular provider.	Support from Cellular provider – unless using 3d party software	Very good. From dealer and from provider: Motosat. Manual not supported by Hughes
<b>Contract</b>	None	Usually 2 year contract	??None – turn feature on/off I	Usually one year
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