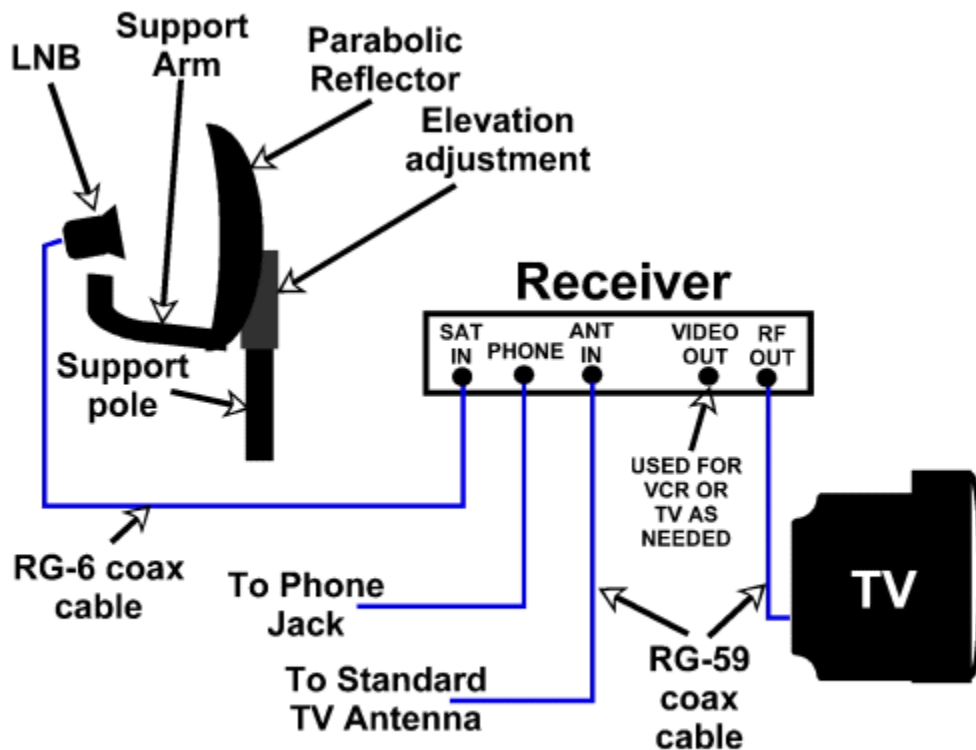


So, you're tired of squinting at 2 snowy channels while your neighbor is watching the Big Game on his wiz-bang satellite system? Just not sure where to begin to get a satellite for your very own? Boy, are you in luck, because this article is for you!

We are going to concentrate on the hardware basics here... I'm not going to get into a big discussion of which satellite TV vendors offer the best deals or the best programming or the best price. The market is so changeable that anything I could tell you right now would probably be horse apples by the time you read this. The technology is advancing at a staggering rate and even the once impossible direct satellite Internet connection is becoming available (but expensive!). No, what we're going to discuss here are the nuts and bolts of installing and using a satellite system in your RV. Some opinions on programming options and vendors will be included at the end of the article.

First off, most of the available satellite systems are pretty similar from a hardware standpoint. All pretty much have a small 18" or 20" dish, a receiver, a remote control and a pile of installation goodies. These systems were designed to be installed on your house and for the most part, can easily be installed in your mobile house as well. Lets take a look at a simple block diagram of a basic satellite system and it's interconnections:



Simple Satellite TV System

Most folks will purchase a simple, relatively inexpensive satellite system to start out. This makes sense for a lot of reasons:

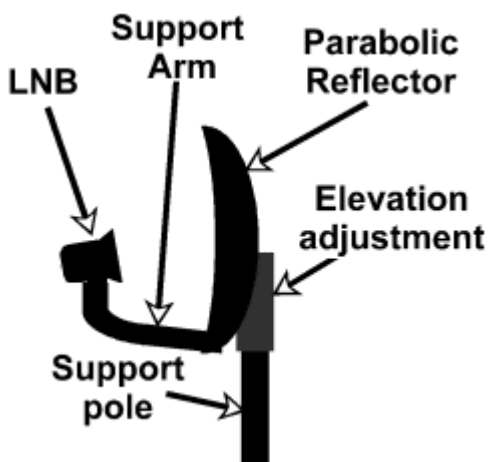
- It lets you see if you like the satellite system enough to keep paying for it every month.
- It lets you find out if you can deal with setting up the satellite antenna each time you park.
- It lets you decide if you really watch enough TV to bother with all this stuff!

If you decide you don't like it, you can usually resell the system for close to what you paid for it and go back to reading a book in the evenings! If you are new to satellite TV, start small.... It's easy to add on nifty gadgets later when you are sure that you like it. That means picking up a single receiver system as a package from your local Satellite Dealer, or just about anywhere else. Radio Shack, Walmart, Kmart, etc. all carry basic satellite packages that you can typically purchase for well under \$200. Most packages include some sort of "Basic installation kit" that will contain wiring, mounts and instructions. For most RV installations, this is most of what you will need. Some systems require you to carry a certain level of programming for the first year in order to get a really good price on the system hardware. Hmm... you probably should shop around and find a deal that you like. In some cases, it's possible to get the complete system for almost nothing, but you will have to carry a specific set of programming for the first year... do your homework before you buy!

Dishes and Mounts

Since the satellite antenna or dish is the place where your system starts to receive your programming, that's where we'll start too. There are about as many different satellite dishes available as there are channels! Dishes range from that simple single LNB dish that came with your basic system all the way up to mobile dish units that can locate and track the satellite automatically, even when you are driving down the road! All these dishes work on the same basic principle and do approximately the same job: they collect the weak signals from the satellite orbiting overhead and amplify them before sending them along to the receiver. Since the signal is so weak, the parabolic dish antenna must be pointed directly at the satellite with a fair degree of accuracy and must be tightly controlled to keep it pointed there. For most of us on a typical limited budget, a manual dish antenna of some sort is probably what we'll have. That means we'll be responsible for getting that antenna pointed in the right direction and keeping it there. For those of you with the money to afford an automatic antenna, this section really doesn't apply to you unless you have a backup manual antenna. Many folks with automatic systems still carry a simple manual antenna. You may wind up in a parking situation where your automated wonder won't be able to lock on and your only hope for TV is to set up that old manual antenna.

All basic satellite antennas work about the same way...



- They all have a concave dish to collect the satellite signal and focus it on the LNB.
- The LNB collects the signals, amplifies them and sends them along a cable to the receiver located inside the home.
- The LNB can support one or more receivers, depending on design. Some systems use a multiple headed LNB to allow the system to "see" two satellites at once.
- The dish is mounted to an adjustable bracket that allows you to change the dish's **elevation** (how high the dish tilts into the sky) and its **azimuth** (the compass heading in degrees that the dish points at).
- A cable, generally **RG-6 coax**, connects the LNB to the Receiver. Dual LNBs will use 2 separate cables to connect to two separate receivers.

In order to receive satellite signals, the dish must be firmly anchored and pointed in the correct direction. There are about as many ways to mount a dish as there are RVers.



(Click for a bigger pic!)

Personally, I installed the standard roof mount that came with my satellite system on the roof of my rig. This allows me to use this mount when I'm going to be staying put for a while. With the dish on the roof, it's much more stable and wind resistant. Also, it's less accessible, in case someone might be tempted to tamper with it.

Occasionally, dishes set out on tripods will get stolen.. it's rare, but it does happen. Also, you may encounter a neighbor with a low sense of humor (you guys know who you are!) who delights in standing in front of your dish and blocking your signal right in the middle of your favorite program. Roof mounting prevents all this, but can be a bit more strenuous, as you must crawl up the ladder and attach the dish.



(Click for a bigger pic!)

When I break camp, I remove the dish from the roof mount and then the mount folds down out of the way. I stow the dish and the connection cable in a compartment during travel.

Alternately, you can purchase a RV style, crank-up dish antenna that folds down flat for travel. These antennas install through your RV roof similar to a standard batwing TV antenna. With this roof mount antenna, you crank it up into position and then adjust elevation and azimuth to find your satellite.



A variation on this theme is the automatic rooftop antenna. These units automatically extend and seek the satellite, providing hands-off ease of use. There are drawbacks, though.. not the least of which is the rather steep price! Still, they are great gadgets and make setting up the satellite dish a push button affair



Roof mounted antennas are great, but can't be used in all situations.... sooner or later, you are going to run up against Satellite TV's arch enemy: Trees! Unless you like to park in the center of huge parking lots or football fields, you are going to find yourself in a spot where your roof mounted dish is staring directly at a tree. Satellite signals are weak, and it doesn't take much to block them! A branch with a few leaves on it is often enough to keep you from getting a signal! In these cases, it's necessary to have some kind of alternate way to set up your dish.

That's where tripods and ground mounts come in. There are a lot of different styles available.... if you stroll around any RV park, you'll see a wide variety of homemade and store-bought dish mounts. Some people even attach the dish to their ladder or picnic table. Here are some examples of different ways to mount a dish:



(Click for a bigger pic!)

Here are some typical store-bought satellite tripods and stands.



I think that the best "bang for your buck" tripod is the one that you make yourself. Run down to your local Radio Shack or Appliance store and purchase a rooftop antenna tripod. These are used to mount old style TV antennas on the roofs of houses and will usually set you back less than \$20. On your way home, stop off at the home center and pick up a piece of 1 1/4" thinwall PVC pipe... 4 feet ought to do it, more is OK too. Often, you can pick one up from the remnant pile for under a dollar. You can also use a piece of chain link fence post or a piece of muffler tailpipe... all you need is a piece of pipe that is the correct diameter to fit your satellite antenna's mounting hole. Put the pipe and tripod together and you have a handy-dandy folding satellite dish tripod mount!



Here are some close ups of my home-made tripod. Using the hardware and goodies that came with the antenna mount, I was able to devise a simple clamp to keep the pipe in place. It folds up nicely for storage when not in use.



The tripod is great for finding an opening in the trees.... make sure that you have some extra cable along so that you can reach over to that clearing that you've found. I keep a 75 foot piece of RG6 cable for those times when the dish needs to be "way over there".

If you are camped in a windy area, it's a good idea to anchor the tripod to the ground somehow so it won't be blown over. Some favorite ways to do this are: hang a couple of gallon plastic milk jugs filled with water or sand from the tripod, drive a stake into the ground and attach the tripod with a bungee, or use one of those corkscrew anchor thingies and a bungee. Any of these methods will provide a pretty good anchor.



When I arrive at my destination, I make a decision to either put the dish up on the roof mount or break out the tripod and set it up that way. Flexibility is the key here... I have only rarely been camped somewhere that I couldn't get the dish set up and working... Occasionally, I have had to place the dish on it's tripod a long ways from the rig... that's when a satellite meter comes in mighty handy and we'll discuss it's use in the **Finding the Satellite** sections.

Receiver Installation Tips

Well, assuming that we've come up with some method to mount our dish, lets find someplace to mount the receiver! Ideally, it needs to be located somewhere near the TV to minimize the length of cable needed, but if that's not convenient for you, you can put it just about anywhere. One thing to remember: there are two different types of remote controls. One type is Infrared... it uses an IR beam to communicate with the receiver. The other is Radio Frequency operated and uses RF energy to communicate to the receiver. Depending on which satellite system you purchased, you will have one or the other. Some systems have remotes that are selectable between the two communication methods. The main reason that I'm bringing this up is that an IR remote must be able to "see" the front of the receiver in order to communicate with it. IR will not penetrate into cabinets or travel through walls. If your remote is an IR type, be sure that your receiver is installed somewhere that will allow it to see the beam from the remote. It often doesn't have to be directly in front of the remote, as IR tends to reflect and bounce around a lot, but it does limit your mounting options. On the other hand, RF remotes communicate using radio frequencies and typically can reach the receiver no matter where you choose to mount it.

Many of the smaller receivers will fit in an existing cabinet or in your entertainment center, if you have one. Remember to follow any special recommendations that the manufacturer makes and also avoid blocking the cooling vents on the receiver. These vents need to be open to keep the receiver from overheating. It is usually not necessary to use the receiver's front panel controls (if any) as all the functions are accessible from the remote. Use common sense: don't mount the receiver where it can get wet or directly over a heating vent, etc., etc. Make sure that there is an AC outlet somewhere nearby... we don't want to have to run an extension cord to power the receiver. Think about how you will route cables from the receiver... at a minimum, we will need to run one coax to the TV and one to the satellite dish. There's bound to be a good place somewhere... Keep looking!

My receiver was simply too deep to fit into any of my existing cabinets. After much deliberation, I decided to mount it on my wall. This has actually worked very well! The receiver is in a good position to sense the IR beam from the remote and with some cable clamps and ties, the wiring looks fairly neat, even though it is exposed. Take a look:



(Click for a bigger pic!)

The wires that you see running along the wall behind the chair are going to my VCR, which is also wall mounted. It's back behind the chair where it's out of sight, but can be easily reached to insert tapes. I mounted the receiver using small "L" brackets as shown in the last photo. I didn't want to drill holes in my nice new unit so I attached the brackets using the existing screws on the side of the receiver. If you just can't find a place for your receiver, consider mounting it on a wall or on the side of a cabinet. Use your imagination!

Cables, Connectors and Getting the Signal Inside

OK, we've found a place for our receiver, now lets concentrate on getting the Satellite signal to it. First thing we will need is some cable. Most satellite systems come with a self installation kit that will include a length of RG-6 coax cable, usually 100 feet. This is probably all the cable you will need. If you don't have an installation kit, that's OK. Cable and connectors are available at many home centers, Radio Shack stores and appliance stores. Although you can use RG-59 coax cable, the RG-6 is better. Here's why:

These are basic specs for the two common types of cable used with TV systems. Both are 75 ohm impedance.

RG-59BU, ~ 6.15 mm Ø, ~ 3.5 dB attenuation/100m @ 10 MHz.

RG-6/U, ~ 7 mm Ø, ~ 2.3 dB attenuation/100m @ 10 MHz.

RG-6 is slightly larger in diameter and offers a much lower attenuation over distance than RG-59. If you are going only a short distance to your dish, then RG-59 is acceptable, but once you start passing the 25 foot mark, it really starts to affect your signal strength.

If you are planning to run across the stream and over the hill to your dish, you should probably use RG-11 Coax Cable. It's huge! RG-11 is much larger in diameter and is designed for CATV, UHF, and DSS runs of 400+ ft. Not something a typical RVer would need, but I thought I'd throw it in here just to confuse you! ;-)

Well, if we've got the cable figured out, then we need to pick up some connectors for it. We want to be able to cut the cable to the length we want and then re-terminate it with the proper connectors. There are a wide range of connectors available, including many that need a special crimp tool to attach. Probably the easiest to use are the line of "twist-on" connectors sold at most Radio Shacks and home centers.



Simple to use and relatively trouble free, these connections can be installed on a cable using only a pocket knife and your fingers. Instructions are included on the package.. just be sure to pick out the correct connector for the cable that you are using.

Now lets find a way to get that cable inside the rig. The easiest way is probably to run the cable in through a window. This certainly isn't elegant, but it does work! You can even buy a special length of flat cable designed to fit through an existing window and allow you to almost close it.

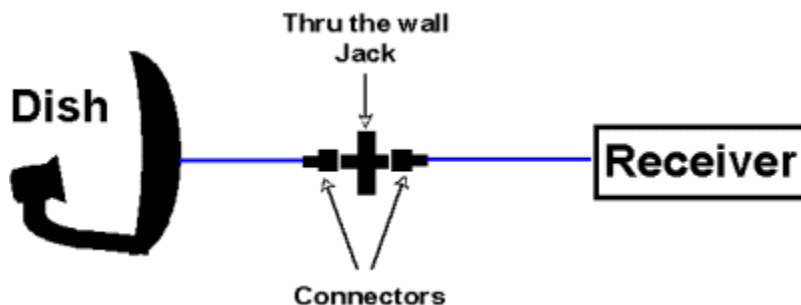


A neater way to do it is to install a cable connector permanently in the side of your rig, or in a compartment. There are many easy to install, weather proof connector jacks available... here are a few common ones.



Using the jack will give you an easy, weather proof method of connecting your dish to your receiver. Install the jack

wherever it will be convenient for you and run a length of RG-6 cable from the jack to the receiver's satellite antenna input.



Some newer RVs come equipped with such wiring already installed. Check your owners manual or ask your dealer if your rig was pre-wired for satellite.

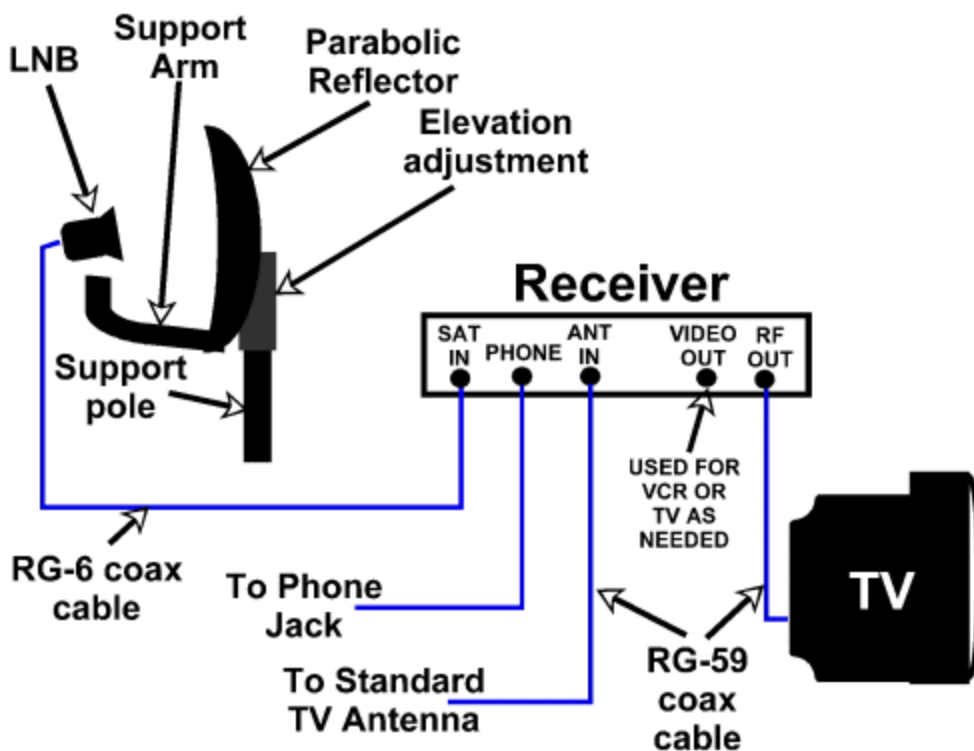
One common misconception is that you can use the existing cable TV inlet on the side of your rig to wire your satellite antenna. In many rigs, this won't work and here's why: Many RVs have an amplified "bat-wing" antenna installed. The amplifier looks something like this.



These systems usually have an external Cable TV input jack located on the outside of the rig or in a compartment. This is designed to allow you to easily hook up to an external cable TV source in parks that offer cable. There is a small switch on the amplifier front face that allows you to select between cable and antenna. The problem is in the amplifier design.... the amplifier will not allow DC voltage to pass through it. Your satellite receiver places voltage on the coax cable that is needed to drive the LNB at the satellite antenna. Blocking that voltage will keep the satellite antenna from working. You can try it and see if your system will work, but it's unlikely, as most of the common designs in use are incompatible with satellite TV. I think it's best to install a separate jack for your satellite antenna... you know it will work and it won't interfere with your ability to receive cable TV if you should want to.

Hooking it all Up

Lets take a look at that block diagram again. Be sure to follow any special instructions in your owners manual. Hook the satellite antenna to the **satellite in** jack on the receiver. Hook up the TV to the **TV out** jack on the receiver. Make sure that the TV is set to the correct channel per the instructions. You may also run a coax cable from your existing TV antenna jack to the **antenna in** jack on the back of the receiver. This will allow you to switch between satellite programming and your off-the-air- antenna using your satellite system's remote. The phone line may be left unhooked. Some systems will require you to have the phone line plugged in to receive certain types of programming, like Pay Per View movies. If you are in your RV, you really don't have an option unless you are hooked up to a land line...



Simple Satellite TV System

You should now be ready to power the system up and see if it comes to life! Follow the manufacturers recommended steps to do this. Did it come to life? Great! Now, let's get that antenna aligned!

Finding the Satellite... Basic

This is a really great time to break out the manual that came with your satellite system and read about aligning the dish!

Turn on the TV and set it to the recommended channel. You should see a warning message that the satellite system is trying to find the signal. Using the remote, bring up the setup or satellite aiming screen. There should be a place here to enter your zip code into the menu and get the recommended azimuth and elevation. This is where you need to point the dish in order to find the satellite.

The Azimuth angle given is a number found on a compass. North is 0, East is 90, South is 180 and West is 270. Therefore an azimuth of 165 would be found by facing due south and turning 15 degrees toward the east. The elevation angle is how high above the horizon the satellite is. Just imagine a line straight up, that is 90, a line straight out ahead of you is 0. A line directly in between those two lines, is 45. Find the azimuth you need on a compass, face that direction and point up in the sky at the elevation angle. Keep that position in mind while pointing your dish.

The setup screen on your TV will have a meter showing signal strength. You may have to play with the dish a bit to begin to get a reading. Move the dish in small increments and wait a few seconds each time to see if you are getting a signal in the display. Once you have a signal and a lock, fine tune the dish by moving it slightly up and down and side to side until you have the strongest possible signal.

Be sure you are on the right satellite! Direct TV and Dish Network have different satellites. Both are at nearly the same degree of vertical altitude and only a few degrees separate the two horizontally. It's easy to dial in on the wrong satellite. If you have Direct TV and point your dish at the Dish Network satellite you will get a good signal but no lock and no picture. Your setup screen should warn you if you are pointing at the wrong satellite.

Once you have a good lock on the correct satellite, you should be able to see all of your subscribed channels. If this

is a brand new installation, you will only be able to see the default channel on your system. For example, with Dish Network, it's channel 100. This will tell you that you are in business. You won't be able to see any other channels until you activate your new system. Follow the instructions found in your manual. Usually, you will need to call the satellite company, tell them your receiver and smart card numbers and give them a credit card number. You will also be asked to select the programming package that you wish to have. I suggest that you start out with a very basic and inexpensive package at first. Most satellite companies won't charge you anything to upgrade your programming, but do charge you to downgrade your programming to a cheaper package. Start small and work up unless you are sure of what you want. Some systems require you to carry a certain level of programming for the first year in order to get a really good price on the system hardware.

Finding the Satellite... Advanced Hints and Tips, Helpful Tools and Gadgets

One of the most useful tools that you can own is an inline signal strength meter, commonly called a Marriage Saver. This little device connects between the satellite dish and the receiver and allows you to find the satellite without having to use the meter on your TV. This can be invaluable when you are trying to set up your dish on a tripod a long ways away from your rig.



(Click for a bigger pic!)

These meters also provide a tone that rises in pitch as the signal strength goes up and a lighted meter for nighttime use. With one of these meters, it's often enough to point the dish in approximately the correct direction and then slowly sweep the sky and listen for the tone to tell you when you hit the "sweet spot". These meters are much more sensitive than the one that the receiver provides on your TV and react much faster to changes in signal strength. With a little practice, you'll be able to find the satellite in seconds and fine tune it quickly. The meters are available from most RV parts sources and electronic stores that sell satellite TV. They generally cost about \$40 for a simple one.

To make that little meter easier to hook up, you might consider modifying your dish to have a connector on it. This allows you to easily place the meter into the line and then remove it once the dish is set up. If you use quick disconnect push-on style adapters, it's even easier. To set up my dish, I made a short length of RG-6 cable with connectors on each end and then mounted a "barrel" connector by drilling a hole in my antenna's frame. See the pix... you get the idea.



(Click for a bigger pic!)

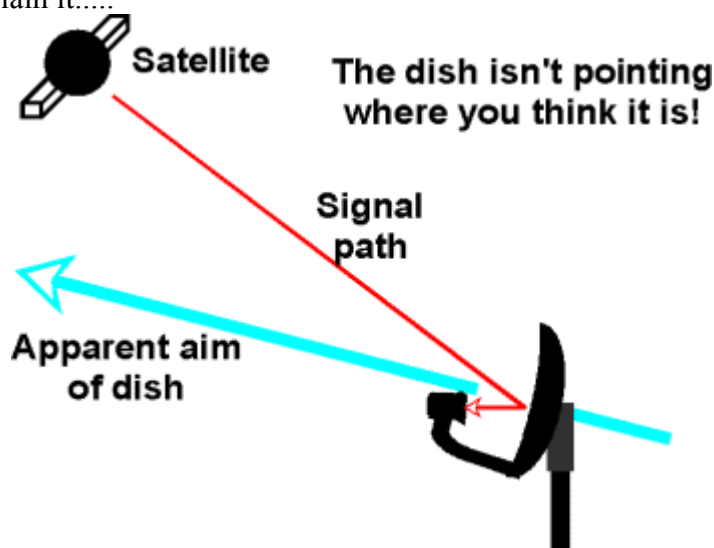
Since we're modifying the dish, lets make another change.... Replacing the existing bolts and nuts with wing nuts for all the adjustment points makes it a lot easier to quickly adjust the dish elevation and azimuth without tools!



(Click for a bigger pic!)

If you have the permanent type of antenna on the roof that requires manual turning and raising, there are devices that will give you a read out in degrees of the elevation of the antenna. All you have to do is elevate the antenna to the correct degrees based on zip code and then turn it till you acquire the signal. One such little gadget is the Winegard Digital Magic elevation meter. This digital elevation sensing unit gives the exact elevation of the antenna on an LCD readout inside the RV and is accurate to within one degree even when the RV is not level! The sensing unit is attached to the elevating tube, and a wall plate with LCD readout is installed inside the RV.

When you are attempting to set up a satellite dish in a heavily wooded area or one with lots of man made obstructions, it helps to understand how the dish really works. One common misconception is that the dish points 'directly' at the satellite. This isn't the case for most dish designs. The apparent elevation of the dish is 15 or more degrees lower than it's actual receiving window. Have I thoroughly confused you? Have a look at this diagram.... it's easier to see it than it is to explain it.....



When you are trying to aim for that little gap in the trees, remembering this will probably mean the difference between success and failure!

Another great little tool to help you find that hole in the trees is this easy to make elevation gauge. All you need is one of those little bubble tilt gauges that are commonly attached to the front of RVs for leveling and a piece of paper towel tube! Put them together and you've got a handy aid to determine true elevation of an object or opening in the tree canopy. To use it, simply hold (or attach permanently) the level gauge against the bottom of the tube. Angle the tube upward while watching the gauge for the desired elevation. Once there, you can look through the tube to see what might be in the path of your satellite signal. Takes a little practice, but you'll get the hang of it.



(Click for a bigger pic!)

I almost forgot the most important tip of all! Take that little compass that came with your satellite system and either

give it to Junior or throw it away. They are cheap pieces of junk! Do yourself a favor and drop a few bucks on a quality, liquid filled compass. It will make your life so much easier!



(Click for a bigger pic!)

Many folks will tell you that it is absolutely necessary to have your satellite mounting post perfectly plumb and vertical. Well, I'm one of those folks who isn't interested in spending a lot of time leveling my tripod or satellite mount. I have found that with the little satellite meter and a vague idea of the proper azimuth, I have no trouble locking on to the satellite quickly, no matter how far off level my mount is. The main reason that you would want to level and plumb your mount is to allow you to use the elevation markings on your satellite antenna.

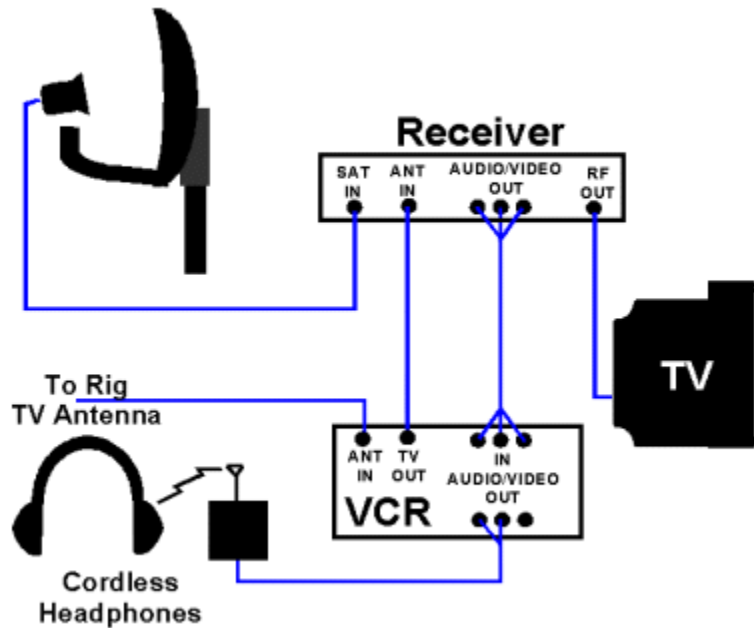


(Click for a bigger pic!)

These markings can be handy for beginners and those without an inline meter, but I have been setting my dish up several times a week for a lot of years and I haven't looked at or used those elevation markings in ages! As you get some practice setting your dish up in all the varied environments that you encounter, you too will get to be an expert at it. I consider it a challenge to get the dish going in difficult situations... sometimes I'll spend an hour trying different locations and positions until I find that magic spot, then go in and never turn the TV on. I guess it's just a kind of game I play with myself: I'm not going to let those trees win!! ;-)

Enhancing a Simple System

Most simple satellite systems can be significantly improved by adding some additional gadgets. Almost any receiver will support a VCR and a connection to your stereo system for enhanced theater-like sound. Here's how I hooked mine up:



Setting things up this way allows me to watch a local off-the-air broadcast while recording a satellite channel on the VCR. I use the "line in" function of the VCR to record programming from the satellite receiver. The satellite receiver has an internal switch that allows you to change between the satellite antenna and the over-the-air antenna input. The output signal from the VCR is routed through to the TV this way. The rig antenna is connected to the VCR for viewing off-the-air programs. This will also pass cable TV signals through the system when you are plugged into park cable. Talk about multi-media! 300 channels and (of course) there'll be nothing on worth watching! ;-)

I really love my cordless headphones! They let me power up the audio track without waking up the neighbors and the wireless freedom lets me move around the rig without having to take them off. They work great for listening to music from the satellite system's large selection of commercial free audio channels. Of course, the VCR has to be powered up, since I'm using the audio jacks on it to drive the headphones, but they could just as easily be connected directly to the satellite receiver instead. If you're not interested in wireless headphones, you could easily hook up to your stereo system line in jacks and enjoy all your TV audio through the infinitely superior speakers of your stereo system.

If you and your partner can't decide on what to watch, you can add a second receiver and TV and then each of you can have the channels you love. Some systems will require you to purchase a dual LNB for the antenna to support the second receiver.

Most satellite receivers support surround sound, so adding a complete home theater is easy. Go Crazy! Replace that end table with a subwoofer and dangle satellite speakers from every cabinet.... Just be sure not to strain your pocketbook or your RV's suspension system!

Problems and Solutions

AAAAGGHH!!! I can't find the !%#\$*&^\$# Satellite!!!

- Double check for correct Azimuth & Elevation angles for your zip code. Is the dish pointed in the right direction?
- Break out the compass again and walk a ways away from the rig... does the needle point in a new direction for north? Your compass may be affected by nearby power lines or your RV. Re-align the dish as needed to compensate.
- Look around at your neighbor's dish. If he's using the same satellite system as you are, your dish should point

in the same direction as his.

- Is the line of sight between the satellite and the dish clear? i.e.: no trees, buildings, mountains, etc.
- Did you run a good RG6 cable from the LNB on the dish all the way to the receiver? Try a different cable.
- Verify the RG6 cable is connected to the SAT-IN connection on the back of the receiver? Are all connections tight?
- At the dish, change the Azimuth angles from side to side, 1/8 of an inch at a time. Please note that you must pause for a few seconds after each 1/8 inch movement to let the signal strength meter on the TV catch up. When a lock is obtained, ensure that you "fine tune" the dish (just move the dish a hair up, down, right, and/or left) until the signal is at it's highest possible reading.
- If you have signal strength but no picture, you are on the wrong satellite. Try moving the dish a few degrees and try again.

Hey! Where did my picture go? A number of different kinds of interference can cause you to lose the picture on your TV:

- **Weather Fade:** This phenomenon is caused by heavy rain or snow temporarily blocking the satellite signal. This often happens with big thunderstorms. This also has the unfortunate effect of shutting down your access to the weather channel right when that big thunderstorm is starting! As soon as the weather improves, your picture will be back.
- **Big Wind:** A strong wind gust can re-align your dish so that you are no longer pointing at the satellite. This one won't come back until you go and fix it.
- **Little Wind:** If you are "shooting through the trees", and you set up your dish when the wind was calm, even a moderate breeze can move the treetops around enough to intermittently block the signal to the dish, causing strange effects on your TV. Typically, your picture will blink out or break up into pixel blocks and then return to normal. This one can drive you crazy! The only solution is to move the dish somewhere else to get an unobstructed view of the satellite.
- **Practical Jokers:** I once met an RVer who thought it was the height of humor to place his hand over the LNB on his neighbor's satellite dish for a few moments until his neighbor got up to see what the problem was, then retreat back to his rig and play innocent. If you are ever lucky enough to be parked next to this joker, please shoot him a couple of times for me! ;-)

Satellite Providers and RVers

RVers, especially fulltimers, may encounter some difficulties when dealing with Satellite TV providers. The most common misunderstandings are usually related to the lack of a phone line or the lack of a "physical address". Many customer service representatives may not be aware of the RV market and simply not be trained to answer all your questions. Be patient and if necessary, ask to be transferred to a supervisor. Explain your situation and needs fully and be ready to hear "We don't do that". The truth is, they **DO** "do that" and all you must do is find someone who understands the RV side of the issue.

- **Network Programming for RVers:** Currently, a big issue in the RV community is the ability to receive broadcasts of network programming. That's NBC, ABC, CBS, FOX and PBS. There have been a lot of changes in the rules, but one thing is clear... as an RVer, you **DO** have the right to receive network programming. Your selection of available packages may be limited by the rules that your Satellite TV provider sets down. Currently, both Dish Network and DirecTV have a waiver form that you can fill out and send to them that will allow you to chose either the East Coast or West Coast network packages or both. There will be an additional fee to receive these packages, but at least they are available. You will need to print out a copy of the form and send it and the requested information to the address provided on the form. Here are links to the waiver forms for both Dish Network and DirecTV.
www.dishnetwork.com/content/programming/locals/rv_truck/index.shtml
http://www.directv.com/DTVAPP/learn/dns_vehicles.jsp

If you are unable to locate these forms using the links, simply go to the main home page for your satellite provider and use their site search to find them. Or, you can call them for more information.

Dish Network: 1-800-333 DISH (3474) www.dishnetwork.com

DirecTV: 1-800-347-3288 www.directv.com

- **Second Receiver rules for RVers:** In most cases, you will be able to add a second receiver to your system in your RV for a small additional charge. It may be necessary for you to fill out the waiver form in order to qualify for this service. Dish Network currently offers this service to RVers and there is no phone line required. DirecTV's policy over the last few years has been to require that a second "mirrored" receiver be constantly connected to your home phone line. Recently, DirecTV has changed their policy on requiring a phone line for the second receiver for RVers but not all local retailers are aware of it.. Your best bet is to call DirecTV and check on the availability of this option .
- **Pay-per-View for RVers:** Dish Network offers online PPV ordering on their website and also allows you to call a special number and order PPV programming. The number is 1-877-Dish-PPV (347-4778). You need to call at least 1 hour before the scheduled start time for your program or event and there is a \$1 fee for using the phone order service. They also offer a package designed for mobile users that will allow you to access Pay-per-View programming without a phone call... It's called the Mobile Service and costs \$20 a year. It allows you to view PPV programming up to a pre-determined credit level and then you will have to hook your receiver to a phone line and allow it to download the stored PPV charges. Call Dish Network for more info on this one. DirecTV does not offer a similar mobile service and according to their website info; "You can also call DirecTV Customer Service at 1-800-531-5000, but we do apply an order assistance fee of up to **\$10.00** on all pay per view phone-in orders". DirecTV does offer free online PPV ordering by signing in at DirecTV.com.

In my own personal experience, Dish Network is very Fulltime RVer friendly. They are actively cultivating the RV and over-the-road trucker markets and are also training their support personnel to understand this segment of their customer base.

Having been a Dish Network customer for years, I can offer some tips based on my own experiences. When I signed up back in 1997, I was up front with them, explaining my fulltime RV status. When problems arose, it sometimes took a couple of attempts to find someone who understood what I was trying to do, but I was always able to get the problem solved. Often, it was necessary to explain how to do it to the technician.... It really helps to know how their system works...

A good example is what happens when you travel from one time zone to another. When I first traveled from Out West to Back East with my new satellite system, the time shown on my program guide was off by 3 hours. Calling Dish Network, I explained that I was in an RV and had traveled to a new location and needed the time zone changed on my program listings. After talking to several people and getting several mutually exclusive wrong answers, I finally found someone in Tech Support who knew how to fix it. Seems that when you are identified as a RV customer, there is a special field on your account information called: "RV Location". Entering a zip code or city name into this field will automatically re-calculate your time zone and update your receiver through it's satellite link. Over the last few years, I have had occasion to need this changed several times and every time I call and am greeted with the answer "we can't do that", I simply explain about the "RV Location" entry on my account and they are magically now able to help me. DirecTV may not experience this problem, or they may have a different way of handling it, but the principle remains the same. Find out how they fixed your problem and remember it for the next time you need to call!

I have also discovered that it is easy to pay your TV bill by either buying your services for a full year in advance, or sign up for Credit Card Auto-pay with your debit card. No bills in your mail to get lost or delayed and no late charges on your account. The Debit card has really made my life a lot easier!

Well, I hope that I've been able to help you decide whether or not you want one of those satellite thingies.... I really love mine and have been dragging it all over the country for years with very few problems. It's nice to have access to the Weather Channel, CNN, and network programming... not that I watch a lot of TV, you understand.....

OOPS! Gotta go! 'The Simpsons' is coming on!! ;-)



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