

Small Dish Installation Guide

Selecting & Installing The Mount

Mounts are manufactured to accommodate a variety of possible placements such as on the ground, attached to an outside wall, or under the eave of the house. Roof mounts are available that either penetrate the surface of the roof and attach to the building's rafters or mount directly on the top of a flat roof. Above all, select the type of mount which can be installed where the antenna will have a clear and unobstructed view of the satellite of choice throughout the year.

Once you have securely fastened the antenna's mount to the building or a supporting pole, mount the antenna as indicated in the assembly directions. Do not fully tighten down those bolts which anchor the antenna at a specific position of elevation and azimuth until you have adjusted the antenna pointing to maximize signal reception. Mount the feedhorn and LNB onto the feed support supplied with the antenna.

Running The Cables

A coaxial cable for the LNB will have to be installed between the receiver's location in the home and the feedhorn and LNB out at the antenna. Systems dedicated to the reception of a single satellite which uses two senses of polarization to transmit TV signals also will require a two-or three-wire cable to connect the feedhorn's polarization connections to the receiver. Cable clips can be used to fasten these cables to the side of the building. Run the cable a bit below and then back up to the hole into the building, thus providing a "drip loop" to prevent rain from running down the cable and into the building. Quality crimp type "F" connectors should be used at each end of the coaxial cable, although the reusable twist-on F connectors are gaining in popularity.

The power for the LNB also is supplied by this coaxial line. Whenever you plug the receiver into the home's a.c. wall receptacle, electricity is being sent up this line. To avoid a short circuit that would blow the receiver's fuse or circuit breaker, or even damage the LNB, always unplug the receiver whenever connecting or disconnecting the system's coaxial cable.

Peaking Antenna Performance

Before connecting the cable to the LNB, determine which method you will use to accurately aim the antenna at the satellite to choice. One method used to peak the reception of standard analog TV signals is to view the available TV

services from this satellite while adjusting the antenna's alignment. You can then fine tune antenna pointing until all stray impulse noise or "sparklies" have been eliminated for all available channels. You can get close to maximum system performance using this method.

The above-mentioned method is not at all appropriate when receiving digitally compressed satellite TV services. Receiving digital signals is an all or nothing proposition: you will either receive a perfect picture, or no picture at all. There is no intermediate state of poor or marginal reception which you can use as a starting point. In this case it is essential that you use some kind of signal tuning meter to detect the presence of signal and then peak the antenna for maximum performance.

The use of a tuning meter also is a good idea when receiving standard analog TV signals. Rain, fog, snow or even rain-filled clouds passing overhead can reduce the intensity of any Ku-band satellite signal reaching your antenna. If you tune your antenna by watching the TV screen you may receive a wonderful picture at the time of installation – when there may be enough signal to exceed the receiver's threshold rating – but subsequently lose the signal whenever bad weather occurs.

It would be best to acquire an in-line, signal-strength meter for performing this task. What's more, a dedicated signal-strength meter also will be more accurate and sensitive than any other meter supplied inside your satellite receiver. Best of all, some portable meters provide an audio tone which increases in pitch as the signal becomes stronger. As you adjust the antenna slightly to the right/left and up/down, the audio tone will assist you in finding the ideal antenna pointing.

One word of caution concerning the use of a signal strength meter: you must always be sure that you are receiving the correct satellite before you begin using the meter. There are many satellites serving Asia and the Middle East these days, and you don't want to do a lot of work only to find that you are anchored onto the wrong bird! Scan through the available channels at the beginning, and again at the end, of the installation process to ensure that you are indeed getting the desired satellite TV services.

The signal strength meter may even supply the d.c. voltage needed to power up the LNB and therefore can connect directly to the LNB. Signal meters which do not supply power to the LNB will have to be inserted in the coaxial line running from the receiver to the LNB using a special "tap" connector and two coaxial jumper cables to connect the signal meter to the tap and LNB. The tap supplies three connectors: one connects to the LNB, the second connects to

the receiver, and the third supplies the connection that allows the meter to “tap” into the line and make the required signal strength measurements. Once you have completed the antenna alignment, you can tighten down all of the mounting bolts to prevent strong winds or rain from re-pointing the antenna for you.

Setting The Polarization

The feedhorn support which comes with the antenna holds the feedhorn and LNB a fixed position towards the front of the antenna. If this support has an adjustment for setting the distance between the feedhorn opening and the surface of the dish, try moving the feed in and out in tiny intervals of a fraction of a centimeter to see if the signal strength increases.

Most of the available satellites use opposite senses of linear polarization to transmit a greater number of channels from a single orbital position. In this case, check to see that you can “skew” the feedhorn’s polarizer by using the receiver’s polarization or skew slightly past peak performance when receiving channels using either sense of polarization.