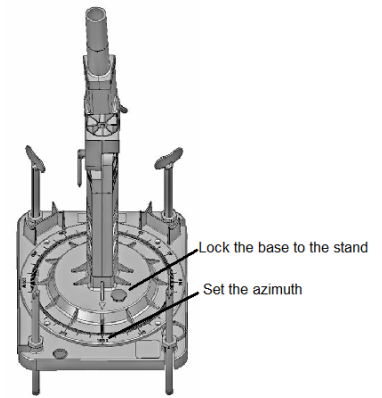


Terminology for the Std. 1-5/8 inch OD Model

Azimuth

The dish does not have a gauge to associate the pointing of the LNB to a given satellite. To use the new azimuth gauge it needs to be calibrated. Set the azimuth and lock the azimuth base to the stand. When aiming the LNB for the first time, loosen the clamp on the dish, allowing it to slip on the post. After the strongest signal is reached, the clamp is tightened to the post, allowing the post to become part of the dish. This now keys the dish to the stand's azimuth reading. With the stand's compass set to a magnetic north, the correct azimuth starting point can be set for any given zip code.

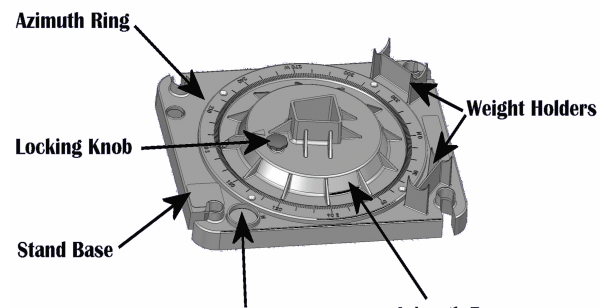


Azimuth base

It's part of the stand's assembled base that retains the mast/post or extension. It has a pointer (arrow) that can be rotated to any azimuth reading with a locking knob to lock it in place once the azimuth is set.

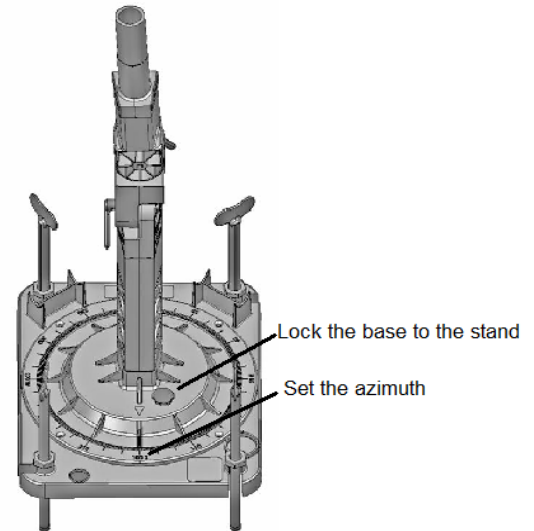
Azimuth ring

It's the part of the base that has the azimuth readings. Using the built-in compass and aligning the stand to a magnetic north, the stand's base is a compass with very large azimuth readings. This allows for the azimuth reading from the setup menu to be set.



Calibrating the Dish and Stand

One of the problems in locating a satellite signal has been that the dish does not have a gauge that allows the LNB to be set to a given azimuth reading. This stand has solved that problem with its own azimuth settings. However, before the new azimuth compass can be used it needs the dish and azimuth gauge to be calibrated. This will key the dish to the stand's azimuth reading. With the stand's compass set to a magnetic north, the correct azimuth starting point can be set for any given zip code. Set the azimuth and lock the azimuth base to the stand. When aiming the LNB for the first time, loosen the clamp on the dish, allowing it to slip on the post. After the strongest signal is reached, the clamp is tightened to the post, allowing the post to become part of the dish.



Elevation

The gauge that comes with the dish is not accurate, with the inaccuracy differing from dish to dish. With an inaccurate starting point, an adjustment must be made after the strongest signal is first obtained. Start by setting the elevation gauge on the **dish** to 30° and the **stand's** elevation gauge to the elevation for the local zip code. Fine tune the elevation of the dish by adjusting the threaded legs on the stand. Stop when the strongest signal is obtained. Check the level on the side mast. The degree of the bubble from off center will indicate the amount of adjustment, plus or minus, needed to the dish's gauge.

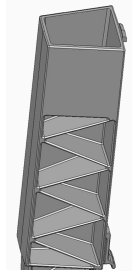
Adjust the dish's gauge and reset the legs so that the bubble in the level is centered. Repeat the fine tuning step until the strongest signal is reached and the legs do not need any more adjustment.

Now an accurate elevation can always be set. The dish's elevation gauge can be locked and the elevation from now on will be set by using the mast's elevation gauge.



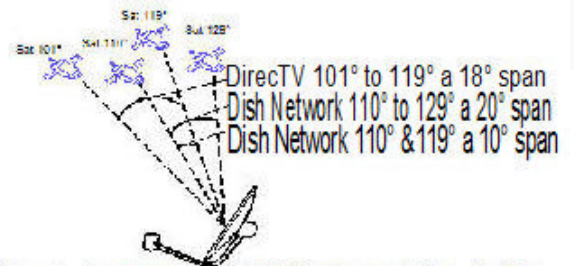
Extension

The use of this is optional. It is a section between the azimuth base and the mast/post. It can be used to raise the height of the dish, which may help avoid line of sight obstacles. Another use is to raise the height of the levels for easier viewing.



Line of Sight

The DirecTV and Dish Network satellites are located in the southern sky. The location for the antenna must have elevation clearance above the horizon and a span clearance from the lowest to highest degree satellite for an unobstructed view of the multi satellites. Northern border states have elevation toward 30° and southern border states have elevation readings toward 60°.



No trees, leaves or buildings can be in the line of sight between the dish and satellites.

Line of Sight Tool

Delsand LLC refers to this as "LOST". It is a simple periscope. Use it by setting the elevation to 30° and placing it on the stand instead of the dish. Calculate the azimuth span needed to view the range of satellites. The view through the eye piece over the span of azimuth reading is the same as the signal span the LNB is receiving. This quickly allows for checking for any obstacles in the LNB's line of sight.



Mast

The mast for the Std. 1-5/8 inch OD Model stand is a post that has three sections. The middle of the mast has a gauge for setting the elevation; the top has one for setting the skew/tilt.

The first time the stand is used the elevation needs to be calibrated.

After calibration the elevation gauge is usually accurate to within one degree. By being this accurate you usually start with a signal after setting the gauges to the required azimuth, elevation, and skew/tilt from the setup menu.



OD

The clamp on the antenna goes over a post for mounting. OD stands for the outside dimension of the post. Most dishes have a 1-7/8 inch clamp. The bigger DirecTV HD 5 satellite dish is heavier and needs a 2 inch OD post.

Plumb

The mast needs to be vertical. When it is not, the elevation will change as the azimuth changes. With multi satellite dishes this is crucial as the skew/tilt is affected when the mast is not plumb. If the mast is not plumbed (vertical) during setup, the elevation setting can be off. This will make it harder to find the signal.

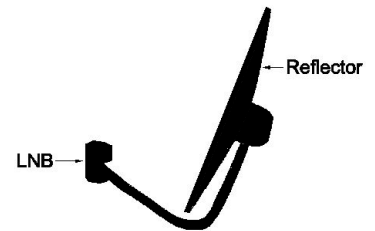
There is some misconception that having the stand's base level will mean that the mast is plumb. This is not correct. Due to off center weight, the mast is not always at a 90° angle to the base, which allows the base to be level, but the mast not vertical. To assure that the mast is plumb the levels are placed in the mast at right angles to each other.

Satellite Dish Antenna (dish)

A device that is used to obtain a signal from a satellite and sends it to a receiver that will decode the signal for use by a TV display unit.

The dish consists of:

1. **Low Noise Block (LNB):** The device on the front of a satellite dish that receives the very low level microwave signals from the satellite. It then changes the signals to a lower frequency band, amplifies them and sends them down the cable to the indoor receiver.
2. **Feedhorn (LNBF):** This is a horn antenna used to convey radio waves between the receiver and the reflector.
3. **Reflector:** The area that collects the signals and bounces them to the LNB.



Direct broadcast satellite dishes (DBS) use an LNBF which integrates the feedhorn with the LNB. Modern dishes intended for home television use are generally 43 cm (18 in) to 80 cm (31 in) in diameter and are fixed in one position for Ku-band and the new DirecTV Ka-band reception.

A common misconception is that the LNBF (low-noise block/feedhorn), the device at the front of the dish, receives the signals directly from the atmosphere instead of being beamed to the dish, which because of its shape will collect the signals into a smaller area and deliver them to the LNBF.

Skew/Tilt

All multi satellite dishes need to adjust the reflector so that it can bounce the signal from the different satellites to the correct LNB.

The angle changes from location to location and is displayed when you enter the zip code in the startup menu on the control unit.

Dish Network refers to this as Skew while DirecTV calls it Tilt.

90° is the middle setting and indicates no skew or tilt. Looking at the gauge from the back of the reflector the degrees increase to the right.

Skew/Tilt is always set to 90° on the dish. The Mast's Skew/Tilt gauge is used instead of the dish's.



Stand

Whenever there is reference to "stand" after assembly, it does not include the dish antenna or post.

