

Adjusting the polar mount

*** Secrets to adjusting the polar mount ***

If the adjustments are done in the correct order, you can get a dish that tracks just perfect. You should have an unwarped satellite dish, and a straight ground pole, it will make things easier.

#1 Start with checking the mounting of the feed horn. All the legs on the tripod should be of the same length. You should measure them, and do any adjustment you can if they are not the same length. Next, you have to check the distance from three different points on the edge of the dish, to the center of the feed horn. Remember, even if the tripod legs have the same length, that does not mean the feed is centered! You might have to "bend" the feed back into center of dish, or adjusting the tripod legs to get the feed centered in the dish.

#2 Set the off-set angle on your polar mount (declination). This is an adjustment that tilts the dish *forwards* at an angle of about 4-6 degrees, depending on what latitude you live. You can find the exact angle for your location in charts, but if you set it for about 5 degrees, you'll be close enough to get going. This adjustment is usually done on one of the mounts connected directly to the dish.

#3 You then move the dish to the highest point on your polar mount. You do this by using the actuator. You can do this by visually looking at the dish and the polar mount. You are basically centering the dish on the highest point on the polar mount. Now, you have to set the elevation angle of the dish. I like to use a meter for this, but it is also possible to do it without. The elevation angle is about 40 degrees, depending on your latitude. This is not very critical at this point because you will adjust this angle for best reception later. If you measure the angle on the mount, you might have to add the declination angle to get the true dish pointing angle.

#4 You need to find a satellite that is located just south of your location. In most cases, there is a satellite close to the longitude you live. A few degrees off will not make much difference because the dish moves almost flat in the center of arc. Try a Ku band satellite because the accuracy is much higher. However, you might look for a C band satellite when you start. It will be easier to find than a Ku band satellite. Having the dish parked at the highest point of the arc, you have to turn the WHOLE polar mount on the ground pole to you hit the satellite. If your elevation was way off, you might not even get a signal. Adjust the elevation and turn the mount again until you find the satellite located "straight south".

#5 Fine tune the elevation angle. Turn the mount sideways until max signal and then adjust the elevation angle until its maxed. At this point, you have set the off-set angle and the elevation angle for the satellite at the highest point in the arc.

#6 Now, you have to get the dish to track on the sides of the arc. This is where most people fail. DO NOT adjust any elevation angles on the mount at this point! Move the dish using the actuator to a satellite on one side of your arc. You should hopefully see the signal from the satellite, if not, pick a satellite closer to the center of the arc. Peak the dish on the satellite using the actuator. Next, you have to push or pull upwards and downwards on the dish. You don't have to use much force, just a bit to see if the signal gets better or worse when you push/pull on the dish. What you are actually doing is to change the elevation angle a bit. If your dish is pointing at a satellite to the east of center and you have to push up on the dish to get a better signal, then the elevation angle must be adjusted higher. You adjust this by turning the WHOLE mount to the east! You have to use the actuator and move the dish a bit west to peak the signal. You go back and forth until the dish has the correct elevation. Next, you have to check a satellite on the other side of the arc. If you peaked the dish for center, and then for one side, the other side should be very close. This will depend on your ground pole, offset angle/elevation angle and quality of feed/dish.

#7 If your dish is not hitting center on the other side, try the same adjustment as above. If the dish needs to be pushed up to get a better signal, then TURN the WHOLE mount in that direction. If the

dish needs to be pulled down for a better signal, then turn the mount the opposite direction (towards the higher point on arc).

#8 Then, go back and check the other side. Hopefully, you're not far off. You might have to go from side to side before your dish tracks perfectly.

#9 If, and ONLY if you cannot get both sides to peak, both sides would be too low or too high. You can then do a small adjustment of the declination (elevation) angle to get the two sides into peak. BUT, only do this if you can confirm that both sides are low or high. If the dish is too high on the sides, but fine in the center, the declination angle is too low. Increase the declination and the elevation angle the same amount. They will cancel each other in the center of arc, but track lower on the sides.

#10 You should now have a perfectly peaked dish ;) If you used Ku band satellites for the peaking, it will be as good as it can get. If you used C band satellites, you might want to do the same thing using Ku band satellites.

Bron: http://www.orbitcommunications.com/4DTV/P_mount.htm