

High Performance Antennas 3 & 4 ft. (0.9 & 1.2 m)

Antenna Installation Manual

Please read the manual completely and carefully before installation.
Instructions are intended for qualified and experienced personnel.

August 2011 — Revision B

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Information

Regulatory Information

Antennas are designed to meet the following standards

- EN 302 217-4-1
- EN 302 217-4-2 Class 3 RPE
- FCC Part 101



Warranty Information

Antennas purchased from Trango Systems, Inc. are warranted for two years from date of purchase. Visit the Trango Systems Web site for a complete description of warranty coverage and limitations. Extended warranty protection can be purchased through the Sales or Customer Service departments.

Contact Information

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1.0 Overview

Thank you for purchasing a Trango high performance dish antenna. This antenna has been designed and manufactured to the highest standards and will provide years of trouble free service if installed correctly. Please review and follow this installation manual.

Below is a list of the parts that are included in the packing box. Please check to ensure that all the parts are present. If anything is missing please contact your Trango sales representative immediately.

Models Covered:

ADXX-X-S1 (Antennas designed for SP ODUs and Apex)

ADXX-X-S2 (Antennas designed for HP ODUs and ApexPlus)

Packing List

Item	Description	Quan
1	Assembled Dish antenna with radome	1 set
2	Mounting Bracket (including anti slide bracket) See Figure 1	1 set
3	Instruction manual	1 pcs
4	Side Strut Kit (1 incl for 3 ft, 2 incl for 4 ft)	1-2 pcs
5	Silicone grease	1 bottle
6	O-ring for antenna circular waveguide	1 pcs
7	Antenna Waveguide Transition (-S1 Only)	1 pcs
8	O-ring for Waveguide Transition to ODU (44mm diam x1.8mm thick for 11GHz and lower) (-S1 Only)	1 pcs
9	#4-40x8mm Philips head screw for Waveguide transition to ODU(-S1 Only)	4 pcs
10	#4 lock washer for Waveguide transition to ODU (-S1 Only)	4 pcs

Mechanical Torque Reference

Diameter of nuts	M4	M8	M12	M14	M16
Value (N•m)	0.9	11.3	38	73	93



Figure 1 - MOUNTING BRACKET SET CONTENTS

2.0 Mounting

Step 1: Assemble Mounting Bracket.

From the mounting kit, first attach the mounting angle brackets to the antenna using 4 each of the M12x35mm bolts and washers as shown in Figure 2.

NOTE: It is recommended to apply a small amount of lubricant such as anti-seize grease to the threads of the bolts to prevent binding as the nuts are tightened. The nuts should be turned slowly and not over-torqued. This will ease the installation and alignment significantly.

Next, attach the pole mount to the angle brackets using 2 each of the M12x35mm bolts/washer sets.

IMPORTANT: Choose the side to attach the pole mount to the angle brackets based on the location of the pole relative to the antenna (See Figures 3 and 4)

Lastly attach the turnbuckle from the mounting plate to the angle brackets using the hardware included. Ensure that the turnbuckle is on the top of the bracket as shown in Figures 3 and 4 depending on the location of the pole.

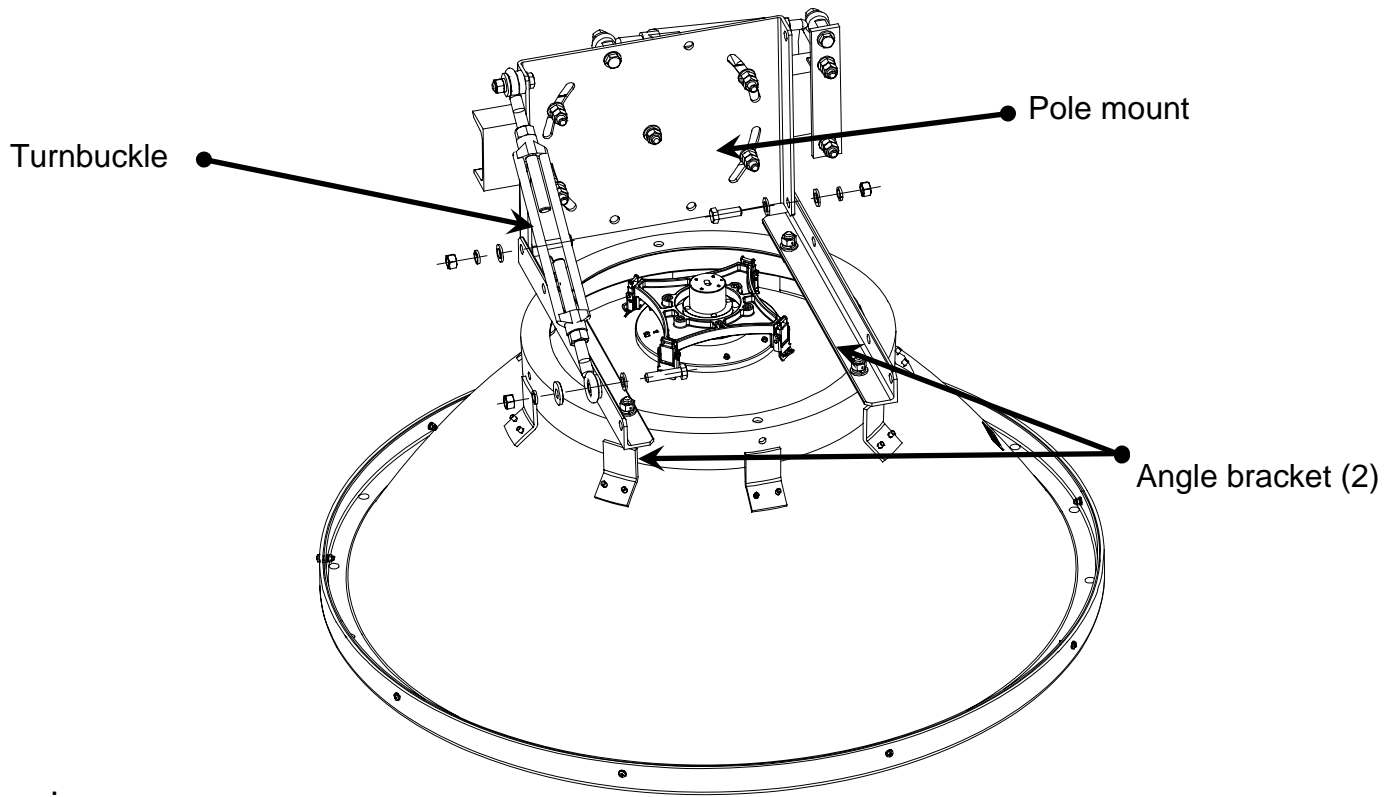


Figure 2 – Bracket attachment to Dish

Select Pole Mount Right or Left.

NOTE THE POSITION OF THE AZIMUTH TURNBUCKLE ON THE TOP TO AVOID INTERFERING WITH THE ODU CABLING

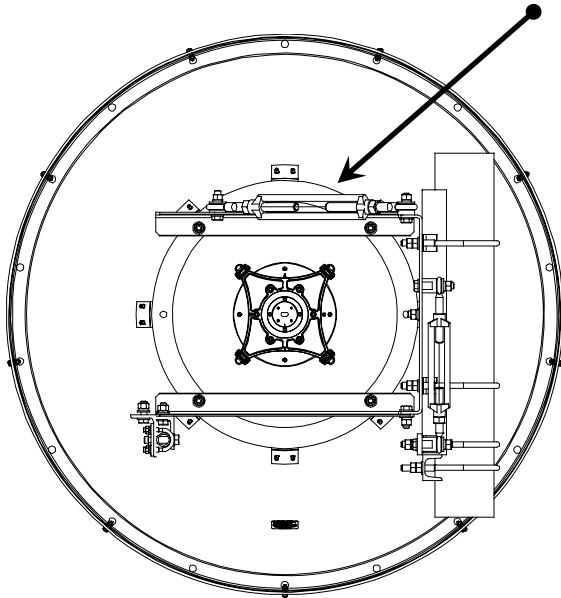


Figure 3 - Antenna offset left

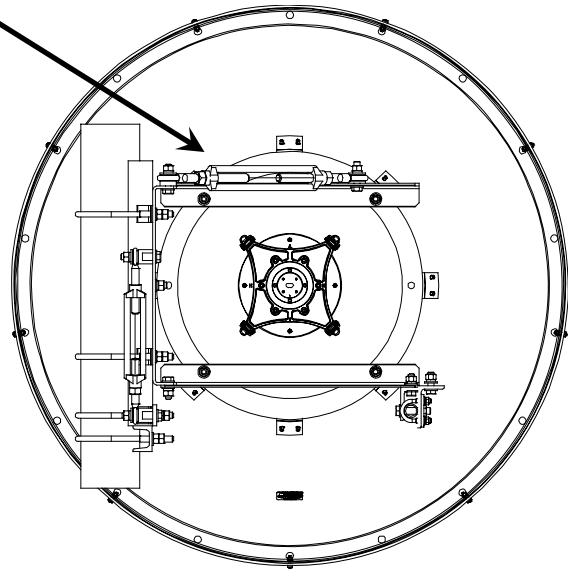


Figure 4 - Antenna offset right

Step 2: Prepare the ODU and mount it to the Antenna per the Section 4.0 “Installing the ODU” at the end of this manual.

Step 3: Install anti-slide corner bracket below the intended location of the mounting bracket as shown in Figure 5. The anti slide bracket prevents the mounting bracket from sliding down the pole during installation.

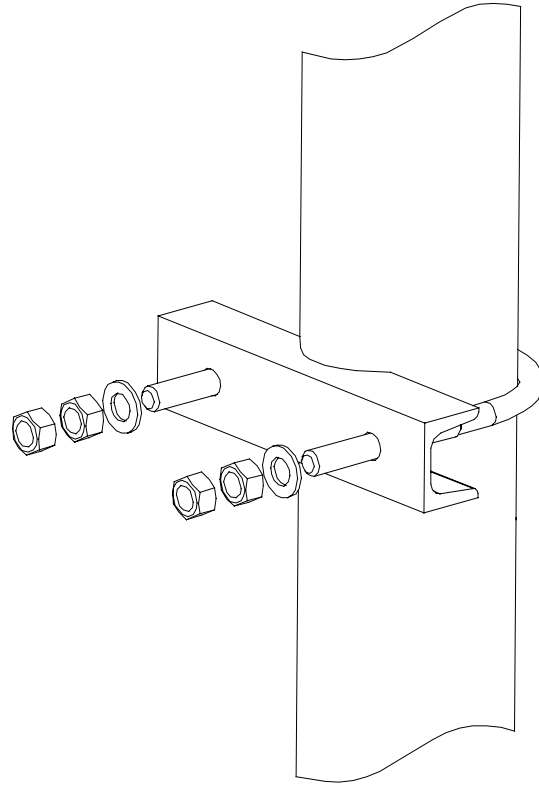


Figure 5 – Anti Slide Bracket

Step 4: Mount the entire assembly on the Pole. Pole Diameters from 110 mm (4.33 inches) to 114 mm (4.49 inches) are supported with the U-Bolts provided. Ensure that the mounting is done above the anti-slide bracket

Step 5: Align the Antenna per Section 3.0 “Antenna Alignment”

Step 6: Attach the side strut(s) if required for additional protection against high winds. Additional hardware may be required and depends on the tower structure to which the antenna is mounted. The Bolt at the end of the side strut requires a 12.7 mm (0.5 inch) diameter hole drilled into a max 17 mm thick metal pole or bracket tower.

Your antenna is now properly installed and aligned!

Figure 6 shows a picture of the antenna correctly installed on a mounting pole with one side strut. The unattached end of the side strut should be mounted to the tower structure.

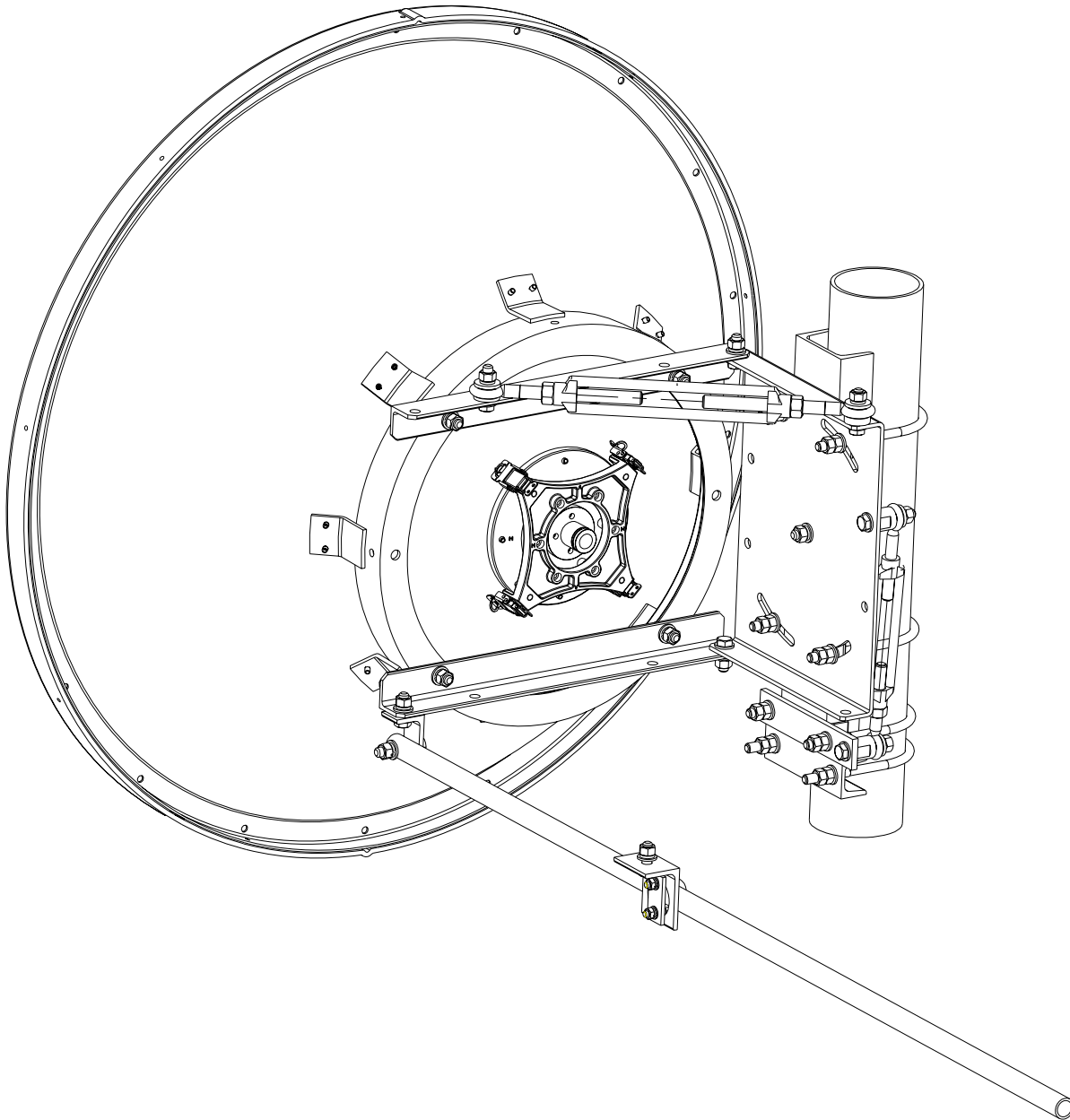


Figure 6 – Properly Mounted Antenna (without ODU)

3.0 Antenna Alignment

Adjust alignment of azimuth and elevation. This step should be done only after the ODU is attached with the assistance of the RSSI Voltage coming from the ODU. (See system level user manual). The 3 dB beamwidth of these high performance antennas can be on the order of 1 degree or less and it is easy to align with a sidelobe. If the signal level is not what is expected then there is a very good chance that the antenna is not aligned properly. See the product specific user manual for more assistance with alignment.

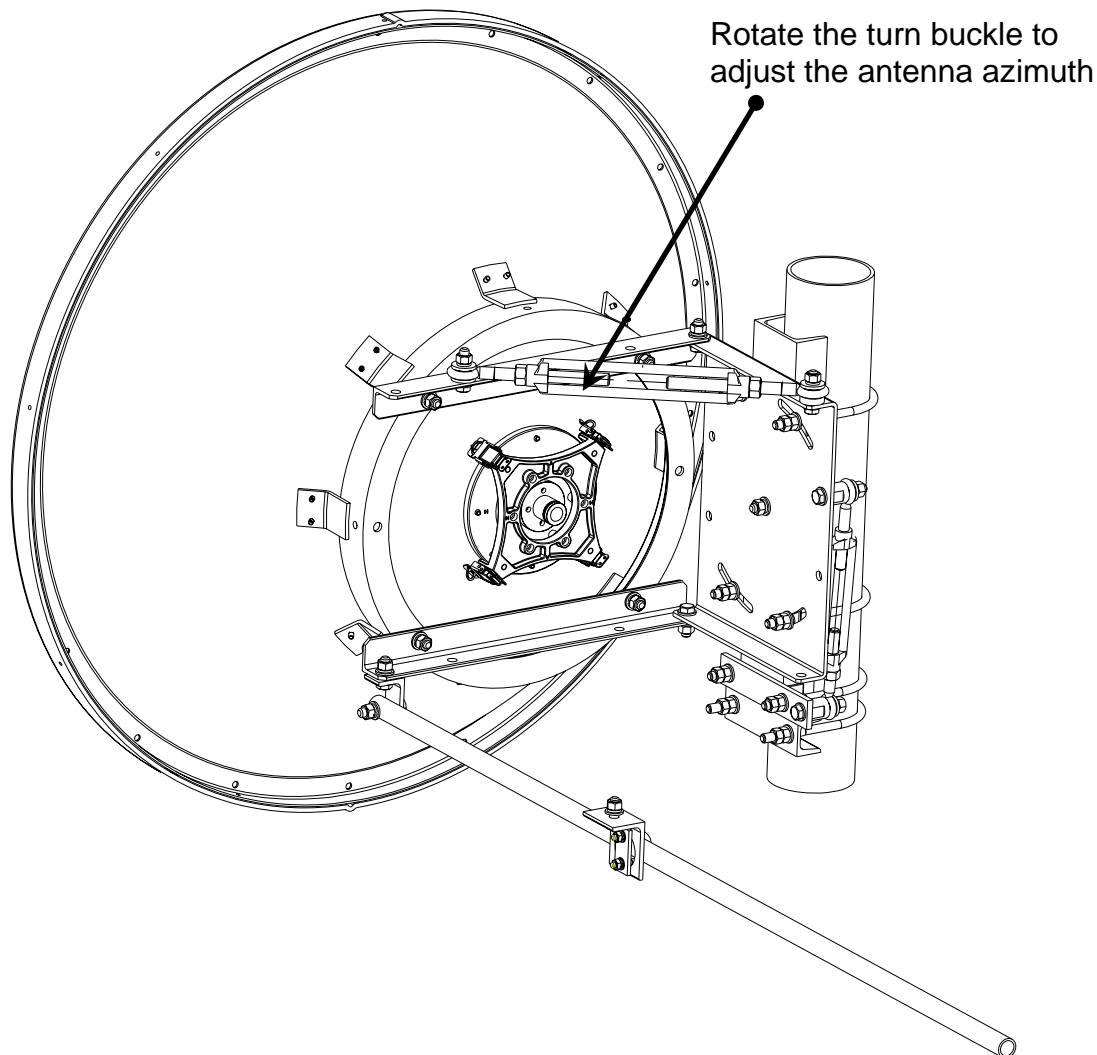


Figure 7 – Antenna Alignment for Azimuth (left to right)

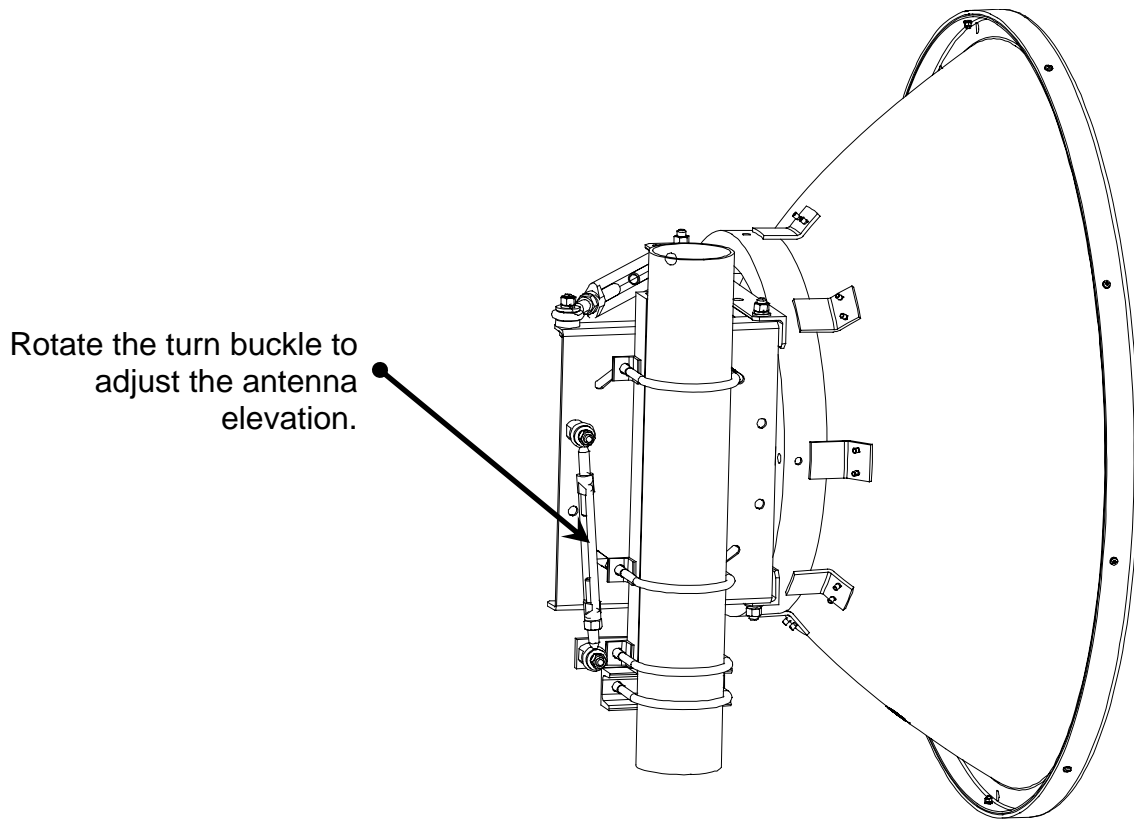


Figure 8 - Antenna Alignment for Elevation (up and down)

4.0 Installing the ODU

For HP family ODUs and ApexPlus All-outdoor units using ADxx-x-S2 antennas, no preparation of the ODU is required. The ODU may simply be slip fitted onto the antenna and latched in place. Please proceed to the **ODU POLARIZATION** section below.

For SP ODUs (GigaXX-ODU models) using ADXX-X-S1 antennas, a waveguide transition (supplied) that converts the rectangular waveguide interface on the ODU to a circular waveguide interface used by the antenna must be installed onto the ODU. Figure 8 shows a picture of the parts supplied.



Figure 9 – Waveguide Transition and hardware

Installation instructions:

- 1) Install the O-ring into the ODU O-ring slot.
- 2) Align the transition such that the rectangular slot is aligned with the ODU rectangular slot.
- 3) Fasten the transition to the ODU using the 4 screws and washers. Torque to 12 lb-in.

ODU POLARIZATION

The antennas are all capable of supporting Horizontal or Vertical polarization by simply rotating the ODU 90 degrees on the back of the antenna. Figure 10 shows the circular waveguide interface on the antenna with the “V” and “H” markings.

Before attaching the ODU, ensure that the O-ring is installed as shown below and is free of dirt or other foreign debris. Smear the silicone grease around the antenna cylinder and over the O-ring to prevent tearing of the O-ring when the ODU is attached. Be careful not to get any silicone inside the waveguide opening.

“V” mark on the antenna. Alignment mark on the ODU must line up with the “V” for vertical polarization

“H” mark on the antenna. Alignment mark on ODU must line up with the “H” for horizontal polarization.



Figure 10 – Polarization mark on antenna

For HP ODUs and ApexPlus, there is an alignment arrow on the back of the ODU. The Arrow should be pointing to the desired antenna polarization mark on the antenna.

For vertical polarization the “V” should be at the top of the unit as shown in the Figure 11 below, and for horizontal polarization the “V” should be at the right side of the unit. The IF connector should be positioned towards the lower right for vertical and lower left for horizontal polarization.



Figure 11 HP ODU Vertical Polarization

Figure 12 shows the Antenna transition mounted on the ODU. Note the alignment mark position. It should be lined up with either the “V” or “H” marking on the antenna depending on the polarization desired.



Figure 12 – ODU Alignment Mark

Alignment mark on the ODU