Standard Pole Mount Parabolic Antenna

Mounting Instructions 3 ft. (90cm) & 4 ft. (120cm)

an INFINITE company

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IMPORTANT!

Please read instructions through completely before beginning installation. Caution should be used. Qualified persons experienced with antenna assembly and installation are required for installation.

DISCLAIMER

Radio Waves Inc. disclaims any responsibility or liability for damage or injury resulting from incorrect or unsafe installation practices

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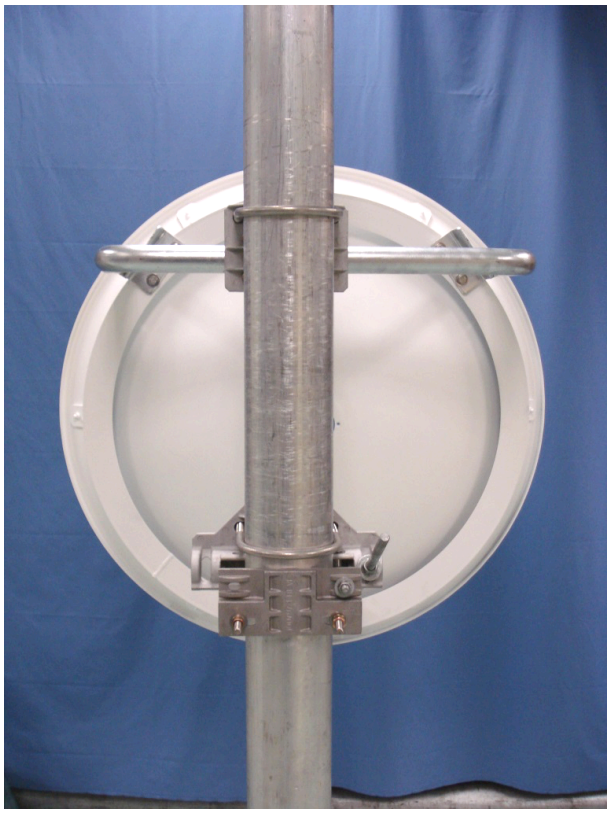
RadioWaves Antennas

Mechanical Specifications

- Elevation Range: ±15°
- Azimuth Range: ±15°
- Mounts to 3” - 4 1/2” outside diameter vertical pipemast
- Weight (including mount):

Antenna Size	SP Series	SP W/Radome	HP Series
3 ft. (90cm):	43 lb. (19.50kg)	50 lb. (27.70kg)	50 lb. (27.70kg)
4 ft. (120cm):	90 lb. (27.22kg)	70 lb. (31.75kg)	85 lb. (38.63kg)



Back View

Side View

90cm/36 in & 120cm/48 in
Antenna Mounting Procedure

The following describes the general installation practices that apply to the antenna mount and antenna assembly.

IMPORTANT!

Read instructions completely before assembling or installing the antenna. This assembly requires qualified personnel familiar with microwave antenna assembly and installation.

Unpacking and Preparation

Carefully unpack the antenna assembly and mount parts from its shipping container.

CAUTION!

The reflector has been formed to a very close tolerance parabolic shape. Careful handling and assembly is required to avoid denting the reflector, which would degrade the antenna's performance.

List of Tools

(1) 7/16" Wrench

(2) 9/16" Wrenches

(1) 3/4" Wrench

(1) 1" Wrench

#2 Phillips head screw driver

List of Contents

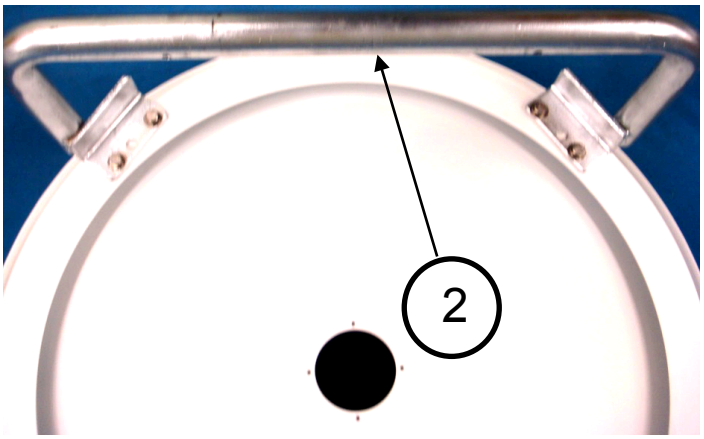
Item No.	Quantity	Part Number	Description
		100780-1	**Pole Mount Kit**
1	1	100782-1	Pole Mounting Bracket
2	1	100781-1	Antenna Mounting Pipe
3	1	100797-1	Bracket, Azimuth Adjust
5	1	101094-1	Eye Bolt,3/8-16 Thread (Galvanized steel)
6	1	101150-1	Eye Bolt,1/2-13 Thread (Galvanized steel)
7	4	100792	Spacer, 1/4-20 Stud (As required)
8	1	-	Antenna Assembly
		100795-1	**Pole Attachment Hardware Kit**
9	1	101093-2	Spacer, 1/2 OD x 1-1/8 Long
	2	100794-1	U-Bolt, 1/2-13 Thread, 4-1/2” Pipe
	1	100603-1	U-Bolt, 3/8-16 Thread, 4-1/2” Pipe
	4	-	1/2-13 Hex Nut (Silicon Bronze)
	4	-	1/2 Lockwasher, Split
	4	-	1/2 Flatwasher (7/8” OD)
	3	-	3/8-16 Hex Nut (Silicon Bronze)
	3	-	3/8 Lockwasher, Split
	3	-	3/8 Flatwasher
	1	-	3/8-16 x 2-1/2 Hex Head Bolt
	3	-	3/8-16 Hex Nut (Galvanized steel)
	2	-	3/8 Flatwasher (Galvanized steel)
	2	-	3/8 Lockwasher (Galvanized steel)
		100834-1	**Antenna Attachment Hardware Kit**
10	1	100741-4	Spacer, 5/8 OD x 5/8 Long
	2	100793-1	3/8-16 U-Bolt, 1-1/2” Pipe
	4	-	3/8-16 x 7/8 Hex Head Bolt
	9	-	3/8 Lockwasher, Split
	9	-	3/8 Flatwasher
	5	-	3/8-16 Hex Nut (Silicon Bronze)
	1	-	3/8-16 x 2 Hex Head Bolt
	3	-	1/2-13 Hex Nut (Galvanized steel)
	2	-	1/2 Lockwasher, Split (Galvanized steel)
	2	-	1/2 Flatwasher (Galvanized steel)

Note: *Unless otherwise specified, all hardware is stainless steel.*

Antenna Assembly

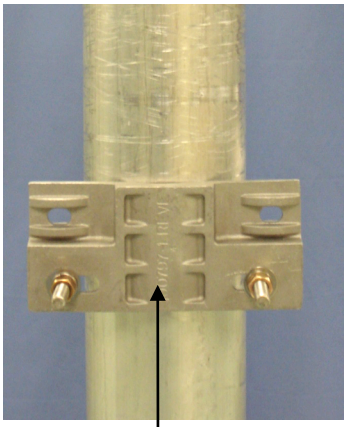
Step 1

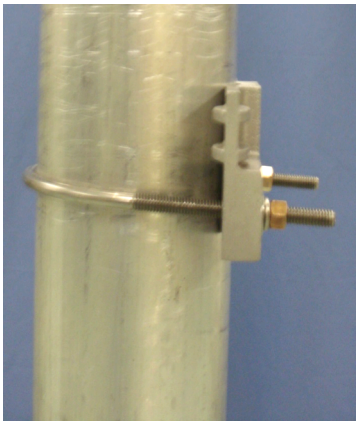
Attach antenna mounting pipe **2** to the Antenna ring with (4) 3/8-16 x 7/8 long hex head bolts, split lock washers and flat washer.

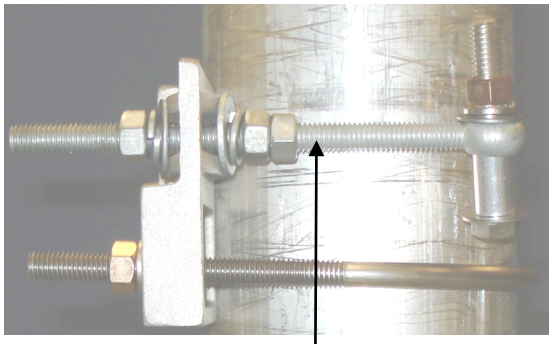


Step 2

Attach azimuth bracket **3** to the pole with 3/8-16 U-bolt. Secure to pole with flat and split lock washers and silicon bronze hex nuts. Before tightening, ensure the plate is facing the approximate final direction of the antenna. Install 3/8-16 galvanized steel hex nut, lock and flat washer onto the azimuth adjust rod **5** as shown in detail. Insert threaded rod into appropriate slot in the azimuth adjust bracket. Add hardware to opposite side of threaded rod as shown and hand tighten.

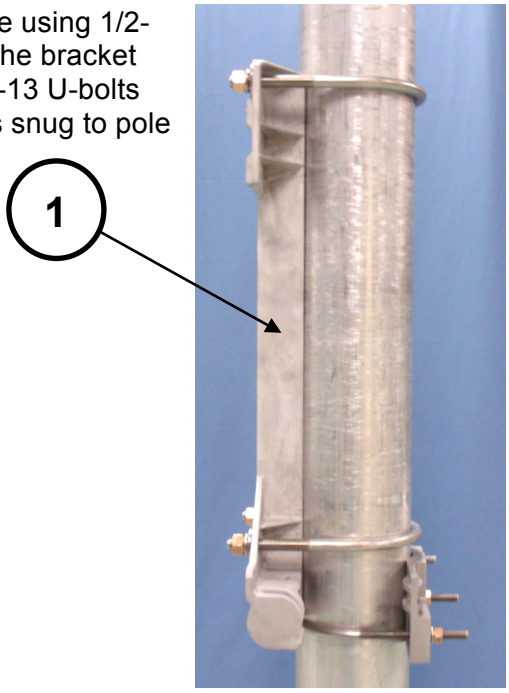






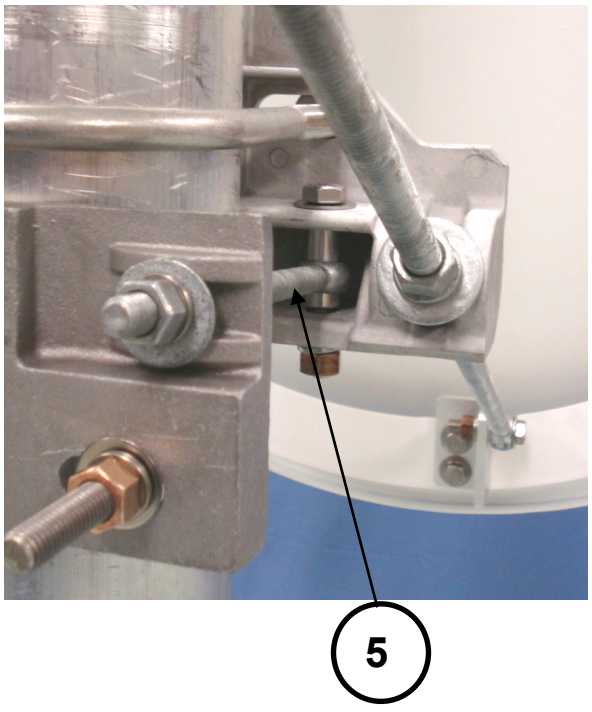
Step 3

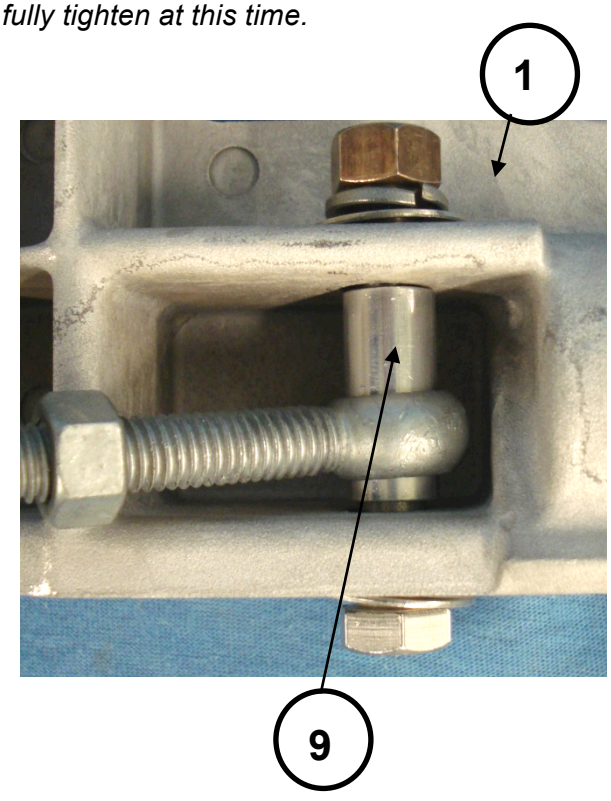
Attach pole mounting bracket **1** to the 4-1/2" diameter pole using 1/2-13 U-bolts. Use the azimuth adjust U-bolt as a rest, face the bracket towards the desired antenna direction and secure the 1/2-13 U-bolts with the appropriate hardware. Tighten until the bracket is snug to pole - *do not fully tighten at this time.*



Step 4

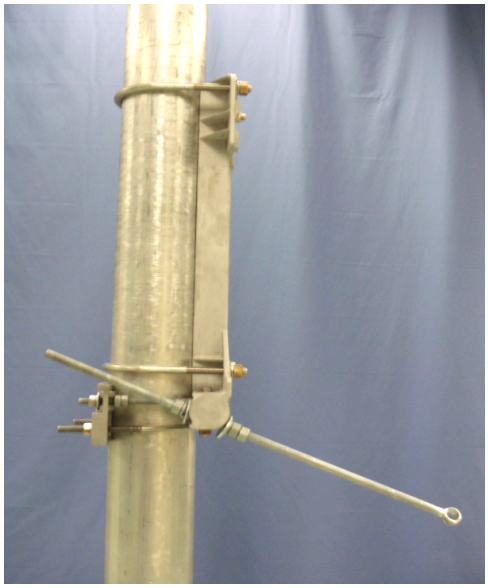
Install bushing **9** into the hole of the azimuth adjust rod **5** and between the two ribs on the pole mounting bracket **1** with 3/8-16 x 2-1/2 long hex head bolt. Secure with stainless steel flat, split lock washer and silicon bronze hex nut. *Do not fully tighten at this time.*

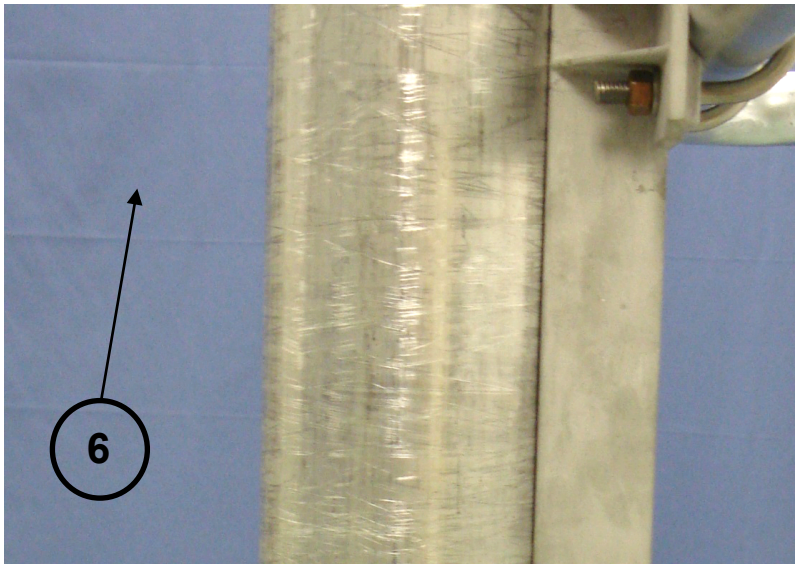




Step 5

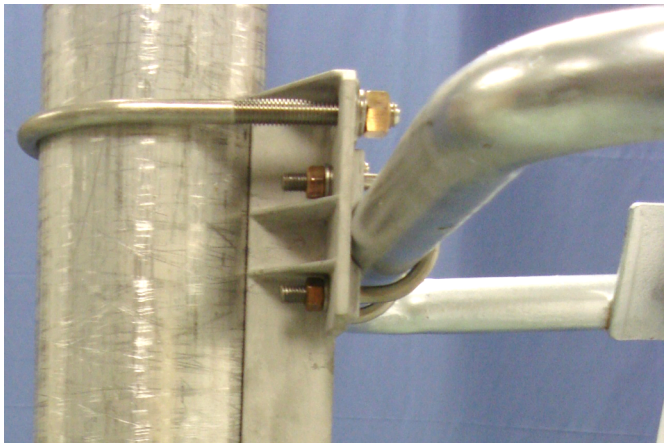
Install ½-13 galvanized hex nut flat washer and split lock washer on the elevation adjust rod **6** Thread the nut approximately 20 inches up (as shown). Slide the adjustment rod through the slot of the pole mount bracket opposite the tab being used for the azimuth adjust rod. Secure with appropriate hardware as shown. *Leave hardware loose for final adjustments.*





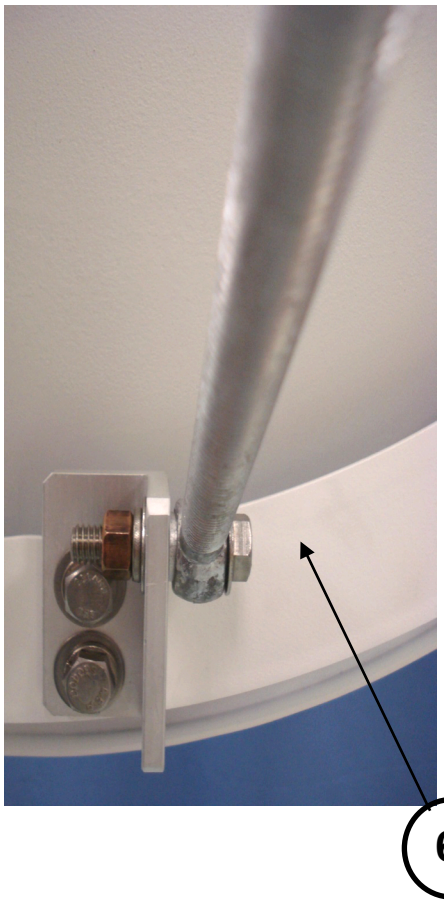
Step 6

Attach antenna subassembly to the pole mounting bracket by locating the pipe onto the curved recesses of the bracket. Attach the two assemblies together using (2) 3/8-16 U-bolts and appropriate hardware as shown. Tighten hardware until snug. *Do not fully tighten at this time.*



Step 7

Assemble the elevation adjust rod **6** to the antenna assembly by installing the bushing through the adjust rod hole and securing to bracket on antenna assembly with 3/8-16 x 2" long hex head bolt and appropriate hardware as shown. Position the antenna such that the elevation adjust rod is aligned perpendicular to the mount. *Do not fully tighten at this time.*



This now completes the antenna assembly to the fixed pole. Please refer to owner's manual for RFU attachments.

Feed and RFU Attachment Information

The feed is normally attached to the rear of the antenna in the vertical polarization position. Horizontal polarization is set by removing the (4) 8-32 pan head screws and washers, rotating the feed assembly 90 degrees such that the arrow on the feed is pointing to the "**H**" on the antenna backshell, and re-attaching the 8-32 hardware. Slots are provided in the feed flange to allow for antenna signal optimization.

(4) 1/4-20 stud spacers are provided as required to allow for RFU attachment to the antenna backshell. *Refer to owners' manual for RFU attachment and adjustments.*

Azimuth and Elevation Adjust
Prior to antenna adjustment, all hardware on the antenna system should be snug (allowing the ability to move the antenna without excessive play) and the RF unit should be fully installed.

Step 1. Azimuth Adjustment
As required, rotate (in a horizontal plane) the antenna assembly and azimuth fine adjustment plate for a coarse azimuth location. When the antenna is in the approximate azimuth position (± 10 degrees), and antenna is properly secured to pole, perform the fine azimuth adjustment. The U-bolt on the azimuth fine adjust plate should be securely tightened to the pole. Fine adjust along the azimuth plane with hex nuts on the adjustment rod (eye-bolt) moving the antenna to the left or right as required.

Step 2. Elevation Adjustment
To initially position the elevation, adjust the hex nuts on the adjustment rod and move the antenna either up or down to the coarse position. Fine adjust along the elevation plane with hex nuts on the 1/2-13 adjustment rod. The antenna system is designed for elevation angles of ±15 degrees.

Inspection and Maintenance
1. Before leaving the installation, check that all hardware on the mount, backshell and feed is tight and that nuts are locked in place.
2. Inspection of the antenna should be performed at least once a year to check its condition and to ensure safe operation and maintenance. Qualified personnel, knowledgeable and experienced in antenna installation are required for this inspection.

General Nut Tightening Procedures
1. The following chart has the recommended tightening torque for nuts used on stainless steel bolts, U-bolts, galvanized bolts or any bolts without the ASTM - "A325" mark on the head.

Nominal Bolt Size in Inches	Torque
1/4	50 in-lb.
5/16	102 in-lb.
3/8	15 ft-lb.
7/16	24 ft-lb
1/2	37 ft-lb.

SAFETY INFORMATION

This Information May Save You From Death or Injury

Do not attempt to install or dismantle any Radio Waves Inc. products until you have read and understood the information and instructions in this document.

Installations: Only trained professional installers should be used to install or dismantle antennas, mounts, and related hardware. It is the responsibility of the installer to be sure that all building and safety codes are met and that the installation is complete and secure.

Lightning Protection: All antennas and related hardware must be attached to and connected correctly to a properly grounded structure. It is the responsibility of the installer to be sure that the installation is completed in accordance with all applicable grounding and safety codes.

Electrocution Hazard: Do not install or dismantle Radio Waves Inc. products near any type of power line. Should your antenna or related hardware come in contact with power lines you **could be killed!** Be sure your installation is out of falling distance of any overhead wires-including the lead to any building or structure.

NEVER OPERATE OR LOCATE THIS OR ANY EQUIPMENT NEAR POWER LINES.

Electrocution Hazard: Portable or Mobile Installation.

If you are installing a Radio Waves Inc. component or part on a portable or mobile platform such as a Portable Tripod, Mast, Truck, or Van, be sure all safety procedures are followed and that operators have been properly trained. No one should be allowed to operate or set up the equipment that has not been properly trained.

Radio Waves Inc. is a component supplier and is not the system designer and has no control over how its products are used and installed. It is the responsibility of the System Designer, Van Manufacturer and Owner / Operator to be sure that the overall system is built in accordance with all applicable design and safety standards and procedures and that the operators have been properly trained.

NEVER OPERATE OR LOCATE THIS OR ANY EQUIPMENT NEAR POWER LINES.