

Proxim recommends that you retain all the packaging materials (including all internal boxes). In the unlikely event that the equipment must be returned to the factory, use the original packing materials for return shipment. The packaging materials are also recommended for transporting the equipment from location to location.

Mounting the Base Station Unit

You can mount the outdoor component of your Tsunami Multipoint Base Station Unit directly to a pole with an outside diameter of 1- ½ to 4- ½ inches.

Mounting the BSU is essentially a two-step process:

1. Assemble the BSU’s mounting components on the ground (ground work).
2. Mount the BSU to a pole using the mounting components.

Tsunami Base Station Unit System		
Title	Part Number	Quantity
BSU Installation Kit, consisting of the following: CD-Tsunami Multipoint Base Station CD Assembly Cable, WAC, Cat 5, 50 M Contact Kit, Positronic Contact Kit, AMP Mounting hardware (see the following table)	58686 100-00844-02 100-00861-00 100-00862-00	1 each 1 each 1 each 1 each 1 set

BSU Mounting Hardware		
Mounting Hardware	Part Number	Quantity
Mounting Bracket Galvanized (U-Shaped)	200-01114-00	2 each
Screw, 3/8-16 x 1" Full Thread, Hex Head, SS316	720-01130-00	4 each
Washer, Split Lock, # 3/8, SS 316	730-01131-00	4 each
Notched Bracket	200-01115-00	1 each
Bracket, Downtilt	200-01116-00	1 each
Screw, 3/8-16 x 1 ¼ Full Thread, Hex Head, Galvanized	720-01120-00	6 each
Washer, Split Lock, #3/8, Galvanized	730-01122-00	10 each
Lockwasher, Int. and Ext., #3/8, Galvanized	730-01123-00	2 each
Nut, Hex, 3/8-16, Galvanized	740-01125-00	10 each
Bracket, Clamp (M-Shaped)	200-01117-00	2 each
Strap, Clamp	200-01118-00	2 each
Screw, 3/8-16 x 1" Full Thread, Hex Head	720-01119-00	4 each
Screw, 2/1-13 x 7 ½ Full Thread, Hex Head, Galvanized	720-01121-00	4 each
Washer, Split Lock, #1/2, Galvanized	730-01124-00	4 each
Nut, Hex, ½-13, Galvanized	740-01126-00	8 each
Screw, Machine, SEM, #10-32 x 3/8, Int Star	720-00580-00	5 each
Bracket, GPS Antenna Mtg	200-01083-00	1 each
GPS Antenna, WAC Transceiver	100-00754-00	1 each
Clamp, Band, 2" – 5" Diameter, SS Quick Rel	720-01127-00	1 each

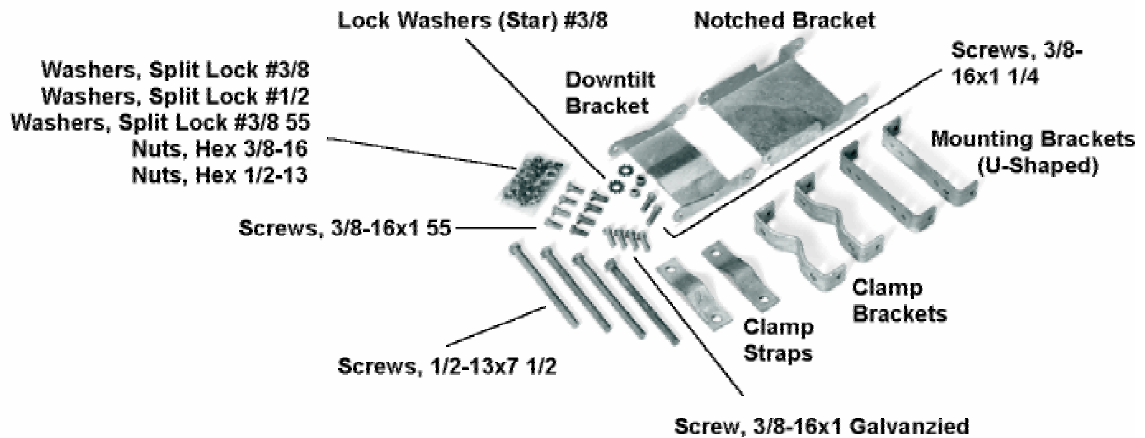


Figure 7. BSU Mounting Hardware

Required Tools: 9/16" (14-23 mm) wrench
6" (155 mm) crescent wrench

Note: Torque all #3/8 bolts and nuts 250 ± 10 in-lbs.

BSU Mounting: Ground Work

To assemble the BSU's mounting components:

1. Place the BSU face (transmitter side) down on a flat surface.
2. Attach the two (u-shaped) galvanized mounting brackets to the back of the BSU using the four stainless steel 3/8-16, hex head screws and four #3/8 split lock washers (see the following photo).

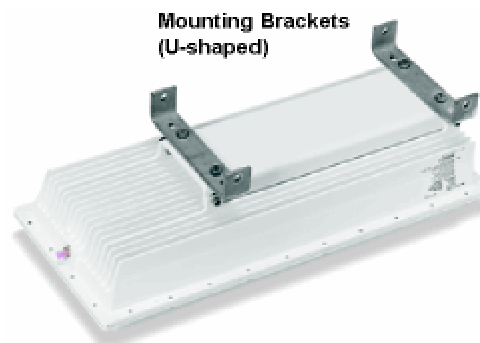


Figure 8. U-Shaped Mounting Brackets Attached

3. Insert two 1/2-13x7 1/2 screws through one of the clamp brackets (m-shaped) and secure the bolts using two 1/2-13 hex nuts. Repeat this step for the other set of 1/2-13x7 1/2 screws, clamp bracket, and 1/2-13 hex nuts (see Figure 9).

4. Connect the downtilt bracket to the notched bracket using two 3/8-16x1 1/4 hex head screws, #3/8 split lock washers, #3/8 (star) lock washers, and 3/8-16 hex nuts (see Figure 9).

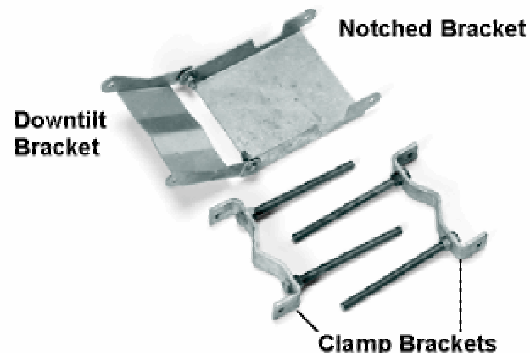


Figure 9. Downtilt and Clamp Brackets with Screws Attached

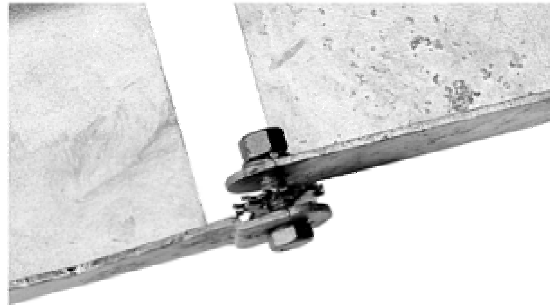


Figure 10. Bracket Assembly Detail of Screw, Washers, and Nut

5. Attach the downtilt/notched bracket assembly to the u-shaped mounting bracket near the middle of the BSU using two sets of 3/8-16x1 1/4 hex head screws, #3/8 split lock washers, and 3/8-16 nuts.

Note: This mounting method lets you point the BSU down when mounted on a pole; to point the BSU up, attach the downtilt/notched bracket assembly to the u-shaped mounting bracket near the bottom of the BSU.

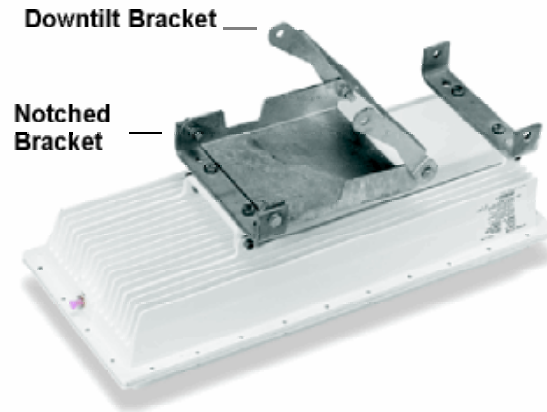


Figure 11. Bracket Assembly Attached to Mounting Bracket

6. Attach one of the 1/2-13x7 1/2 screws/clamp bracket assemblies to the u-shaped mounting bracket near the end of the BSU using two sets of 3/8-16x1 1/4 hex head screws, #3/8 split lock washers, and 3/8-16 hex nuts (see Figure 12). (In this configuration, the BSU points down when mounted on a pole.)
7. Attach the other 1/2-13x7 1/2 screws/clamp bracket assembly to the downtilt bracket using two sets of 3/8-16x1 1/4 hex head screws, #3/8 split lock washers, and 3/8-16 hex nuts (see Figure 12).

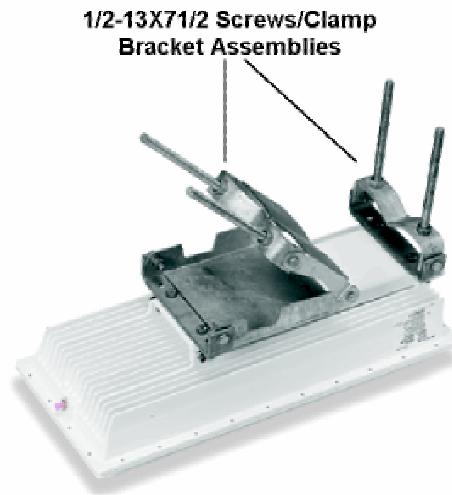


Figure 12. Screws/Clamp Bracket Assemblies Attached

Mounting the BSU to a Pole

To mount the BSU to a pole using the attached mounting components:

1. Lash the unit to the pole or use a hoisting rope to keep the unit in place while you mount it. Slide the two strap clamps over the two sets of 1/2-13x7 1/2 screws and secure the strap clamps using four #1/2 split lock washers and four 1/2-13 hex nuts (see the following photo).

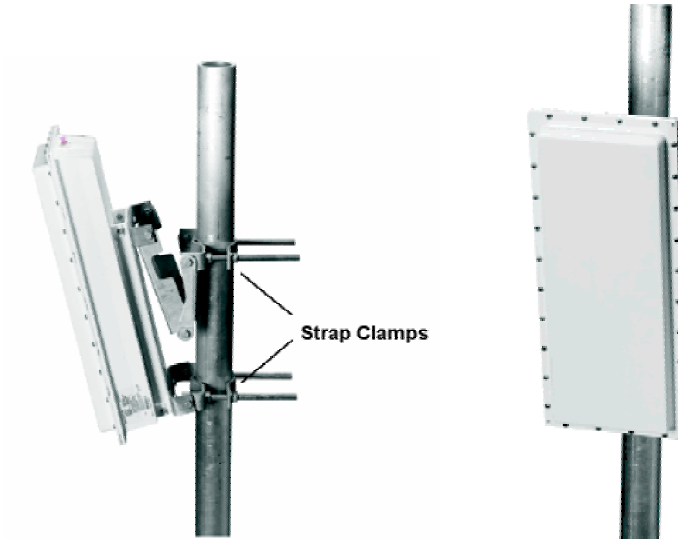


Figure 13. Strap Clamps Attached and Mounted BSU

2. To adjust the up/down tilt (-10 to +5 degrees), move the top or bottom of the BSU (depending on how you installed the downtilt/notched bracket assemblies) until the unit is roughly positioned at the correct angle.
3. Connect the supplied Cat 5 cable to the BSU's Power and Ethernet port as described in the following notes. Then screw on the outer ring to secure the cable in place.

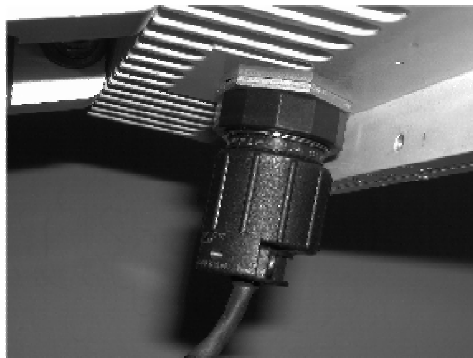
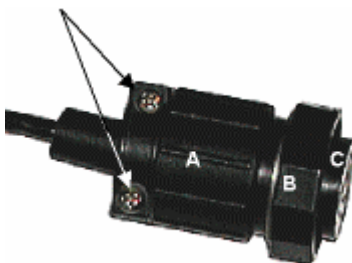


Figure 14. BSU's Power and Ethernet Connector

The Base Station Unit (BSU) is shipped with a dust cover over the large 18-pin connector. Keep this cover on until ready to mate with cable connector to avoid getting the connector wet.

To ensure proper weatherproofing, follow these procedures to connect the supplied Cat 5 cable to the BSU's Power and Ethernet port.

- A. Check the BSU connector. The only moving part should be the plastic nut ("B"), which screws onto the BSU housing.



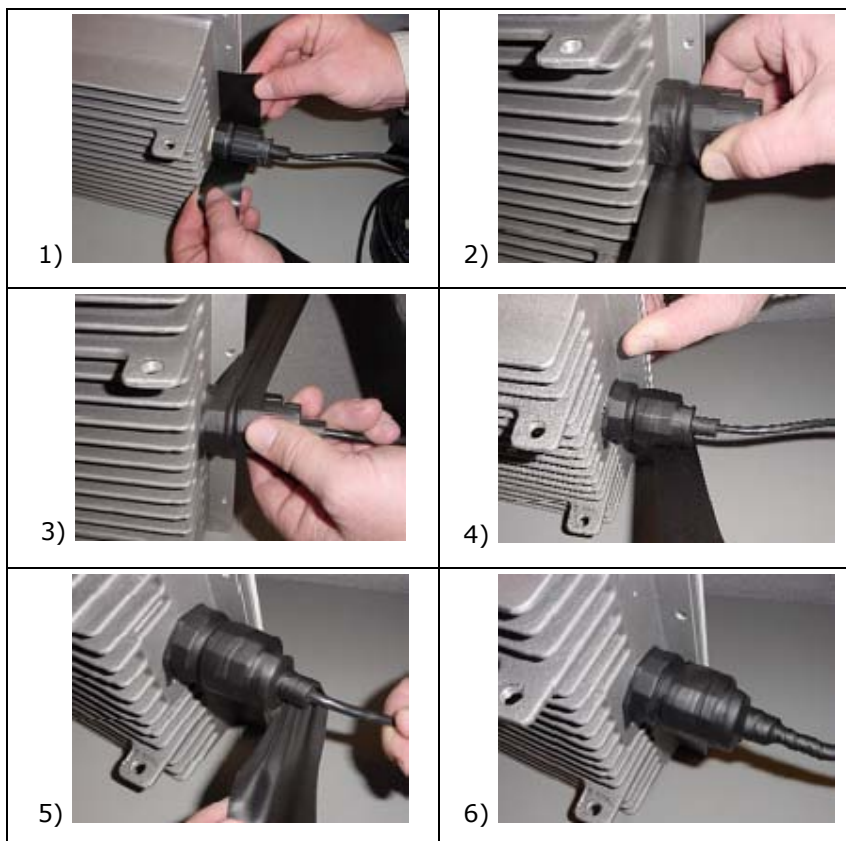
- B. If there is any movement or play between parts A and C, you must tighten these parts before proceeding; otherwise you could cause connector pins to disconnect or break when you apply the weatherproofing tape. To tighten, first loosen (but do not remove) the connector's screws (indicated with arrows in the previous figure).
- C. Then, while holding the pin connection portion (1), turn the bottom portion (2) clockwise until there is no more movement, making sure you do not over-tighten.



- D. Re-tighten the screws.
- E. When mating the BSU to the cable connector, first apply a bead of silicone grease or RTV to the 3mm-wide outward-most flange on the BSU connector (or in the outer ring of the cable-end mating connector).
- F. Then tighten the plastic nut on the cable end to 16 inch-lbs (1.81 N-m). The cable connector must be tightened onto the BSU sufficiently to compress a small O-ring that resides inside the male BSU connector. If the O-ring is missing or insufficiently compressed, moisture can get through into the connector pins.

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Once mated, over-wrap the connectors (as demonstrated in the following table) with stretchy black self amalgamating tape (such as CTB-15 CATV TAPE-X5-BK-UN part #22150000 from DSG – CANUSA 173, Commerce Boulevard, Loveland, Ohio 45140, Tel. 1-800-422-6872) to ensure a better water seal.



4. Connect the other end of the Cat 5 cable to the BSU's power supply. (The BSU's power supply is ordered and shipped separately. The power supply's CPN number is 58526.)
5. Plug the power supply into an electrical outlet.

Note: To ensure proper grounding, use the hole on the back of the BSU and the provided grounding screw to attach a ground wire to the BSU. Use wire grounding techniques in accordance with your local electrical codes.

Installing the GPS Antenna

If you do not plan to install multiple BSU in the same geographical area skip this section

If you plan to install multiple BSUs in the same geographical area (for example, one BSU might interfere with another), you must install the supplied GPS antenna (a small metal plate with a black 2"x 2" antenna and thin cable) on each BSU. Each BSU uses a global positioning system (GPS) to synchronize its clock with other BSUs. You also must set each BSU to Multi Sector mode (see "Configuring the System for Multi-Sector Mode" on page 29).

Mounting the GPS Antenna

To install the GPS antenna:

1. Position the GPS antenna in a location where the antenna plate is parallel to the earth/horizon and the black antenna bump-up can be attached to the BSU (as shown in the following figure). The GPS antenna should be exposed to as much of the sky as possible so it can acquire at least four GPS satellites to extract timing signals for the BSU transmission synchronization.

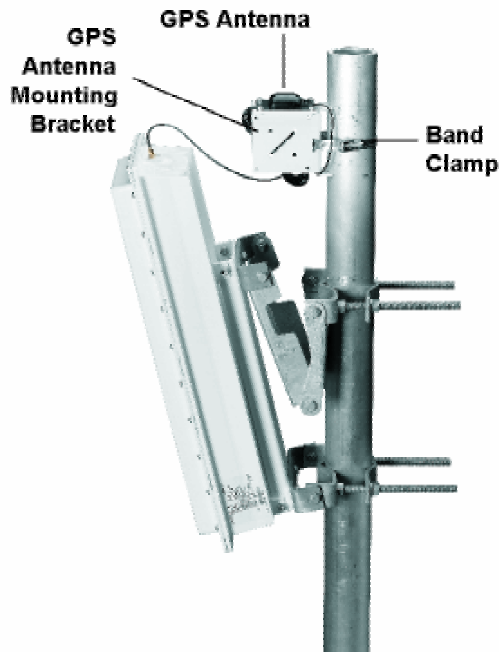


Figure 15. GPS Antenna Mounted on BSU

2. Insert the band clamp through the slots in the GPS antenna-unit mounting bracket and around the mounting pole. Tighten the clamp around the mounting pole and then tighten the screw in the clamp to secure the GPS antenna mounting bracket to the mounting pole.
3. Attach the GPS antenna to the GPS antenna mounting bracket using the #10-32x3/8 SEM screws (the screws with attached washers).

4. Remove the water-protection cap from the top of the BSU and screw on the cable from the GPS antenna to the connector on the top of the BSU.

Installing BSU Configuration Software

The next step is to configure the BSU. The BSU is configured from a PC running the BSU Configuration Software (Versions 1.4 or 1.5). This PC communicates with the BSU through its Ethernet port. If you have a PC with the BSU Configuration Software already installed, skip to “Configuring the Base Station” on page 26; otherwise, install the BSU Configuration software as described in “Appendix B. Installing the Software and Upgrading Firmware” on page 51.

Operating in a Test Environment

Prior to installation outdoors, you may want to operate the equipment indoors in a test environment to become familiar with the operating configurations and performance. Furthermore, in situations in which it is extremely difficult (very low temperature) or costly (on a mountain top) to install or replace the equipment, you may want to verify operation in an indoor test environment prior to actual installation in the field. All of the configuration and testing information described in the previous chapters, with the exception of the actual mounting of the units, apply to an indoor test deployment. The following sections describe a procedure to set up a pre-installation testing environment for this purpose.

Warnings and Considerations for an Indoor Deployment

Review the following important warnings and considerations before turning on any Tsunami Multipoint equipment indoors in your test environment.

WARNING! All persons should be at least 5 feet (1.5 meters) away from any antenna when any products are operational.

Place the antennas at least 30 feet apart, facing each other.

- To minimize the multi-path phenomenon, the BSU should be configured to use the lowest transmit power level (6 dBm) and the most reliable modulation technique (20 Mbps mode). In addition, the BSU must have GPS and Range Security disabled. Also, make sure the BSU is facing toward the SU.
- Do not set up your laptop between the antennas or stand between the antennas.
- Try to minimize the movement of objects within the test environment to prevent changes in radio propagation patterns. Radio signals behave differently indoors than outdoors; using the devices indoors may have an unintended, negative effect on the performance of the Tsunami Multipoint system.
- For best results, connect at least one computer to the BSU and to each SU.