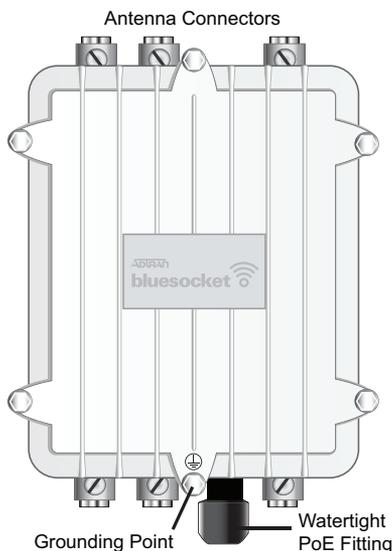# BLUESOCKET 1940 ACCESS POINT

P/N 1700952F1

HARDWARE

The following items are included in your shipment:

- Bluesocket 1940 Access Point (BSAP)
- One plane bracket with hardware
    - Four expansion bolts with washers and nuts
    - Four hex cap screws with washers and lock washers
- One pole mounting base with hardware
    - One hose strap
    - Four round head screws with washers and lock washers
- Watertight PoE fitting
- Grounding cable

Antenna Connectors

Grounding Point

Watertight PoE Fitting

ANTENNAS

The BSAP 1940 provides six N-type antenna connectors (no integrated antennas are included). These connectors support two internal 802.11 radios: one 2.4 GHz 802.11b/g/n radio and one 5 GHz 802.11a/n radio. There are three antenna connectors for each band labeled **2.4GHz** and **5GHz**. A set of six high-efficiency omnidirectional antennas can be ordered from ADTRAN for the BSAP 1940 (P/N 1700930F1, three 5 GHz, 7 dBi gain and three 2.4 GHz, 5 dBi gain). Antennas can also be purchased from third-party vendors.
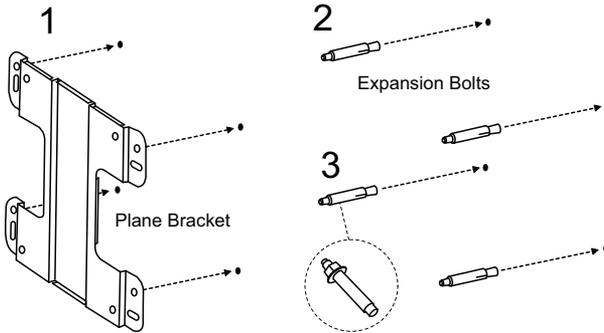
> **NOTE**
> *Make a note of the 12-character MAC address and serial number listed on the back of the BSAP 1940 before mounting the AP to a wall or other surface. This information will be required during configuration.*
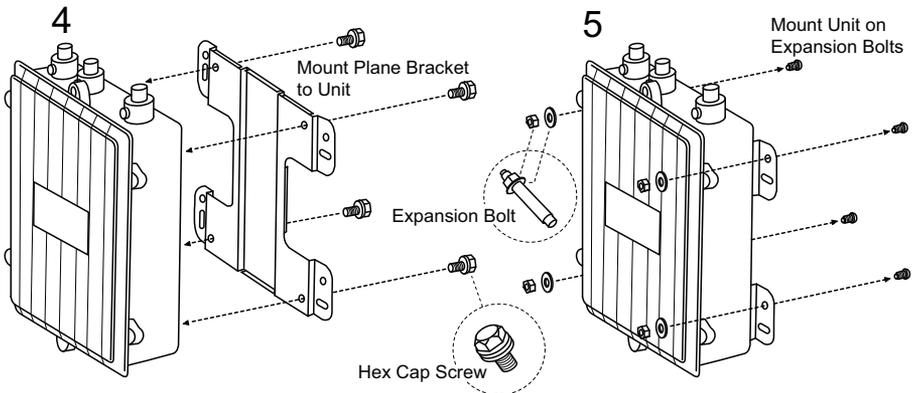
MOUNTING THE BSAP TO AN EXTERIOR CEILING OR WALL

BSAPs can be mounted in exterior applications or interior applications in harsh environments with an operating temperature range of -40°F to 131°F (-40°C to 55°C). BSAPs should be positioned for maximum throughput and range between other APs and wireless client devices. Follow these instructions to mount the BSAP 1940 to a ceiling or wall:

1. On a flat mounting surface, mark the locations of the four mounting holes using the plane bracket as a template (Figure 1).
2. Drill an 8 mm diameter hole with a depth of 36 to 38 mm into each of the markings (Figure 2).
3. Hammer the expanding bolts into each of the drilled holes (Figure 3).

4. Place the lock washers, then the flat washers on the four hex cap screws, and drive the screws through the plane bracket into the back of the case (Figure 4).
5. Install the antennas (sold separately) onto the appropriate antenna ports. The antenna ports are labeled **2.4GHz** and **5GHz**.
6. Insert the expansion bolts extending from the mounting surface through the holes in the plane bracket, place the flat washers on the bolts, thread the nuts onto the bolts, and tighten to secure the bracket to the mounting surface (Figure 5).

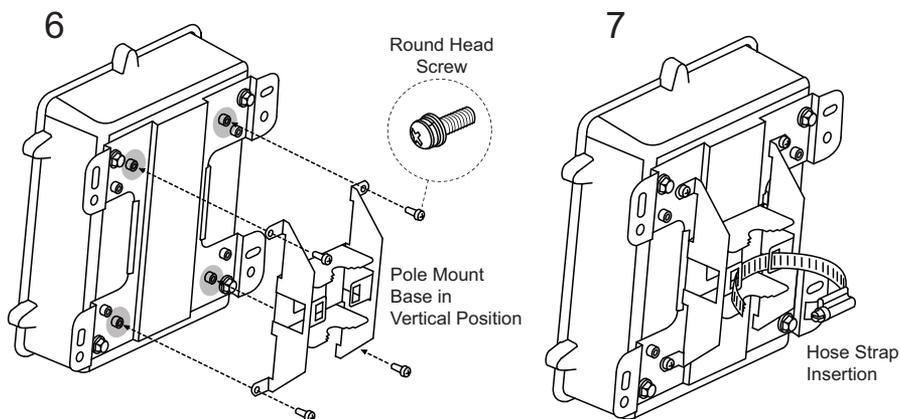Support - Phone: 888-423-8726, Email: support@adtran.com

MOUNTING THE BSAP TO A POLE

The BSAP 1940 also ships with a pole mount base and hose strap to mount the AP to a vertical or horizontal pole. BSAPs should be positioned for maximum throughput and range between other APs and wireless client devices.

To mount the BSAP 1940 to a vertical pole:

1. Place the lock washers, then the flat washers on the four hex cap screws, and drive the screws through the plane bracket into the back of the case as shown in Figure 4.
2. Using the four round head screws with washers and lock washers, attach the pole mounting bracket to the plane bracket in a vertical position (Figure 6).
3. Thread the open end of the hose strap through the two tabs on the pole mount base (Figure 7).
4. Install the antennas (sold separately) onto the appropriate antenna ports. The antenna ports are labeled **2.4GHz** and **5GHz**.
5. Wrap the hose strap around the vertical mounting pole and insert the end into the strap lock. Tighten the strap lock to secure the unit to the pole (Figure 10).

6

Round Head Screw

Pole Mount Base in Vertical Position
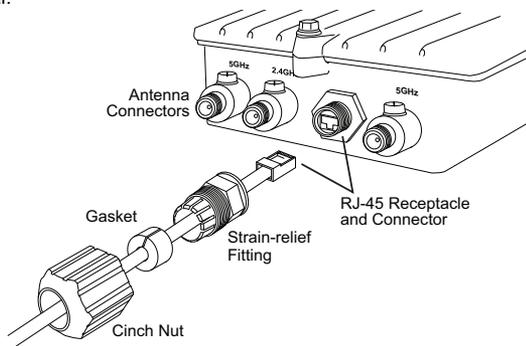
7

Hose Strap Insertion

SUPPLYING POWER TO THE BSAP

The BSAP 1940 does not have a power switch. It is powered when connected to a network device that supplies PoE based on the IEEE 802.3at standard or an external PoE injector. To power the BSAP 1940, follow these instructions:

Connect the PoE Cable to the BSAP

1. Disassemble the watertight fitting by unscrewing the cinch nut and pushing the rubber gasket out of the strain-relief fitting.
2. Thread the cinch nut onto the customer-provided RJ-45 CAT 5e or CAT 6 cable.
3. Spread the gasket open and wrap it around the cable near the RJ-45 connector.
4. Insert the RJ-45 connector through the strain-relief fitting, and press the gasket back into its original position.
5. Insert the connector into the RJ-45 receptacle on the bottom of the BSAP.
6. Gently push the strain-relief fitting along the cable until it engages with the black threads, and screw the it onto the BSAP until it is well seated against the unit.
7. Screw the cinch nut onto the strain-relief fitting until it is well seated against the gasket forming a watertight seal.

CAUTION	*For outdoor applications, the watertight fitting must be used when connecting PoE cables to the BSAP 1940. Failure to use the watertight fitting when the unit is installed outdoors will void the user's warranty and could create a fire or shock hazard.*

Connect the BSAP to a PoE Source

The BSAP 1940 requires 802.3at PoE. It will not function using 802.3af PoE. The following diagram illustrates how to provide power to the BSAP 1940 installed outdoors. Three examples are provided:

1. A PoE switch providing power in conjunction with NetVanta PoE Protector/Injector (1702595F15) installed indoors.
2. A non-PoE switch in conjunction with NetVanta PoE Protector/Injector (1702595F15) and an optional AC Power Adapter (1700501F1) to provide power installed indoors.
3. A third-party outdoor rated 803.3at PoE injector (PowerDsine PD-9001GO) or equivalent with GR-1089-Core Criteria B Surge Protection installed outdoors with mesh.

Ground the BSAP

Use the supplied green grounding cable to ground the BSAP 1940 by following these steps:

1. Remove bottom hex head screw from the BSAP unit. This location of the grounding screw is marked ⏚.
2. Place the ground lug of the supplied grounding cable on the shank of the screw and secure the screw to the unit using an appropriate tool.
3. Attach the other end of the grounding cable to a reliable earth ground point.

WARNING	*Adequate grounding must be provided to the unit. A clearly marked grounding location is provided on the front of the unit for this purpose. Consult a certified electrician to ensure that all grounding and cabling is installed in compliance with the local electrical code.*

CONNECTING TO THE BSAP

If the BSAP is to be powered using a network device such as a switch, connect the Ethernet port of the BSAP to the appropriate switchport. Obtain the IP address of the BSAP from the Dynamic Host Control Protocol (DHCP) server (based on the MAC address of the BSAP). DHCP is enabled by default. You can then use a Secure Shell (SSH) client to connect to the BSAP based on the instructions below.

If the BSAP is powered using a PoE injector, connect the Ethernet port of the BSAP to the **OUT** port of the PoE injector and connect the Ethernet port of the computer to the **IN** port on the PoE injector. Then proceed to SSH to the default IP address of the BSAP as instructed below.

CONFIGURING THE BSAP WITH vWLAN AND AP DISCOVERY

The BSAP 1940 can be configured for use with the Bluesocket virtual wireless local area network (vWLAN). If you have installed vWLAN, and want to use AP discovery to configure the BSAP 1940, follow these steps. For more information on the vWLAN and AP discover, refer to the *vWLAN AP Discovery* configuration guide available online at https://supportforums.adtran.com.

1. After powering the AP and connecting it to the network, allow the AP to discover the vWLAN appliance to receive its configuration information. This AP discovery process uses an algorithm that attempts discovery methods in this order: static configuration, DHCP vendor option (43), Domain Naming System (DNS) discovery, and cached vWLAN information. If no response to the discovery request is received, the algorithm moves to the next method in the list (except when using static configuration, which never queries the other discovery methods).
2. There are two additional network components that can be configured to facilitate AP discovery. First, an external DHCP server can be configured to assign IP addresses to APs associated with the vWLAN. When configuring the DHCP server, make sure to configure the Bluesocket DHCP vendor option (**43**) on the server. Second, you can configure an external DNS server to resolve the name **apdiscovery** to the IP address of the vWLAN instance in the network environment.