The Aruba AP-93H is a single-radio, dual-band wireless access point that supports the IEEE 802.11a standard for high-performance WLAN. This access point uses MIMO (Multiple-in, Multiple-out) technology and other high-throughput mode techniques to deliver high-performance, 802.11a 2.4 GHz or 5 GHz functionality while simultaneously supporting existing 802.11b/g wireless services. The AP-93H access point works only in conjunction with an Aruba Controller.

The Aruba AP-93H access point provides the following capabilities:
- Controller services. The AP-93H access point works only in conjunction with an Aruba Controller.
- 2.4 GHz and 5 GHz functionality while simultaneously supporting existing 802.11a/b/g wireless services. The AP-93H supports the IEEE 802.11n standard for high-performance WLAN.

The AP-93H has a single 12V DC power jack socket to support powering through an AC-to-DC power adapter.

Before You Begin

- FCC Statement: Improper termination of access points installed in the United States configured to non-US model controllers will be in violation of the FCC grant of equipment authorization. Any such willful or intentional violation may result in a requirement by the FCC for immediate termination of operation and may be subject to forfeiture.
- EU Statement: Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands. Ne ha EEE 802.11a/b/g als a to the ArubaOS User Guide for details on restrictions.

Package Contents

- AP-93H Access Point
- AP-93H Mounting Bracket
- In-Box Security Screw
- 2x Cat5 Ethernet cable (length 0.1m)
- Installation Guide

Inform your supplier if there are any incorrect, missing, or damaged parts. If possible, retain the carton, including the original packing materials. Use these materials to repack and return the unit to the supplier if needed.

AP-93H Hardware Overview

Ethernet Ports

The AP-93H is equipped with a total of five active Ethernet ports (ENET 0-4). ENET 0 is a 10/100/1000Base-T (RJ-45) auto-sensing, MDI/MIX wired network uplink connectivity port. This port supports IEEE 802.3af Power over Ethernet (PoE) accepting 802.3ad as a standard defined Powered Device (PD) from a Power Sourcing Equipment (PSE) such as a PoE midspan injector or network infrastructure that supports PoE. ENET 1 through 4 are 10/100Base-T (RJ-45) auto-sensing, MDI/MIX wired network downlink connectivity ports, used to provide secure network connectivity to wired devices. ENET 0 is located on the rear of the AP, while ENET 1-4 are located on the bottom (Figure 1).

Additionally, AP-93H supports a passive pass-through PoE interface to extend a physical connection (typically another Ethernet connection) from the back of the device to a connector on the bottom of the AP.

Pre-Installation Network Requirements

After WLAN planning is complete and the appropriate products and their placement have been determined, the Aruba controller(s) must be installed and initial setup performed before the APs are deployed.

AP Pre-Installation Checklist

Before installing your AP-93H access point, be sure you have the following:
- A pre-installed wall box
- Cat5E/P cable with network access installed in the wall box
- One of the following power sources:
  - IEEE 802.3af-compliant Power over Ethernet (PoE) source
  - Aruba AP AC/DC adapter (sold separately)
- Aruba Controller provisioned on the network
- Layer 2/5 network connectivity to your access point

One of the following network services:
- Aruba Discovery Protocol (ADP)
- DNS server with a "A" record
- DHCP server with vendor specific options

Summary of the Setup Process

- It is important that you verify the items listed under AP Pre-Installation Checklist before you attempt to set up and install an AP-93H.

Installing the AP

The AP-93H is designed to mount into a variety of electrical gang boxes. To install your AP-93H:

1. Begin by removing the existing wall plate (if applicable).
2. Remove any existing RJ45 connectors (typically snap-in) or cut/remove the cable if using the pass through.
3. Install the AP-93H.
4. Align the mounting holes of the AP-93H mounting bracket with mounting holes in your gang box as shown in Figure 8.
5. Connect any required cables to the rear of the AP-93H.

6. Align the mounting posts on the mounting bracket with the corresponding mounting holes on the back of your AP-93H as shown in Figure 9.

7. Securing your AP-93H to the mounting bracket using the enclosed security screw (see Figure 19).

8. If not using PoE, connect the AC-DC power adapter (sold separately) to the DC-power socket located on the bottom of the AP-93H.

Table 1 AP-93H series LED meanings (Continued)

<table>
<thead>
<tr>
<th>LED</th>
<th>Color/State</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENET 1-4</td>
<td>Off</td>
<td>No link</td>
</tr>
<tr>
<td>Green on</td>
<td>10/100 Mbps link</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td>Ethernet link activity</td>
<td></td>
</tr>
<tr>
<td>11A/N</td>
<td>Off</td>
<td>5 GHz radio is disabled</td>
</tr>
<tr>
<td>Amber</td>
<td>5 GHz radio enabled in 11n mode</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>5 GHz radio enabled in 11a mode</td>
<td></td>
</tr>
<tr>
<td>Green flashing</td>
<td>5 GHz Air Monitor</td>
<td></td>
</tr>
<tr>
<td>11B/G/N</td>
<td>Off</td>
<td>2.4 GHz radio disabled</td>
</tr>
<tr>
<td>Amber</td>
<td>2.4 GHz radio enabled in 11a mode</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>2.4 GHz radio enabled in 11n mode</td>
<td></td>
</tr>
<tr>
<td>Green flashing</td>
<td>2.4 GHz Air Monitor</td>
<td></td>
</tr>
</tbody>
</table>

Figure 9 AP-93H to Bracket

Figure 10 Securing the AP-93H

Configuring the AP-93H

AP Provisioning/Reprovisioning

Provisioning parameters are unique to each AP. These local AP parameters are initially configured on the controller which are then pushed out to the AP and stored on the AP itself. Aruba recommends that provisioning settings be configured via the ArubaOS Web UI only. Refer to the ArubaOS User Guide for complete details.

AP Configuration

Configuration parameters are network or controller specific and are configured and stored on the controller. Network configuration settings are pushed out to the APs(s) but remain stored on the controller.

Configurations settings can be configured via the ArubaOS Web UI only. Refer to their respective guides for further details the ArubaOS User Guide or Aruba Mobility Management System User Guide.

Product Specifications

**Electrical**

- Ethernet:
  - 1 x 10/100/1000Base-T auto-sensing Ethernet RJ-45 Interface (ENET 0)
  - 4 x 10/100/1000Base-T auto-sensing Ethernet RJ-45 Interfaces (ENET 1-4)
- MDI/MDX
- IEEE 802.11 (10Base-T), IEEE 802.3 (100Base-T), IEEE 802.3ab (1000Base-T)
- Power over Ethernet (IEEE 802.3ad compliant), 48V DC/50W/24A (see Figure 5 for pin configuration)
- Power:
  - 48V DC/36W Power over Ethernet
  - 12 VDC power interface, supports powering through an AC-to-DC power adapter
- DC power interface, supports powering through an AC-to-DC power adapter

**RF Radiation Exposure Statement:** This equipment complies with FCC RF radiation exposure limits. This equipment should be operated with a minimum distance of 7.87 inches (20cm) between the radiator and your body for 2.4 GHz and 5 GHz operations. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. When operated in the 5.15 to 5.25 GHz frequency range, this device is restricted to indoor use.

**EMC Compliance and Warning Statement**

This equipment generates, uses and can radiate radio frequency energy, and, if not installed and used in accordance with the manufacturer’s instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes interference to other devices, which may be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following:

- Reorient or relocate the device receiving the interference.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

The protection against electric shock is Class II. Equipment not suitable for use in the presence of flammable mixtures.

Security and Regulatory Compliance

Aruba Networks provides a multi-language document that contains country-specific restrictions and additional safety and regulatory information for all Aruba access points. This document can be viewed or downloaded from the following location: www.arubanetworks.com/safety_saddendum

Table 2 Hazardous Materials Declaration

<table>
<thead>
<tr>
<th>Substance Group</th>
<th>Substance (Supplier Code)</th>
<th>Milligram Weight</th>
<th>Milliliter Weight</th>
<th>Percentage</th>
<th>Milligram per Watt Hour</th>
</tr>
</thead>
</table>

Aruba access points must be installed by a professional installer. The professional installer is responsible for ensuring that grounding is available and it meets applicable local and national electrical codes.

European Union RoHS

Aruba products also comply with the EU Restriction of Hazardous Substances Directive 2002/95/EC (RoHS). EU RoHS restricts the use of specific hazardous materials in the manufacture of electrical and electronic equipment. Specifically, restricted materials under the RoHS Directive are Lead (including solder used in printed circuit assemblies), Cadmium, Mercury, Hexavalent Chromium, and Bromine. Some Aruba products are subject to the exemptions listed in RoHS Directive Annex 7 (Lead in solder used in printed circuit assemblies). Products and packaging will be marked with the “RoHS” label shown at the left indicating conformance to this Directive.

China RoHS

Aruba products also comply with China environmental declaration requirements and are labeled with the “3E” label shown at the left.