

# Aruba 330 Series Wireless Access Point Installation Guide

The Aruba 330 Series wireless access points (AP-334, AP-335, IAP-334, and IAP-335) support IEEE 802.11ac standards for high-performance WLAN. This device is equipped with two dual-band radios, which provide network access and monitor the network simultaneously. This access point delivers high-performance 802.11n 2.4 GHz and 802.11ac 5 GHz functionality, while also supporting 802.11a/b/g wireless services. Multi-user Multiple-In, Multiple-Output (MU-MIMO) is enabled when operating in 5GHz mode for optimal performance.

The AP-334 and AP-335 access points work in conjunction with an Aruba controller, while the AP-334 and AP-335 access points can be configured using a built-in virtual controller.

The 330 Series wireless access points provides the following capabilities:

- IEEE 802.11a/b/g/n/ac wireless access point
- IEEE 802.11a/b/g/n/ac wireless air monitor
- IEEE 802.11a/b/g/n/ac spectrum analysis
- Compatible with IEEE 802.3at PoE+ power sources
- Centralized management, configuration and upgrades

## Package Contents

- 330 Series access point
- 9/16" and 15/16" Ceiling Ball Adapters
- Safety, Compliance and Warranty Information guide
- *Aruba Instant Quick Start Guide* (IAP-334 and IAP-335 only)
- *Aruba Professional Installation Guide* (AP-334 only)
- *Aruba 330 Series Wireless Access Point Installation Guide* (this document)

**NOTE**  
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.

## Software

The AP-334 and AP-335 access points require ArubaOS 6.5.0.0 or higher. For additional information, refer to the *ArubaOS User Guide* and *ArubaOS Quick Start Guide*.

The IAP-334 and IAP-335 access points require Instant 4.3.0.0 or higher. For additional information, refer to the *Aruba Instant User Guide* and *Aruba Instant Quick Start Guide*.

**CAUTION**  
Aruba access points are classified as radio transmission devices and are subject to government regulations of the host country. The network administrator(s) is/are responsible for ensuring that configuration and operation of this equipment meet all regulatory standards of their country/domain. For complete list of approved channels in your country, refer to the *Aruba Downloadable Regulatory Table* at [www.arubanetworks.com](http://www.arubanetworks.com).

## 330 Series Hardware Overview

Figure 1 LEDs



## LEDs

The 330 Series access points have two LEDs that indicate the system and radio status.

The LEDs have three operating modes that can be selected in the system management software:

- Default mode: Refer to Table 1
- Off mode: LEDs are off
- Blink mode: LEDs blink green

Table 1: LED Status Indicators

LED	Color/State	Meaning
System Status	Off	Device powered off
1	Green- Blinking	Device booting, not ready for use
	Green- Flashing*	Device ready for use
	Green- Solid	Device operating in restricted mode. Meets one of the following conditions: <ul style="list-style-type: none"> <li>• Uplink negotiated in sub-optimal speed (i.e. 10Mbps) or</li> <li>• Ethernet radio is in non-High-Throughput (HT) mode</li> </ul>
	Red- Solid	System error condition
Radio Status	Off	Device powered off or both radios disabled
2	Green- Solid	Both radios enabled in access mode
	Green- Blinking	One radio enabled in access mode; one radio disabled
	Amber- Solid	Both radios enabled in monitor mode
	Amber- Blinking	One radio enabled in access mode; one radio disabled
Alternating	Green- Solid	Green: one radio in access mode
	Amber- Solid	Amber: one radio in monitor mode

\*Flashing 15x per sec  
\*\*Flashing at a fraction of a second every 2s

## External Antenna Connectors

The AP-334 and IAP-334 access points are equipped with four external antenna connectors located on the front corners of the access point (See Figure 2).

Figure 2 External Antenna Connectors



External antennas for this device must be installed by an Aruba Certified Mobility Professional (ACMP) or other Aruba-certified technician. Using manufacturer-approved antennas only.

The equivalent spectroscopically Radiated Power (ERP) levels for all external antennas must not exceed the regulatory limit set by the host country/domain.

Installers are required to record the antenna gain for this device in the system management software.

## USB Interface

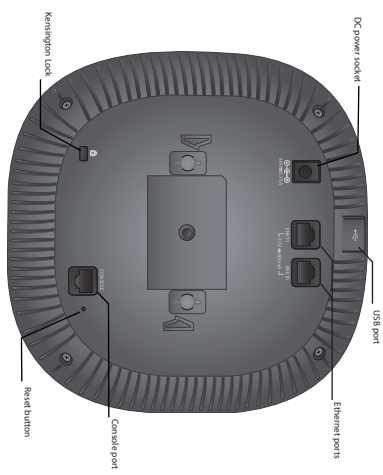
The 330 Series is equipped with a USB port for connectivity with cellular modems and other USB client devices.

When powered by an 802.3at or DC power source, the USB port can supply power up to 5W/1A.

Figure 3 USB Port



Figure 4 Back Panel

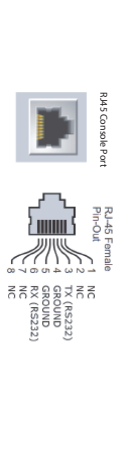


## Console Port

The console port allows the user to connect the access point directly to a serial terminal or laptop for local management. Connect the device to a terminal or terminal server using an Ethernet cable.

The port is an RJ45 connector with pin-out details in Figure 5.

Figure 5 Console Port Pin-Out

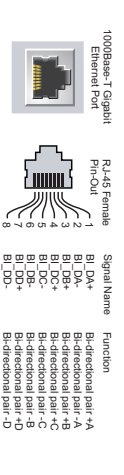


## Ethernet Ports

The back panel of the 330 Series access point is equipped with two Ethernet ports (ENET0 and ENET1) to support wired-network connectivity. These ports support IEEE 802.3at Power over Ethernet (PoE) compliant sources, sourcing 56V DC (nominal) as a standard powered device (PD) from power infrastructure that supports PoE.

- ENET0: 100/1000/2500Base-T auto-sensing MDI/MDX RJ45 port.
- ENET1: 100/1000Base-T auto-sensing MDI/MDX RJ45 port.

Figure 6 Ethernet Port Pin-Out



## Kensington Lock Slot

The 330 Series is equipped with a Kensington lock slot for additional security, shown in Figure 4.

## Reset Button

The reset button can be used to return the access point to factory default settings. To reset the access point, refer to the steps below.

1. Power off the access point.
  2. Press and hold the reset button using a small, narrow object, such as a paperclip.
  3. Power-on the access point without releasing the reset button. The power LED will flash within 5 seconds.
  4. Release the reset button.
- The power LED will flash again within 15 seconds indicating that the reset is completed. The access point will now continue to boot with the factory default settings.

## Power

The ENET0 and ENET1 ports support PoE-in, allowing one port to draw power from an 802.3at source.

**NOTE**  
The 330 Series does not support 802.3at PoE power sources.

If PoE is not available, the access point has a single 48V DC power input to support the AP-AC48V36C AC-to-DC power adapter kit (sold separately). When both 802.3at and DC power sources are available, the DC power source will take precedence. The access point will simultaneously draw a minimal current from the PoE source. In the event that the DC source fails, the access point will switch to the 802.3at source.

The ENET0 and ENET1 Ethernet ports support Dual-homed Failover when both ports are connected to 802.3at separate PoE power sources. If the primary power source fails, the access point will immediately switch the secondary power source with minimal impact to operation of the device. When both ENET0 and ENET1 are wired to 802.3 PoE sources, the access point will draw power primarily from one source, while the secondary power source draws minimum current to keep the device active and is only used in the event of a failover.

## Before You Begin

**CAUTION**  
FCC Statement: Improper termination of access points installed in the United States configured to non-US model controllers is a 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 (47 CFR 1.80).

**EU Statement:**  
Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands. Please refer to the *ArubaOS User Guide/Instant User Guide* for details on restrictions.

Produit réseau local radio basse puissance operant dans la bande de fréquence 2,4 GHz et 5 GHz. Merci de vous référer au *ArubaOS User Guide/Instant User Guide* pour les détails des restrictions.

Low Power FunkLAN Produkt, das im 2,4 GHz und im 5 GHz Band arbeitet. Weitere Informationen bezüglich Einschränkungen finden Sie im *ArubaOS User Guide/Instant User Guide*.

**CAUTION**  
Apparato Radio LAN a bassa potenza, operante a 2,4 GHz e 5 GHz. Fare riferimento alla *ArubaOS User Guide/Instant User Guide* per avere informazioni dettagliate sulle restrizioni.

## Access Point Pre-Installation Checklist

- Before installing your 330 Series access point, ensure that you have the following:
- CAT5E cable or better
  - One of the following power sources:
    - IEEE 802.3at Power over Ethernet (PoE) source. The PoE source can be any power source equipment (PSE) controller or midspan PSE device
    - Aruba AP-AC-48V36C adapter kit (sold separately)
  - For AP-334 and AP-335 only:
    - Aruba controller provisioned on the network
    - Layer 2/3 network connectivity to your access point
  - One of the following network services:
    - Aruba Discovery Protocol (ADP)
    - DNS server with an "x" record
    - DHCP Server with vendor-specific options.

**NOTE**  
Aruba Networks, Inc. In compliance with governmental requirements, has designed the 330 Series access points so that only authorized network administrators can change the settings. For more information about access point configuration, refer to the *ArubaOS Quick Start Guide/Instant Quick Start Guide* and *ArubaOS User Guide/Instant User Guide*.

## Verifying Pre-Installation Connectivity

The instructions for this section are applicable to the AP-334 and AP-335 only.

5. Hold the access point next to the ceiling tile rail with the ceiling tile rail mounting slots at approximately a 30-degree angle to the ceiling tile rail (see Figure 8). Make sure that any cable slack is above the ceiling tile.
6. Pushing toward the ceiling tile, rotate the access point clockwise until the device clicks into place on the ceiling tile rail.

Figure 8 Mounting the Access Point

Before installing access points in a network environment, make sure that they are able to locate and connect to the controller after power on. Specifically, you must verify the following conditions:

- When connected to the network, each access point is assigned a valid IP address
  - Access points are able to locate the controller
- Refer to the *ArubaOS Quick Start Guide* for instructions on locating and connecting to the controller.

### 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 Aruba access points are deployed. For initial setup of the controller, refer to the *ArubaOS Quick Start Guide* for the software version installed on your controller.

### Identifying Specific Installation Locations

You can mount the 330 Series access point on a wall or on the ceiling. Use the access point placement map generated by Aruba's RP Plan software application to determine the proper installation location(s). Each location should be as close as possible to the center of the intended coverage area and should be free from obstructions or obvious sources of interference. These RF absorbers/reflector/interference sources will impact RF propagation and should have been accounted for during the planning phase and adjusted for in RF plan.

### Identifying Known RF Absorbers/Reflectors/Interference Sources

- Identifying known RF absorbers, reflectors, and interference sources while in the field during the installation phase is critical. Make sure that these sources are taken into consideration when you attach an access point to its fixed location. Examples of sources that degrade RF performance include:
- Cement and brick
  - Objects that contain water
  - Metal
  - Microwave ovens
  - Wireless phones and headsets

### Installing the Access Point

Refer to the following steps to install your Aruba 330 Series access point using the AP Ceiling Rail Mount Kit (AP-220-MNT-C1).

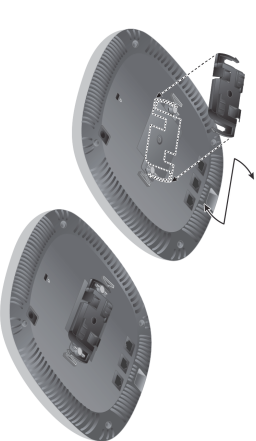
#### Using the Ceiling Rail Adapter

The 330 Series ships with two ceiling rail adapters for 9/16" and 15/16" ceiling rails. Additional wall mount adapters and ceiling rail adapters for other rail styles are available as accessory kits.

This device must be professionally installed and serviced by an ACMP or other Aruba-certified technician. The installer is responsible for securing the access point onto the ceiling tile rail in accordance with the steps below. Failure to properly install this product may result in physical injury and/or damage to property.

1. Pull the necessary cables through a prepared hole in the ceiling tile near where the access point will be placed.
2. Place the adapter against the back of the access point with the adapter at an angle of approximately 30 degrees to the tabs (see Figure 7).
3. Twist the adapter clockwise until it snaps into place in the tabs (see Figure 7).

Figure 7 Attaching the Ceiling Rail Adapter



4. If necessary, connect the console cable to the console port on the back of the access point.

7. On the AP-334 and AP-334, install the external antennas according to the manufacturer's instructions, and connect the antennas to the antenna interfaces on the access point.

### Connecting Required Cables

Install cables in accordance with all applicable local and national regulations and practices.

### Verifying Post-Installation Connectivity

The integrated LEDs on the access point can be used to verify that the device is receiving power and initializing successfully (see Table 1). Refer to the *ArubaOS Quick Start Guide* for further details on verifying post-installation network connectivity.

### Configuring the 330 Series

The instructions for the following section are applicable to AP-334 and AP-335 model access points only.

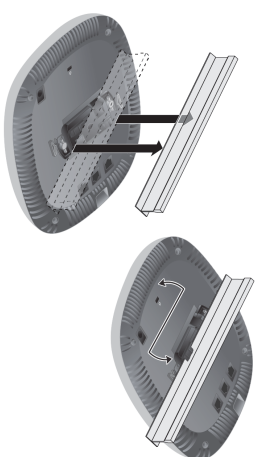
#### Access Point Provisioning/Reprovisioning

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

#### Access Point Configuration

Configuration parameters are network or controller specific and are configured and stored on the controller. Network configuration settings are pushed out to the access points, but remains stored on the controller.

Configuration settings can be configured via the ArubaOS Web UI or ArubaOS CLI. Refer to their respective guides for further details: the *ArubaOS User Guide*.



## Aruba 330 Series Wireless

### Access Point

#### Installation Guide

**aruba®**  
a Hewlett Packard  
Enterprise company

### Contacting Aruba Networks

Web Support	
Main Site	<a href="http://www.arubanetworks.com">http://www.arubanetworks.com</a>
Support Site	<a href="https://support.arubanetworks.com">https://support.arubanetworks.com</a>
Aruba's Social Forums and Knowledge Base	<a href="https://www.community.arubanetworks.com">https://www.community.arubanetworks.com</a>
North American Telephone	1-800-943-4326 (Toll Free) 1-408-754-1200
International Telephone	<a href="mailto:arubanetworks.com/support-services/na-us-support-program/contact-support/">arubanetworks.com/support-services/na-us-support-program/contact-support/</a>
Software Licensing Site	<a href="https://www.arubanetworks.com">https://www.arubanetworks.com</a>
End-of-life information	<a href="https://www.arubanetworks.com/support-services/end-of-life">https://www.arubanetworks.com/support-services/end-of-life</a>
Security Incident Response Team (SIRT)	<a href="https://www.arubanetworks.com/support-services/security-incident-response-team">https://www.arubanetworks.com/support-services/security-incident-response-team</a>
Support Email Addresses	<a href="mailto:support@arubanetworks.com">support@arubanetworks.com</a>
Americas, EMEA and APAC	<a href="mailto:sirt@arubanetworks.com">sirt@arubanetworks.com</a>
Security Incident Response Team (SIRT)	<a href="mailto:sirt@arubanetworks.com">sirt@arubanetworks.com</a>

#### Copyright

© Copyright 2016 Hewlett Packard Enterprise Development LP

#### Open Source Code

Certain Aruba products include Open Source software code developed by third parties, including software licensed under the GNU General Public License (GPL). The Open Source code used can be found at this site: [http://www.arubanetworks.com/open\\_source](http://www.arubanetworks.com/open_source)

#### Warranty

This hardware product is protected by an Aruba warranty. For details, see the *Software, Compliance, and Warranty program guide* included with this device.

**aruba®**

a Hewlett Packard  
Enterprise company

[www.arubanetworks.com](http://www.arubanetworks.com)  
1344 Crossman Avenue  
Sunnyvale, California 94089  
Phone: 408.227.4500  
Fax: 408.227.4500

Aruba 330 Series Wireless Access Point | Installation Guide  
Part Number: 051187-203 | May 2016



051187-203