The Aruba IAP-114 and IAP-115 wireless access points support the IEEE 802.11n standard for high-performance WLAN. These access points use MIMO (Multiple-Input, Multiple-Output) technology and other high-throughput mode techniques to deliver high-performance, 802.11n 2.4 GHz and 5 GHz functionality while simultaneously supporting existing 802.11a/b/g wireless services. The IAP-110 Series access points work only in conjunction with a virtual controller.

The Aruba IAP-110 Series access point provides the following capabilities:

- Wireless transceiver
- Protocol-independent networking functionality
- IEEE 802.11a/b/g/n operation as a wireless access point
- IEEE 802.11a/b/g/n operation as a wireless air monitor
- Compatibility with IEEE 802.3at PoE and 802.3af PoE

The IAP-110 Series requires Aruba Instant 4.0 or later.

### Package Contents
- IAP-114 or IAP-115 access point
- 2.4 GHz and 5 GHz/14 dBi Ceiling Rail Adapters
- Aruba Instant Quick Start Guide
- Installation guide (this document)

Inform your supplier if there are any incorrect, missing, or damaged parts. If so, please return the entire pack to your supplier. Make sure the AP is powered on before installing it. Aruba recommends using a PoE switch instead of a power supply to power the access point. For more information about PoE and PoE+ technology, refer to the Aruba Instant Quick Start Guide.

### IAP-110 Series Hardware Overview

#### LEDs

The IAP-110 Series is equipped with four LEDs that indicate the status of the various components of the AP:

- **PWR**: Indicates whether or not the IAP-110 Series is powered-on.
- **ENET**: Indicates the status of the IAP-110 Series' Ethernet port.
- **5 GHz**: Indicates the status of the 802.11a radio.
- **2.4 GHz**: Indicates the status of the 802.11b/g/n radio.

#### Console Port

The serial console port allows you to connect the AP to a serial terminal or a laptop for direct local management. This port is an RS-232 female connector with the pinouts described in Figure 4. Connect it directly to a terminal or terminal emulator software.

#### External Antenna Connectors

The IAP-114 is equipped with three external antenna connectors. The connectors are labeled AN10, AN11, and AN12, and correspond to radio channels 1, 2, and 3.

#### USB Interface

The IAP-110 Series is equipped with a USB interface for connectivity with cellular modems.

The USB interface is disabled when the IAP-110 Series is powered off.

#### 2.4Ghz5GhzENETPWR

<table>
<thead>
<tr>
<th>LED</th>
<th>Color/State</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR</td>
<td>Off</td>
<td>No power to AP</td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td>Initial power-up</td>
</tr>
<tr>
<td>Green</td>
<td>Flashing</td>
<td>AP booting</td>
</tr>
<tr>
<td>Green</td>
<td>Steady</td>
<td>AP ready</td>
</tr>
<tr>
<td>ENET</td>
<td>Off</td>
<td>Ethernet link unavailable</td>
</tr>
<tr>
<td>Yellow</td>
<td>Steady</td>
<td>Ethernet link established</td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td>10/100Mbps Ethernet link established</td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
<td>Ethernet link activity</td>
</tr>
<tr>
<td>5 GHz</td>
<td>Off</td>
<td>5 GHz radio disabled</td>
</tr>
<tr>
<td>Yellow</td>
<td>Steady</td>
<td>5 GHz radio enabled in non-HT WLAN mode</td>
</tr>
<tr>
<td>Green</td>
<td>Steady</td>
<td>5 GHz radio enabled in HT WLAN mode</td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
<td>5 GHz Air or Spectrum Monitor</td>
</tr>
<tr>
<td>2.4 GHz</td>
<td>Off</td>
<td>2.4 GHz radio disabled</td>
</tr>
<tr>
<td>Yellow</td>
<td>Steady</td>
<td>2.4 GHz radio enabled in non-HT WLAN mode</td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td>2.4 GHz radio enabled in HT WLAN mode</td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
<td>2.4 GHz Air or Spectrum Monitor</td>
</tr>
</tbody>
</table>

### DC Power Socket

If PoE is not available, an optional Aruba AP AC-DC adapter kit (sold separately) can be used to power the IAP-110 Series.

Additionally, a locally sourced AC-to-DC adapter (or any DC source) can be used to power this device, as long as it complies with all applicable local requirements and the DC interface meets the following specifications:

- 12 VDC (+/-5%)/12W
- Compliant 1x 54 mm circular plug, 5/6 mm length

### Reset Button

The reset button can be used to reset the AP to factory default settings. To reset the AP:

1. Power off the AP.
2. Press and hold the reset button using a small, narrow object, such as a paperclip.
3. Power-on the AP 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 complete. The AP will now continue to boot with the factory default settings.

### Before You Begin

#### FCC Statement

Improper termination of access points installed in the United States (non-US model Regulatory Domain model(s)) 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 deactivation of service.

#### EU Statement

Lower power radio LAN product operating in 2.4 GHz and 5 GHz bands.

Please refer to the Aruba Instant User Guide for details on restrictions.

Produit réseau local basse puissance opérant dans la bande fréquentielle de 2.4 GHz ou de 5 GHz. Vérifiez que vous suivez le guide d'utilisation Aruba 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 finden Sie im Aruba Instant User Guide.

### Console Port

The serial console port allows you to connect the AP to a serial terminal or a laptop for direct local management. This port is an RS-232 female connector with the pinouts described in Figure 4. Connect it directly to a terminal or terminal emulator software.

#### Ethernet Port

IAP-110 Series is equipped with one 10/100/1000Base-T (RJ-45) auto-sensing, 1000Base-T Gigabit Ethernet Port that supports IEEE 802.3at and 802.3af Power over Ethernet (PoE) compliance, accepting 48 VDC (nominal) as a standard defined Powered Device (PD) from a Power Sourcing Equipment (PSE) device such as a PoE midspan injector or network infrastructure that supports PoE. The 10/100/1000 Mbps Ethernet ports are on the bottom of the AP. These ports have RJ-45 female connectors with the pin-outs shown in Figure 5.

### AP Pre-Installation Checklist

Before installing your IAP-110 Series AP, ensure that you have the following:

- One of the following power sources:
  - 12 VDC (+/-5%)/12W
  - 12 VDC (+/-5%)/18W
  - 12 VDC (+/-5%)/32W
  - 12 VDC (+/-5%)/64W
  - 12 VDC (+/-5%)/128W

- Aruba AP AC-DC adapter kit (sold separately)

### Summary of the Setup Process

Successful setup of an IAP-110 Series access point consists of eight tasks, which must be performed in this order:

1. Identify the specific installation location for each AP.
2. Install each AP.
4. Configure the controller. Refer to the Aruba Instant Quick Start Guide.

#### Installing the AP

Service to all Aruba Networks products should be performed by trained service personnel only.

#### Using the Ceiling Rail Adapter

The IAP-110 Series ships with two ceiling rail adapters for 9/16" and 15/32" ceiling rails. Additional wall mount adapters and ceiling rail adapters for other rail styles are available as accessory kits.

1. Pull the necessary cables through a prepared hole in the ceiling tile near where the AP will be placed.
2. Place the adapter against the back of the AP with the adapter at an angle of approximately 30 degrees to the rails (see Figure 6).
3. Twist the adapter clockwise until it snaps into place in the tabs (see Figure 6).
4. Release the reset button.

### Identifying Specific Installation Locations

You can mount the IAP-110 Series access point on a wall or on the ceiling. Use the AP placement map generated by Aruba’s RF 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/reflectors/interference sources will impact IP performance 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 AP to its fixed location. Examples of sources that degrade IP performance include:

- Concrete and brick
- Objects that contain water
- Metal
- Microwaves ovens
- Wireless phones and headsets
For additional specifications on this product, please refer to the data sheet. The data sheet can be found on the Aruba website at www.arubanetworks.com.

Safety 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 reviewed or downloaded from the following location: www.arubanetworks.com/technology/Instant

Regulatory Model Names

The following regulatory model names apply to the IAP-110 Series:

- AP110-AMPS614
- AP110-AMPS615

FCC

The device is electronically labeled and the FCC ID is displayed on the RoHS label under the About menu.

RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits. This equipment should be installed and operated with a minimum distance of 7.9 inches (20 cm) between the radiator and your body for 2.4 GHz and 5 GHz operations. The 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 to reduce the potential for harmful interference with co-channel Mobile Satellite Systems.

FCC Class B Part 15

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer’s instructions, may cause interference to radio communications. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

Operation is subject to the following two conditions:

1. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
2. This equipment complies with the electromagnetic interference limits of Class B per Compliance Statement.

EU Regulatory Conformance

The product is CE marked in accordance to the provisions of the EU R&TTE Directive (1999/5/EC) – (CE). Aruba Networks Inc., hereby declares that the AP110-AMPS614/AMPS615 model is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC (CE). The Declaration of Conformity made under Directive 1999/5/EC is available for viewing at the following location: support.arubanetworks.com

Industry Canada

This device complies with Industry Canada licence-exempt RSS standard. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation.

European Union RoHS

Aruba products also comply with the EU Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC (RoHS). EU RoHS requires the use of specific hazardous materials in the manufacturing of electrical and electronic equipment. Specifically, restricted substances under the RoHS Directive are Lead (including solder used in printed circuit assemblies), Cadmium, Mercury, Hexavalent Chromium, and Hexane. Some Aruba products are subject to the exception listed in RoHS Directive Annex 7 (lead in solder used in printed circuit assemblies). Products and packaging will be marked with the "RoHS" label located at the left indicating conformity to this Directive.

China RoHS

Aruba products also comply with China environmental declaration requirements and are labeled with the "EUPP R" label located at the left.

Waste of Electrical and Electronic Equipment

1. On the IAP-114, install the external antenna according to the manufacturer’s instructions, and connect the antenna to the antenna interfaces on the AP.
2. Mounting the AP.
3. If necessary, connect the console cable to the console port on the back of the AP.
4. Pushing toward the ceiling tile, rotate the AP clockwise until the device clicks into place on the ceiling tile rail.
5. To verify that the AP is receiving power over Ethernet (IEEE 802.3at and 802.3af compliant), 48V DC (nominal) and 56V DC (maximum) are marked “LPS” or “Class 2”, and suitable for use in the US or Canada, it should be cULus (NRTL) Listed, with an output rating of 12 VDC, minimum 1.25A, marked “LPS” or “Class 2,” and suitable for use in the EU Member States, Norway, and Switzerland.
6. The network cables will be marked with the “RoHS” label shown at the left indicating conformance to this Directive.
7. If a power adapter other than the one provided by Aruba Networks is used, the device is restricted to indoor use to reduce the potential for harmful interference with co-channel Mobile Satellite Systems.

RoHS Compliance

RoHS Compliance: This product is CE marked in accordance to the provisions of the EU R&TTE Directive (1999/5/EC) – (CE). Aruba Networks Inc., hereby declares that the AP110-AMPS614/AMPS615 model is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC (CE). The Declaration of Conformity made under Directive 1999/5/EC is available for viewing at the following location: support.arubanetworks.com

EU Regulatory Conformance

Table 1

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Website Support</th>
<th>Email Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAP-110</td>
<td>Aruba Corporate</td>
<td><a href="mailto:emea.support@arubanetworks.com">emea.support@arubanetworks.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:americas.support@arubanetworks.com">americas.support@arubanetworks.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:apac.support@arubanetworks.com">apac.support@arubanetworks.com</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:wsirt@arubanetworks.com">wsirt@arubanetworks.com</a></td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Website Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAP-110</td>
<td><a href="http://www.arubanetworks.com/support/wsirt.php">http://www.arubanetworks.com/support/wsirt.php</a></td>
</tr>
</tbody>
</table>

Open Source Code

Certain Aruba products include Open Source software code developed by third parties, including software code developed by the Free Software Foundation. This software is available to you for download at no charge from the Aruba Networks Open Source Website: http://www.arubanetworks.com/open_source

Legal Notice

The use of Aruba products, including platforms and software, by all individuals or organizations, to terminate, block, filter, monitor, or manage Internet traffic inconsistent with the intended purpose of the product will void the warranty and any liability of Aruba Networks, Inc. Aruba products are designed and intended for use as intended by Aruba Networks, Inc. Aruba products are not designed or intended for any other purpose.

Warranty

For the definition of "product" as used herein, "product" means a product of Aruba Networks. For details, see Aruba Networks standard warranty terms and conditions.

Contacting Aruba Networks

1. Part Number 0511366-01 | September 2013
2. 844 Corporate +1 (408) 227-4500 | Telephone Support: +1 (408) 227-4510 | Fax: +1 (408) 227-4540
3. Aruba Networks, Inc. is a California corporation located at 3943 Corporate Ave., Sunnyvale, CA 94089, USA
4. Aruba is a registered trademark of Aruba Networks, Inc. Dell, Dell OpenManage, and PowerConnect are registered trademarks of Dell Inc. Cisco, Catalyst, and ASDN are registered trademarks of Cisco Systems, Inc.
5. Aruba Networks, Inc. does not assume responsibility for the accuracy of this product information. For the most current information, visit the Aruba Networks website at www.arubanetworks.com.