

Overview

Aruba 318 Series Access Points

802.11ac Wave 2 for harsh, weather-protected environments

Product overview

The hardened Aruba 318 series access point delivers gigabit Wi-Fi performance to 802.11ac mobile devices in harsh, weather-protected environments such as warehouses, industrial freezers or enclosures in extreme environments such as stadiums. It delivers 4x4:4SS MU-MIMO capability, Aruba's advanced ClientMatch and an integrated Bluetooth beacon to enable Aruba location services.

With a maximum concurrent data rate of 1,733 Mbps in the 5 GHz band and 300 Mbps in the 2.4 GHz band (for an aggregate peak data rate of 2.0 Gbps), the Aruba 318 APs can quickly add required capacities to your existing or new wireless networks. Hot or cold, dusty and dirty, or baking in an enclosed stadium, the Aruba 318 delivers.

With high performance and high density 802.11ac, the Aruba 318 APs support 160 MHz channel bandwidth (VHT160), multi-user MIMO (MU-MIMO) and 4 spatial streams (4SS).

Proactive and deterministic, ClientMatch dynamically optimizes Wi-Fi client performance as users roam and RF conditions change. If a mobile device moves away from an AP or RF interference impedes performance, ClientMatch automatically steers it to a better AP.

With ClientMatch, clients load web pages faster, deliver video streams with improved quality and support high densities of mobile devices. An 802.11ac network without ClientMatch performs no different than an 802.11n WLAN.

The Aruba 318 also has an integrated Bluetooth Aruba Beacon that simplifies the remote management of a network of large-scale battery-powered Aruba beacons while also providing advanced location, wayfinding, and proximitybased push notification capabilities. It enables businesses to leverage mobility context to develop applications that can deliver an enhanced user experience and increases the value of the wireless network for organizations.

Features and Benefits

Unique Benefits

- Dual Radio 802.11ac access point with Multi-User MIMO
 - Supports up to 1,733 Mbps in the 5 GHz band (with 4SS/VHT80 or 2SS/VHT160 clients) and up to 300 Mbps in the 2.4 GHz band (with 2SS/HT40 clients).
- Built-in Bluetooth Low-Energy (BLE) radio
 - Enables location-based services with BLE-enabled mobile devices receiving signals from multiple Aruba Beacons at the same time.
- Advanced Cellular Coexistence (ACC)
 - Minimizes interference from 3G/4G cellular networks, distributed antenna systems, and commercial small cell/femtocell equipment.
- Industrial design for harsh, weather-protected environments
 - Extends temperature range for indoor environments that lack heating and cooling.
 - Sealed connector interfaces to lock out dust and moisture.
- Connectorized antenna ports support high gain large public venue antennas
- Designed for enhanced physical security.
- Quality of service for unified communication apps

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- Supports priority handling and policy enforcement for unified communication apps, including Microsoft Skype for Business with encrypted videoconferencing, voice, chat, and desktop sharing.
- Best-in-class RF management
 - Integrated AirMatch technology manages the 2.4-GHz and 5-GHz radio bands and actively optimizes the RF environment including channel width, channel selection and transmit power.
- Spectrum analysis
 - Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference.
- Wireless mesh
 - Wireless mesh connections are convenient where Ethernet drops are not available.
- Intelligent app visibility and control
 - AppRF technology leverages deep packet inspection to classify and block, prioritize, or limit bandwidth for thousands of applications in a range of categories.
- Aruba Secure Core
 - Device assurance: Use of Trusted Platform Module (TPM) for secure storage of credentials and keys as well as secure boot.
 - Integrated wireless intrusion protection offers threat protection and mitigation and eliminates the need for separate RF sensors and security appliances.
 - IP reputation and security services identify, classify, and block malicious files, URL and IPs, providing comprehensive protection against advanced online threats.
 - Encrypted IPsec VPN tunnels securely connect remote users to corporate network resources.

Choose your operating mode

As a unified AP, the Aruba 318 can be deployed with or without a controller and can be readily switched to accommodate changing network needs.

- Controller mode: When managed by Aruba Mobility Controllers, the Aruba 318 series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding or,
- Controllerless (Instant) mode: In Aruba Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one Instant AP, configure it over the air, and plug in the other APs ### Instant Network.

Other functional modes include:

- Remote AP (RAP) mode for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid, for identifying sources of RF interference
- Secure enterprise mesh
- Hybrid AP serves Wi-Fi clients and provides wireless intrusion protection and spectrum analysis

For large installations across multiple sites, the Aruba Activate service significantly reduces deployment time by automating device provisioning, firmware upgrades, and inventory management. With Aruba Activate, Unified APs are factory-shipped to any site and configure themselves when powered up.

Aruba 318 Series Specifications

- 5 GHz 802.11ac 4x4 MU-MIMO (1,733 Mbps max rate)

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- Four RP-SMA connectors for external antenna operation
- 2.4 GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios
 - Two RP-SMA connectors for external antenna operation at 2.4 GHz

WI-FI Radio Specifications

- AP type: Indoor hardened, dual radio, 5 GHz 802.11ac 4x4 MIMO and 2.4 GHz 802.11n 2x2 MIMO
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 5 GHz: Four spatial stream Multi User (MU) MIMO for up to 1,733 Mbps wireless data rate to up to three MU-MIMO capable client devices simultaneously
- 5 GHz: Four spatial stream Single User (SU) MIMO for up to 1,733 Mbps wireless data rate to individual 4x4 VHT80 or 2x2 VHT160 client devices
- 2.4 GHz: Two spatial stream Single User (SU) MIMO for up to 300 Mbps wireless data rate to individual 2x2 HT40 client devices
- Support for up to 256 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835 GHz
 - 5.150 to 5.250 GHz
 - 5.250 to 5.350 GHz
 - 5.470 to 5.725 GHz
 - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain.
- Dynamic frequency selection (DFS) maximizes the use of available RF spectrum.
- Supported radio technologies:
 - 802.11b: Direct-sequence spread-spectrum (DSSS)
 - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (conducted) transmit power (limited by local regulatory requirements):
 - 2.4 GHz band: +22 dBm per chain, +25dBm aggregate (2x2)
 - 5 GHz band: +22 dBm per chain, +28dBm aggregate (4x4)
- **NOTE:** Conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain.
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks.
- Maximum ratio combining (MRC) for improved receiver performance.
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance.
- Short guard interval for 20-MHz, 40-MHz, 80-MHz and 160-MHz channels.
- Space-time block coding (STBC) for increased range and improved reception.

Overview

- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput.
- Transmit beam-forming (TxBF) for increased signal reliability and range.
- Supported data rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n (2.4GHz): 6.5 to 300 (MCS0 to MCS15)
 - 802.11n (5GHz): 6.5 to 600 (MCS0 to MCS31)
 - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80, NSS = 1 to 2 for VHT160)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80/160
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Power

- Worst-case power consumption from the AP: 23W
- Power sources sold separately
- Power over Ethernet (PoE+): 802.3at-compliant

WI-FI antenna ports

- 5 GHz
 - Four RP-SMA connectors for external antenna operation
- 2.4 GHz
 - Two RP-SMA connectors for external antenna operation

Other Interfaces

- One 10/100/1000BASE-T Ethernet network interfaces (RJ-45)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
- One 1000BASE-X SFP Port
- Bluetooth Low Energy (BLE) radio
 - Up to 4 dBm transmit power (class 2) and -91 dBm receive sensitivity
- Visual indicator (multi-color LED): For system and radio status
- Reset button: Factory reset (during device power up)
- Micro USB console interface
- Kensington security slot

Mounting

- Optional mounting kits:
 - o AP-220-MNT-W1 are directly compatible
 - o 270 Series outdoor AP mounts (AP-270-MNT-V1, AP-270-MNT-V2, AP-270-MNT-H1, AP-270-MNT-H2) are compatible when the AP-270-MNT-ADP adapter is utilized

Mechanical

Overview

Dimensions/weight (unit, excluding mount accessories):

- 21.6 cm (L) x 15.2 cm (W) x 7.5 cm (H) 8.5" (L) x 6" (W) x 2.5" (H)
- 1.225 kg/2.7 lbs

Environmental

- Operating:
 - Temperature: -40° C to +60° C (-40° F to +140° F)
 - Humidity: 5% to 95% non-condensing
- Storage and transportation:
 - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3,000 m
- Water and Dust
 - IP55

Regulatory

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

Regulatory Model Numbers

- APIN0318

Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n
- Wi-Fi CERTIFIED™ ac (with wave 2 features)

Warranty

- **Limited lifetime warranty**

Minimum Operating System Software

- ArubaOS & Aruba InstantOS 8.3.0.0

Configuration

Ordering Information

Step 1: Select AP Model

Description	Part Number
Unified Hardened Access Points	
Aruba AP-318 (RW) 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ152A
Aruba AP-318 (US) 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ153A
Aruba AP-318 (EG) 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ149A
Aruba AP-318 (IL) 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ150A
Aruba AP-318 (JP) 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ151A
Unified Outdoor Access Points FIPS/TAA	
Aruba AP-318 (RW) FIPS/TAA 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ157A
Aruba AP-318 (US) FIPS/TAA 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ158A
Aruba AP-318 (EG) FIPS/TAA 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ154A
Aruba AP-318 (IL) FIPS/TAA 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ155A
Aruba AP-318 (JP) FIPS/TAA 802.11n/ac Dual 2x2:2/4x4:4 Radio 6xRPSMA Connectors Indoor Hardened AP	JZ156A

Step 2: Add mounting bracket

Description	Part Number
AP-220-MNT-W1 Flat Surface Wall/Ceiling Black AP Basic Flat Surface Mount Kit	JW046A
AP-220-MNT-W1W Flat Surface Wall/Ceiling White AP Basic Flat Surface Mount Kit	JW047A
AP-270-MNT-ADP AP-228 to AP-270-MNT-XX Outdoor Mount Adapter	JW056A
AP-270-MNT-V1 AP-270 Series Outdoor Pole/Wall Long Mount Kit	JW052A
AP-270-MNT-V2 AP-270 Series Outdoor Pole/Wall Short Mount Kit	JW053A
AP-270-MNT-H1 AP-270 Series Outdoor AP Hanging or Tilt Install Mount Kit	JW054A
AP-270-MNT-H2 AP-270 Series Access Flush Wall or Ceiling Mount	JW055A

NOTE: AP-270-MNT-xx require that AP-270-MNT-ADP (JW056A) be ordered

Step 3: Add SPF for fiber connection (optional)

Description	Part Number
SFP-LX Extended Temperature 1000BASE-LX SFP 1310nm LC Connector Pluggable GbE XCVR	Q8N52A
SFP-SX Extended Temperature 1000BASE-SX SFP 850nm LC Connector Pluggable GbE XCVR	Q8N53A
Outdoor SFP Weathertight Strain Relief Kit	Q8N54A

NOTE: Q8N54A is a mandatory items if an SFP is used.

Configuration

Step 4: Add POE powering accessories for units to be POE powered

Description	Part Number
PD-9001GR-AC 30W 802.3at PoE+ 10/100/1000 Ethernet Indoor Rated Midspan Injector	JW629A
PD-9001GO-DC 30W 802.3at PoE+ 10/100/1000 12-24V DC in Outdoor Surge Prot Midspan Injector	JW630A
PD-9001GO-NA 30W 802.3at PoE+ 10/100/1000 Otdr Surge Prot NA Power Cord Mdspan Injector	JW700A
PD-9001GO-INTL 30W 802.3at PoE+ 10/100/1000 Outdoor Surge Prot Intl Power Cord Injector	JW701A

Step 5: Add mounting kit for outdoor POE Midspan injector (optional)

PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit	JW620A
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Step 6: Select 3-Prong AC power cord for indoor POE injector

Description	Part Number
PC-AC-ARG Argentina 220V AC 10A 2-meter AC Power Cord	JW113A
PC-AC-AUS Australian AC Power Cord	JW114A
PC-AC-BR Brazil AC Power Cord	JW115A
PC-AC-CHN China AC Power Cord	JW116A
PC-AC-DEN Denmark 220V AC 10A 2-meter AC Power Cord	JW117A
PC-AC-EC Continental European/Schuko AC Power Cord	JW118A
PC-AC-IN India AC Power Cord	JW119A
PC-AC-IL Israel 250V AC 10A 2-meter AC Power Cord	JW120A
PC-AC-IT Italian AC Power Cord	JW121A
PC-AC-JP Japanese AC Power Cord	JW122A
PC-AC-KOR Korea AC Power Cord	JW123A
PC-AC-NA North America AC Power Cord	JW124A
PC-AC-SWI Switzerland 220V AC 10A 2-meter AC Power Cord	JW125A
PC-AC-TW Taiwan AC Power Cord	JW126A
PC-AC-UK UK AC Power Cord	JW127A
PC-AC-ZA South Africa 250V AC 10A 2-meter AC Power Cord	JW128A

Step 7: Add antenna for radio 0 (5 GHZ)

Description	Part Number
AP-ANT-1W 2.4-2.5GHz (4dBi)/4.9-5.875GHz (6dBi) High-gain Dual-band Omni-dir Indoor Antenna	JW009A
AP-ANT-13B 2.4-2.5GHz (4.4dBi)/4.9-5.9GHz (3.3dBi) downtilt Smallest Omni-dir Single Antenna	JW001A
AP-ANT-19 2.4/5G Dual-band omni-dir 3dBi/6dBi indoor/outdoor RPSMA Cnctr Ant w/36in integrated cable	JW004A
AP-ANT-20W 2.4-2.5GHz (2dBi)/4.9-5.875GHz (2dBi) Compact omni-dir DMt Indoor White Antenna	JW011A
AP-ANT-22 Dual-band 2/4dBi Omni RPSMA Low Profile 2-pk Omni Antenna	Q8N49A
AP-ANT-40 Dual-band Downtilt Omni 4dBi 4 Elmt MIMO ceiling mount 4xRPSMA Pigtail Antenna	JW017A
AP-ANT-45 Dual-band 90x90deg 5dBi 4 Element MIMO 4xRPSMA Pigtail Antenna	JW018A
AP-ANT-48 Dual-band 60x60deg 8dBi 4 Element MIMO 4xRPSMA Pigtail Antenna	JW019A

Configuration

ANT-3x3-5712 4.9-5.9GHz 12.0dBi 75x25deg +/- 45deg and V Pol 3 MIMO High-gain Dir Antenna	JW033A
ANT-4x4-5314 5.15-5.9GHz 14dBi 30x30deg Dual-pol MIMO Hi Gain Dir N-Type Outdoor Antenna	JX988A

Step 8: Add antenna for radio 1 (2.4 GHZ)

Description	Part Number
AP-ANT-1W 2.4-2.5GHz (4dBi)/4.9-5.875GHz (6dBi) High-gain Dual-band Omni-dir Indoor Antenna	JW009A
AP-ANT-13B 2.4-2.5GHz (4.4dBi)/4.9-5.9GHz (3.3dBi) Downtilt smallest Omni-dir Single Antenna	JW001A
AP-ANT-16 2.4-2.5Ghz (3.9dBi)/4.9-5.9GHz (4.7dBi) 3 Elmt MIMO Ant w/downtilt Omni-dir Antenna	JW003A
AP-ANT-19 2.4/5G Dual Band Omni-Dir 3dBi/6dBi Indr/Otrd RPSMA Cnctr Ant w/36in integrated cable	JW004A
AP-ANT-20W 2.4-2.5GHz (2dBi)/4.9-5.875GHz (2dBi) Compact Omni-dir DMt Indoor White Antenna	JW011A
AP-ANT-22 Dual-band 2/4dBi Omni RPSMA Low Profile 2-pk Omni Antenna	Q8N49A
AP-ANT-25A Dual Band 90x90deg 5dBi +/- 45 Pol 2 Element MIMO 2xRPSMA Pigtail Antenna	JW012A
AP-ANT-28 Dual Band 60x60deg 8dBi +/- 45 Pol 2 Element MIMO 2xRPSMA Pigtail Antenna	JW013A
ANT-2x2-2314 2.4 GHz 14dBi 30x30deg Dual-pol MIMO High-gain Dir N-Type Outdoor Antenna	JW024A

Step 9: Add antenna mount kit for AP-ANT-25A, AP-ANT-28, AP-ANT-40, AP-ANT-45, AP-ANT-48

Description	Part Number
AP-ANT-MNT-3 AP-ANT-25A/28/35A/38 Azimuth and Elevation Adjustable Mount Kit	JW020A
AP-ANT-MNT-4 AP-ANT-48 Azimuth and Elevation Adjustable Mount Kit	JW021A
AP-ANT-MNT-5 AP-ANT-45 Azimuth and Elevation Adjustable Mount Kit	JW022A

Step 10: Add RF jumpers for ANT-2X2-2314, ANT-2X2-5314, or ANT-3X3-5712

Description	Part Number
AFC2DL60-00 Indoor AP RPSMAm to Nf 60cm Flexible Indoor Rated RF Cable	JW066A
AFCSJMTM-00 Indoor AP RPSMAm to Nm 60cm Flexible Indoor Rated RF Cable	JW067A

Step 11: Spares of items that are shipped with the Aruba 318 (optional)

Description	Part Number
Outdoor AP Covers and Glands 1-pk M25/5-pk M20 Cover/2-pk M16 Cover/5-pk M20 Gland/2-pk Ground Kit	Q8N47A
Outdoor AP Metric to Standard M20 to 1/2 inch NPT 5-pk Thread Adapter	Q8N48A

Technical Specifications

RF Performance Table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	22	-95
2 Mbps	22	-93
5.5 Mbps	22	-90
11 Mbps	22	-88
802.11g 2.4 GHz and 802.11a 5 GHz 2.4 GHz and 802.11a 5 GHz		
6 Mbps	22	-93
54 Mbps	19	-75
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8	22	-93
MCS7/15	18	-71
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8	22	-90
MCS7/15	18	-68
802.11ac VHT20 5 GHz		
MCS0	22	-93
MCS9	16	-68
802.11ac VHT40 5 GHz		
MCS0	22	-90
MCS9	15	-63
802.11ac VHT80 5 GHz		
MCS0	22	-87
MCS9	15	-61
802.11ac VHT160 5 GHz		
MCS0	22	-86
MCS9	15	-57

Technical Specifications

NOTE: Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

Summary of Changes

Date	Version History	Action	Description of Change
18-Dec-2017	From Version 1 to 2	Changed	Minor changes made on Features and Benefits
06-Nov-2017	Version 1	Created	Document creation.



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