ARUBA 303 SERIES CAMPUS ACCESS POINTS

The affordable mid-range Aruba 303 Series campus access point delivers high performance 802.11ac with MU-MIMO (Wave 2) for medium density enterprise environments. With the integrated BLE and supporting 802.3af power, the Aruba 303 Series AP enables enterprises to improve their work efficiency and productivity with the lowest TCO.

The compact Aruba 303 Series AP delivers a maximum concurrent data rate of 867 Mbps in the 5GHz band and 300 Mbps in the 2.4GHz band (for an aggregate peak data rate of 1.2Gbps). Featuring 2x2:2SS, the Aruba 303 is designed for medium device density environments, such as schools, retail branches, warehouses, hotels and enterprise offices, where the environment is cost sensitive.

The 303 Series AP has an integrated Bluetooth Low-Energy (BLE) radio, which can be used as an Aruba beacon for advanced locationing, indoor wayfinding, asset tracking, and to enable proximity-based push notification services. The integrated beacon radio also enables the remote management of battery-powered and other standalone beacons in a large-scale network of Aruba beacons. It enables businesses to leverage mobility context to develop applications that will deliver an enhanced user experience and increase the value of the wireless network for organizations.

UNIQUE BENEFITS

- Unified AP – deploy with or without controller
  - The 303 Series access points can be deployed in either controller-based (ArubaOS) or controller-less (InstantOS) deployment mode
  - Dual Radio 2x2 802.11ac access point with Multi-User MIMO (wave 2)
  - Supports up to 867Mbps in the 5GHz band (with 2SS/ VHT80 client devices) and up to 300Mbps in the 2.4GHz band (with 2SS/HT40 clients)

KEY FEATURES

- High performance 802.11ac Wave 2 supports multi-user MIMO (MU-MIMO) and 2 spatial access point streams (2SS)
- Boost performance with Aruba ClientMatch, grouping 802.11ac Wave 2 clients to the Wave 2 APs.
- Maximum concurrent data rate of 867 Mbps in the 5GHz band and 300 Mbps in the 2.4GHz band (for an aggregate peak data rate of 1.2Gbps).
- Low cost 303 Series ideal for medium density environments across verticals
- The AP-303P includes a second Ethernet port with PoE out to daisy-chain the wired network reducing the cost and simplifying the installation
- The AP-303P has integrated Zigbee radio and Bluetooth 5 for IoT connectivity.
- Unified wired and wireless policy with Dynamic Segmentation

- 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
- Enables asset tracking when used with Aruba Asset Tags
- Advanced Cellular Coexistence (ACC)
- Minimizes interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/ femtocell equipment
• Quality of service for unified communications applications
  • Supports priority handling and policy enforcement for
    unified communication apps, including Skype for Business
    with encrypted videoconferencing, voice, chat and
    desktop sharing
  • Aruba AppRF technology leverages deep packet inspection
to classify and block, prioritize or limit bandwidth for over
2,500 enterprise apps or groups of apps
• RF Management
  • Adaptive Radio Management (ARM) technology with
    AirMatch automatically assigns channel, width and power
    settings based on environment and client density. It also
    provides airtime fairness and ensures that APs stay clear
    of all sources of RF interference to deliver reliable, high-
    performance WLANs
  • The Aruba 303 Series Access Points can be configured
to provide part-time or dedicated air monitoring for
spectrum analysis and wireless intrusion protection,
VPN tunnels to extend remote locations to corporate
resources, and wireless mesh connections where
Ethernet drops are not available
• Spectrum analysis
  • Capable of part-time or dedicated air monitoring, the
    spectrum analyzer remotely scans the 2.4GHz and 5GHz
    radio bands to identify sources of RF interference from
    HT20 through VHT80 operation
• 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 les, URLs and IPs, providing
    comprehensive protection against advanced
    online threats

Daisy-chain your wired network to connect and power any
network device (IP camera, IOT gateway, or even a second Access
Point) to the E1 Ethernet port of the AP-303P. Simplify and cost-
reduce the installation of multiple devices by sharing switch
ports and cabling.

**CHOOSE YOUR OPERATING MODE**

The Aruba 303 Series Access Points offer a choice of deployment
and operating modes to meet your unique management and
deployment requirements:

• The 303 Series AP is a unified AP that supports both
  controller-based and controller-less deployment modes,
  providing maximum flexibility.
• Controller-based mode – When deployed in conjunction
  with an Aruba Mobility Controller, Aruba 303 Series
  Access Points offer centralized configuration, data
  encryption, policy enforcement and network services, as
  well as distributed and centralized traffic forwarding.
• Controller-less (Instant) mode – The controller function
  is virtualized in a cluster of APs in Instant mode. As the
  network grows and/or requirements change, Instant
  deployments can easily migrate to controller-based mode.
• Remote AP (RAP) mode for branch deployments
• Air monitor (AM) for wireless IDS, rogue detection
  and containment
• Spectrum analyzer (SA), dedicated or hybrid, for
  identifying sources of RF interference
• Secure enterprise mesh portal or point

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, the APs can be factory-
shipped to any site and configure themselves when powered up.

**SPECIFICATIONS**

**Hardware Variants**
• AP-303 models: single Ethernet
• AP-303P models: second Ethernet with PoE out

**Wi-Fi Radio Specifications**
• AP type: Indoor, dual radio, 5GHz 802.11ac 2x2 MIMO and
  2.4GHz 802.11n 2x2 MIMO
• 5GHz (radio 0):
  • Two spatial stream Single User (SU) MIMO for up to
    867 Mbps wireless data rate to individual 2SS VHT80
    client devices
  • Two spatial stream Multi User (MU) MIMO for up to
    867 Mbps wireless data rate to two 1SS MU-MIMO
    capable client devices simultaneously
• 2.4GHz (radio 1):
  • Two spatial stream Single User (SU) MIMO for up to
    300 Mbps wireless data rate to individual 2SS HT40
    client devices
  • Support for up to 256 associated client devices per radio,
    and up to 16 BSSID per radio
• Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835GHz
  - 5.150 to 5.250GHz
  - 5.250 to 5.350GHz
  - 5.470 to 5.725GHz
  - 5.725 to 5.850GHz
• Available channels: Dependent on configured regulatory domain
• Dynamic frequency selection (DFS) optimizes 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 0.5dBm
• Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4GHz band: +21dBm (18dBm per chain)
  - 5GHz band: +21dBm (18dBm per chain)
• Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain
• Advanced Cellular Coexistence (ACC) minimizes the impact of 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 20MHz, 40MHz and 80MHz channels
• Space-time block coding (STBC) for increased range and improved reception
• 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: 6.5 to 300 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
  - 802.11n high-throughput (HT) support: HT20/40
  - 802.11ac very high throughput (VHT) support: VHT20/40/80
  - 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Wi-Fi Antennas
• Two vertically polarized dual-band downtilt omni-directional antennas for 2x2 MIMO with peak antenna gain of:
  - 3.3dBi in 2.4GHz and 5.8dBi in 5GHz for AP-303
  - 3.4dBi in 2.4GHz and 7.8dBi in 5GHz for AP-303P
• The antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
• Combining the patterns of both antennas per radio, the peak gain of the average (effective) pattern is:
  - 2.1dBi in 2.4GHz and 5.7dBi in 5GHz for AP-303
  - 2.1dBi in 2.4GHz and 5.9dBi in 5GHz for AP-303P

Other Interfaces
• E0: One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48Vdc (nominal) 802.3af PoE
  - DC power interface
• E1 (AP-303P models only): One 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PSE (output): 48Vdc (nominal) 802.3af/at PoE
  - Bluetooth Low Energy (BLE) radio
• Zigbee 802.15.4 radio (AP-303P models only)
• Visual indicators (tri-color LEDs): for System and Radio status
• Reset button: factory reset (during device power-up), LED mode control (normal/off)
• Serial console interface (proprietary, µUSB physical jack)
• Kensington security slot
Power Sources and Consumption

- The AP supports direct DC power and Power over Ethernet (PoE).
- When both power sources are available, DC power takes priority over PoE.
- Power sources are sold separately.

AP-303 models:
- Direct DC source: 12Vdc nominal, +/- 5%
- DC power interface accepts 2.1/5.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE): 48Vdc (nominal) 802.3af compliant source
- Maximum (worst-case) power consumption: 10.1W (PoE) or 8.8W (DC)
- Maximum (worst-case) power consumption in idle mode: 4.2W (PoE) or 4.0W (DC)

AP-303P models:
- Direct DC source: 48Vdc nominal, +/- 5%
- DC power interface accepts 1.35/3.5-mm center-positive circular plug with 9.5-mm length
- Power over Ethernet (PoE-PD) on E0: 48Vdc (nominal) 802.3af/at/bt compliant source
- PoE-PSE function on E1 disabled when powered by 802.3af PoE
- Maximum (worst-case) power consumption: 11.3 (PoE) or 11.5 (DC)
- Maximum (worst-case) power consumption in idle mode: 6.8 (PoE) or 7.0 (DC)
- Power consumption numbers exclude power to support PoE-PSE function on E1

Mounting

- The AP ships with a (black) mount clips to attach to a 9/16-inch or 15/16-inch flat T-bar drop-tile ceiling
- Several optional mount kits are available to attach the AP to a variety of surfaces; see the Ordering Information section below for details

Mechanical

- Dimensions and weight (unit, excluding mount accessories):
  - 150mm (W) x 150mm (D) x 35mm (H) or 5.9" (W) x 5.9" (D) x 1.4" (H)
  - AP-303 models: 260g or 9.2oz
  - AP-303P models: 280g or 9.9oz

Environmental

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 93% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

Reliability (at +25C operating temperature)

- AP-303 models MTBF: 795khrs (91yrs)
- AP-303P models MTBF: 518khrs (59yrs)

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 and EN 60601-1-2
- EN 50155 (AP-303)

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

Regulatory Model Numbers

- AP-303: APIN0303
- AP-303P: APINP303

Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac
- WPA, WPA2 and WPA3 – Enterprise with CNSA option, Personal (SAE), Enhanced Open (OWE)
- Wi-Fi Alliance certified (WFA) 802.11ac with Wave 2 features
- Passpoint® (Release 2) with ArubaOS and Instant 8.3+

WARRANTY

- Aruba limited lifetime warranty

MINIMUM SOFTWARE VERSIONS

- AP-303 models: ArubaOS & Aruba InstantOS 8.3.0.0
- AP-303P models: ArubaOS & Aruba InstantOS 8.4.0.0
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<tr>
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<th>Frequency</th>
<th>Max. Transmit Power (dBm)</th>
<th>Receiver Sensitivity (dBm)</th>
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<td></td>
<td></td>
<td>per transmit chain</td>
<td>per receive chain</td>
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<td></td>
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<tr>
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<tr>
<td>11 Mbps</td>
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<td><strong>802.11ac VHT20 5GHz</strong></td>
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</table>

Note: Table shows the maximum hardware capability of the AP (excluding antenna and MIMO/MRC gain). Actual maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements.
ANTENNA PATTERN PLOTS

Horizontal planes (top view, AP facing forward)
Showing both azimuth (0 degrees) and 30 degrees downtilt patterns

Elevation planes (side view, AP facing down)
Showing side view with AP rotated 0 and 90 degrees
### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tr>
<td>JZ317A</td>
<td>Aruba AP-303 (EG) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP</td>
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<td>JZ318A</td>
<td>Aruba AP-303 (IL) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP</td>
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<td>JZ319A</td>
<td>Aruba AP-303 (JP) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP</td>
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<td>JZ320A</td>
<td>Aruba AP-303 (RW) Dual 2x2:2 MU-MIMO Radio Internal Antennas Unified Campus AP</td>
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<td>AP-220-MNT-C1 2x Ceiling Grid Rail Adapter for Basic Flat Rails Mount Kit</td>
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<td>AP-220-MNT-C2 Kit with two suspended ceiling grid rail adapters for Interlude and Silhouette style rails</td>
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<td>JX961A</td>
<td>AP-MNT-CM1 Industrial grade indoor Access Point metal suspended ceiling rail mount kit</td>
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<td>AP-220-MNT-W1 Flat surface wall/ceiling basic flat surface AP mount kit (black)</td>
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