

Overview

Aruba 203R Series Branch Access Points

802.11ac access point for home and small branch offices

Product overview

The multifunctional Aruba 203R Remote AP delivers secure and fast IEEE 802.11ac wireless and wired network access to corporate resources for branch and home offices.

Unique in the industry, the compact Aruba 203R Unified Remote Access Point is software-configurable to operate in either 1x1 dual radio mode, or 2x2 single radio mode. It supports up to 867Mbps in the 5GHz band or up to 400Mbps in the 2.4 GHz band when operating in single radio 2x2 mode. In dual radio 1x1 mode, the maximum data rates for the 203R AP are 433Mbps in the 5GHz band and 200Mbps in the 2.4GHz band.

The 203R AP offers a variety of enterprise-class features, including role-based network access, policy-based forwarding, and Adaptive Radio Management (ARM), which gives remote workers the same high-quality Wi-Fi experience they get at corporate headquarters. When additional capacity is desired, this low-cost 203R AP can be quickly added to an existing Aruba WLAN to improve network performance.

Managed by the Aruba Mobility Controller, the 203R AP supports centralized configuration, data encryption, policy enforcement and network services. It extends corporate resources to remote locations by establishing site-to-site VPN tunnels to the data center.

With an integrated Aruba Beacon, the 203R AP simplifies the remote management of a large scale network of battery-powered BLE Aruba Beacons and provides advanced location and indoor wayfinding, and proximity-based push notification capabilities.

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, APs can configure themselves when powered up, slashing the cost and time to deploy wireless in remote branches and home offices.

Features and Benefits

Unique Benefits

- **Deploy with or without controller**
 - The 203R can be deployed in either controller-based (ArubaOS) or controller-less (InstantOS) deployment mode.
- **New 802.11ac flexible radio architecture**
 - The 203R AP is software configurable to operate in either 1x1 dual radio mode, or 2x2 single radio mode.
 - Supports up to 867Mbps in the 5GHz band (with 2SS/VHT80 clients) or up to 400Mbps in the 2.4 GHz band (with 2SS/VHT40 clients). In 1x1 dual radio mode, these max speeds are up to 433Mbps (5GHz) and 200Mbps (2.4GHz).
- **Built-in Bluetooth Low-Energy (BLE) radio**
 - Delivers location-based services for BLE-enabled mobile devices.
 - Enables management of your deployment of battery- powered Aruba Beacons.
- **Advanced Cellular Coexistence (ACC)**
 - Minimizes the impact from out-of-band interference from sources such as 3G/4G cellular networks.
- **RF Management**
 - Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs

Overview

- The 203R can be configured to provide part-time or dedicated air monitoring for wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.
- **Security**
 - 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, URLs and IPs, providing comprehensive protection against advanced online threats.
 - Integrated Trusted Platform Module (TPM) for secure storage of credentials, certificates and keys.
- **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.
- **Quality of service for unified communication apps**
 - Supports priority handling and policy enforcement for unified communication apps, including Microsoft Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.

Choose your deployment and operating modes

Aruba APs offer a choice of deployment and operating modes to meet your unique management and deployment requirements:

- The 203R AP is the 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 APs 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
- Secure enterprise mesh

203R Series Remote Access Points Specifications

- Unified flexible radio 802.11ac remote AP with internal antennas.
- Supports wall-box and desk mount deployments.

WiFi Radio Specifications

- AP type: Indoor, flex radio:
 - 5GHz 802.11ac 2x2 MIMO OR 2.4GHz 802.11n 2x2 MIMO¹
 - 5GHz 802.11ac 1x1 AND 2.4GHz 802.11n 1x1
- Software-configurable radio supports 5GHz (Radio 0) and/or 2.4GHz (Radio 1)
- 5GHz: Two spatial stream Single User (SU) MIMO for up to 867Mbps wireless data rate to individual 2x2 VHT80 client devices
- 2.4GHz: Two spatial stream Single User (SU) MIMO for up to 400Mbps wireless data rate to individual 2x2 VHT40 client devices (300Mbps for HT40 802.11n client devices)
- Support for up to 255 associated client devices per radio, and up to 16 BSSIDs 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

Overview

- 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 0.5 dBm
- Maximum (conducted) transmit power (limited by local regulatory requirements):
 - 2.4GHz band: +18 dBm per chain, +21 dBm aggregate (2x2 mode)
 - 5GHz band: +18 dBm per chain, +21 dBm aggregate (2x2 mode)
 - **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 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 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

¹ 256-QAM modulation (802.11ac) supported by the 2.4GHz radio as well

WiFi Antennas

- Two integrated dual-band omni-directional antennas for 2x2 MIMO with maximum individual antenna gain of 0.9dBi in 2.4GHz and 2.9dBi in 5GHz. Built-in antennas are optimized for vertical orientation of the AP.
 - Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the effective per-antenna pattern is -1dBi in 2.4GHz and 0.9dBi in 5GHz.

Other Interfaces

- Uplink: 10/100/1000BASE-T Ethernet (RJ-45, back)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
- Local: Two 10/100/1000BASE-T Ethernet (RJ-45, back)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
 - One port (E2): PoE-PSE (output): 48 Vdc (nominal) 802.3af PoE (AP-203RP models)
- Bluetooth Low Energy (BLE) radio
 - Up to 4dBm transmit power (class 2) and -93dBm receive sensitivity
 - Integrated antenna with moderately directional pattern and peak gain of 1dBi
- USB 2.0 host interface (Type A connector, top)
 - 3G/4G cellular modems
 - Device battery charging port

Overview

- Capable of supplying up to 1A/5 watts of power to an attached device
- AC power interface, 2 prong IEC 60320-1 C8 receptacle (back)
- Visual indicators (LEDs, front):
 - Power/system status
 - Radio status
 - Local network port status (2x)
 - Includes PoE-PSE status (AP-203RP models)
- Reset/LED control button (“paperclip access”, bottom)
 - Factory reset (when activated during device power up)
 - LED control: toggle off/normal
- Serial console interface (custom, uUSB physical jack, bottom)

Encrypted Throughput

- Maximum IPsec encrypted wired throughput: 20Mbps

Power Sources and Consumption

- The AP supports direct AC power: 90V – 265V, 47Hz – 63Hz.
 - Note that the unit does not include an AC power cord (IEC C7 plug). A compatible region-specific cord should be selected and added when ordering the AP.
- Maximum (worst-case) power consumption: 7.5W.
 - Excludes power consumed by external USB and/or PoE-PD device (and internal losses); this could add up to 6W for a 5W/1A USB device and up to 18W for a max load (15.4W) 802.3af PoE-PD device
- Maximum (worst-case) power consumption in idle mode: 4.6W.

Mounting

- The AP supports desk mount without additional accessories. A cover ships with the AP to hide connectors, cables and product labels.
- The cover can be used to support wall mounted deployments as well.

Mechanical

- Dimensions/weight (unit, with cable cover):
 - 155mm (W) x 50mm (D) x 95mm (H)
 - 320g (AP-203R), 340g (AP-203RP)
- Dimensions/weight (shipping):
 - 224mm (W) x 159mm (D) x 78mm (H)
 - 510g (AP-203R), 590g (AP-203RP)

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)

Overview

Regulatory

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

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

Reliability

- MTBF at +25C operating temperature:
 - AP-203R: 324,000 hours (37 years)
 - AP-203RP: 308,000 hours (35 years)

Regulatory Model Numbers

- AP-203R-xx (all variants): APINR203
- AP-203RP-xx (all variants): APINP203

Certifications

- CB Scheme Safety, cTUVus
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

Warranty

- **Aruba Limited lifetime warranty**

Minimum Software Versions

- ArubaOS™: 6.5.2.0/8.2.0.0
 - InstantOS™: 6.5.2.0/8.2.0.0
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Overview

Wi-Fi Performance Table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4GHz		
1Mbps	18.0	-95.0
11Mbps	18.0	-87.0
802.11g 2.4GHz		
6Mbps	18.0	-92.0
54Mbps	16.0	-75.0
802.11n HT20 2.4GHz		
MCS0/8	18.0	-91.0
MCS7/15	14.0	-73.0
802.11n HT40 2.4GHz		
MCS0/8	18.0	-89.0
MCS7/15	14.0	-70.0
802.11a 5GHz		
6Mbps	17.0	-91.0
54Mbps	16.0	-74.0
802.11n HT20 5GHz		
MCS0/8	17.0	-91.0
MCS7/15	14.0	-72.0
802.11n HT40 5GHz		
MCS0/8	16.0	-89.0
MCS7/15	14.0	-70.0
802.11ac VHT20 5GHz		
MCS0	16.0	-91.0
MCS8	13.0	-67.0
802.11ac VHT40 5GHz		
MCS0	16.0	-89.0
MCS9	12.0	-63.0
802.11ac VHT80 5GHz		
MCS0	16.0	-85.0
MCS9	12.0	-60.0

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

Configuration

Ordering Information

Step 1: Select AP model

Description	Part number	Comment
Aruba AP-203R (RW) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY712A	Add AC power cord
Aruba AP-203R (RW) FIPS/TAA Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY713A	Add AC power cord
Aruba AP-203R (US) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY714A	Add AC power cord
Aruba AP-203R (US) FIPS/TAA Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY715A	Add AC power cord
Aruba AP-203R (JP) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY716A	Add AC power cord
Aruba AP-203R (JP) FIPS/TAA Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY717A	Add AC power cord
Aruba AP-203R (IL) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY718A	Add AC power cord
Aruba AP-203R (IL) FIPS/TAA Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY719A	Add AC power cord
Aruba AP-203R (EG) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY976A	Add AC power cord
Aruba AP-203R (EG) FIPS/TAA Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas	JY977A	Add AC power cord
Aruba AP-203RP (RW) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY720A	Add AC power cord
Aruba AP-203RP (RW) FIPS/TAA Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY721A	Add AC power cord
Aruba AP-203RP (US) Flex-radio 802.11ac 2x2 PoE Unified Remote AP and Internal Antennas	JY722A	Add AC power cord
Aruba AP-203RP (US) FIPS/TAA Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY723A	Add AC power cord
Aruba AP-203RP (JP) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY724A	Add AC power cord
Aruba AP-203RP (JP) FIPS/TAA Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY725A	Add AC power cord
Aruba AP-203RP (IL) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY726A	Add AC power cord
Aruba AP-203RP (IL) FIPS/TAA Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY727A	Add AC power cord
Aruba AP-203RP (EG) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY978A	Add AC power cord
Aruba AP-203RP (EG) FIPS/TAA Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas	JY979A	Add AC power cord

NOTE: All models ship with a cable cover in the box, which can also be used as a wall mount bracket.

Add 2-prong (C7) AC power cord for Access Point

Description	Part number	Comment
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Configuration

HPE 1.8m C7 to AS/NZS 3112 Pwr Cord	J9869A	Australia / New Zealand
HPE 1.8m C7 to BS 1363/A Pwr Cord	J9870A	United Kingdom, Malaysia
HPE 1.8m C7 to CEE 7-xvi Pwr Cord	J9871A	Europlug: Europe, Switzerland, Denmark, South Africa, Israel
HPE 1.8m C7 to CEI 23-50 Pwr Cord	J9872A	Italy, Chile
HPE 1.8m C7 to CNS 690 2-pole Pwr Cord	J9873A	Taiwan
HPE 1.8m C7 to GB 1002 Pwr Cord	J9874A	China
HPE 1.8m C7 to IRAM 2063 Pwr Cord	J9875A	Argentina
HPE 1.8m C7 to IS 1293 Pwr Cord	J9876A	India
HPE 1.8m C7 to N1/15J JP Pwr Cord	J9877A	Japan
HPE 1.8m C7 to KSC 8305 2-wire Pwr Cord	J9878A	Korea
HPE 1.8m C7 to BR3 10Amp 2-pole Pwr Cord	J9879A	Brazil
HPE 1.8m C7 to NEMA 1-15P NA Pwr Cord	J9880A	North America
HPE 1.8m C7 to NEMA 1-15P Pwr Cord	J9881A	Thailand

Step 2: Add powering accessories (optional)

Description

AP-CBL-SERU Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable

Part number

JY728A

Comment

Custom console port adapter

Summary of Changes

Date	Version History	Action	Description of Change
18-Dec-2017	From Version 4 to 5	Changed	Minor changes made on Features and Benefits
16-Oct-2017	From Version 3 to 4	Changed	Minor edits on Features and Benefits
27-Jun-2017	From Version 2 to 3	Changed	Features and Benefits updated
07-Apr-2017	From Version 1 to 2	Changed	Minor edits on Overview and Configuration
06-Feb-2017	Version 1	Created	Document creation.



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