RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and informational purposes.

Overview

Aruba 270 Series Outdoor Access Points

Setting a higher standard for 802.11ac



Product overview

Innovative and aesthetically-designed 270 series outdoor wireless access points deliver gigabit Wi-Fi performance to 802.11ac mobile devices under any weather conditions. The 270 series is also the only outdoor AP that enables 802.11n clients to operate three-times faster at greater distances.

Purpose-built to survive in the harshest outdoor environments, 270 series APs withstand exposure to extreme high and low temperatures, persistent moisture and precipitation, and are fully sealed to keep out airborne contaminants. All electrical interfaces include industrial- strength surge protection.

With a maximum data rate of 1.3 Gbps in the 5-GHz band and 600 Mbps in the 2.4-GHz band, 270 series outdoor APs supports concurrent dual-radio operation at speeds that greatly exceed Fast Ethernet.

Features and Benefits

WI-FI Client Optimization

To eliminate sticky client behavior and ensure consistently high performance, every Aruba AP includes ClientMatch technology, which gathers session performance metrics that steer mobile devices to the best AP and radio on the WLAN in real time.

Unique Benefits

- Innovative industrial design
  - Eliminates installation complexity
  - Inconspicuous design that improves aesthetics
  - Delivers IP66- and IP67-rated protection from the elements
- Best-in-class RF management
  - Integrated Adaptive Radio Management technology manages the 2.4-GHz and 5-GHz radio bands and ensures that APs stay clear of RF interference
- Reliable and predictable Wi-Fi performance
  - Patented ClientMatch technology ensures that roaming clients associate with the best AP to maximize performance
  - AppRF technology identifies and prioritizes applications on the network
- Spectrum analysis
  - Capable of part-time or dedicated spectrum analysis, which scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference

Overview

- Limited lifetime warranty – an industry first for outdoors

WI-FI Antennas

- AP-207/IAP-207: Two integrated dual-band downtilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.4dBi in 2.4GHz and 6.6dBi in 5GHz. Built-in antennas are optimized for horizontal ceiling mounted orientation of the AP. The downtilt angle for maximum gain is roughly 30 degrees.
    - The maximum gain of the combined (summed) antenna patterns for all elements operating in the same band is 5.2dBi in 2.4GHz and 7.5dBi in 5GHz.

Choose Your Operating Mode

The 270 series of outdoor APs offers a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running ArubaOS. When managed by Aruba Mobility Controllers, the 270 series offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Aruba Instant AP running InstantOS. In Aruba Instant mode, one AP automatically distributes the network configuration to other APs. Just power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.
- Secure enterprise mesh

In addition to operation mode, the APs can be optionally configured to perform the following functions:

- Spectrum analysis: Dedicated scan mode identifies sources of RF interference.
- Air monitoring: Dedicated scan mode provides wireless intrusion protection.
- Hybrid AP: Serves Wi-Fi clients and simultaneously provides wireless intrusion protection and spectrum analysis.

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

If WLAN and network requirements change, a built-in migration path allows 270 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

Access Point Models

- AP-274 and IAP-274
    - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three external antenna connectors
- AP-275 and IAP-275
    - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated omni-directional antennas
- AP-277 and IAP-277
    - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated 80º H x 80º V beamwidth directional antennas

Wireless Radio Specifications

- AP type: Outdoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n
    - In addition to 802.11n data rates, the 2.4-GHz radio supports 802.11ac 256-QAM modulation. This gives TurboQAM-enabled clients a 33% boost to deliver up to 600 Mbps.
- Supported frequency bands (country-specific restrictions apply):
    - 2.4000 GHz to 2.4835 GHz

Overview

  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350 GHz
  - 5.470 GHz to 5.725 GHz
  - 5.725 GHz to 5.875 GHz
- Available channels: Dependent upon 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)
  - 802.11n/ac: 3x3 MIMO with up to three spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (with TurboQAM clients)
  - 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +28 dBm (23 dBm per chain)
  - 5-GHz bands: +28 dBm (23 dBm per chain)
- Advanced cellular coexistence (ACC) feature to minimize interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz 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
- Explicit transmit beam-forming (TxBF) for increased reliability in signal delivery
- 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 450 (MCS0 to MCS23, 1 to 3 spatial streams)
  - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, 1 to 3 spatial streams)
- 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 Power
- Maximum power consumption: 23 watts
- Direct AC source: 100-240-Volt AC
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3at compliant

Antennas

- AP-274: Six N-type female connectors for external antennas
- AP-275: Six integrated omni-directional antennas for 3x3 MIMO with maximum antenna gain of 5 dBi in 2.4 GHz and 5 dBi in 5 GHz. Built-in antennas are optimized for horizontal mounted orientation of AP-275.
- AP-277: Six integrated multipolarized directional antennas with 80º H x 80º V beamwidths for 3x3 MIMO with maximum antenna gain of 6.5 dBi in 2.4 GHz and 5 GHz.

Other Interfaces

- One PoE+ PD port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- One port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- AC power interface, power cords sold separately
- Serial console interface (micro USB)
- Reset button
- Visual indicator (LED):

Overview

- Power/system status; automatically disabled after initial operation period

Mounting

- Must be ordered separately
- Optional mounting kits:
  - AP-270-MNT-V1: Aruba 270 series AP long mount kit for pole/wall mounting. Reduces impact of obstruction by pole or extends away from corner.
  - AP-270-MNT-V2: Aruba 270 series AP short mount kit for pole/wall mounting
  - AP-270-MNT-H1: Aruba 270 series AP hanging bracket for horizontal/inclined surface/ pole mounting

Mechanical

AP-274

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 19 cm (H) with aesthetic cover
  - 9.0" (W) x 9.4" (D) x 7.5" (H)
  - 2.7 kg/6 lbs
  - 23 cm (W) x 24 cm (D) x 14 cm (H) without aesthetic cover
  - 9.0" (W) x 9.4" (D) x 5.5" (H)
  - 2.4 kg/5.3 lbs

AP-275

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 27 cm (H)
  - 9.0" (W) x 9.4" (D) x 10.6" (H)
  - 2.4 kg/5.3 lbs

AP-277

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 22 cm (D) x 13 cm (H)
  - 9.0" (W) x 8.7" (D) x 5.1" (H)
  - 2.1 kg/4.6 lbs

Environmental

- Operating:
  - Temperature: -40° C to +65° C (-40° F to +150° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3000m
- Chassis Rating: IP66 and IP67
- Wind Survivability: Up to 165 mph
- Shock and Vibration: ETSI 300-19-2-4 spec T41.E 4M3

Regulatory

Overview

- 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, EN60601-1-2

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

Regulatory Model Numbers

- • AP-274 and IAP-274: APEX0101
- • AP-275 and IAP-275: APEX0100
- • AP-277 and IAP-277: APEX0102

Certifications

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n/ac

Warranty

- **Aruba Limited lifetime warranty**

Minimum Software Versions

- ArubaOS 6.4 (AP-274, AP-275), Aruba OS 6.4.3 (AP-277)
- Aruba Instant 4.1 (AP-274, AP-275), Aruba Instant 4.2.0 (AP-277)

Configuration

Ordering Guide

Step 1: Select AP model

Description	Part Number
Controller-managed Access Points	
Aruba AP-274 802.11n/ac Dual 3x3:3 Radio 6xNf Connector Outdoor AP	JW176A
Aruba AP-275 802.11n/ac Dual 3x3:3 Radio Integrated Omni Antenna Outdoor AP	JW178A
Aruba AP-277 802.11n/ac Dual 3x3:3 Radio Integrated Directional Antenna Outdoor AP	JW180A
Aruba AP-274 FIPS/TAA-compliant 802.11n/ac Dual 3x3:3 Radio 6xNf Connector Outdoor AP	JW177A
Aruba AP-275 FIPS/TAA-compliant 802.11n/ac Dual 3x3:3 Radio Integrated Omni Antenna Outdoor AP	JW179A
Aruba AP-277 FIPS/TAA-compliant 802.11ac Dual 3x3:3 Radio Integrated Directional Ant Outdoor AP	JW181A
Instant Access Points	
Aruba Instant IAP-274 (US) 802.11n/ac Dual 3x3:3 Radio Antenna Connectors Outdoor AP	JW250A
Aruba Instant IAP-274 (JP) 802.11n/ac Dual 3x3:3 Radio Antenna Connectors Outdoor AP	JW253A
Aruba Instant IAP-274 (JP) FIPS/TAA-compliant 802.11n/ac Dual 3x3:3 Radio Outdoor AP	JY764A
Aruba Instant IAP-274 (RW) 802.11n/ac Dual 3x3:3 Radio Antenna Connectors Outdoor AP	JW249A
Aruba Instant IAP-275 (US) 802.11n/ac Dual 3x3:3 Radio Integrated Omni Antenna Outdoor AP	JW255A
Aruba Instant IAP-275 (JP) 802.11n/ac Dual 3x3:3 Radio Integrated Omni Ant Outdoor AP	JW258A
Aruba Instant IAP-275 (JP) FIPS/TAA 802.11n/ac Dual 3x3:3 Radio Integrated Omni Ant Outdoor AP	JY766A
Aruba Instant IAP-275 (RW) 802.11n/ac Dual 3x3:3 Radio Integrated Omni Antenna Outdoor AP	JW254A
Aruba Instant IAP-277 (US) 802.11n/ac Dual 3x3:3 Radio Integrated Directional Ant Outdoor AP	JW259A
Aruba Instant IAP-277 (JP) 802.11n/ac Dual 3x3:3 Radio Integrated Directional Antenna Outdoor AP	JW261A
Aruba Instant IAP-277 (JP) FIPS/TAA 802.11n/ac Dual 3x3:3 Radio Integrated Direct Ant Outdoor AP	JY768A
Aruba Instant IAP-277 (RW) 802.11n/ac Dual 3x3:3 Radio Integrated Directional Antenna Outdoor AP	JW260A

Step 2: Add mounting bracket

Description	Part Number
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
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

Step 3: Add outdoor power cable for units to be powered from AC (110/220V)

Description	Part Number
PC-OD-AC-P-NA MST2HAC and AP-27x Weatherized AC Power 5m North Amer Cable	JW081A
PC-OD-AC-P-INT MST2HAC and AP-27x Weatherized AC Power 5m International Cable	JW080A
CKIT-OD-AC-P MST2HAC and AP-27x Custom AC Power Cable Connector Assembly Kit	JW079A

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

Description	Part Number
Aruba PD-9001GR-AC 30W 802.3at PoE+ 10/100/1000 Ethernet Indoor Rated Midspan Injector	JW629A
Aruba PD-9001GO-DC 30W 802.3at PoE+ 10/100/1000 12-24V DC in Outdoor Surge Prot Midspan Injector	JW630A
Aruba PD-9001GO-NA 30W 802.3at PoE+ 10/100/1000 Otdr Surge Prot NA Power Cord Mdspan Injector	JW700A
Aruba PD-9001GO-INTL 30W 802.3at PoE+ 10/100/1000 Outdoor Surge Prot Intl Power Cord Injector	JW701A
Add mounting kit for outdoor PoE midspan injector (optional):	
Aruba PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit	JW620A

Configuration

Indoor PoE unit power cables

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-UK UK AC Power Cord	JW127A
PC-AC-ZA South Africa 250V AC 10A 2-meter AC Power Cord	JW128A

Step 5: Add antenna for Radio 0 (5 GHZ) (AP-274 only)

Description	Part Number
ANT-3x3-5005 3-pk 5 GHz 5dBi Omni N-Type Direct Mount Outdoor Antennas	JW031A
ANT-3x3-5010 3-pk 5 GHz 10dBi Omni N-Type Direct Mount Outdoor Antennas	JW032A
ANT-2x2-5314 5.15-5.9 GHz 14dBi 30x30deg Dual Pol MIMO Hi Gain Dir N-Type Outdoor Antenna	JW028A
ANT-4x4-5314 5.15-5.9GHz 14dBi 30x30deg Dual Pol MIMO Hi Gain Dir N-Type Outdoor Antenna	JX988A
ANT-3x3-5712 4.9-5.9GHz 12.0dBi 75x25deg +/- 45deg and V Pol 3 MIMO High Gain Dir Antenna	JW033A
ANT-3x3-D608 Dual Band 60x60deg 8dBi +/- 45 and Vert Pol MIMO N-Type Antenna	JW035A
ANT-3x3-D100 Dual Band 90x90deg 5dBi +/- 45 and Vert Pol MIMO N-Type Antenna	JW034A

NOTE: All of these antennas ship with their brackets

Step 6: Add antenna for Radio 1 (2.4 GHZ) (AP-274 only)

Description	Part Number
ANT-3x3-2005 3-pk 2.4GHz 5dBi Omni N-type Direct Mount Outdoor Antennas	JW030A
ANT-2x2-2314 2.4 GHz 14dBi 30x30deg Dual Pol MIMO High Gain Dir N-Type Outdoor Antenna	JW024A
ANT-2x2-2714 2.4G 14dBi 70deg Sector Dual Pol MIMO N-type Outdoor Antenna	JW025A
ANT-3x3-D608 Dual Band 60x60deg 8dBi +/- 45 and Vert Pol MIMO N-Type Antenna	JW035A
ANT-3x3-D100 Dual Band 90x90deg 5dBi +/- 45 and Vert Pol MIMO N-Type Antenna	JW034A

NOTE: All of these antennas ship with their brackets

Step 7: Add RF cables for non-direct mount of antenna (optional) (AP-274 ONLY)

Description	Part Number
AP-CBL-1 10ft(3m) Nm to Nf Outdoor Rated RF Cable	JW070A
ANT-CBL-1 1m Nm to Nm Flexible Outdoor Rated RF Cable	JW068A
ANT-CBL-2 2m Nm to Nm Flexible Outdoor Rated RF Cable	JW069A
AFC7DL03-00 3m Nm to Nm Outdoor Rated RF Cable	JW064A
AFC7DL04-00 4m Nm to Nm Outdoor Rated RF Cable	JW065A

Step 8: Add lightning arrestors for RF cables longer than 2m (AP-274 ONLY)

Description	Part Number
AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor	JW061A

Configuration

Step 9: Add installation materials (optional) (AP-274 ONLY)

Description	Part Number
AINS2KKIT-00 2 Elec Tape Rolls Mastic Tape and White Tie Wraps Otdr Install Materials	JW063A

Step 10: Spares of items that are shipped with chassis (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 2.4GHz		
1 Mbps	23.0	-95.0
2 Mbps	23.0	-93.0
5.5 Mbps	23.0	-90.0
11 Mbps	23.0	-88.0
2 Mbps	23.0	-95.0
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	23.0	-93.0
54 Mbps	19.0	-75.0
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8	23.0	-93.0
MCS7/15	18.0	-71.0
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8	23.0	-90.0
MCS7/15	18.0	-68.0
802.11ac VHT20 5 GHz		
MCS0	23.0	-93.0
MCS9	16.0	-68.0
802.11ac VHT40 5 GHz		
MCS0	23.0	-93.0
MCS9	15.0	-63.0
802.11ac VHT80 5 GHz		
MCS0	23.0	-87.0
MCS9	15.0	-61.0

Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings. RF performance

Technical Specifications

numbers for AP-274 are slightly lower due to additional internal RF circuitry..

Summary of Changes

Date	Version History	Action	Description of Change
06-Nov-2017	From Version 4 to 5	Added	SKUs added: Q8N47A, Q8N48A
06-Mar-2017	From Version 3 to 4	Changed	Minor edits made on Configuration section
11-Nov-2016	From Version 2 to 3	Changed	Minor edits made on Configuration section
07-Nov-2016	From Version 1 to 2	Added	Models added: JY764A, JY766A, JY768A
01-Nov-2016	Version 1	Created	Document creation.

Sign up for updates

© Copyright 2017 Hewlett Packard Enterprise Development LP. The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Hewlett Packard Enterprise

To learn more, visit**: http://www.hpe.com/networking**

c05275746 - 15727 - Worldwide – V5 – 06-November-2017