DATA SHEET

ARUBA 270 SERIES OUTDOOR ACCESS POINTS

Setting a higher standard for 802.11ac

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.

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
- Limited lifetime warranty – an industry first for outdoors

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
  - 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 80° H x 80° 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):
  - 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

- 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

- Limited lifetime warranty

MINIMUM OPERATING SYSTEM 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)

RF PERFORMANCE TABLE

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
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
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	-90.0
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 numbers for AP-274 are slightly lower due to additional internal RF circuitry.

ORDERING INFORMATION

Part Number	Description
AP-270 Series Access Points	
AP-274	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors
AP-274-F1	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors (FIPS|TAA)
IAP-274-US	IAP-274-US Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: United States
IAP-274-JP	IAP-274-JP Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Japan
IAP-274-RW	IAP-274 Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: rest of world
AP-275	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas
AP-275-F1	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas (FIPS|TAA)
IAP-275-US	IAP-275-US Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
IAP-275-JP	IAP-275-JP Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Japan
IAP-275-RW	IAP-275 Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: rest of world
AP-277	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas
AP-277-F1	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas (FIPS|TAA)
IAP-277-US	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: United States
IAP-277-JP	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: Japan
IAP-277-RW	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: rest of world

ORDERING INFORMATION

Part Number	Description
Accessories	
PD-9001GR-AC	PD-9001GR-AC 30W 802.3at Indoor PoE midspan injector, 10/100/1000BASE-T Ethernet
PD-9001GO-DC	PD-9001GO-DC 30W 802.3at Outdoor PoE midspan injector, 12-24V DC in, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-NA	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-INTL	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, International Power Cable
AP-270-MNT-H1	AP-270-MNT-H1 Aruba 270 Series Outdoor AP Hanging Mount Kit. Mount for hanging or tilt install for AP-270
AP-270-MNT-H2	AP-270-MNT-H2 Aruba 270 Series Outdoor AP Flush Mount Kit
AP-270-MNT-V1	AP-270-MNT-V1 Aruba 270 Series Access Point Long Mount Kit. Pole/Wall Mount for AP-270 300 mm from vertical mounting asset
AP-270-MNT-V2	AP-270-MNT-V2 Aruba 270 Series Access Point Short Mount Kit. Pole/Wall Mount for AP-270 75-mm from vertical mounting asset

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