

### Overview

#### HPE Aruba Networking 580 Series Outdoor Access Points

##### Flagship Wi-Fi 6 (802.11ax) performance with dual radios for outdoor environments

Purpose-built to survive in the harshest outdoor environments, the HPE Aruba Networking 580 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 surge protection.

HPE Aruba Networking Wi-Fi 6 access points provide high-performance connectivity in dense mobile and IoT environments. With maximum aggregate on air data rates of 2.97 Gbps (HE80/HE20), the HPE Aruba Networking 580 Series APs deliver the speed and reliability needed for demanding environments.



## Standard Features

### Incredible Efficiency

The HPE Aruba Networking 580 Series APs are designed to optimize user experience by maximizing Wi-Fi efficiency and dramatically reducing airtime contention between clients.

Features include Uplink and Downlink Orthogonal Frequency Division Multiple Access (OFDMA), Downlink Multi-User MIMO (MU-MIMO) and cellular co-location. With up to 4 spatial stream and 160 MHz channel capability, the HPE Aruba Networking 580 Series provides groundbreaking wireless capabilities for any application.

Read the Multi-User 802.11ax white paper for further information.

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### Advantages of OFDMA

This capability allows HPE Aruba Networking's Wi-Fi 6 Aps to handle multiple Wi-Fi 6 capable clients on each channel simultaneously, regardless of device or traffic type. Channel utilization is optimized by handling each transaction via smaller sub-carriers or resource units (RUs), which means that clients are sharing a channel and not competing for airtime and bandwidth.

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### Bi-directional Multi-User MIMO (MU-MIMO)

Similar to downlink MU-MIMO in Wi-Fi 5 (802.11ac Wave 2), the HPE Aruba Networking 580 Series can simultaneously connect clients using downlink – and now – uplink spatial streams. The added benefit is the ability to multiply the number of clients that can now send traffic, thus optimizing client-to-AP spatial stream diversity.

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### Wi-Fi 6 and MU-MIMO aware client optimization

HPE Aruba Networking's patented AI powered ClientMatch technology ensures that all clients are attached to their best serving Access Point. Session metrics, network metrics, applications and client type are used to identify and maintain the best connection.

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### Intelligent Power and Temperature Monitoring (IPTM)

HPE Aruba Networking 580 Series APs continuously monitor and report hardware energy consumption and temperature. Aps can be configured to enable or disable capabilities based on the available PoE power – ideal when wired switches have exhausted their power budget. Additionally, with IPTM, if the AP gets too close to the maximum temperature limit, it can disable features to prevent overheating.

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### Advanced Cellular Coexistence (ACC)

The ACC feature uses filtering to automatically minimize the impact of interference of high power cellular base stations, as well as small cell and femtocell equipment, necessary for outdoor APs installed nearby cell towers.

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### Aruba Air Slice™ for Extended Application Assurance

Initially, APs in controller-less mode (Instant) can provide SLA-grade performance by allocating radio resources, such as time, frequency, and spatial streams, to specific traffic types. By combining HPE Aruba Networking's Policy Enforcement Firewall (PEF) and Layer 7 deep packet inspection (DPI) to identify user roles and applications, the APs will dynamically allocate the bandwidth needed. Non-Wi-Fi 6 clients can also benefit.

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### IoT Platform Capabilities

#### High Power BLE

The HPE Aruba Networking 580 Series APs is the first HPE Aruba Networking AP with a high powered BLE radio, to ensure maximum range and performance for IoT applications

#### Advanced IoT Coexistence (AIC)

This feature uses built-in filtering to allow Wi-Fi and BLE/ Zigbee radios to operate at maximum capacity without the impact of interference

#### Target Wake Time (TWT)

Ideal for IoT solutions that communicate infrequently, this Wi-Fi 6 capability allows IoT devices to use 802.11ax protocol. TWT coordinates with client devices to allow them to sleep for extended periods and use shorter wake times to communicate before returning to sleep. This substantially extends the useful operating life of Wi-Fi 6 based battery powered sensors.

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## Standard Features

### HPE Aruba Networking Secure Infrastructure

The HPE Aruba Networking 580 Series is an integral part of HPE Aruba Networking's zero trust security approach to help protect user authentication and wireless traffic. Select capabilities include:

#### WPA3 and Enhanced Open

With the introduction of WPA3 and Enhanced Open, a Wi-Fi 6 certified client will never send unencrypted traffic over the air. Even with an open authenticated network, Enhanced Open still provides strong encryption over the air. In all Wi-Fi 6 user sessions, each user is uniquely encrypted and if they disconnect and reconnect, the encryption changes from session to session.

#### WPA2-MPSK

MPSK enables simpler passkey management for WPA2 devices – should the Wi-Fi password on one device change, no additional changes are needed for other devices. This feature is enabled when networks are deployed with ClearPass Policy Manager.

#### VPN Tunnels

In Remote AP (RAP) and IAP-VPN deployments, the HPE Aruba Networking 580 Series can be used to establish a secure SSL/IPSec VPN tunnel to a Gateway or Mobility Controller that is configured as a VPN concentrator.

#### Trusted Platform Module (TPM)

For enhanced device assurance, all HPE Aruba Networking APs have an installed TPM for secure storage of credentials, keys and boot code.

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### Simple and Secure Access

To simplify policy enforcement, the HPE Aruba Networking 580 Series uses HPE Aruba Networking's Policy Enforcement Firewall (PEF) to encapsulate all traffic from the AP to the Mobility Controller (gateway) for end-to-end encryption and inspection. Policies are applied based on context including user role, device type, application, and location. This reduces the manual configuration of SSIDs, VLANs, and ACLs. PEF also serves as the underlying technology for dynamic segmentation.

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### High Density Connectivity

Each HPE Aruba Networking 580 Series AP provide connectivity for a maximum of 1024 associated clients per radio (2048 total). In real world scenarios, outdoors where client distances are longer, the maximum recommended range varies based on range and client requirements.

### Flexible Operation and Management

A unique feature of HPE Aruba Networking APs is the ability to operate in either controller-less or controller-based mode.

#### Controller-less (Instant) Mode

In controller-less mode, one AP serves as a virtual controller for the entire network. Learn more about Instant mode in this technology brief.

#### Mobility Controller Mode

For optimized network performance, roaming and security, APs tunnel all traffic to a mobility controller for central management of traffic forwarding, segmentation, encryption, and policy enforcement. Learn more in the HPE Aruba Networking OS datasheet.

### Management Options

Available management choices include HPE Aruba Networking Central (cloudbased) or Aruba AirWave (multi-vendor, on prem) solutions. For large installations across multiple sites, HPE Aruba Networking APs can be shipped and activated with Zero Touch Provisioning through HPE Aruba Networking Central or AirWave. This reduces deployment time, centralizes configuration, and provides inventory visibility

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### Additional Wi-Fi Features

#### Transmit Beamforming (TxBF)

Increased signal reliability and range



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## Standard Features

### Passpoint Release 2

Seamless cellular-to-Wi-Fi carryover for guests

### Dynamic Frequency Selection (DFS)

Optimized use of available RF spectrum

### Maximal Ratio Combining (MRC)

Improved receiver performance for multi antenna access points.

### Cyclic Delay/Shift Diversity (CDD/CSD)

Enable use of multiple transmit antennas

### Space-Time Block Coding (STBC)

Increased connection robustness

### Low-Density Parity Check (LDPC)

High performance error detection and correction coding for enhanced receiver performance.

### Key Features:

- Dual-radio (dual 4x4 MIMO) high-power 802.11ax AP with up-and downlink OFDMA and Multi-User MIMO (MU-MIMO)
- Maximum combined data rates of 2.9Gbps (HE80/HE20) in the most real-world settings, with a maximum 5GHz throughput of 2.4Gbps in 4SS HE80 (or 2SS HE160) and 574Mbps in the 2.4GHz band
- Support for 5Gbps NBase-T Ethernet, up to 10Gbps SFP+, and 1Gbps (w/PoE Out)
- Operate with 802.3bt Class 6 PoE or AC power, with reduced capabilities on 802.3at using IPTM
- Ideal for large scale outdoor environments including universities, large enterprises, and industrial applications
- High power BLE and Zigbee radio for IoT connectivity with support for maximum range and performance
- HPE Aruba Networking Intelligent Power and Temperature Monitoring (IPTM) which allows the AP to operate if there is not enough PoE power as well as manage heat to prevent overheating in the most extreme environments
- State of the art security with WPA3 and Enhanced open

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## VPN Tunnels

In Remote AP (RAP) and IAP-VPN deployments, the HPE Aruba Networking 570 Series can be used to establish a secure SSL/IPSec VPN tunnel to a Mobility Controller that is configured as a VPN concentrator.

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## Trusted Platform Module (TPM)

For enhanced device assurance, all HPE Aruba Networking APs have an installed TPM for secure storage of credentials, keys and boot code.

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## Simple and Secure Access

To simplify policy enforcement, the HPE Aruba Networking 570 Series uses HPE Aruba Networking's policy enforcement firewall (PEF) features to encapsulate all traffic from the AP to the Mobility Controller (Gateway) for end-to-end encryption and inspection. Policies are applied based on context including: user role, device type, application, and location. This reduces the manual configuration of SSIDs, VLANs, and ACLs. PEF also serves as the underlying technology for **dynamic segmentation**.

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## High-Density Connectivity

Each 570 Series AP provide connectivity for a maximum of 512 associated clients per radio (1024 total).

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## Flexible Operation and Management

A unique feature of HPE Aruba Networking APs is the ability to operate in either controller less or controller-based mode.

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## Standard Features

### Controller-less (Instant) Mode

In controller-less mode, one AP serves as a virtual controller for the entire network. Learn more about Instant mode in this [technology brief](#).

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### Mobility Controller Mode

For optimized network performance, roaming and security, APs tunnel all traffic to a mobility controller for central management of traffic forwarding, segmentation, encryption, and policy enforcement. Learn more in the HPE Aruba Networking OS datasheet.

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### Management Options

Available management solutions include HPE Aruba Networking Central, cloud based, or Aruba AirWave, a multi-vendor, on-premises, management solution.

For large installations across multiple sites, HPE Aruba Networking APs can be shipped and activated with Zero Touch Provisioning through HPE Aruba Networking Central or Airwave. This reduces deployment time, centralizes configuration, and provides inventory visibility.

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### Additional Wi-Fi Features

- Transmit Beamforming (TxBF)
  - Increased signal reliability and range
  - Passpoint Release 2
  - Seamless cellular-to-Wi-Fi carryover for guests
  - Dynamic Frequency Selection (DFS)
  - Optimized use of available RF spectrum
  - Maximal Ratio Combining (MRC)
  - Improved receiver performance for multi antenna access points
  - Cyclic Delay/Shift Diversity (CDD/CSD)
  - Enable use of multiple transmit antennas
  - Space-Time Block Coding (STBC)
  - Increased connection robustness
  - Low-Density Parity Check (LDPC)
  - High performance error detection and correction coding for enhanced receiver performance.
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## Configuration Information

### BTO Models

#### 580 Unified Outdoor Access Points

Rule #	Description	SKU
	Aruba AP-584 (US) Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7S99A
	Aruba AP-584 (RW) Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T00A
	Aruba AP-584 (EG) Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T01A
	Aruba AP-584 (IL) Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T02A
	Aruba AP-584 (JP) Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T03A
	Aruba AP-585 (US) Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T04A
	Aruba AP-585 (RW) Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T05A
	Aruba AP-585 (EG) Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T06A
	Aruba AP-585 (IL) Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T07A
	Aruba AP-585 (JP) Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T08A
	Aruba AP-587 (US) Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T09A
	Aruba AP-587 (RW) Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T10A
	Aruba AP-587 (EG) Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T11A
	Aruba AP-587 (IL) Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T12A
	Aruba AP-587 (JP) Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T13A

#### 580 TAA Unified Outdoor Access Points

Rule #	Description	SKU
	Aruba AP-584 (US) TAA Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T14A
	Aruba AP-584 (RW) TAA Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T15A
	Aruba AP-584 (EG) TAA Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T16A
	Aruba AP-584 (IL) TAA Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T17A
	Aruba AP-584 (JP) TAA Dual Radio 4x4:4 802.11ax External Antennas Unified Outdoor AP	R7T18A
	Aruba AP-585 (US) TAA Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T19A
	Aruba AP-585 (RW) TAA Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T20A
	Aruba AP-585 (EG) TAA Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T21A
	Aruba AP-585 (IL) TAA Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T22A
	Aruba AP-585 (JP) TAA Dual Radio 4x4:4 802.11ax Internal Omni Antennas Unified Outdoor AP	R7T23A
	Aruba AP-587 (US) TAA Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T24A
	Aruba AP-587 (RW) TAA Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T25A
	Aruba AP-587 (EG) TAA Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T26A
	Aruba AP-587 (IL) TAA Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T27A
	Aruba AP-587 (JP) TAA Dual Radio 4x4:4 802.11ax Internal Directional Antennas Unified Outdoor AP	R7T28A

### Mounting Accessories

#### AP Mount Kits

Rule #	Description	SKU
	Aruba AP-OUT-MNT-V1A Outdoor AP Long Arm Pole/Wall Mounting Bracket	R9H97A
	Aruba AP-270-MNT-H1 Outdoor AP Hanging or One-Way Tilt Pole/Wall Mounting Bracket	JW054A
	Aruba AP-270-MNT-H2 Outdoor AP Flush Wall Mounting Bracket	JW055A
	Aruba AP-270-MNT-H3 Outdoor AP Hanging or Dual-Tilt Pole/Wall Mounting Bracket	R6W11A

- Notes:**
- For all AP-580, the AP-270-MNT-V2 mount bracket is not compatible with any AP-580 models  
For 584:
    - V1A bracket most often with AP-584.
    - H1 bracket most often used for hanging from inclined or horizontal structure.
    - The AP-58x chassis does not ship with bracket.
  - For 585:
    - V1A bracket most often used for pole or wall mount.
    - H1 bracket most often used for hanging from inclined or horizontal structure.
    - The AP-58x chassis does not ship with bracket



## Configuration Information

- For 587:
  - H1 or H3 bracket most often with AP-587 for mounting to a wall or pole. Allows chassis tilt.
  - V1A brackets can be used but will result in the AP-587 pointing down.
  - The AP-58x chassis does not ship with bracket.

### Power Options

Rule #	PoE Power Options Description	SKU
1	AP-POE-BTSR 1-Port Smart Rate 802.3bt 60W midspan injector <ul style="list-style-type: none"> <li>• Add AC power cord, Unrestricted</li> </ul>	R1C73A
	PD-9501-5GCO-AC 60W 802.3bt Smart Rate Outdoor Surge Protection Midspan Injector	R7T40A
	PD-9501-5GCO-DC 60W 802.3bt Smart Rate Outdoor Surge Protection Midspan Injector	R7T41A

#### Configuration Rules

Rule #	Description
1	If this Power Injector is selected, bring in (Min 1 // Max 1) Localized power cord based on the HPE Aruba Networking Localization Menu

- Notes:**
- Indoor Injector provides no surge protection
  - Indoor injector requires indoor AC power cord
  - AP-58X may be powered by AC or PoE Only
  - R7T40A and R7T41A do not include a power cord, power cord must be constructed by installer using the included power connector parts and assembled per the user guide by a certified installer

#### Power Injector Mounts

Rule #	Description	SKU
	Aruba PD-MOUNT-OD Outdoor PoE Midspan Injectors Pole/Mast Mount Kit	JW620A

**Notes:** This is optional but recommended for outdoor injectors R7T40A and R7T41A

#### Power Connector Kit

Rule #	Description	SKU
	Aruba Outdoor AP-AC-MLX Outdoor Molex AC Power Connector Kit	R8Q74A

**Notes:**

- This is optional but recommended when powering the AP-580 from AC power directly
- Requires assembly with installer-provided power cable type that meets the power and distance requirements. See AP-AC-MLX installation guide for more details.

### Transceivers

#### SFP

Rule #	Description	SKU
	Aruba 1G Ind-Temp SFP LC SX 500m MMF Transceiver	JL780A
	Aruba 1G Ind-Temp SFP LC LX 10km SMF Transceiver	JL781A
	Aruba 10G Ind-Temp SFP+ LC SR 300m MMF Transceiver	JL782A
	Aruba 10G Ind-Temp SFP+ LC LR 10km SMF Transceiver	JL783A
	Outdoor SFP Weathertight Strain Relief Kit	Q8N54A

- Notes:** Q8N54A is required if using SFP or SFP+ on AP-580

### Antennas

#### Antennas

For 584 Std (Min 0 // max 1) User Selection (min 0 // max 1)

Rule #	Description	SKU
*	ANT-2x2-2005 Pair 2.4GHz 5dBi Omni N-type Direct Mount Outdoor Antennas <ul style="list-style-type: none"> <li>• Forces AP-584 to be 2.4GHz only</li> </ul>	JW023A
*	ANT-2x2-5005 Pair 5GHz 5dBi Omni N-type Direct Mount Outdoor Antennas <ul style="list-style-type: none"> <li>• Forces AP-584 to be 5.0GHz only</li> </ul>	JW026A



## Configuration Information

*	ANT-2x2-5010 Pair 5GHz 10dBi Omni N-Type Direct Mount Outdoor Antennas <ul style="list-style-type: none"> <li>Forces AP-584 to be 5.0GHz only</li> </ul>	JW027A
	ANT-3x3-5712 4.9-5.9GHz 12.0dBi 75x25deg +/- 45deg and V Pol 3 MIMO High Gain Dir Antenna <ul style="list-style-type: none"> <li>Terminate 4th connector with 50ohm terminator</li> </ul>	JW033A
	ANT-4x4-5314 5.15-5.9GHz 14dBi 30x30deg Dual Pol MIMO Hi Gain Dir N-Type Outdoor Antenna	JX988A
*	ANT-2x2-2314 2.4 GHz 14dBi 30x30deg Dual Pol MIMO High Gain Dir N-Type Outdoor Antenna <ul style="list-style-type: none"> <li>Forces 584 to 2.4HGz only, both antennas aimed in same direction. Use on single antenna requires (2) unused connectors to use 50ohm terminator.</li> </ul>	JW024A
*	ANT-2x2-2714 2.4G 14dBi 70deg Sector Dual Pol MIMO N-type Outdoor Antenna <ul style="list-style-type: none"> <li>Forces 584 to 2.4HGz only, both antennas aimed in same direction. Use on single antenna requires (2) unused connectors to use 50ohm terminator.</li> </ul>	JW025A
	ANT-4x4-D707 Dual-Band 60x60deg 7dBi Panel V/H/+/-45 4 Element MIMO Outdoor Antenna	SOA65A

### Configuration Rules

#### Rule # Description

\* Must select Qty 0 or Qty 2

- Notes:**
- AP-584 has four dual-band antenna connectors and one 2.4Ghz only IoT connector
  - All antennas defined for AP-584 ship with bracket or will directly attach to the AP
  - ANT-2x2-2005 are 2.4Ghz only, is usually direct connect, and can be used to replace the included IoT antenna
  - ANT-2x2-5005, ANT-2x2-5010 are 5GHz only, are usually direct connect, other antennas are N-type female connectorized
  - Use of JW026A, JW027A, JW033A, or JX988A band-locks the AP-584 to 5Ghz only
  - Use of JW023A, JW024A, and JW025A band-locks the AP-584 to 2.4Ghz only
  - Use of JW033A, JW024A, and JW025A may require one or more 50ohm terminators to use on non-terminated antenna connectors

## Cables

### RF Cables

For 584 Std (Min 0 // max 6) User Selection (min 0 // max 6)

Rule #	Description	SKU
	AFC7DL03-00 3m Nm to Nm Outdoor Rated RF Cable	JW064A
	AFC7DL04-00 4m Nm to Nm Outdoor Rated RF Cable	JW065A
	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
	AP-CBL-1 10ft(3m) Nm to Nf Outdoor Rated RF Cable	JW070A

- Notes:**
- AP-CBL-1 (JW070A) is an RF extension cable only
  - Radio 0 has 4 connectors
  - Radio 1 has 2 connectors
  - No cables required for direct connect omnis

## Accessories

### Lightning Surge Arrestor

For 584 Std (Min 0 // max 6) User Selection (min 0 // max 6)

Rule #	Description	SKU
	AP-LAR-1 Nm to Nf Outdoor DC to 6 GHz In-line Coaxial Lightning Arrestor	JW061A

- Notes:**
- Not required unless RF cables are longer than 2m in length
  - When used these are ordered in groups of 4 for the 5Ghz radio
  - When used these are ordered in groups of 2 for the 2.4Ghz radio

### Installation Materials

For 584 Std (Min 0 // max 1) User Selection (min 0 // max 1)





## Configuration Information

### Spare Items

Std (Min 0 // max 99) User Selection (min 0 // max 99)

### Configuration Rules

Rule #	Description	SKU
1	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
2	Outdoor AP Metric to Standard M20 to 1/2 inch NPT 5-pk Thread Adapter	Q8N48A

### Configuration Rules

Rule #	Description
1	<a href="#">This is a collection of extra covers and cabling glands, replicating what is in the shipping box</a>
2	<a href="#">This is a thread adapter normally used to allow direct interface for 1/2" NPT conduit</a>

**Notes:** [Spares of items that are shipped with the AP-580 chassis.](#)

## Software

### Central

#### Cloud Services / Access Point Foundation Subscriptions

2, 8	HPE Aruba Networking Central AP Foundation 1 year Subscription E-STU	Q9Y58AAE
2, 8	HPE Aruba Networking Central AP Foundation 3 year Subscription E-STU	Q9Y59AAE
2, 8	HPE Aruba Networking Central AP Foundation 5 year Subscription E-STU	Q9Y60AAE
2, 8	HPE Aruba Networking Central AP Foundation 7 year Subscription E-STU	Q9Y61AAE
2, 8	HPE Aruba Networking Central AP Foundation 10 year Subscription E-STU	Q9Y62AAE

#### Cloud Services / Access Point Advanced Subscriptions

2, 8	HPE Aruba Networking Central AP Advanced 1 year Subscription E-STU	Q9Y63AAE
2, 8	HPE Aruba Networking Central AP Advanced 3 year Subscription E-STU	Q9Y64AAE
2, 8	HPE Aruba Networking Central AP Advanced 5 year Subscription E-STU	Q9Y65AAE
2, 8	HPE Aruba Networking Central AP Advanced 7 year Subscription E-STU	Q9Y66AAE
2, 8	HPE Aruba Networking Central AP Advanced 10 year Subscription E-STU	Q9Y67AAE

#### On-Prem Services / Access Point Foundation Subscriptions

3, 8	HPE Aruba Networking Central on Prem AP Foundation 1 year Subscription E-STU	R6U63AAE
3, 8	HPE Aruba Networking Central on Prem AP Foundation 3 year Subscription E-STU	R6U64AAE
3, 8	HPE Aruba Networking Central on Prem AP Foundation 5 year Subscription E-STU	R6U65AAE
3, 8	HPE Aruba Networking Central on Prem AP Foundation 7 year Subscription E-STU	R6U66AAE
3, 8	HPE Aruba Networking Central on Prem AP Foundation 10 year Subscription E-STU	R6U67AAE

#### On-Prem Services / Access Point Foundation Government Subscriptions

3	Aruba COP AP Foundation 1 year Government Subscription E-STU	S1P56AAE
3	Aruba COP AP Foundation 3 year Government Subscription E-STU	S1P57AAE
3	Aruba COP AP Foundation 5 year Government Subscription E-STU	S1P58AAE
3	Aruba COP AP Foundation 7 year Government Subscription E-STU	S1P59AAE
3	Aruba COP AP Foundation 10 year Government Subscription E-STU	S1P60AAE

#### FedRAMP Services / Access Point Advanced Subscriptions

6, 8	Aruba Central AP Advanced 1yr Subscription Government E-STU	R8K84AAE
6, 8	Aruba Central AP Advanced 3yr Subscription Government E-STU	R8K85AAE
6, 8	Aruba Central AP Advanced 5yr Subscription Government E-STU	R8K86AAE
6, 8	Aruba Central AP Advanced 7yr Subscription Government E-STU	R8K87AAE
6, 8	Aruba Central AP Advanced 10yr Subscription Government E-STU	R8K88AAE

### Configuration Rules

Rule #	Description	SKU
2	<a href="#">Add the Central Cloud Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking &gt; Network Management &gt; Central &gt; Cloud Services</a>	

## Configuration Information

3	Add the Central On-Prem Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking > Network Management > Central > On-Prem Services	
6	Add the Central FedRAMP Service Skus to the HPE Aruba Networking Catalog as Standalone: HPE Aruba Networking > Network Management > Central > FedRAMP	
8	For OCA: When configuring the following AP 10-Pack, selection condition for this Subscription should be 0(default) or 10	
	HPE Aruba Networking AP-503 (RW) Dual Radio 2x2 802.11ax Wi-Fi 6 10-pack Campus Access Point	S1E83A
	HPE Aruba Networking AP-503 (US) Dual Radio 2x2 802.11ax Wi-Fi 6 10-pack Campus Access Point	S1E84A

## As-a-Service

### Cloud Services / Access Point Foundation Subscriptions

7	HPE Aruba Networking Central AP Foundation 1 year Subscription SaaS	Q9Y58AAS
7	HPE Aruba Networking Central AP Foundation 3 year Subscription SaaS	Q9Y59AAS
7	HPE Aruba Networking Central AP Foundation 5 year Subscription SaaS	Q9Y60AAS
7	HPE Aruba Networking Central AP Foundation 7 year Subscription SaaS	Q9Y61AAS
7	HPE Aruba Networking Central AP Foundation 10 year Subscription SaaS	Q9Y62AAS

### Cloud Services / Access Point Advanced Subscriptions

7	HPE Aruba Networking Central AP Advanced 1 year Subscription SaaS	Q9Y63AAS
7	HPE Aruba Networking Central AP Advanced 3 year Subscription SaaS	Q9Y64AAS
7	HPE Aruba Networking Central AP Advanced 5 year Subscription SaaS	Q9Y65AAS
7	HPE Aruba Networking Central AP Advanced 7 year Subscription SaaS	Q9Y66AAS
7	HPE Aruba Networking Central AP Advanced 10 year Subscription SaaS	Q9Y67AAS

### Configuration Rules

Rule#	Description	SKU
7	For IRIS reference only. No action required for OCX and Clic	



## Technical Specifications

### Hardware Variants

- AP-584
  - Four dual-band Nf connectors for external antenna operation
  - One BLE Nf connector for the BLE/Zigbee radio
    - 5dBi omni-directional antenna included
- AP-585
  - Built in omni-directional antennas (H and V polarized)
  - 5Ghz Antennas 4.5dBi uncorrelated avg (5.8dBi peak)
  - 2.4GHz Antennas 3.0dBi uncorrelated avg (4.4dBi peak)
  - BLE Antenna 4.8dBi peak
- AP-587
  - Built in directional antennas (H, V, and +/-45 polarized)
  - 5Ghz Antennas 5.2dBi uncorrelated avg (6.6dBi peak)
  - 2.4Ghz Antennas 5.7dBi uncorrelated avg (5.8dBi peak)
  - BLE Antenna 6.3dBi peak

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### WI-FI Radio Specifications

- AP type: Outdoor Hardened, Wi-Fi 6 dual radio, 5GHz and 2.4GHz 802.11ax 4x4 MIMO
- 5GHz radio: Four spatial stream Single User (SU) MIMO for up to 2.4Gbps wireless data rate with individual 4SS HE80 (or 2SS HE160) 802.11ax client devices, or with four 1SS or two 2SS HE80 802.11ax MU-MIMO capable client devices simultaneously
- 2.4GHz radio: Four spatial stream Single User (SU) MIMO for up to 1,150Mbps wireless data rate with individual 4SS HE40 802.11ax client devices or with two 2SS HE40 802.11ax MU-MIMO capable client devices simultaneously
- Support for up to 1,024 *associated* client devices per radio (typical recommended limit for *active outdoor* clients is 100-200 depending on distance), 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
- 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)
  - 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 37 resource units (for an 80MHz channel)
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (proprietary extension)
  - 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM (proprietary extension)
  - 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
- 802.11n high-throughput (HT) support: HT20/40
- 802.11ac very high throughput (VHT) support: VHT20/40/80/160
- 802.11ax high efficiency (HE) support: HE20/40/80/160
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11

## Technical Specifications

- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 600 (MCS0 to MCS31, HT20 to HT40), 800 with 256-QAM
- 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT160), 2,166 with 1024-QAM
- 802.11ax (2.4GHz): 3.6 to 1,147 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE40)
- 802.11ax (5GHz): 3.6 to 2,402 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE160)
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4 GHz band: +29 dBm (23dBm per chain)
  - 5 GHz band: +28 dBm (22 dBm per chain)

**Notes:** 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
- 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
- 802.11ax Target Wait Time (TWT) to support low-power client devices
- Advanced IoT Existence (AIC) allows for concurrent operation of the IoT and 2.4Ghz radios without issue

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## Wi-Fi Antennas

- AP-584: Four Nf connectors for external dual band antennas (WIFI0 through WIFI3, corresponding with radio chains 0 through 3), and one Nf connector for BLE (includes 5dBi 2.4GHz omni-directional antenna). Worst-case internal loss between radio interface and external antenna connectors 0.8dB in 2.4GHz(WiFi), 0.8dB in 2.4GHz(BLE) and 1.0dB in 5GHz.
- AP-585: Four integrated dual-band omni-directional antennas for 4x4 MIMO with peak antenna gain of 4.4dBi in 2.4GHz and 5.8dBi in 5GHz. Built-in antennas are optimized for a horizontally mounted orientation of the AP. The downtilt angle for maximum gain is roughly 10 degrees.
  - A mix of horizontally and vertically polarized antenna elements are used
  - Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 3.0dBi in 2.4GHz and 4.5dBi in 5GHz.
- AP-587: Four integrated dual-band directional antennas for 4x4 MIMO with peak antenna gain of 5.8dBi in 2.4GHz and 6.6dBi in 5GHz. Built-in antennas are optimized for a vertically oriented installation to a wall or pole.
  - A mix of horizontal, vertical, and +/-45 degree antenna elements are used
  - Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the combined, average pattern is 5.7dBi in 2.4Ghz, and 5.2dBi in 5Ghz

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## Other Interfaces

- Wired network interface (E0)
  - 100/1000/2500/5000Base-T Ethernet
  - 5Gbps Smart Rate: NBase-T, 802.3bz
  - PoE PD support on E0
  - IEEE/802.3az support
  - Support for jumbo frames (MTU up to 9,216 bytes)
- Wired network interface (E1)
  - 10GBASE-R SFP+ port
  - IEEE/802.3az support (as applicable)

## Technical Specifications

- Support for jumbo frames (up to 9,216 bytes)
- 1 x SFP+ cage
- When used in operation it is expected that this is the primary uplink port
- Only recommended industrial temperature SFP/SFP+ modules should be used for optimal performance
- Wired network interface (E2)
  - 10/100/1000BaseT Ethernet
  - IEEE/802.3az support (as applicable)
  - Support for jumbo frames (up to 9,216 bytes)
  - Support for PoE PSE of 802.3af (may be able to reach 802.3at PSE with IPTM policy if needed depending on temperature and load)
- AC power interface: 110-240V (requires AP-AC-MLX power connector kit)
- Bluetooth (BLE5.0) and Zigbee (802.15.4) radio
  - BLE: up to 8dBm transmit power (class 2) and -98dBm receive sensitivity (125kbps)
  - Zigbee: up to 8dBm transmit power and -96dBm receive sensitivity
- Visual indicators (multi-color LED): for System and Radio status
- Reset button: factory reset, LED mode control (normal/off)
- USB-C console interface
- Shielded Twisted Pair (STP) Ethernet cable should be used on all Ethernet interfaces for proper surge protection

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## Power Sources and Power Consumption

- The AP supports direct AC power and Power over Ethernet (POE; on port E0 only)
  - When both AC and POE power sources are available, AC power takes priority over POE
  - Power sources are sold separately; see the ordering Information section below for details
  - See below conditions for each power configuration:
    - When powered by AC, the AP will operate without restrictions, including 802.3af/at support (with upper thermal limitations).\* With IPTM enabled, the AP will adjust power requirements to meet requirements, and will reduce according to established IPTM policy
    - When powered by 802.3bt Class 6, the AP will operate without restriction, limited to 802.3af PSE support.\* With IPTM enabled, the AP will adjust power requirements to meet requirements, and will reduce according to established IPTM policy
    - When powered by 802.3bt Class 5 with LLDP, full function but no PSE support\*
    - When powered by 802.3at, AP will reduce 2.4Ghz to 1 chain, and will reduce the 5Ghz to 3 chains, no PsE out\*
    - When powered by 802.3af, the AP will boot up, but not enable any radios, regardless of IPTM settings.

**Notes:** With IPTM enabled, the AP will adjust power requirements to meet requirements, and will reduce power as necessary according to the established IPTM policy
  - Maximum (worst-case) power consumption:
    - AC powered: 71W (802.3af/at\*)
    - POE powered (802.3bt Class 6): 49.5W (802.3af PSE only)
    - POE powered (802.3bt Class 5 with LLDP): 35.5W (no PSE)
    - POE powered (802.3at, IPM disabled): 25.5W (1 chain @ 2.4Ghz, 3 chains @ 5Ghz, no PSE)
  - Maximum (worst-case) power consumption in idle mode: 9.2W (POE) or 10.8W (AC)
  - Maximum (worst-case) power consumption in deep-sleep mode: 3.0W (POE) or 4.4W (AC)
-

## Technical Specifications

### Additional interfaces

- AP-OUT-MNT-V1A – Long arm wall or pole mounting bracket
  - AP-270-MNT-H1 – Single-tilt mounting bracket for wall or ceiling
  - AP-270-MNT-H2 – Flush ceiling or wall mounting bracket
  - AP-270-MNT-H3 – Dual-tilt mounting bracket for wall or ceiling
- 

### Mechanical Specifications

#### AP-584

- Dimensions/weight (AP-584 unit only):
  - 324mm (W) x 312mm (D) x 244mm (H) / 12.6" (W) x 12.3" (D) x 9.6" (H)
  - 5.52kg / 11.5lbs
- Dimensions/weight (AP-584 shipping pkg, no mount):
  - 410mm (W) x 322mm (D) x 433mm (H) / 16.1" (W) x 12.7" (D) x 17" (H)
  - 7.56kg / 16.8lbs

#### AP-585

- Dimensions/weight (AP-585 unit only):
  - 324mm (W) x 313mm (D) x 320mm (H) / 12.6" (W) x 12.3" (D) x 12.7" (H)
  - 5.24kg / 11.5lbs
- Dimensions/weight (AP-585 shipping pkg, no mount):
  - 431mm (W) x 415mm (D) x 442mm (H) / 17" (W) x 16.3" (D) x 17.4" (H)
  - 7.81kg / 17.2lbs

#### AP-587

- Dimensions/weight (AP-587 unit only):
    - 302mm (W) x 300mm (D) x 174mm (H) / 11.9" (W) x 11.8" (D) x 6.9" (H)
    - 4.51kg / 9.9lbs
  - Dimensions/weight (AP-587 shipping pkg, no mount):
    - 385mm (W) x 272mm (D) x 433mm (H) / 15.2" (W) x 10.7" (D) x 17" (H)
    - 6.03kg / 13.3lbs
- 

### Environmental Specifications

- Operating conditions
    - Temperature: -40C to +65C / -40F to +149F with full solar loading
    - Humidity: 5% to 93% non-condensing internal
    - Rated for operation in all weather conditions
  - Storage and transportation conditions
    - Temperature: -40C to +70C / -40F to +158F
  - Operating Altitude: 3000m
  - Water and Dust
    - IP66/67
  - Salt Tolerance
    - Test to ASTM B117-07A Salt Spray 200hrs
- 



## Technical Specifications

### Reliability

Mean Time Between Failure (MTBF): 828,651hrs (~95yrs) at +25C operating temperature.

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### Regulatory Compliance

- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950-1
- UL/IEC/EN 62368-1
- IEC 60950-22
- IEC/EN60601-1-2
- EN 50155

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

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### Regulatory Model Numbers

- AP-584: APEX0584
  - AP-585: APEX0585
  - AP-587: APEX0587
- 

### Certifications

- Wi-Fi Alliance:
  - Bluetooth SIG
  - Ethernet Alliance (E0, PoE PD device, class 6; E2, PoE PSE device, class 3)
- 

### Warranty

**HPE Aruba Networking's hardware limited lifetime warranty.**

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### Minimum Operating System Software Versions

- HPE Aruba Networking OS and HPE Aruba Networking InstantOS 8.10.0.0-
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## Technical Specifications

RF Performance		
Band / Rate	Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
<b>2.4Ghz, 802.11b</b>		
1Mbps	23	-95
11Mbps	23	-87
<b>2.4Ghz, 802.11g</b>		
6Mbps	23	-92
54 Mbps	20	-74
<b>2.4Ghz, 802.11n/ac HT20</b>		
MCS0	23	-92
MCS8	18	-70
<b>2.4Ghz, 802.11n/ac HT40</b>		
MCS0	23	-89
MCS9	18	-66
<b>2.4Ghz, 802.11 ax HE20</b>		
MCS0	23	-92
MCS11	16	-62
<b>2.4Ghz, 802.11 ax HE40</b>		
MCS0	23	-89
MCS11	16	-59
<b>5Ghz, 802.11a</b>		
6Mbps	22	-93
54Mbps	22	-75
<b>5Ghz, 802.11n/ac HT20</b>		
MCS0	22	-93
MCS8	20	-71
<b>5Ghz, 802.11n/ac HT40</b>		
MCS0	22	-90
MCS9	20	-65
<b>5Ghz, 802.11n/ac HT80</b>		
MCS0	22	-87
MCS9	20	-62
<b>5Ghz, 802.11ax HE20</b>		
MCS0	22	-93
MCS11	18	-62
<b>5Ghz, 802.11ax HE40</b>		
MCS0	22	-90
MCS11	18	-59
<b>5Ghz, 802.11ax HE80</b>		
MCS0	22	-87
MCS11	18	-56





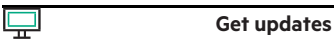
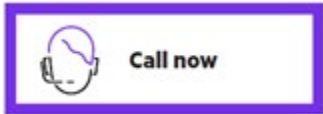
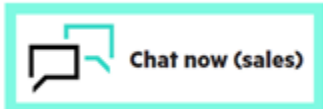
## Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
04-Dec-2023	Version 6	Changed	Series name was updated.
16-Oct-2023	Version 5	Changed	Configuration Information section was updated
07-Aug-2023	Version 4	Changed	Configuration Information section was updated.
01-Aug-2022	Version 3	Changed	Configuration Information section was updated.
05-Jul-2022	Version 2	Changed	Configuration Information section was updated.
04-Apr-2022	Version 1	New	New QuickSpecs



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