

ARUBA 90 SERIES ACCESS POINTS

For low-density Wi-Fi client environments



Multifunctional and affordable 90 series wireless access points (APs) deliver enterprise-grade Wi-Fi to low-density client environments in offices, hospitals, schools and retail stores.

These high-performance 802.11n APs deliver wireless data rates up to 300 Mbps per radio and ensure peak performance by utilizing channel bonding, block acknowledgement and MIMO radios. Advanced antenna technology also increases RF signal range and reliability.

The 93 series of APs features one dual-band 2.4-GHz or 5-GHz radio with 2x2 MIMO and two integrated omni-directional antennas. The 92 series feature the same radios with external antenna connectors.

WI-FI CLIENT OPTIMIZATION

To eliminate sticky client behavior, every Aruba AP comes with ClientMatch™ technology, which continuously gathers session performance metrics and utilizes this data to steer mobile devices to the best AP and radio on the WLAN, even while users roam.

BEST-IN-CLASS RF MANAGEMENT

All Aruba APs include Adaptive Radio Management™ technology, which is essential to creating the most reliable, high-performance WLANs. ARM™ manages the 2.4-GHz and 5-GHz radio bands to optimize Wi-Fi client performance and ensures that APs stay clear of RF interference.

The 90 series 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.

CHOOSE YOUR OPERATING MODE

The 90 series of APs offers a choice of operating modes to meet your unique management and deployment requirements.

- **Controller-managed mode.** When managed by Aruba Mobility Controllers, 90 series APs offer centralized configuration, data encryption, policy enforcement and network services, as well as

distributed and centralized traffic forwarding. Please refer to the Aruba [Mobility Controller](#) data sheets for more details.

- **Aruba Instant™ mode.** In Aruba Instant mode, a single AP automatically distributes the network configuration to other Instant APs in the WLAN. Simply power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

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, 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 90 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

ADVANCED FEATURES

- Spectrum Analysis:
 - Spectrum analyzer remotely scans the 2.4-GHz or 5-GHz radio band to identify sources of RF interference.
- Security:
 - With an [OpenDNS](#) service subscription, Aruba Instant delivers integrated web filtering, malware and botnet protection to every device connected to the WLAN
 - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
 - SecureJack-capable for secure tunneling of wired Ethernet traffic

OPERATING MODES

- 802.11a/b/g/n Aruba Instant AP
- 802.11a/b/g/n Mobility Controller-managed AP
- Air monitor (AM)
- Secure enterprise mesh
- Remote AP (RAP) when used with a Mobility Controller

WIRELESS RADIO SPECIFICATIONS

- AP type: Single-radio, dual-band 802.11n indoor
- Software-configurable single radio supports 2.4 GHz or 5 GHz
- 2x2 MIMO 802.11n with two spatial streams and up to 300 Mbps
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835 GHz
 - 5.150 to 5.250 GHz
 - 5.250 to 5.350 GHz
 - 5.470 to 5.725 GHz
 - 5.725 to 5.875 GHz

- Available channels: Dependent upon configured regulatory domain
- Controller-managed, 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: Orthogonal frequency division multiplexing (OFDM)
 - 802.11n: 2x2 MIMO with two spatial streams
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum transmit power:
 - 2.4 GHz: 21 dBm (limited by local regulatory requirements)
 - 5 GHz: 21 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity for improved downlink RF performance
- Space-Time Block Coding (STBC) for increased range and improved reception
- Association rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n: MCS0 to MCS15 (6.5 Mbps to 300 Mbps)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

POWER

- 48 volts DC 802.3af power over Ethernet (PoE)
- 12 volts DC for external AC supplied power (adapter sold separately)
- Maximum power consumption: 10 watts

ANTENNA

- AP-92 and IAP-92: Two RP-SMA connectors for external antennas
- AP-93 and IAP-93: Two integrated omni-directional antennas for 2x2 MIMO with maximum antenna gain of 2.5 dBi in 2.4 GHz and 5.8 dBi in 5 GHz

INTERFACES

- Network: One 10/100/1000BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- Power: One DC power connector
- Other: One RJ-45 console interface

MOUNTING

- Included with AP:
 - Molded mounting tabs for attaching to 15/16" T-bar drop-tile ceiling
 - Slotted tabs for screw mounting to a wall, ceiling or other flat surface
- Optional AP-90-MNT mounting kit:
 - Aruba 90 series AP mount kit contains two ceiling-grid rail adapters for 9/16" and 15/16" flat rails, and one flat-surface wall/ceiling mount bracket.

MECHANICAL

- Dimensions/weight (unit):
 - 120 mm x 130 mm x 35 mm (4.7" x 5.1" x 1.4")
 - 255 g (9 oz)
- Dimensions/weight (shipping):
 - 180 mm x 155 mm x 45 mm (7.1" x 6.1" x 1.8")
 - 375 g (13.2 oz)

ENVIRONMENTAL

- Operating:
 - Temperature: 0° C to 50° C (+32° F to +122° F)
 - Humidity: 5% to 95% non-condensing
- Storage and transportation temperature range:
 - Temperature: -40° C to +70° C (-40° F to +158° F)

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.

CERTIFICATIONS

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



WARRANTY

- **Limited lifetime warranty**



MINIMUM ARUBAOS VERSION

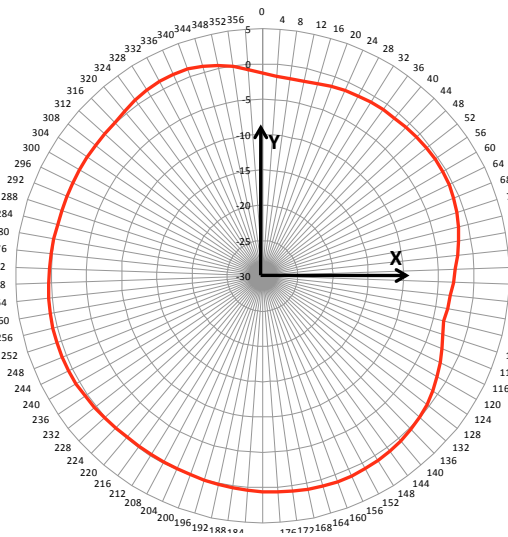
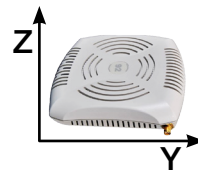
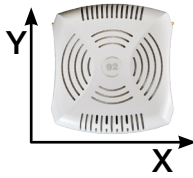
- ArubaOS 5.0.4.2, 6.0.2.1, 6.1.2.0 on an Aruba Mobility Controller
- Aruba Instant 2.0.0.3 software

IAP-93 AND AP-93 RF PERFORMANCE TABLE

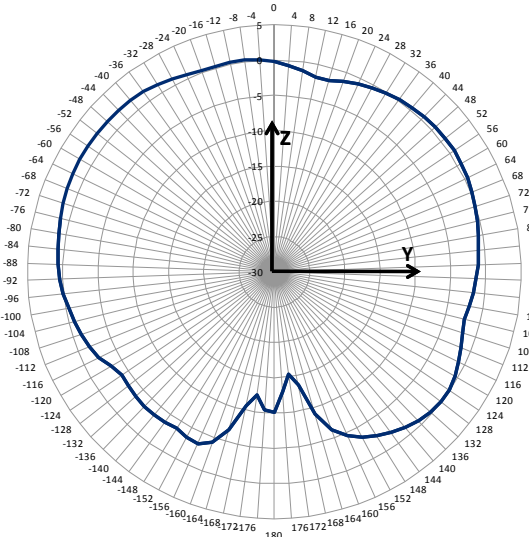
	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)	Max transmit power per active transmit chain (dBm)	Receive sensitivity (dBm)
	2.4 GHz		5 GHz	
802.11b				
1 Mbps	18	-96	-	-
2 Mbps	18	-96	-	-
5.5 Mbps	18	-94	-	-
11 Mbps	18	-93	-	-
802.11a/g				
6 Mbps	18	-93	18	-93
9 Mbps	18	-93	18	-93
12 Mbps	18	-87	18	-87
18 Mbps	18	-87	18	-87
24 Mbps	18	-85	18	-85
36 Mbps	15	-82	15	-82
48 Mbps	14	-80	14	-80
54 Mbps	14	-80	14	-80
802.11n HT20				
MCS0	18	-93	18	-93
MCS1	17	-93	17	-93
MCS2	17	-87	17	-87
MCS3	16	-87	16	-87
MCS4	16	-83	16	-83
MCS5	15	-80	15	-80
MCS6	14	-77	14	-77
MCS7	13	-75	13	-75
MCS8	18	-93	18	-93
MCS9	17	-93	17	-93
MCS10	17	-87	17	-87
MCS11	16	-87	16	-87
MCS12	16	-83	16	-83
MCS13	15	-80	15	-80
MCS14	14	-77	14	-77
MCS15	13	-75	13	-75
802.11n HT40				
MCS0	18	-90	18	-90
MCS1	17	-90	17	-90
MCS2	17	-87	17	-87
MCS3	16	-84	16	-84
MCS4	16	-80	16	-80
MCS5	15	-77	15	-77
MCS6	14	-77	14	-77
MCS7	13	-73	13	-73
MCS8	18	-90	18	-90
MCS9	17	-90	17	-90
MCS10	17	-87	17	-87
MCS11	16	-84	16	-84
MCS12	16	-80	16	-80
MCS13	15	-77	15	-77
MCS14	14	-77	14	-77
MCS15	13	-73	13	-73

Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings. RF performance numbers for IAP-92 and AP-92 are slightly lower due to additional internal RF circuitry.

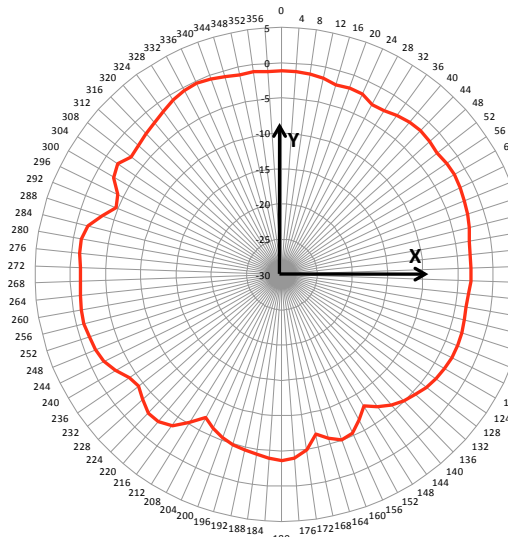
IAP-93 AND AP-93 ANTENNA PATTERN PLOTS



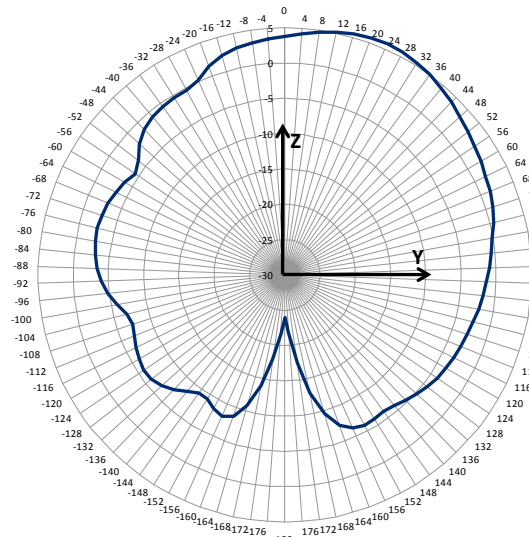
H-plane - 2.45 GHz



E-plane - 2.45 GHz



H-plane - 5.5 GHz



E-plane - 5.5 GHz

ORDERING INFORMATION	
Part Number	Description
IAP-92	Aruba Instant 92 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, external antenna connectors. These products should be considered rest-of-world products and must not be deployed in the United States, Japan or Israel.
IAP-92-US	Aruba Instant 92 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, external antenna connectors – Restricted regulatory domain: United States
IAP-92-IL	Aruba Instant 92 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, external antenna connectors – Restricted regulatory domain: Israel
IAP-92-JP	Aruba Instant 92 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, external antenna connectors – Restricted regulatory domain: Japan
AP-92	Aruba 92 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, external antenna connectors
IAP-93	Aruba Instant 93 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, integrated antennas. These products should be considered rest-of-world products and must not be deployed in the United States, Japan or Israel.
IAP-93-US	Aruba Instant 93 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, integrated antennas – Restricted regulatory domain: United States
IAP-93-JP	Aruba Instant 93 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, integrated antennas – Restricted regulatory domain: Japan
IAP-93-IL	Aruba Instant 93 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, integrated antennas – Restricted regulatory domain: Israel
AP-93	Aruba 93 wireless AP, 802.11a/n or 802.11b/g/n, 2x2:2, integrated antennas
AP-90-MNT	Aruba 90 series AP mounting kit contains two ceiling-grid rail adapters for 9/16" and 15/16" flat rails, and one flat-surface wall/ceiling mount bracket
AP-90-MNT-C2	Aruba 90 Series Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and Silhouette style rails).
AP-90-MNT-W2	Aruba 90 Series Access Point Mount Kit (secure, flat surface). Contains 1x flat surface wall/ceiling secure mount cradle.
AP-AC-UN	12-volt DC universal AC power adapter kit – North America, Japan, United Kingdom, Italy, EC (Europlug), Australia, China, India, Korea
AP-AC-12V18	12-volt DC/18-watt AC power adapter. Does not include country specific power cord



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