

Overview

Models

HP 425 Wireless Dual Radio 802.11n (AM) Access Point	JG653A
HP 425 Wireless Dual Radio 802.11n (WW) Access Point	JG654A
HP 425 Wireless Dual Radio 802.11n (JP) Access Point	JG655A
HP 425 Wireless Dual Radio 802.11n (IL) Access Point	JG656A
HP 425 Wireless Dual Radio 802.11n (AM) 8 unit Eco-pack Access Points	JG687A
HP 425 Wireless Dual Radio 802.11n (WW) 8 unit Eco-pack Access Points	JG688A

Key features

- Dual radio—two spatial stream access supporting 300 Mb/s per radio
- Supports embedded antennas as well as an optional external antenna
- Powered via IEEE 802.3af PoE or local power supply
- Comprehensive WLAN security
- Lifetime Warranty 2.0 with 24x7 phone support for three years

Introduction

Working in unison with HP controllers, the HP 425 802.11n Dual Radio Access Point Series delivers high-performance networking solutions. The enhanced controller architecture scales to IEEE 802.11n without requiring a controller replacement. The controller provides advanced radio resource management (RRM), including client load balancing and interference mitigation. The HP wireless controllers support a fast-roaming capability—an important feature, especially for VoIP communications.

The HP 425 access point works in managed mode with an HP wireless LAN controller. The access points provide RF spectrum analysis with detection and classification of non-IEEE 802.11 interference, and have the ability to automatically avoid interference. Wireless security is comprehensive with integrated wireless IDS and support for internal and external authentication, authorization, and accounting (AAA) servers; built-in stateful firewall; per-user VLAN mapping; and authentication.

In addition to working with the HP MSM controllers, the access points work with the new HP 10500/7500 20G Unified Wired-WLAN Module, the HP 800 Series Unified Wired-WLAN Switch, and the HP WX5002/5004 wireless controllers.

Features and benefits

Management

- **Wi-Fi Clear Connect**
provides a system-wide approach to improving WLAN reliability by proactively determining and adjusting to changing RF conditions; helps optimize WLAN performance by detecting interference from Wi-Fi and non-Wi-Fi sources using spectrum analysis capabilities built into the access points, identifying rogue activity, and making decisions at a system-wide level
- **Advanced radio resource management**
 - **Automatic radio power adjustments**
include real-time power adjustments based on changing environmental conditions and signal coverage adjustment
 - **Automatic radio channel**
provides intelligent channel switching and real-time interference detection
 - **Intelligent client load balancing**
determines number of clients across neighboring APs and adjusts client allocation to balance the load

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- **Airtime fairness**
provides equal RF transmission time for wireless clients
- **Spectrum analysis**
 - **Power/frequency spectrum analysis**
measures noise from IEEE 802.11 remote sources
 - **Signal detection/classification**
identifies source of RF interference, for example, Bluetooth®, cordless phones, and microwave ovens
 - **Evaluation of channel quality**
helps detect severe channel degradation and improves the reporting of poor RF performance
- **Integrated IDS**
detects and locates unknown and rogue devices (see controller data sheet for details)
- **Access point management**
provides secure Web browser (SSL and VPN), command-line interface, SNMP v2c, SNMP v3, MIB-II with traps, and RADIUS Authentication Client MIB (RFC 2618); offers embedded HTML management tool with secure access (SSL and VPN); implements scheduled configuration and firmware upgrades from a central controller
- **HP Intelligent Management Center and Wireless Services Manager Software**
provide central management for discovery, logging, status, and configuration management
- **Diagnostics**
records association, authentication, and DHCP events in client event log; packet capture tool for Ethernet and IEEE 802.11 interfaces (PCAP format); includes data rate matrix
- **Enhanced AP survivability**
continues to operate using the old IP address while the AP searches for a new controller
- **Compatible with HP controllers and unified switches and modules**
 - HP MSM720, MSM760, and MSM765 zl Controllers; software version 6.2, minimum
 - HP WX5000 Access Controller Series; controller software version CMW520-R2308P29-El, minimum
 - HP 10500/7500 20G Unified Wired-WLAN Module; software version CMW520-R2308P29, minimum
 - HP 830 Unified Wired-WLAN Switch Series controller software version CMW520-R3308P29, minimum

Quality of Service (QoS)

- **Rate limiting**
supports per-wireless client ingress-enforced maximums and per-wireless client, per-queue guaranteed minimums
- **Centralized traffic**
maintains Layer 2 and Layer 3 QoS settings when using centralized traffic or guest access
- **IEEE 802.1p prioritization**
delivers data to devices based on the priority and type of traffic
- **Wireless**
 - **L2/L3/L4 classification**
IEEE 802.1p VLAN priority, SpectraLink SVP, and DiffServ
 - **Virtual Service Community (VSC)**
assign Wi-Fi MultiMedia (WMM), IEEE 802.11e EDCF, and Service-Aware priority
 - **VoIP call capacity**
supports 12 active calls per radio, maximum
- **SpectraLink Voice Priority (SVP) support**
prioritizes SpectraLink voice IP packets sent from a SpectraLink NetLink SVP server to SpectraLink wireless voice handsets to help ensure excellent voice quality

Connectivity

- **IEEE 802.3af Power over Ethernet (PoE) support**

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simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location

- **Local power option**
offers 48V DC power connector for use with an optional power supply when PoE is not available
- **Auto-MDIX**
adjusts automatically for straight-through or crossover cables on the Ethernet interface
- **Console port**
aids problem resolution

Mobility

- **Bandsteering**
redirects 5 GHz-capable clients automatically to the less-congested 5 GHz spectrum
- **HP 425 Antenna**
 - **Embedded antenna**
provides excellent coverage through use of embedded high-gain antennas (4 dBi antenna at 2.4 GHz and 5 dBi antenna at 5 GHz); no need for the added cost of external antennas
 - **Optional external antenna**
includes four indoor RP-SMA connectors for use with optional external antennas
- **Anywhere, anytime wireless coverage**
dual-radio IEEE 802.11b/g/n and 802.11a/n access point; per-radio software-selectable configuration of frequency bands; self-healing, self-optimizing local mesh that extends network availability; Wi-Fi Alliance Certifications for interoperability with all IEEE 802.11a/b/g/n client devices; and IEEE 802.3af PoE
- **Medical standards**
meets the European EN60601-1-2 standard for healthcare
- **Virtual Service Communities (VSCs)**
includes up to 16 SSIDs, each with unique MAC address and configurable SSID broadcasts; individual security and QoS profiles per VSC; configurable DTIM and minimum data rate per VSC; VSCs that can be mapped to separate IEEE 802.1Q VLANs; WMM and/or WMM-PS; a security filter; and an IP filter
- **AP client access control functions**
 - offers IEEE 802.1X authentication using EAP-SIM, EAP-FAST, EAP-TLS, EAP-TTLS, and PEAP
 - delivers MAC address authentication using local or RADIUS access lists
 - provides RADIUS AAA using EAP-MD5, PAP, CHAP, and MS-CHAPv2
 - supports RADIUS Client (RFC 2865 and 2866) with location-aware support
 - provides Layer 2 wireless client isolation

Security

- **Integrated IDS support**
 - **Automated AP and client classification**
reduces manual effort (administrator can override AP classification)
 - **Comprehensive detection capabilities**
detects a wide range of attacks
 - **Flexible event reporting**
enables configuration of which events will result in notifications
 - **Location tracking capabilities**
helps identify the rogue device location
 - **Flexible deployment models**
supports time slicing or dedicating a radio to detect full-time (see the controller datasheet for details)
- **IEEE 802.1X support**

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provides port-based user authentication with support for Extensible Authentication Protocol (EAP) MD5, TLS, TTLS, and PEAP with choice of AES, TKIP, and static or dynamic WEP encryption for protecting wireless traffic between authenticated clients and the access point

- **Choice of IEEE 802.11i, WPA2, or WPA**

locks out unauthorized wireless access by authenticating users prior to granting network access; robust Advanced Encryption Standard (AES) or Temporal Key Integrity Protocol (TKIP) encryption secures the data integrity of wireless traffic

- **TKIP/WEP encryption**

is supported only on legacy IEEE 802.11a/b/g clients as it has been deprecated from the IEEE 802.11n standard

- **Local wireless bridge client traffic filtering**

prevents communication between wireless devices associated with the same access point

Additional information

- **RFC support**

refer to the "Mobility Specification Sheet" for a list of RFCs and other industry standards supported by the MSM solution at <http://h17007.www1.hp.com/docs/mobility/4AA3-3883ENW.pdf>

Warranty and support

- **Lifetime Warranty 2.0**

advance hardware replacement for as long as you own the product with next-business-day delivery (available in most countries)†

- **Electronic and telephone support (for Lifetime Warranty 2.0)**

limited 24x7 telephone support is available from HP for the first 3 years; limited electronic and business hours telephone support is available from HP for the entire warranty period; to reach our support centers, refer to www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary

- **Software releases**

to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

*†HP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765 zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft® Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at www.hp.com/networking/warranty.

Configuration

Build To Order:

BTO is a standalone unit with no integration. BTO products ship standalone are not part of a CTO or Rack-Shippable solution.

HP 425 Wireless 802.11n (AM) AP	JG653A
• 1 RJ-45 autosensing 10/100/1000 port	
HP 425 Wireless 802.11n (AM) 8 Pack AP	JG687A
• 1 RJ-45 autosensing 10/100/1000 port (Each)	
HP 425 Wireless 802.11n (WW) AP	JG654A
• 1 RJ-45 autosensing 10/100/1000 port	See Configuration Note:2
HP 425 Wireless 802.11n (WW) 8 Pack AP	JG688A
• 1 RJ-45 autosensing 10/100/1000 port (Each)	See Configuration Note:2
HP 425 Wireless 802.11n (JP) AP	JG655A
• 1 RJ-45 autosensing 10/100/1000 port	
HP 425 Wireless 802.11n (IL) AP	JG656A
• 1 RJ-45 autosensing 10/100/1000 port	See Configuration Note:3

Configuration Rules:

Note 2 Not available Israel. (Warning in Clic only)

Note 3 Only available in Israel. (Warning in Clic only)

HP 425 802.11n Dual Radio Access Point Series accessories

External Power Supplies	HP 1-port Power Injector	J9407B
	HP Gigabit IntelliJack 48V Power Supply	JD055B
		See Configuration Note:1
External Antenna	HP Indoor Omni 2.5/6dBi MIMO 4 Elmnt Ant	JG696A

Technical Specifications

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Ports	1 RJ-45 autosensing 10/100/1000 port (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 1 RJ-45 serial console port
AP characteristics	Radios Dual (a/n + b/g/n) Radio operation modes Client access, Packet capture AP operation modes Controlled Wi-Fi Alliance a/b/g/n Wi-Fi Certified Certification
Physical characteristics	Dimensions 7.43(w) x 7.43(d) x 2(h) in (18.86 x 18.86 x 5.08 cm) Weight 1.65 lb (.75 kg) mounting bracket Enclosure Indoor, plenum rated
Memory and processor	Single core @ 560 MHz, 128 MB flash, 128 MB SDRAM
Mounting	Includes ceiling/wall mount kei as well as two ceiling mounting clips
Environment	Operating temperature 32°F to 113°F (0°C to 45°C) Operating relative humidity 5% to 95%, noncondensing Non-operating/Storage temperature -40°F to 158°F (-40°C to 70°C) Non-operating/Storage relative humidity 5% to 95%, noncondensing
Electrical characteristics	Description IEEE 802.3af PoE compliant for Gigabit Ethernet Maximum power rating 12.9 W Antenna (2) 4 dBi 2.4 GHz and (2) 5 dBi 5 GHz omnidirectional antennas Number of internal antennas 4 Number of external antennas 4 Notes Optional 48V DC power supply
Frequency band and Operating channels	Americas 2.412 - 2.462 GHz (1 - 11 channels) 5.180 - 5.320 GHz (36 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (excluding 5600-5670 MHz) channels) 5.745 - 5.825 GHz (149 - 165 channels) European Union 2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.320 GHz (36 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (excluding 5600-5650 MHz) channels)

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Rest of World (Actual channels designated by selecting country in UI)	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.320 GHz (36 - 64 channels) 5.500 - 5.700 GHz (100 - 140 channels) 5.745 - 5.825 GHz (149 - 165 channels)
Taiwan	2.412 - 2.462 GHz (1 - 11 channels) 5.280 - 5.320 GHz (56 - 64 channels) 5.500 - 5.700 GHz (100 - 140 (excluding 5600-5670 MHz) channels) 5.745 - 5.825 GHz (149 - 165 channels)
Japan	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.320 GHz (36 - 64 channels) 5.500 - 5.700 GHz (100 - 140 channels)
Israel	2.412 - 2.472 GHz (1 - 13 channels) 5.180 - 5.320 GHz (36 - 64 channels)
Radio	FCC Part 15.247; FCC Part 15.407 (US); RSS-210 (Canada); EN 300 328; ARIB STD-T66; IDA Registration (Singapore); RCR STD-33; ARIB STD-T71 (Japan); EN 301 893 (EU); KCC approval (Korea)
Safety	UL 2043; UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1
Medical	EN60601-1-2
RF Exposure	FCC Bulletin OET-65C; RSS-102; CFR 47, Part 2, Subpart J; ANSI/IEEE C95.1 (99); Ministry of Health Safety Code 6; Australian Radiation Protection Std.
Features	Dual radio: IEEE 802.11a/n for high-throughput applications and IEEE 802.11b/g/n for legacy support applications - Integrated antennas for both IEEE radios, supporting two spatial streams and 2x2 MIMO - Four embedded antennas - Both radios operate at full power and full performance on IEEE 802.3af PoE/Gigabit Ethernet - External antenna, optional
Emissions	EN 55022 Class B; EN 301 489-1; EN 301 489-17; ICES-003 Class B; FCC Part 15, Class B
Notes	The HP 425 access point power information listed excludes the embedded antenna. Review the HP documentation for your AP to understand the maximum output setting for your AP based on your country's regulations. Two spatial stream AP, supporting 300 Mb/s per radio. Maximum transmit power varies by country. Regulatory model number: BJNGA-FB0002
Services	Refer to the HP website at www.hp.com/networking/services for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.
Radio characteristics	<p>Note: These radio characteristics apply to the HP 425 access points, including the embedded antenna. Power is limited based on country of operation.</p>

Technical Specifications

IEEE 802.11n 5 GHz @ 40 MHz channel		Data rate	MCS0, MCS8 30 Mbps	MCS7, MCS15 300 Mbps	
		Receiver sensitivity	-92 dBm	-70 dBm	
		Transmit power	25 dBm	20 dBm	
IEEE 802.11n 5 GHz @ 20 MHz channel		Data rate	MCS0, MCS8 14.4 Mbps	MCS7, MCS15 144.4 Mbps	
		Receiver sensitivity	-95 dBm	-73 dBm	
		Transmit power	25 dBm	20 dBm	
IEEE 802.11n 2.4 GHz @ 40 MHz channel		Data rate	MCS0, MCS8 30 Mbps	MCS7, MCS15 300 Mbps	
		Receiver sensitivity	-93 dBm	-73 dBm	
		Transmit power	24 dBm	22 dBm	
IEEE 802.11n 2.4 GHz @ 20 MHz channel		Data rate	MCS0, MCS8 14.4 Mbps	MCS7, MCS15 144.4 Mbps	
		Receiver sensitivity	-96 dBm	-76 dBm	
		Transmit power	24 dBm	22 dBm	
IEEE 802.11a 5 GHz		Data rate	6 Mbps	54 Mbps	
		Receiver sensitivity	-95 dBm	-76 dBm	
		Transmit power	25 dBm	22 dBm	
IEEE 802.11b/g 2.4 GHz		Data rate	1 Mbps	11 Mbps	6 Mbps
		Receiver sensitivity	-99 dBm	-93 dBm	-96 dBm
		Transmit power	25 dBm	25 dBm	25 dBm
					54 Mbps
					-79 dBm
					23 dBm

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MCS Index	800 nS Guard Interval		400 nS Guard Interval	
	20 MHz Rate (Mbps)	40 MHz Rate (Mbps)	20 MHz Rate (Mbps)	40 MHz Rate (Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	150
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270
15	130	270	144.4	300

Standards and Protocols

(applies to all products in series)

Mobility

IEEE 802.11a High Speed Physical Layer in the 5 GHz Band

IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band

IEEE 802.11h Dynamic Frequency Selection

IEEE 802.11d Global Harmonization

IEEE 802.11i Medium Access Control (MAC) Security Enhancements

IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band

To learn more, visit www.hp.com/networking

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