

MOBILITY POINT™ MP-432 ACCESS POINT

The Trapeze Mobility Point™ (MP™) family of multi-function access points (AP) provides wireless service for Trapeze Smart Mobile™ Wi-Fi wireless networks. Smart Mobile is the only WLAN architecture with intelligent switching, which combines both centralized and distributed traffic forwarding based on the requirements of the underlying application.

Configured and controlled by Trapeze Mobility Exchange™ (MX™) controllers, MPs perform encryption, enforce policy and forward data, depending on the application needs. Smart Mobile WLANs support the most demanding wireless applications indoors and outdoors, including voice over Wi-Fi for thousands of users, and enable migration to 802.11n without the need for expensive controller upgrades.

The Trapeze Networks indoor MP-432 is a high performance 802.11n (3 x 3) Multiple Input / Multiple Output (MIMO), dual radio access point, with maximum aggregate data rates of up to 600 Mbps. The MP-432 is the only enterprise-class 802.11n access point with built-in internal antennas to provide outstanding coverage and range enhancements without having to configure “rabbit ear” antennas. The access point contains dual radios, one operating in the 2.4 GHz band and one in the 5 GHz band, with each radio featuring three radio transmit and receive chains. 3 x 3 MIMO provides significantly better range performance over implementations which use a more limited 2 x 3 system. The MP-432 is backwards compatible with legacy 802.11a/b/g clients in the 2.4 GHz and 5 GHz bands to provide investment protection without the need for a second overlay network.

The MP-432 is compliant with the IEEE 802.11n Draft 2.0 standard, software upgradeable to the final standard, and tested extensively for interoperability with 802.11n clients and legacy 802.11a/b/g clients. The MP-432 supports all relevant encryption methods including WPA2 (Wi-Fi Protected Access 2 based on 802.11i), WPA (Wi-Fi Protected Access), in both Enterprise (802.1X) and Personal (pre-shared key) modes.

The MP-432 is the only AP in the industry that features two 10/100/1000 Ethernet ports for redundant data connectivity and redundant Power over Ethernet (PoE). The Gigabit Ethernet ports run in auto-negotiation mode to seamlessly adapt to the Ethernet infrastructure. The MP-432 has extensive Power over Ethernet configuration options to fit the need of any deployment model. In most deployment scenarios, the MP-432 operates in full functionality 3 x 3 MIMO dual radio mode with IEEE 802.3af. The MP-432 is compatible with existing standards-based 802.3af midspan PoE injectors or PoE switches in the closet.

As part of the Smart Mobile system, the MP-432 is the only 802.11n AP in the industry that features “Always On” reliability. If a WLAN controller fails for any reason, the AP will seamlessly failover to another controller and maintain the wireless networking session. Even a voice over Wi-Fi session will continue without interruption or dropping the voice call. With organizations relying upon their Wi-Fi network as their primary point of network connectivity, such redundancy and uptime service guarantees are quickly becoming mandatory.

The MP-432 is compatible with all generations of Trapeze Networks Mobility Exchange WLAN controllers, and can be deployed without any hardware upgrades to the installed base of controllers.



The MP-432 can be mounted with the same mounting brackets used for legacy Trapeze Networks access points. The UL2043 rating of the MP-432 allows the access points to be placed above the ceiling tile in plenum areas regulated by municipal fire codes. Its enclosure design resembles a smoke detector to appear innocuous and minimize attention, making it less likely to be tampered with, while featuring a built-in Kensington lock system for added physical security. The MP-432 does not store data, encryption keys or security credentials locally on the access point, and poses no security risk to the organization if stolen. A stolen MP-432 would be a useless inoperable device if not connected to an authorized network.

Smart Mobile distributed traffic forwarding can be enabled in the MP-432, resulting in optimized traffic flow, reduced latency, and enhanced scalability. The MP-432 is simple to deploy and easy to manage. It supports any wireless networking service over Wi-Fi - data, voice and video. To enhance the quality of the connection, the MP-432 automatically calculates the integrity and RF signal strength of the wireless channel, continually tuning for the optimal RF channel and transmit power. The MP-432 includes Automatic Channel Allocation and Automatic Power Allocation systems that support both 20 MHz wide and 40 MHz wide channels for 802.11n. The system is compatible with the auto channel and power allocation tools in the legacy 802.11a/b/g access points, providing an easy path for deployment and migration in mixed environments. It enforces the prioritization and Quality of Service (QoS) of delay-sensitive voice and other critical applications through Wi-Fi Multimedia (WMM) and SpectraLink Voice Priority (SVP). Beyond QoS, policies can be set to allow per user, per protocol, or per class-of-service (CoS) mapping.

To optimize network traffic, the MP-432 features automatic Band Steering™. 802.11n operates in both the 2.4 GHz and 5 GHz bands. The 5 GHz band has 7 times the number of available channels as the 2.4 GHz band (21 5 GHz channels vs. 3 2.4 GHz channels in the US regulatory domain). With so many channels in 5 GHz, a well designed network will utilize this available spectrum to maintain ideal traffic flow. Unfortunately, many client devices that support both 2.4 GHz and 5 GHz channels default automatically to the crowded 2.4 GHz band. Band Steering automatically steers capable clients to the 5 GHz band without end user intervention, or having to change SSID, VLAN, or any other configuration. Consequently, Band Steering brings the performance promise for 802.11n to life. As 5 GHz capable devices migrate to the spacious 5 GHz band, the normally crowded 2.4 GHz band becomes freer to support 2.4 GHz only capable devices, including many voice handsets. The MP-432 also enables granular bandwidth management and load balancing features that significantly improve the network performance and end user experience with 802.11n.

In addition to traditional access point functionality, the MP-432 also serves as a Mesh AP, Mesh Point, Mesh Portal, or Wireless Distribution System (WDS) Bridge to extend the reach of enterprise WLANs where cabling cannot reach or is not desired. The MP-432 can support these services in either point-to-point or point-to-multipoint topologies, allowing maximum flexibility within a mesh or bridged environment. In Mesh Portal mode, the MP-432 is the gateway node to the wired network and advertises services to mesh access point nodes. It enforces firewalls, access policy, and quality of service (QoS) while performing broadcast suppression—all of which serve to optimize RF spectrum utilization in the mesh network. The MP-432 can be configured with one radio for client services and the other for mesh service. Smart Mobile intelligent switching and distributed traffic forwarding is supported in all mesh services, enabling each mesh node to provide the shortest, least congested path to the destination over secure encrypted mesh links. The MP-432 can also be used as a dedicated wireless bridge to provide seamless connectivity between buildings without the expense of laying new cables or leasing dedicated T1 lines.

The MP-432 plays an important role in wireless intrusion detection systems and wireless intrusion prevention systems (WIDS/WIPS) as well as denial-of-service (DoS) attack detection and prevention. The MP-432's ActiveScan mechanism scans all 802.11 channels for WIDS/WIPS including 20 MHz and 40MHz wide channels, while simultaneously providing wireless connectivity to Wi-Fi clients. The SentryScan option allows the MP-432 or individual radios in the MP-432 to act as dedicated sentries, providing nonstop scanning and protection. The MP-432 also supports Dynamic Beacon Frame Protection, the strongest level of beacon protection in the industry, to ensure 802.11 beacon frames are not spoofed by an intruder.

For location based services, the MP-432 supports the LA-200 Location Appliance and other location engines that rely on Wi-Fi signal information for position location. Common applications include asset tracking and client location.

Key Features

RADIOS	
Dual radios	<ul style="list-style-type: none"> • 802.11a/n (5 GHz) and 802.11b/g/n (2.4 GHz) concurrent operation
Radio transmit power setting	<ul style="list-style-type: none"> • Granular Transmit Power Settings in single dBm increments • Configurable power allows control of RF cell size
RF Auto-Tuning	<ul style="list-style-type: none"> • Continuous self-tuning for optimal channel, data rate and transmit power • Eliminates coverage holes
Internal Antenna	<ul style="list-style-type: none"> • Optimized gain pattern for maximum radio coverage
802.11n FEATURE SET	
	<ul style="list-style-type: none"> • 3 x 3 MIMO (3 Radio Transmit and 3 Radio Receive chains) with two spatial streams. • 20 MHz and 40 MHz channels • PHY data rates up to 300 Mbps per radio. 600 Mbps aggregate total. • Adaptive Frame Aggregation [L2 (MPDU-Aggregation) and L3 (MSDU Aggregation)] • Maximal Ratio Combining • Cyclic Delay Diversity (CDD)
MOBILITY SERVICES	
Voice with Quality of Service (QoS)	<ul style="list-style-type: none"> • Prioritized per user and per session priority queuing • Wi-Fi Multimedia (WMM) QoS • WMM Power Save • 802.11e Unscheduled Automatic Power Save Delivery (U-APSD) • 802.11e TSPEC CAC session-based bandwidth reservation • SpectraLink Voice Priority (SVP) QoS • Voice qualified seamless handoff with 802.11i PMK cached roaming • Neighbor Report advertisement with 802.11k
Virtual Service Sets	<ul style="list-style-type: none"> • Up to 64 SSIDs per Access Point • Any combination of encryption and authentication type per SSID • Any VLAN topology per SSID • Unique Web Access Portal per SSID • Private or shared authentication
SECURITY	
Physical Security	<ul style="list-style-type: none"> • Highly inconspicuous design, looks like a smoke detector • No data, security credentials or encryption keys stored locally • No console port; no local access possible • If stolen, no configuration information or data goes with it • Stolen AP can be "blacklisted" • Integrated Kensington security lock
Encryption	<ul style="list-style-type: none"> • Dedicated hardware-based line-rate encryption for certified operation of WPA (TKIP), WPA2 (AES), 40-bit WEP, 128-bit WEP, and Dynamic WEP with per session rotating keys
Wireless Intrusion Detection and Protection (WIDS/WIPS)	<ul style="list-style-type: none"> • ActiveScan rogue access point and denial-of-service (DoS) attack detection, alarming, and mitigation. Simultaneous with AP operation. • SentryScan dedicated rogue access point and denial-of-service (DoS) attack detection, alarming and mitigation. Dedicated sensor operation.

MANAGEMENT AND CONTROL
Scalability and Resiliency

- Supports up to 500 simultaneous clients
- Smart Mobile Intelligent switching enables distributed forwarding of user traffic through the Mobility Point
- Dual attached Power-over-Ethernet with redundant network link
- Outage resiliency with RF Auto-Tune fills coverage holes if AP goes down
- Supports “Always-On” network resiliency in conjunction with any Trapeze Mobility Exchange WLAN controller

Installation and Configuration

- One snap invisible ceiling grid attachment
- Compatible with existing Trapeze mounting brackets
- Powered by any Trapeze Networks Mobility Exchange WLAN Controller with PoE, PoE-enabled switch, or mid-span power injector
- True omni-directional antenna allows position-independent placement

Client Load Balancing

- Band Steering. Moves 5 GHz capable clients to the higher capacity 5 GHz band.
- Equalize client sessions across groups of Mobility Points with like service policies
- Restore equality of session load across groups of access points when new access points are added or an access point returns from a temporary outage
- Equalizes groups of access points across multiple Mobility Exchange WLAN Controllers in a Mobility Domain

Specifications

HARDWARE SPECIFICATIONS
Dimensions (W x D x H)

- Diameter: 8.11 inches (20.59 cm) Height: 3.23 inches (8.2 cm)

Weight

- Without mounting bracket: 28.2 ounces (0.8 kg)
- With mounting bracket: 31.7 ounces (0.9 kg)

Interfaces

- Two RJ-45 ports for 10/100/1000Mbps Ethernet and Power-over-Ethernet (PoE)

Environmental

- Operating temperature: 0oC to 50oC (32oF to 122oF)
- Storage temperature: -25oC to 70oC (-4oF to 158oF)
- Humidity: 10% - 95% (non-condensing)

Status Indicators

- 3 LEDs: Power, Radio 1, and Radio 2, indicate activity and various states

802.11n RADIO SPECIFICATIONS

Operating Frequency	<ul style="list-style-type: none"> • 2.4 GHz to 2.484 GHz and 5.15 GHz to 5.85 GHz
Operating Channels	<ul style="list-style-type: none"> • Based on regulatory domain
Modulation	<ul style="list-style-type: none"> • Orthogonal Frequency Division Multiplexing (OFDM)
Transmit Power	<ul style="list-style-type: none"> • Based on regulatory domain, up to 19 dBm in 2.4 GHz, up to 18 dBm in 5 GHz
Configurable Association Rates	Modulation Coding Scheme MCS 0 – MCS 15 (6.5Mbps – 300Mbps) Legacy Rates: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, Mbps and 6 Mbps with automatic rate fallback
Radio Approvals	<ul style="list-style-type: none"> • USA: 47CFR(FCC) Part 15.407 • Canada: IC RSS-210, Issue 6 • EU: ETSI EN301 893, EN301 489-1 and -17, EN301 893 v1.4.1 • Japan: TELECARIB STD-70 (per the new W52/W53 requirements)

802.11a RADIO SPECIFICATIONS

Operating Frequency	<ul style="list-style-type: none"> • 5.15 GHz to 5.85 GHz
Operating Channels	<ul style="list-style-type: none"> • Based on regulatory domain
Modulation	<ul style="list-style-type: none"> • Orthogonal Frequency Division Multiplexing (OFDM)
Transmit Power	<ul style="list-style-type: none"> • Based on regulatory domain, up to 19 dBm in 2.4 GHz, up to 18 dBm in 5 GHz
Configurable Association Rates	<ul style="list-style-type: none"> • 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps and 6 Mbps with automatic fallback
Radio Approvals	<ul style="list-style-type: none"> • USA: 47CFR(FCC) Part 15.407 • Canada: IC RSS-210, Issue 6 • EU: ETSI EN301 893, EN301 489-1 and -17, EN301 893 v1.4.1 • Japan: TELECARIB STD-70 (per the new W52/W53 requirements)

802.11b RADIO SPECIFICATIONS

Operating Frequency	<ul style="list-style-type: none"> • 2.4 GHz to 2.484 GHz
Operating Channels	<ul style="list-style-type: none"> • Based on regulatory domain
Modulation	<ul style="list-style-type: none"> • Direct-Sequence-Spread-Spectrum (DSSS)
Transmit Power	<ul style="list-style-type: none"> • Based on regulatory domain, up to 19 dBm in 2.4 GHz, up to 18 dBm in 5 GHz
Configurable Association Rates	<ul style="list-style-type: none"> • 11 Mbps, 5.5 Mbps, 2 Mbps, and 1 Mbps with automatic fallback
Radio Approvals	<ul style="list-style-type: none"> • USA: 47CFR(FCC) Part 15.247 • Canada: IC RSS-210, Issue 6 • EU: ETSI EN300 328-2, EN301 489-1 and -17 • Japan: TELECARIB STD 33B, ARID STD-T66

802.11g RADIO SPECIFICATIONS

Operating Frequency	<ul style="list-style-type: none"> • 2.4 GHz to 2.484 GHz
Operating Channels	<ul style="list-style-type: none"> • Based on regulatory domain
Modulation	<ul style="list-style-type: none"> • Orthogonal Frequency Division Multiplexing (OFDM)
Transmit Power	<ul style="list-style-type: none"> • Based on regulatory domain, up to 19 dBm in 2.4 GHz, up to 18 dBm in 5 GHz
Configurable Association Rates	<ul style="list-style-type: none"> • 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps and 6 Mbps with automatic fallback
Radio Approvals	<ul style="list-style-type: none"> • USA: 47CFR (FCC) Part 15.247 • Canada: IC RSS-210, Issue 6 • EU: ETSI EN300 328-2, EN301 489-1 and -17 • Japan: TELEC RCR STD 33B, ARID STD-T66

STANDARDS COMPLIANCE

IEEE	<ul style="list-style-type: none"> • 802.3i: 10BASE-T Ethernet • 802.3u: 100BASE-TX Fast Ethernet • 802.3ab: 1000 BASE-TX Gigabit Ethernet • 802.3af: Power over Ethernet • 802.3af+: (pre-standard 802.3at) Power over Ethernet • 802.11 a/b/g/n, 802.11d, 802.11e, 802.11h, 802.11i, 802.11k (draft) • 802.1X Network Access Control and Mutual Authentication • 802.11a, 802.11b, 802.11g and 802.11n Wireless LAN • 802.11e quality of service (QoS) (WMM), call admission control (TSPEC), Unscheduled Automatic Power Save Delivery (U-APSD) • 802.11i Fast Roaming (PMK Cache), encryption (AES/CCMP and TKIP) • Wi-Fi Protected Access (WPA) and Wi-Fi Protected Access 2 (WPA2) • Wi-Fi Multimedia (WMM) & Wi-Fi Multimedia Power Save (WMM-PS)
IETF	<ul style="list-style-type: none"> • IETF CAPWAP WG Taxonomy and Architecture compatibility

REGULATORY COMPLIANCE

Safety	<ul style="list-style-type: none"> • UL 60950-1, 1st Edition • CAN/CSA C22-2 No. 60950-1-03 • CB Scheme to IEC 60950-1 1st Edition • EU Low Voltage Directive 2002/95/EC
Environmental	<ul style="list-style-type: none"> • WEEE: EU Directive 2002/96/EC • ROHS: EU Directive 2003/95/EC • EN60601-1-2 (2001): EU Medical Directive
Other	<ul style="list-style-type: none"> • EU EMC: Directive 89/336/EC • ROHS: EU Directive 1999/5/EC • FCC Part 15, Class B • IECS-003, Class B
Dynamic Frequency Selection	<ul style="list-style-type: none"> • EN 301 893 v1.4.1

ORDERING INFORMATION

MP-432	<ul style="list-style-type: none"> AP with dual radios: 802.11a/n and 802.11b/g/n, dual Gigabit Ethernet port, internal 3 X 3 MIMO antennas
PD-3001-xx	<ul style="list-style-type: none"> PowerDsine PD-3001, single port 802.3af midspan PoE injector (PD Note)
PD-6006-xx	<ul style="list-style-type: none"> PowerDsine PD-6006/AC/M, managed 6-port 802.3af midspan PoE injector (PD Note)
PD-6012-xx	<ul style="list-style-type: none"> PowerDsine PD-6012, managed 12-port 802.3af midspan PoE injector (PD Note)
PD-7006-xx	<ul style="list-style-type: none"> PowerDsine PD-7006, managed 6 port 802.3af+ midspan PoE injector (PD note)
PD-7012-xx	<ul style="list-style-type: none"> PowerDsine PD-7012, managed 12 port 802.3af+ midspan PoE injector (PD note)
PD-7024-xx	<ul style="list-style-type: none"> PowerDsine PD-7024, managed 24 port 802.3af+ midspan PoE injector (PD note)
PD NOTE	<ul style="list-style-type: none"> Please specify the appropriate region code for included power cord type in place of the XX: North America (NA), Europe (EU), United Kingdom (UK), Japan (JP), or Australia (AU)

MP-432 Power Option Recommendations

The MP-432 can be powered by any standards-based 802.3af, 802.3af+ (draft 802.3at), or 802.3at power source. If there is little to no current PoE infrastructure investment, a high power 802.3af+ device is recommended. Examples are listed above in the PowerDsine series.

If a significant investment in 802.3af PoE exists, or for other reasons a significant 802.3af PoE investment is contemplated, the MP-432 shall operate with full functionality with this infrastructure. In certain cases where cable loss is excessive, the MP-432 may operate in a fall back 2 x 3 MIMO mode.

Subject to change without notice

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