



Indoor Mobility Point™ Installation Guide v7.0



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Part Number: 730-9502-0217 Rev. B



Attention! Refer to the manual.

Vorsicht! Im Handbuch nachlesen.

Attention! Consulter le manuel.

Attenzione! Consultare il manuale.

¡Atención! Consulte el manual.

Atenção! Consulte o manual.

Obs! Se manualen.

Bemærk! Se vejledningen.

OBS! Slå opp i brukerhåndbok.

Let op! Raadpleeg de handleiding.

Takið eftir! Vísað til leiðarvísis.

Προσοχή! Συμβουλευτείτε το εγχειρίδιο χρήσης.

주의! 설명서를 참조하십시오.

注意! マニュアルを参照してください。

注意! 请参照手册。

注意! 請參照手冊。

Внимание! Обратитесь к инструкции.

انتبه! راجع الدليل.

בל מיש! דירדמב וייע.



Warning! Class 1 Laser.

Warnung! Klasse-1-Laser.

Avertissement ! Laser de Classe 1.

Attenzione! Laser Classe 1.

¡Advertencia! Láser de clase 1.

Advertência! Laser de classe 1.

Varning! Klass 1 laser.

Advarsel! Klasse 1-laser.

Advarsel! Laser klasse 1.

Pas op! Klasse 1-laser.

Viðvörðun! Leysir flokkur 1.

Προσοχή! Λείζερ Κατηγορίας 1.

경고! 클래스 1 레이저 제품.

警告! クラス1 レーザー

警告! 1级激光。

警告! 1級鐳射。

Осторожно! Лазер 1 класса.

הרהזא! גוויס רזייל1.

تحذير! ليزر من الفئة 1.



Protective ground (earth) terminal.

Erddungsschutzanschluss.

Terminal de terre protecteur.

Terminale di terra di protezione.

Terminal de protección de toma de tierra.

Terminal de protecção da toma de terra.

Skyddande jordningsterminal.

Beskyttende jordklemme.

Beskyttende jordtilkopling.

Aardklem.

Úttak fyrir verndandi jarðtengingu.

Προστατευτικό τερματικό γείωσης.

보호 접지 단자.

保護グランド（接地）ターミナル

保护性的接地终端（接地）。

保護性的接地終端（接地）。

Защитный контакт заземления.

طرف الحماية الأرضي.

הקראהל הנגה רבחמ)המדא.



Frame or chassis terminal.

Rahmen- oder Untergestellanschluss.

Terminal du cadre ou du châssis.

Telaio o corpo del terminale.

Terminal de bastidor o chasis.

Terminal do bastidor ou chassis.

Ram- eller chassisterminal.

Rammeterminal.

Tilkoplinger.

Frame- of chassisklem.

Tengistaðir.

Τερματικό Πλαισίου.

프레임 또는 샴시 단자.

フレームまたはシャーシターミナル

结构或底盘终端。

結構或底盤終端。

Заземление на кросс или на массу.

זראם וא תרגסמ רבחמ.

طرف الشاسيه أو الإطار.



Direct current (DC).

Gleichstrom (DC).

Courant continu (DC/CC).

Corrente continua (c.c.).

Corriente continua (DC).

Corrente contínua (DC).

Likström (DC).

Jævnstrøm (DC).

Likestrøm (DC).

Gelijkstroom.

Jafnstraumur (DC).

Συνεχές ρεύμα (DC).

직류 (DC).

直流 (DC)

直流电 (DC)。

直流電 (DC)。

Постоянный ток (DC)

تيار مباشر (DC).

רשי מרז (DC).



Alternating current (AC).

Wechselstrom (AC).

Courant alternatif (AC/CA).

Corrente alternata (c.a.).

Corriente alterna (AC).

Corrente alterna (AC).

Växelström (AC).

Vekselstrøm (AC).

Vekselstrøm (AC).

Wisselstroom.

Riðstraumur (AC).

Εναλλασσόμενο ρεύμα (AC).

교류 (AC).

交流 (AC)

交流电 (AC)。

交流電 (AC)。

Переменный ток (AC)

יפוליה מרז (AC).

تيار متردد (AC).



Complies with Underwriters Laboratories regulations in United States and Canada.



Complies with Canadian Standard Association regulations in United States and Canada.

The Competent Body reports issued by UL or CSA demonstrate the product safety compliance with the worldwide regulations.

Erfüllt die Bestimmungen von Underwriters Laboratories in den Vereinigten Staaten und Kanada.

Les rapports du Corps Compétent fournis par UL ou CSA confirment que la sécurité des produits est conforme aux règles internationales.

I Rapporti dell'Organo Competente emessi da UL o CSA attestano la conformità del prodotto secondo le normative di sicurezza mondiali.

Los informes de las entidades competentes emitidos por UL o CSA demuestran la que el producto cumple con los requisitos de seguridad de las regulaciones mundiales.

Os relatórios emitidos pelo Corpo Competente de UL e CSA demonstram que a segurança dos produtos é cumprida de acordo com os regulamentos do mundo inteiro.

Den kompetenta institutionens rapporter hanterade av UL eller CSA visar produktsäkerhetens tillmötesgående av världsomfattande regleringar.

De myndighedsrapporter, der udstedes af UL (prøvningsudvalg for el-materiel) eller CSA (konføderationen, Sydstaterne), viser, at produktsikkerheden er i overensstemmelse med globale regulativer.

Rapporter fra kompetente instanser og er utgitt av UL eller CSA påviser at produktet oppfyller internasjonale retningslinjer om sikkerhet.

Uit de rapporten van de Bevoegde Instantie uitgegeven door UL of CSA blijkt dat het product op het gebied van veiligheid voldoet aan de universele voorschriften.

Skýrslur hæfra aðila, sem eru útgefnar af UL eða CSA sýna að framleiðslan er í samræmi við alþjóðlegar öryggisreglur.

Οι εκθέσεις του Αρμόδιου Φορέα που εκδόθηκαν από το UL (Underwriters Laboratories) ή το CSA (Canadian Standard Association) αποδεικνύουν ότι το προϊόν συμμορφώνεται ασφαλώς με τους διεθνείς κανονισμούς.

UL 또는 CSA에서 발간된 시험기관 보고서는 전세계 규격에 대한 제품 안전 호환성을 설명합니다.

UL または CSA が発行する認定機関の報告書により、世界の規制に製品安全が適合していることを証明します。

由UL 或 CSA签发的 Competent Body reports (部件合格报告) 说明该产品安全性能符合全世界的规定

由UL 或 CSA簽發的 Competent Body reports (部件合格報告) 說明該產品安全性能符合全世界的規定

Отчеты Компетентных органов, изданные UL или CSA, демонстрируют соответствие уровня безопасности оборудования международным требованиям.

" قریس و نم نع قرطصلوا للی فا قفاوت یرقت لت UL و
CSA قی قفاوا لیقن اقلوا عم ماد یخص ل قم لیس یغیح نم یمن قفاوت و لع "

תונקתל מאות Underwriters Laboratories הראב"הדנקבו ב.



Complies with European Union (CE) regulations.

Erfüllt die Bestimmungen der Europäischen Union (CE).

Conforme à la réglementation de l'Union Européenne (UE).

Conforme alla normativa della Unione Europea (CE).

Cumple con las normas de la Unión Europea (CE).

Cumpre com as normas da União Europeia (CE).

Rättar sig efter Europeiska Unionens (EU) regleringar.

Overholder den europæiske unions (Europarådets) regulativer.

Oppfyller EU's retningslinjer.

Voldoet aan EU-voorschriften.

Uppfyllir reglugerðir Evrópusambandsins (ES).

Συμμορφώνεται με τους Κανονισμούς της Ευρωπαϊκής Ένωσης (CE).

유럽 연합의 CE 규격에 적합.

ヨーロッパ連合 (CE) 規格を順守しています。

遵照欧盟 (CE) 规则。

遵照歐盟 (CE) 規則。

Удовлетворяет требованиям Европейского союза (ЕС)

יפריאה דוחיאה תונקתל מאות (CE).

يتوافق مع لوائح الاتحاد الأوروبي (CE).



Contains a radio transmitter that complies with the Radio and Telecommunications Technical Equipment (R&TTE) Directive 1995/5/EC to an unharmonized frequency spectrum.

Enthält einen Radiosender gemäß den Auflagen aus der Richtlinie für Radio- und Telekommunikationsgeräte (R&TTE) 1995/5/EG für ein nicht harmonisiertes Frequenzspektrum.

Contient un émetteur radio conforme à la directive communautaire 1995/5/CE dite R&TTE (Radio and Telecommunications Technical Equipment) relative au spectre des fréquences non harmonisées.

Contiene un trasmettitore radio conforme alla Direttiva 1995/5/CE per le Attrezzature Tecniche di Radio Telecomunicazione (R&TTE) della gamma di frequenze non armonizzate.

Contiene un transmisor de radio que cumple con la directiva de Equipos terminales de radio y telecomunicaciones 1995/5/CE con un espectro de frecuencias no armonizado.

Contém um transmissor de rádio que cumpre com a directiva dos Aparelhos terminais de rádio e telecomunicações 1995/5/CE com um espectro de frequências não harmonizado.

Innehåller en radioutsändare som rättar sig efter Radio and Telecommunications Technical Equipments (R&TTE) direktiv 1995/5/EC till ett oharmoniserat frekvensspektrum.

Indeholder en radiosender, der overholder R&TTE Direktivet 1995/5/EF Europa-Parlamentets og Rådets direktiv af 9. marts 1999 om radio- og teleterminaludstyr i et uharmoniseret frekvensspektrum.

Innholder radio sender som tilfredstiller krav for Radio og Telekommunikasjons utstyr (R&TTE) Direktiv 1995/5/CE om uharmonisert frekvens spekter.

Bevat een radiozender die voldoet aan de Europese richtlijn inzake radioapparatuur en telecommunicatie-eindapparatuur (1995/5/EC) tot een geharmoniseerd frequentiespectrum.

Inniheldur fjarskiptaeningu sem er í samræmi við Radio and Telecommunications Technical Equipment (R&TTE) Fyrirmæli 1995/5/CE um ósamstillt tíðnisvið.

Περιέχει πομπό που συμμορφώνεται με την Οδηγία 1995/5/EC αναφορικά με τον Τεχνικό Εξοπλισμό Ραδιοφωνίας και Τηλεπικοινωνιών προσαρμοσμένο σε μη εναρμονισμένο φάσμα συχνοτήτων.

무해성 주파수에 대한 무선 및 통신 기술 장비 (R&TTE) 규정 1995/5/EC에 적합한 무선 송신기 내장.

不整合周波数スペクトルに対する欧州無線及び通信端末機器指令1995/5 (R&TTE) を順守している無線送信機を内蔵しています。

包含一个无线电发射机，遵照Radio and Telecommunications Technical Equipment (R&TTE) Directive 1995/5/EC (无线电和通讯技术设备指示) 对不调和频率光谱的规定。

包含一個無線電發射機，遵照Radio and Telecommunications Technical Equipment (R&TTE) Directive 1995/5/EC (無線電和通訊技術設備指示) 對不調和頻率光譜的規定。

Содержит радиопередатчик, соответствующий Директиве 1995/5/EC "Техническое оборудование радио и телекоммуникаций" для негармонизированного частотного спектра.

يشتمل على جهاز إرسال لاسلكي يتوافق مع توجيه 1995/5/EC لأجهزة الاتصالات اللاسلكية (R&TTE) الخاص بمجال التردد غير المتجانس.

היצקיננומוקלטו וידר ללוכה ינכט דויצ תייחנה תושירדב דמועה וידר רדשמ ליכמ (R&TTE) ינומרה יתלב סירדת סורטקפסל. 1995/5/EC

Regulatory Compliance Information

Trapeze Networks products cause no electromagnetic interference to other devices if installed and operated properly and without modification.

Modification Prohibition



The Part 15 radio device in the access point operates on a non-interference basis with other devices operating at the same frequency. Any modification to this device not expressly approved by Trapeze Networks can void your authority to operate the device.

The manufacturer, Trapeze Networks, is not responsible for any interference caused by unauthorized modification of the devices included with this product, or the substitution or attachment of connecting cables or equipment other than supplied by Trapeze Networks.

The correction of interference caused by such unauthorized modification, substitution, or attachment is your responsibility.

Trapeze Networks and its authorized resellers or distributors are not liable for any damage or violation of government regulations that might arise from failure to comply with these guidelines.

Wiring Notice



Other than the power cord, the wiring interconnecting these units is designed to be used intra-building only.

Federal Communications Commission Interference Statement (United States)

This equipment has been tested and found to comply with the limits for a Class A or B (as marked) digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

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Trademarks

Trapeze Networks, the Trapeze Networks logo, the Trapeze Networks flyer icon, Mobility System, Mobility Exchange, MX, Mobility Point, MP, Mobility System Software, MSS, RingMaster, AAA Integration and RADIUS Scaling, ActiveScan, AIRS, Bonded Auth, FastRoaming, Granular Transmit Power Setting, GTPS, GuestPass, GuestTunneling, Layer 3 Path Preservation, Location Policy Rule, LPR, Mobility Domain, Mobility Profile, Passport-Free Roaming, SentryScan, Time-of-Day Access, TDA, TAPA, Trapeze Access Point Access Protocol, Virtual Private Group, VPG, Virtual Service Set, Virtual Site Survey, Wireless Access Routing Protocol, WARP and WebAAA are trademarks of Trapeze Networks, Inc. Trapeze Networks SafetyNet is a service mark of Trapeze Networks, Inc. All other products and services are trademarks, registered trademarks, service marks or registered service marks of their respective owners.

Disclaimer

All statements, specifications, recommendations, and technical information are current or planned as of the date of the publication of this document. They are reliable as of the time of this writing and are presented without warranty of any kind, expressed or implied. In an effort to continuously improve the product and add features, Trapeze Networks reserves the right to change any specifications contained in this document without prior notice of any kind.

Comments and Feedback

Your feedback on Trapeze documentation is important to us. Send any comments and suggestions to doc-bugs@trapezenetworks.com.

For the most current version of this document, see <http://www.trapezenetworks.com> .

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About This Guide

This guide shows you how to install a Trapeze Networks™ Indoor Mobility Point™ (MP™) access point in a Trapeze Networks Mobility System™ wireless LAN (WLAN). The Indoor Mobility Point includes the following models:

- ❑ MP-432 (Dual Mode 2.4-GHz/ 5-GHz Access Point certified under the Model 430)
- ❑ MP-422 (Dual Mode 2.4-GHz/ 5-GHz Access Point certified under the Model 400)
- ❑ MP-372
- ❑ MP-371

This guide is intended for network administrators or persons responsible for installing and managing MP access points in a network.

Trapeze Networks Mobility System

The Trapeze Networks Mobility System is an enterprise-class WLAN solution that seamlessly integrates with an existing wired enterprise network. The Trapeze system provides secure connectivity to both wireless and wired users in large environments such as office buildings, hospitals, and university campuses.

The Trapeze Mobility System fulfills the three fundamental requirements of an enterprise WLAN: It eliminates the distinction between wired and wireless networks, allows users to work safely from anywhere (*secure mobility*), and provides a comprehensive suite of intuitive tools for planning and managing the network before and after deployment, greatly easing the operational burden on IT resources.

The Trapeze Networks Mobility System consists of the following components:

- ❑ **RingMaster tool suite** — A full-featured graphical user interface (GUI) application for planning, configuring, deploying, and managing a WLAN and users.
- ❑ **One or more Mobility Exchange™ (MX™)** — Distributed, intelligent appliances for managing user connectivity, connecting and powering Mobility Point (MP) access points, and connecting the WLAN to the wired network backbone.
- ❑ **Multiple Mobility Point™ (MP™) access points** — Wireless access points (APs) that transmit and receive radio frequency (RF) signals to and from wireless users and connect them to an MX.
- ❑ **Mobility System Software™ (MSS™)** — The operating system that runs all MX switches and MP access points in a WLAN, and is accessible through a command-line interface (CLI), the Web View interface, or the RingMaster GUI.

Documentation

Consult the following documents to plan, install, configure, and manage a Trapeze Networks Mobility System.

Planning, Configuration, and Deployment

Instructions for planning, and deploying a WLAN using the powerful RF Planning tool. Read this guide to learn how to plan wireless services.

- ❑ *RingMaster 6.2 Planning Guide* — Instructions for planning wireless services. Read this guide to learn how to configure a WLAN network
- ❑ *RingMaster 6.2 Configuration Guide* — Instructions for configuring wireless services as well as MX appliances and MPs on a WLAN. Read this guide to learn how to deploy a WLAN network.
- ❑ *RingMaster 6.2 Management Guide* — Manage the entire WLAN with the RingMaster tool suite. Read this guide to learn how to optimize and manage your WLAN.

Installation

- ❑ *Trapeze Mobility Exchange Hardware Installation Guide* — This guide provides instructions and specifications for installing an MX.
- ❑ *Trapeze Mobility System Software Quick Start Guide* — This guide provides instructions for performing basic setup of secure (802.1X) and guest (Web AAA) access, for configuring a Mobility Domain for roaming, and for accessing a sample network plan in RingMaster for advanced configuration and management
- ❑ *Trapeze Indoor Mobility Point Installation Guide* (this document) — This guide provides instructions and specifications for installing an MP access point and connecting it to an MX.
- ❑ *Trapeze Mobility Point MP-620 Installation Guide* — This guide provides instructions and specifications for installing the MP-620 access point and connecting it to an MX.
- ❑ *Trapeze Regulatory Information* — Important safety instructions and compliance information that must be read before installing Trapeze Networks products.

Configuration and Management

- ❑ *Trapeze Mobility System Software Basic Configuration Guide* — This guide provides basic instructions for configuring and managing the system through the MSS CLI.
- ❑ *Trapeze Mobility System Software Advanced Configuration Guide* — This guide provides advanced instructions for configuring and managing the system through the MSS CLI.
- ❑ *Trapeze Mobility System Software Command Reference* — This publication provides functional and alphabetic reference to all MSS commands supported on the MX and MP.

Trapeze Documentation Conventions

Safety and Advisory Notices

The following types of safety and advisory notices appear in this guide.



This situation or condition can lead to data loss or damage to the product or other property.



This is a process or procedural tip or other useful suggestion.



This information you should note relevant to the current topic.



This alerts you to a possible risk of personal injury or major equipment problems.

Hypertext Links

Hypertext links appear in Blue.

As an example, this is a link to [Contacting the Technical Assistance Center](#).

Text and Syntax Conventions

Trapeze guides use the following text and syntax conventions:

Convention	Use
Monospace text	Sets off command syntax or sample commands and system responses.
Bold text	Highlights commands that you enter or items you select.
<i>Italic text</i>	Designates command variables that you replace with appropriate values or highlights publication titles or words requiring special emphasis.
<i>Bold italic text font</i>	<i>Bold italic text font</i> in narrative, capitalized or not, indicates a program name, function name, or string.
Menu Name > Command	Indicates a menu item. For example, File > Exit indicates that you select Exit from the File menu.
[] (square brackets)	Enclose optional parameters in command syntax.
{ } (curly brackets)	Enclose mandatory parameters in command syntax.
(vertical bar)	Separates mutually exclusive options in command syntax.

About This Guide

Trapeze Networks Mobility System

For information about Trapeze support services, visit <http://www.trapezenetworks.com/supportportal/>, or call 1-866-877-9822 (in the US or Canada) or +1 925-474-2400.



Trapeze Networks sells and services its products primarily through its authorized resellers and distributors. If you purchased your product from an authorized Trapeze reseller or distributor and do not have a service contract with Trapeze Networks, you must contact your local reseller or distributor for technical assistance.

Contacting the Technical Assistance Center

Contact the Trapeze Networks Technical Assistance Center (TAC) by telephone, email, or via web support portal.

- ❑ Within the US and Canada, call 1-866-TRPZTAC (1-866-877-9822).
- ❑ Within Europe, call +31 35 64 78 193.
- ❑ From locations outside the US and Canada, call +1 925-474-2400.
- ❑ In non-emergencies, send e-mail to support@trapezenetworks.com
- ❑ If you have a service contract or are a Trapeze Authorized Partner, log in to <http://www.trapezenetworks.com/supportportal/> to create a ticket online.

TAC Response Time

TAC responds to service requests as follows:

Contact method	Priority	Response time
Telephone	Emergency	One hour
	Non-emergency	Next business day
Email	Non-emergency	Next business day

Information Required When Requesting Service

To expedite your service request, please have the following information available when you call or write to TAC for technical assistance:

- ❑ Your company name and address
- ❑ Your name, phone number, cell phone or pager number, and e-mail address
- ❑ Name, model, and serial number of the product(s) requiring service
- ❑ Software version(s) and release number(s)
- ❑ Output of the ***show tech-support*** command
- ❑ Wireless client information
- ❑ License levels for RingMaster™ and Mobility Exchange™ (MX™) products
- ❑ Description of any problems and status of any troubleshooting effort

Warranty and Software Licenses

Current Trapeze Networks warranty and software licenses are available at <http://www.trapezenetworks.com/support/warranty>.

Limited Warranty for Hardware and Software

TERMS AND CONDITIONS OF SALE

1. Software

Any software provided is licensed pursuant to the terms of Trapeze Networks' Software License Agreement, an electronic copy of which is provided with the Software and a printed copy of which is available upon request. The terms and conditions of the Software License Agreement are incorporated herein in its entirety in this Terms and Conditions of Sale ("Terms and Conditions of Sale") by this reference. The terms of the Software License Agreement control, except for the limited warranty set forth below ("Limited Warranty").

2. Limited Hardware Warranty

Trapeze Networks, Inc. ("Trapeze Networks" or "Trapeze") warrants to Customer, subject to the limitation and disclaimer below, that all Trapeze hardware will be free from defects in material and workmanship under normal use as follows: (a) if the hardware was purchased directly from Trapeze Networks, for a period of one (1) year after original shipment by Trapeze Networks to Customer or (b) if the hardware was purchased from a Trapeze Networks Authorized Reseller, for a period of one (1) year from the date of delivery to Customer, but in no event more than fifteen (15) months after the original shipment date by Trapeze ("Limited Hardware Warranty").

The date of original shipment from Trapeze Networks will be determined by shipping evidence on file at Trapeze Networks. This Limited Hardware Warranty extends only to the Customer who was the original purchaser of the hardware and may not be transferred to any subsequent repurchasing entity. During the Limited Hardware Warranty period upon proper notice to Trapeze Networks by Customer, Trapeze Networks will, at its sole option, either:

- Repair and return of the defective hardware;
- Replace the defective hardware with a new or refurbished component;
- Replace the defective hardware with a different but similar component that contains compatible features and functions; or
- Refund the original purchase price upon presentation of proof of purchase to Trapeze Networks.

3. Restrictions on the Limited Hardware Warranty.

This Limited Warranty does not apply if hardware (a) is altered from its original specifications, (b) is installed, configured, implemented or operated in any way that is contrary to its documentation, (c) has damage resulting from negligence, accident, or environmental stress, (d) was subject to unauthorized repair or modification or (e) is provided to Customer for pre-production, evaluation or charitable purposes.

4. Limited Software Warranty

Trapeze Networks warrants to Customer, subject to the limitation and disclaimer below, that the software will substantially conform to its published specifications as follows: (a) if the software was purchased directly from Trapeze Networks, for a period of ninety (90) days after original shipment by Trapeze Networks to Customer or (b) if the software was purchased from a Trapeze Networks Authorized Reseller, for a period of ninety (90) days from the date of delivery to Customer commencing not more than ninety (90) days after original shipment date by Trapeze), ("Limited Hardware Warranty"). The date of original shipment from Trapeze

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Networks will be determined by shipping evidence on file at Trapeze Networks. This Limited Software Warranty extends only to the Customer of original purchaser of the software and may not be transferred to any subsequent repurchasing entity.

During the Limited Software Warranty period upon proper notice to Trapeze Networks by Customer, Trapeze Networks will, at its option, either:

- ❑ Use reasonable commercial efforts to attempt to correct or provide workarounds for errors;
- ❑ Replace the software with functionally equivalent software; or
- ❑ Refund to Customer the license fees paid by Customer for the software.

Trapeze Networks does not warrant or represent that the software is error free or that the software will operate without problems or disruptions. Additionally, and due to the steady and ever-improving development of various attack and intrusion technologies, Trapeze Networks does not warrant or represent that any networks, systems or software provided by Trapeze Networks will be free of all possible methods of access, attack or intrusion.

5. Restrictions on the Limited Software Warranty

This Limited Software Warranty does not apply if software (a) is altered in any way from its specifications, (b) is installed, configured, implemented or operated in any way that is contrary to its documentation, (c) has damage resulting from negligence, accident, or environmental stress, (d) was subject to unauthorized repair or modification, or (e) is provided to Customer for pre-production, evaluation or charitable purposes.

6. General Warranty Disclaimer

EXCEPT AS SPECIFIED IN THIS LIMITED WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR APPLICATION OR PURPOSE, NONINFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE AFOREMENTIONED WARRANTY PERIOD. BECAUSE SOME STATES, COUNTRIES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM JURISDICTION TO JURISDICTION. THE LIMITED WARRANTY ABOVE IS THE SOLE REMEDY FOR ANY BREACH OF ANY WARRANTY WITH RESPECT TO THE HARDWARE AND SOFTWARE AND IS IN LIEU OF ANY AND ALL OTHER REMEDIES.

7. Limitation of Liabilities

IN NO EVENT SHALL TRAPEZE NETWORKS, ITS SUPPLIERS, OR ITS AUTHORIZED RESELLERS BE LIABLE TO CUSTOMER OR ANY THRID PARTY FOR ANY LOST REVENUE, PROFIT, OR DATA, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES REGARDLESS OF HOW THOSE DAMAGES WERE CAUSED. NOR WILL TRAPEZE NETWORKS, ITS SUPPLIERS, OR ITS AUTHORIZED RESELLERS BE LIABLE FOR ANY MONETARY OR PUNITIVE DAMAGES ARISING OUT OF THE USE OF, OR INABILITY TO USE TRAPEZE NETWORKS HARDWARE OR SOFTWARE. TRAPEZE NETWORKS' LIABILITY SHALL NOT EXCEED THE PRICE PAID BY THE CUSTOMER FOR ANY HARDWARE OR SOFTWARE COVERED UNDER THE TERMS AND CONDITIONS OF THIS WARRANTY. THIS LIMITATION OF LIABILITY AND RESTRICTION ON DAMAGES APPLIES

WHETHER IN CONTRACT, TORT, NEGLIGENCE, OR OTHERWISE, AND SHALL APPLY EVEN IF THE LIMITED WARRANTY FAILS OF ITS ESSENTIAL PURPOSE. WARRANTY LAWS VARY FROM JURISDICTION TO JURISDICTION, AND THE ABOVE LIMITATIONS AND EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES MAY NOT APPLY TO YOU, DEPENDING UPON YOUR STATE, COUNTRY OR JURISDICTION.

8. Procedures for Return of Hardware or Software under the Limited Warranty

Where repair or replacement is required under the Limited Warranty, Customer will contact Trapeze Networks and obtain a Return Materials Authorization number (“RMA Number”) prior to returning any hardware and/or software, and will include the Trapeze Networks RMA Number on all packaging. Trapeze Networks will ship repaired or replacement components within a commercially reasonable time after receipt of any hardware and/or software returned for the Limited Warranty purposes to the address provided by Customer. Customer will pay freight and handling charges for defective return to the address specified by Trapeze Networks and Trapeze Networks will pay freight and handling charges for return of the repair or replacement materials to Customer.

9. Miscellaneous

The Limited Warranty shall be governed by and construed in accordance with the laws of the State of California without reference to that State's conflict of laws rules and as if the contract was wholly formed within the State of California. Customer agrees that jurisdiction and venue shall be in Santa Clara County, California. Under no circumstances shall the United Nations Convention on the International Sale of Goods be considered for redress of grievances or adjudication of any warranty disputes that include Trapeze Networks hardware or software. If any provision of these Terms and Conditions of Sale are held invalid, then the remainder of these Terms and Conditions of Sale will continue in full force and effect. Where a Customer has entered into a signed contractual agreement with Trapeze Networks for supply of hardware, software or services, the terms of that agreement shall supersede any terms contained within this Limited Warranty. Customer understands and acknowledges that the terms of this Limited Warranty, as well as material information regarding the form, function, operation and limitations of Trapeze Networks hardware and software will change from time to time, and that the most current revisions will be publicly available at the Trapeze Networks corporate web site (www.trapezenetworks.com).

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MP Overview

A Trapeze Networks Mobility Point (MP) provides IEEE 802.11 wireless access to the network. MPs are designed for use with a Trapeze Networks Mobility Exchange (MX). MPs require hardware installation only. All configuration for an MP takes place on the MX.

This guide describes the indoor MP models:

- MP-432
- MP-422
- MP-372
- MP-371

The MP-372 and MP-422 have one 802.11a radio and one 802.11b/g radios. Both radios have internal diversity omnidirectional antennas. In addition, both radios have separate jacks for attachment of optional external sectorized or directional antennas. The antennas must be ordered separately.

The MP-371 has a single 802.11 a/b/g/n antenna with internal diversity omnidirectional antennas. In addition, the MP-371 has separate connectors for attaching optional external sectorized or directional antennas.

The MP-432 has one 802.11 b/g/n radio and one 802.11a/n antenna that are interoperable with the 802.11a/b/g/n radios.



Installation must be performed by qualified service personnel only. Read and follow all warning notices and instructions marked on the product or included in the documentation. Before installing the product, read the Trapeze Regulatory Information document.



The MP radios are disabled by default and can be enabled only by a system administrator using the MX

External Hardware Features

Figure 1-1 and Figure 1-2 show the external hardware features of the MP-372, MP-371, MP-422. The MP-371 and MP-372 have slightly different dimensions.

Figure 1-1. Indoor MP-422 Model –Top View

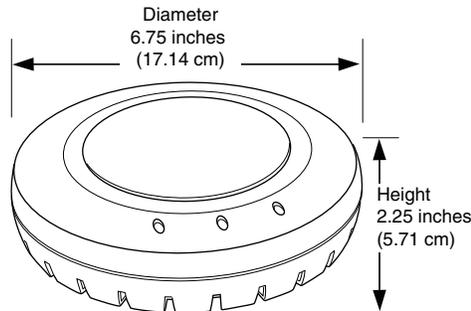


Figure 1-2. Indoor MP Models—Bottom View

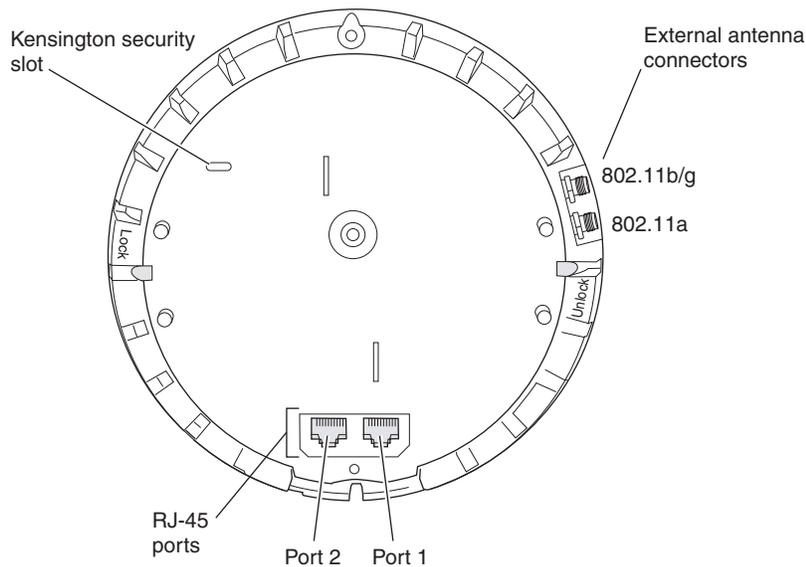


Figure 1-3 and Figure 1-4 show the external hardware features of the MP-432. The ports on the MP-432 are switched and there are no external antenna connectors. The MP-432 is also larger than the other indoor MP models.

Figure 1-3. Indoor MP-432 Model – Top View

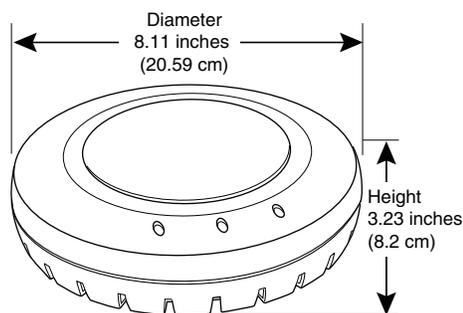
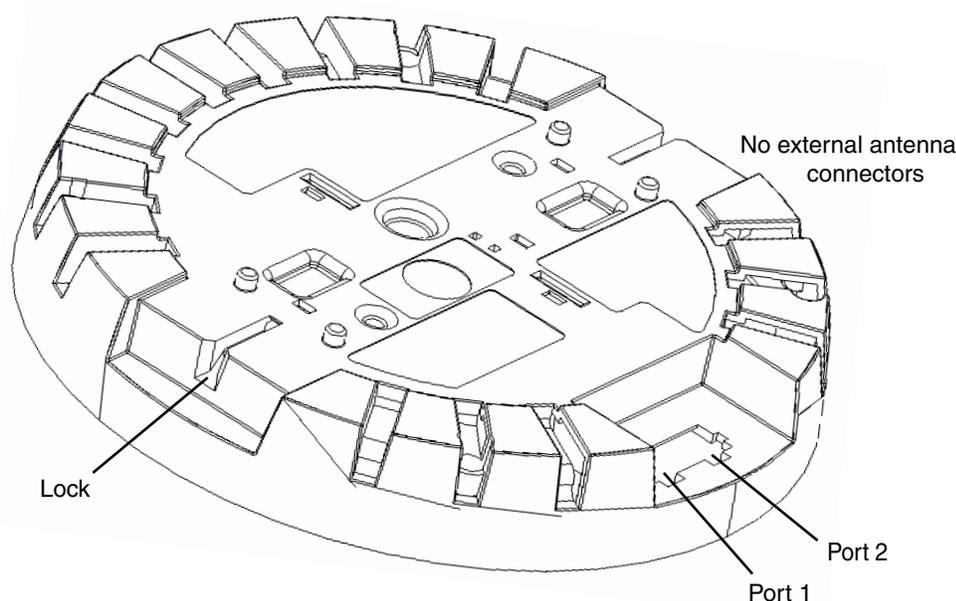


Figure 1-4. Indoor MP-432 Model—Bottom View



Cable Ports

The Indoor MPs have two RJ-45 ports. (See [Figure 1-2](#).) Each port provides a 10/100BASE-TX Ethernet connection to an MX (with the exception of the MP-432, which has a 10/1000BASE-TX). The connection can be direct to an MX or indirect through an intermediate Layer 2 or Layer 3 network.

The MP receives power and data through the RJ-45 ports. Use a Category 5 (Cat 5) cable with straight-through signaling and standard RJ-45 connectors to connect an MP to an MX or other device in the network. The Indoor MP supports 802.3af, and also can receive PoE from Trapeze MX appliances and Trapeze-approved power injectors.

The two RJ-45 ports support dual-homed configurations for redundancy. An MP uses only one link for booting, configuration, and data transfer. If the link becomes unavailable, the MP can reboot using the other link. The ports are identical except for logical numbering (1 or 2). You can use either port to connect an MP to an MX. However, an MP always attempts to boot on MP port 1 first. Only if the boot attempt on port 1 fails does the MP attempt to boot on port 2. If one port becomes unavailable, the other port can provide full power to the MP.



MPs do not support daisy-chain configurations. Do not connect the MP to another MP.

External Antenna Connectors

The Indoor MPs (except for the MP-432) has connectors for attaching optional external antennas. (See [Figure 1-2](#).) [Table 1- 1](#) lists the external antenna models.



The numbers in parentheses in the table below are the numbers that appear on the back of an 802.11a antenna reflector plate. To verify an 802.11a external antenna model number, look for the number in parentheses

Table 1- 1. Trapeze External Antenna Models

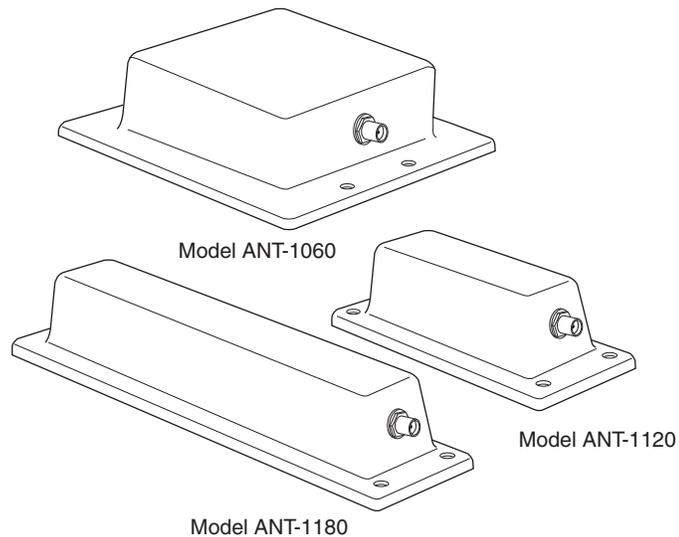
Model	Type	Gain	Beamwidth	
			Horizontal	Vertical
ANT-7360	802.11a	8 dBi	360°	15°
	802.11b/g	6 dBi	360°	25°
ANT-7360-OUT (MP-422 only)	802.11a	8 dBi	360°	15°
	802.11b/g	6 dBi	360°	22°
ANT-5060 (ASTN6S)	802.11a	14.5 dBi	60°	14°
ANT-5120 (ASTN6T)	802.11a	12.5 dBi	120°	14°
ANT-5180 (ASTN6H)	802.11a	10.8 dBi	180°	14°
ANT-1060	802.11b/g	10 dBi	60°	65°
ANT-1120	802.11b/g	7 dBi	120°	60°
ANT-1180	802.11b/g	6 dBi	180°	40°



The Indoor MP radios are certified for use only with these external antennas.

Figure 1-5 shows some of the 802.11b/g antennas.

Figure 1-5. External 802.11b/g Antennas



The 802.11a external antennas look similar to the 802.11b/g model ANT-1180, but each has a reflector plate specific to the model number. You can identify an 802.11a external antenna model by looking on the back of the reflector plate. Do not reverse or remove the reflector plate. It is required for antenna operation.

Each antenna comes with a connector cable, mounting hardware, and installation instructions.



The external connectors on the MP are labeled: 11B/G and 11A. Each connector is a standard SMA connector. Make sure you attach the antenna to the correct connector.



Operation in the band 5.15–5.25 GHz is restricted to indoor use only.

Kensington Security Slot

All models have a slot for attachment of a Kensington security cable. The cable is not included with the MP but can be ordered separately.

MP Mounting Options

You can mount an MP on any of the following types of surfaces:

- Suspended T-bar ceiling
- Junction box
- Solid surface wall or ceiling
- Tabletop



The solid surface mounting option requires Cat 5 cable that does not have strain relief. The other mounting options can use Cat 5 cable with or without strain relief.

Status LEDs

The MP has LEDs that provide status information for the device. **Figure 1-6** shows the locations of the LEDs. **Table 1- 2** describes the LEDs.

Figure 1-6. Health and Radio LEDs

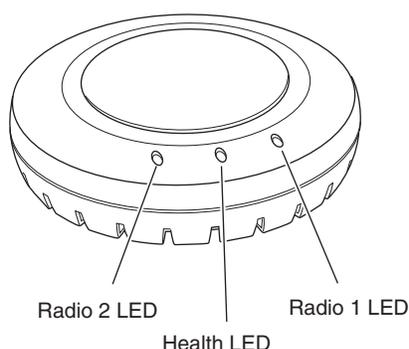


Table 1- 2. MP LEDs

LED	Appearance	Meaning
Health	Solid green	All the following are true: <ul style="list-style-type: none"> <input type="checkbox"/> Management link with an MX is operational. <input type="checkbox"/> MP has booted. <input type="checkbox"/> MP has received a valid configuration from an MX. <input type="checkbox"/> At least one radio is enabled or is in sentry mode.
	Solid amber	MP is waiting to receive boot instructions and a configuration file from an MX.
	Alternating green and amber	MP is booting and receiving a configuration file from an MX. After the MP boots and receives a configuration, this LED appearance persists until a radio is enabled or is placed in sentry mode.
Radio 1 Radio 2	Solid green	A client is associated with the radio.
	Blinking green	Associated client is sending or receiving traffic.
	Blinking amber	Non-associated client is sending or receiving traffic.
	Alternating green and amber	Radio is unable to transmit. This state can occur due to any of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Excessive radio interference in the environment is preventing the radio from sending beacons. <input type="checkbox"/> DFS has detected radar and is restricting traffic. <input type="checkbox"/> The radio has failed.
	Unlit	Means one of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Radio is disabled and active scan is <i>enabled</i>. (The radio is in sentry mode.) <input type="checkbox"/> Radio is enabled, but no clients are associated with it.

Connection Options

You can connect an MP access port directly to an MX port or indirectly to MX appliances through an intermediate Layer 2 or Layer 3 network. In either case, use Category 5 (CAT 5) cable with straight-through signaling for each MP connection.

You also can provide data link redundancy by connecting both of the ports directly to MX ports or indirectly to MX appliances through the network.

You can provide MX management redundancy even on a single MP Ethernet port by connecting the MP indirectly to multiple MX appliances through an intermediate Layer 2 or Layer 3 network.



Install the Cat 5 cables for the MP at the installation site before installing the MP. During installation, insert the Cat 5 cable(s) into the MP port(s) before attaching the MP to the bracket. The Gigabit Ethernet 1000 base-T can only work with straight-through 4 pairs of CAT 5 cable.

Installing and Connecting an Indoor MP



Before installing an MP, you might need to generate a network plan and an MP work order with RingMaster. (See “RingMaster Network Plan and Work Orders” on page 2-2.)

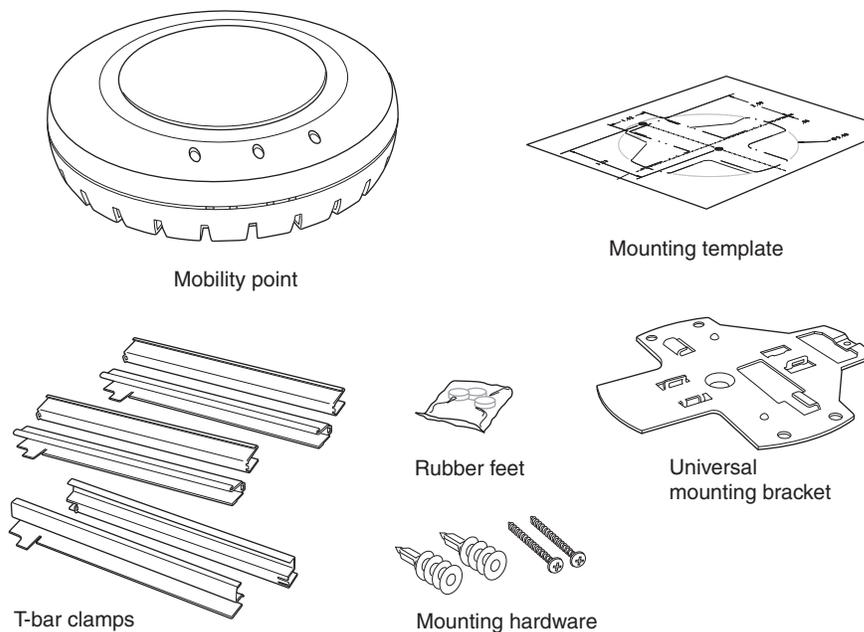
Unpacking an MP

The shipping carton for an MP contains the following items:

1. One MP
2. Mounting kit including:
 - One universal mounting bracket (attached to the MP)
 - One paper mounting template (used for marking cutting areas and screw holes)
 - One two-piece 9/16-inch (14.2-mm) T-bar clamp
 - One two-piece 5/8-inch (15.9-mm) T-bar clamp
 - One two-piece 15/16-inch (23.9-mm) T-bar clamp
 - Two #6 sheet metal screws and two drywall anchors
 - Three adhesive rubber feet
3. One documentation pack that includes quick mounting instructions and a registration card (not shown)

Figure 2-1 shows the contents of the shipping carton for the Indoor MPs.

Figure 2-1. Shipping Carton Contents



Installing and Connecting an Indoor MP

Installation Requirements and Recommendations

Before you begin installation:

1. Open the carton and carefully remove the contents.
2. Place the packing materials back in the carton and save the carton.
3. Verify that you received each item in the previous list. If any item is missing or damaged, contact Trapeze Networks.

Installation Requirements and Recommendations

For best results, follow these requirements and recommendations before installing an MP.

RingMaster Network Plan and Work Orders

If you are using RingMaster to plan your Trapeze Networks Mobility System installation, you might want to create and verify a network plan for the entire Trapeze network installation and generate an MP work order, before installing MPs. A network plan and the MP work orders generated from it provide the following information about MP installation and configuration:

- Number of MPs required for adequate WLAN capacity in each coverage area
- Detailed installation location for each MP
- Settings for all MPs in the WLAN

MX Recommendation

Trapeze Networks recommends that you install and configure the MX before installing an MP. If the MX is already installed and configured for the MP, you can immediately verify the cable connection(s) when you plug the cable(s) into the MP .



An Indoor MP is designed to receive power only from an 802.3af-compliant source, a Trapeze Networks Mobility Exchange (MX), or a Trapeze-approved power injector. Connecting an MP to a Power over Ethernet (PoE) device that is not approved by Trapeze Networks can damage the equipment.

(For information about connecting an MP to an MX port, see [“Connecting an MP to an MX” on page 2-22.](#))

Wall Installation Recommendations

If you plan to install an MP on a partial wall or other vertical surface, orient the top of the MP (the side with the LEDs) toward the intended coverage area. The radio antennas transmit through the top of the MP but not through the bottom, where the bracket is located.

This recommendation does not apply if you plan to use external antennas. You can orient the antennas independently of the MP. Orient an external antenna to face the intended coverage area.

MP Radio Safety Advisories

When you enable the MP radio(s) as part of MX configuration, the radios can receive and transmit radio frequency energy as soon as you connect the MP to the MX, either directly or through the network.

Radio Frequency Exposure

Federal Communications Commission (FCC) Docket 96-8 for Spread Spectrum Transmitters specifies a safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC-certified equipment. When used with the proper antennas (shipped in the product), Trapeze Networks MPs meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1-1991. Proper installation of the MP according to the instructions in this manual will result in user exposure that is below the FCC recommended limits.

Additional Radio Safety Advisories

(For translations of warnings, see *Trapeze Regulatory Information*.)



In the U.S., locate the MP and any externally attached antennas a minimum of 7.9 inches (20 cm) away from people. This safety warning conforms with FCC radio frequency exposure limits for dipole antennas such as those used in the MP.



Do not operate the MP near unshielded blasting caps or in an otherwise explosive environment unless the device has been modified for such use by qualified personnel.

Before using a wireless device in a hazardous location, consult the local codes, national codes, and safety directors of the location for usage constraints



Do not touch or move the MP when the antennas are transmitting or receiving.

Do not hold any radio device so that the antenna is very close to or touching the face, eyes, or other exposed body part while the radio antenna is transmitting.

Cable Requirements



Do not connect or disconnect cables or otherwise work with the MP hardware during periods of lightning activity.



The MP is intended for indoor use only. Do not install the device outdoors, unless you install it with a Trapeze Networks outdoor MP enclosure.



To reduce the possibility of connection interference caused by dust, clean the Cat 5 connector pins before inserting a cable into an MP.

Category 5 cable with straight-through signaling must be installed at the site before you install an MP. A single connection requires one cable. A dual-homed connection requires two cables.

Mounting an MP on a solid surface requires Cat 5 cable that does not have strain relief. For installation on all other surfaces, you can use Cat 5 cable with or without strain relief.

Installing an Indoor MP

To install an Indoor MP, use one of the procedures in this section.

Installation Hardware and Tools

Table 2– 1 lists the mounting hardware and tools required for each type of installation.

Table 2– 1. Required Mounting Hardware and Tools

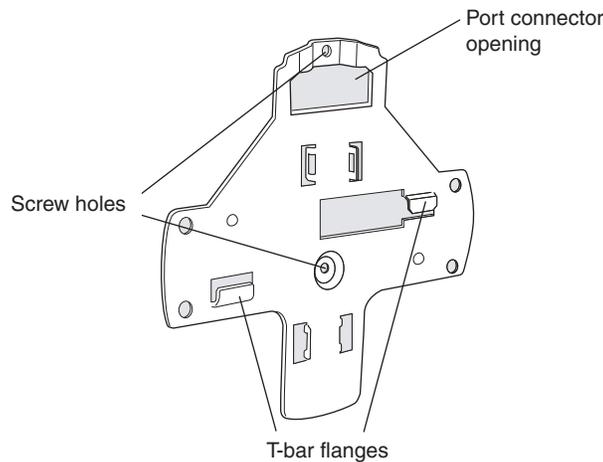
Mounting Option	Required Hardware and Tools	Included with the Product
Suspended ceiling—flush ceiling tiles	Mounting template	Yes
	Universal mounting bracket	Yes
	T-bar clamp — A T-bar clamp is not required for a 15/16-inch (23.9-mm) T-bar ceiling with flush ceiling tiles.	Yes
	Box cutter	No
	Small screwdriver (1/8-inch or 3-mm)	No
	small-pointed instrument or a paperclip	No
Suspended ceiling—drop ceiling tiles	Mounting template	Yes
	Universal mounting bracket	Yes
	T-bar clamp	Yes
	Box cutter	No
	Small screwdriver (1/8-inch or 3-mm)	No
	small-pointed instrument or a paperclip	No
Junction box	Junction box	No
	Two #6-32 x 1-inch machine screws	Yes
	Universal mounting bracket	Yes
	Small screwdriver (1/8-inch or 3-mm)	No
	#2 Phillips-head screwdriver	No
	small-pointed instrument or a paperclip	No
Solid wall or ceiling	Two #6 sheet metal screws and two drywall anchors	Yes
	Universal mounting bracket	Yes
	Hammer	No
	Small screwdriver (1/8-inch or 3-mm)	No
	#2 Phillips-head screwdriver	No
	small-pointed instrument or a paperclip	No
Tabletop	Universal mounting bracket	Yes
	Three adhesive rubber feet	Yes
	Small screwdriver (1/8-inch or 3-mm)	No
	small-pointed instrument or a paperclip	No



Indoor MPs are UL2043 plenum rated, so it also can be installed in the space above the ceiling if preferred.

Figure 2-2 shows the universal mounting bracket.

Figure 2-2. Universal Mounting Bracket



Suspended Ceiling Installation—Flush Ceiling Tiles

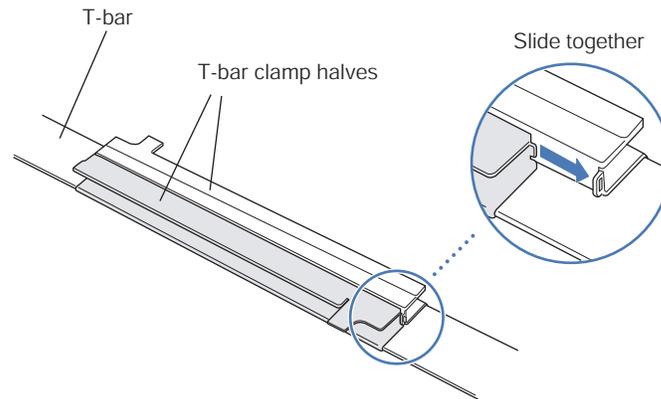
(For required mounting hardware and tools, see [Table 2- 1 on page 2-4.](#))

1. Select an installation location centered over a T-bar in the ceiling.
2. Cut a hole as follows in the ceiling tile for the Cat 5 cable(s):
 - a. Place the mounting template over the area where you plan to install the MP.
 - b. Use the box cutter to cut along the line marking the opening for the port connectors.
 - c. Remove the mounting template and the material you cut from the ceiling panel.
3. Determine whether to install a T-bar clamp onto the ceiling T-bar:
 - If the T-bar width is 9/16 inches (14.2 mm), you need to install the 9/16 inches (14.2-mm) T-bar clamp. Go to step 4.
 - If the T-bar width is 15/16 inches (23.9 mm), the universal mounting bracket fits directly onto the T-bar. Go to step 5.
4. Install the 9/16-inch (14.2-mm) T-bar clamp onto the ceiling T-bar as shown in [Figure 2-3.](#)
 - a. Slide each half of the clamp onto the T-bar so that the clamp lip is fully on the T-bar.
 - b. Slide the two halves of the clamp toward each other until the tabs are inserted completely into the holes and the clamp fits snugly on the T-bar.

Installing and Connecting an Indoor MP

Installing an Indoor MP

Figure 2-3. Step 4—Installing a T-bar Clamp

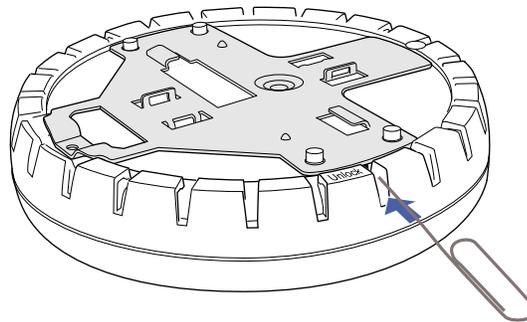


5. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in **Figure 2-4**.



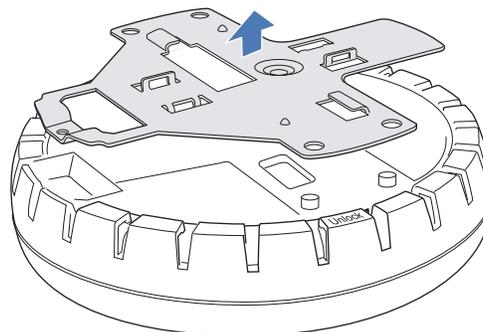
Use a small-pointed instrument or a paperclip to unlock the MP. Do not use a screwdriver because it may cause damage to the MP lock mechanism or electronic components. Do not use excessive force when inserting a tool into the **Unlock** or **Lock** hole.

Figure 2-4. Step 5—Unlocking the Bracket



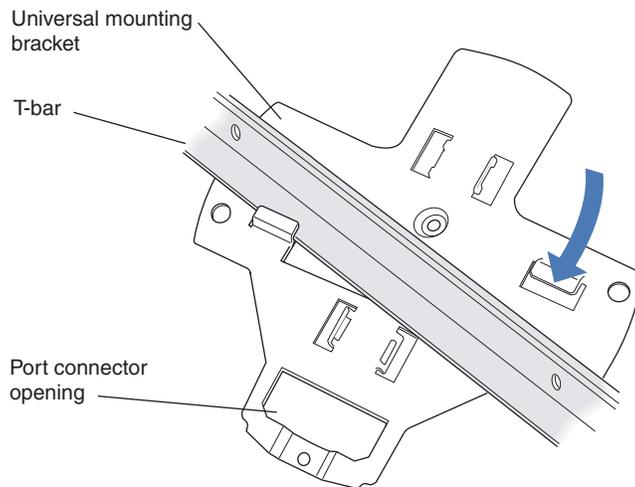
6. Remove the bracket as shown in **Figure 2-5**.

Figure 2-5. Step 6—Removing the Bracket



7. Install the universal mounting bracket as follows onto the T-bar or T-bar clamp:
 - a. As shown in **Figure 2-6**, place the universal mounting bracket against the T-bar or clamp so that the two screw holes face downward and the two T-bar flanges face upward and are adjacent to the T-bar edges.

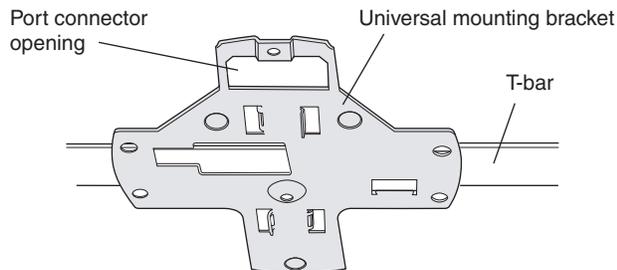
Figure 2-6. Step 7—Top View



(Viewed from above ceiling tiles, looking down.)

- b. Properly align the bracket for mounting by placing the bracket so the port connector opening is to the left of the hole you cut for the cables.
 - c. Rotate the universal mounting bracket clockwise until the flanges snap into place on the T-bar or clamp as shown in **Figure 2-7**.

Figure 2-7. Step 7—Bottom View



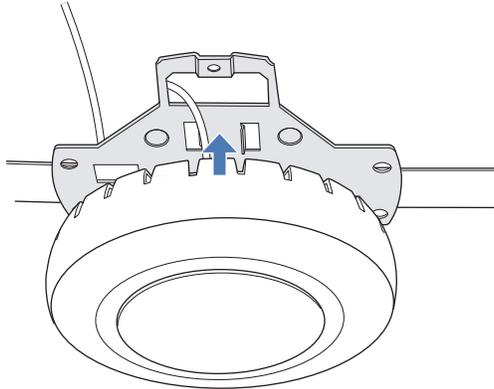
8. Pull the Cat 5 cable(s) about 6 inches (about 15 cm) out of the hole in the ceiling tile and through the port connector opening to create enough slack to insert the cable(s).
9. Insert the Cat 5 cable(s) into the connector(s):
 - For a single connection, use the connector for port 1.
 - For redundancy, insert one cable into each connector.
10. Install the Kensington lock, if you plan to use one.
 - a. Loop the Kensington lock cable around an object that cannot be moved or damaged by a person pulling on the cable.
 - b. Insert the key into the Kensington lock.
 - c. Insert the Kensington lock into the security slot on the MP.
 - d. Rotate the key right or left to secure the lock to the MP.

Installing and Connecting an Indoor MP

Installing an Indoor MP

- e. Pull on the lock to verify that it is secured to the MP.
 - f. Remove the key.
11. Lift the MP into place on the universal mounting bracket as shown in [Figure 2-8](#).
Make sure the cable feeds properly into the ceiling as you lift the device, and does not become trapped between the MP and the bracket.

Figure 2-8. Step 10—Placing the MP on the Bracket

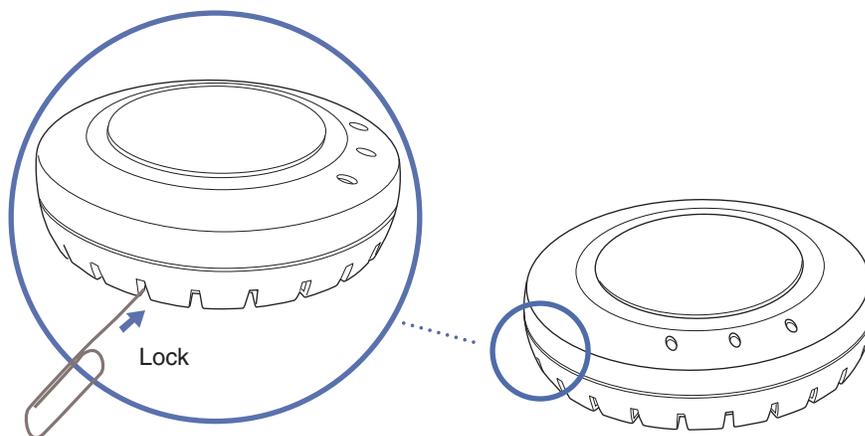


12. Lock the MP onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in [Figure 2-9](#).



To prevent possible damage to the MP, make sure the device is fully locked onto the bracket before releasing it.

Figure 2-9. Step 11—Locking the Bracket



13. To ensure that the MP is fully locked onto the bracket, gently pull down on the MP and attempt to rotate it from side to side.
14. If the MP comes off the bracket, relock the device onto the bracket as described in step 12 on page 8.
15. If the MP requires an external antenna, install and connect the antenna. (See [“Connecting an MP to an External Antenna” on page 2-21.](#))

16. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, go to **“Connecting an MP to an MX” on page 2-22**. Otherwise, go to “Verifying MP Health” on page 2-22.

Suspended Ceiling Installation—Drop Ceiling Tiles

(For required mounting hardware and tools, see **Table 2- 1 on page 2-4**.)

1. Select an installation location that is centered over a T-bar in the ceiling.
2. Cut a hole as follows in the ceiling tile for the Cat 5 cable(s):
 - a. Place the mounting template over the area where you plan to install the MP.
 - b. Use the box cutter to cut along the line marking the opening for the port connectors.
 - c. Remove the mounting template and the material you cut from the ceiling panel.
3. Install the T-bar clamp that fits the T-bar:
 - a. Slide each half of the clamp onto the T-bar so that the clamp lip is fully on the T-bar.
 - b. Slide the two halves of the clamp toward each other until the tabs are inserted completely into the holes and the clamp fits snugly on the T-bar.

Figure 2-10 shows an example for a 15/16-inch (23.9-mm) T-bar. **Figure 2-11** shows an example for a 5/8-inch (15.9-mm) T-bar.

Figure 2-10. Step 3—Installing the T-bar Clamp for a 15/16-inch (23.9-mm) T-bar

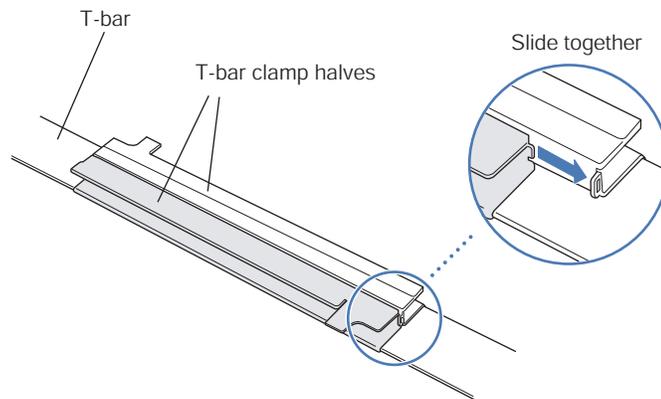
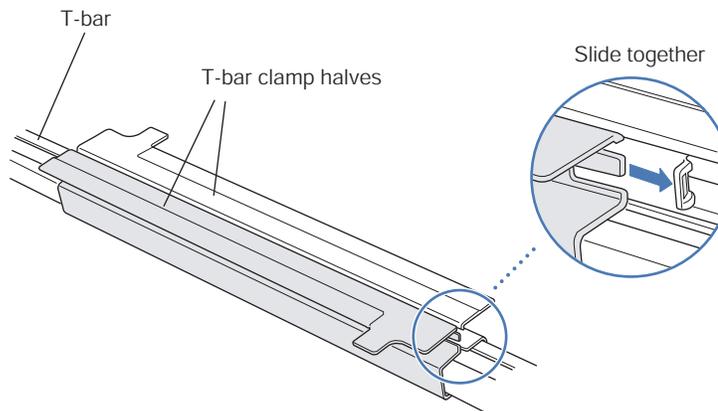


Figure 2-11. Step 3—Installing the T-bar Clamp for a 5/8-inch (15.9-mm) T-bar



Installing and Connecting an Indoor MP

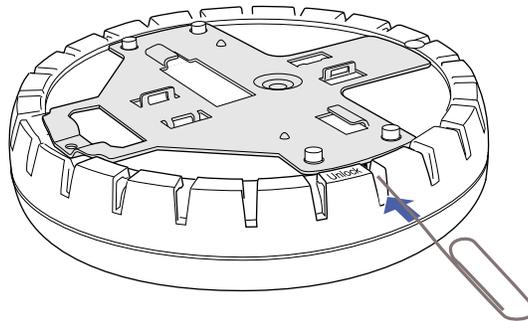
Installing an Indoor MP

4. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in [Figure 2-12](#).



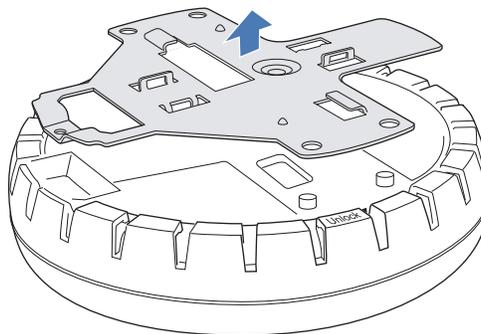
Use a small-pointed instrument or a paperclip to unlock the MP. Do not use a screwdriver because it may cause damage to the MP lock mechanism or electronic components. Do not use excessive force when inserting a tool into the **Unlock** or **Lock** hole.

Figure 2-12. Step 4—Unlocking the Bracket



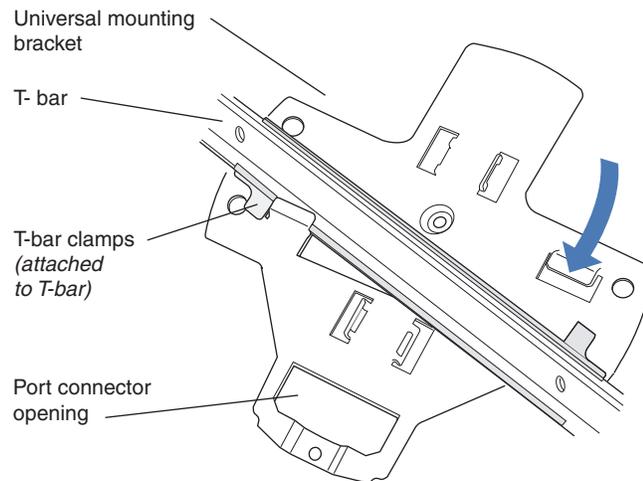
5. Remove the bracket as shown in [Figure 2-13](#).

Figure 2-13. Step 5—Removing the Bracket



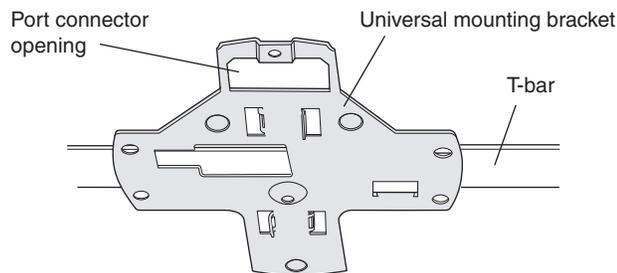
6. Install the universal mounting bracket as follows onto the T-bar clamp:
 - a. As shown in [Figure 2-14](#), place the universal mounting bracket against the T-bar clamp so that the two screw holes face downward and the two T-bar flanges face upward and are adjacent to the T-bar edges.
 - b. Properly align the bracket for mounting by placing the bracket so that the port connector opening is to the left of the hole you cut for the cables.
 - c. Rotate the universal mounting bracket clockwise until the flanges snap into place on the T-bar clamp as shown in [Figure 2-15](#).

Figure 2-14. Step 6—Top View



(Viewed from above ceiling tiles, looking down.)

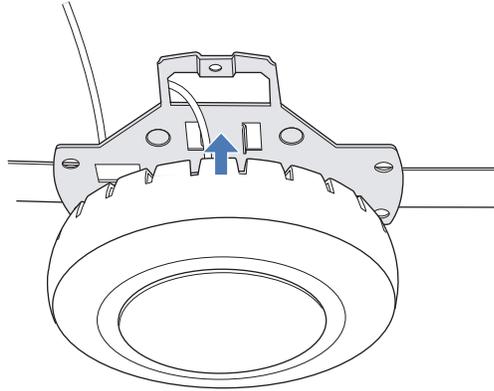
Figure 2-15. Step 6—Bottom View



7. Pull the Cat 5 cable(s) about 6 inches (about 15 cm) out of the hole in the ceiling tile and through the port connector opening to create enough slack to insert the cable(s).
8. Insert the Cat 5 cable(s) into the connector(s):
 - For a single connection, use the connector for port 1.
 - For redundancy, insert one cable into each connector.
9. Install the Kensington lock, if you plan to use one.
 - a. Loop the Kensington lock cable around an object that cannot be moved or damaged by a person pulling on the cable.
 - b. Insert the key into the Kensington lock.
 - c. Insert the Kensington lock into the security slot on the MP.
 - d. Rotate the key right or left to secure the lock to the MP.
 - e. Pull on the lock to verify that it is secured to the MP.
 - f. Remove the key.
10. Lift the MP into place on the universal mounting bracket as shown in [Figure 2-16](#).

Make sure the cable feeds properly into the ceiling as you lift the device, and does not become trapped between the MP and the bracket.

Figure 2-16. Step 9—Placing the MP on the Bracket

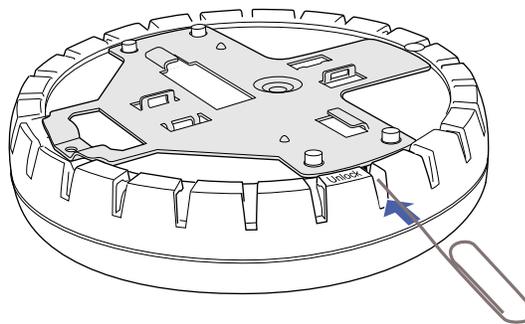


11. Lock the MP onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in [Figure 2-17](#).



To prevent possible damage to the MP, make sure the device is fully locked onto the bracket before releasing it.

Figure 2-17. Step 10—Locking the Bracket



12. To ensure that the MP is fully locked onto the bracket, gently pull down on the MP and attempt to rotate it from side to side.
If the MP comes off the bracket, relock the device onto the bracket as described in step 11 on page 12.
13. If the MP requires an external antenna, install and connect the antenna. (See [“Connecting an MP to an External Antenna” on page 2-21](#).)
14. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, go to [“Connecting an MP to an MX” on page 2-22](#). Otherwise, go to “Verifying MP Health” on page 2-22.

Junction Box Installation

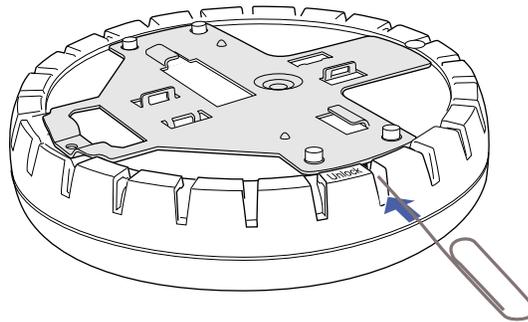
(For required mounting hardware and tools, see [Table 2- 1 on page 2-4](#).)

1. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in [Figure 2-18](#).



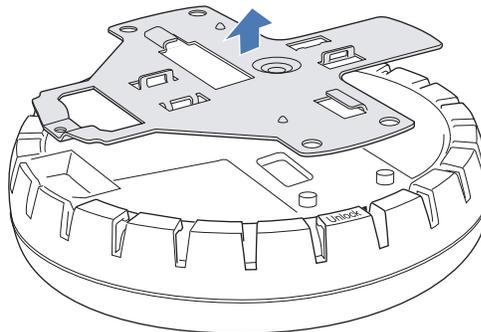
Use a small-pointed instrument or a paperclip to unlock the MP. Do not use a screwdriver because it may cause damage to the MP lock mechanism or electronic components. Do not use excessive force when inserting a tool into the **Unlock** or **Lock** hole.

Figure 2-18. Step 1—Unlocking the Bracket



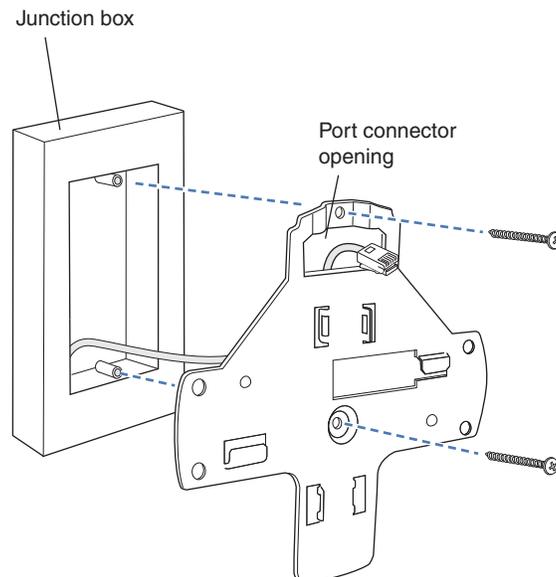
2. Remove the bracket as shown in [Figure 2-19](#).

Figure 2-19. Step 2—Removing the Bracket



3. Attach the universal mounting bracket to the junction box as shown in [Figure 2-20](#):
 - a. Place the universal mounting bracket against the junction box so that the two screw holes face the junction box and align over the screw holes in the box.
 - b. Insert the #6-32 x 1-inch machine screws in the universal mounting bracket screw holes, and use a #2 Phillips-head screwdriver to tighten them.

Figure 2–20. Step 3—Placing the Bracket on the Junction Box



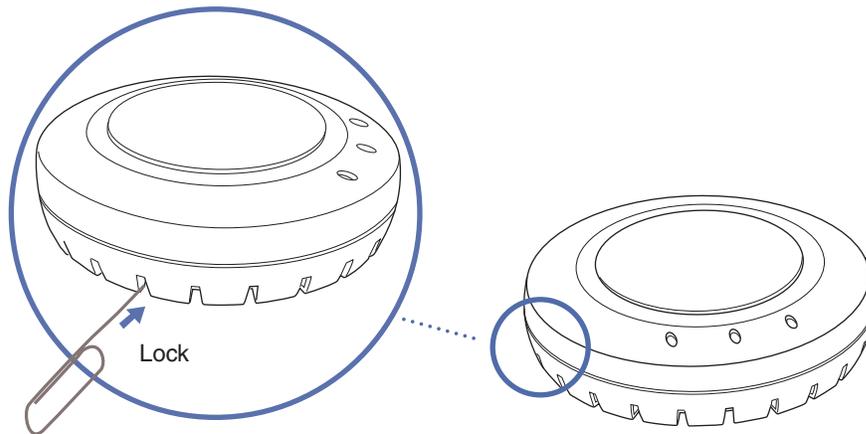
4. Pull the Cat 5 cable(s) about 6 inches (about 15 cm) out of the junction box and through the port connector opening to create enough slack to insert the cable(s) into the port connectors.
5. Insert the Cat 5 cable(s) into the connector(s):
 - ❑ For a single connection, use the connector for port 1.
 - ❑ For redundancy, insert one cable into each connector.
6. Install the Kensington lock, if you plan to use one.
 - a. Loop the Kensington lock cable around an object that cannot be moved or damaged by a person pulling on the cable.
 - b. Insert the key into the Kensington lock.
 - c. Insert the Kensington lock into the security slot on the MP.
 - d. Rotate the key right or left to secure the lock to the MP.
 - e. Pull on the lock to verify that it is secured to the MP.
 - f. Remove the key.
7. Lift the MP into place on the universal mounting bracket.

Make sure the cable feeds properly into the junction box as you lift the device, and does not become trapped between the MP and the bracket.
8. Lock the MP onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in [Figure 2–21](#).



To prevent possible damage to the MP, make sure the device is fully locked onto the bracket before releasing it.

Figure 2-21. Step 7—Locking the Bracket



9. To ensure that the MP is fully locked onto the bracket, gently pull down on the MP and attempt to rotate it from side to side.
If the MP comes off the bracket, relock the device onto the bracket as described in step 8.
10. If the MP requires an external antenna, install and connect the antenna. (See [“Connecting an MP to an External Antenna” on page 2-21.](#))
11. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, go to [“Connecting an MP to an MX” on page 2-22.](#) Otherwise, go to “Verifying MP Health” on page 2-22.

Solid Wall or Ceiling Installation



The solid surface mounting option requires Cat 5 cable that does not have strain relief, unless you plan to route the cable through a hole in the wall or ceiling. The other options can use Cat 5 cable with or without strain relief.

(For required mounting hardware and tools, see [Table 2- 1 on page 2-4.](#))

1. Prepare holes in the wall or ceiling for the universal mounting bracket, using the following steps:
 - a. Place the paper mounting template over the location to install the MP.
 - b. Mark the screw hole location(s).
 - c. If you plan to route the Cat 5 cable externally along the wall or ceiling, mark the locations of both the center screw hole and the screw hole by the port connector opening.
 - d. If you plan to route the Cat 5 cable through a hole in the wall or ceiling, mark the location of the center screw hole only. You cannot use the screw hole by the port connector opening if you cut a hole for the opening.



Do not mark the four holes on the edges of the bracket. (These are the holes indicated by the dashed lines in [Figure 2-24.](#)) The MP fits into these holes. They are not screw holes.

- e. Remove the template.

Installing and Connecting an Indoor MP

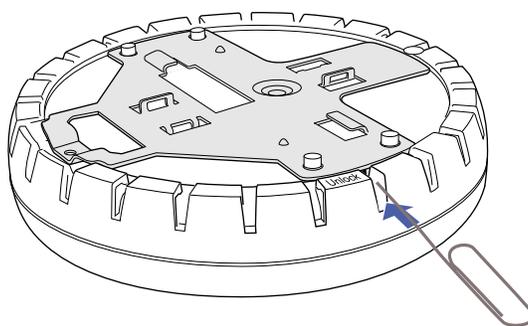
Installing an Indoor MP

2. Install the drywall anchor(s):
 - a. Hammer a drywall anchor into each hole, up to the beginning of the threads on the anchor.
 - b. Screw each anchor the rest of the way into the hole using a #2 Phillips-head screwdriver.
 - c. Remove the screw from each anchor and save the screw(s) for step 6.
3. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in [Figure 2-22](#).



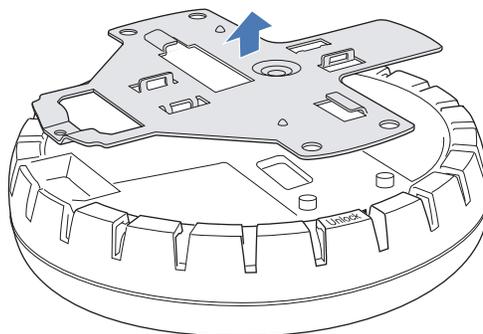
Use a small-pointed instrument or a paperclip to unlock the MP. Do not use a screwdriver because it may cause damage to the MP lock mechanism or electronic components. Do not use excessive force when inserting a tool into the **Unlock** or **Lock** hole.

Figure 2-22. Step 3—Unlocking the Bracket



4. Remove the bracket as shown in [Figure 2-23](#).

Figure 2-23. Step 4—Removing the Bracket



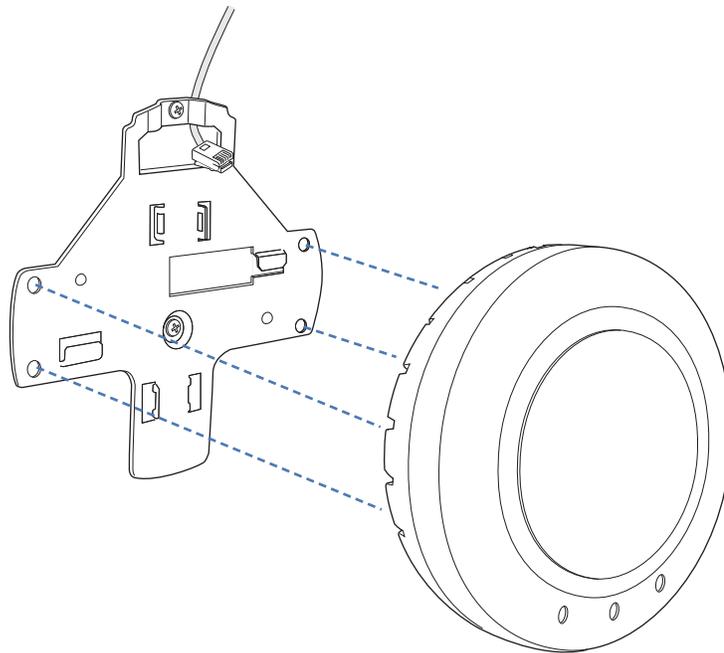
5. As shown in [Figure 2-24](#), feed the Cat 5 cable(s) through the port connector opening and align the universal mounting bracket over the drywall anchors so that the two screw holes in the bracket face the drywall anchors.
6. Insert the #6 sheet metal screws into the screw holes, and tighten them to secure the universal mounting bracket to the wall or ceiling.

(If you routed the Cat 5 cable through a hole in the wall or ceiling, insert the screw into the center screw hole only.)



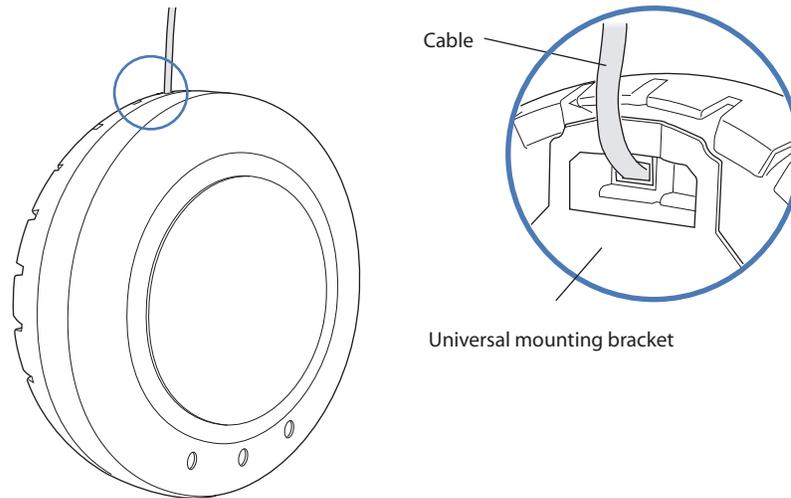
Do not insert screws in the four holes on the edges of the bracket. (These are the holes indicated by the dashed lines in [Figure 2-24](#).) The MP fits into these holes. They are not screw holes.

Figure 2-24. Steps 5 and 6—Bracket Placement on Solid Wall or Ceiling



7. Insert the Cat 5 cable(s) into the connector(s):
 - For a single connection, use the connector for port 1.
 - For redundancy, insert one cable into each connector.
8. Install the Kensington lock, if you plan to use one.
 - a. Loop the Kensington lock cable around an object that cannot be moved or damaged by a person pulling on the cable.
 - b. Insert the key into the Kensington lock.
 - c. Insert the Kensington lock into the security slot on the MP.
 - d. Rotate the key right or left to secure the lock to the MP.
 - e. Pull on the lock to verify that it is secured to the MP.
 - f. Remove the key.
9. As shown in [Figure 2-25](#), place the MP on the bracket, making sure to remove any slack that occurs in the cable between the bracket and the MP.

Figure 2-25. Step 8—Cable Placement

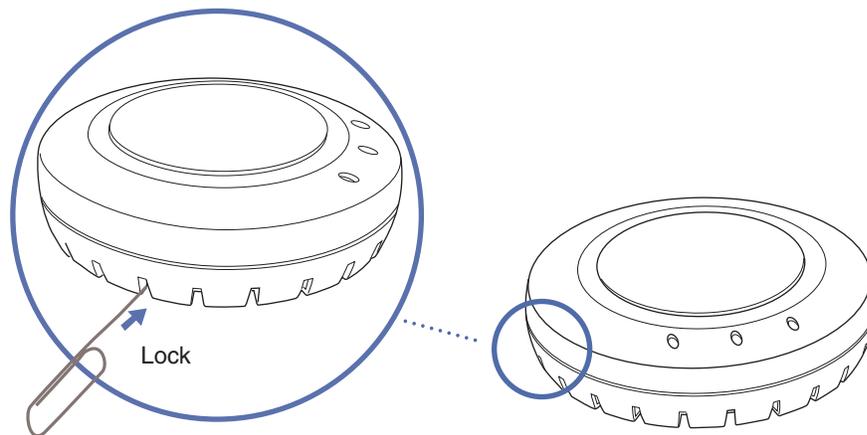


10. Lock the MP onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in [Figure 2-26](#).



To prevent possible damage to the MP, make sure the device is fully locked onto the bracket before releasing it.

Figure 2-26. Step 9—Locking the Bracket



11. To ensure that the MP is fully locked onto the bracket, gently pull on the MP and attempt to rotate it from side to side.
If the MP comes off the bracket, relock the device onto the bracket as described in step 10 on page 18.
12. If the MP requires an external antenna, install and connect the antenna. (See [“Connecting an MP to an External Antenna”](#) on page 2-21.)
13. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, go to [“Connecting an MP to an MX”](#) on page 2-22. Otherwise, go to “Verifying MP Health” on page 2-22.

Tabletop Installation

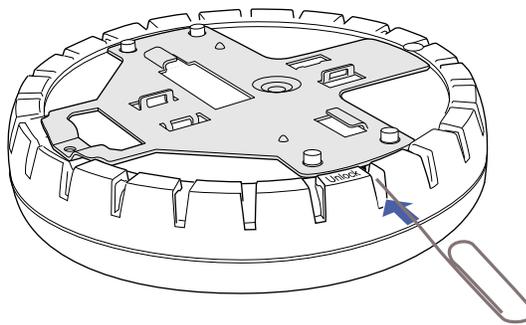
(For required mounting hardware and tools, see [Table 2- 1 on page 2-4](#).)

1. Reverse the universal mounting bracket:
 - a. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in [Figure 2-27](#).



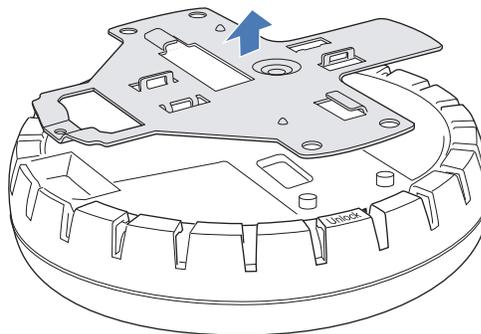
Use a small-pointed instrument or a paperclip to unlock the MP. Do not use a screwdriver because it may cause damage to the MP lock mechanism or electronic components. Do not use excessive force when inserting a tool into the **Unlock** or **Lock** hole.

Figure 2-27. Step 1a—Unlocking the Bracket



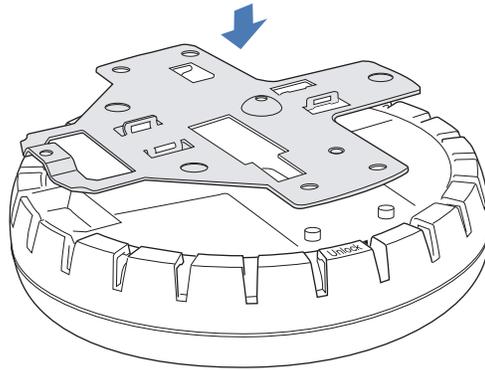
- b. Remove the bracket as shown in [Figure 2-28](#).

Figure 2-28. Step 1b—Removing the Bracket



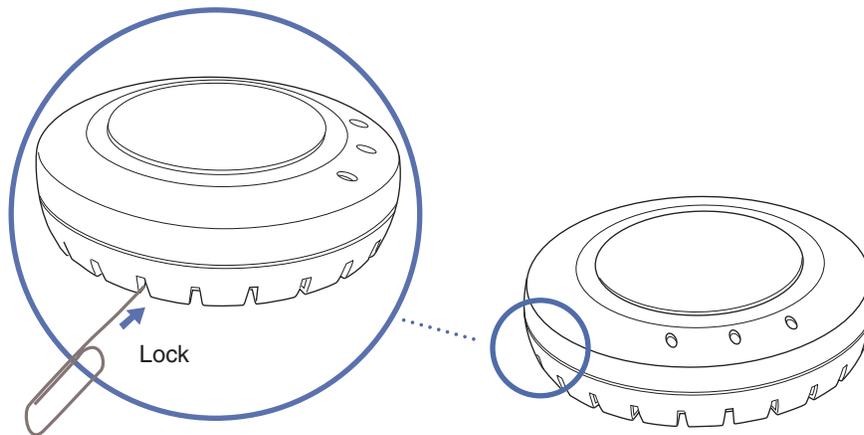
- c. Turn over the universal mounting bracket, then align the bracket over the cable ports and the four mounting posts as shown in [Figure 2-29](#).

Figure 2-29. Step 1c—Turning Over the Bracket



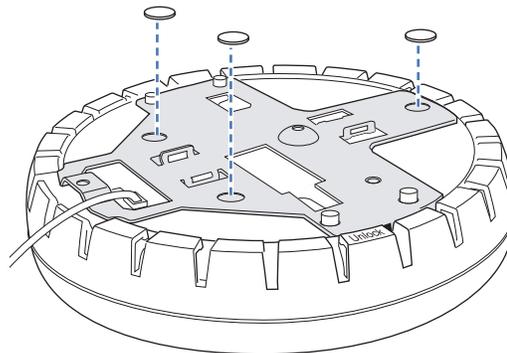
- d. Once the bracket is fully seated, lock the bracket onto the MP by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in [Figure 2-30](#).

Figure 2-30. Step 1d—Locking the Bracket



2. Attach the three rubber adhesive feet onto the universal mounting bracket, in the three location circles, as shown in [Figure 2-31](#).

Figure 2-31. Step 2—Installing the Rubber Feet



3. Insert the Cat 5 cable(s) into the connector(s):
 - For a single connection, use the connector for port 1.
 - For redundancy, insert one cable into each connector.
4. Install the Kensington lock, if you plan to use one.
 - a. Loop the Kensington lock cable around an object that cannot be moved or damaged by a person pulling on the cable.
 - b. Insert the key into the Kensington lock.
 - c. Insert the Kensington lock into the security slot on the MP.
 - d. Rotate the key right or left to secure the lock to the MP.
 - e. Pull on the lock to verify that it is secured to the MP.
 - f. Remove the key.
5. Place the MP in the desired location on the table.
6. If the MP requires an external antenna, install and connect the antenna. (See [“Connecting an MP to an External Antenna” on page 2-21.](#))
7. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, go to [“Connecting an MP to an MX” on page 2-22.](#) Otherwise, go to [“Verifying MP Health” on page 2-22.](#)

Connecting an MP to an External Antenna

Each radio in an Indoor MP can use an optional Trapeze external antenna. To mount the antenna, see the instructions that come with the antenna.



The external antenna must be installed at least 8 inches (20 cm) from the MP.

To connect a mounted external antenna to an MP:

1. Attach the exterior antenna cable that is shipped with the antenna to the MP external antenna connector.

Both connectors are labeled to indicate the radio type. The MP has standard SMA connectors for attachment to the 802.11b/g antenna and to the 802.11a antenna.

(For the location of the external antenna connectors, see [Figure 1-2 in Chapter 1.](#))



The external connectors on the MP are labeled: 11B/G and 11A. Each connector is a standard SMA connector. Make sure you attach the antenna to the correct connector.



If the MP is installed in a Trapeze Networks outdoor MP enclosure, attach the antenna cable to the lightning surge arrestor (if installed) or the SMA bulkhead connector on the enclosure.

2. Attach the other end of the antenna cable to the antenna.
3. If the other ends of the Cat 5 cable(s) are not already connected and the link activated, see [“Connecting an MP to an MX” on page 2-22.](#) Otherwise, go to [“Verifying MP Health” on page 2-22.](#)

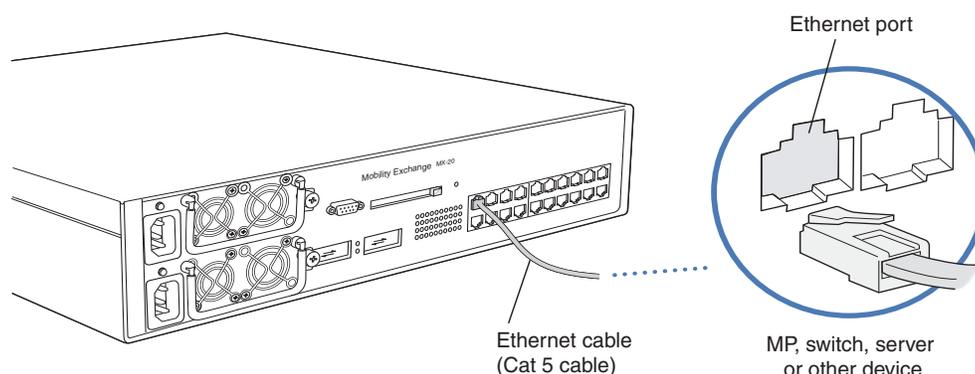
Connecting an MP to an MX

You can connect an MP directly to an MX or indirectly to the MX through an intermediate Layer 2 or Layer 3 network. If you are connecting the MP directly to an MX, use the following procedure to insert the cable into the MX and verify the link.

You can use the CLI or RingMaster to configure an MP connection. If you are installing the MP as a Mesh AP in a WLAN Mesh or wireless bridge configuration, you must configure the MP connection before deploying the MP in the final location. (See the *Trapeze Mobility System Software Configuration Guide* or the *Trapeze RingMaster Configuration Guide*.)

Figure 2–32 shows how to insert a Cat 5 cable into 10/100 Ethernet port on an MX. Refer to this figure as you perform the procedure.

Figure 2–32. 10/100 Cat 5 Cable Installation



1. Insert a Cat 5 cable with a standard RJ-45 connector as shown in **Figure 2–32**. For connection to an MP, use a straight-through cable.
2. When the link is activated, observe the MP LED for the port on the MX:

Verifying MP Health

After you install the MP and enable PoE on the Ethernet cable connected to the MP, you can easily verify the MP status by observing the LEDs, particularly the health LED. (See **Figure 1–6 in Chapter 1** “MP Overview.”)

The health or LINK LED indicates if the MP is ready for operation.

- If the LED is green and glowing steadily, the MP has been booted successfully by the MX and is ready for operation.
- If the LED is not steadily glowing green, contact the system administrator for the MX. (For more information on MP LEDs, see **Table 1– 2 in Chapter 1** “MP Overview.”)

MP Troubleshooting

After you insert a Cat 5 cable into an MP port connector and enable PoE on the cable, observe the device health or LINK LED to determine the status of the connection with the MX.

- If the LED is green and is glowing steadily, the MP has been booted successfully by the MX and is ready for operation.
- If the LED is not steadily glowing green, see **“Status LEDs” on page 1-6** of Chapter 1, “MP Overview.”)

MP Technical Specifications

This appendix lists the technical specifications for the Trapeze Networks Indoor MPs. **Table 3-1** lists the mechanical and compliance specifications. (For detailed compliance information, see the *Trapeze Regulatory Information* document.) **Table 3-2**, **Table 3-3**, and **Table 3-4** list the radio specifications. **Table 3-5** lists the MAC address allocation scheme.

(For specifications for the MX, see the *Trapeze Mobility Exchange Installation and Basic Configuration Guide*.)



This Listed Accessory is designed and approved to be used only with Trapeze Networks Mobility Exchange (MX) models MX-216, MX-20, MX-8, and MXR-2. (The MX-400, MX-2800, and MX-200s do not directly connect to the MP.)



The MP radios are disabled by default and can be enabled only by the system administrator using the RingMaster management application or the MX's command-line interface (CLI).



The radio frequency band, operating channels, and transmit power depend on the country of operation specified by the system administrator using RingMaster or the MX CLI.

802.11 a/b/g/n Features

- ❑ High performance 11 Mbps (802.11b) or 54Mbps (802.11a/g) or 300Mbps(802.11n) data rate
- ❑ Wi-Fi, WPA certificated interoperability
- ❑ WPA/WPA2 with PSK/802.1x with TKIP/AES
- ❑ 40-bit and 128-bit WEP
- ❑ Seamless roaming within the IEEE 802.11 a/b/g/n WLAN infrastructure.
- ❑ Adjustable output power support
- ❑ Interoperability with Trapeze Wireless Security Switch
- ❑ Dual auto-sensing 10/100/1000 Ethernet port, configured as MDI.
- ❑ Comply with IEEE 802.3, 802.3u and 802.3ab
- ❑ Support auto MDI/MDI-X
- ❑ PowerDsine(Microsemi) GigE PoE injector support
- ❑ 802.3af PoE compatability

Table 3– 1. MP Mechanical and Compliance Specifications

Specification	Description
Size (MP-432)	Diameter: 8.11 inches (20.59 cm) Height: 3.23 inches (8.2 cm)
Size (MP-422)	Diameter: 6.75 inches (17.14 cm) Height: 2.25 inches (5.71 cm)
Size (MP-372 and MP-371)	Diameter: 6.6 inches (16.76 cm) Height: 1.85 inches (4.69 cm)
Weight (MP-432)	Without mounting bracket: 25.76 ounces (0.73 kg) With mounting bracket: 28.96 ounces (0.82 kg)
Weight (MP-422)	Without mounting bracket: 12.5 ounces (0.35 kg) With mounting bracket: 14 ounces (0.5 kg)
Weight (MP-372 and MP-371)	Without mounting bracket: 16 ounces (0.45 kg) With mounting bracket: 17.5 ounces (0.40 kg)
Operating Temperature	32° F to 122° F (0° C to +50° C)
Storage Temperature	-4° F to +158° F (-20° C to +70° C)
Humidity	10% to 95% noncondensing
MTBF	5.7 years
RoHs	Directive 2003/96/EC China RoHS
Power over Ethernet (PoE)	44 VDC to 57 VDC (48 VDC nominal) IEEE 802.3af (MP-432, MP-422, MP-372, MMP-371, MP-341, MP-352, and MP-52)
Status indicators	Health/MX and radio LEDs (For descriptions of the LEDs, see “Status LEDs” on page 6.)
Wired network ports	Wired network ports Two RJ-45 ports for 10/100/1000BASE-T Ethernet and Power over Ethernet (PoE)
Standards compliance	IEEE 802.11 IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.3af IEEE 802.11e IEEE 802.11i
Safety, electromagnetic, and radio compliance	FCC Part 15, UL 60950-1 CSA 22.2 N0-950, RSS-139-1 and RSS-210, CSA 60950-1 ETS 300 328 (2.4 GHz) and 301 893 (5 GHz), EN 301 489-1, EN 301 489-17, EN 60601-1-2, EN 50371, EN 50392, EN 50385 R&TTE Directive 1999/5/EC TELECOM ARAB T66 GBT-15941-1995, GBT-16841-1997 LP0002
Encryption	Wi-Fi Protected Access (WPA/WPA2) Advanced Encryption Standard (AES) 40-bit/104-bit Wired-Equivalent Privacy (WEP)
General	Power-save mode supported Transmit power control in 1 dBm increments Supports up to 250 clients per radio Supports Dynamic Frequency Selection

Table 3– 2. 802.11a/n Radio Specifications (MP-372, MP-371, MP-422 and MP-432)

Specification	Description
Antenna type	Integrated diversity omnidirectional External Omni sectorized or directional (optional) (MP-432) Internal 3 * 3 Multiple Input Multiple Output(MIMO)
Antenna gain	Internal: 5 dBi (MP-422) Internal: 3 dBi (MP-372 and MP-371, MP-432) External (Except MP-432): <ul style="list-style-type: none"> ❑ ANT-5060—14.5 dBi ❑ ANT-5120—12.5 dBi ❑ ANT-5180—10.8 dBi ❑ ANT-7360—8 dBi ❑ ANT-7360-OUT—8 dBi
Frequency band	5.15 GHz to 5.85 GHz based on country regulations
Operating channels	Based on the country of operation specified by the system administrator
Association rates	802.11n rates: MCS 0 to MCS 15 802.11a rates: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps, with automatic fallback
Modulation	Orthogonal frequency division multiplexing (OFDM)
Transmit power	Based on the country of operation specified by the system administrator

Table 3– 3. 802.11b Radio Specifications (MP-372, MP-373, MP422, and MP-432)

Specification	Description
Antenna type	Integrated diversity omnidirectional External sectorized or directional (optional) (MP-432) Internal 3 * 3 Multiple Input Multiple Output (MIMO)
Antenna gain	Internal: 3 dBi Internal: 4 dBi (MP-432) External (Except MP-432): <ul style="list-style-type: none"> ❑ ANT-1060—greater than 10 dBi ❑ ANT-1120—7 dBi or more ❑ ANT-1180—6 dBi or more ❑ ANT-7360—6 dBi ❑ ANT-7360-OUT—6 dBi
Frequency band	2.4 GHz to 2.4835 GHz based on country regulations
Operating channels	Based on the country of operation specified by the system administrator
Association rates	11 Mbps, 5.5 Mbps, 2 Mbps, and 1 Mbps, with automatic fallback
Modulation	Direct-sequence spread-spectrum (DSSS)
Transmit power	Based on the country of operation specified by the system administrator

Table 3– 4. 802.11g/n Radio Specifications (MP-372, MP-371, MP-422, and MP-432)

Specification	Description
Antenna type	Integrated diversity omnidirectional External sectorized or directional (optional) (MP-432) Internal 3 * 3 Multiple Input Multiple Output (MIMO)
Antenna gain	Internal: 3 dBi (Except MP-432) Internal: 4 dBi (MP-432) External (Except MP-432): <input type="checkbox"/> ANT-1060—greater than 10 dBi <input type="checkbox"/> ANT-1120—7 dBi or more <input type="checkbox"/> ANT-1180—6 dBi or more <input type="checkbox"/> ANT-7360—6 dBi <input type="checkbox"/> ANT-7360-OUT—6 dBi
Frequency band	2.4 GHz to 2.4835 GHz based on country regulations
Operating channels	Based on the country of operation specified by the system administrator
Association rates	802.11n rates: MCS 0 to MCS 15 802.11g rates: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, and 6 Mbps, with automatic fallback
Modulation	Orthogonal frequency division multiplexing (OFDM)
Transmit power	Based on the country of operation specified by the system administrator

MAC Addresses

Each MP is assigned a unique block of 64 MAC addresses. Each radio has 32 MAC addresses and can therefore support up to 32 SSIDs, with one MAC address assigned to each SSID as a BSSID.

The MP MAC address block is listed on a label on the back of the MP. If the MP is already deployed and running on the network, you can display the MAC address assignments by using the **show ap status** command.

All MAC addresses for an MP are assigned based on the base MAC address of the MP, as described in [Table 3– 5](#).

Table 3– 5. MAC Address Allocations on MPs

MP base MAC Address	<input type="checkbox"/> The MP has a base MAC address. All the other addresses are assigned based on this address.
Ethernet Port MAC Addresses	<input type="checkbox"/> Ethernet port 1 equals the MP base MAC address. <input type="checkbox"/> Ethernet port 2 equals the MP base MAC address + 1.
5Ghz Radio and SSID MAC Addresses	<input type="checkbox"/> The 5Ghz radio equals the MP base MAC address + 1. <input type="checkbox"/> The BSSIDs for the SSIDs configured on the 5Ghz radio end in odd numbers. The first BSSID is equal to the MP's base MAC address + 1. The next BSSID is equal to the MP's base MAC address + 3, and so on.
2.4Ghz Radio and SSID MAC Addresses	<input type="checkbox"/> The 2.4Ghz radio equals the MP base MAC address. <input type="checkbox"/> The BSSIDs for the SSIDs configured on the 2.4Ghz radio end in even numbers. The first BSSID is equal to the MP base MAC address. The next BSSID is equal to the MP base MAC address + 2, and so on.



Regulatory Information



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Trapeze Networks™ Regulatory Information

This document contains important safety information. Read all the safety warnings before you begin installation.



Not all information applies to all products.

Hardware Safety Symbols

Trapeze Networks Mobility System™ products are labeled with one or more of the following safety symbols:



Warning! High voltage.

Warnung! Hochspannung.

Avertissement ! Haute tension.

Attenzione! Alta tensione.

¡Advertencia! Alta tensión.

Advertência! Alta tensão.

Varning! Hög spänning.

Advarsel! Højspænding.

Advarsel! Høyspenning.

Pas op! Hoogspanning.

Viðvörðun! Háspenna.

Προσοχή! Υψηλή τάση.

경고! 고압 제품.

警告! 高压

警告! 高电压。

警告! 高電壓。

Осторожно! Высокое напряжение.

הרהזא! הובג חתמ.

تحذير! الفولطية مرتفعة.