Indoor Mobility Point™ Quick Start Guide

This document provides basic hardware installation instructions for indoor MP access point models.

Warning! 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 rest of this document.

Waarschuwing! De installatie mag alleen worden uitgevoerd door bevoegd onderhoudspersoneel. Het is essentieel dat u kennis neemt van alle waarschuwingen en instructies aangebracht op het product zelf en/of opgenomen in de documentatie. Voordat u het product installeert, dient u dit document in zijn geheel te hebben gelezen.

Warnung! Die Installation darf nur von qualifiziertem Servicepersonal vorgenommen werden. Lesen und befolgen Sie alle Warnhinweise und -anleitungen auf dem Produkt bzw. in der Dokumentation. Lesen Sie vor Installation des Produkts den restlichen Teil dieses Dokuments.

Avertissement! L'installation ne peut être effectuée que par un personnel qualifié. Lisez et suivez tous les messages d'avertissement et les instructions inscrits sur le produit ou inclus dans la documentation. Avant d'installer le produit, lisez le reste de ce document.

Attenzione! L'installazione deve essere effettuata unicamente da personale qualificato. Leggere e rispettare tutte le segnalazioni di attenzione e le istruzioni indicate sul prodotto o incluse nella documentazione. Prima d'installare il prodotto, leggere tutto il documento.

¡Advertencia! La instalación debe realizarse exclusivamente por parte de personal de servicio cualificado. Lea y siga todas las notas de advertencia e instrucciones en el producto o la documentación. Antes de instalar el producto deberá leer la parte restante del presente documento.

¡Advertencia! A instalação dever ser realizada exclusivamente por pessoal de serviço qualificado. Leia e siga todas as notas de advertência e instrucões no produto ou na documentação. Antes de instalar o produto deverá ler a parte restante do presente documento.

Varning! Installation får endast utföras av kvalificerad servicepersonal. Läs och följ alla varningsmeddelanden och instruktioner markerade på produkten eller inkluderade i dokumenteringen. Innan produkten installeras skall resten av dessa dokument läsas.

Advarsel! Installation må kun gennemføres af faglært servicepersonale. Læs, og følg alle de advarselsmeddelelser og anvisninger, der er anført på produktet eller i dokumentationen. Læs resten af dette dokument før installation af produktet.

Advarsel! Installasjon skal kun utføres av kvalifisert service personell. Les og følg alle varsels meldinger og instrukssjons merkinger på produktet og i veiledningen. Les resten av denne veiledningen før produktet installeres.

Varoitus! Installatie dient uitsluitend plaats te vinden door bevoegde monteurs. Lees alle waarschuwingen en instructies die op het product zijn aangegeven of in de documentatie zijn opgenomen, en volg deze op. Lees voordat u het product installeert eerst de rest van dit document.

Viðvörun! Aðeins hæfir þjónustufulltrúar mega sinna uppsetningu tækjanna. Lesið og fylgið öllum viðvörunum og leiðbeiningum í þessum gögnum. Lesið restina af þessum gögnum fyrir uppsetningu.

Προσοχή! Η εγκατάσταση πρέπει να εκτελείται μόνο από εγκεκριμένο προσωπικό συντήρησης. Διαβάστε και ακολουθείστε όλες τις προειδοποιήσεις και οδηγίες που αναγράφονται στο προϊόν ή που περιλαμβάνονται στην τεκμηρίωση. Πριν προβείτε στην εγκατάσταση του προϊόντος, διαβάστε το υπόλοιπο έγγραφο.

경고! 공인 서비스 기사만 설치 작업을 수행할 수 있습니다. 제품에 표시되어 있거나 설명서에 포함된 모든 경고 문구 및 지침을 읽어 보시고 준수하십시오. 제품을 설치하기 전에 본 설명서를 전체적으로 읽어 보시기 바랍니다.

Warning! 設置は、資格を持ったサービス要員のみが行えます。
製品に付いているあるいはドキュメントに含まれている全ての警告注意を
読み、それに従ってください。製品を設置する前に、本ドキュメントの残りをお読みください。

警告！安装工作只能由合格服务人员进行。
请阅读且遵照所有在产品上或者在文件内标记的警告通知、说明。
在安装产品之前，请阅读这份文件的剩余部分。

警告！安裝工作只能由合格服務人員進行。
請閱讀且遵照所有在產品上或者在文件內標記的警告通知、說明。
在安裝產品之前，請閱讀這份文件的剩餘部分。

Внимание! Монтаж должен производить только квалифицированный обслуживающий персонал. Прочтите и выполняйте все предупредительные примечания и инструкции, нанесенные на изделие или включенные в документацию. Перед монтажом изделия прочтите данный документ до конца.

הרהזא ! דבלב דמסומ יאנכט ידי לע עצבתת הנקתהה.
תונמוסמה תוארוההו תורהזאה לכל םאתהב לעפו ארק
רצומה תנקתה ינפל ,ואולמב הז דמסמ ארק. דועיתב תועיפומ וא רצומה לע.

تحذير ! يجب أن يقوم بأعمال التركيب أفراد الصيانة المؤهلين دون غيرهم. اقرأ واتبع كافة الملاحظات والإرشادات التحذيرية الموضحة على المنتج أو المدرجة في الوثائق المصاحبة. اقرأ الأجزاء المتبقية من المستند قبل تركيب المنتج.

For more information about MP installation as well as safety and installation requirements, see the following:

Trapeze Indoor Mobility Point Installation Guide

Trapeze Regulatory Information- The Trapeze Regulatory Guide is located at:
http://www.trapezenetworks.com/support/contact_support/ and can be downloaded in PDF format.

Unpacking an MP

The shipping carton for an MP-432/422/372 access point contains the following items:

1. One MP access point
2. Mounting kit:

   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
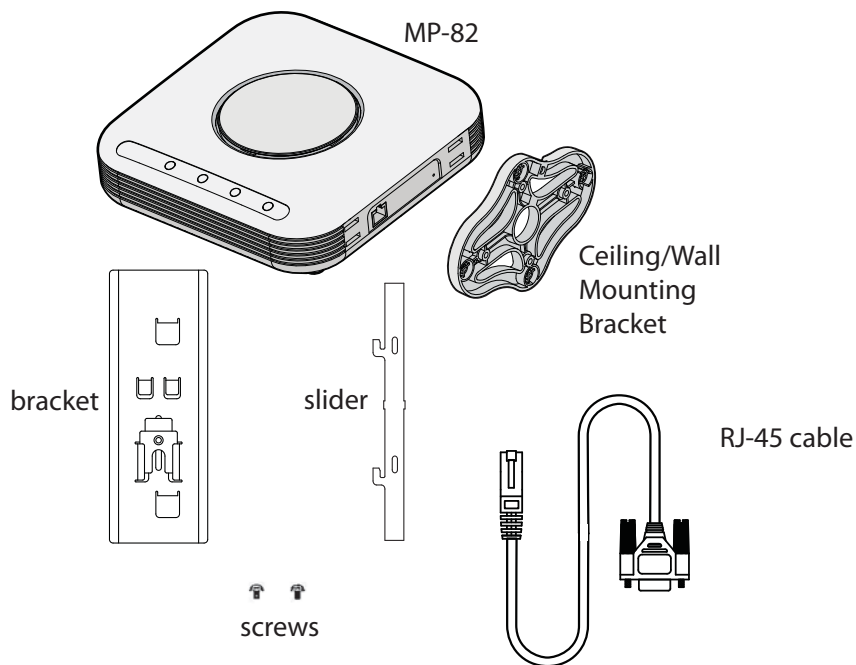3. One documentation pack that includes quick mounting instructions (not shown).

> **Note:** The Trapeze Regulatory Guide is located at
> http://www.trapezenetworks.com/support/contact_support/ and can be downloaded in
> PDF format.

Figure 1–1. MP-422 Shipping Carton Contents

Mobility point

Mounting template

T-bar clamps

Rubber feet

Mounting hardware

Universal
mounting bracket
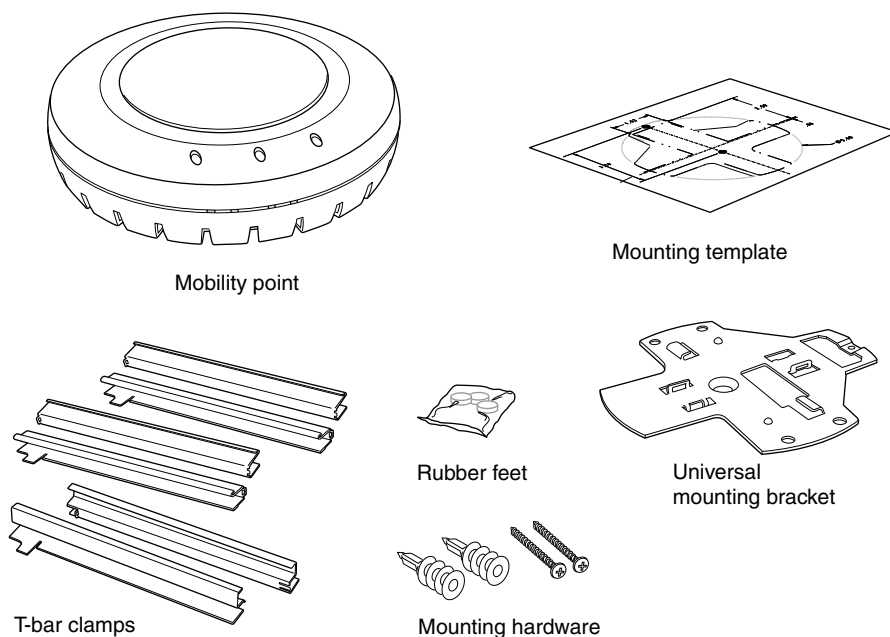
MP-82 Package Contents

The shipping carton for an MP-82 contains the following items:

1. One MP-82
2. Mounting kit including:
    One slider
    Two screws
    One bracket
3. One RJ-45 cable
4. Installation manual

> **Note:** The Trapeze Regulatory Guide is located at http://www.trapezenetworks.com/support/contact_support/ and can be downloaded in PDF format.

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 MP access points. A network plan and the MP work orders generated from it provide the following information about MP access point 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

(For information about installing RingMaster, creating and verifying a network plan, and generating an MP work order, see the *Trapeze RingMaster User's Guide* and *Trapeze RingMaster Reference Manual*.)

MX Switch Recommendation

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

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

|	
Warning!	The MP-432 requires a high-power PoE in order to operate as a dual concurrent radio in 802.11n mode with two 10/100/1000 Ethernet ports. This is provided by a high-power, four wire solution or from two 802.3af PoE inputs on the two Ethernet ports as long as they use the same pair of wires. In High power mode, the power budget supports the full function of this AP. In order to work under the 802.3af limitation, the MP-432 is configured to a default lower power mode.

Wall Installation Recommendations

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

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.

Cabling Requirement

The Ethernet ports on an MP access point cannot accept a Cat 5 cable that has an uneven sheath such as the one shown in Figure 1–2. The RJ-45 connector on the cable will not seat properly in the receptacle on the MP. Use a Cat 5 cable with an even sheath instead.

Figure 1–2. Do Not Use a Cat 5 Cable with an Uneven Sheath

Uneven sheath
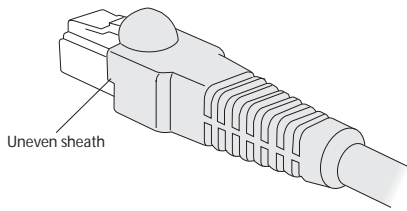
Installing an Indoor Mobility Point

To install an MP-432/422/372, use one of the procedures in this section.

Installation Hardware and Tools

Table 1– 1. Required Mounting Hardware and Tools—Model MP-422

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	Yes
	Note: A T-bar clamp is not required for a 15/16-inch (23.9-mm) T-bar ceiling with flush ceiling tiles.	
	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
	Small-pointed instrument or a paperclip	No
	#2 Phillips-head screwdriver	No

Table 1–1. Required Mounting Hardware and Tools—Model MP-422 (continued)

Mounting Option	Required Hardware and Tools	Included with the Product
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
	Small-pointed instrument or a paperclip	No
	#2 Phillips-head screwdriver	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

Note: The MP-422 and MP-432 models are UL2043 plenum rated, so they can also be installed in the space above the ceiling if preferred.

MP-82 Installation Hardware and Tools

Mouting Option	Required Hardware and Tools	Included with the Product
ceiling or wall	mounting template	yes
	small screwdriver	no
	bracket	yes
	slider	yes
	screws	yes

Figure 1–3. Universal Mounting Bracket
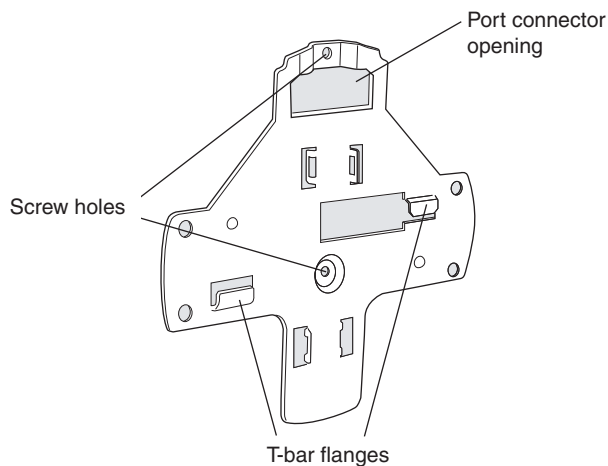
Suspended Ceiling Installation—Flush Ceiling Tiles

(For required mounting hardware and tools, see Table 1– 1 on page 8.)

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 access point.
   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-inch (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 1–4.
   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 1–4. Step 4—Installing a T-bar Clamp
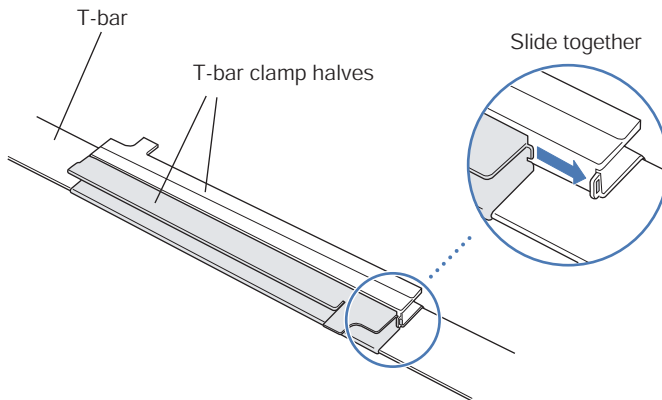
5. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in Figure 5.

> ⚠ **Caution** Use a small-pointed instrument or a paperclip to unlock the bracket. 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 1–5. Step 5—Unlocking the Bracket
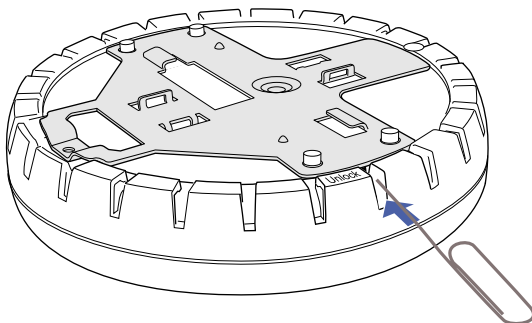
6. Remove the bracket as shown in Figure 1–6.

Figure 1–6. Step 6—Removing the Bracket
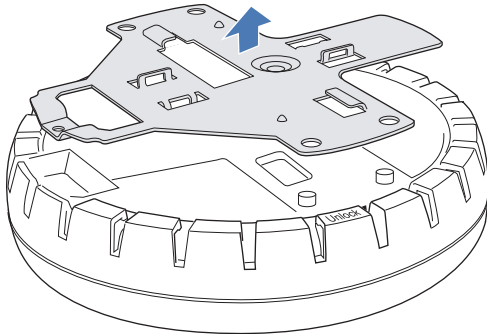
7. Install the universal mounting bracket as follows onto the T-bar or T-bar clamp:

   a. As shown in Figure 1–7, 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 1–7. Step 7—Top View
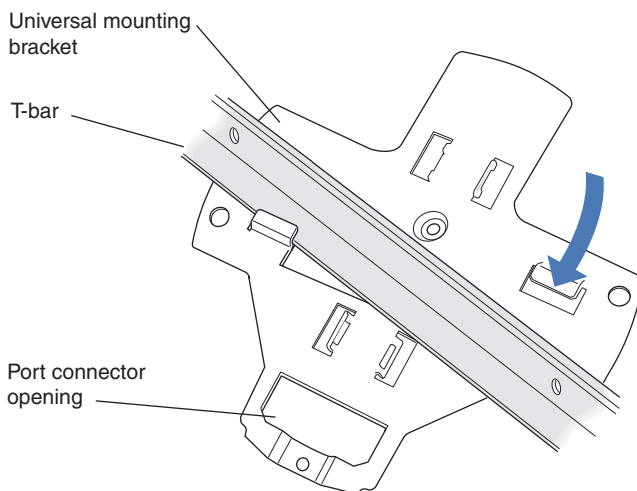
(Viewed from above ceiling tiles, looking down.)

   b. Properly align the bracket for mounting by placing the bracket so that its 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 1–8.

Figure 1–8. Step 7—Bottom View

Port connector opening — Universal mounting bracket — T-bar
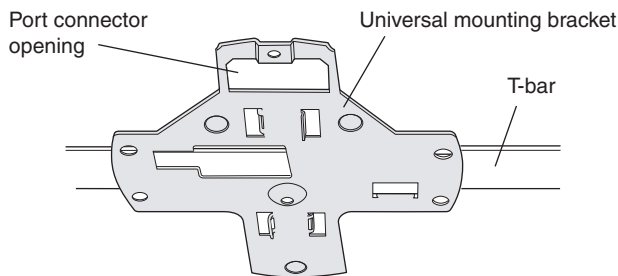
8. Pull the Cat 5 cable(s) about 6 inches (about 15 cm) out of the hole in the ceiling tile and through the port connector opening to create enough slack to insert the cable(s).

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.

    e. Pull on the lock to verify that it is secured to the MP.

    f. Remove the key.

11. Lift the MP access point into place on the universal mounting bracket as shown in Figure 1–9.

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

Figure 1–9. Step 10—Placing the MP Access Point on the Bracket
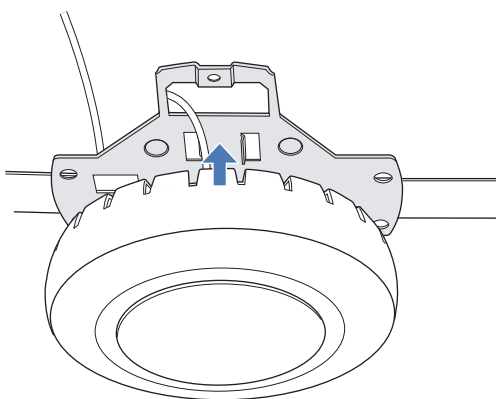
12. Lock the MP access point onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in Figure 1–10.

> ⚠️ **Caution**
>
> Use a small-pointed instrument or a paperclip to lock 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 1–10. Step 11—Locking the Bracket
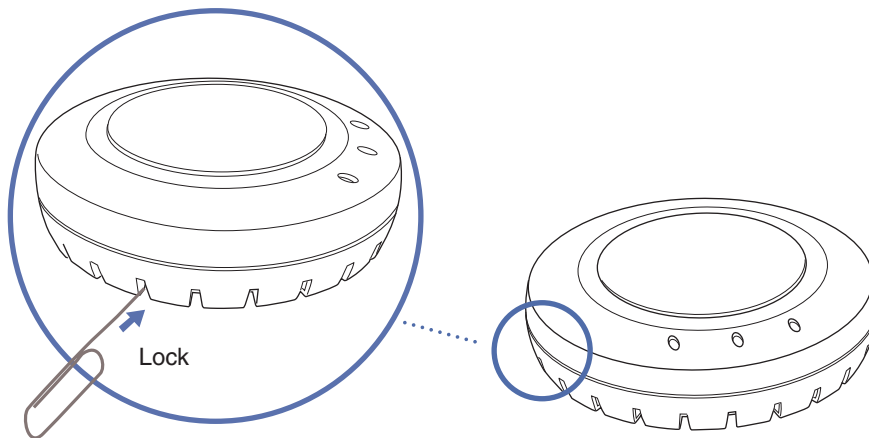
Lock

13. To ensure that the MP is fully locked onto the bracket, gently pull down on the access point and attempt to rotate it from side to side.
14. If the access point comes off the bracket, relock the device onto the bracket.
15. If the MP requires an external antenna, install and connect the antenna. (See "Connecting an MP to an External Antenna" .)

Suspended Ceiling Installation—Drop Ceiling Tiles

(For required mounting hardware and tools, see Table 1– 1 on page 8.)

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 access point.
   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 1–11 shows an example for a 15/16-inch (23.9-mm) T-bar. Figure 1–12 shows an example for a 5/8-inch (15.9-mm) T-bar.

Figure 1–11. Step 3—Installing the T-bar Clamp for a 15/16-inch (23.9-mm) T-bar
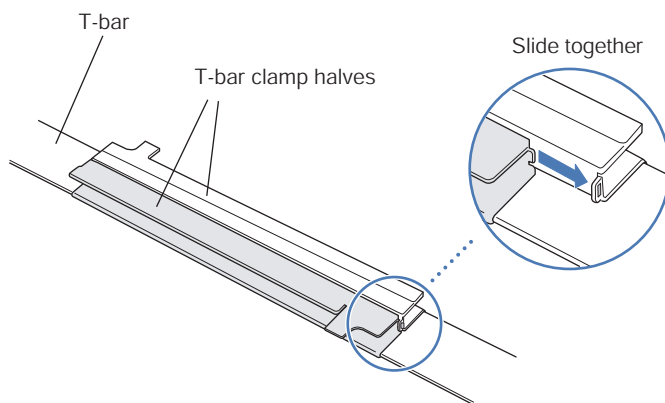
**Figure 1–12. Step 3—Installing the T-bar Clamp for a 5/8-inch (15.9-mm) T-bar**
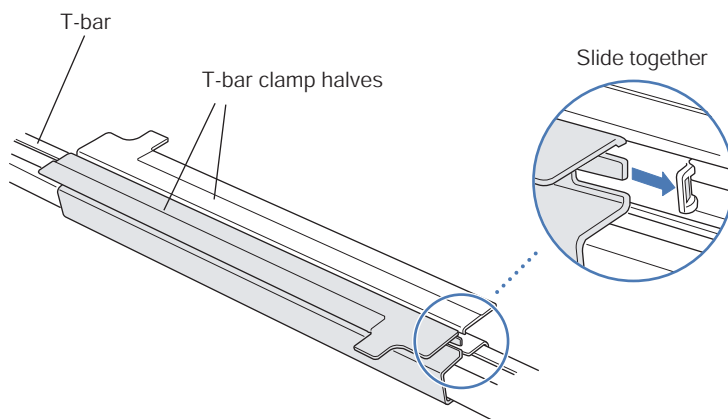
4. Unlock the universal mounting bracket from the MP by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in Figure 1–13.

> Use a small-pointed instrument or a paperclip to unlock the bracket. 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.

Caution

Figure 1–13. Step 4—Unlocking the Bracket
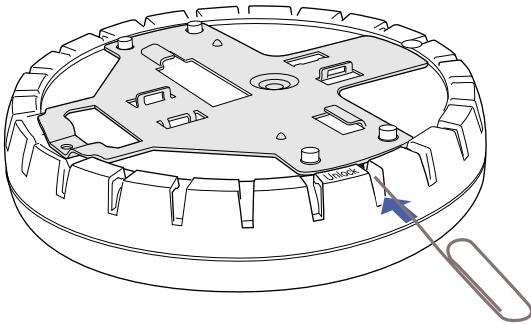
5. Remove the bracket as shown in Figure 1–14.

Figure 1–14. Step 5—Removing the Bracket
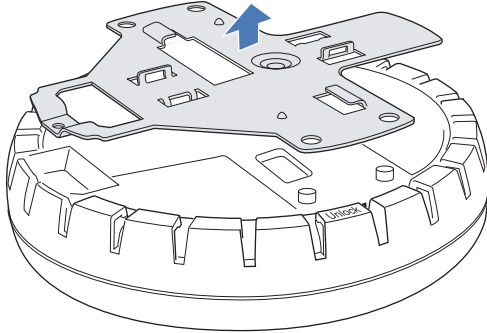
6. Install the universal mounting bracket as follows onto the T-bar clamp:

   a. As shown in Figure 1–15, 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 its 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 1–16.

Figure 1–15. Step 6—Top View

Universal mounting
bracket

T- bar

T-bar clamps
*(attached
to T-bar)*

Port connector
opening
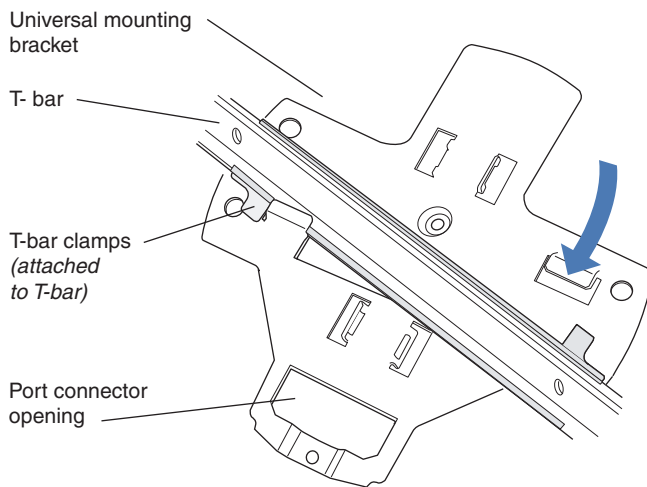
(Viewed from above ceiling tiles, looking down.)

Figure 1–16. Step 6—Bottom View

Port connector
opening

Universal mounting bracket

T-bar
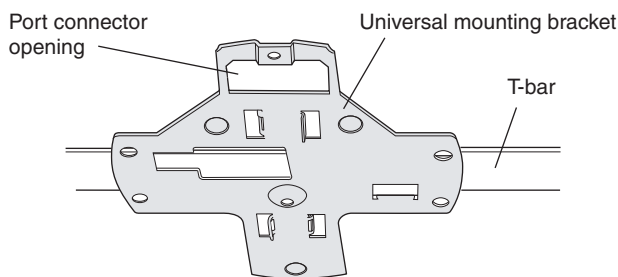
7. Pull the Cat 5 cable(s) about about 6 inches (15 cm) out of the hole in the ceiling tile and through the port connector opening to create enough slack to insert the cable(s).

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's 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 access point into place on the universal mounting bracket as shown in Figure 1–17.

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

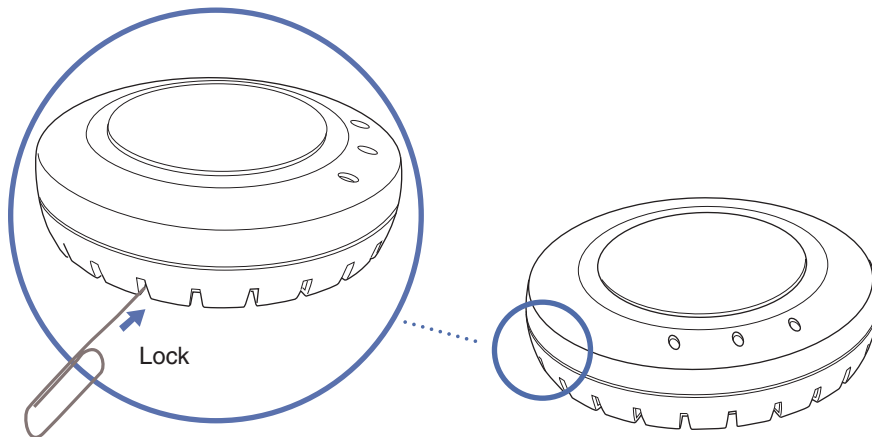**Figure 1–17. Step 9—Placing the MP Access Point on the Bracket**
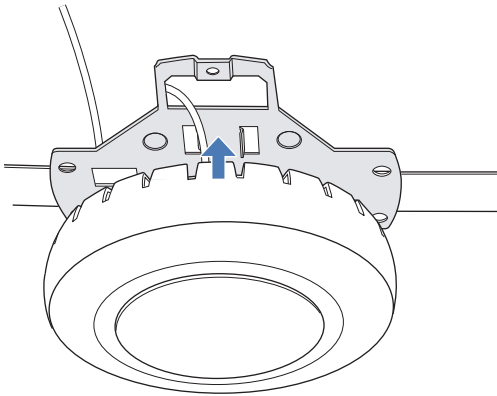
11.Lock the MP access point onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in Figure 1–18.

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

Figure 1–18. Step 10—Locking the Bracket

Lock

12.To ensure that the MP access point is fully locked onto the bracket, gently pull down on the access point and attempt to rotate it from side to side.

If the access point comes off the bracket, relock the device onto the bracket.

13.If the MP requires an external antenna, install and connect the antenna. (See "Connecting an MP to an External Antenna" .)

Junction Box Installation

(For required mounting hardware and tools, see Table 1– 1 on page 8.)

1. Unlock the universal mounting bracket from the MP access point by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in Figure 1–19.


⚠️ **Caution** Use a small-pointed instrument or a paperclip to unlock the bracket. 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 1–19. Step 1—Unlocking the Bracket
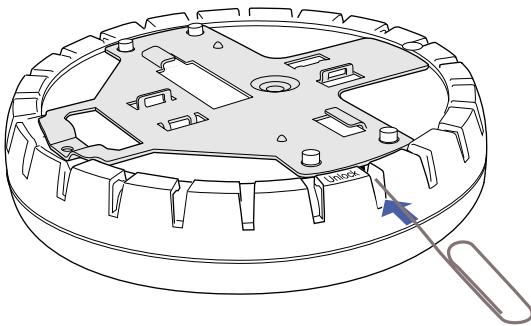
2. Remove the bracket as shown in Figure 1–20.

Figure 1–20. Step 2—Removing the Bracket
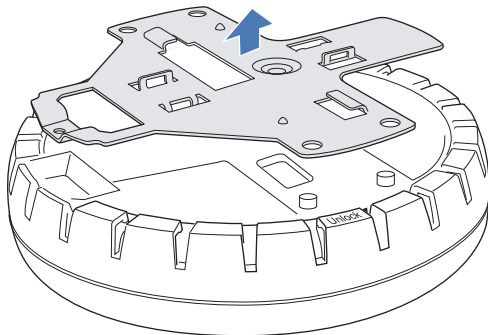
3. Attach the universal mounting bracket to the junction box as shown in Figure 1–21:

    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's screw holes, and use a #2 Phillips-head screwdriver to tighten them.

**Figure 1–21. Step 3—Placing the Bracket on the Junction Box**

Junction box

Port connector
opening
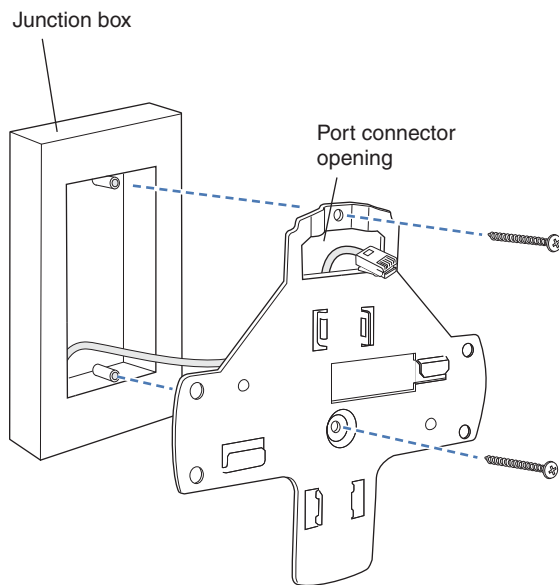
4. Pull the Cat 5 cable(s) about about 6 inches (15 cm) out of the junction box and through the port connector opening to create enough slack to insert the cable(s) into the port connectors.

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's 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 access point 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 access point and the bracket.

8. Lock the MP access point onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in Figure 1–22.

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

Figure 1–22. Step 7—Locking the Bracket
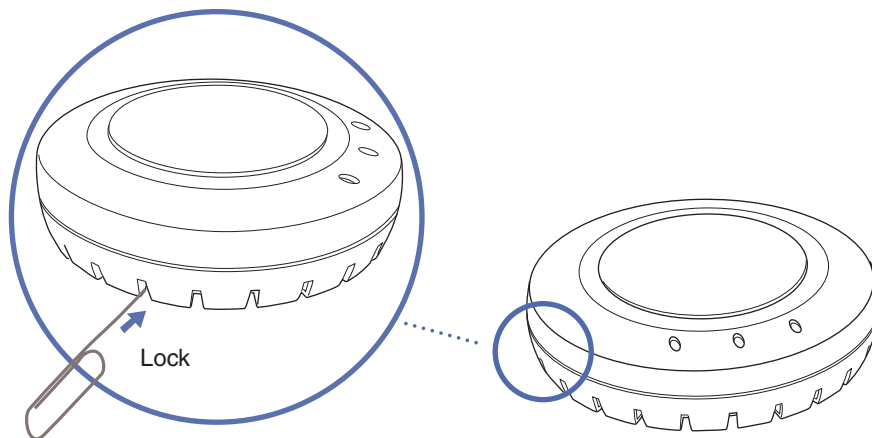
Lock

9. To ensure that the MP access point is fully locked onto the bracket, gently pull down on the access point and attempt to rotate it from side to side.

   If the access point comes off the bracket, relock the device onto the bracket as described in step 8 on page 20.

10. If the MP requires an external antenna, install and connect the antenna. (See "Connecting an MP to an External Antenna" .)

Solid Wall or Ceiling Installation

> **Note:** 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 1– 1 on page 8.)

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 where you want to install the MP access point.

   b. Mark the screw hole location(s).

      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.

      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.

> **Note:** Do not mark the four holes on the edges of the bracket. (These are the holes indicated by the dashed lines in Figure 1–25.) The MP access point fits into these holes. They are not screw holes.

   c. Remove the template.

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 its hole using a #2 Phillips-head screwdriver.

   c. Remove the screw from each anchor and save the screw(s) for step 6 on page 22.

3. Unlock the universal mounting bracket from the MP access point by inserting the 1/8-inch or 3-mm screwdriver into the **Unlock** hole on the MP access point as shown in Figure 1–23.

> **⚠ Caution** Use a small-pointed instrument or a paperclip to unlock the bracket. 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 1–23. Step 3—Unlocking the Bracket
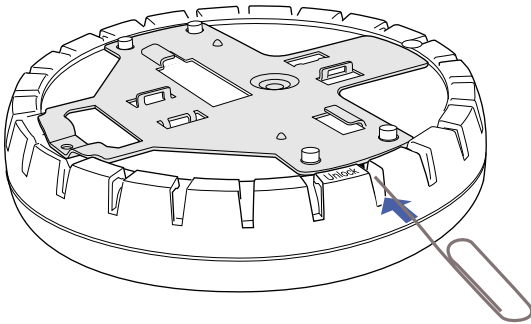
4. Remove the bracket as shown in Figure 1–24.

Figure 1–24. Step 4—Removing the Bracket
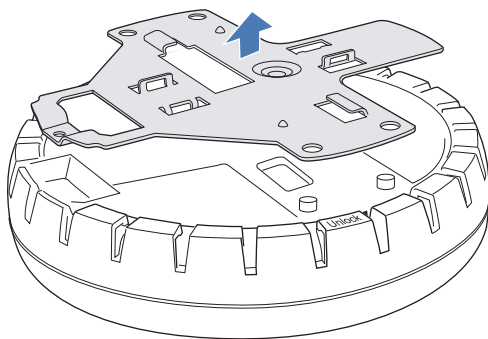
5. As shown in Figure 1–25, feed the Cat 5 cable(s) through the port connector opening and align the universal mounting bracket over the drywall anchors so that the two screw holes in the bracket face the drywall anchors.

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.)


Note: 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 1–25.) The MP access point fits into these holes. They are not screw holes.

Figure 1–25. Steps 5 and 6—Bracket Placement on Solid Wall or Ceiling
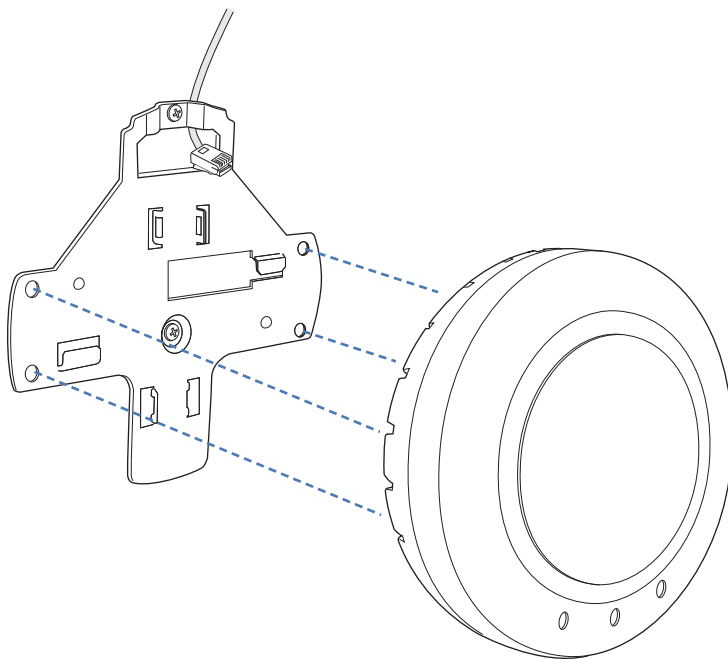
7. Insert the Cat 5 cable(s) into the connector(s):

   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's 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 1–26, place the MP access point on the bracket, making sure to remove any slack that occurs in the cable between the bracket and the MP access point.

Figure 1–26. Step 8—Cable Placement
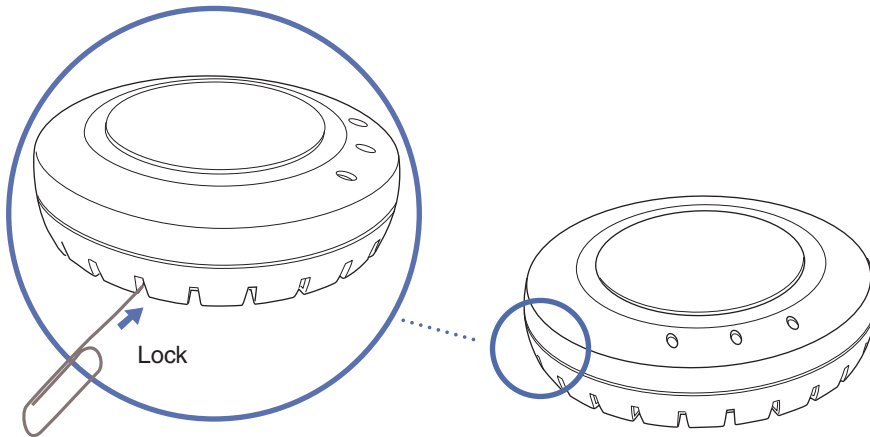

Cable

Universal mounting bracket
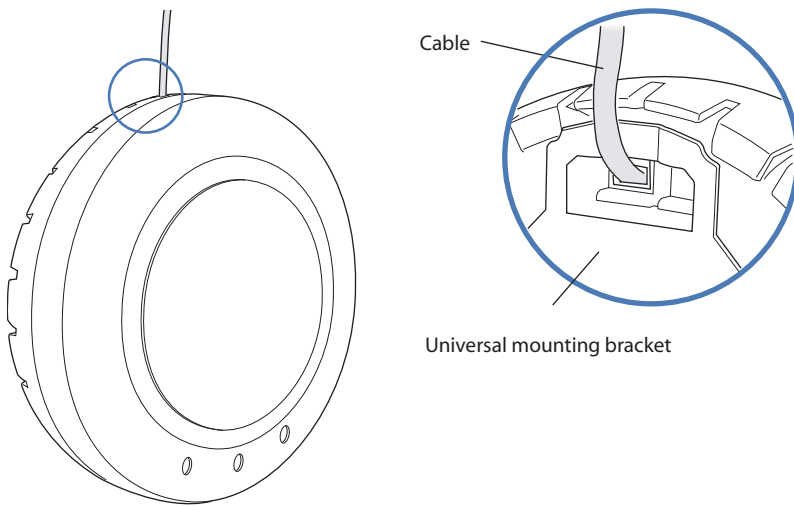
10. Lock the MP access point onto the bracket by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown in Figure 1–27.

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

Figure 1–27. Step 9—Locking the Bracket

Lock

11. To ensure that the MP access point is fully locked onto the bracket, gently pull on the access point and attempt to rotate it from side to side.

If the access point comes off the bracket, relock the device onto the bracket as described in step 10 on page 24.

12. If the MP requires an external antenna, install and connect the antenna. (See "Connecting an MP to an External Antenna" .)

Tabletop Installation

For required mounting hardware and tools, see Table 1– 1 on page 8.

1. Reverse the universal mounting bracket:

Unlock the universal mounting bracket from the MP access point by inserting a small-pointed instrument or a paperclip into the **Unlock** hole on the MP as shown in Figure 1–28.

> ⚠️ **Caution**
>
> Use a small-pointed instrument or a paperclip to unlock the bracket. 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 1–28. Step 1a—Unlocking the Bracket
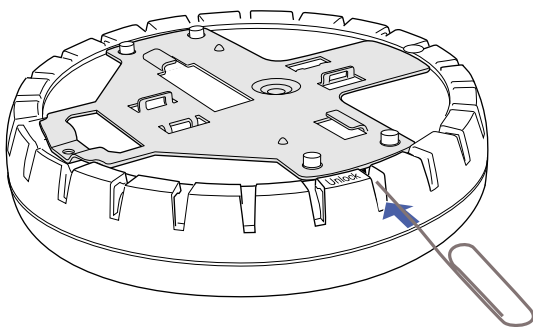
2. Remove the bracket as shown in Figure 1–29.

Figure 1–29. Step 1b—Removing the Bracket
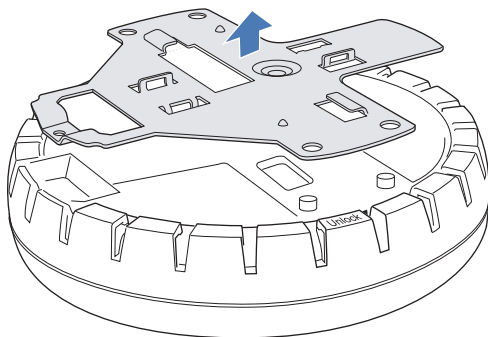
3. Turn over the universal mounting bracket, then align the bracket over the cable ports and the four mounting posts as shown in Figure 1–30.

**Figure 1–30. Step 1c—Turning Over the Bracket**
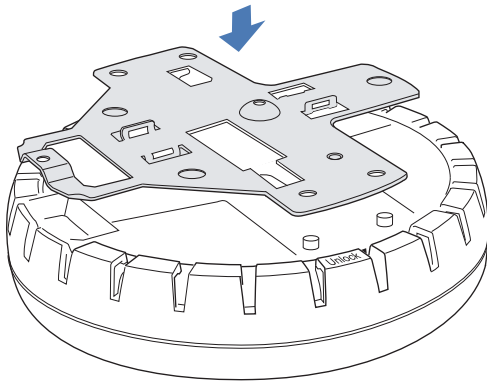
4. Once the bracket is fully seated, lock the bracket onto the MP access point by inserting a small-pointed instrument or a paperclip into the **Lock** hole on the MP as shown below in Figure 1–31.

Figure 1–31. Step 1d—Locking the Bracket

Lock
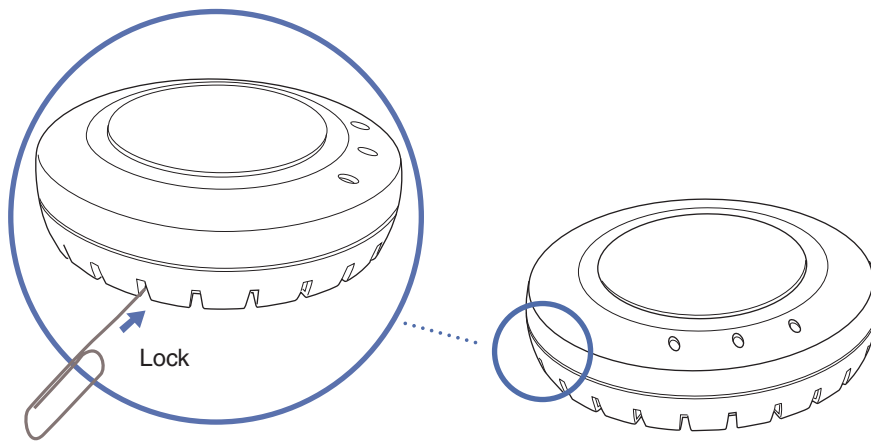
5. Attach the three rubber adhesive feet onto the universal mounting bracket, in the three location circles, as shown in Figure 1–32.

Figure 1–32. Step 2—Installing the Rubber Feet
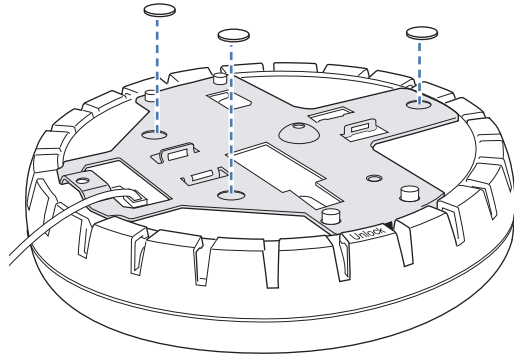
6. Insert the Cat 5 cable(s) into the connector(s):

   For a single connection, use the connector for port 1.

   For redundancy, insert one cable into each connector.

7. Install the Kensington lock, if you plan to use one.
   a. Loop the Kensington lock's 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.

8. Place the MP access point in the desired location on the table.

9. If the MP requires an external antenna, install and connect the antenna. (See "Connecting an MP to an External Antenna" .)
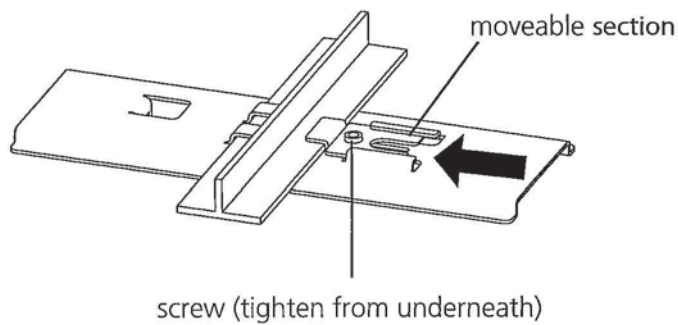
MP-82 Ceiling Mount Installation

1. Attach the metal slider to the back of the Access Point using the two small screws. The slider should still be able to slide after the screws are tightened. Make sure that the slider is left in the same position as shown below so that the slots are accessible.
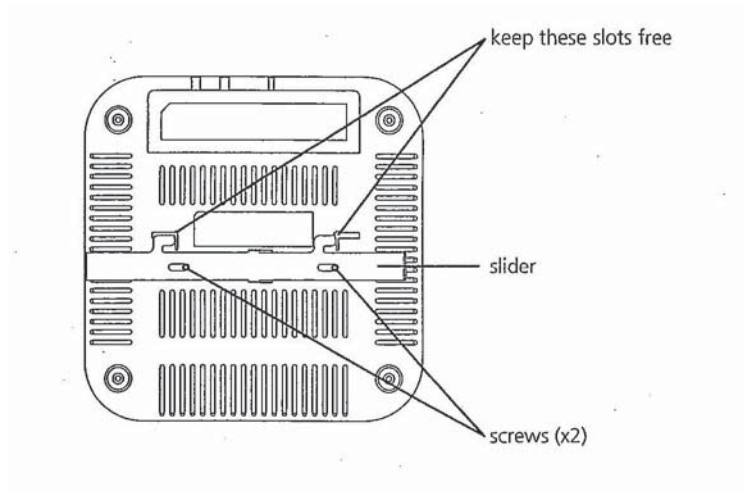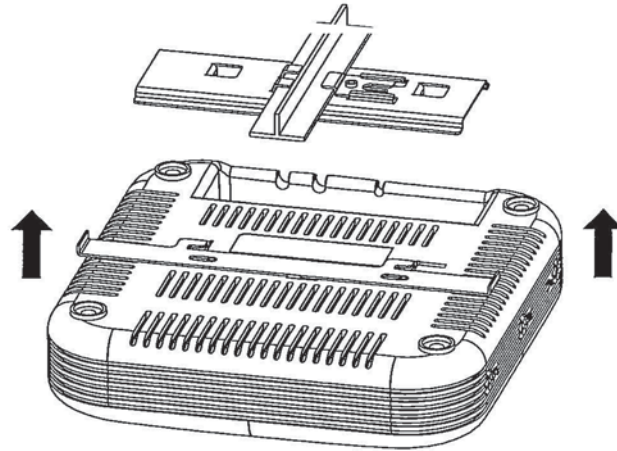

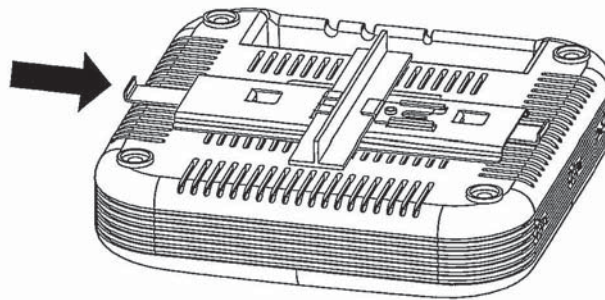2. Clip the metal to a ceiling tile separator.
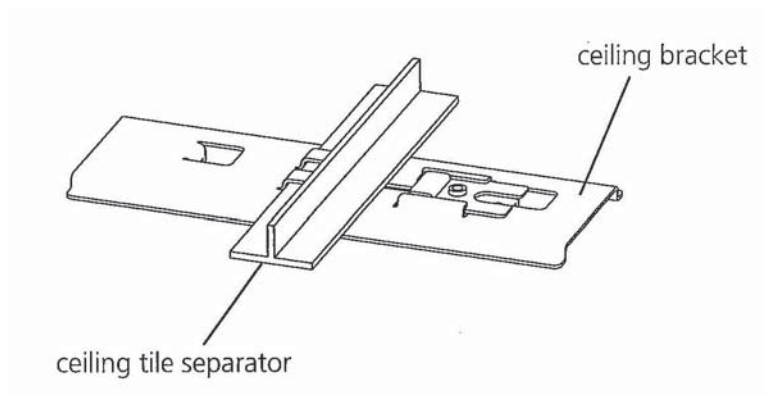
3. Slide the moveable section into place and tighten the screw (from underneath) to secure it.

4. Position the Access Point so that the two tabs from the ceiling bracket locate in the slots in the Access Point.

5. Slide the slider across to lock the Access Point to the bracket.

MP-82 Wall Mount Installation

Use the included mounting bracket to wall-mount the MP.

1. Screw the mounting bracket to a wall. If mounting to drywall, use the four screws and four wall anchors.

2. Connect the Ethernet cable (for power and network connection) to the port on the back of the MP-82.

3. Mount the MP-82 onto the mounting bracket.

Connecting an MP to an External Antenna

Each radio in an MP-422 or MP-372 can use an optional Trapeze external antenna. To mount the antenna, see the instructions that come with the antenna.

> ⚠️ **Caution** The external antenna must be installed at least 20 cm from the MP access point.

To connect a mounted external antenna to an MP-422 or MP-372:

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.

> ⚠️ **Caution** 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.

> 📋 **Note:** 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 enclosure's SMA bulkhead connector.

2. Attach the other end of the antenna cable to the antenna.

Configuring the MP

To configure the channels, power settings, and other MP parameters, see the following:

Trapeze Mobility System Software Quick Start Guide

"Configuring MP Access Points" chapter in the *Trapeze Mobility System Software Configuration Guide*

External Antenna Connectors

The Indoor MPs (except for the MP-432) havev connectors for attaching optional external antennas. Table 1– 2 lists the external antenna models.

> 📋 **Note:** External antennas are not supported on the MP-432 or the MP-82.

> **Note:** 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– 2. 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°

> **Note:** The Indoor MP radios are certified for use only with these external antennas.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.