CHAPTER 3

Mounting Instructions

This appendix provides instructions for mounting the access point to suspended ceilings, vertical surfaces, or horizontal surfaces using the access point mounting bracket.

The following sections are included in this chapter:

- Overview, page 3-2
- Mounting on a Horizontal or Vertical Surface, page 3-3
- Mounting Below a Suspended Ceiling, page 3-4
- Mounting Above a Suspended Ceiling, page 3-5
- Attaching the Access Point to the Mounting Bracket, page 3-8
- Securing the Access Point to the Mounting Bracket, page 3-8

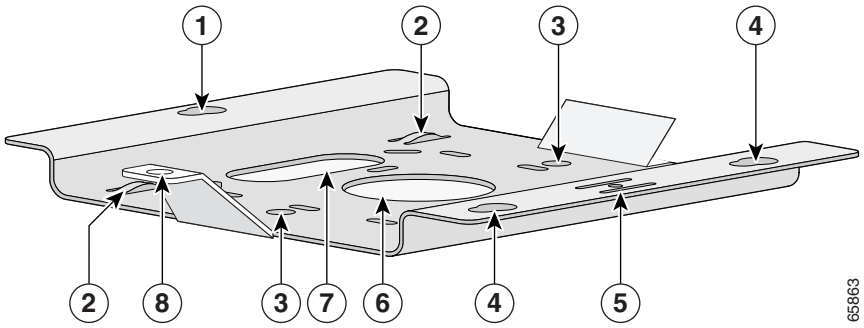
Overview

You can mount the access point on any of the following surfaces:

- Horizontal or vertical flat surfaces, such as walls or ceilings
- Suspended ceilings

The access point ships with a detachable mounting bracket and the necessary mounting hardware. Because it is detachable, you can use the mounting bracket as a template to mark the positions of the mounting holes for your installation. You then install the mounting bracket and attach the access point when you are ready. Refer to Figure 3-1 to locate the various mounting holes for the method you intend to use.

Figure 3-1 Mounting Bracket



1	Access point mount	**5**	Locking detent
2	Cable tie points	**6**	Wall cable access
3	Ceiling mount holes	**7**	Suspended ceiling cable access
4	Access point mounts	**8**	Security hasp

Note The 1200 series access point provides adequate fire resistance and low smoke-producing characteristics suitable for operation in a building's environmental air space (such as above suspended ceilings) in accordance with Section 300-22(C) of the National Electrical Code (NEC).

Caution Only the fiber-optic power injector (AIR-PWRINJ-FIB) has been tested to UL 2043 for operation in a building’s environmental air space; no other power injectors or power modules have been tested to UL 2043 and they should not be placed in a building’s environmental air space, such as above suspended ceilings.

Note If you plan to mount the access point in environmental air space and will upgrade to a 5-GHz radio, Cisco recommends that you mount the access point horizontally with its antennas pointing down. Doing so will result in the access point complying with regulatory requirements for environmental air space after the 5-GHz radio is installed.

Note When mounting the access point in a building's environmental air space, you must use Ethernet cable suitable for operation in environmental air space in accordance with Section 300-22(C) of the National Electrical Code (NEC).

A mounting hardware kit is provided that contains the hardware and fasteners necessary to mount the access point. Refer to the Table 3-1 to identify the materials you need to mount your access point, then go to the section containing the specific mounting procedure.

Table 3-1 Material Needed to Mount Access Point

Mounting Method	Materials Required	In Kit
Horizontal or vertical surface	Four #8 x 1 in. (25.4 mm) screws	Yes
	Four wall anchors	Yes
	3/16 in. (4.7 mm) or 3/32 in. (2.3 mm) drill bit	No
	Drill	No
	Standard screwdriver	No
Suspended ceiling	Two T-rail clips with studs	Yes
	Two plastic spacers	Yes
	Two 1/4–20 Keps nuts with built-in washers	Yes
	Standard screwdriver	No
	Appropriate wrench or pliers	No

Mounting on a Horizontal or Vertical Surface

Follow these steps to mount the access point on a horizontal or vertical surface.

Step 1 Use the mounting bracket as a template to mark the locations of the four mounting holes.

Step 2 Drill one of the following sized holes at the locations you marked:

- 3/16 in. (4.7 mm) if you are using wall anchors
- 1/8 in. (6.3 mm) if you are not using wall anchors

Step 3 Install the anchors into the wall if you are using them. Otherwise, go to Step 4.

Step 4 Secure the mounting bracket to the surface using the #8 fasteners.

Note On a vertical surface, mount the bracket with its security hasp facing down.

Step 5 Attach the access point to the mounting bracket.

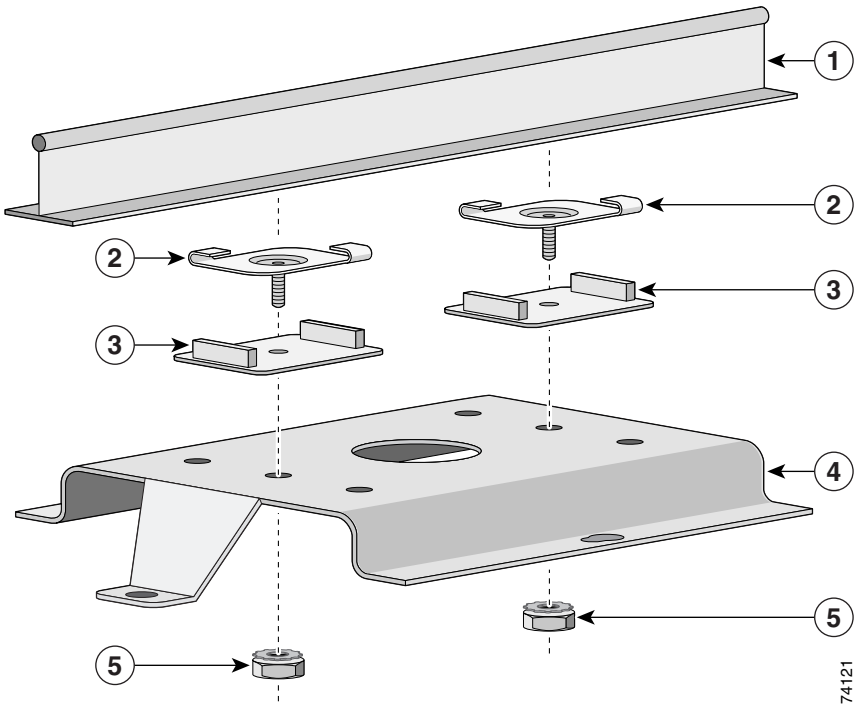
Note You can make your installation more secure by mounting it to a stud or major structural member and using the appropriate fasteners.

Mounting Below a Suspended Ceiling

Note To comply with NEC code, a #10-24 grounding lug is provided on the mounting bracket.

You should review Figure 3-2 before beginning the mounting process.

Figure 3-2 Mounting Bracket Parts



1	Suspended ceiling T-rail	**4**	Mounting bracket
2	T-rail clips	**5**	Keps nut (contains an attached lock washer)
3	Plastic spacer		

Follow these steps to mount your access point on a suspended ceiling:

Step 1 Decide where you want to mount the access point.

Step 2 Attach two T-rail clips to the suspended ceiling T-rail.

Step 3 Use the mounting bracket to adjust the distance between the T-rail clips so that they align with the holes in the mounting bracket.

Step 4 Use a standard screwdriver to tighten the T-rail clip studs in place on the suspended ceiling T-rail. Do not overtighten.

Step 5 Install a plastic spacer on each T-rail clip stud. The spacer's legs should contact the suspended ceiling T-rail.

Step 6 Attach the mounting bracket to the T-rail clip studs and start a Keps nut on each stud.

Step 7 Use a wrench or pliers to tighten the Keps nuts. Do not overtighten.

Step 8 Attach the access point to the mounting bracket.

Mounting Above a Suspended Ceiling

The access point uses a metal enclosure having adequate fire resistance and low smoke-producing characteristics suitable for operation in a building's environmental air space (such as above suspended ceilings) in accordance with Section 300-22(c) of the NEC.

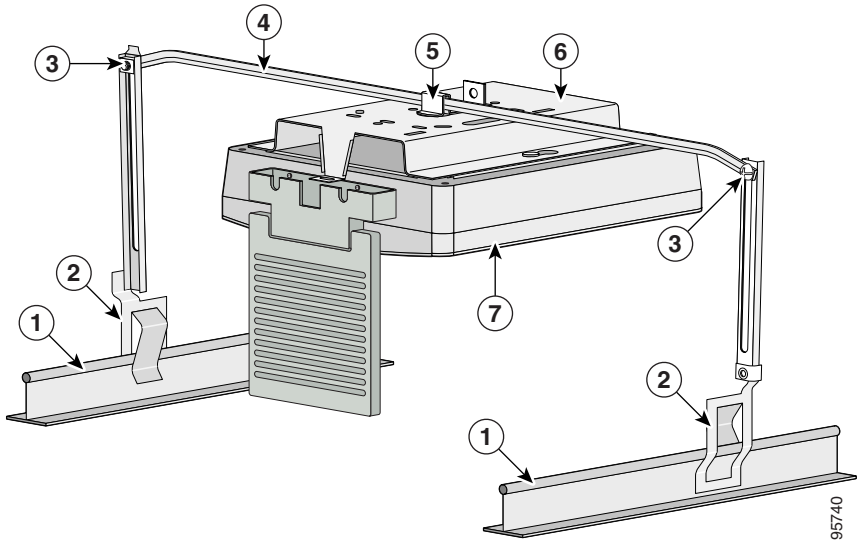
Caution Only the fiber-optic power injector (AIR-PWRINJ-FIB) has been tested to UL 2043 for operation in a building's environmental air space; no other power injectors or power modules have been tested to UL 2043 and they should not be placed in a building's environmental air space, such as above suspended ceilings.

Note If you plan to mount the access point with a 5-GHz radio in environmental air space, Cisco recommends that you mount the access point horizontally with its antennas pointing down. Doing so will result in the access point complying with regulatory requirements for environmental air space with the 5-GHz radio installed.

The access point mounting bracket is designed to be integrated into the T-bar grid above the tiles of a suspended ceiling. Using a T-bar box hanger and bracket mounting clip (not supplied) such as the Erico 512A and BHC, you orient the access point antenna just above the top surface of a standard ceiling tile. You may need to modify a thicker tile to allow room for the antenna.

It may be helpful to refer to Figure 3-3 before proceeding.

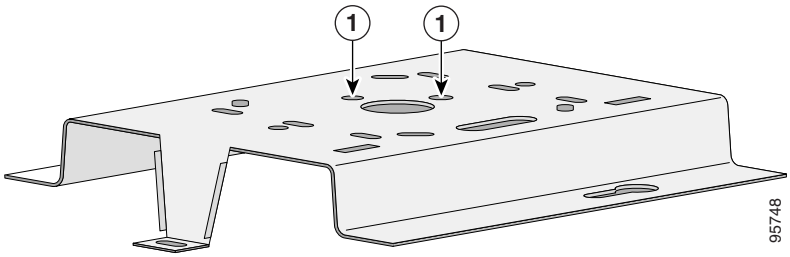
Figure 3-3 Mounting Bracket Parts



1	Suspended ceiling T-rail	**5**	Bracket mounting clip
2	T-rail clip	**6**	Access point mounting bracket
3	Height adjustment screw	**7**	Access point
4	T-bar box hanger		

The bracket mounting clip requires the use of an access point mounting bracket (700-13520-03) with two extra holes (see Figure 3-4).

Figure 3-4 Mounting Bracket Holes



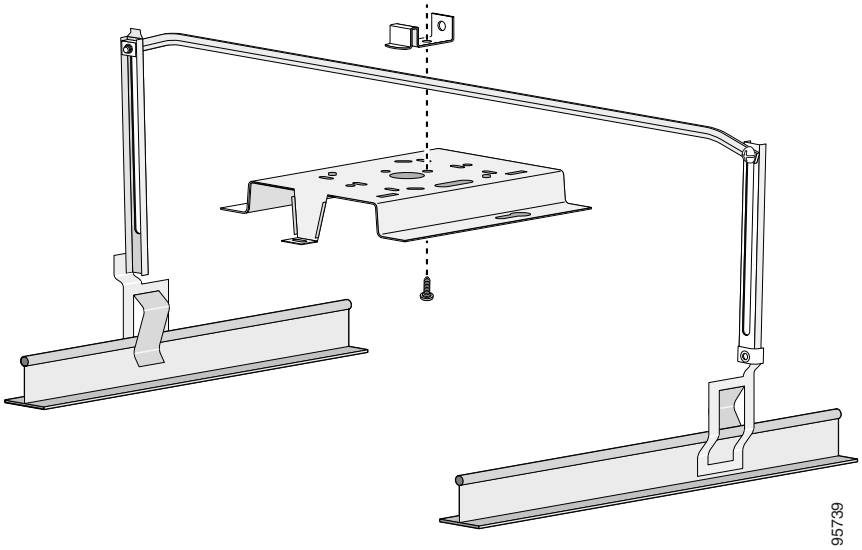
1	Extra holes	

Follow these steps to mount the access point above a suspended ceiling.

Step 1 Insert the bracket mounting clip's tab into the large hole on the access point mounting bracket.

Step 2 Place the clip over the T-bar box hanger and secure it to the access point mounting bracket (see Figure 3-5) with the 1/4-20 fastener (supplied with the T-bar hanger).

Figure 3-5 Access Point Mounting Bracket



Note The illustration shows the access point mounting bracket mounted perpendicular to the T-bar box hanger. You can also mount the bracket parallel to the T-bar box hanger.

Step 3 Determine the location in the ceiling where you will mount the access point and remove an adjacent ceiling tile.

Step 4 Orient the access point 2-GHz antennas so that they are pointing down when mounted on the T-bar Box hanger. Orient the 5-GHz antenna for patch or omnidirectional operation as desired.

Step 5 Adjust the height of the T-bar box hanger to provide antenna clearance above the ceiling tile using the height adjusting screws (refer to Figure 3-3).

Step 6 Attach the T-rail clips on each end of the T-bar box hanger to the ceiling grid T-rails. Make sure the clips are securely attached to the T-rails.

Step 7 Connect a drop wire to a building structural element and through the hole provided in the bracket mounting clip. This additional support is required in order to comply with the U.S. National Electrical Safety Code.

Step 8 Attach the access point to the access point mounting bracket (refer to the "Attaching the Access Point to the Mounting Bracket" section.

Step 9 Connect the Ethernet cables to the access point.

Step 10 If you need additional security, you can secure the access point to a nearby immovable object using a Kensington lock and security cable.

Step 11 Verify that the access point is operating before replacing the ceiling tile.

Attaching the Access Point to the Mounting Bracket

Follow these steps to attach the access point to the mounting bracket:

Step 1 Line up the three mounting pins on the access point with the large ends of the keyhole-shaped holes on the mounting bracket.

Step 2 Insert the access point into the keyhole shaped holes and maintain a slight pressure to hold it in place.

Step 3 Slide the access point's mounting pins into the small ends of the keyhole-shaped holes on the mounting bracket and push the connector end of the access point. You will hear a click when the locking detent contacts the access point and locks it into place.

Step 4 Attach and adjust the antenna(s) or antenna cables.

Step 5 Connect the Ethernet cable to the access point's Ethernet port.

Step 6 If using local power, insert the 1200 series power module cable connector into the access point's 48-VDC power port.

Securing the Access Point to the Mounting Bracket

The security hasp on the mounting bracket enables you to lock the access point to the bracket to make it more secure. When the access point is properly installed on the mounting bracket, the holes in the security hasps line up so you can install a padlock.

Known compatible padlocks are Master Lock models 120T or 121T.