Cambium Networks™ XIRRUS

XD2-240 and XD4-240 Installation Guide

November 2019

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Contacting Cambium Networks

Support website:	https://support.cambiumnetworks.com
Main website:	https://www.cambiumnetworks.com
Sales enquiries:	solutions@cambiumnetworks.com
Support enquiries:	https://support.cambiumnetworks.com
Repair enquiries:	https://support.cambiumnetworks.com
Telephone number list:	https://www.cambiumnetworks.com/support/contact-support
Address:	Cambium Networks Limited, Linhay Business Park, Eastern Road, Ashburton, Devon, UK, TQ13 7UP

Problems and warranty

Reporting problems

If any problems are encountered when installing or operating this equipment, follow this procedure to investigate and report:

1. Search this document and the software release notes of supported releases.

2. Visit the support website.

3. Ask for assistance from the Cambium Networks product supplier.

4. Gather information from affected units, such as any available diagnostic downloads.

5. Escalate the problem by emailing or telephoning support.

Repair and service

If unit failure is suspected, obtain details of the Return Material Authorization (RMA) process from the support website.

Hardware warranty

Cambium Networks's standard hardware warranty is for one (1) year from date of shipment from Cambium Networks or a Cambium distributor. Cambium Networks warrants that hardware will conform to the relevant published specifications and will be free from material defects in material and workmanship under normal use and service. Cambium Networks shall within this time, at its own option, either repair or replace the defective product within thirty (30) days of receipt of the defective product. Repaired or replaced product will be subject to the original warranty period but not less than thirty (30) days.

To register PTP products or activate warranties, visit the support website. For warranty assistance, contact the reseller or distributor.

> **!** *CAUTION*
>
> *Using non-Cambium Networks parts for repair could damage the equipment or void warranty. Contact Cambium Networks for service and repair instructions.*
>
> *Portions of Cambium Networks equipment may be damaged from exposure to electrostatic discharge. Use precautions to prevent damage.*

Security advice

Cambium Networks systems and equipment provide security parameters that can be configured by the operator based on their particular operating environment. Cambium recommends setting and using these parameters following industry recognized security practices. Security aspects to be considered are protecting the confidentiality, integrity, and availability of information and assets. Assets include the ability to communicate, information about the nature of the communications, and information about the parties involved.

In certain instances Cambium Networks makes specific recommendations regarding security practices, however the implementation of these recommendations and final responsibility for the security of the system lies with the operator of the system.

Warnings, cautions, and notes

The following describes how warnings and cautions are used in this document and in all documents of the Cambium Networks document set.

Warnings

Warnings precede instructions that contain potentially hazardous situations. Warnings are used to alert the reader to possible hazards that could cause loss of life or physical injury. A warning has the following format:

> **!** *Warning: Warning text and consequence for not following the instructions in the warning.*

Cautions

Cautions precede instructions and are used when there is a possibility of damage to systems, software, or individual items of equipment within a system. However, this damage presents no danger to personnel. A caution has the following format:

> **!** *CAUTION: Caution text and consequence for not following the instructions in the caution.*

Notes

A note means that there is a possibility of an undesirable situation or provides additional information to help the reader understand a topic or concept. A note has the following format:

 Note text.

Caring for the environment

The following information describes national or regional requirements for the disposal of Cambium Networks supplied equipment and for the approved disposal of surplus packaging.

In EU countries

The following information is provided to enable regulatory compliance with the European Union (EU) directives identified and any amendments made to these directives when using Cambium Networks equipment in EU countries.

Disposal of Cambium Networks equipment

European Union (EU) Directive 2002/96/EC Waste Electrical and Electronic Equipment (WEEE)

Do not dispose of Cambium Networks equipment in landfill sites. For disposal instructions, refer to http://www.cambiumnetworks.com/support/weee-compliance.

Disposal of surplus packaging

Do not dispose of surplus packaging in landfill sites. In the EU, it is the individual recipient's responsibility to ensure that packaging materials are collected and recycled according to the requirements of EU environmental law.

In non-EU countries

In non-EU countries, dispose of Cambium Networks equipment and all surplus packaging in accordance with national and regional regulations.

Quick Installation Guide

For XD2-240 and XD4-240 Models

XD2-240 (XD2240) and XD4-240 (XD4240) High Density Access Points (APs) are zero touch APs within the Cambium Xirrus wireless portfolio. With four directional 802.11ac 4x4 Wave 2 radios on the XD4-240 and two on the XD2-240, a powerful integrated controller, application-level intelligence, automated provisioning, and optional cloud management, the APs deliver robust wireless connectivity in areas of medium to high user density.

This guide covers the steps for installing and starting the AP. For detailed configuration information, see the User's Guide or online help for the Cambium Xirrus XMS management system for APs, or the *Wireless Access Point User's Guide*.

<div style="font-size:2em">**1**</div>

You Need the Following Items

◆ Power and Ethernet connection(s) to your wired network using Cat 5e or Cat 6 cables. The AP has two Ethernet ports:

  ◆ **GIG1/PoE**—This port powers the AP via Power over Ethernet (PoE) using a Cat 5e or Cat 6 cable that also carries data traffic. See below for Power details. This is a 1 Gigabit port on the XD2-240. On the XD4-240, this is a 2.5 Gb port whose rate is set only by auto-negotiation with the switch.

  ◆ (Optional) **GIG2**—Connection to this second, data-only one-gigabit port provides additional throughput. Use Cat 5E or Cat 6 cable.

AP must be connected to PoE networks without routing cabling to the outside plant. This ensures that cabling is not exposed to lightning strikes or possible crossover from high voltage lines. AP, PoE Injectors, or Switches must be installed and used indoors. The total Cat 5e or Cat 6 cable length from the switch to the AP must be no more than 100 m, including all cable segments.

◆ Power— See the matrix below to select a compatible PoE switch or injector for your AP. If using an injector, you must provide a data connection from the switch to the injector as well as another cable from the injector's OUT port to the AP's GIGABIT1/PoE port. PoE injectors require an AC outlet.

AP Model	Generic PoE+ Switch (802.3at)	XP1-MSI-30	XP1-MSI-75 (POE-75U-1UP-X)	XP8-MSI-70M
XD2-240	✓	✓	✓	✓
XD4-240			✓	✓

◆ Apply power to GIG1/POE port only—other AP Gigabit ports will not draw power if connected to a powered switch port, and AP LEDs will not light.

- ◆ Cambium Xirrus XD2 APs are Type 2, Class 4 POE-802.3at devices. If your switch vendor provides a setting for the type of powered-device detection with options such as Legacy, 4-Point, or BOTH, set the port to BOTH or 4-Point. Do not use settings intended for legacy devices.

- ◆ Access to a Web browser to configure the AP via Cambium Xirrus's XMS management system for APs or directly via the AP's interface.

- ◆ For Suspended Ceiling Grid Mount, a 7/16" nut driver to attach the mounting plate to the T-bar clips. (See Install Mounting Hardware on page 3.) Note that you cannot use old T-bar clips from XN or XS Series APs with XD2 and XD4 APs.

- ◆ For a locked installation, supply a zip-tie, small lock, or other locking hardware.

NOTE: Leave protective plastic film on the AP until installation is complete, to avoid leaving marks on the AP.

Mounting Options

- ◆ Ceiling Mount—for a more secure mount, use the furnished mounting plate with at least two user-supplied screws. Or you may mount directly to a ceiling with two user-supplied screws (we recommend max screw size #8, Pan Head type). You must use screws that are that are appropriate for the construction type of the mounting site.

- ◆ Suspended Ceiling Grid Mount—See photos in section 3C—Ceiling Grid Mount with Mounting Plate on page 4. Use the mounting plate with the supplied T-Bar clips for 15/16" ceiling grid. For a slotted ceiling grid, T-slot bolts are available for attaching the T-Bar Bracket to slots in the grid.

- ◆ Wall Mount—For XD4, use the XE-4010-WALL mounting kit, which contains a wall mount bracket, 4 hex cap screws, and 5 hollow wall toggle bolt fasteners (for instructions, see the *Wall Mount Brackets Installation Guide*). For XD2, use the XE-500-WALL kit according to the instructions included in the kit.

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Choose a Suitable Location

- ◆ Choose an indoor location that is central to your users, and that is away from heat sources.

- ◆ The AP should be installed parallel to the ground (i.e., in a horizontal position, not tilted on its side). The AP should not be more than 30 feet above the ground (or the level at which receiving devices will be used). For atypical installations, please verify the resulting signal coverage.

- ◆ The location must be capable of supporting the weight of the AP and the mounting bracket (about 3 lb total).

- ◆ For optimal placement, we recommend that a predictive survey be performed by a qualified Cambium Xirrus partner.

- ◆ Maintain a distance of at least 50 feet between additional APs.

- ◆ Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 ft (1m - 2m).

- ◆ To ensure good air flow, it is essential that the AP's vents are not blocked.

- ◆ XD4 radios are directional as indicated at right.

XD4 Radios

IAP4

IAP1

IAP3

IAP2

Gigabit Ports
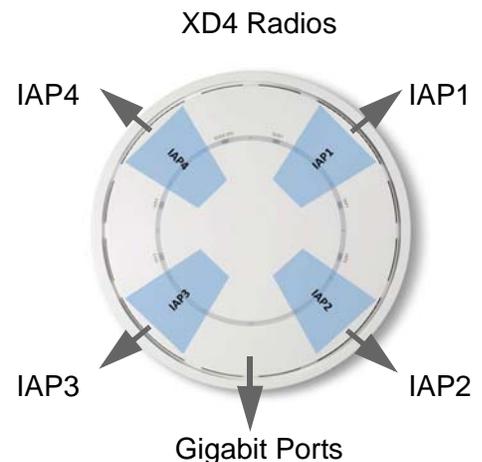
3

Install Mounting Hardware

1. If the mounting plate is attached to the back of the AP, remove it by pushing it down and rotating it to the left.

   There are three standard mounting techniques for the XD2-240 and XD4-240, listed below.

   ◆ 3A—Ceiling Mount with Mounting Plate   ◆ 3C—Ceiling Grid Mount with Mounting Plate
   ◆ 3B—Direct Ceiling Mount without Mounting Plate

   For *Direct Ceiling Mount*, skip to 3B—Direct Ceiling Mount without Mounting Plate on page 4. Otherwise, proceed with the steps below.

2. Locate the gray plastic clip that is supplied with the AP and orient it as shown below (**A**). The alignment pin on top of this clip will be very helpful later for positioning the AP to attach it to the mounting plate.

A   B   C
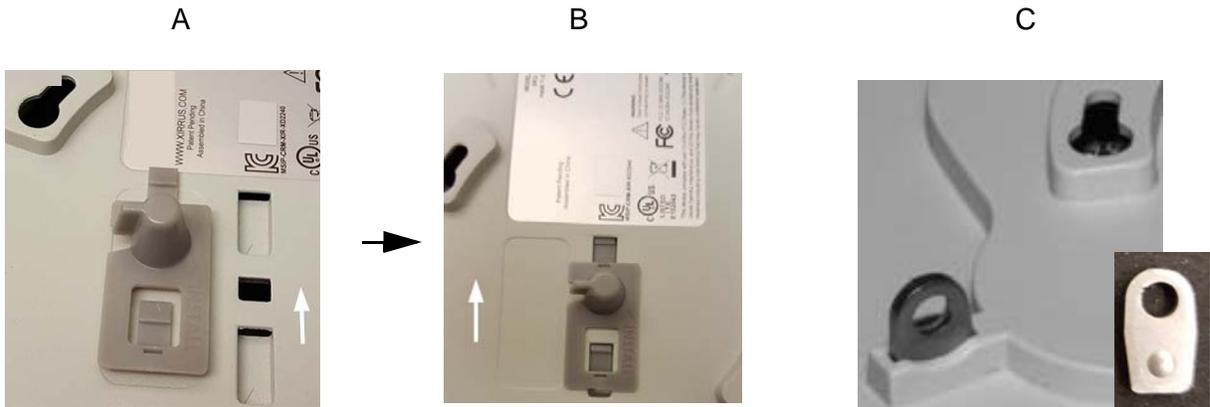
3. Note the arrow on the gray clip indicating the direction for inserting it. Slide the clip into the two slots in the middle of the back of the AP (**A**, **B**) in the indicated direction until it snaps in place.

4. To secure the AP to its mount after installation with a zip-tie or small padlock, locate the supplied locking slug (**C**, above). Push it into the slot on the AP's back, with the small protruding bump facing towards the nearer mounting keyhole.

3A—Ceiling Mount with Mounting Plate

For a more secure mount, ease of dismount, and a locking option for the AP, use the supplied mounting plate.

1. Use the holes on the AP mounting plate to mark the placement of two or four user-supplied screws to install in the ceiling.

2. Drill and prepare holes for the screws as appropriate.

3. Cut an access hole for the cable(s) in the ceiling and draw enough cable through to attach to the AP.

4. Align the AP mounting plate over the prepared holes. Secure the plate with the screws. Do not over-tighten.

5. Proceed to Connect Cables and Install AP on page 5.

3B—Direct Ceiling Mount without Mounting Plate

To attach the AP directly to the ceiling, use the keyhole slots on the back of the AP, indicated in red in the photo.

NOTE: The AP must not be disassembled - do not remove the back of the AP to tighten the screws after mounting.
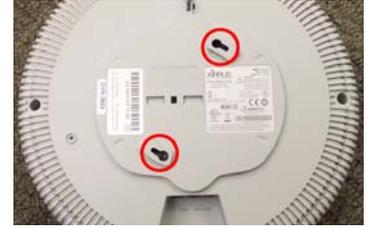
1. Remove the locking slug, if any, from the back of the AP. (See photo (C) on previous page.)

2. Mark the locations for the two mounting screws on the ceiling—the centers are 3.5" (8.9 cm) apart.

3. Cut an access hole for the cable(s) in the ceiling and draw enough cable through to attach to the AP after it is installed.

4. Install two user-supplied screws in the ceiling (we recommend max screw size #8, Pan Head type) so that they protrude 1/16" (1.6 mm) between the mounting surface and the head of the screw.

5. Proceed to Connect Cables and Install AP on page 5.

3C—Ceiling Grid Mount with Mounting Plate
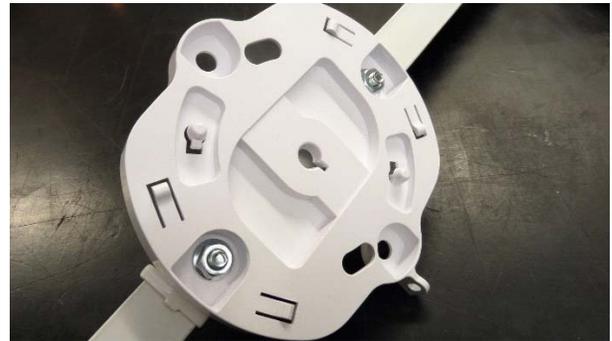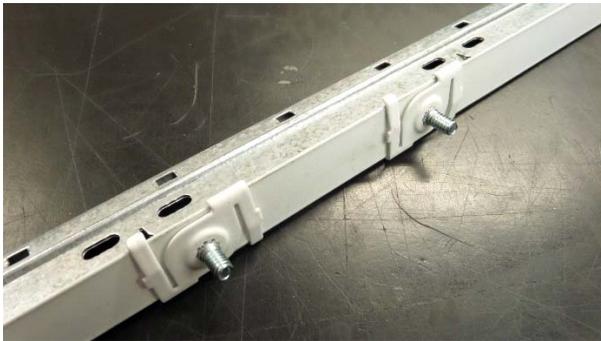
1. Use two of the four holes on the AP mounting plate to mark the placement of the two supplied T-bar clips on the metal ceiling support grid.

NOTE: You MUST use the mounting studs furnished with the T-BAR clips. You cannot use old T-bar clips from XN or XS APs with the XD Series. Old clips and studs will damage the AP case.

Twist the two T-bar clips onto the metal ceiling grid at the marked locations as illustrated on the segment of ceiling grid above, and tighten the screw posts to 10-12 lbf.ft (1.38-1.66 kgf.m). Do not over- tighten the screw posts.

2. Cut an access hole in the ceiling tile and draw the cable(s) through.

3. Align the AP mounting plate over the screw posts of the clips and secure it using the nuts provided. Tighten the nuts to 10-12 lbf.ft (1.38-1.66 kgf.m), but do not over tighten.

4. Proceed to Connect Cables and Install AP on page 5.

4

Connect Cables and Install AP

NOTE: Once you connect GIG1/POE, an automatic upgrade typically starts soon after the AP has Internet connectivity. Do not unplug this port during the upgrade or the AP may become inoperable. The upgrade should take 10 minutes or less.

1. Connect the cable that carries power and data to **GIG1/PoE** (shown in red). If you use a Cambium Xirrus-supplied injector, its CONNECT LED should light (for 70W and higher injectors, it is OK if it blinks). If power is being properly supplied, the AP's LEDs will light and then commence blinking in their rotating boot pattern. A second data connection may be plugged into **GIG2** (optional).

2. If using a mounting plate, line up the alignment pin on the AP's gray clip (installed in Install Mounting Hardware on page 3) with the keyed slot in the middle of the mounting plate. The circle in the image at left shows how the pin and the slot fit together, and the black arrows show the two tabs that hold the AP in place on the mounting plate.

3. Push the AP up on the mounting plate tabs (or the screw heads, if attaching directly to ceiling) and rotate the AP to the right (clockwise) till it snaps in place.

4. To secure the AP to the mounting plate for tamper evidence or to deter removal, feed a customer-provided zip tie or other locking hardware through the hole in the top of the locking slug and the matching locking tab on the mounting plate.

5. Remove the protective plastic film from the unit.
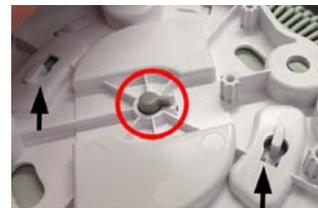
5

Zero-Touch Provisioning and Ongoing Management

Most customers use the XMS management system for the initial setup and continuing management of Cambium Xirrus APs. XMS users set up new APs for zero-touch provisioning via the platforms below. Wait ten minutes after powering up the AP to automatically discover and upgrade it, then use XMS to view and manage it.

◆ XMS-Cloud—performs zero-touch provisioning. Your new APs appear in XMS even before you receive your equipment. When the email arrives with your login information, use XMS-Cloud to specify the initial settings for your APs. A Guided Tour will walk you through the basic steps of creating a profile containing configuration settings, including creating SSIDs and firewall/application control rules. Once the installed AP has Internet connectivity, it will automatically contact Cambium Xirrus for cloud-based zero-touch provisioning per your settings, install the latest applicable license, and upgrade the AP to the latest software version as appropriate.

◆ XMS-Enterprise—detects and provisions new Cambium Xirrus devices deployed in your network. Create and configure a default profile for newly added APs, then set up discovery for the APs' subnetwork. New devices will automatically receive the configuration defined in the default profile.

If you are not using XMS, see the *Wireless Access Point User's Guide* to configure XD2 APs manually. The User Guide is available from support.cambiumnetworks.com.

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Using the Reset Button

The reset button returns the AP to factory default settings while rebooting. It is located on the bottom of the unit. Use the reset button as follows:

- Unplug the cable from the **GIG1/PoE** port.
- Press the reset button all the way (there should be a faint click) and hold it.
- Plug the cable back in and continue to keep the button pressed for 10 seconds. This triggers the factory default reset during the boot process.

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Specifications

- Dimensions (WxDxH): 10 x 10 x 2.5 in / 25.4 x 25.4 x 6.4 cm
- Weight: 2 lb / 0.9 kg
- Operating Temperature: 0-55°C / 32-131°F, 0-90% humidity, non-condensing.