



XD2-230 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.

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Quick Installation Guide

For the XD2-230 AP

The XD2-230 (Model XD2230) Access Point (AP) is part of the cnPilotXirrus wireless portfolio. With two omnidirectional 802.11ac radios, an integrated controller, and cloud management, this AP delivers robust wireless connectivity.

The XD2-230 AP's radio1 is a dual-band (2.4GHz/5GHz) 3x3 802.11ac Wave 1 radio, set to 2.4GHz by default. Radio2 is a 5GHz-only Wave 2 radio.

This Guide covers the steps required to install and start these APs.



1

You Need the Following Items

- ◆ Power and Ethernet connection(s) to your wired network using Cat 5e or Cat 6 cables:
 - ◆ **GIG1/POE**—This 1 Gigabit 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.
 - ◆ **GIG2**—This second, data-only Gigabit port provides additional bandwidth. Its use is optional. Connect with 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, and 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 Cambium Xirrus-supplied injector for your AP. XD2 models require 802.3at. 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 GIG1/POE port.

AP Type	Generic PoE+ Injector or Switch (802.3at)	XP1-MSI-30	XP1-MSI-75 (POE-75U-1UP-X)	XP8-MSI-70M
XD2-230	✓	✓	✓	✓

- ◆ 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.
- ◆ If you are using a POE switch, it is imperative that you know that the switch has sufficient power budget to power all connected devices.
- ◆ cnPilotXirrus 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 the XMS management system or directly via the AP's interface.

- ◆ For a suspended ceiling mount, you need a 7/16" nut driver to attach the mounting plate to the T-Bar clips. (See "Install Mounting Hardware" on page 3.) Do not use old T-Bar clips or studs from XN or XS APs with the X2 and XD2 Series—they will damage the AP case.
- ◆ 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

- ◆ Direct Ceiling Mount—for a more secure mount, or the ability to lock the AP in place or detect tampering, use the furnished mounting plate with at least two user-supplied screws. Or you may mount directly to the ceiling with two user-supplied screws (we recommend max screw size #8, Pan Head type). In either case, you must use screws that are appropriate for the ceiling construction material.
- ◆ Suspended Ceiling Grid Mount—See photos at right and on [page 3](#). Use the mounting plate with the two supplied T-Bar clips (for 15/16" ceiling grid). For a slotted ceiling grid, T-slot bolts are available for attaching the mounting plate to slots in the grid.
- ◆ Wall Mount—use a Wall Mount Accessory Kit (XE-500-WALL), which contains a mounting plate, wall mount bracket, and three screws (1/4" Plastite).



AP Mounting Plate (front)
This side faces the AP

2

Choose a Suitable Location

- ◆ Choose an indoor location that is central to your users, that is away from heat sources. To ensure good air flow, it is essential that the AP's vents are not blocked.
- ◆ 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 (9m) 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 2 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 (15m) between additional APs.
- ◆ Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 ft (1m - 2m).

3

Install Mounting Hardware

- ◆ 3A—Ceiling Mount
- ◆ 3C—Wall Mount with Bracket
- ◆ 3B—Ceiling Grid Mount with Mounting Plate

3A—Ceiling Mount

We recommend use of the supplied AP mounting plate, which offers a more secure mount and ease of dismount, and a locking option for the AP.

6. If the mounting plate is attached to the AP, remove it (push it against the AP and twist it to the left). Use the holes on the mounting plate to mark the placement of at least two user-supplied screws to install in the ceiling.
If not using the mounting plate, mark the locations for the two mounting screws on the ceiling—the centers are 3.5" (8.9 cm) apart.
7. Drill and prepare holes for the screws as appropriate.
8. 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.
9. If using the mounting plate, align it over the prepared holes. Secure the plate with the screws. Do not over-tighten.
If not using the mounting plate, install two screws at the marked locations so that they protrude 1/8" (.3 cm) between the mounting surface and the head of the screw.
10. Proceed to “Connect Cables and Install AP” on page 4.

NOTE: The AP must not be disassembled! If not using the mounting plate, do not remove the back of the AP to tighten the screws after mounting to ceiling.

3B—Ceiling Grid Mount with Mounting Plate

1. If the mounting plate is attached to the AP, remove it (push it against the AP and twist it to the left). For T-Bar clips, use two of the four holes on the AP mounting plate to mark the placement of two T-Bar clips on the metal ceiling support grid.



Twist the two supplied T-Bar clips onto the metal ceiling grid at the marked locations 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 T-Bar clips and secure it to the two posts 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 4.

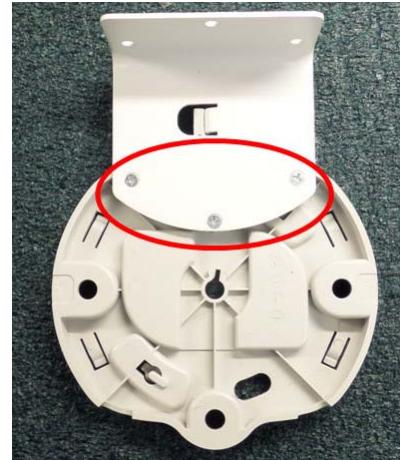
3C—Wall Mount with Bracket

NOTE: The mounting location must be able to support the weight of the AP and the mounting bracket (about 2 lb. total).

1. If the mounting plate is attached to the AP, remove it (push it against the AP and twist it to the left). Align the three holes in the wall bracket (ordered separately, see page 2) over the corresponding mounting plate holes, indicated in the photo. The wall bracket's small locking tab should point down toward the mounting plate.

NOTE: Use only the screws provided in the accessory kit. Other screws that seem equivalent in size may damage the mounting plate.

2. Use the three screws provided in the accessory kit to attach the wall mount bracket to the AP mounting plate.
3. Use the Wall Mount Bracket as a template and mark the locations on the wall for the mounting holes. The bracket must be secured to the wall in 3 places. When marking the holes, make sure the mounting plate is level. The bracket is normally oriented so that the mounting plate and AP are suspended beneath it.
4. Attach the mounting plate to the wall with 3 user-supplied screws appropriate to the wall construction type.
5. Cut an access hole for the cable(s) in the wall and draw enough cable through to attach to the AP after it is installed.
6. Proceed to “Connect Cables and Install AP” on page 4.



4

Connect Cables and Install AP

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

1. (Optional) For a locked installation, insert the provided locking slug into the slot on the back of the XD2-230, to the left of the RESET button (see photo on [page 6](#)). Note the orientation of the slight bump on the locking slug—it should face toward the RESET button.
2. Connect the cable that carries power and data to **GIGABIT1/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).



3. Align the two slots on the back of the AP chassis (circled in red) with the corresponding tabs on the AP mounting plate.
4. Push the AP chassis up on the mounting plate tabs and rotate the AP to the right until it snaps in place.
5. 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 locking slug and the matching locking tab on the mounting plate or wall bracket.
6. Remove the protective plastic film from the unit.
7. If you need to remove the AP, push it up towards the ceiling and rotate it to the left.



5

Zero-Touch Provisioning and Ongoing Management

Most customers employ the XMS management system for initial setup and continuing management. XMS users can readily set up their new devices for provisioning and ongoing maintenance via the platforms below. Set up discovery for the subnetwork of your APs, and create and configure a default profile for newly added APs. When APs are discovered, they are automatically assigned to the XMS default profile and will receive the configuration defined for that profile. 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—automatically detects and provisions new Cambium Xirrus devices deployed in your network via a similar provisioning approach. Set up the SSH Users page in the Discovery section, and create and configure a default profile for newly added APs. After discovery, these new devices automatically receive the configuration defined in your 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 <https://support.cambiumnetworks.com>.

6

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 **GIGABIT1/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.



7

Specifications

Physical/Environmental Specifications

- ◆ Dimensions (WxDxH, including mounting plate): 8 x 8 x 2.25 in / 20.3 x 20.3 x 5.7 cm
- ◆ Weight: 2 lb / 0.9 kg
- ◆ Operating Temperature of XD2-230: 0-45°C / 32-113°F, 10-90% humidity, non-condensing
- ◆ Operating Altitude up to 3048m/10,000 ft



Warning: This unit contains a replaceable battery.



Caution: Risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the battery manufacturer's instructions.



Note: Power over Ethernet must be supplied by a UL listed I.T.E. product.