

Cambium Point to Point - Bridge, Introduction

- **What is a point-to-point wireless bridge, and why do I need one?**

- Sometimes you need to interconnect devices from a control station to a remote site. Traditionally a network cable or fibre cable needs to be trenched between sites and installed in a protective conduit. There can be many obstacles in the cable path including, roads, water, buildings, private land, distance limitations of copper cable and most importantly, cost. Wi-Fi bridging is one of the most cost-effective technologies for navigating these obstacles. Here are just some of the devices you can connect across a Wi-Fi bridge:
 - Security Cameras/Systems
 - Networking, computers, printers
 - Serial devices RS232, RS485 (using a serial to ethernet converter)
 - PLC's, IO Devices etc...
- A Wi-Fi Bridge can be likened to a 'virtual ethernet cable' between two points. A bridge should not alter the frames or data and should be 'transparent' to any devices that communicate over the bridge. Transparency is especially important to some industrial protocols that need to pass over the bridge unaltered.
- A Wi-Fi Bridge sole purpose is to provide bridging – it does NOT perform Wi-Fi device access for devices. In fact, the Wi-Fi Bridge is not seen by Wi-Fi devices such as phones and laptops. If Wi-Fi device access, is required at either end of the bridge, then an additional Wi-Fi Access Point will be required.
- Finally, "point-to-point" refers to the connection of **two** sites – where there can only be 1x Wi-Fi Bridge Access Point and 1x Wi-Fi Bridge Subscriber. *(see next months article on point-to-multipoint bridging)*

Site A

Site B

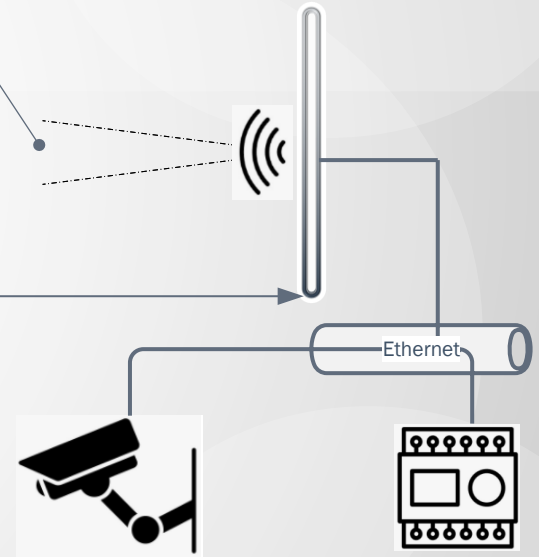
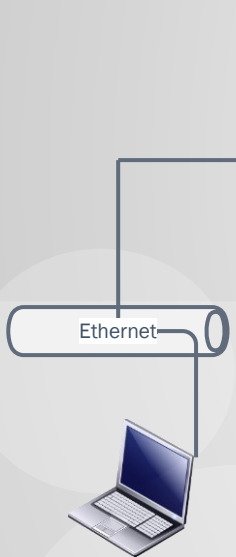
Cambium Point to Point, Schematic

Top-down view

14.5° Beam Width (horizontal)
Beams must have L.O.S (line of site) and be aligned both horizontally and vertically.

Wi-Fi Bridge Access Point
Force 300-19R

Wi-Fi Bridge Access Subscriber
Force 300-19R



*Distances up to 10km

Wi-Fi bridging can be thought of as a virtual ethernet cable.
All devices on either side of the link will be transparently accessible to each other.
Though an SSID is used to connect the Subscriber and Access Point, - this type of link does not support Wi-Fi devices such as tablets and phones.

*subject to link planning software

Cambium Point to Point, Outdoor Bridge & Components



Force 300-19R

Cambium Force 300-19R

- IP67 & IP68 - rated
- -30° to +60° -temperature rating
- Includes pole mounting hardware 25mm - 41mm dia.
- 14-30VDC PoE
- 4910-5970 Mhz
- Transparent wireless bridge



Surge
Arrestor

Cambium Surge Arrestor -30v

- Recommended for outdoor installations
- 216 amp, 5 nano second response



PoE
Injector

Cambium PoE injector - AC-DC option

- 240VAC - 24-30VDC
- 802.3 at/af compliant



DC PoE
Injector

Cambium PoE injector - DC-DC option

- 0-56V DC Input / Output
- Passive PoE