

POINT-TO-POINT (PTP) 810 SOLUTIONS

CONVENIENT, COST-EFFECTIVE WIRELESS FOR ETHERNET AND TDM APPLICATIONS



As the global marketplace becomes ever more competitive, organizations are honing their systems to increase agility and productivity while retaining their competitive edge. The convergence of video, voice and data over communication networks offers a host of opportunities for collaboration and information-sharing that can help achieve those goals. Simultaneously, the ever-increasing demand on networks to support multimedia communications, mobility, and bandwidth-hungry applications is driving the evolution from Time Division Multiplexing (TDM) to more cost-effective, high-performance IP-based networks. Cambium Point-to-Point (PTP) 810 Licensed Microwave Solutions can help you migrate smoothly from your existing TDM technology to a high-performance, packet-based Ethernet network.

FLEXIBLE, SCALABLE, RELIABLE

Our PTP 810 Solutions provide carrier-grade, high-capacity connectivity and backhaul for both Ethernet and TDM applications. The modular design offers pluggable modem units that support T1/E1, STM-1, and Ethernet on a single platform; giving you great flexibility to configure the best system for your needs at the optimal cost.

XPIC

The PTP 810 supports XPIC functionality in 64, 128, and 256 QAM modulation modes at 28 MHz or above channel widths. Different data is transmitted simultaneously on the horizontal and vertical polarizations in the same channel. This allows you to double throughput capacity without increasing the channel bandwidth.

CHOICE OF ARCHITECTURES

PTP 810 solutions are available in both split-mount and all-indoor architectures. You can deploy a solution as a split-mount system, an all-indoor system, or a combination of the two, allowing you to engineer your wireless network in the most cost-efficient manner.

PTP 810 Split-Mount systems offer up to 700 Mbps throughput and operate in the 6 to 38 GHz bands. A link consists of an Outdoor Radio Unit (ODU), a Modular Modem Unit (MMU), an antenna, and the appropriate accessories. The ODU and antenna are deployed on a tower or rooftop, while the MMU is installed inside your building or equipment housing structure. The ODU is connected directly to the antenna and cable-connected to the MMU.

KEY FEATURES

- Native Ethernet with native TDM support
- 6 to 38 GHz licensed bands
- Scalable to 700 Mbps (full duplex with XPIC)
- Cross Polarization Interference Cancellation (XPIC) support
- 7 to 80 MHz configurable channel widths
- Built-in T1/E1 cross-connection switch
- Built-in L2 Ethernet switch
- Non-protected, HSB protected and ring configurations
- Spatial and frequency diversity

These easy-to-deploy systems offer the convenience of an indoor CMU with the cost savings afforded by cable versus waveguide.

PTP 810i All-Indoor systems deliver up to 477 Mbps with XPIC and operate over Federal Communication Commission (FCC) and Industry Canada (IC) authorized 6 and 11 GHz bands. Where weather conditions limit tower climbs or where towers are located in areas that are not easily accessible, the PTP 810i offers an excellent option. A link consists of a rack-mountable Indoor Radio Frequency Unit (IRFU) and MMU installed inside your building or equipment housing structure. The high-power radio sends and receives transmissions through a waveguide which connects the IRFU to an antenna on a tower or rooftop. Once installed, you have easy access to the equipment without a tower climb.

CONFIGURATION CHOICES

Your individual network infrastructure and applications will determine which of our PTP 810 configuration options best addresses your needs. Options include:

- **1+0 Non-Protected:** A 1+0 link is a single link with no redundancy protection. In the event of a hardware failure, the link would incur an outage until the failed unit is replaced. Non-redundant links are good choices where you would not incur significant consequences in the event of a communication outage.
- **1+1 Protected:** A 1+1 link is a single link with redundancy protection. In the event of a hardware failure, the link will continue working while the failed unit is being replaced. The PTP 810 supports 1+1 Hot Standby (HSB) protection, with or without spatial diversity. In addition, PTP 810 systems support 1+1 Frequency Diversity using two distinct frequency channels. So, you can choose the diversity method you prefer.
- **2+0 Ring/Aggregation:** With a 2+0 ring configuration, each MMU is setup in an East/West configuration. Each MMU is connected to two radio units. One radio transmits and receives in one direction of the ring architecture, and the other radio transmits and receives in the other direction. In a 2+0 East/East configuration for link aggregation, each MMU is also connected to two radios. However, both radios transmit and receive in the same direction to the radio at the opposite end of the link.
- **Protected PDH Ring:** Protection is achieved through two paths, the working path and the protected path. If an outage occurs in a ring segment, connectivity is restored by switching the traffic from the working path to the

protected path on either side of the outage. When the outage is corrected, reversal to the working path can be performed automatically or manually.

- **SNCP-Like Protected T1/E1:** Ideal for ring deployments with both wireless and wired segments, this option enables interoperability between PTP 810 and third-party equipment.
- **Protected Ethernet Ring:** This architecture protects the network management system and the payload Ethernet network, and can perform self-healing operations. Rapid Spanning-Tree Protocol (RSTP) can restore connectivity in the event of an outage.

FUTURE-PROOF PLATFORM

Packet-based networks move massive amounts of information very efficiently and at much lower costs than traditional circuit-switched networks. However, migrating from TDM to an IP-based network without experiencing communication interruptions can be challenging. Employing a hybrid approach often can be an excellent solution. Our PTP 810 systems allow you to support IP-based devices and applications while still using elements of your legacy TDM systems. So, you can leverage your legacy investment while starting to take advantage of the cost efficiencies and performance benefits of packet-based Ethernet technology.

PUT PTP 810 TO WORK FOR YOU

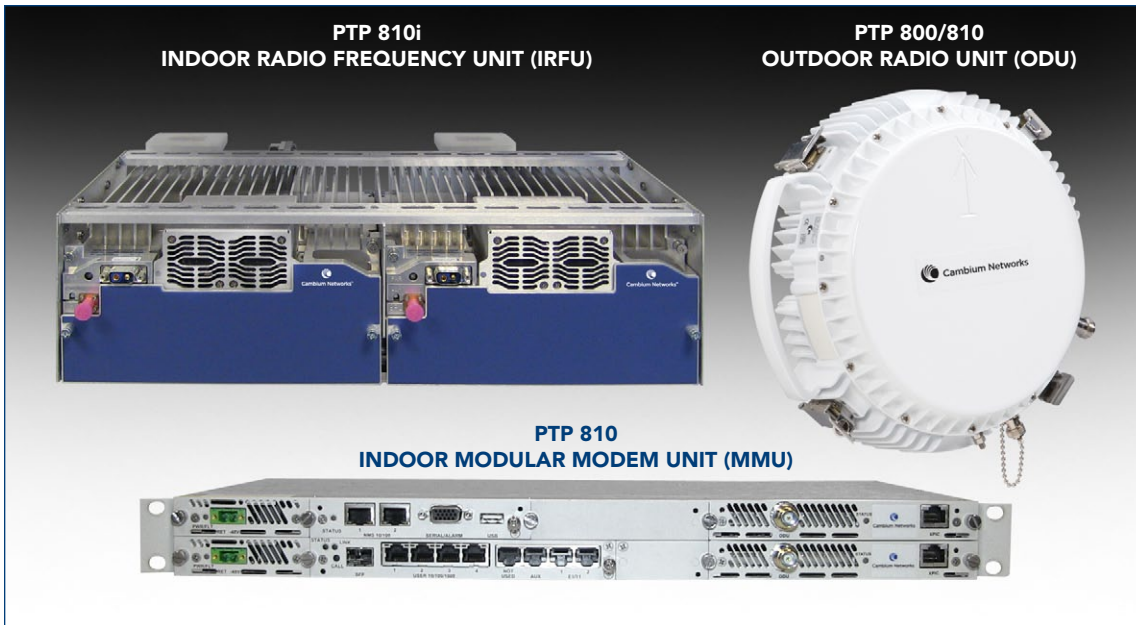
PTP 810 solutions are excellent connectivity and backhaul solutions for organizations such as service providers, government and public safety agencies, utilities, transportation companies, and business enterprises. Typical applications include, but are not limited to:

- **Leased-Line Replacement:** Replace or supplement leased-line service to reduce or eliminate recurring fees.
- **LTE/4G Backhaul:** Supply high-capacity backhaul for LTE and 4G networks.
- **Video Surveillance Backhaul:** Affordably and reliably backhaul video from surveillance cameras to a dispatch or command center.
- **Network Redundancy:** Provide network redundancy for wired or fiber networks.
- **Remote Connectivity:** Support teleworkers, mobile personnel and field technicians with always-on access and collaborative communications.
- **Wireless Network Extensions:** Connect remote locations where wired service does not exist.
- **Building-to-Building and Campus Connectivity:** Connect between buildings or connect buildings in a campus setting.

REDUCE CAPEX AND OPEX

PTP 810 systems are designed to help you reduce your capital expenditures and operating expenses. Significant savings can be realized by replacing leased-line service with carrier-grade wireless communications. The systems include an embedded L2 switch that is optimized for Ethernet traffic and an embedded T1/E1 cross-connection switch. This

saves you the costs of external switches and added cabling. Ease of deployment and flexible network management options help you reduce your installation and management man-hours. Plus, our ruggedized radios are designed to withstand the rigors of outdoor conditions, saving you troubleshooting and maintenance man-hours.



For more information, refer to the [PTP 810i Specification Sheet](#).