Cambium Networks™

CAMBIUM PTP 200 SERIES **BIG RESULTS** ON A **SMALL BUDGET**

POINT-TO-POINT (PTP) 200 SERIES WIRELESS BROADBAND SOLUTIONS

FEATURES YOU WANT AT A PRICE YOU NEED

Your organization may be one of many organizations that find themselves in a performance-versus-budget quandary. You need high-speed, reliable communications to support current and future applications but are restricted by budgetary limitations. We understand your dilemma. So, our Cambium Point-to-Point (PTP) 200 Series Solutions are designed to give you high-performance connectivity and backhaul for a remarkably small investment.

ACCELERATE SPEED AFFORDABLY

Whether you want to replace T1/E1 lines with wireless broadband, increase throughput for bandwidth-intensive applications or backhaul voice and video traffic, PTP 200 Series solutions can provide affordable and reliable communications to support your applications. The systems communicate effectively in line-of-sight (LOS) and near-line-of-sight (nLOS) environments and operate in the 4.9, 5.4 and 5.8 GHz radio frequencies (RF) at Ethernet data rates up to 256 Mbps. There are three product platforms within the PTP 200 family of solutions, the PTP 200, PTP 230 and PTP 250.

Platform[1]	PTP Model	RF Band	Channel Width	Maximum Data Rate
200	49200	4.9 GHz	10 MHz	21 Mbps
230	54230 58230	5.4 & 5.8 GHz	20 MHz	50 Mbps
250	5X250	5.4 & 5.8 GHz Dual Band	20 MHz	112 Mbps
			40 MHz	256 Mbps

DUAL-BAND FLEXIBILITY WITH PTP 250

Our PTP 250 solutions are dual-band radios operating in the 5.4 and 5.8 GHz[2] frequencies. A simple configuration change is all that is needed to change frequencies. With MIMO (Multiple-Input Multiple-Output), up to 256 Mbps and an extremely attractive price point, you can supply the high-throughput needed to support your ever-increasing volume of multimedia information. Plus, PTP 250 radios can deliver 234,000 packets-per-second (PPS) for best-in-class packet performance in small-packet applications such as Voice-over-IP (VoIP). Industry-leading performance and diagnostic tools help you install and optimize the radios for peak performance. The systems are available in both Integrated and Connectorized versions to give you even more flexibility.

- **Integrated:** With built-in antennas, Integrated models are ideal for environments where high-throughput and affordability are major requirements.

- **Connectorized:** Connectorized models offer you the high-gain advantage of external antennas, allowing you to connect over greater distances than with the Integrated systems.

GREATER RANGE WITH PTP 230

These very affordable systems can help you communicate reliably over long distances. With a PTP 54230 or PTP 58230 system, you can extend your coverage up to 18 miles (29 km) when configured with a passive LENS or up to 80 miles (128.7 km) with a reflector.

In addition, these radios are excellent choices when you need to deploy multiple radios on a tower or rooftop. Because both the PTP 54230 and PTP 58230 models can synchronize communications using a GPS timing device, you can collocate radios while virtually eliminating self-interference. Synchronization can be achieved by deploying your PTP 54230 or 58230 system with a compatible Point-to-Multipoint (PMP) Cluster Management Module (CMM) or a Universal GPS module. In many cases, sharing tower or rooftop space can reduce your operating expenses.

PUBLIC SAFETY WITH PTP 49200

Operating in the 4.9 GHz spectrum dedicated to public safety, PTP 49200 systems give budget-constrained, public safety officials reliable wireless broadband communications. In LOS and nLOS environments, these systems deliver up 21 Mbps Ethernet data rates and can span single-hop links of up to 15 miles (24 km). You can select a PTP 49200 version with 56-bit DES or 128-bit AES encryption to supply robust over-the-air security. With Orthogonal Frequency Division Multiplexing (OFDM) technology, an extremely affordable investment cost and a low cost of ownership, these systems offer a superb option to meet rigorous public safety communication requirements.

UNWAVERING QUALITY

Affordability means nothing if your system is plagued with operational problems. True value combines affordability with reliability and high performance. To achieve that, we put the same quality engineering and attention to detail into our PTP 200 Series systems as our other PTP and PMP systems. So, you can be confident that your PTP 200 Series solution will deliver the performance promised. In addition, our extensive wireless experience and expertise are available to help you with configuration, training, maintenance and support services.

PTP 200 SOLUTIONS

- PTP 200 – 4.9 GHz
- PTP 230 – 5.4 and 5.8 GHz
- PTP 250 – Dual-band 5.4 and 5.8 GHz

[1] PTP 200 systems are based on three separate platforms, and upgrades are not available from one platform to another.

[2] Only the 5.8 GHz band will be available in the U.S. and Canada until the Federal Communications Commission (FCC) and Industry Canada (IC) authorize use of the 5.4 and 5.8 GHz dual-band functionality.

PTP 200 SERIES
- PTP 49200
- PTP 54230 or 58230
- PTP 5X250 Connectorized
- PTP 5X250 Integrated

"NO SURPRISES" LINK PLANNING

The secret to any successful deployment is proper link planning. The Cambium PTP LINKPlanner is our customized link planning tool[3] that lets you determine link performance characteristics prior to purchase, based on geography, distance, antenna height, transmit power and other environmental factors. You can optimize a single link or multiple links simultaneously and change input data to see the effect on performance. Once a link is optimized, the performance report provides information to guide installers through a quick, no-surprises installation. PTP LINKPlanner is available online as a stand-alone tool.

Because path conditions can vary dramatically from one deployment to another, it is vital that you use PTP LINKPlanner to confirm which solution is best for your specific requirements. While PTP 200 Series radios will perform reliably in many environments with minor obstructions and interference, using PTP LINKPlanner will help you determine the best solution for your specific path conditions.

CAMBIUM PTP 200 SERIES WORKS FOR YOU

A PTP 200 Series solution is an excellent choice if you want an affordable, medium-to-high throughput radio to span a medium-to-long-distance path with minimal interference and minor obstructions. Designed to support the growing demand for always-available connectivity, PTP 200 Series systems offer real value to a wide variety of organizations, including:

- **Wireless Internet Service Providers (WISPs):** PTP 200 Series solutions can help you drive new revenue streams by meeting growing bandwidth demands from existing customers and extending services to new subscribers. You can also help eliminate network bottlenecks with cost-effective and reliable traffic backhaul.

- **Enterprises:** Whether linking a headquarters to a warehouse, deploying video surveillance or accessing confidential information, PTP 200 Series systems offer an impressive ROI for organizations such as manufacturers, utility companies, retailers and hotels.

- **Vertical Markets:** Organizations such as wholesale distributors, municipalities, state and county governments, schools and universities, and health care providers can cost-effectively support a wide variety of bandwidth-intensive applications including telemedicine, distance learning, video conferencing, work collaboration and on-demand video.

GOOD CHOICES FUEL GOOD DECISIONS

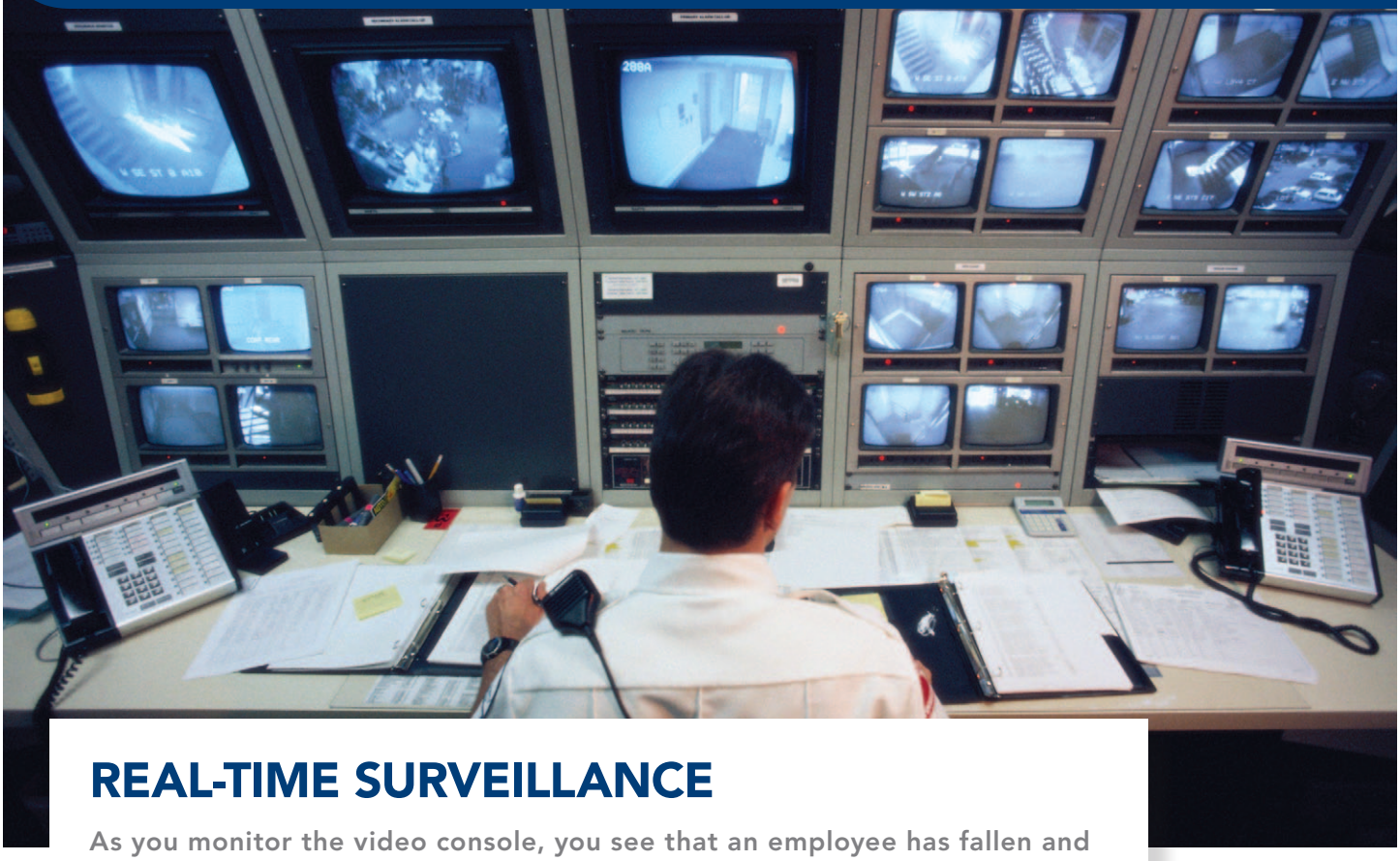
There are several factors (e.g., bandwidth requirements, applications, path conditions, infrastructure complexities, budget, etc.) that will influence your solution decision. Some links have to perform in obstructed paths through severe weather conditions, while other links operate in environments with minor obstructions and moderate weather. Certain applications require high throughput, while others can operate efficiently at lower data rates. As a result, our PTP portfolio includes solutions for virtually any point-to-point connectivity and backhaul requirements.

Within the PTP portfolio, our PTP 100, 200, 230 and 250 Series solutions are our most affordable systems. They are designed for organizations with constrained budgets and environments with minimal obstructions and interference. With mid-range to high-throughput communications, you can select the model that best meets your application requirements.

For environments with major obstructions, high interference and long-distance paths, our PTP 500 and PTP 600 Series solutions provide excellent alternatives. Our PTP 800 solutions give you the advantages of licensed exclusivity and high-speed communications in line-of-sight environments. With systems offering data rates from 7 to 730 Mbps, you can find the right solution to meet your specific throughput requirements. Plus, all our PTP solutions can work together and combine with our point-to-multipoint solutions to form a complete wireless broadband system.

[3] PTP LINKPlanner may not perform calculations for certain PTP systems.

CASE FILE: **ENTERPRISE**



REAL-TIME SURVEILLANCE

As you monitor the video console, you see that an employee has fallen and needs medical attention. So, you contact 9-1-1 and request an ambulance. They will be at your facility in minutes. You have already notified building security to stay with the employee and to have someone ready to admit the emergency medical technicians (EMTs). Your network of strategically-placed cameras makes it possible to keep a watchful eye on the enterprise. Plus, you can view everything in real time with your preferred PTP 200 Series system to stream video from the cameras to your control center. In fact, you see the EMTs approaching right now.

For more information, refer to the Cambium PTP 200 Series Product Specification Sheet or visit cambiumnetworks.com.

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www.cambiumnetworks.com

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