



Motorola PTP 49600 Bridge

4.9 GHz point-to-point solutions for public safety

Today, government agencies have more informational demands than ever before – information that is vital to preserving the national security and the safety of its citizens. To empower public safety officials with highly available and reliable communication capabilities, the U.S. Federal Communications Commission (FCC) designated 50 MHz of the 4.9 GHz frequency band* for communications to ensure public safety for both catastrophic and day-to-day initiatives. However, having available spectrum is only one part of the solution. Police officers, firefighters, emergency medical teams and government officials also need high-performance, super-reliable communication systems to send and receive the crucial information needed to protect and serve citizens while ensuring their own personal safety.

PTP 49600 – A Vital Communications Resource

Motorola's PTP 49600 Point-To-Point Wireless Ethernet Bridges are designed to meet even your most stringent data, voice and video requirements:

- Supplying timely, uninterrupted Internet and database access
- Backhauling traffic from video surveillance cameras, Motorola Mesh nodes, 4.9 GHz hot-spots and command centers
- Extending video surveillance beyond the confines of a wired network
- Connecting previously inaccessible locations
- Quickly establishing connectivity for disaster recovery, emergency services and special events
- Replacing leased lines to reduce operating costs or improve performance on poorly performing lines

Pairing PTP 49600 and ASTRO® Systems for Public Safety

Because PTP 49600 solutions offer carrier-class reliability, support wayside T1/E1 links and have very low latency (as low as 2 ms or less each way), the bridges are an excellent enhancement to Motorola ASTRO deployments for applications such as:

- Robust, cost-effective backhaul, especially where ASTRO infill sites are located in inhospitable terrain
- Connectivity between base sites
- Last-mile access
- Broadband access at tower sites
- Quick deployment for an emergency or disaster recovery with a PTP 49600 link included in a pre-mounted RF site
- Cost-effective secondary links

*Regulatory conditions for the 4.9 GHz band should be confirmed prior to system purchase.

DATA SHEET

MOTOROLA PTP 49600 BRIDGE



Around Trees and Buildings, Over Hills and Water

PTP 49600 bridges deliver secure, high-capacity, super-reliable connectivity in virtually any environment – over non-line-of-sight and long-distance line-of-sight paths, over water and open terrain, even in extreme weather conditions. This robust functionality means that you can deploy PTP 49600 bridges in the locations where they are most needed and have the confidence that they'll perform.

Choice and Flexibility

Because there are several factors (e.g., bandwidth requirements, applications, path obstructions, infrastructure complexities, budget, etc.) that will influence your solution decision, Motorola offers two models within the PTP 49600 product line, giving you the flexibility to configure the solution that best meets your needs.



- **Integrated:** With Ethernet data rates up to 125 Mbps, configurable 5, 10 and 20 MHz channel sizes and multiple built-in antennas, the Integrated model is ideal for near- and non-line-of-sight environments.

- **Connectorized:** Combining all the technology and features found in the Integrated system, the Connectorized model offers the high-gain advantage of external antennas. In extremely adverse environments, including deep non-line-of-sight, these systems allow you to connect over greater distances, at a higher level of reliability and speed than comparable bridges.

Additional Information

For more information on Motorola's PTP 49600 solutions, refer to the PTP 49600 Specification Sheet and the PTP 600 Brochure and Fact Sheet. For information on warranties, refer to the PTP Extended Warranty Data Sheet.

Powerful Technologies for Signal Constancy

The PTP 49600's unique combination of innovative technologies allows the bridges to overcome the signal attenuation, fading, dispersion and polarization that degrade all radio signals:

- **Multiple-Input Multiple-Output (MIMO)** – minimizes signal fading due to path obstructions or atmospheric disturbances
- **Intelligent Orthogonal Frequency Division Multiplexing (i-OFDM)** – transmits data on multiple frequencies, resulting in higher channel bandwidth and greater resistance to interference and fading
- **Adaptive Modulation** – optimizes modulation to transmit the maximum amount of data while maintaining the highest levels of link quality

- **Advanced Spectrum Management with i-DFS** – self-selects the frequency over which the bridge can sustain the highest data rate at the highest availability
- **Best-in-Class Radios** – offer the highest system gain in their class through the use of high transmit power and sensitive receivers
- **Inherent Spatial Diversity** – combats ducting and multi-path fading via vertically separated antennas at one or both ends of a link
- **Time Division Duplex (TDD) Synchronization** – synchronizes transmit and receive signals, allowing network operators to collocate multiple radios on a rooftop or tower with greatly reduced interference

Speed, Quality-of-Service and Easy Deployment

The PTP 49600 outperforms comparable systems by providing a robust feature set that delivers:

- Up to 99.999% availability, even in challenging conditions
- Up to 125 Mbps data throughput to carry high-bandwidth voice, video and data traffic fast and reliably
- Traffic prioritization, providing quality-of-service that preserves even the most demanding voice communications
- Fast deployment - typically in one or two days
- Easy installation - pre-configured with audio and graphical alignment-assistance features
- Easy, flexible system management using SNMP or Canopy® Prizm
- Reassuring security - proprietary over-the-air scrambling mechanism and optional FIPS-197 compliant, 128-bit and 256-bit AES encryption

Motorola Wireless Broadband

Motorola's industry-leading portfolio of reliable and cost-effective wireless broadband solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed connectivity systems that support data, voice and video communications, enabling a broad range of fixed and mobile applications for public and private networks. With Motorola's innovative software solutions, customers can design, deploy and manage broadband networks, maximizing up-time and reliability while lowering installation costs.



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