



Motorola PTP 45600 Bridge

Point-to-point connectivity for Federal and NATO use

The 4 GHz licensed spectrum has been designated for use by the U.S. Federal Government and NATO countries for fixed and mobile communications. After a simple licensing process, Federal and NATO agencies have exclusive rights to use this interference-free spectrum for a variety of applications including, but not limited to, battlefield communications, public safety, video surveillance, border security, tactical military operations, training and simulation networks, building-to-building connectivity and traffic backhaul.

High-Bandwidth Maneuvers

Operating in the 4.4 to 4.6 GHz frequencies, the Motorola wi4 Fixed Point-to-Point (PTP) 45600 Wireless Ethernet Bridges are designed to support U.S. Federal Government and NATO applications with cost-effective, high-throughput connectivity in virtually any environment. With technology that allows you to connect previously inaccessible locations, PTP 45600 solutions can deliver up to 99.999% availability in non-line-of-sight environments, across long-distance line-of-sight paths, over water and open terrain, even through extreme weather conditions, facilitating:

- Network connections around buildings and hills, through trees, over water
- Single-hop, long-range line-of-sight links – even across desert terrain
- Fixed or portable data, voice and video communications
- Robust backhaul communications

To ensure secure transmissions, each PTP 45600 radio is pre-programmed to communicate only with a matched partner, eliminating “man-in-the-middle attacks.” Added security is provided through a unique scrambling mechanism that secures over-the-air transmissions. Plus an optional layer of security can be applied with 128- or 256-bit AES encryption.

DATA SHEET

MOTOROLA PTP 45600 BRIDGE
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Choice and Flexibility

Recognizing that there are a number of internal and external factors (e.g., infrastructure complexities, budget, bandwidth requirements, path characteristics, applications, etc.) that will influence your solution choice, the Motorola PTP 45600 bridges are available in two models to meet your specific requirements:

Model	Description
PTP 45600 Integrated	With dual built-in antennas, the Integrated model is an excellent choice for near- and non-line-of-sight environments and long-distance line-of-sight paths.
PTP 45600 Connectorized	The PTP 45600 Connectorized bridges combine all the innovative technology of the Integrated model with the high-gain advantage of external antennas, enabling connections up to 124 miles (200 km) in extremely adverse environments, including deep-non-line-of-sight and long-range line-of-sight.



Both models offer selectable 5, 10, 15 and 30 MHz channel sizes and varying Ethernet data rates:

PTP 45600 Channel Size	Maximum Ethernet Data Rate
5 MHz Channel	Up to 45 Mbps
10 MHz Channel	Up to 90 Mbps
15 MHz Channel	Up to 135 Mbps
30 MHz Channel	Up to 300 Mbps



Powerful Technologies

The system's carrier-class reliability and high-speed throughput are possible because of a unique combination of key technologies built in to PTP 45600 bridges:

- 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 signal fading
- Adaptive Modulation – continually optimizes modulation to transmit the maximum amount of data while maintaining the highest levels of link quality

- High System Gain – allows communications to go farther and faster than comparable systems
- Advanced Spectrum Management with *Intelligent* Dynamic Frequency Selection – self-selects the frequency over which the bridge can sustain the highest data rate at the highest availability
- Time Division Duplexing (TDD) Synchronization – times and synchronizes transmit and receive signals, enabling co-channel operations; requires the Memorylink UltraSync™ GPS-100M synchronization unit to provide an accurate timing reference for each TDD-enabled link

Commanding Performance and ROI

With high throughput, low latency and consistently high availability, Motorola's PTP 45600 solutions can deliver the toughest U.S. Federal Government and NATO applications flawlessly. The system's portable packaging makes it an excellent solution for tactical deployments, while the Connectorized model is a superb option for longer, permanent fixed deployments.

Whether deployed as a stand-alone system or integrated with Motorola's Point-to-Multipoint, WiMAX, Mesh or Indoor solutions, the PTP 45600 is designed to perform at top rank in virtually any environment, under even the toughest conditions. Because the PTP 45600 is so cost-effective, most government and NATO organizations can realize a return on their investment within a year.

MOTOwi4™

The wi4 Fixed PTP 45600 Series Wireless Ethernet Bridges are included in Motorola's MOTOwi4 portfolio of innovative wireless broadband solutions that create, complement and complete IP networks. Delivering IP coverage to virtually all spaces, the MOTOwi4 portfolio includes wi4 Fixed, wi4 Mesh, wi4 Indoor and wi4 WiMAX solutions for high-speed connectivity over private and public networks.

Additional Information

For more information on Motorola's PTP 45600 solutions, refer to the PTP 45600 Specification Sheet and the PTP 600 Fact Sheet. For information on Motorola's warranties for these PTP products, refer to the PTP Extended Warranty Data Sheet. To learn more about the GPS synchronization unit used with the PTP 45600's TDD synchronization technology, refer to the Memorylink UltraSync™ GPS-100M Synchronization Guide.



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