



## MOTOROLA WIRELESS BROADBAND

# PTP 45600 and 48600 Bridges

## 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 spectrum for a variety of Department of Defense (DoD) and non-DoD applications including, but not limited to, battlefield communications, Land Mobile Radio (LMR) backhaul, public safety, video surveillance, border security, training and simulation networks, building-to-building and campus connectivity, and T1/E1 replacement.

### Motorola Wireless Broadband

Motorola's Wireless Broadband and our WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, Wi-Fi and WiMAX networks that support data, voice and video communications, enabling fixed and mobile applications for public and private systems.

### High-Bandwidth Maneuvers

Motorola offers two point-to-point (PTP) wireless broadband solutions that are optimized to meet the needs of Federal and NATO agencies – the PTP 45600 which operates in the 4.4. to 4.6 GHz licensed radio frequencies and the PTP 48600 which operates in the 4.7 to 5.0 GHz licensed frequencies. Both the PTP 45600 and PTP 48600 Wireless Ethernet Bridges provide outstanding throughput, reach and reliability to support tactical communications, Telemetry and LMR backhaul, persistent awareness, hub-and-spoke backhaul for edge mobility and a host of other connectivity operations.

With technology that allows you to connect previously inaccessible locations, PTP 45600 and PTP 48600 solutions can deliver up to 99.999% link 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

To secure transmissions, each point-to-point radio is pre-programmed to communicate only with a user-configured counterpart at the opposite end of the link, greatly reducing the risk of "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-bit or 256-bit AES encryption.

## DATA SHEET

MOTOROLA PTP 45600 AND PTP 48600 BRIDGES  
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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 PTP 45600 and PTP 48600 bridges are available in two models to meet your specific requirements.

- 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
- Best-in-Class Radios – offer the highest system gain in their class through the use of high transmit power and ultra-sensitive receivers, allowing 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 Duplex (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

Model	Description
PTP 45600 Integrated and PTP 48600 Integrated	With dual polar built-in antennas, the Integrated models are excellent choices for near- and non-line-of-sight environments and long-distance line-of-sight paths.
PTP 45600 Connectorized and PTP 48600 Connectorized	These bridges combine all the innovative technology of the Integrated models 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 the Integrated and Connectorized models offer selectable channel sizes and varying Ethernet data rates:

PTP 45600 Channel Sizes	Maximum Ethernet Data Rate
5 MHz Channel	Up to 48 Mbps
10 MHz Channel	Up to 100 Mbps
15 MHz Channel	Up to 150 Mbps
30 MHz Channel	Up to 300 Mbps
PTP 48600 Channel Sizes	Maximum Ethernet Data Rate
5 MHz Channel	Up to 48 Mbps
10 MHz Channel	Up to 100 Mbps
20 MHz Channel	Up to 150 Mbps*

\* 200 Mbps will be available in the PTP 08-02 software release planned for August 2009.



### Powerful Technologies

Carrier-class reliability and high-speed throughput are possible because of a unique combination of key technologies built into PTP 45600 and 48600 bridges:

### Commanding Performance and ROI

With high-throughput, low latency and consistently high availability, the PTP 45600 and PTP 48600 are designed to perform at top rank in virtually any environment, even under the toughest conditions. Portable packaging makes the systems excellent for tactical deployments, while the Connectorized models are superb for longer, permanent fixed deployments. Because PTP 45600 and PTP 48600 solutions are so cost-effective, most government and NATO organizations can realize a return on their investment within a year.

### Additional Information

For more information, refer to the PTP 45600 and PTP 48600 Specification Sheet and the PTP 600 Brochure and Fact Sheet. For warranty information, refer to the PTP Extended Warranty Data Sheet. To learn more about the GPS synchronization unit used with these bridges, refer to the Memorylink UltraSync™ GPS-100M Synchronization Guide.



Motorola, Inc., 1303 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. • [www.motorola.com/ptp](http://www.motorola.com/ptp)

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