



Motorola PTP 49400 Bridge

4.9 GHz point-to-point solutions for public safety

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. However, having available spectrum is only one part of the solution. Police officers, firefighters, emergency medical teams and government officials also need reliable wireless systems to send and receive the voice, video and data required to protect and serve citizens.

Seamless Mobility, Ultra-Reliable Connectivity

With its commitment to Seamless Mobility, Motorola responded with an end-to-end solution that provides public safety officials with easy, uninterrupted access to information – even in the most challenging conditions. By seamlessly rolling broadband wireless into two-way radio or cellular communications, Motorola's solution supports public safety teams whether stationary or on the move.

Available as a stand-alone solution or integrated into Motorola's end-to-end solution, the PTP 49400 Point-to-Point Wireless Ethernet Bridges provide a high-capacity 4.9 GHz system for fixed and rapid deployment networks that is ideal for:

- Replacing T1 links and reducing monthly costs
- Backhauling video surveillance cameras or 4.9 GHz traffic
- Connecting previously inaccessible locations
- Backhauling a Motorola 4.9 GHz hot-spot
- Providing building-to-building connectivity

Around Trees and Buildings, Over Hills and Water

PTP 49400 bridges deliver high-capacity, super-reliable connectivity when and where it's needed. The systems can send and receive information in virtually any environment – non-line-of-sight and long distance line-of-sight paths, high-interference areas, over water and open terrain, even in extreme weather conditions – allowing placement of devices, such as video cameras, in the locations where they are most needed.

Powerful Technologies for Signal Constancy

Motorola combines several powerful technologies in the PTP 49400 that allow 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

DATA SHEET

MOTOROLA PTP 49400 BRIDGE

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- Advanced Spectrum Management with *i*-DFS (*Intelligent* Dynamic Frequency Selection) – self-selects the frequency over which the bridge can sustain the highest data rate at the highest availability
- Adaptive Modulation – continually optimizes modulation to transmit the maximum amount of data while maintaining the highest levels of link quality
- Spatial Diversity – combats ducting and multi-path fading via vertically separated antennas at one or both ends of a link

Speed, Quality-of-Service and Easy Deployment

The PTP 49400 outperforms comparable systems by providing a robust feature set that delivers:

- Up to 99.999% availability, even in challenging conditions
- Up to 35 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 – comes pre-configured with an audio alignment feature
- Easy, flexible system management using SNMP or Canopy® Prizm
- Reassuring security – proprietary over-the-air scrambling mechanism and optional FIPS-197 compliant, 128-bit AES encryption

Choice and Flexibility

Incorporated in Motorola's MOTOwi4 portfolio, the PTP 49400 bridges are available in several models to meet your specific requirements:

- Integrated: With Ethernet data rates up to 35 Mbps and built-in antennas, this 4.9 GHz solution is ideal for near- and non-line-of-sight environments.
- Connectorized: Combining all the innovative technology found in the Integrated model, along with data rates up to 35 Mbps, this 4.9 GHz bridge includes 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 at higher speeds than comparable bridges.

- Lite Integrated or Lite Connectorized: Both Integrated and Connectorized models are available in a Lite version, with Ethernet data rates up to 17 Mbps at a reduced price. An excellent choice for growing municipalities and any budget-constrained organization, the PTP 49400 Lite offers all the technological advantages of the full-speed versions. As throughput requirements increase, the Lite models are software upgradeable to 35 Mbps.

Applications and ROI

With primary use prescribed for fixed and mobile wireless services, the 4.9 GHz spectrum promotes both catastrophic and day-to-day public safety initiatives. The PTP 49400 point-to-point wireless Ethernet bridges deliver the high-bandwidth voice, video and data traffic that public safety officials require for applications, such as on-scene streaming video, Internet and database access, large file transfers of maps, blueprints, medical files and missing-person images, backhaul for wireless networks, and temporary fixed point-to-point links.

When you factor in the PTP 49400's cost-effectiveness, speed-of-deployment and ease-of-use, public safety organizations find that the return on their investment is typically less than one year.

Additional Information

For more information on Motorola's PTP 49400 bridges, refer to the PTP 49400 Technical Specifications and the PTP 400 Fact Sheet.

MOTOwi4™

Motorola's MOTOwi4 portfolio of innovative wireless broadband solutions creates and completes IP networks. Delivering IP coverage to virtually all spaces, the MOTOwi4 portfolio includes Fixed Broadband, WiMAX, Mesh, and Broadband-over-Powerline solutions for private and public networks.

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



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