



# ***Motorola Point-to-Point 300 Series***

Wireless Ethernet Bridges



**MOTO**<sup>4</sup>**WI**

# Reliable, Cost-Effective Connectivity Virtually Anywhere

## Right Performance, Right Price

Until now, many emerging companies and government agencies have had to choose between performance and price when expanding their communication capabilities. The challenges of meeting bandwidth and environmental requirements while staying within budgetary guidelines frequently meant having to buy less, pay more or simply postpone. That's no longer true. With Motorola's wi4 Fixed Point-to-Point (PTP) 300 Series solutions, you can have reliable, secure, high-throughput connectivity even in challenging environments – and still stay within your budget. As a result, growing wireless ISPs as well as small and medium-sized enterprises can realize the productivity and economic benefits of high-performance connectivity.

## Robust Communications in Challenging Environments

Operating in the 5.4 and 5.8 GHz radio frequency (RF) bands at up to 25 Mbps throughput, the PTP 300 Series Wireless Ethernet Bridges are designed to reliably transport your data, voice and video communications in virtually any environment – non-line-of-sight, high-interference and long-range line-of-sight paths, over water and open terrain, even in extreme weather conditions. Motorola's unique combination of technologies makes it feasible for budget-constrained organizations to meet a variety of communication needs, including:

- Building-to-building and campus connectivity
- High-speed Internet access
- Voice-over-IP and multimedia communications
- Reliable traffic backhaul
- Video surveillance

## More Range to Anywhere

PTP 300 Series links have class-leading sensitivity and power output, which enable the links to go farther than comparable systems – up to 155 miles (250 km). Plus, Motorola combines MIMO, i-OFDM and our advanced signal-processing algorithms to create four simultaneous channels between pairs of transceivers at each end of the link, without losing spectrum efficiency.

## Choice and Flexibility

PTP 300 Series bridges are available in several models to meet your individual requirements:

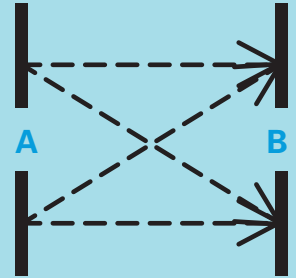
- **5.4 and 5.8 GHz Integrated:** With up to 25 Mbps Ethernet data rate and dual built-in antennas, the 5.4 and 5.8 GHz Integrated systems are the perfect choice for obstructed and high-interference environments where high availability is a major requirement.
- **5.4 and 5.8 GHz Connectorized:** The PTP 300 Series Connectorized models combine all the innovative technology found in the Integrated versions with the high-gain advantage of external antennas. Over long distances and in extremely adverse environments, including deep non-line-of-sight, these solutions let you connect over greater distance and at a higher level of reliability and speed than comparable wireless bridges.

## MOTOwi4™

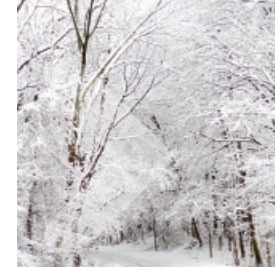
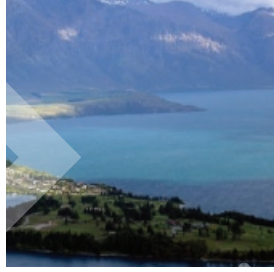
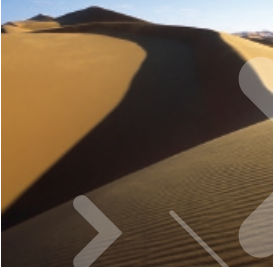
The wi4 Fixed PTP 300 Series bridges can operate as stand-alone systems or integrate easily with other systems in Motorola's MOTOwi4 portfolio of wireless broadband solutions that create, complement and complete IP networks. Delivering IP coverage to virtually all spaces, the MOTOwi4 portfolio includes wi4 Fixed, wi4 Mesh, wi4 Indoor and wi4 WiMAX solutions for high-speed connectivity over private and public networks.

## Superior Technology – Superior Results

PTP 300 Series solutions utilize the same, proven combination of technologies that has earned Motorola the number one market share in the unlicensed point-to-point global marketplace. Together these technologies enable the robustness and high performance of your links even in challenging conditions:



Data from A to B – or B to A – is sent on four channels, significantly increasing the likelihood that data will get through.



## Robust, Secure Wireless Ethernet Bridges for Obstructed and High-Interference Environments As Well As Long-Range Line-of-Sight Links, Including Those Over Water

- **Multiple-Input Multiple-Output (MIMO):**

The radio radiates multiple beams from the antenna – the effect of which significantly protects against fading and increases the probability of making a successful connection.

- **Intelligent Orthogonal Frequency Division Multiplexing (i-OFDM):**

In addition to MIMO transmitting the data twice, i-OFDM sends transmissions over multiple frequencies, or sub-carriers, enabling high spectral efficiency, high resistance to multi-path interference and fading, and instant fade recovery.

- **Adaptive Modulation:** The transmitter and receiver negotiate the highest mutually sustainable data rate – then dynamically “upshift” and “downshift” the rate as RF conditions change to provide the maximum throughput possible for the radio path.

- **Advanced Spectrum Management with Intelligent Dynamic Frequency Selection (i-DFS):**

At power-up and throughout operation, the radio samples the band up to 400 times a second and automatically switches to the clearest channel. The 30-day, time-stamped database alerts the network operator to any interference that does exist and provides statistics to help analyze these patterns. This Advanced Spectrum Management capability creates virtually interference-free performance in the band.

- **Best-In-Class Radios:** Motorola’s PTP radios offer the highest system gain in their class through the use of high transmit power and sensitive receivers.

### Integrated Lightning Protection

PTP 300 Series bridges provide built-in lightning protection capability, eliminating the need to deploy an external lightning protection device on a tower or wall adjacent to the radio. The lightning protection built into the PTP 300 radio contains all the protection required at the top of the tower or wall. In addition, an external PTP Lightning Protection Unit (PTP-LPU) is required near the base of the tower or wall at the cable entrance point leading to the network to protect the indoor LAN equipment.

Together the lightning protection capability built into the PTP 300 radio and the external PTP-LPU offer exceptional protection from the harmful effects of lightning. However, 100% protection is neither implied nor possible.

### Reassuring, Robust Security

With Motorola’s unique software, each PTP 300 wireless bridge will communicate only with its user-configured counterpart at the other end of the link – and with no other. In addition, communications are encoded using a unique scrambling mechanism to secure over-the-air transmissions. Another layer of security can be applied with FIPS-197 compliant 128-bit or 256-bit AES encryption (optional).

### Determine PTP Link Performance Prior To Purchase

Proper link planning is crucial to determine how a PTP 300 system will perform in your specific path conditions. With Motorola’s PTP LINKPlanner, you can project link performance and throughput prior to purchase based on the characteristics of geography, distance, antenna height, transmit power and other factors specific to your desired path.

Plus, the PTP LINKPlanner allows you to plan and optimize multiple PTP links simultaneously and provides a comprehensive overview of your entire network via Google™ Earth.

### Painless Setup and Service

Installation is fast and easy – so easy that many point-to-point links have been installed in a matter of hours. With the PTP 300’s built-in audio and graphical assistance, deployment is as simple as “power up and point.” Once installed, the bridges can operate for years in challenging environments and severe weather conditions.

### End-to-End System Management

Designed with an intuitive graphical user interface, PTP 300 Series bridges contain embedded web servers to manage a link either locally or remotely and are designed to easily integrate with web- or SNMP-based management systems and the Canopy® Prizm system.



Integrated



Connectorized

Typically, a PTP 300 system's performance means more productive users, less interference, lower cost of ownership and fewer connection points.

### Productivity Payoff

PTP 300 Series solutions are often the lower-cost option when you consider:

- The business impact from being able to connect in an area already saturated with RF or in environments that were previously inaccessible
- The economic impact from being able to provide high-speed Internet access
- The productivity gained by creating a seamless local-area-network between a headquarters location and a warehouse, branch office, retail outlet, service center or other facility
- The ability to meet growing bandwidth requirements for applications such as multimedia, video surveillance or voice-over-IP
- The ability to backhaul more local loops using a single link

### Put PTP 300 Bridges to Work for You

**Service Providers:** With high throughput, up to 99.999% availability and multi-level security, PTP 300 systems can offer highly reliable backhaul communications and help you grow subscriber networks by establishing service in distant locations.

**Enterprises:** PTP 300 solutions support ever-increasing communication requirements in environments where wired networks are too expensive or impossible to implement, while resisting interference and boosting performance for business-critical applications.

**Vertical Markets:** Whether linking separate networks within a building, linking networks in a campus environment, educating students in remote locations, sharing patient X-rays and digital images, or backhauling traffic, PTP 300 Series bridges offer reliable connectivity for multiple applications in a variety of markets, including government, transportation, hospitality, healthcare and education.

### Additional Information

For more information on Motorola's PTP 300 Series bridges, refer to the PTP 300 Series Specification Sheet. For information on Motorola's warranties for these PTP products, refer to the PTP Extended Warranty Data Sheet. To learn more about Motorola's PTP Lightning Protection Unit, reference the PTP-LPU Data and Specification Sheets.

### Authorization Note

The 5.4 GHz version of this device has not been authorized as required by the rules of the Federal Communications Commission (FCC). That device is not, and may not be, offered for sale or lease, or sold or leased in the United States, until authorization is obtained.



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