



**Tsunami™ MP-8160**

## End-to-End Broadband Wireless Product Portfolio

- **Tsunami™ MP-8100** – Wireless Point-to-Multipoint System Delivering 300Mbps Bandwidth
- **Tsunami™ MP.11** – Our best selling Point-to-Multipoint product line
- **MeshMAX** – An all-in-one solution containing Point-to-Multipoint, Wi-Fi mesh, and Wi-Fi access point radios
- **ORINOCO® AP** - The industry's Highest performance 802.11a/b/g/n access points
- **Tsunami™ MP.16** – WiMAX for the 3.3 – 3.65 GHz frequency bands

**Proxim Wireless** is a global pioneer of end-to-end broadband wireless systems that deliver the quadruple play of video, voice, data and mobility. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, Wi-Fi Mesh, WiMAX and point-to-point wireless backhaul products are available through our extensive global channel networks.

## Presenting a Wireless Solution that exceeds 4G Speed Requirements with 300 Mbps Bandwidth in 5.9 - 6.425GHz Frequency Range!

With over 20 years of wireless innovation, Proxim has been providing Point-to-Multipoint (PtMP) solutions to carriers of all sizes for many years. Leveraging the advantages of OFDM, MIMO radio innovations and Proxim's proprietary Wireless Outdoor Routing Protocol (WORP), the Tsunami™ MP-8160 exceeds the ITU requirements for 4G throughput speeds while providing Non-Line-Of-Sight functionality with the widest range of frequencies available. With incredible channel capacity, excellent spectrum flexibility and a prioritization platform for delivering voice, video and data applications, the MP-8160 satisfies service providers and government organizations with requirements for fast and worry-free wireless connectivity.

With data rates of 300 Mbps, the Tsunami™ MP-8160 is an ideal solution for everything from last mile broadband wireless access (BWA) to wireless video surveillance. As the industry's first PtMP product to provide dual Gigabit Ethernet ports with PoE out, the Tsunami™ MP-8160 becomes the first solution capable of powering IP video cameras or additional radios for even greater ease of deployment operating in extended frequencies from 5.9 - 6.425 GHz.

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### World-class Performance

- A fixed PtMP solution that can deliver 300 Mbps data rates
- The only PtMP product in the market to include dual Gigabit Ethernet ports, enabling higher throughput which would otherwise be limited by the 10/100 Ethernet ports seen in other devices
- Provides reliable high performance under all traffic loads using Proxim's Wireless Outdoor

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### Non-Line-of-Sight and Advanced Features

- Non-line-of-sight capable, utilizing OFDM and enhanced 3x3 MIMO techniques to improve link performance and penetrate through or around obstructions better
- Comes packaged in a compact form factor with a set of accessories for even greater ease of Installation
- Features dual Gigabit Ethernet ports with PoE in/out to power other devices like surveillance cameras and wireless access points
- Create tiered QoS service classes with ease

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### Widest Range of Frequencies

- Operates in licensed and unlicensed frequency bands
- Provides flexible channel planning with planned support for 5.9 – 6.425 GHz frequencies

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### Carrier-Grade Security

- Implements tiered security layers for the most secure outdoor wireless communications in the unlicensed frequency spectrum
- Utilizes Proxim's Wireless Outdoor Routing Protocol (WORP), which prevents snooping, and features highly-secure remote management via SSL, SSH and SNMPv3
- Provides military-grade security with AES encryption technology, prevents unsecure client-to-client communications and leverages MAC, Ether type and IP address packet filtering for granular network security

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### Part of a Product Family

- Connects to all existing MP-8100 Series Products
- Can utilize existing mounting kits of the Tsunami product line

<b>PRODUCT MODELS</b>													
MP-8160-BSU-WD	Tsunami MP-8160 Base Station Unit, 300 Mbps, 5.9-6.425 GHz, Type-N Connectors - WD PoE												
MP-8160-SUA-WD	Tsunami MP-8160 Subscriber Unit, 300 Mbps, 5.9-6.425 GHz, Type-N Connectors - WD PoE												
<b>INTERFACES</b>													
WIRED ETHERNET	Two auto MDI-X RJ45 10/100/1000Mbps Ethernet - Port #1 with PoE in & Data - Port #2 with PoE out (802.3af pin out) & Data												
WIRELESS PROTOCOL	WORP (Wireless Outdoor Router Protocol)												
<b>RADIO &amp; TX SPECS</b>													
MIMO	2x2 MIMO												
MODULATION	OFDM with BPSK, QPSK, QAM16, QAM64												
FREQUENCY	5.9-6.425 GHz (Subject to Country Regulations)												
CHANNEL SIZE	40 MHz, 20 MHz, 10 MHz, 5MHz												
DATA RATE	MCS 0 to 15 for High Throughput mode (6.5 – 300 Mbps)												
TX POWER	Up to 22dBm at antenna port												
TX POWER CONTROL	0 – 18dB, in 1dB steps												
RX SENSITIVITY (BER=10 <sup>-6</sup> )	<table border="1"> <thead> <tr> <th>Channel Size</th> <th>40 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>MCS 0 / MCS 8</td> <td>-86dBm / -84dBm</td> <td>-90dBm / -88dBm</td> </tr> <tr> <td>MCS 7</td> <td>-68dBm</td> <td>-73dBm</td> </tr> <tr> <td>MCS 15</td> <td>-66dBm</td> <td>-70dBm</td> </tr> </tbody> </table>	Channel Size	40 MHz	20 MHz	MCS 0 / MCS 8	-86dBm / -84dBm	-90dBm / -88dBm	MCS 7	-68dBm	-73dBm	MCS 15	-66dBm	-70dBm
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<b>ANTENNA</b>	Model MP-8160-BSU and MP-8160-SUA includes two N-type Antennas Connectors with built-in Surge Protection												
<b>MANAGEMENT</b>													
LOCAL	RS-232 serial (RJ11 to DB-9 dongle provided)												
REMOTE	Telnet and SSH, Web GUI and SSL, TFTP, SNMPv3												
SNMP	SNMP v1-v2c-v3, RFC-1213, RFC-1215, RFC-2790, RFC-2571, RFC-3412, RFC-3414, Private MIB												
<b>NETWORK</b>													
GATEWAY FEATURES	DHCP Server & relay, NAT with Std ALGs, Bridging, Routing, Syslog, SNTp												
QoS	<table border="1"> <tbody> <tr> <td>Asymmetric Bandwidth Control</td> <td>Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow</td> </tr> <tr> <td>Packet Classification Capabilities</td> <td>Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow</td> </tr> <tr> <td>Scheduling</td> <td>Best Effort, Real Time Polling Services</td> </tr> </tbody> </table>	Asymmetric Bandwidth Control	Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow	Packet Classification Capabilities	Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow	Scheduling	Best Effort, Real Time Polling Services						
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Scheduling	Best Effort, Real Time Polling Services												
VLAN	802.1Q: Management VLAN. Transparent, Access and Trunk mode												
<b>ENVIRONMENTAL SPECS</b>													
TEMPERATURE													
OPERATING	-40° to 60°C (-40° to 140° Fahrenheit)												
STORAGE	-55° to 80°C (-67° to 176° Fahrenheit)												
HUMIDITY	Max 100% relative humidity (non-condensing)												
<b>PHYSICAL SPECS</b>													
DIMENSIONS													
PACKAGED	15.94 x 15.94 x 8.46 in (405 x 405 x 215 mm)												
UNPACKAGED	10.51 x 10.51 x 3.27 in (267 x 267 x 83 mm)												
WEIGHT													
PACKAGED	14.77 lbs (6.7 kg)												
UNPACKAGED	7.27 lbs (3.3 kg)												
IP RATING	IP67												
SAFETY STANDARDS	UL 60950, CAN/CSA-C22.2 No. 60950, IEC 60950, EN 60950												
PACKAGE CONTENTS	<ul style="list-style-type: none"> <li>■ One Tsunami™ MP 8160-BSU with two N-type surge protected connectors or One Tsunami™ MP 8160-SUA with two N-type surge protected connectors</li> <li>■ One power injector and country specific power cord</li> <li>■ One Wall/Pole mounting kit</li> <li>■ One Connector weatherproofing kit (Includes all recommended weatherproofing material)</li> <li>■ Two N-connector weather proofing caps installed at factory (for Connectorized Version Only)</li> <li>■ One Serial (RJ-11 to DB9) dongle</li> <li>■ One Grounding kit</li> <li>■ One Gigabit PoE Surge Arrestor</li> <li>■ One Documentation</li> <li>■ Software CD-ROM</li> </ul>												
WARRANTY	1-year on parts and labor; ServPak Extended Support available												

## APPLICATIONS

- Last Mile Access**  
 Competitive broadband service access alternative to DSL or cable for residences and T1 or Ethernet for businesses
- Security and Surveillance**  
 High definition IP-surveillance cameras for monitoring city streets, airports, bridges, seaports, transportation, hubs, offices and warehouses
- Metropolitan Area Networks**  
 Secure and reliable connectivity between city buildings
- Emergency First Responders**  
 Critical information delivery such as medical data and video feeds during in-progress events
- Enterprise Campus Connectivity**  
 Extend the main network to remote offices, warehouses or other buildings without leased lines

For detailed technical specifications, please go to <http://www.proxim.com>

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