



### Outdoor Broadband Wireless Access

Proxim Wireless offers the industry's most complete suite of outdoor broadband wireless access products. This portfolio includes:

- **Tsunami™ MP.11** – Capabilities of fixed and mobile WiMAX for U.S. and global markets
- **Tsunami™ MP.16** – WiMAX for the 3.5 GHz frequency band
- **ORiNOCO® Wi-Fi Mesh** – Outdoor and indoor Wi-Fi mesh for service providers and municipalities

**Proxim Wireless** is a global pioneer in scalable broadband wireless networking. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, mesh, point-to-multipoint and point-to-point products are available through our extensive global channel network.

Consisting of an all-outdoor, single sector base station and multiple subscriber configurations (integrated antenna or N-Connector for external antenna), the Tsunami MP.16 series offers the most scalable, best value WiMAX certified system for the 3.5 GHz frequency band. Like all Proxim products, the MP.16 3500 continues to offer a comprehensive feature set to future-proof wireless networks.

- Housed in a ruggedized enclosure, the 3500 can be deployed in extreme weather conditions
- Frequency support for 3.5 GHz band
- Advanced revenue-enhancing features are standard – including flexible bandwidth provisioning for DSL, T1 or Ethernet-like tiered services

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### Scalable Networks

Proxim Wireless delivers a more scalable approach to system deployment, beginning with entry-level single-sector base stations and growing into six-sector macro base stations with GPS synchronization; this approach lowers the barrier to deploy WiMAX systems and enables a wider variety of service providers to use this technology, from rural providers requiring less dense configurations to metropolitan providers who need to support more nodes at closer range.

We are the only vendor in the world who can enable a truly scalable broadband wireless network. Only Proxim delivers a complete portfolio of additional technologies designed to augment WiMAX; Proxim also offers in-building enterprise Wi-Fi® solutions, as well as Wi-Fi mesh for the outdoor edge of a network, connecting to WiMAX for infrastructure and even wireless Gigabit for backhaul.

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### Experienced in WiMAX Applications

Drawing on Proxim's leadership in the point-to-multipoint arena, the 3500 products have been developed as platforms to leverage these applications. By leveraging the established Tsunami MP.11 product line, Proxim can evolve its expertise in serving the Service Provider markets with a product that is certified by the WiMAX forum.

- Leveraging existing software features, mechanical designs and customer channels poise Proxim Wireless to effectively address the WiMAX markets such as:
  - Cost-effective last mile access
  - Security and surveillance
  - Metropolitan networks
- Investment protection through common concept of network design and software feature sets, which includes rich management capabilities, most advanced encryption with AES and authentication via RADIUS, antenna alignment utility, and revenue-enhancing services with bandwidth control

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### Advanced Security Protects Privacy

Multiple security mechanisms protect operator, residential customer and enterprise privacy.

- Weatherized enclosure allows co-location on rooftops – limiting physical access
- Advanced encryption protects over-the-air transmission
- Client authentication with X.509 certificates
- Password protection of all remote management methods
- Easy integration with existing RADIUS systems for subscriber provisioning

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### Designed for Fast Installation and Lower Maintenance Cost

The 3500 incorporates hardware and software features that reduce labor costs associated with initial deployment and post-sales maintenance.

- Provides consistent deployment & user experience to Tsunami MP.11 product via an easy-to-use graphical interface
- Single UV-shielded CAT5 cable carries power and data
- Decrease Subscriber Unit configuration time with integrated and vertical/horizontal polarized antennas
- Eliminate guess work in locating the remote antennas with audible tone and real-time signal strength measurements
- Support for both local and remote management, removing the need for expensive on-site supports

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### Intel Rosedale™-based Solution Guarantees Interoperability

- End-to-end Intel based solution ensures maximum WiMAX compatibility

CONFIGURATIONS/ MODELS	3500-B00-EU0, 3500-B00-UK0, 3500-B00-AM0 – MP.16 3500 Base Station 3500-S00-EU0, 3500-S00-UK0, 3500-S00-AM0 – MP.16 3500 Subscriber Station 3500-S00-EU1, 3500-S00-UK1, 3500-S00-AM1 – MP.16 3500i Subscriber Station					
WIMAX COMPLIANCE	IEEE 802.16-2004 (WiMAX profile 3.5T1)					
WARRANTY	1 Year Parts and Labor					
FREQUENCY	3.4 GHz to 3.6 GHz					
DUPLEXING MODE	TDD					
CHANNEL BANDWIDTH	3.5 MHz and 7 MHz					
INTEGRATED ANTENNA	Gain	18 dBi (3,500 dBi only)				
ANTENNA PORT	Connector	N-Female, 50 ohms				
DATA COMMUNICATION PORT	Standard Connector	10/100 Base-TX Ethernet, Manual/Auto Negotiate, Half/Full Duplex RJ-45				
SERIAL PORT / GPS PORT	RJ-45 Connector					
NLOS & INTERFERENCE MITIGATION FEATURES	OFDM 256 FFT, Adaptive Modulation, FEC					
OUTPUT POWER (AT ANTENNA PORT)	Output Power	Up to 21 dBm				
	User Attenuation Control	Maximum BS Output Power configurable to 5-21 in one dB steps				
MODULATION	OFDM modulation, 256 FFT points; BPSK, QPSK, 16QAM, 64QAM					
FRAME DURATION	2, 10 and 20 ms					
RADIO PERFORMANCE		Modulation & FEC	Rx Sensitivity (10 <sup>9</sup> )	Minimum C/I	Spectral Efficiency	Burst Data Rate, Mbps Tg/Tb = 1/16
	3.5 MHz	BPSK- 1/2	-95 dBm	4.5 dB	0.5 bps/Hz	1.4 Mbps
		QPSK- 1/2	-92 dBm	6.6 dB	1 bps/Hz	2.8 Mbps
		QPSK- 3/4	-90 dBm	8.9 dB	1.5 bps/Hz	4.2 Mbps
		16QAM- 1/2	-87 dBm	11.9 dB	2 bps/Hz	5.6 Mbps
		16QAM- 3/4	-84 dBm	15.2 dB	3 bps/Hz	8.5 Mbps
		64QAM- 2/3	-80 dBm	19.3 dB	4 bps/Hz	11.3 Mbps
	7 MHz	64QAM- 3/4	-78 dBm	21.3 dB	4.5 bps/Hz	12.7 Mbps
		BPSK- 1/2	-92 dBm	4.5 dB	0.5 bps/Hz	2.8 Mbps
		QPSK-1/2	-89 dBm	6.6 dB	1 bps/Hz	6.6 Mbps
		QPSK- 3/4	-87 dBm	8.9 dB	1.5 bps/Hz	8.5 Mbps
		16QAM- 1/2	-84 dBm	11.9 dB	2 bps/Hz	11.3 Mbps
		16QAM- 3/4	-81 dBm	15.2 dB	3 bps/Hz	16.9 Mbps
		64QAM- 2/3	-77 dBm	19.3 dB	4 bps/Hz	22.6 Mbps
		64QAM- 3/4	-75 dBm	21.3 dB	4.5 bps/Hz	25.4 Mbps
LOCAL MONITORING	Serial/CLI RJ45 Port; Logging feature which logs to serial port, flash, RAM, or a syslog server					
REMOTE MONITORING	Telnet/CLI, HTTP, FTP; SNMP v1, v2 (MIBII, Proxim MIBs, Bridge MIB, RIPv2 MPB, 802.16 MIB, Etherlike MIB)					
REMOTE MGMT ACCESS	Wired-LAN or over-the-air					
PASSWORD	Multi-Level Password (user, administrator, installer, factory, engineering)					
SUBSCRIBER AUTHENT.	X509v3 digital certificate; Radius Authentication and Provisioning; MAC Address Table					
VLAN	Support for 802.1Q VLAN tagging and filtering; Support for transparent passing of 802.1Q-compliant VLAN tagged frames					
QOS	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:	802.1D/802.1Q/802.1p priority, IPTOS, VLAN ID, IP source/destination address, source/destination port, Ethernet source/destination address, IP protocol, and Ethertype				
	Scheduling:	Best Effort, Universal Grant Services, Traffic is scheduled per service flow, enabling min/max bandwidth, priority, jitter and latency control for voice, video and data				
	<b>Outdoor Radio Unit (SS and BS)</b>			<b>Indoor Power Injector</b>		
OPERATING TEMPERATURE	-40° to +60°C			0° to +40°C		
WEIGHT	5.3 lbs			2.7 lbs		
DIMENSIONS	Packaged (BS, SSR): 14.57 x 13.70 x 8.19 in			5.12 x 3.62 x 2.64 in		
SAFETY STANDARDS	EN 60950 (CE)			UL 1950 D3; CSA 22.2 No.950 or CUL; VDE EN60950 or TUV		
EMI STANDARDS	RSS-210 (Canada), ETS EN 301 489-1, ETS 301 021, TS2 (SS), ETS 302 085 CS2 (BS)			Conduction: FCC docket 20780 curve "B"/ETS 302 085 VDE 0871 curve" B Radiation: FCC class "B"		
STATIONS	<b>BASE STATION:</b> Tsunami MP.16 Base Station Radio Indoor Subscriber Station Power Injector 4" Pole Mount Bracket Serial Dongle for Antenna Alignment Cable Termination Kit Quick Installation Guide CD-ROM containing User Documentation Indoor Base Station Power Injector			<b>SUBSCRIBER STATION:</b> Tsunami MP.16 Subscriber Radio (either with Type-N or Integrated Antenna) 4" Pole Mount Bracket Cable Termination Kit Power Cord (for Indoor Power Injector) Printed Quick Installation Guide		
ACCESSORY AND SPARE KITS	Spare Power DC Injector (69823) ; Surge Arrestor 5 GHz - Standard-N Female to Female (5054-SURGE) PoE (Power Over Ethernet) Surge Arrestor (70251); MP.16 3.5 GHz Antenna					

## APPLICATIONS

- Security and Surveillance**  
**Wireless** solutions for bandwidth-intensive and high-definition IP-surveillance cameras located at important city and transportation infrastructure such as airports, bridges and trains
- Business and Residential Last-Mile Access**  
 competitive broadband service access alternative to DSL or cable modems for residences and business
- Broadband Service Access**  
 for businesses and residences in developing countries and regions where cable infrastructure is not an option
- Metropolitan Area Networks**  
 secure and reliable backhaul of Wi-Fi Mesh cells



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