MeshMAX™ 3500

Convergence of WiMAX, Wi-Fi® Mesh and Wi-Fi

MeshMAX 3500 Supports WiMAX, Wi-Fi Mesh and Wi-Fi

As the market demand for mobile connectivity, network scalability and investment protection with a migration path for future development in WiMAX technologies increases, there is an escalating need for wireless broadband solutions to provide best of breed in wireless distribution and access technologies. Proxim's MeshMAX product line integrates three technologies in one unit! The new MeshMAX product is a tri-radio, outdoor device offering Wi-Fi connectivity for access, Wi-Fi mesh gateway for network redundancy and a high capacity, carrier-class WiMAX link for backhaul. The convergence of these three technologies delivers end-to-end QoS for triple-play applications, a reduction in total cost of ownership and investment protection for future developments in WiMAX.

The MeshMAX 3500 consists of two versions. MeshMAX Model 3500WM includes one radio for WiMAX backhaul, one radio for Wi-Fi Mesh and one radio for 802.11b/g Wi-Fi access. Expanding Wi-Fi coverage, the 3500W includes one radio for WiMAX backhaul and two radios for tri-mode Wi-Fi access, supporting 802.11a and 802.11b/g clients. The MeshMAX 3500 provides an optimal solution which brings internet connectivity and applications to where the customers are and where they want to be.

Enables WiMAX and Wi-Fi Applications

Drawing on Proxim's expertise in WiMAX and Wi-Fi Mesh Technologies, the MeshMAX product line encapsulates the best in class features of the award-winning Tsunami WiMAX and ORiNOCO mesh product families. Proxim is uniquely positioned to offer this leading-edge product given our extensive experience in delivering Wi-Fi and WiMAX solutions.

- End-to-end product portfolio consisting of WLAN, Wi-Fi Mesh, WiMAX and Point-to-Point
- Based on WiMAX Forum Certified Tsunami MP.16 and Wi-Fi certified ORiNOCO access points
- Tri-radio design provides one radio for WiMAX backhaul for distribution, one radio for Wi-Fi mesh link and one radio for exclusive Wi-Fi access traffic
- End-to-end QoS from access to distribution to support voice and video
  - IEEE 802.11e draft QoS support for access and enhanced QoS on mesh link
  - IEEE 802.16e QoS support for WiMAX wireless backhaul link
  - 802.1D to 802.1p priority mapping and 802.1D to IP DSCP mapping
- Low latency enables VoIP
- Enhanced security with AES encryption protects over the air transmission on all three links
- Scalable, flexible end to end Proxim solutions allow for ease in expansion of network
  - Service Provider can expand WiMAX network coverage with MeshMAX by extending their network utilizing Wi-Fi mesh
  - Enterprise WiMAX subscribers can extend internet access to local clients through Wi-Fi hotspot

Simplifies Network Architecture, Deployment and Management

Reducing network complexity, minimizing time of deployment and increasing ease of installation, the MeshMAX accelerates the network operator's time to money.

- Less nodes to install, deploy and manage
- Centralized remote management support with ProximVision™ Network Management System
- Provides consistent deployment and user experience to Tsunami MP.16 and ORiNOCO Mesh Access Point product lines
- Reduces downtime and network troubleshooting compared to multi-vendor WiMAX and Wi-Fi Mesh network

Significantly Reduces Total Cost of Ownership (TCO)

- Lowest deployment cost per square mile
- Reducing the number of nodes decreases installation and management time and minimizes associated costs
- Low power consumption and solar power options reduce operating expenses

Investment Protection

WiMAX and mesh networks consisting of the Tsunami WiMAX products, ORiNOCO Mesh Access Points and MeshMAX radios enable a service provider to establish a customer base and capture a head start on securing the WiMAX mobile market.

- Current MeshMAX product features WiMAX QoS and 802.16e class roaming with unprecedented mobility capabilities
- MeshMAX platform enables support of all mobile WiMAX and Wi-Fi clients

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.

MeshMAX™ 3500
Technical Specifications

	MESHMAX				
PRODUCT MODELS	9100-XX MeshMAX 3500WM Tri-radio, WiMAX subscriber and Wi-Fi Mesh access point 9101-XX MeshMAX 3500W Tri-radio, WiMAX subscriber and Wi-Fi access point				
RADIO & TRANSMISSION					
FREQUENCY BANDS[1]	3.4 - 3.6 GHz for WiMAX 5.15 - 5.85 GHz and 2.412 - 2.472 for Mesh and Wi-Fi				
RF MODULATION AND OVER THE AIR DATA RATES	OFDM (Orthogonal Frequancy Division Multiplexing)				
		3.5 GHz Band		**5 GHz Band**	**2.4 GHz Band**
		3.5 MHz	**7MHz**		
	BPSK	1.4 Mbps	2.8 Mbps	6 and 9 Mbps	6 and 9 Mbps
	QPSK	2.8 and 4.2 Mbps	6.6 and 8.5 Mbps	12 and 18 Mbps	12 and 18 Mbps
	16-QAM	5.6 and 8.5 Mbps	11.3 and 16.9 Mbps	24 and 36 Mbps	24 and 36 Mbps
	64-QAM	11.3 and 12.7 Mbps	22.6 and 25.4 Mbps	48 and 54 Mbps	48 and 54 Mbps
	DSSS (FOr 2.4 GHz radio only)				
	DBPSK	N/A	N/A	N/A	1 Mbps
	DQPSK	N/A	N/A	N/A	2 Mbps
	CCK	N/A	N/A	N/A	5.5 and 11 Mbps
CHANNEL BANDWIDTH	3.5 MHz and 7 MHz for WiMAX radio 20 MHz for mesh backhaul and Wi-Fi access				
OUTPUT POWER[2]	3.5 GHz: +21dBm 5 GHz: +18dBm 2.4 GHz: +20dBm				
INTERFACES					
WIRED ETHERNET	10/100 Base-T Ethernet (RJ-45)				
ANTENNA CONNECTOR	Three Type-N Female connectors (one for 3.5 GHz, one for 5 GHz and one for 2.4 GHz)				
PHYSICAL					
DIMENSIONS					
PACKAGED UNPACKAGED	14.57 in x 13.70 in x 8.19 in (370 mm x 348 mm x 208 mm) 10.5 in x 10.5 in x 3.25 in (267 mm x 267 mm x 83 mm)				
WEIGHT					
PACKAGED UNPACKAGED	12 lbs (5.44 kg) 5.5 lbs (2.49 kg)				
ENVIRONMENTAL					
TEMPERATURE					
OPERATING STORAGE	-33° to 60°C -55° to 80°C				
HUMIDITY	Max 100% relative humidity (non-condensing)				
WIND LOADING	125 mph				
ELECTRICAL					
POWER SUPPLY	PoE: 110/240 VAC (input); 48 VDC 48V @ 420mA MAX (output)				
(OPT) POWER SUPPLY	110/240 VAC light pole power tap (purchased separately)				
LEDS	Two indicators on the RJ-45 connector to indicate power/Ethernet traffic and mesh traffic				
MANAGEMENT					
LOCAL	RS-232 Serial Port; DB9 Female				
REMOTE	WiMAX: Telnet/CLI, HTTP, TFTP; SNMP v1, v2 (MIBII, Proxim MIBs, Bridge MIB, RIPv2 MPB, 802.16 MIB, Etherlike MIB) Mesh and Wi-Fi: SNMP v1; SNMP v2c and SNMP v3, ORiNOCO; rfc1213; rfc1643; 802.11i-D3; IANAifType-MIB; MIB802, DHCP, Telnet, HTTP, TFTP, BootP				
MTBF AND WARRANTY	100,000 hours; 1 Year Parts and Labor (extended warranty and enhanced support available with purchase of ServPak)				
PACKAGE CONTENTS	• One MeshMAX 3500WM[2] Tri-radio, WiMAX subscriber and Wi-Fi Mesh access point or one MeshMAX 3500W[2] Tri-radio, WiMAX subscriber and Wi-Fi access point • One wall/pole mounting bracket • One Power over Ethernet injector and power cord • One Ethernet cable weather-proff plug • One Installation CD-ROM with Software and Documentation				
RELATED PRODUCTS	Tsunami MP.16 Base Station; ORiNOCO AP-4000MR(-LR) Mesh Access Points to extend mesh network; 3.5 GHz, 5 GHz and 2.4 GHz antennas; AC power kit for light pole installation; Wide Light Pole Mounting Kit; ORiNOCO Wi-Fi clients; ProximVision Network Management System; ServPak for enhanced service and support				

[1]Frequency Band support may vary depending on regional regulatory body and country.
[2]Output power values will have a tolerance of +/- 1.5 dB. Output power attenuation (for mesh and Wi-Fi radio: 0-12dB, in 1 dB steps).

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
- **Metropolitan Area Networks**
  Secure and reliable backhaul of Wi-Fi Mesh traffic
- **Enterprise**
  Lowers infrastructure costs by not requiring Ethernet cabling to each access point.
- **Mobile Hot Spot**
  On demand entertainment and broadband access solutions for public transportation and local businesses
- **Triple Play**
  Network operator can deliver bundle of IPTV, VoIP and Internet access to subscribers through broadband wireless connection

For detailed technical specifications, please go to **http://www.proxim.com/products/meshmax**

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