



Indoor Wi-Fi Mesh (AP-4000)

ORiNOCO Wireless LAN

Proxim Wireless' industry-leading ORiNOCO® wireless LAN products deliver standards-based, enterprise-class 802.11a/b/g/n networking functionality and the industry's best performance, security and return on investment (ROI).

This portfolio includes:

- **ORiNOCO Client Products** – *Ultimate performance and flexibility for connecting to any Wi-Fi® network*
- **ORiNOCO Access Points** – *Enterprise-class 802.11 a/b/g/n APs with Quality of Service (QoS) support and mesh capabilities*
- **ORiNOCO Wi-Fi Mesh** – *Indoor Wi-Fi mesh for service providers and metro area WLANs*
- **ProximVision ES Wireless Network Management System** – *Centralized wireless network management software for rapid network deployment, advanced security, mobility and system-wide visibility*

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.

High Capacity Mesh Access Points Deliver Flexible, Scalable and Reliable Data, Voice and Video for indoor Enterprise Wi-Fi® Deployments

Powered by the ORiNOCO Mesh Creation Protocol, the dual-radio ORiNOCO Wi-Fi Mesh Access Points deliver data, voice and video over Wi-Fi to the edge of a network over a flexible, auto-forming, and self-healing; near line of sight mesh backbone. The dual-radio architecture separates the mesh backbone traffic from the edge access traffic, increasing capacity compared to single-radio mesh architectures. The ORiNOCO Wi-Fi Mesh Series consists of an indoor form factor (AP-4000 and AP-4000M)

- ORiNOCO Mesh Creation Protocol (OMCP) enables mesh backhaul on one radio, while the second radio is used exclusively for Wi-Fi coverage
- Industry-leading throughput with 802.11b/g and 802.11a simultaneous operation
- Robust RADIUS accounting and authorization interface enables detailed subscriber usage tracking
- WMM/802.11e draft Quality of Service (QoS) support on access and enhanced QoS on mesh backhaul for triple play applications
- Wi-Fi certified to interoperate with any Wi-Fi certified client access product

Proactive Security Measures to Protect Your Network

ORiNOCO access points support the highest security standards, including IEEE 802.11i and AES encryption, and add proactive security measures to prevent attacks.

- Intra-cell blocking and traffic redirection to prevent subscriber-to-subscriber attacks
- Broadcast bandwidth throttling prevents broadcast attacks
- IEEE 802.1x mutual authentication with dynamic per-user, per-session rotating keys
- Rogue access point detection and notification
- Secure management interfaces: SNMPv3, SSL and SSH
- Encrypted storage for security and management parameters eliminates unauthorized access

Self-Forming/Self-Healing Mesh Reduces Total Cost of Ownership (TCO)

Ease of deployment and integration with the wired network are critical factors in a successful, profitable wireless network rollout. ORiNOCO mesh access points excel with key capabilities that simplify enterprise deployments.

- Self-forming and self-healing ORiNOCO Mesh Creation Protocol automatically routes traffic through the best path as mesh access points are added or removed from the network
- Tools to speed installation and optimization: automatic channel selection, adjustable transmit power, external antenna connectors
- Ethernet redundancy sustains network connection: automatically configures mesh portals to mesh access points when mesh portals lose Ethernet link eliminating cost of installing a redundant switch
- Remote management via SNMP, HTTP and Telnet
- Additional mesh link statistics improve mesh network monitoring
- Low power consumption reduces operating expenses

Reliable by Design

With over 25 years of experience in the design and manufacture of wireless LANs, Proxim Wireless understands that enterprises require the same uptime and reliability in a wireless network as in a wired network. ORiNOCO mesh access points offer:

- Automatic reconfiguration of security policy in the event of power loss
 - Power-over-Ethernet support
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Performance and Scalability	
ORiNOCO Mesh Creation Protocol (OMCP)	Self-forming/self-healing dual-radio wireless mesh backhaul for industry leading throughput and availability
Tri-mode 802.11b, 802.11g and 802.11a Support	Pre-configured, simultaneous 802.11b, 802.11g, 802.11a support
IEEE 802.11i and AES Encryption	Highest authentication and encryption methods including mutual authentication, message integrity check (MIC), per-packet keys initialization vector hashing and broadcast key rotation
Rogue AP and Client Detection	Detects and alerts unauthorized rogue Access Points and clients in both the 2.4 and 5 GHz bands
Secure Management Interfaces	SNMPv3, SSL and SSH protect against unauthorized AP changes via the management interface
Multiple VLAN Support with Different Security Settings	Up to 16 separate VLANs per radio each able to support different authentication and encryption algorithms simultaneously
Multiple BSSID Support	Up to 4 Basic Service Set identifiers (BSSIDs) per radio
Auto Configuration via DHCP	Ensures new APs automatically receive correct configuration and prevents security vulnerabilities with deliberate resets
Assured Software Upgrades	Guarantees new AP image is valid before deleting current image
Quality of Service (QoS)	Draft IEEE 802.11e along with 802.1p and 802.1q improve performance of video and voice applications
Transmit Power Control	Supports selectable transmit power levels to adjust coverage cell size
Automatic Channel Selection	Simplifies installation by choosing best possible channel upon installation
RADIUS Support	Extensive RADIUS Authentication Accounting support
Super Mode	Delivers greater than 30 Mbps throughput for ORiNOCO and Atheros-based clients while simultaneously compatible with non-Atheros clients
Advanced Filtering Capabilities	IEEE 802.1d bridging with static MAC address filtering, network protocol filtering, Proxy ARP, multicast/broadcast storm threshold filtering, TCP/UDP port filtering, intra-cell traffic filtering to prevent client-to-client snooping
Near Line of Sight Capable	Line of sight and near line of sight connectivity extends deployment flexibility in rural as well as high-density urban areas
Field Upgradeable	Software upgradeable to support new standards

ORiNOCO AP-4000M/AP-4000	
PRODUCT MODELS	8670M-XX ORiNOCO AP-4000M Tri-mode, Mesh Access Point 8670-XX ORiNOCO AP-4000 Tri-mode, Mesh Access Point
RADIO & TRANSMISSION	
RADIO	<ul style="list-style-type: none"> Dual Radio Access Point with two 802.11a/b/g radios
RADIO CONFIGURATIONS	<ul style="list-style-type: none"> 1 x 802.11b/g 1 x 802.11a
MODULATION METHOD	<ul style="list-style-type: none"> OFDM, DSSS for 802.11b and 802.11g OFDM for 802.11a
FREQUENCY BAND	2.412 to 2.472 GHz, 5.15 to 5.25GHz, 5.25 to 5.35GHz, 5.47 to 5.725GHz, 5.85 to 6.08 GHz
TRANSMIT POWER	
802.11g	+18dBm
802.11a	+18dBm
802.11b	+20dBm
INTERFACES	
ANTENNA CONNECTOR	External antenna connectors 802.11b/g and 802.11a
ANTENNAS	Integrated diversity 2.4 and 5 GHz antennas with horizontal and vertical polarization
ETHERNET	10/100Base-T Ethernet (RJ-45)
PHYSICAL	
DIMENSIONS	
UNPACKAGED	11.375 x 9.25 x 2.75 in (288.9 x 235 x 69.9 mm)
PACKAGED	7.1 X 4.75 X 1 in (180.3 x 121 x 25 mm)
WEIGHT	
PACKAGED	2.05 lbs (0.93 kg)
UNPACKAGED	0.65 lbs (0.29 kg)
ENVIRONMENTAL	
TEMPERATURE	0° to 55°C (Operating) -20° to 85°C (Storage)
HUMIDITY	Max 95% relative humidity (non-condensing)
ELECTRICAL	
POWER SUPPLY	110/240 VAC, 50/60 Hz (input), 5V 3A (output) power adapter
POE (OPTIONAL)	802.3af
POWER CONSUMPTION	9 Watts (Max)
LEDS	Four indicators indicate: Power, Ethernet LAN Activity, Wireless 802.11b/g Activity, Wireless 802.11a Activity
MANAGEMENT	
LOCAL	RS-232 Serial Port; DB9 Female
REMOTE	DHCP, Telnet, HTTP, TFTP, BootP, SNMPv1/v2c/v3; ORiNOCO MIB, Etherlike MIB, 802.11 MIB, Bridge MIB, MIB-II
SECURE	SSH, SNMPv3, HTTPS
MTBF AND WARRANTY	100,000 hours; 1-year on parts and labor
PACKAGE CONTENTS	<ul style="list-style-type: none"> (1) AP-4000M mesh access point OR (1) AP-4000 mesh access point (1) Power adapter (1) Cable cover and Ceiling or Wall mounting Plate (1) Installation CD-Rom with Software and Documentation (1) Quick Install Guide

APPLICATIONS

- Hotspots**
 Video and high-speed broadband access solutions for municipalities, public access and local businesses
- Enterprise**
 Enable office workers to be mobile while delivering greater throughput performance than at their desks
- Healthcare**
 High resolution image files can be transferred with safety and higher speeds than wired networks

For detailed technical specifications, please go to <http://proxim.com/products/enterprise-wireless-lan-wi-fi-mesh/orinoco-wi-fi-mesh>

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