PacketMAX 500 Subscriber Unit

Indoor WiMAX Subscriber Unit

True indoor broadband wireless is here with the PacketMAX® 500 series subscriber unit that is simple to install, intuitive to use and flexible to operate.

Product Brief

PacketMAX 500

The PacketMAX® 500 series subscriber units bring the excitement of WiMAX to the desktop. These stylish and aesthetically pleasing, dual antenna indoor modems give the consumer choice of wireless broadband as a viable alternative to DSL and cable access. Multi-megabit speeds are possible without the high cost and inconvenience associated with fixed-line access, such as road-cutting and over-hanging cables.

Based on WiMAX Forum® Certified PacketMAX architecture, the PacketMAX 500 is fully compliant with IEEE 802.16e-2005 standard. It combines Aperto's field-proven technologies with cutting-edge research to deliver the industry's most robust and feature-rich WiMAX IAD for true nomadic and indoor use.

Combined with benefits of OFDMA, Maximal Ratio Combining (MRC) at the receiver and Uplink Sub-channelization address the technical challenge of signal penetration behind two interior walls and provide additional resilience to frequency selective fading. PacketMAX 500 CPE employs 2-branch selection diversity with high-gain multi-antenna systems to maximize signal strength towards the base station. You get further 3 dB gain with an optional window-mount external antenna. Link management algorithms perform adaptive switching between MIMO Matrix A and Matrix B for best-in-class reach and capacity.

PacketMAX 500 series devices are self-installable. The user connects power supply and the network detects the device to bring up the physical link independent of direct line of sight to the base station. Advanced firewall and authentication protocols protect the user and operator network from security threats.

Available in multiple frequency bands in 2 GHz and 3 GHz, PacketMAX 500 series flexibly adapts to different budgets and requirements with a host of optional features. These include advanced IP networking features, integrated 802.11b/g Wi-Fi and 4-port switch for increased usability. VoIP ports in PacketMAX 500 allow voice calls using standard phones, paving the way for wider adoption of WiMAX by consumers. For the operator this heralds an era of greater customer loyalty and increased revenues.

PacketMAX 500

■■■ KEY FEATURES

- IEEE 802.16e-2005 Compliant
- Consumer self-installable, auto-provisioning, auto-connecting
- Superior QoS for multi-service support
- Multiple antenna for error-free Indoor performance
- Advanced IP networking, integrated WiFi, VoIP ports
- Provisioning and billing using ApertoWiSE CSN-based AAA
- Alarms and management based on SNMP and TR-69*

Typical Applications:

- "Wireless DSL" service offering greater bandwidth and lower cost to the end user versus wired services
- QoS enabled tiered services for voice, video and data
- Offer Voice over IP (VoIP) and data services using single integrated solution
- Convenience of indoor and nomadic usage; subscriber option to plug in at home or at office with auto-configuration and auto-connect

WiMAX FORUM

Wireless to the MAX

PacketMAX 500 System Specifications

Radio and System Specifications

Compliance	: IEEE 802.16e-2005
Duplex Mode	: TDD
RF PHY	: SOFDMA 512, 1024 FFT
Frequency	: 2.3 to 2.4 GHz, 2.5 to 2.7 GHz and 3.3 to 3.8 GHz
Channel Bandwidth	: 5 MHz, 7 MHz, 10 MHz
Radio Output Power	: up to 27 dBm
Receiver Sensitivity	: >2 dB better than WiMAX Forum specifications
Integrated Antenna Gain	: Dual 4 dBi
External Antenna Option	: Yes
Modulation	: QPSK, 16QAM, 64QAM
Antenna Diversity	: MIMO Matrix A, MIMO Matrix B, MRC
Link Enhancement Features	: Sub-channelization, H-ARQ

IP Networking Features/Options

Bridging Mode	: IEEE 802.3d
Routing	: RIPv2; static
VLANs	: IEEE 802.1 P/Q
Networking	: DHCP Server/ Relay/ Client, PPPoE, DNS relay
Scheduling/QoS	: UGS, rtPS, nrtPS, ertPS, BE

Voice Specifications

VoIP Protocol	: SIP
Voice Algorithms	: G.711 (A/m-Law), G.723.1 (optional), G.729A/B (optional)
Voice Features	: VAD, silence suppression; G.167/ G.168 echo cancellation, jitter buffer

Security/ Encryption

Firewall	: Packet Filtering, ACL, NAT/ NAPT, DMZ and SSH
Authentication	: EAP/TTLS CHAP user authentication

Management

SNMP Support	: MIB II (RFC 1213), Aperto Enterprise MIB; IEEE 802.16f MIB
Provisioning and Billing	: Centralized using PacketMAX Ecosystem CSN
Mobility Management	: WiMAX Standard R6 Interface

Mechanical and Electrical

Interfaces	: Two/ Four RJ-45 Ethernet ports, Two RJ-11 VoIP ports*
Integrated Wi-Fi	: IEEE 802.11 b/g (option)
AC Input Voltage	: 90 VAC - 264 VAC; 0.6A
DC Input Voltage	: 12 VDC (+/- 5%); 2.5A

Environmental

RoHS Compliance	: Yes

About Aperto Networks:

Aperto Networks helps leading service providers deliver affordable wireless voice and broadband profitably by building the world's most advanced WiMAX base stations and subscriber units. Aperto fundamentally changes the economics of delivering voice and broadband services through IP-rich, point-to-point and point-to-multipoint networks, allowing carriers to offer a wider variety of services to more customers using less equipment. Its carrier-class WiMAX technology offers industry-leading subscriber density, quality of service, ease of use and reliability. Aperto is a founding board member of the WiMAX Forum as well as a founder and lead contributor to IEEE 802.16 and the ETSI-BRAN standards. Serving more than 400 customers in over 90 countries, Aperto Networks is based in Milpitas, California. For more information on Aperto Networks, go to www.apertonet.com.