



## A complete offering for High bandwidth asymmetrical services — residential data, voice, and multiple video channels

The fastest speed with the most advanced and flexible DSL transport available, adjustable speeds for multiple service offerings down/up stream Up to 24/1.2 Mbps  
Application flexibility, with asymmetric data transport over a single copper pair (software configurable)  
Compliant with ITU, ANSI and ETSI standards  
POTS/ISDN in overlay mode  
Deployment from CO, cabinet or basement, multi-tenant units/multi-dwelling units



**Hardened ADSL 2+ Mini IP DSLAM**

**IES-1248**

### Benefits

#### Better utilization of bandwidth

The IES-1248 is an IP-based DSLAM that terminates all the ATM circuits and converts traffic directly to deliver the most popular broadband IP services. It also provides a distinct advantage over typical ATM-based DSL access system due to the fact that IP is the natural approach for data transmission. It offers better bandwidth utilization, ease of use, as well as the low-cost advantage. With the highly compact and temperature-hardened design, simple installation and easy adaptation to local POTS/ISDN splitter requirements, the IES-1248 can be deployed in indoor and outdoor enclosures.

#### A robust, capable ADSL2+ solution

With this standalone ADSL2+ IP DSLAM, service providers can offer residential and business users access to high-bandwidth services on demand; such as streaming video, online gaming, multimedia applications and multiple video channels on a single network connection. The IES-1248 also offers medium/small businesses and home offices IP connectivity, VPNs, VLANs, high-quality video conferencing, long-reach Ethernet and legacy service interconnection, as well as asymmetric connectivity as fast as 24Mbps. The IES-1248 DSL solution for POTS/ISDN is a sophisticated ADSL2+ device wielding full compliance to existing standards, the latest DSL technology, compactness, low power consumption, integration with existing platforms and network manageability. The combination of a superior line code, modern signal processing techniques and state-of-the-art ASIC design add up to a compact, energy-saving ADSL2+ modem with excellent performance, transparent backward ADSL/ADSL2 compatibility, robust interference resistance and flexible configurability.

### Service Applications

- A complete service offering bundling data, voice and video services
- Residential: broadband Internet access, streaming audio and video, gaming, high quality video distribution, VoD, and telecommuting
- Medium and small businesses: IP connectivity, VPNs, VLANs, high quality video conferencing, long reach Ethernet or legacy service interconnection, asymmetric to 24 Mbps
- Low cost reliable transport for backhauling applications, such as mobile base station connectivity over ADSL
- VoDSL services, legacy services and WAN interconnection, bridging or routing, VPNs, provided through appropriate CPE
- Cost-effective broadband access for higher margin services such as VoD, gaming, and multimedia applications

## Specifications

### ADSL2/ADSL2+ Interface

- Support G.992.3 and G.992.5 ATM Transmission Convergence (ATM-TC) function
- Support G.992.3 and G.992.5 Spectral Mask
- Support EOC and Overhead Channel Access defined in ITU-T Rec. G.992.3 and ITU-T Rec. G.997.1
- Support the latency path function specified in ITU-T Rec. G.992.3 and G.992.5
- Support loop diagnostic function specified in ITU-T Rec. G.992.3 and G.992.5
- Support the power management capability specified in ITU-T Rec. G.992.3 and G.992.5
- Support the capability of the Seamless Rate Adaptation (SRA) on-line configuration specified in ITU-T Rec. G.992.3 and G.992.5

### Network Interface

- IEEE 802.3u 100BASE-TX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-LX/1000BASE-SX
- SFP mini GBIC

### ATM Functionality

- Support Point-to-Point Virtual Circuit Connection (VCC) in the Network
- Provide the Peak Cell Rate (PCR) configurable parameter for UBR services specified in ATM Forum Traffic Management 4.0
- Provide the Peak Cell Rate configurable parameter for CBR services specified in ATM Forum Traffic Management 4.0
- Provide the Peak Cell Rate (PCR) and Sustainable Cell Rate (SCR) configurable parameters for rt-VBR and nrt-VBR services specified in ATM Forum Traffic Management 4.0
- The over-subscription of bandwidth is permitted, i.e., total DSL bandwidth can be larger than bandwidth of DSLAM network interface for UBR service
- Support the downstream traffic shaping function for each ATM PVC connection
- Support the Fault Management (FM) functions of the ATM layer F5 OAM cells for End-to-End Loopback defined in ITU-T Rec. I.610
- Support 64k PVC

### IP Functionality

- Support ICMP (Internet Control Message Protocol) function, and respond the ICMP request message sent from NMS or other system

### Subscriber Management

- Support the Ethernet MAC filtering function
- Support 64k MAC addresses
- Support the DHCP relay agent option 82 function
- Support 802.1x
- Support port isolation function
- Support RFC2684 bridged mode payload encapsulation method
- Support the IPsec/L2TP/PPTP VPN pass-through function
- Support RFC2516 PPPoE packet forwarding function

### VLAN & VLAN Bridge Functions

- Provide 1024 configurable VLANs
- The VLAN tagging complies with IEEE 802.1Q
- Support VLAN bridge function of mapping of multiple PVCs to one VLAN ID
- Support the IEEE 802.1Q VLAN tagging
- Support GVRP function

### Reliability

- Support 802.1w RSTP

### QoS

- Support configurable IEEE 802.1p priority queue function and support 4 levels
- Support configurable mapping function between ATM PVC and 802.1p priority queue

### Multicast capability for IP network interface

- Support RFC2684 bridged mode multicast service
- Support Internet Group Management Protocol (IGMP) version 2 specified in RFC2236
- Support IGMP snooping function
- Support 256 multicast groups
- Support 144 copies for each multicast group

### Management

- Local management through a craft terminal
- Support the In-band IP interface for managing the Network
- Support SNMP (Simple Network Management Protocol) v1.0 & v2c (RFC1157)
- The management activities can be performed by SNMP operations
- Support SNMP MIB(s)
- Support standard SNMP traps so that these traps can be reported to other NMSs
- Centralized Management Software - EMS supporting

### Hardware Configuration

- Two TELCO-50 connectors for 48-port ADSL/ADSL2/ADSL2+
- Two TELCO-50 connectors for 48-port splitter card
- One mini RJ11 console port for local management
- Two 100Base-TX/1000Base-T or two mini GBIC for uplink/subtending
- One DB9 for 3 in and 1 out alarm contact
- Hot-swappable fan module
- DC Input connector

### Power Requirements

- Voltage: -48 VDC (-36 ~ -72VDC)
- Power: max. 90Watts

### Physical Specifications

- 19" and 23" Rack-mountable
- Force cooling by FAN
- Temperature hardening
- Built-in splitter
- Dimension: 442.7 (W) x 250 (D) x 66 (H)mm
- Weight: 7.2 Kg

### Environmental Specifications

- Operating Temperature: -40°C to 65°C
- Storage Temperature: -40°C to 85°C
- Operating Humidity: 10% to 95% (non-condensing)
- Storage Humidity: 5% to 95% (non-condensing)

### Certification

- EMC/ESD: FCC part 15 Class A; EN 55022, EN 55024 Class A; ETS 300 386
- Safety: ITU-T K.20, Appendix C; CSA 60950; EN 60950; IEC 60950 ; UL 60950
- Reliability : ETS 300 019

For more product information, visit us on the web [www.ZyXEL.com](http://www.ZyXEL.com)

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