RP-IP561N | RP-IP562N | RP-IP564N

2BASE-TL EFM Network Extender

RP-IP56xN series EFM Network Extender is designed to provide bonded high-speed Ethernet First Mile services over SHDSL on existing copper infrastructure. It is a bridge mode modem that delivers Ethernet services with symmetrical bandwidth at rates up to 22.8 Mbps. Implemented based on IEEE 802.3ah EFM standards for advanced performance and management features, 5600 Series ensures high reliability, low expense and maximum throughput.

The introduction of EFM copper bonding technology allows delivery of higher bandwidth to longer distances over multiple copper pairs, enabling a good alternative in place where fiber is not economical to deploy. This "Ethernet-pure" solution provides a seamless integration into today and tomorrow's networks.

RP-IP56xN series extends the reach of Ethernet services to the sites by using bonded copper pairs. Up to 4 pairs can be bonded together for aggregated bandwidth over 22Mbps. Designed with standard-based EFM technology (2BASE-TL), deployment of Ethernet services with RP-IP56xN series is quick and simple on the existing copper plant. It operates mainly in Point-to-Point connection between remote office and enterprise headquarters, providing symmetrical high-speed connectivity that is ideal for large and small-to-medium enterprises to deliver business-class Ethernet service.

With RP-IP56xN Series EFM Network Extender, network performance is significantly enhanced by eliminating unnecessary conversion of packet formats when transiting between Ethernet (LAN) and legacy ATM network (WAN). Service providers and enterprises should see lower capital expenditures because their networks won't need equipment to convert between the ATM and the Ethernet protocol. User-friendly Ethernet also make it possible to save unnecessary truck roll costs and training costs. It leads to minimized risk bearing and quick return on investment for both service providers and enterprises.

RP-IP56xN series LAN port is interoperable with any standard Fast Ethernet interfaces from switches, routers, and NG-SONET/SDH Equipment. The management interfaces include comprehensive command-line interface (CLI), user-friendly GUI-based Web Browser Interface, SNMP and Telnet.

RP-IP56xN Series provides future-proof features meeting Ethernet Quality of Service (QoS) and Class of Service (CoS) requirements by utilizing 802.1q VLAN capabilities, four levels of priorities, traffic flow control and rate control. This traffic management and QoS features enable service providers to offer highly profitable and value-added services to a vast majority of business and institutional sites.

Features

- Extending Ethernet Services to sites with existing copper infrastructure
- EFM Bonding (PAF, PME Aggregation Function) up to 22.8Mbps (4 pairs)
- Flexible and Rapid Service Deployment
- Flexible configuration as CPE or CO
- Support EFM OAM complying IEEE 802.3ah
- Low Delay, Jitter and Packet Loss for delay sensitive applications
- Comprehensive and easy OAM & P functions in provisioning and management
- QoS feature for guaranteed Ethernet service
- Future-proof Ethernet traffic management and QoS features

Specifications

Standards	• ITU-T G.991.2 (2004) and G.994.1 • IEEE 802.3ah PAF • IEEE 802.3u 10/100Base-TX • IEEE 802.1q VLAN
Interface	• 1* WAN(DSL) RJ-45 Port • 4* LAN RJ45 Port • 1* Console Port (RJ45) • 1* Reset Button: Load Factory Default • 1* DC Power Jack
LAN Protocols	• Up to 2K MAC Address learning bridge
Memory	• 2MB Flash Memory, 16MB SDRAM
LAN feature	• 4-port switching Hub • 10/100BASE-T auto-negotiation & sensing • Auto MDI/MDI-X
WAN feature	• ITU-T G.991.2 (2004) and G.994.1 • 2BASE-TL • EFM bonding (IEEE 802.3ah PAF) • Support of Annex A , Annex B , Annex AF & Annex BG • Support TC-PAM 16/32/64/128 • Impedance: 135 ohms
Data Rate	• N x64 Kbps (N=3~89) as 2 wire model • N x128 Kbps (N=3~89) as 4 wire model • N x256 Kbps (N=3~89) as 8 wire model
Management	• Easy to use web-based GUI for quick setup, configuration and management • Menu-driven interface/Command line interface (CLI) for local console and telnet access • Password protected management and access control list for administration • SNMP v1/v2 (RFC1157/1901/1905) agent and MIB II (RFC1213/1493) • EFM OAM (IEEE 802.3ah) • Software upgrade via web-browser/TFTP
VLAN Support	• IEEE 802.1q VLAN Tagging • Port Based VLAN • Up to 4K 802.1q VLANs • VLAN Stacking (Q-in-Q)
QoS Support	• Rate limiting by rule-based/port-based • Traffic classification based on port/802.1p/ DSCP • WRR (Weighted Round Robin)/ SPQ (Strict Priority Queuing) scheduling

	algorithm
Application	● Metro Ethernet Extension ● Transparent LAN Services ● Fast Internet Access ● Leased Lines Replacement
LED Indicators	● LAN : Link/Act, 10/100 per port ● WAN: Link per loop ● System: Power, Alarm, MGMT
Power Supply	● AC Power Adapter (90~240VAC with 50~60Hz)
Environment	● Operating Temperature: -20˚ ~ +60˚ ● Storage Temperature: -40˚ ~ +85˚ ● Operating Humidity: 98% (Non-Condensing)
Dimension	● 195 x 48 x 168 mm
Certifications	● CE

Ordering information

RP-IP561N   1-pair 2BASE-TL EFM Network Extender

RP-IP562N   2-pair 2BASE-TL EFM Network Extender

RP-IP564N   4-pair 2BASE-TL EFM Network Extender