

## 2W/4W/8W G.SHDSL.bis EFM Routers

### Introduction

**Proscend 5200N Series** 2/4/8-Wire SHDSL.bis EFM Bridges/Routers comply with the latest G.SHDSL.bis technology standards and supports symmetric data rate up to 15.3Mbps/Pair under TC-PAM 128. Up to four pairs can be bonded together for aggregated bandwidth over 61 Mbps. It provides a secure and symmetrical high-speed connectivity over existing copper-line infrastructure that is ideal for service providers as well as SOHO and SME users.

**5200N** supports back to back connectivity for long reach Ethernet extension. Users can make a direct connection between two SHDSL.bis routers by using a standard telephone cable, and configure one as CO and the other as CPE. The connection offers a cost effective solution for service providers and SME users who need high-speed dedicated network applications.

The SHDSL.bis EFM routers are integrated with high-end Bridging/Routing capabilities that support flexible traffic management policies and Quality of Service, enabling business-class Ethernet services with flexibility of mapping user traffic into Ethernet flows. The unit can be managed by different ports and applications including comprehensive command-line interface (CLI), Telnet, user-friendly GUI-based Web Browser Interface and SNMP.

The SHDSL.bis routers help customers to meet their growing data communication needs by the latest broadband technologies. Through the power of SHDSL.bis products, you can access superior manageability and reliability.

### Features

- Symmetrical high-speed Ethernet service with SHDSL.bis, backward compatible with SHDSL
- EFM bonding up to 61 Mbps (8-Wires, TC-PAM 128)
- Support both EFM mode and ATM mode(1 PVC)
- Support point to point connectivity
- Support dying gasp
- Support TR-069

### Ordering Information

Model Name	Description
5210N	2-Wire G.Shdsl.bis EFM Router with 4 LAN Ports
5220N	4-Wire G.Shdsl.bis EFM Router with 4 LAN Ports
5240N	8-Wire G.Shdsl.bis EFM Router with 4 LAN Ports

# Specifications

## WAN Interface

- SHDSL.bis: ITU-T G.991.2 (2004) Annex A/B/F/G supported
- Support EFM Bonding and SHDSL M-Pair mode
- Encoding scheme: TC-PAM 16/32/64/128
- Data Rate:
  - N x 64 Kpbs (N=3~89) using TC-PAM 16/32
    - Max. 5.696Mbps (1-Pair)
    - Max. 11.392Mbps (2-Pair)
    - Max. 22.784Mbps (4-Pair)
  - N x 64 Kbps (N=3~239) using TC-PAM 64/128
    - Max. 15.296 Mbps (1-Pair)
    - Max. 30.592 Mbps (2-Pair)
    - Max. 61.184 Mbps(4-Pair)
- Impedance: 135 ohms.
- Compliant with IEEE 802.3ah

## LAN Interface

- 4-Ports 10/100M Switch, Auto-negotiation for 10/100Base-TX and Half/Full Duplex, Auto-MDIX Supported.

## Bridging

- Up to 1024 MAC address learning bridge
- IEEE 802.1D transparent learning bridge
- IEEE 802.1Q/1P VLAN Port-based/Tagging
- QoS Class-based (Prioritization/Traffic/DSCP Mark), Rate Limiting, Up to 8 priority queues

## Routing

- Support IP/TCP/UDP/ARP/ICMP/IGMP protocols
- IP routing with static routing and RIPv1/RIPv2 (RFC1058/2453)
- IP multicast and IGMP proxy (RFC1112/2236)
- Network address translation (NAT/PAT) (RFC1631)
- DHCP server, client and relay (RFC2131/2132)
- DNS relay/proxy and caching (RFC1034/1035)
- Dynamic DNS
- IP precedence (RFC 791)

## ATM

- Multiple Protocols over AAL5
- Ethernet over ATM (RFC 2684/1483)
- 1 PVC

## EFM

- EFM mode compliant to IEEE 802.3,
- PPP over Ethernet (RFC2516)
- Support of OAMPDU information and functionality ( ITU-T Y.1731)
- OAMPDU Event Notification, Variable Request, Variable Response, Loopback Control
- VLAN base QOS (802.1P/Q), Priority Queue

## Network Protocol

- VoIP(SIP) pass-through
- IPv4 (ARP/RARP, TCP/UDCP, ICMP)
- \*SNTP (Time Zone/ Daylight Savings)

## Security

- Natural NAT/PAT firewall
- DMZ host
- Virtual server mapping (RFC1631)
- Advanced stateful packet inspection (SPI) firewall Denial of Service (DoS)
- \*Application level gateway for URL and keyword blocking (Content Filter)
- Access Control List (ACL)
- Support PAP/CHAP/MS-CHAP client

## Management

- Web-based GUI for quick setup, configuration and management
- Menu-driven interface/Command-line interface (CLI) for local console and Telnet/SSH access
- Password protected management and access control list for administration
- Remote management via WWW/SSH/Telnet local/remote
- Real-time system log logging
- SNMPv1/SNMPv2 (RFC 1157/1901/1905) and MIB-II (RFC 1213/1493)
- TR-069 (CWMP)
- Software upgrade via Web-browser/CLI, supported TFTP/FTP
- Dying Gasp

## Diagnostics/Monitoring

- Routing Table
- SHDSL.bis Circuit
- Packet Statistics

## Hardware Interface

- WAN: RJ-45 x 1
- LAN: RJ-45 x 4
- Console Port: RS232 female
- Reset Button: Load factory default
- Power Jack

## Indicators

- System: PWR, ALM
- WAN 1~4: LNK/ACT
- LAN 1~4: LINK/ACT

## Physical/Electrical

- Dimensions: 18.7 x 3.3 x 14.5cm (WxHxD)
- Power: 100~240VAC (via power adapter)
- Power Consumption: 9 watts Max
- Operating Temperature: 0~45°C
- Storage Temperature: -20°C~70°C
- Humidity: 0%~95%RH (non-condensing)

## Memory

- 128MB Flash Memory, 64MB DDR2 DRAM

## Regulatory

- CE
- FCC Part 15 Class A
- VCCI
- EN60950

\* Features and specifications are subject to change without prior notice.