



**PROSCEND®**

## Description

The Proscend 5000 series SHDSL (Single-Paired High Speed Digital Subscriber Loop) routers comply with ITU-T G.991.2 standard optimized for small to medium size business environment. The SHDSL interface provides business-class, multi-range from 64Kbps to 2.304Mbps (2-wire router) and 128Kbps to 4.608Mbps (4-wire router) symmetric payload rates over existing copper wires.

The Proscend 5000 series SHDSL routers are integrated high-end Bridging/Routing capabilities with advanced functions of Multi-DMZ, virtual server mapping, and VPN pass-through. Because of rapid growth of network, virtual LAN has become one of the major new areas in internetworking industry. The SHDSL routers support port-based VLAN and IEEE 802.1q VLAN over ATM network.

With always on connection that DSL provides, the firewall routers provide advanced firewall, Stateful Packet Inspection (SPI) and DoS protection, serving as a powerful firewall to protect from outside intruders of secure connection. The firewall routers also support IP precedence with which network packet transverse IP precedence devices priority and the priority traffic is always serviced before traditional traffic.

The LAN interface of SHDSL 4-port routers supports 10/100 Base-T auto-sensing, auto-negotiation and auto-MDIX switching ports to meet the enterprise need.

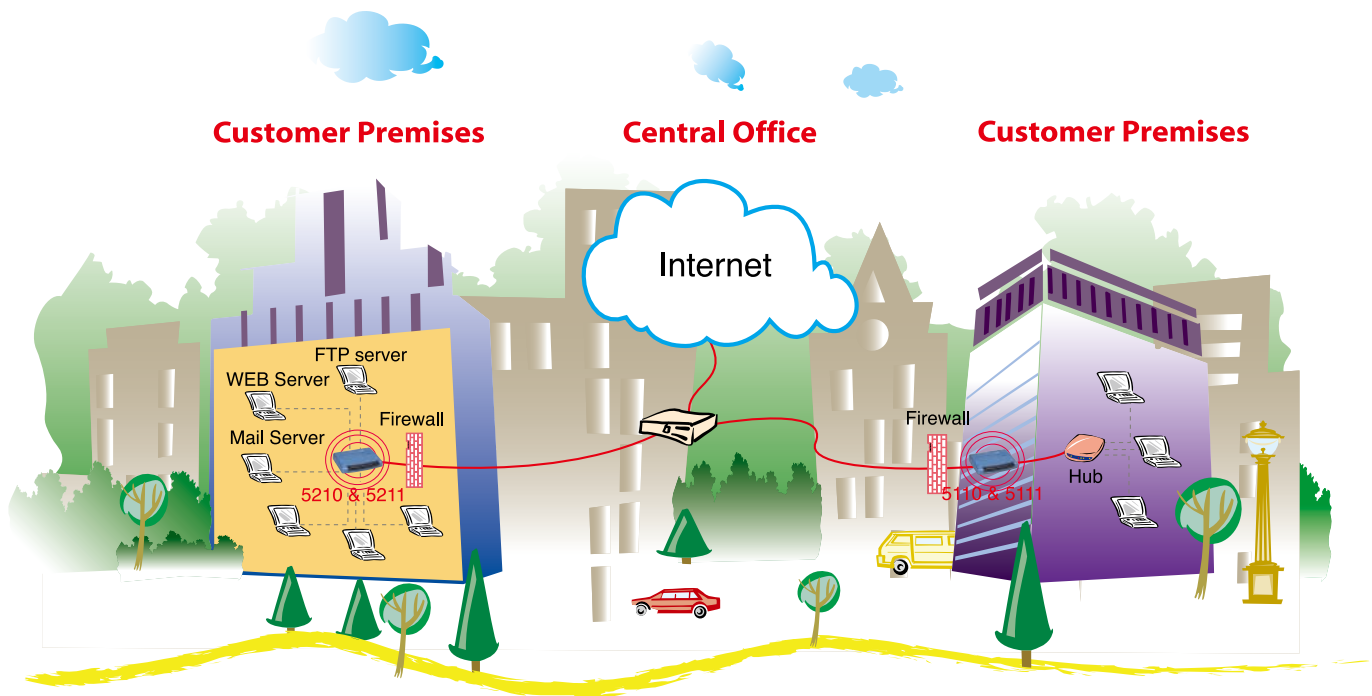
The SHDSL routers allow customers to leverage the latest in broadband technologies to meet their growing data communication needs. Through the power of SHDSL products, you can access superior manageability and reliability.

# 5200 & 5100 Series G.shdsl Routers

## Features

- \* Easy configuration and management with password control for various application environments
- \* Efficient IP routing and transparent learning bridge to support Internet broadband services
- \* Virtual LANs (VLANs) offer significant benefit in terms of efficient use of bandwidth, flexibility, performance and security
- \* VPN pass-through for safeguarded connections
- \* Built-in advanced SPI firewall (Firewall Router)
- \* IP precedence to partition the traffic into multiple classes of service (Firewall Router)
- \* Four 10/100M Base-T Auto-sensing, Auto-negotiation and Auto-MDIX switching port for flexible local area network connectivity (4-port Router)
- \* DMZ host/Multi-DMZ/Multi-NAT enables multiple workstations on the LAN to access the Internet for saving the cost of IP address
- \* Fully ATM protocol stack implementation over SHDSL
- \* PPPoA and PPPoE support user authentication with PAP/CHAP/MS-CHAP
- \* SNMP management with SNMPv1/SNMPv2 agent and MIB II
- \* Getting enhancements and new features via Internet software upgrade
- \* Support MPLS pass-through





## Specification

## 5200&5100 Series G.shdsl Routers

### Routing

- Support IP/TCP/UDP/ARP/ICMP/IGMP protocols
- IP routing with static routing and RIPv1/RIPv2 (RFC 1058/2453)
- IP multicast and IGMP proxy (RFC 1112/2236)
- Network address translation (NAT/PAT) (RFC 1631)
- NAT ALGs for ICQ/NetMeeting/MSN/Yahoo Messenger
- DNS relay and caching (RFC 1034/1035)
- DHCP server, client and relay (RFC 2131/2132)
- IP precedence (RFC 791) (Firewall router)

### Bridging

- IEEE 802.1D transparent learning bridge
- IEEE 802.1q VLAN
- Port-based VLAN (4-port Router)

### Security

- DMZ host/Multi-DMZ/Multi-NAT function
- Virtual server mapping (RFC 1631)
- VPN pass-through for PPTP/L2TP/IPSec tunneling
- Natural NAT firewall
- Advanced Stateful packet inspection (SPI) firewall (Firewall Router)
- Application level gateway for URL and keyword blocking (Firewall Router)
- User access control: deny certain access of PCs to Internet (Firewall Router)

### 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 management with SNMPv1/SNMPv2 (RFC 1157/1901/1905) agent and MIB II (RFC 1213/1493)
- Software upgrade via web-browser/TFTP server

### ATM

- Up to 8 PVCs
- OAM F5 AIS/RDI and loopback
- AAL5

### ATM QoS

- UBR (Unspecified bit rate)
- CBR (Constant bit rate)
- VBR-rt (Variable bit rate real-time)
- VBR-nrt (Variable bit rate non-real-time)

### AAL5 Encapsulation

- VC multiplexing and SNAP/LLC
- Ethernet over ATM (RFC 2684/1483)
- PPP over ATM (RFC 2364)
- Classical IP over ATM (RFC 1577)

### PPP

- PPP over Ethernet (fixed and dynamic IP) (RFC 2516)
- PPP over ATM (fixed and dynamic IP) (RFC 2364)
- User authentication with PAP/CHAP/MS-CHAP

### WAN Interface

- SHDSL: ITU-T G.991.2 (Annex A, Annex B), G.994.1

- Encoding scheme: 16-TCPAM
- Data Rate: N x 64kbps (N=0~36, 0 for adaptive) (2-wire Router)
- Data Rate: N x 128Kbps (N=0~36, 0 for adaptive) (4-wire Router)
- Impedance: 135 ohms

### LAN Interface

- 4-port switching hub (4-port Router)
- 10 Base-T and 100 Base-T auto-sensing and auto-negotiation

### Auto-MDIX

### Hardware Interface

- WAN: RJ-45 x 1 (Additional splitter for 4-wire Router)
- LAN: RJ-45 x 1 (1-port Router), RJ-45 x 4 (4-port Router)
- Console Port: RS232 female
- Reset Button: Load factory default
- Power Switch (Option)

### Indicators

- General: PWR
- WAN: LNK, ACT (2-wire Router)
- WAN: 1, 2 (4-wire Router)
- LAN: 10M/ACT, 100M/ACT (1-port Router)
- LAN: 1, 2, 3, 4 (4-port Router)
- SHDSL: ALM

### Physical / Electrical

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

### Memory

- 2MB Flash Memory, 8MB SDRAM

## Ordering Information

Model No.	5110	5111	5210	5211	5220	5221
WAN	2-wire	2-wire	2-wire	2-wire	4-wire	4-wire
LAN	1	1	4	4	4	4
Auto-MDIX	X	X	√	√	√	√
Port-based VLAN	X	√	√	√	√	√
802.1q VLAN	X	1 LAN / 8 WANs	4 LANs / 1 WAN	4 LANs / 8 WANs	4 LANs / 1 WAN	4 LANs / 8 WANs
Firewall	X	√	X	√	X	√
IP Precedence	X	√	X	√	X	√
Maximum Data Rate	2.304M	2.304M	2.304M	2.304M	4.608M	4.608M
Minimum Data Rate	64k	64k	64k	64k	128k	128k

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