G.SHDSL Managed NTU
Model 3231

The Model 3231 is a fully manageable G.SHDSL Ethernet NTU for extending network connections over 5 miles (9 km). Management can be accomplished locally via console and front panel touch pad, or remotely via telnet or SNMP.

nx64 Rates to 4.6 Mbps
With multiple full-duplex symmetric rates available, users select the bandwidth option they need.

Remote Management - HTTP/SNMP
Use the embedded HTTP/SNMP agent to manage the unit from anywhere in the world.

Plug and Play
Just plug them in and the link comes up in seconds. Set the unit to use line probe and the selection of optimal link speeds can also be done

PPP and ATM
Versatile interface options enable simple deployment into any network

Local and Remote Loopbacks
Loopbacks add a powerful troubleshooting tool for determining line quality

Software Upgradeable
Software upgrades make it easy to keep the 3231 in service for years

Local Management - Console/FlexKey Touch Pad
Built-in VT-100 console port and touch panel w/LCD makes local configuration and monitoring a snap.

Combining standards-based ITU/ETSI G.SHDSL transmission with high speed Ethernet bridging, the Patton Model 3231 managed NTUs are perfect for bandwidth intensive applications such as LAN-to-LAN extension, multimedia services, and connectivity for remote network enabled devices.
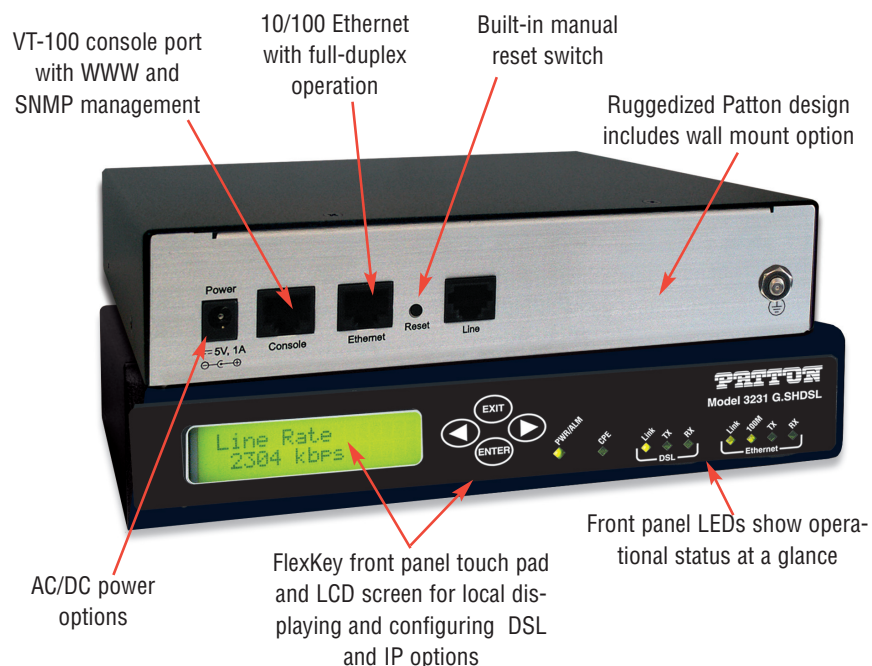
Based on the International Telecommunications Union (ITU) and European Telecommunications Standardization Institute (ETSI) G.SHDSL G.991.2 standard, the Patton 3231 G.SHDSL NTU enables providers to extend their reach-and-range by delivering rate-adaptive nx64 symmetrical speeds from 192 kbps to 4.6 Mbps over a single existing telephone grade twisted pair.

The Model 3231 offers on the fly installation and turn-up. With support for auto-line configuration, PPP or ATM, the Model 3231 offers simple interfacing to any network.

Management and monitoring has never been so simple. The Patton Model 3231 gives remote point-and-click control with the built in HTTP/SNMP management interface. A convenient ouch pad front panel with a backlit LCD screen and console port can be used for the local management.

The Model 3231 is compatible with Patton's full line of G.SHDSL products, including the Model 3224 24-port G.SHSDL IP DSLAM and Patton's ForeFront models.
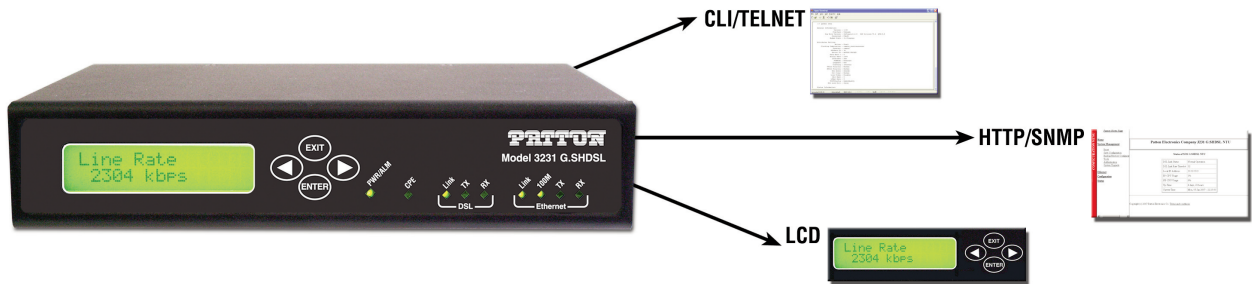
Visit www.patton.com for more information.

Model 3231 Distance Chart

Line Rate (Payload)	26g (0.4mm)		24g (0.5mm)	
	miles	km	miles	km
192 kbps	4.4	7.0	5.7	9.4
2.3 Mbps	2.3	3.8	3.1	5.0
4.6 Mbps	1.5	2.5	2.0	3.3

VT-100 console port with WWW and SNMP management

10/100 Ethernet with full-duplex operation

Built-in manual reset switch

Ruggedized Patton design includes wall mount option

AC/DC power options

FlexKey front panel touch pad and LCD screen for local displaying and configuring DSL and IP options

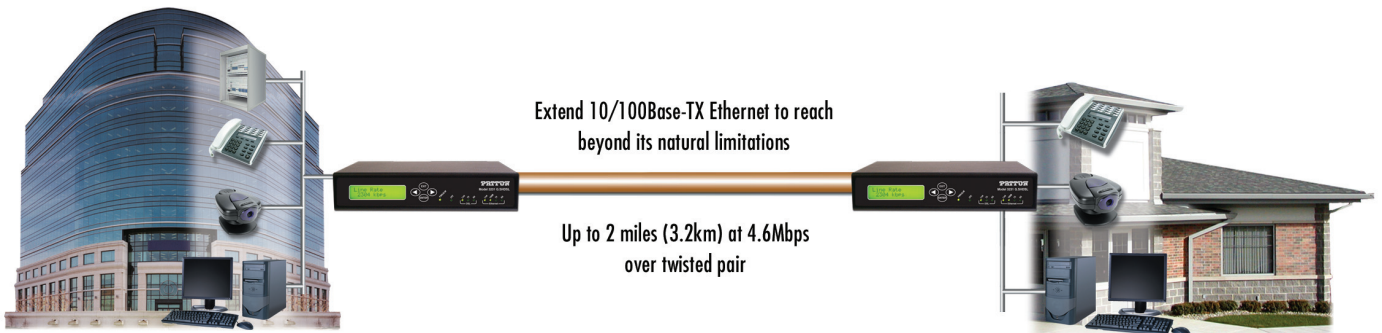Front panel LEDs show operational status at a glance

Flexible Management Features

Management, control and monitoring is made easy with the Patton Model 3231. Get instant remote point-and-click control with the built in HTTP/SNMP management interface. For local management, a console port is provided for TELNET/CLI access. Also included is Patton's FlexKey- an integrated LCD and touch panel offering on the fly access to various line rate, IP, and security features and offers constant view of the Model 3231's line rate.

Typical Application

Extend 10/100Base-TX Ethernet to reach beyond its natural limitations

Up to 2 miles (3.2km) at 4.6Mbps over twisted pair

Specifications

DSL
G.991.2 ITU-T G.SHDSL Annex A and Annex B • G.994.1 G.sh. nx64 data rates over 2-wire full-duplex to 2.3/4.6 Mbps symmetrical • TC-PAM encoding • Distance of 30,000 ft (9.4 km) at 192 kbps to 18,000 ft (5.6 km) at 2.304 Mbps

DSL Interface
Shielded RJ-11F isolation per IEC 950

Ethernet Interface
10/100Base-T • Auto-Sensing • Full/Half-Duplex operation

Management
EIA-561 RJ-45 RS-232 • VT-100 CLI • TELNET • Embedded WEB/HTTP • SNMP • Logging or SMTP on events: POST, POST errors, line/DSL, PPP/DHCP, IP

MPOA AAL5 and Bridged encapsulation RFC 2684 and RFC 1577 IPoATM • LLC/VC Mux support • Backlit LCD for configuring DSL, LAN, SNMP, Spanning tree, Status, and password

ATM Support
UNI 3.1 and 4.0 ATM QoS with UBR/CBR/nrt-VBR/rt-VBR and per-VC queuing and shaping • Peak cell rate shaping on a per-VCC basis up to 32 active VCCs • I.610 OAM network management including AIS/RDI, loop-back and performance monitoring

Protocol
Enhanced ILMI 4.0 for auto-configuration of ATM PVCs • IP (RFC 741) • TCP (RFC 793) • UDP (RFC 768) • ICMP (RFC 950) • ARP (RFC 826) • Ethernet Bridging • NAT/NAPT with integrated

application support • MultiNat with 1:1 mapping, Many:1, Many:Many mapping • NAT

Port/IP redirection and mapping

Security
DoS Detection/protection • Intrusion detection • Logging of session, blocking of intrusion events and Real-Time alerts • Password protected system management with a username/password for console and virtual terminal • Packet filtering firewall for controlled access to and from LAN/WAN • Support for 255 rules in 32 filter sets • 16 individual connection profiles • Access list determining up to 5 hosts/networks which are allowed to access management system • SNMP/HTTP/TELNET

Monitoring
9 LEDs • Power/Alarm • CPE/CO • DSL: Link, TX, RX • ENET: Link, 100M, TX, RX

Power Supply
External universal 100-240 VAC input or -48 VDC

Compliance
FCC Part 15A • CE Mark • EMC Directive 89/336/EEC • Low-Voltage Directive 73/23/EEC

Environment
Temperature: 0–60°C • Humidity: 5–90% non-condensing

Dimensions
5.42W x 1.745H x 8.39L in. (137.7W x 44.3H x 213.1L mm)

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