

1421 SHDSL ROUTER



> THE TELINDUS 1421 SHDSL ROUTER IS A PROFESSIONAL STATE-OF-THE-ART BASE-BAND MODEM WITH INTEGRATED IP ROUTER AND BRIDGE OFFERING SYMMETRIC FULL-DUPLEX TRANSMISSION UP TO 2.3 MBPS OVER A SINGLE TWO-WIRE (4.6 MBPS ON 2 PAIR) UNCONDITIONED UNSHIELDED TWISTED-PAIR CABLE.

The Telindus 1421 SHDSL Router can be used as CPE in combination with ATM, frame relay or PPP based DSLAMs (Digital Subscriber Line Access Multiplexers) and IMAPs (Integrated Multiservice Access Platforms), or in a point to point set-up.

While asymmetric ADSL connections are typically used for residential access, the Telindus 1421 SHDSL Router is the ideal access device for connecting business users, offering managed symmetric transmission services at the highest speeds.

The line speed can be automatically adapted to optimise the throughput as a function of the characteristics of the local loop. To achieve even higher speeds (up to 4.6Mbps) or a longer reach, a 2 line pairs version is also available.

The unit supports differentiated services based on VPNs (Virtual Private Networks). Therefore it integrates features like L2TP (Layer 2 Tunnelling Protocol), IPSEC, 802.1Q (VLAN tagging) and QoS (Quality of Service) based on Diffserv. A specific model supporting hardware DES and 3DES encryption is also available.

The unit is designed for integration into demanding network environments and can be controlled by the complete set of network maintenance and management tools as they are described in this catalogue.

LINE INTERFACE

- > Applicable standards: ITU-T G.991.2, G.994
- > Single pair or two pair line access
- > Connector: RJ12
- > Impedance: 135 ohm
- > Coding: TC PAM, compliant to ITU-T G.991.2 (G.SHDSL)
- > Line speeds:
 - > Single pair: N x 64 kbps (N = 1 ... 36)
 - > Two pair: N x 128 kbps (N = 1 ... 36)
- > Handshaking: compliant G.994.1 (automatic speed negotiation) or fixed speed
- > Performance monitoring: compliant G.826 (errored seconds, severely errored seconds, unavailability seconds)

IDEAL MAXIMUM DISTANCE (NOISE-FREE) ON A SINGLE PAIR

1 pair Speed (kbps)	2 pair Speed (kbps)	0.4mm (km)	0.5mm (km)	0.6mm (km)	0.8mm (km)	1.0mm (km)	1.2mm (km)
64	128	11.0	15.1	21.5	27.2	38.2	42.4
128	256	8.0	11.0	15.6	19.8	27.8	30.8
256	512	8.2	11.3	16.0	20.3	28.5	31.6
512	1024	7.2	9.9	14.0	17.8	25.0	27.7
1024	2048	5.5	7.6	10.7	13.6	19.1	21.2
1536	3072	4.0	5.5	7.8	9.9	13.9	15.4
2048	4096	4.2	5.8	8.2	10.4	14.6	16.2
2304	4608	4.0	5.5	7.8	9.9	13.9	15.4

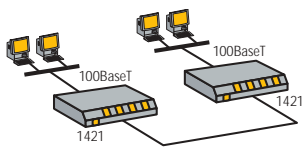
LAN INTERFACE

- > Applicable standards: IEEE 802.3 (10Mbps Ethernet), IEEE 802.3u (100Mbps Ethernet)
- > 10/100Mbps auto-sense
- > Connector: RJ45 Unshielded Twisted Pair (UTP)

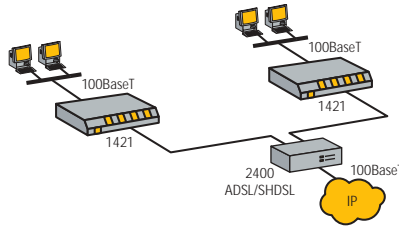
FRONT PANEL INDICATIONS

- > PWR: Power
- > LINE / LNK1: first line pair status
- > LINE / LNK2: second line pair status (on 2 pair versions only)
- > LINE / ACT: WAN encapsulation protocol status
- > LAN / ACT: LAN status

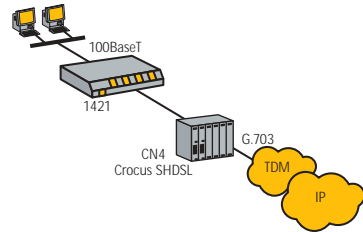
POINT-TO-POINT CONNECTION



IN COMBINATION WITH 2400 ADSL/SHDSL



IN COMBINATION WITH CROCUS SHDSL



The Telindus 1421 SHDSL Router supports auto-install features over the WAN network. This makes it ideally suited for plug-and-play installation at customer premises while the configuration is prepared at a central site.

FEATURES & BENEFITS

- > BASED ON THE ITU-T G.991.2 SHDSL STANDARD FOR HIGHER SPEEDS AND LONGER LOOP RANGES
- > 10/100 AUTO-SENSE ETHERNET INTERFACE
- > IP ROUTING AND BRIDGING
- > CLASS OF SERVICE ROUTING
- > VLAN INTERCONNECT
- > AUTOMATIC LINE RATE ADAPTATION
- > ATM, FRAME RELAY AND PPP WAN ENCAPSULATION
- > BUILT-IN L2TP AND IPSEC SECURITY
- > ALSO AVAILABLE WITH 2 LINE PAIRS FOR LONGER REACH OR HIGHER SPEED (UP TO 4.6MBPS)
- > FULLY MANAGEABLE WITH A VARIETY OF TOOLS

ATM ENCAPSULATION

- > ATM cell format ITU-T I.361
- > ATM forum UNI 3.1/4.0 PVCs
- > ATM forum ILMI 3.1/4.0
- > QAM F5 loopback support (ITU-T I.610)
- > Supports up to 31 ATM PVCs
- > Supports ATM Forum Traffic Management 4.0 service types CBR and UBR

ATM AAL5 encapsulations

- > RFCs 1483, 2684
- > PPPoA (RFC 2364)
- > PPPoE (RFC 2516)

FRAME-RELAY ENCAPSULATION

- > Encapsulation compliant with RFCs 1490, 2427
- > Support of multiple DLCI's (PVC)
- > CIR (Committed Information Rate) configurable per DLCI
- > Support of Inverse ARP over Frame-Relay for automatic gateway configuration
- > EIR (Excess Information Rate) configurable per DLCI
- > Support of LMI (revision 1 LMI, ANSI T1.617 and ITU-T)
- > Support of Frame-Relay fragmentation (FRF12)*

PPP ENCAPSULATION

- > Encapsulation compliant with RFCs 1661, 1662
- > IPCP (RFC 1332)
- > BCP (RFC 2878)
- > Support of CHAP authentication with MD5 hashing (RFC 1994)
- > Support of PAP authentication (RFC 1334)*
- > Support of multi-class PPP (RDC 2686)*

IP ROUTING

- > IP (RFC 791)
- > ARP (RFC 826)
- > Static routing, RIP1 (RFC 1058), RIP2 with MD5 hashing and authentication (RFC 2453)
- > Router requirements (RFC 1812)
- > Standard and extended access filtering on LAN and WAN interfaces

- > NAT (Network Address Translation) with dynamic or static IP address conversion and PAT (Port Address Translation) (RFC 3022)
- > BOOTP/DHCP server, relay agent (RFC 2131, RFC 2132)
- > BOOTP client (RFC 951)
- > Numbered/unnumbered WAN Interface
- > DiffServ priority tagging and queuing (RFC 2474, RFC 2475)
- > L2TP tunneling (RFC 2661) on WAN and LAN interfaces
- > IPsec security (RFCs 2401-2411)

BRIDGING

- > Bridging with spanning tree protocol (IEEE 802.1D)
- > VLAN interconnect (IEEE 802.1Q)
- > VLAN priority queuing (IEEE 802.1P)
- > Integrated Routing and Bridging (IRB)

ROUTING AND BRIDGING PERFORMANCE

- > Full forwarding performance of 64byte packets at maximum line speed (2.3 or 4.6 Mbps)
- > Buffering: up to 4800 packets (64 bytes/packet)

MAINTENANCE AND MANAGEMENT SUPPORT

- > Local console (command line interface or interactive interface)
- > TELNET (command line interface or interactive interface) (RFC 854)
- > TMA (Telindus Maintenance Application)
- > HTTP web interface (RFC 2616)
- > TFTP configuration download (RFC1350)
- > PING (RFC 792)
- > SNMP MIB2 (RFC 1213), private MIB
- > Software flash download
- > TMA CLI stand-alone command line console software**
- > TMA for HP OV management integration in HP Openview**

MECHANICAL DATA (H X W X D)

- > 45 x 220 x 235 mm weight: 700 g

POWER REQUIREMENTS

- > 9 Vdc, 500mA
- > External power adapters available for 48Vdc and 230 Vac

* feature soon available
** optional

SALES CODES

- > 177446 Telindus 1421 SHDSL Router 230VAC
- > 177452 Telindus 1421 SHDSL Router 2P 230VAC (2 pair version)
- > 177452 Telindus 1421 SHDSL Router 3DES 230VAC (1 pair version)

Units without power module and separate power adapters can be found in the sales codes quick reference section

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