

1432 SHDSL CPE



The 1432 SHDSL CPE is a dedicated version of the 1431 SHDSL CPE for offering legacy services over an ATM based DSLAM access network. The device has been specifically designed to meet the requirements of operators that offer Frame Relay or leased lines services over an ATM broadband network.

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The 1432 SHDSL CPE enables service providers to offer Frame Relay and leased line services over an ATM based DSL broadband network. The Frame Relay service uses the Frame Relay forum recommendations FRF.5 or FRF.8. FRF.5 transports the Frame Relay service over the ATM network. FRF.8 converts the Frame Relay service into an ATM service. The leased line service is emulated using the ATM Circuit Emulation Service (CES).

The 1432 SHDSL CPE has a serial interface on a DB25 connector. The interface can be configured as a X.21, V.35, V.36 (RS-449), RS-530 or RS-530A interface to suit the needs for almost any serial interface type. Conversion cables to the standard connector type are available.

The 2 pair version has an additional Ethernet interface to combine LAN and legacy traffic over the same SHDSL WAN connection.

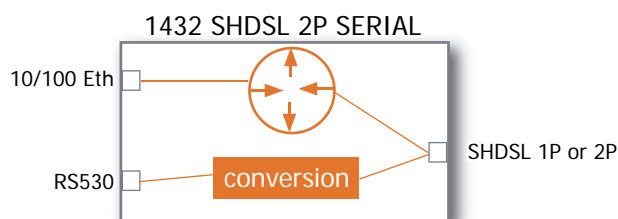
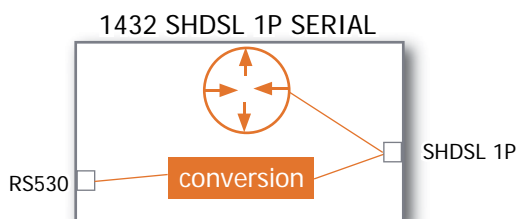
Fully supported by the TDRE (Total Dynamic Routing Engine), the unit is manageable through a variety of maintenance and management tools. The 2 pair version supports also differentiated IP services including VPNs (Virtual Private Networks) and the delivery of application dependent QoS (Quality of Service) connections. In addition to connections to DSLAMs, the 1432 SHDSL 2P CPE can also be used in a point-to-point configuration. In this case, the CES functionality, combined with the built-in router allows the simultaneous transport of clear channel and Ethernet based services. This compact desktop CPE can be mounted in a rack through an optional rack mount kit. It can be delivered with a power plug for 110 Vac, 230 Vac, 24 Vdc or -48 Vdc powering.

SHDSL LINE INTERFACE

The 1432 SHDSL CPE uses symmetrical full-duplex transmission up to 2.3 or 4.6 Mbps over a single or dual two-wire unconditioned unshielded twisted-pair cable. The line speed can be adapted to optimise the throughput as a function of the characteristics of the local loop. The equipment is based on the ITU-T G.991.2 SHDSL recommendation, which guarantees spectral compatibility with ADSL and VDSL transmission systems in the same cable bundle.

FEATURES AND BENEFITS

- Professional SHDSL CPE for delivery of legacy services over ATM based DSLAM access network
- Available in 1 and 2 line pair versions
- Dedicated version of 1431 with a fixed serial interface
- Leased line service based on ATM CES encapsulation
- Frame Relay service based on ATM FRF.5 and FRF.8 encapsulation
- IP routing and bridging with VPN and COS support



1432 SHDSL CPE SPECIFICATIONS

Line Interface

- Applicable standards: ITU-T G.991.2, G.994
- Single pair or two pair line access
- Connector: RJ12/RJ45
- Impedance: 135 Ohm
- Coding: TC PAM, compliant ITU-T G.991.2 Annex A&B (G.SHDSL), ETSI TS 101524
- Line speeds: > Single pair: N x 64 kbps (N = 3 ... 36)
- Two pair: N x 128 kbps (N = 3 ... 36)
- Handshaking: compliant G.994.1 (automatic speed negotiation) or fixed speed
- Dying gasp to indicate power loss to DSLAM
- Performance monitoring: compliant G.826 (errored seconds, severely errored seconds, unavailability seconds)
- Ideal maximum distance (noise-free)

Serial interface

- Applicable electrical standards: ITU-T V.10, V.11
- Connector: female DB25 (ISO 2110), directly compliant with RS530, RS530A
- Through adapter cable: V.35, V.36 (RS449), X.21
- DTE signals: SGND (102), TXD (103), RXD (104), CTS (106), DSR (107), DTR (108), DCD (109), EXTCLK (113), TXCLK (114), RXCLK (115)
- X.21 signals: G, T, R, C, I, S, X
- Layer 2 protocols: Frame Relay or transparent

LAN port (2 pair version)

- Compliant with IEEE 802.3 10 Mbps HDX/FDX Ethernet
- Compliant with IEEE 802.3u 100 Mbps HDX/FDX Ethernet
- 10/100 Mbps auto-sense
- Auto cross-over
- RJ45 Unshielded Twisted Pair (UTP)

Control interface

- Applicable standards: ITU-T V.24, V.28, EIA/TIA 574
- DCE signals: SGND (102), TXD (103), RXD (104)
- Connector: female DB9
- Speed: 9600 bps

Test loops

- Internal Line Loopback (Analogue Loop)
- External Line Loopback
- Internal DTE Loopback
- External DTE Loopback (Digital Loop)

ATM WAN encapsulation

- Conform TDRE 12.0 (Total Dynamic Routing Engine)
- ATM Forum Traffic Management 4.0 service types CBR and UBR, VBR-rt, VBR-nrt
- Total number of ATM PVCs: 30

Sales Code

- > 205054 1432 SHDSL SERIAL 230VAC
- > 205056 1432 SHDSL 2P SERIAL ETH 230VAC

Clear channel service

- ATM Forum af-vtoa-0078.000 Circuit Emulation Service (CES) version 2.0
- Clocking: internal preferred or alternative, slave on network preferred or alternative
- Interface speeds in internal and slave receive clocking: N x 64 kbps up to 2048 kbps (1 pair version) or up to 4096 kbps (2 pair version)
- User speeds: N x 64 kbps up to 2048 kbps/4096 kbps (1 pair/2-pair system)
- Can be combined with a low speed management PVC

Frame Relay service

- Frame Relay / ATM PVC Network Interworking Implementation Agreement (FRF 5)
- Frame Relay / ATM PVC Service Interworking Implementation Agreement (FRF 8.1)
- Number of user Frame Relay DLCIs: up to 30
- User speeds: N x 64 kbps up to 2304 kbps/4608 kbps (1 pair/2-pair system)
- Synchronous clocking: internal preferred or alternative, slave on net work preferred or alternative, external
- Synchronous interface speeds in external clocking: all speeds up to 2 Mbps (1 pair version) or 4 Mbps (2 pair version)
- Synchronous interface speeds in internal and slave receive clocking: N x 64 kbps up to 2048 kbps (1 pair version) or up to 4096 kbps (2 pair version)

IP routing and bridging (2 pairs version)

- Conform TDRE 12.0 (Total Dynamic Routing Engine)
- Full forwarding performance of 64 byte packets at maximum interface speed
- Routing and bridging performance: 40 Kpps
- Number of IP VPN tunnels: 10
- Number of VLANs: 200
- Number of bridge-groups: 13

Maintenance and management

- Conform TDRE 12.0 (Total Dynamic Routing Engine)
- Preset button: check

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
- SERIAL / LNK: DTE connected (RTS) to the serial interface
- SERIAL / ACT: layer 2 status (in case of Frame Relay)
- LAN / ACT: LAN status

Memory

- Flash memory: 8 Mbyte
- RAM memory: 16 Mbyte

Mechanical Data

- Desktop (1 rack-unit high)
- Dimensions: 45 x 220 x 135 mm
- Weight: 500 g
- Wall mountable
- Rack mountable (optional 19" rack-mount kit required)

Power Requirements

- Input voltage: 12 Vdc, max 1 A
- Power adapters for 115 Vac, 230 Vac, 24 Vdc and -48 Vdc
- Power consumption: 6 W (1P); 7,5 W (2P)