CellPipe® 40H-CES

The CellPipe® 40H-CES helps you minimize capital expenditures while you offer a full range of voice and broadband services to small and medium-sized businesses. This CPE gives you seamless support for legacy equipment, like PBX systems and existing routers. It also takes advantage of Symmetrical High-bit Rate Digital Subscriber Line (SHDSL) technology to deliver transport speeds up to 2.304 Mbps-allowing you to meet the demand for high-value data and multimedia services using existing copper wiring.

Applications

- Low-cost POTS, including support for legacy PBX equipment

- A full range of high-quality broadband services, including data, video and multimedia applications

- Economical DS1/E1 leased line replacement

Features

- **SHDSL network port** – Connects the CellPipe® 40H-CES to your DSLAM, using an SHDSL line with symmetric data rates from 192 Kbps to 2.304 Mbps

- **Software configurable T1 or E1 interface** – Provides Circuit Emulation Service (CES) functionality—enabling seamless support for legacy equipment

- **Constant Bit Rate (CBR) port** – Supports your customer's existing TDM voice traffic, including PBX calls

- **Multiprotocol serial interface for router traffic** – Handles a wide spectrum of data traffic, enabling cost-effective support for existing routers

- **Static and dynamic IP routing capabilities** – Support both manual and dynamic routing to allow easy integration of any equipment

- **DHCP server and client support** – Streamlines IP network administration

- **NAT/NAPT capabilities** – Provide secure, flexible IP configuration

- **10/100BaseT Ethernet switching port** – Establishes broadband connectivity to your customer's high-speed LAN

- **IEEE 802.1D transparent, self-learning bridge** – Enables seamless LAN interconnection with enhanced traffic flow between LAN segments

- **Graphical user interface** – Speeds and simplifies network configuration and allows easy remote access, monitoring and management

Benefits

- **Expanded revenue opportunity** – You can extend your high-value broadband services to small and medium-sized businesses cost-effectively

- **Reduced capital expenditures** – Take advantage of this powerful, small-scale solution to serve a diverse range of customers—with minimal outlay

- **An economical alternative to DS1/E1** – Cut costs by using the existing copper infrastructure to transport high-speed data, instead of installing fiber

- **Centralized control of subscriber networks** – It's easy to maintain efficient operations with remote configuration management and monitoring

- **Competitive edge** – You can offer the cost-effective voice and data service bundles that small to medium-sized businesses are looking for—with easy service upgrades

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Specifications

1. Hardware Specifications

SHDSL IAD

CBR port, user selectable E1/T1

Serial data port, user selectable V.35, X.21, RS-232, RS-449, EIA-530

10/100 Ethernet

Management: EOC (for G.shdsl related parameters), Web-based interface, local supervisory port

2. Serial Interface

DTE/DCE Port: Selectable V.35, V.36, RS-232, RS-449, EIA-530

Data Rate: Synchronous, nx64 Kbps (where n=1-36)

Connection: DB-25 Female

Protocol: PPP, HDLC

3. LAN Interface

Ethernet Port:
10/100 Base-T auto-sensing

Protocol: TCP/IP, RIP1, RIP2, OSPF

IP Addressing: DHCP (server and client)

Security: NAT, NAPT

Bridge: IEEE 802.1D transparent, self-learning

4. Network Interface

Line Rate: 2.304 Mbps

Line Framing:
ATM transport (G.991.2E9)

Line Coding:
Trellis Coded Pulse Amplitude Modulation

Network Protocol: ATM

Adaptation Layer: AAL1 and AAL5

Connection: RJ-48C

Number of PVCs: Up to 16 (1 PVC for CBR port)

5. CBR Port

T1 Mode

Line Rate: 1.544 Mbps

Line Framing: D4 or ESF

Line Coding: AMI or B8ZS

Input Signal: DSX-1 to –6dB

Connection: RJ-48

E1 Mode

Line Rate: 2.048 Mbps

Line Framing: CCS, CAS or Unframed

Line Coding: AMI or HDB3

Input Signal: E1, +1 to –27dB (ALBO)

Connection: RJ-48

Timing: Network, AAL1 adaptive

ATM Adaptation Layer: AAL1, Circuit Emulation Service (af-vtoa-0078.000)

Mode: Short haul, long haul

6. Management Interface

Embedded Operations Channel (EOC) for SHDSL related parameters, embedded Web Server interface, VT100, Telnet, SNMP V2, local supervisory port

7. Industry Listings

FCC: Part 15, Class A, Subpart B

Safety: UL 60950 3rd Class

Canadian Safety: CSA C22.2 No. 950

Industry Canada: CS-03

International Safety: EN 60950

International: EN 55022 Class A; EN 50081-2

European: CE Mark

8. Diagnostics

Performance: 15-min, 24-hr and 30-day monitoring (sampled every sec)

Network Loop: SHDSL network loopback

Span Performance Statistics: Attenuation, SNR

Margin, ES, SES, CRC, LOSWS, UAS

9. Statistics

Tx/Rx cells (AAL1 and AAL5)

Tx/Rx frames (AAL5)

Tx/Rx bytes (AAL1 and AAL5)

Error frames (AAL1 and AAL5)

Frames with CLP bit set (AAL5)

Frames with CI bit set (AAL5)

Frames aborted (AAL5)

Frames with length violation (AAL5)

Frames with CRC error (AAL5)

Frames with HCS error (AAL5)

10. Power Requirement

Voltage Input:
100 to 240 VAC auto-ranging

Frequency: 50 to 60 Hz

11. Mechanical

Mounting: Stand-alone

Dimensions: 11.75 in. (29.845 cm) w, 1.86 in. (4.724 cm) h, 8.75 in. (22.225 cm) d

Weight: 2.13 lb (0.97 kg)

12. Environmental

Operating Temperature: 0 to 50 °C (32 to 122 °F)

Storage Temperature: -20 to 65 °C (-4 to 149 °F)

Humidity: 95% maximum, non-condensing

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