

FASTmux™ xDSL Mini-DSLAM Model 2000 Series Data Sheet



"The World's Smallest DSLAM"™

Technical Specifications for the Model 2000 Product Line

OVERVIEW

The *FASTmux* Model 2000 delivers between 4 and 60 ports of xDSL service (ADSL or G.shdsl) to any point in the network which can generate 1 to 4 physical T1 or E1 network links. Small and portable, the Model 2000 effectively eliminates established broadband service range limitations of 18 kft from the CO. Designed to overcome the physical and financial barriers impeding xDSL deployments, the Model 2000 enables broadband services from DLCs (Digital Loop Carriers), smaller Central Offices not needing a high density DSLAM, and Optical Network Unit (ONU) cabinets, while also providing efficient access aggregation at the MTU (Multi-Tenant Unit).

KEY BENEFITS

- Guaranteed to fit any DLC including legacy SLC@-96, SLC Series 5™, Urban™, OPM™, 600 Series™, 800 Series™, 80- and 50- type™, Reliance 101™, Mesa 4™, Mesa 6™, Fujitsu 6200™, NEC C-REX™, T-REX™, REX™, Timespan™, Seiscor24™, and OPACT™ cabinets, with a complete accessory portfolio of mounting options and cables that ensures fast installations.
- Environmentally hardened for outside plant deployment.
- Small enough to fit in a variety of ONU cabinets, providing ADSL service where it has so far been impossible.
- Scales from 4 to 60 ADSL ports via an expansion port.
- 8 port expansion units available capable of providing mixed services including G.shdsl, ADSL over ISDN, and ADSL over POTS.
- Network interface with 1 to 4 physical T1/E1 links.
- Internal passive splitters, saving crucial rack space as well as extra equipment cost.
- Can be remote powered using a -130VDC source.
- Overcomes the 'Digital Divide' through pay-as-you-grow network buildout in smaller COs and DLCs where, to date, ADSL deployments have been cost prohibitive or physically impossible.
- May be sub-tended to a large scale host DSLAM via T1/E1 access ports in a hub and spoke configuration.
- Fully compliant with ANSI and ITU ADSL standards ensuring interoperability with the broadest range of CPE and network elements.
- No DLC cabinet replacements, no expensive site surveys, no multiple truck rolls, no DLC site redesigns - just instant ADSL revenue.
- Controlled and configured through the FASTview™ Element Manager System, an SNMP agent accessing industry standard MIBs and presented via an intuitive graphical user interface ideally suited for integration into existing HP OpenView® Network Managers. Graphical Craft Interface software is available to simplify initial configuration.
- Contains a TL-1 based management agent for remote management.

CONKLIN QUALITY

- Verizon Logistics (GTE Supply)
Supplier of Excellence
1995, 1996, 1997, 1998, 1999, 2000
Best in Class - Transmission
1997, 1998
Supplier of the Year
1998
- Telus (BC Tel) Supplier of Excellence
1998, 1999
- ISO 9001 Certified
- TL9000 Certified
- DSL Forum Member



Specifications

General

- Power
- Voltage:
 - L8s: -42.75 to -56.7 Vdc
 - All other units: -40 to -60 Vdc / -90 to -140 Vdc
 - Power Consumption:
 - Base Units: 14.4 W
 - Expansion Units: 13.5 W
 - Operating Environment
 - Temperature: -40°C to +65°C
 - Humidity: 0% to 95% RH, non-condensing
 - Dimensions
 - 1.36 x 5.25 x 10.5 inches
 - 3.45 x 13.34 x 26.7 cm

POTS/ISDN Splitter Standards

- L8i-E: ETSI TS 101 388 v1.1.1
- L2-E, L8p-E: ETSI TS 101 728 v1.1.1
- L2, L8p: ANSI T1.413

Certifications

- GR-0063 NEBS Level 3
- GR-0078-CORE

Electromagnetic Components Compliant With

- EN 300 386
- EN 55022
- GR-1089-CORE
- FCC Part 15

Cell Stream Recovery

- T1 Interface
- DSX and long haul T1
 - ESF framing
 - B8ZS zero suppression
- E1 Interface
- Short haul E1 (75/120 Ohm)
 - E1-CRC4-MF framing
 - HDB3 Line Code
- Transmission Convergence
- Complies with ATM Forum af-phy-0016.000 (T1)
 - Complies with ATM Forum af-phy-0064.000 (E1)
- IMA
- Supports af-phy-0086.001 (IMA 1.1)
 - IMA mode auto-detect
 - One group with 1 to 4 physical T1 (E1) links
 - Hitless link addition/restoration

Expansion Port

- Uses off the shelf CAT5 networking cables
- Maximum cable length between units: 3 feet
- Uses LVDS drivers and receivers

Safety

- UL/CSA 1950
- EN 60950 vs.2000

Management Agent and FASTview Element Manager

- SNMP Agent
- TL-1 Agent
- Default VP/VC of management agent: 0/33 (can be changed via Craft Interface)
- Fully implements IETF RFC-2662 ADSL Line MIB, RFC-1406, IMA af-phy-0086.001, RFC-1573, RFC-1213 MIBs.
- Remote configuration of:
 - Line rates and noise margins
 - ATM cross-connects
 - Connection profiles
- Remote status of:
 - Cell counts through all interfaces
 - ATM connections
 - Link states of all interfaces

Cross-Connect/Shaping

- Cross-Connect
- 600 virtual circuit capacity
 - Non-blocking
 - Virtual path switching
 - Virtual channel switching
- Traffic Management
- Traffic policing, shaping, CAC
 - QoS classes supported: UBR, CBR, VBR-rt*, VBR-nrt*

xDSL Transceivers

- Supported formats:
 - ANSI T1.413
 - ITU-T G.992.1 (G.DMT) Annex A & B
 - ITU-T G.992.2 (G.lite)
 - ITU-T G.991.2 (G.shdsl) Annex A & B
- Data streams are isolated between customers
- Co-exists with analog baseband voice circuits (POTS)
- Output signal conforms to the Spectral Mask given in Annex F of T1.413

*future release

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Ordering Information

Part No.	CLEI Code	Description	No. of ADSL Lines	No. of Network Interfaces
2000 L2 SA	VAMR780JRA	4 Port Host Unit (T1 Interface) Expandable to 60 ports	4	1 to 4 T1s
2000 L2-E SA		4 Port Host Unit (E1 Interface) Expandable to 60 ports	4	1 to 4 E1s
2000 L8i-E		8 Port ADSL over ISDN (ETSI) Expansion Unit	8	n/a
2000 L8p	VAM5V20KRA	8 Port ADSL over POTS (ANSI) Expansion Unit	8	n/a
2000 L8p-E		8 Port ADSL over POTS (ETSI) Expansion Unit	8	n/a
2000 L8s	VAM5V40KRA	8 Port G.shdsl Expansion Unit	8	n/a

Software

2000 EM	FASTview Element Manager Software (Windows)
2000 EMS	FASTview Element Manager Software (Solaris)
2000 CI	FASTmux Craft Interface Software

Accessories

3683 L1	NDMUAE0BRA	3-Position Horizontal Mounting Shelf
368-006	NDMYAAEAAA	2-Position Mounting Shelf
368-005	NDMYAADAAA	5-Position Mounting Shelf
2000-008-L2	VAMR600JRA	8-Position Mounting Shelf
2000-010-L2		OPM Installation Kit
2000-011-L2		Timespan 128 Installation Kit
2000-025		Timespan 256 Installation Kit
2000-013 SA		48V, 3.5A Power Supply
200-002-4AI		20' 4-Port ADSL/POTS Interface Cable - Open End (use with Base Units)
200-002-8AI		20' 8-Port ADSL/POTS or G.shdsl Interface Cable - Open End (use with Expansion Units)
200-002-4AS		6' 4-Port ADSL/POTS Interface Cable - 5-Element Protection (use with Base Units)
200-002-8AS		6' 8-Port ADSL/POTS Interface Cable - 5-Element Protection (use with Expansion Units)
200-002-T1		Single Port T1 Interface Cable - Open End (use with Base Units)
200-002-CI		Craft Interface Cable and Adapter to DB9 Connector (use with Base Units)

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