



# 16-Port Bonded SHDSL

## Total Access® 3000 SHDSL High-Density Modules

### Product Features

- Metro Ethernet Forum (MEF) certified
- Sixteen individually configurable ports
- Rate/range adaptability for most efficient use of bandwidth
- Symmetrical data transfer for applications requiring equivalent transmission speeds, upstream and downstream
- Enhanced SHDSL data-rate performance of up to 5Mbps/pair
- Robust loop performance for dependable service
- Spectral compatibility for operation alongside other DSLs
- Low power dissipation for cost-effective operation
- Industry-leading, 10-year warranty

The ADTRAN® Total Access 16-Port SHDSL modules provide high-density, low-cost deployment of 16 industry-standard e.SHDSL interfaces. SHDSL is the most functional, standards-based Digital Subscriber Line (DSL) technology developed to date. Resulting from the convergence of the best features of traditional DSL technologies, SHDSL incorporates rate/range adaptability, spectral compatibility, impairment tolerance, and high-speed symmetric deployment.

SHDSL is particularly suited for business-based voice and data applications such as multiple voice-line delivery, Internet access, Ethernet extension, and remote LAN access. The 16-port SHDSL modules are another addition to ADTRAN's Total Access DSLAM architecture. The Total Access DSLAM utilizes the System Controller Unit (SCU) and a complement of ATM or Ethernet switches. These are configured in the same chassis as ADTRAN's field-proven Total Access Broadband Platform. The Ethernet or ATM switch receives and routes traffic from the network to the SHDSL module for transmission over the loop.

Each 16-port e.SHDSL module occupies two slots in the Total Access DSLAM shelf allowing 224 subscribers per single chassis. Each SHDSL port is individually configurable and supports rates from 192kbps to 5.7Mbps over a single copper pair. ADTRAN currently offers three different 16-port SHDSL modules. First, a 2-wire/4-wire version that provides SHDSL and e.SHDSL for single and two-pair operation. Second, an IMA version which provides up to eight pairs of SHDSL or e.SHDSL to be bonded together. And finally, an EFM version which

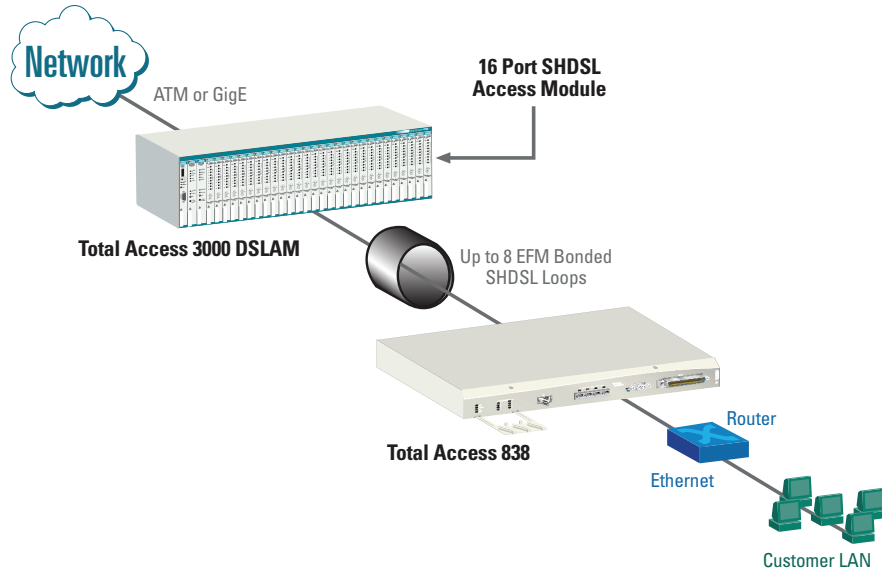
provides up to eight pairs of SHDSL or e.SHDSL to be bonded together using Ethernet in the First Mile (EFM) to deliver up to 45Mbps to the customer.

The Total Access 3000 EFM solution is certified to MEF (Metro Ethernet Forum) four and fourteen.

The front panel is equipped with an LED for each port to quickly determine circuit status. Each SHDSL circuit utilizes the Trellis Coded Pulse Amplitude Modulation (TC PAM) line code scheme ensuring spectral compatibility with existing binder group services. ADTRAN's SHDSL module is 100 percent compliant with the ITU Standard for SHDSL transmission (G.991.2) for interoperability with other standards-based SHDSL products. The Total Access system offers several methods for user-friendly operation, administration, maintenance, and provisioning of the entire SHDSL circuit. SNMP management using ADTRAN's Total Access Element Management System (EMS) or other SNMP-based systems is provided via the 10BaseT or inband connection on the Total Access DSLAM shelf. A VT100 interface on the front of the SCU provides easy access to the module menu screens.

ADTRAN also offers a variety of CPE to terminate SHDSL, including the Total Access 238, 832, and 838. The Total Access 238 terminates up to eight pairs of e.SHDSL bonded using IMA protocol. The Total Access 832 and 838 terminate two and eight pairs respectively bonded using EFM. Each of these devices provide multiple 10/100 Ethernet interfaces to the customer premises.

## Total Access 3000 SHDSL High-Density Module



## Product Specifications

### Front Panel Features Indicators

- Power LED
- Sixteen (16) SHDSL port indicators

### Mechanical

- **Dimensions:** 5.35 in. H x 0.66 in. W x 10.2 in. D
- **Weight:** Less than 2 lb.
- **Mounting:** Occupies two access module slots in the Total Access 3000/3010 chassis

### Interfaces

- **Network Interface:** Ethernet or ATM upstream
- **Subscriber Interface:** SHDSL

### Electrical

- **Power Requirements:** -42 VDC to -56 VDC input range

### Regulatory Standards

- NEBS Level 3
- GR-1089-CORE
- UL 60950

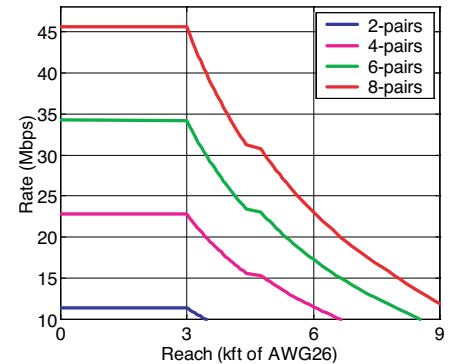
### Management

- Craft interface, SNMP, TL1

### Environmental

- **Operating:** -40°C to +65°C
- **Storage:** -40°C to +85°C
- **Relative Humidity:** Up to 95 percent, noncondensing

Bonded deployment reach for a min. rate of 10Mbps



## Ordering Information

Equipment	Part #
Total Access 3000 2-wire/4-wire SHDSL	1181422L1
Total Access 3000 SHDSL IMA	1181429L1
Total Access 3000 SHDSL EFM	1181429L3
Total Access 838 SHDSL EFM NTU	1200633L2
Total Access 832 SHDSL EFM NTU	1200718L2

**ADTRAN, Inc.**  
901 Explorer Boulevard  
Huntsville, AL 35806

P.O. Box 140000  
Huntsville, AL 35814-4000

256 963 8000 voice  
256 963 8030 fax  
877 457 5007 fax back

**General Information**  
800 9ADTRAN  
info@adtran.com  
www.adtran.com

**Pre-Sales Technical Support**  
888 5ADTRAN  
support@adtran.com  
www.adtran.com/support

**Where to Buy**  
800 827 0807  
www.adtran.com/where2buy

**Post-Sales Technical Support**  
800 726 8663  
support@adtran.com  
www.adtran.com/support

**Regional Offices**  
Dallas, TX  
972 830 9070  
Denver, CO  
303 471 9150  
Kansas City, KS  
800 471 8649  
Newark, NJ  
800 471 8656  
Ontario, Canada  
416 290 0585  
Quebec, Canada  
877 923 8726  
San Antonio, TX  
888 223 7671

**International Inquiries**  
+1 256 963 8716 voice  
+1 256 963 6300 fax  
international@adtran.com  
www.adtran.com/international



ADTRAN is an ISO 9001:2000 registered company.



ADTRAN is a TL 9000 registered company.

61181429L2-8C May 2007  
Copyright © 2007 ADTRAN, Inc.  
All rights reserved.

Specifications are subject to change without notice. ADTRAN and Total Access are registered trademarks of ADTRAN, Inc. All other registered trademarks and trademarks mentioned in this publication are the property of their respective owners.