World Class, Broadband Multiservice Access Platforms
Total Access: Meeting Your Needs Today and Into the Future

ADTRAN’s Total Access System is the industry’s most flexible solution for deploying the latest local loop technologies. The Total Access system includes multiservice access platforms, integrated access devices and voice concentrators as part of a complete solution for PTT, NCC and other service providers. A modular and compact design provides more deployment options than ever before — all with minimal capital outlay. That’s because Total Access is a “grow-as-you-go” system, allowing you to purchase only the capacity you need, when you need it. Total Access simplifies the migration from TDM to packet networks, so your investment is protected as technologies change. Plus, Total Access is easily managed from a centralized location, giving service providers more control over the entire network.

Total Access 3010: A Sound Investment

Total Access 3010 is an intelligent, open-architecture, world-class multiservice access platform for deploying HiCap and DSL services. An integral component of ADTRAN’s Total Access System, the Total Access 3010 offers unprecedented flexibility, along with multiple service options and management capabilities. This compact, modular device is a single platform for delivering manageable, profitable services now and into the future.

Total Access 3010:

- Performs as a DSL Access Multiplexer (DSLAM), an Office Repeater Bay (ORB), an M13 multiplexer, an STM-1 or OC-3 multiplexer, or an ISDN DLC
- Provides TDM, Frame Relay, or ATM network interfaces
- Includes 1:1 Automatic Protection Switching (APS)
- Offers flexible management options
- Provides the industry’s most compact form factor
When service providers choose ADTRAN, they know they’re getting experience and expertise that no other vendor can offer. That’s because ADTRAN has more than two million local loops operating worldwide, providing value and dependability through engineering excellence and customer-oriented service. These successes have earned ADTRAN longstanding relationships with every major U.S. Incumbent Local Exchange Carrier (ILEC) and many emerging Competitive Local Exchange Carriers (CLECs). Globally, ADTRAN has established significant partnerships with many prominent PTTs and New Competitive Carriers.

The leader in DSL deployment and number one in each of our key technologies – DDS, ISDN, and HDSL – ADTRAN offers the most comprehensive line of central office, collocation, network termination, and access equipment available from a single source. That’s why experts choose ADTRAN.

Seamless Migration to Packet Switching Networks

The Total Access System consists of platforms that support the industry’s migration from Time Division Multiplexing (TDM) to packet switching (ATM and Frame Relay). Unlike TDM, which allocates a fixed amount of bandwidth regardless of whether data is being sent, packet switching transmits bursts of data along the most efficient path. Multiple connections can share a channel, so carriers can better use valuable bandwidth.

By deploying Total Access 3010, service providers avoid the need to change platforms to accommodate TDM to packet migration. That translates into substantial savings of time and money, as packet switching becomes more pervasive.

Components for Central Office and Customer Premises

In addition to the Total Access platform, ADTRAN offers a complete line of high-performance equipment for the customer premises, giving you a cost-effective, manageable access solution, without the frustration of multiple vendor platforms. In voice, data and combined voice/data applications, ADTRAN equipment spans the network with solutions for ATM, T3, T1, E1, E3, DSL, Frame Relay, and ISDN.
Multiple Applications in a Single Chassis

The Total Access 3010 offers a solution for every carrier. This multiservice access platform supports varied applications from a single chassis, and offers benefits for both service providers and subscribers. Total Access 3010 can be used for time division multiplexing, packet switched voice over DSL, and packet switched data transport.

Time Division Multiplexing (TDM)

- Provides up to 176 loop interfaces
- Allows 3/1/0 switching on E1
- Includes 1:1 equipment protection switching
- Provides E1 and V.35 connectivity to support voice and data applications
- Includes 19” rackmount with CE Mark and IEC 950 certifications

Packet Switched – Voice over DSL (VoDSL)

- Allows voice and data over ATM
- Interoperable with V5.2 gateways
- Interoperable with DSLAMs
- Supports analog technology
- Supports international ISDN
- Offers built-in IP routing capability
Packet Switched – Data Only

- Supports up to 176 data-only customer sites
- Allows IP and Frame Relay traffic to be transmitted over ATM
- Takes advantage of multirate modulation using G.shdsl

G.shdsl is the latest symmetric DSL, offering power-efﬁcient, multirate transmissions across only one pair of copper wires. Spectrally friendly with other DSL technologies, G.shdsl supports symmetric data rates varying from 192 kbps to 2.312 Mbps across greater distances than other technologies with reduced need for repeaters. G.shdsl is also capable of supporting symmetric data rates up to 4.624 Mbps with two-pair operation.

A standard by both ITU (G.991.2) and ETSI (DSL, TS 101 524), G.shdsl represents a true international technology. A leading contributor to the ITU standardization effort, ADTRAN is strongly positioned to support this technology in its Total Access platform. After providing more than 100 contributions to the standard, ADTRAN is now working with other industry leaders to ensure industry-wide compliance and interoperability.

It was ADTRAN who pioneered its TC PAM technology for DSL – the same TC PAM technology used in HDSL2 to provide T1 services across a single copper pair. A leader in DSL development, ADTRAN brings to G.shdsl its fifth generation of experience with TC PAM, including ADTRAN’s Total Reach ISDN, Total Reach DDS, and HDSL2.
Deploying Multiple, Managed Services from a Single Platform

Total Access 3010 provides a broad range of options for management, network, and local loop interfaces. Its flexibility allows service providers to deploy a wide range of local loop technologies in their TDM networks with many options for management and network interfaces, while providing a clear migration path to ATM and packet technology.
ATM/Packet Networks

Total Access 3010 configured as a DSLAM delivers DSL services across a DS3 network interface. Its backplane provides highly reliable operation across a large number of interfaces. Total Access 3010 offers comprehensive support for high-speed data services using cell or packet switching.

Supporting ATM/Packet with Total Access 3010
Grow As You Go

Total Access 3010 commons and plug-in modules provide you with a total solution for the deployment of multiple voice and data transmission applications. Purchase what you need today and add modules as you go. Total Access 3010 ensures that your access platform will handle tomorrow’s access requirements.

Total Access 3010 consists of a mounting chassis, common equipment, and access modules (loop interfaces). The 19-inch Total Access 3010 rackmount chassis holds one management module, two multiplexer modules, and 22 access modules. All commons that directly affect data transmission are redundant.

System Controller Units

- Intuitive menu-driven Operations, Administration, Maintenance, and Provisioning (OAM&P)
- Local access through Craft interface
- Walk-up provisioning through four-character display and toggle switch
- Chassis interconnect

Standard System Controller Unit

- All standard SCU features
- TL1/NMA support
- Synchronous X.25 interface
- SNMP and Telnet support through 10BaseT interface

Gateway System Controller Unit
Total Access 3010 Modules

Multiplexer Modules

**TDM**
- **OC-3**: OC-3 interface; Permits dropping of second and third STM-1
- **TSI**: Full 3/1/0 switching on E1, DS3 high-speed network interface
- **SDH (STM-1)**: OC-3 and STM-1 interface; Full grooming of VT1.5s or VT2s via AU-3

**Packet**
- **Frame Relay**: DS3 unchannelized network interface; Management via TL1 or SNMP
- **ATM**: DS3 or E3 unchannelized network interface; Supports C-Bit and M13 parity

Access Modules

**TDM**
- **Quad E1**: Drops off four ports of E1
- **LTU-45**: Single mode fiber with HSSI network interface
- **HD-10**: Up to 10 BRIs multiplexed onto a single E1
- **LTU**: Low-voltage HDSL access; E1 and T1 versions available
- **H2TU-C**: Two-wire HDSL2 ANSI standard for T1

**Packet**
- **Octal G.shdsl**: Full E1, two-wire G.shdsl transport; Rate adaptive technology
- **Quad ADSL**: Supports G.Lite or DMT modulation schemes
- **Quad E1**: Drops off four ports of E1
Each member of the Total Access System offers a set of common features that benefit both service providers and end users.

- The industry's most comprehensive system of access products, with services ranging from fiber to POTS
- Platforms optimized for specific deployment needs
- Compact form factors, reducing the need for space in crowded central offices and remote terminals
- "Grow-as-you-go" architecture for deployment based on actual need, reducing initial turn-up and per-port costs
- Hot-swappable, modular design for quick and easy upgrades and maintenance
- Remote management using industry standard protocols — TL1 and SNMP
- Multi-vendor support for providers' freedom of choice
- The design requirements of IEC 950 and CE MARK compliance for the highest reliability and safety standards

**Total Access Network Termination Units**

**TDM**
- OSU 300
  - Multiport fiber NTU
  - Maximum data rate of 44.2 Mbps
  - Four user-configurable data ports
  - HSSI or high-speed V.35 user interface
  - SNMP and Telnet management through 10/100BaseT port

**Total Access 530**
- Multiplexer
- E1 port (G.703/G.704 compliant)
- V.35, V.11(X.21), EIA-530 dataports
- G.shdsl network interface

**Packet**

**Total Access 520**
- Frame Relay in; Frame Relay or ATM across network
- G.shdsl network interface
- V.35 or V.11(X.21) data interface

**Total Access 502**
- IP Router
- G.shdsl network interface
- Integrated four port hub
- IP in; ATM or Frame Relay across network

**Integrated Access Devices**

**Total Access 544i**
- G.shdsl network interface
- Four 50 ISDN interfaces
- V.5.2 Gateway interoperability
- 10/10BaseT Ethernet with built-in IP router
- V.35 or V.11 (X.21) data interface

**Total Access 850**
- G.shdsl network interface
- 10BaseT Ethernet with built-in IP/IPX router
- GR-303 and V.5.2 gateway interoperability
- DSX-1 and V.35 data ports
- Supports up to 24 POTS
Profitable Local Loop Access Solutions

Never before has a single company offered so many different ways to decrease circuit costs. Specialists in technologies for the local loop, ADTRAN offers a full line of local loop access products, each engineered to maximize existing copper infrastructure while decreasing cost per circuit. ADTRAN's comprehensive, fully featured line of central office and customer premises equipment enables economical and efficient deployment of high-speed, low-cost voice and data transport for today's exciting new telecom activities, including Internet access, wide area connectivity, telecommuting, and video-conferencing.

How can we help you?

If you would like to receive a product catalog, call the regional office listed on the back cover. Or, contact our U.S. headquarters at +1 256 963-2500 (voice), +1 256 963-6300 (fax), international@adtran.com (e-mail).

If you would like to review product information on the Internet, visit: http://www.adtran.com/international

Total Access 3010 and a broad range of other ADTRAN access equipment is available from carefully selected distribution partners around the world.