Total Access 600 Series

Carrier-class VoIP, TDM, and VoATM IADs

Product Features

- Seamless voice and data integration over IP, TDM, or ATM based architectures
- Up to 24 analog POTS interfaces
- Optional DSX-1 for PBX connectivity
- VoIP, TDM, and VoATM support
- Compatible with industry-leading DSLAMs, aggregation routers, gateways, soft switches, and call agents
- Integral full-featured IP router for data support and Internet access
- V.35 Nx56/64 DTE interface
- Dynamic bandwidth allocation
- Software upgradeable from TDM to packet-based architectures
- Rugged metal case
- Optional battery backup
- Industry-leading 10-year North American warranty

With millions of small- to medium-sized enterprises existing today, the requirement for carriers to provide cost-effective integrated voice and data solutions is growing at a rapid rate. ADTRAN® delivers with the industry-leading Total Access® Integrated Access Devices (IADs). The Total Access 600R, 604, 608, 612, 616, and 624 are cost-effective, fixed-port, IADs designed to support IP, TDM, or ATM networks. These IADs offer CLECs, ILECs, RBOCs, and ISPs a means to offer combined voice and data traffic over a single network interface terminating at the customer's premises.

The Total Access 604 provides four analog FXS voice interfaces while the 608 provides eight. The Total Access 612 provides 12 fixed analog voice interfaces, while the Total Access 616 provides 16 fixed analog voice interfaces, and the Total Access 624 provides a full 24-port voice capacity for larger voice applications. These analog FXS interfaces support the stringent design and full feature set required by today's carriers. Total Access 600 Series IADs provide a built-in IP router, Nx56/64 V.35 port for synchronous data applications, and optional DSX-1 interface, allowing the customer to combine a broad variety of voice and data services into a single platform. The Total Access 600R provides an integral IP router and no analog ports with digital voice connectivity provided via the optional DSX-1 connection.

In applications involving IP network architectures, a Total Access IAD at the customer premises consolidates voice (packet, analog, and digital) and data traffic, and supports IP voice signaling over any Layer 2 protocol. This allows service providers to offer traditional telephony services, while taking advantage of a lower cost IP network architecture. Total Access IADs are also interoperable with leading feature server vendors to support hosted PBX service offerings. Total Access IADs enable traditional analog services (POTS phones, fax machines, and other devices) to be combined with IP phone support to allow customers to migrate to IP telephony at their own pace.

Built with the carrier in mind, the Total Access 600 Series IADs are housed in a rugged metal case and provide the flexibility needed for quick turn-up in harsh environments. Wall and desktop mounting options are available for ease of installation. An optional ADTRAN battery backup system is available for added security.

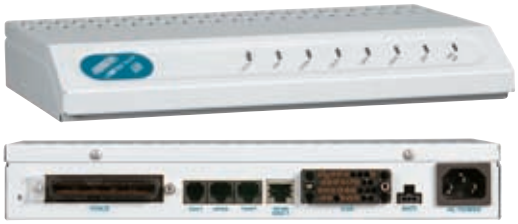
For Telco applications, the T1 loop (end section) from the last regenerator to the NIU must contain no more than 22dB of loss. Additionally, from the NIU to the CPE (e.g., CSU), there must be no more than 5.5 dB of loss. Said differently, with 7.0dB of loss per 1kft of 24AWG wire, this equates to approximately 3100 feet and 775 feet for the telco end section and NIU to CPE segments, respectively. For a campus environment in a private T1 application, the Total Access 600 Series receiver sensitivity of -36dB allows for a maximum distance of up to 5,000 feet between units. The integral IP router provides a powerful suite of performance and security features. Each Total Access 600 IAD offers multiple PVC configurations for simultaneous access to the corporate network and the ISP. Supporting NAT and packet filtering, Total Access 600 IADs secure the corporate network from unwanted intrusion. All configuration options, testing parameters, and passwords are accessed through an easy-to-use VT100 terminal interface or a TELNET session.

Using local or remote inband management, the service provider can turn features, functions, and access ports on and off. For network access, the Total Access 600 IADs have a single T1, SDSL, SHDSL, or ADSL (604/608) interface. In addition to all of these features, the Total Access 600 IADs are backed by an industry-leading 10-year warranty and ADTRAN's technical support.

ADTRAN®

Total Access® 600 Series

Carrier-class VoIP, TDM, and VoATM IADs



Total Access 604/608

Total Access 612/616/624

Network Interface
- Physical Interface: RJ-48C

T1 (AT&T 54016, ANSI T1.403)
- Line Rate: 1.544 Mbps +/- 75 bps
- Framing: D4 (SF)/ESF
- Line Code: AMI / B8ZS

ADSL (ITU G.992.1)
- Up to 8 Mbps downstream/Up to 1 Mbps Upstream
- Interoperable with G.992.1 compliant DSLAMs

SHDSL (TU G.991.2)
- Line Rate: 192 kbps to 2.3 Mbps
- Rate-adaptive, enhanced spectral compatibility

SDSL (2B1Q Conexant-based)
- Line Rate: 192 kbps to 2.3 Mbps
- Training: Conexant Autobaud capable

ATM Support
- AAL2 (voice), AAL5 (data, voice)
- 9 PVCs (1 voice, 8 data)
- RFC 1483 (multiprotocol over ATM)
- PPPoA (RFC 2364)
- QoS Support: VBR-rt (voice), UBR (data), VBR-nrt (data)
- 1.610 F5 OAM loopback
- G.165/G.168 echo cancellation, 8 ms echo tail
- Idle channel suppression

Protocol Support
- Jetstream/Paradyne
- LES

Caller ID Support
- Caller ID Generation (Basic Line Package)
- Enhanced Caller ID Generation (Caller ID with call waiting)

CODECs supported
- G.711 – 64K PCM (mu-law encoding)
- G.726 – 32K ADPCM (mu-law encoding)

Frame Relay Support
- Copper Mountain CE fragmentation support
- FRF.5 and FRF.8 support (V.35)

Voice Features
- FXS: VoIP/TDM/VoATM
- Echo Cancellation
- 32k ADPCM
- DSX-1: T1 CAS, PRI (VoATM today, VoIP in future releases)
- Priority Queuing of Voice Traffic
- Adaptive clocking for Ethernet fed applications

Call Control
- Media Gateway Control Protocol (MGCP 1.0bis) support (per RFC 3435)
- PacketCable™ Network-Based Call Signaling (NCS 1.0)

Local Tone Generation
- Dialtone, stutter dialtone
- Busy, reorder
- Confirmation Tones, Call waiting, Distinctive Call Waiting
- Receiver Off Hook

Analog Ports
- 4, 8, 12, 16, or 24 analog FXS ports per TR-57, 50-pin Amp
- Supports popular CLASS™ features
- Modes: FXS Loop Start, Ground Start
- Ringing: balanced, 20 REN output ring voltage 70 Vrms, nomial
- Programmable DC offset
- Assured Dialtone™ Lifeline POTS port (DSL units only)

Total Access 600R

VoIP Features

- MGCP signaling independent of Layer 2 Protocol
  - RTP transport over PPP, Ethernet or ATM/AAL5
- E&M Wink support on the DSX-1 port (per RFC 3064)
- RTP / UDP / IP support (per RFC 3550)
- ATM / AAL2 Bearer (RFC 3180)
- Session Description Protocol (SDP) support (per RFC 2327)
- Support for RFC 2833: "RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals"
- Local DTMP detection
- Ringing
  - Distinctive ring support
  - Ring splash support for "do not disturb" feature
- Far End Tone Generation (Remote Ringback)
- Stutter Dialtone / Visual Message Waiting Indicator (VWWI) support
- Port-to-Port Hairpin call
- DiffServ Code Point marking
  - DSCPs marked per Softswitch instructions or manually configured at IAD
  - Call Control and RTP packets can be configured independent of one another

Routing Capability

Ethernet: 10/100Base-T (RJ-45)

- IEEE 802.3 and 802.11D (MAC Bridging)
- IP Support: TCP, RIP V1, RIP V2, UDP, ICMP, ARP, UDP Relay, SYSLOG
- Layer 2: Frame Relay, PPP (LCP, IPCP, BCP) support, ATM
- DHCP server, DHCP client, DHCP relay
- Copper Mountain Compatible

Security

- PAP, CHAP, EAP and Radius
- NAT with multi-point to single-point
- PAT with DHCP
- Packet filtering
- Multi user level password protection

Management Options

Craft Interface

- EIA-232, physical RJ-48C

Ethernet 10/100 Base T Port

- SNMP V2 support
- Full, menu driven TELNET access
- Software download via TFTP
- Support for VoDSL gateway management systems and firmware download

V.35 DTE Interface

- Data Rate: Nx56 or Nx64 (N=1 to 24)
- Electrical and Mechanical: CCITT V.35, 34-pin
- Frame Relay (FRF.5, FRF.8 capable)

Interoperable with the following Media Gateway Controllers, Feature Servers & Gateways:

- BroadSoft BroadWorks (Release 10 MP1)
- Cisco AS5300 Series Media Gateway
- Cisco BTS Softswitch
- Cisco MGX 8000 Series
- General Bandwidth G6
- Lucent iMerge
- Metaswitch VP3500
- Nuera RDT-8
- Telica Plexus 9000
- Sylantro applications switch

Total Access 604/608
Battery Backup

Total Access 612/616/624
Rackmount or Wallmount 1175044L1

Total Access 612/616/624
Wallmount 1175044L2

Total Access® 600 Series

Carrier-class VoIP, TDM, and VoATM IADs

ADTRAN, Inc.
Attn: Enterprise Networks
901 Explorer Boulevard
Huntsville, AL 35806

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

256 963-8000 voice
256 963-8699 fax

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

Pre-Sales Technical Support
800 615-1176 toll-free
application.engineer@adtran.com
www.adtran.com/support

Where to Buy
877 280-8416 toll-free
channel.sales@adtran.com
www.adtran.com/where2buy

Post-Sales Technical Support
888 423-8726
support@adtran.com
www.adtran.com/support

ACES Installation & Maintenance Service
888 874-ACES
aces@adtran.com
www.adtran.com/support

International Inquiries
256 963 8000 voice
256 963-6300 fax
international@adtran.com
www.adtran.com/international

For the regional office nearest you, visit:
www.adtran.com/regional

To download a searchable version of the ADTRAN Enterprise Networks Catalog, visit:
www.adtran.com/ecatalog

For more information regarding ADTRAN's export license, please visit www.adtran.com/exportlicense

ADTRAN is an ISO 9001, ISO 14001, and a TL 9000 certified supplier.

Ordering Information

Equipment	Part #
Total Access 600 Series	
T1 TDM Network Interface Models	
Total Access 604, T1 TDM	4203640L1#TDM
w/Battery Backup	4203640L1#TDMB
w/DSX-1	4213640L1#TDM
Total Access 608, T1 TDM	4203680L1#TDM
w/Battery Backup	4203680L1#TDMB
w/DSX-1	4213680L1#TDM
Total Access 612, T1 TDM	4203612L1#TDM
w/DSX-1	4213612L1#TDM
Total Access 616, T1 TDM	4203616L1#TDM
w/DSX-1	4213616L1#TDM
Total Access 624, T1 TDM	4203624L1#TDM
w/DSX-1	4213624L1#TDM
w/16 FXS and 8 FXO Ports	4203624L3#TDM
T1 Packet Network Interface Models	
Total Access 604, T1 ATM	4203640L1#ATM
w/Battery Backup	4203640L1#ATMB
w/DSX-1	4213640L1#ATM
Total Access 608, T1 ATM	4203680L1#ATM
w/Battery Backup	4203680L1#ATMB
w/DSX-1	4213680L1#ATM
Total Access 612, T1 ATM	4203612L1#ATM
w/DSX-1	4213612L1#ATM
Total Access 616, T1 ATM	4203616L1#ATM
w/DSX-1	4213616L1#ATM
Total Access 624, T1 ATM	4203624L1#ATM
w/DSX-1	4213624L1#ATM
ADSL Packet Network Interface Models	
Total Access 604, ADSL	4200644L1
w/Battery Backup	4200644L1#ACB
Total Access 608, ADSL	4200684L1
w/Battery Backup	4200684L1#ACB
SDSL Packet Network Interface Models	
Total Access 604, SDSL	4200642L1
w/Battery Backup	4200642L1#ACB
Total Access 608, SDSL	4200682L1
w/Battery Backup	4200682L1#ACB
Total Access 612, SDSL	4200612L2
Total Access 616, SDSL	4200616L2
Total Access 624, SDSL	4200624L2
SHDSL Packet Network Interface Models	
Total Access 604, SHDSL	4203640L5
w/DSX-1	4213640L5
Total Access 608, SHDSL	4203680L5
w/DSX-1	4213680L5
Total Access 612, SHDSL	4203612L5
w/DSX-1	4213612L5
Total Access 616, SHDSL	4203616L5
w/DSX-1	4213616L5
Total Access 624, SHDSL	4203624L5
w/DSX-1	4213624L5
Total Access 600R Models	
T1 TDM	4203600L1#TDM
w/DSX-1	4213600L1#TDM
T1 ATM	4203600L1#ATM
w/DSX-1	4213600L1#ATM
SHDSL	4203600L5
w/DSX-1	4213600L5
Battery Backup Systems	
8-hour wallmount Total Access 604/608	1200064L1
8-hour rackmount Total Access 612/616/624	1175044L1
8-hour wallmount Total Access 612/616/624	1175044L2