



# T1/PRI Modules

## ATLAS 550 Modules

### Product Features

- One, two, or four T1/PRI interfaces
- Built-in CSUs
- Configurable for DS-1, PRI or DSX-1 operation
- Maximum distance 6,000 ft
- AT&T 54016, 62411 and ANSI T1.403 compliant
- D4 and ESF framing formats
- AMI and B8ZS line coding
- D-channel to robbed bit signaling conversion
- ESF performance monitoring
- Local and remote loopback support
- Generates and detects QRSS test pattern
- Supports PRI circuits on Lucent 4ESS/5ESS, Nortel DMS100 and National ISDN
- Lightning protection
- Hot swappable
- Industry-leading five-year North American warranty

The ADTRAN® T1/PRI modules are used in the ATLAS™ 550 to implement a variety of WAN access products, including a T1 Bandwidth Manager, an ISDN Switch, a Digital Access Cross-Connect System (DACS), and a Frame Relay Switch. These modules provide either one, two, or four ports, each of which can be independently configured to operate in T1 (DS-1 or DSX-1) or Primary Rate ISDN (PRI) modes.

The ATLAS 550 can perform T1 or PRI conversion, translating between the robbed-bit signaling presented in a channelized T1 circuit and the D-channel signaling of a PRI circuit. When using the T1/PRI modules, ATLAS can also operate in a DACS mode supporting DSO time slot interchange and DSO grooming while preserving robbed bit signaling. ATLAS can be fully populated with T1/PRI modules to support a pure DACS application of 18 T1/FT1 circuits or 18 PRIs.

T1/PRI modules can be used to interface with both the public network and end-user equipment. The single T1/PRI module can only be used in the Network Interface slot, while the Dual and Quad T1/PRI modules can be used in any of the four User slots of the ATLAS 550.

Configuration of the T1/PRI module can be accomplished through a variety of mechanisms, including Telnet or VT100 emulation. SNMP management is supported for alarm and event reporting.

Extensive T1 circuit monitoring is standard with the T1/PRI modules, including the ability to detect, store, and report all performance parameters specified in AT&T Technical Reference 54016. The module detects and reports alarm conditions associated with the circuit, including Loss of Signal, Red Alarm, Blue Alarm, Yellow Alarm, and for PRI circuits, D-channel synchronization.

The T1/PRI modules respond to standard loopback commands from the telephone company central office, both in-band commands and those sent through the Facilities Data Link. In addition, local and remote loopbacks (both line and payload) can be initiated from ATLAS. When testing the T1 circuit, the T1/PRI modules allow the user to select from a variety of test patterns, including all 1's, 0's, as well as a standard QRSS pattern. When sending the QRSS pattern, the T1/PRI modules record and report the results of the testing to the user.



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## ATLAS 550 Modules

### Product Specifications

#### Physical Interface

- 8-pin Modular RJ-48C

#### Line Rate

- 1.544 Mbps

#### Framing

- D4, ESF

#### Line Coding

- AMI, B8ZS

#### Line Length

- 6,000 ft 24 gauge (DS-1) 655 ft (DSX-1)

#### Diagnostics

- Local Loopback-Line and Payload
- Remote Loopback-Line and Payload

#### Test Patterns

- QRSS, All 1's, All 0's

#### Alarms

- Loss of Signal, Red, Yellow, Blue, D-channel

#### Performance Monitoring

- ES, BES, SES, SEFS, LOFC, CSS, UAS, LCV, PCV, LES

#### Signal Monitoring

##### LBO

- 0,7.5,15,22.5 dB
- 266,399,533,655 ft

#### System Timing

- Network, Internal, External

#### Robbed Bit Signaling

- E&M Immediate, E&M Wink, Ground Start, Loop Start, Feature Group D

#### Conversion

- Robbed Bit Signaling to ISDN D-channel, AMI to B8ZS, D4 to ESF

#### Switch Compatibility

- **PRI Mode:** Lucent 4ESS/5ESS, Nortel DMS-100, National ISDN

#### Switch Evaluation

- **PRI Mode:** Lucent 4ESS/5ESS, Nortel DMS-100, National ISDN

#### Agency Approvals

- FCC Part 15, Class A, UL, and Canadian UL (CUL)

#### Environment

- **Operating:** 0° to 45°C (32° to 113°F)
- **Storage:** -20° to 70°C (-4° to 158°F)
- **Relative Humidity:** Up to 95%, non-condensing

#### Power

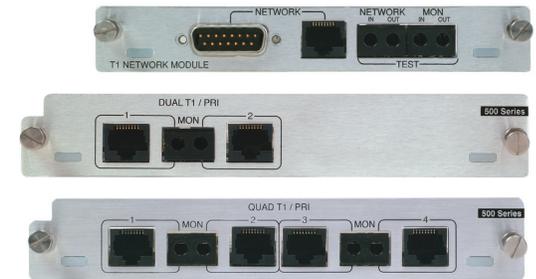
- 2 Watts

#### Product Includes

- RJ-48 cable(s) (15 ft)
- RJ-48 to RJ-48 Crossover cable(s) (15 ft)
- Quick Start Guide

## Ordering Information

Equipment	Part #
T1/PRI Network Module	1200307E2
Dual T1/PRI User Module	1200314E2
Quad T1/PRI User Module	1200755E2



TL19.1270



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

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