



# TSU 600 & TSU 600e

## Modular T1/FT1 Multiplexers with Embedded SNMP

### Product Features

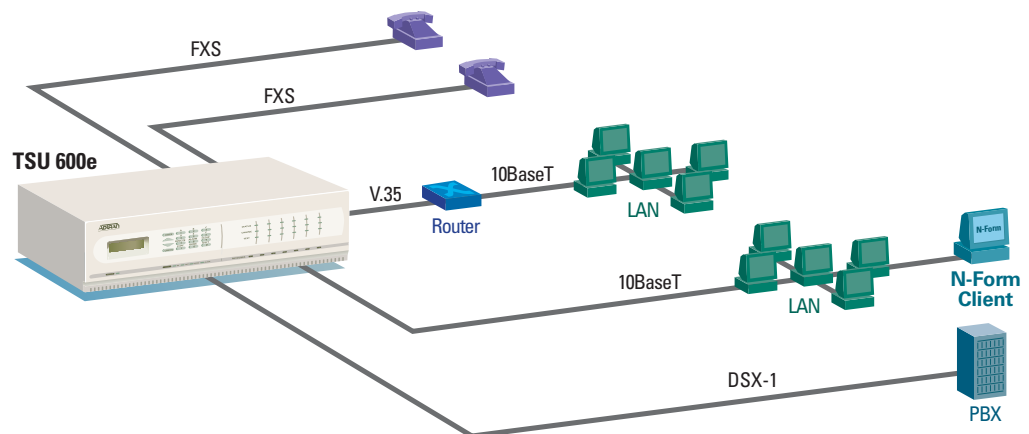
- T1/FT1 Multiplexer
- Economical Channel Bank Replacement
- Six option module slots support up to 4 DTE ports each
- Option modules available for data and voice applications such as analog voice, digital voice, DDS, Frame Relay, dial backup, high-speed data and ISDN
- Embedded SNMP management
- Front panel, backlit LCD for configuration and monitoring
- Extensive network testing and troubleshooting
- T-Watch PRO™ and Telnet support for local and remote units
- TSU 600e additionally supports redundant AC power, TFTP upgrades, and management via N-FORM
- Available in AC and DC versions
- Industry-leading five-year North American warranty

The TSU 600™ and TSU 600e™ are modular, full-featured T1/FT1 Integrated Access Devices (IADs) designed to support a wide range of end-user applications. Through the six expansion slots on the rear of the TSU 600/600e, the user has complete flexibility in the type of DTE interfaces required for the T1 application. By supporting up to 24 DTE interfaces, the TSU 600(e) provides the same functionality as a traditional channel bank, while providing a small form factor and end-user oriented features. The TSU 600(e) provides complete monitoring and control of internal functions with embedded Simple Network Management Protocol (SNMP) provided through a SLIP interface. The TSU 600e has the added benefit of an integrated 10BaseT ethernet interface.

Support for future growth, through the unit's six expansion slots, is a key feature of the TSU 600(e). The ability to combine many types of plug-in and plug-on modules provides extensive combinations of voice and data interfaces. Several data modules are available for single and dual-port access

to Frame Relay, DDS or Basic Rate ISDN services provided over T1 facilities. Voice modules are also easily integrated, allowing access to analog voice circuits or PBX connections. As a fully functional T1 Multiplexer, the TSU 600(e) supports all mixed-mode networking applications providing termination for circuits containing voice, data and video applications.

Configuration and management of the TSU 600(e) is available through a variety of methods. The TSU 600(e) supports SNMP with gets, sets and traps functionality through a built-in agent. ADTRAN Enterprise MIBs support management for the TSU 600(e) and all installed expansion modules. For access to SNMP features, the TSU 600e has both a 10BaseT ethernet and a SLIP (EIA-232) connection, while the TSU 600 has a SLIP interface only. In addition to SNMP, the unit utilizes the management capabilities found in optional software products from ADTRAN™ including N-FORM® (600e only) and T-Watch PRO.





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### Product Specifications

#### TSU 600/600e Interface

##### Network Interface

- Line Rate: 1.544 Mbps +/- 75bps

##### Physical Interface

- RJ-48C: Modular, 8-pin

##### Framing

- D4(SF)/ESF
- AT&T 54016 or ANSI T1.403

##### Line Code

- AMI/B8ZS

##### Input Signal

- 0 to -36 dB

##### DS0 Assignment

- User selectable

##### T1 Transmit Timing

- Network, Secondary NI, Normal (CSU), Internal

#### Management Options

##### Front Panel LCD & Keypad

- LCD: 2x16 backlit display
- Keypad: Full numeric, 16-key
- LEDs: System, CSU, Test, Error and Alarm

##### Control In / Control Out Ports

- Interface: EIA-232, PC Serial Port or Modem or SLIP connection to router
- Physical Connector: RJ-45, modular 8-pin

##### SNMP/Telnet

- SLIP connection to router
- MIB II, RFC 1213 & 1407 compliant
- ADTRAN Enterprise MIB for Extended Monitoring, 600/600e Control/Configuration and expansion module support

##### 10BaseT Interface (600e only)

- Interface: IEEE 802.3 compliant, 10 Mbps
- Physical Connector: RJ-45, modular 8-pin
- Service: SNMP, Telnet, ICMP, ARP, Ping, TFTP (600e only)

#### Testing Options

##### Local

- Payload, Line and DTE Loopback (option module)

##### Remote

- Payload, Line and DTE Loopback (option module)
- Fractional T1 Loopback: Per ANSI T1.403-1995, Annex B
- CSU Loopback (From telco)

##### Network Interface Test Jacks

- Bantam Jacks: TX, RX and RXMON Test Pattern Generator
- QRSS and 511 (selectable DS0s with detector)
- All 0s and All 1s (Transmit Only)

#### TR-08 SUPPORT

- Conforms with TR-TSY-000008
- TR-08 Mode I, Unconcentrated
- SLC96® framing with alarm reporting/monitoring
- ORB-13 or ORB-16 alarm messaging formats
- Single Party Ringing (SPR) and Universal Voice Grade (UVG) analog ports supported with FXS modules. CLASS® services also supported with these modules.

#### Performance Monitoring

- Error Counts: ES, SES UAS, % AS, % EFSEC, Alarms and Error Rates
- Reports: NI information stored for last 24 hrs (15-minute increments)
- PRMS: ANSI performance report messages

#### Agency Approvals

- UL 1950 and CUL
- FCC Part 15 (Class A) and Part 68

#### Environment

- Operating: 0° to 45° C (32 to 122° F)
- Storage: -20° to 70° C (-4 to 158° F)
- Relative Humidity: Up to 95%, non-condensing

#### Physical

- Dimensions: 5.5" H x 12.5" D x 17.5" W
- Weight: 13 lbs

#### Power

- AC Power TSU 600: 90-130 VAC, 60 Hz, 40 W Max
- AC Power TSU 600e (single supply): 90-120 VAC, 50/60 Hz, 40 W Max
- DC Power 600 & 600e DC: 21-26 VDC or 40-56 VDC, 40 W Max

#### Product Includes

- Two 8-pin to 8-pin modular cables
- One modular to female DB-25 adapter
- 19" rackmount brackets
- User Manual

## Ordering Information

Equipment	Part #
TSU 600e	1202076L1
TSU 600e with redundant power	4202076L9
TSU 600e DC	1202076L1#DC
TSU 600	1202076L2
TSU 600 DC	1202076L2#DC

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