



TSU 610

MODULAR, CARRIER CLASS T1/FT1 MULTIPLEXER WITH EMBEDDED SNMP

PRODUCT FEATURES

- T1/FT1 Multiplexer
- Field installable network interfaces for T1 and DSL
- NEBs compliance
- UL1950 and FCC part 68 & part 15 approved
- External alarm contacts
- Cost-effective channel bank replacement
- Embedded SNMP management
- Six option module slots support up to 4 DTE ports each
- Customer interface modules available for analog voice, digital voice, DDS, Frame Relay™, dial backup, high-speed data, ISDN and integrated routing
- Front panel LEDs and craft interface
- Extensive network testing and troubleshooting
- T-Watch PRO™ and Telnet support for local and remote units
- UPS systems available
- Standard five-year warranty

The TSU 610 is a modular, full-featured T1/FT1 Multiplexer designed to support a wide range of end-user applications. Through the six expansion slots on the rear of the TSU 610, 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 610 provides the same functionality as a traditional channel bank. The TSU 610 provides complete monitoring and control of internal functions with embedded Simple Network Management Protocol (SNMP). For critical applications, the TSU 610 has an option for an externally supplied UPS system.

The TSU 610 is designed with the Integrated Communications Provider (ICP, CLEC, NSP or ISP) in mind. This new breed of carrier demands cost-effective and upgradeable termination equipment that supports a variety of local loop interfaces. With a modular, field upgradeable network interface, the TSU 610 can terminate traditional, Type II T1 circuits, ADTRAN® deployed HDSL circuits and, in the future ADTRAN HDSL2. The design of the network interface also provides support for other types of DSL circuits. In addition, the TSU 610 offers NEBs, UL 1950 and FCC (15 & 68) compliance for a safe and reliable network termination and customer interface solution.

Support for future customer growth, through the unit's six expansion slots, is an essential feature of the TSU 610. 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 610 supports all mixed-mode networking applications providing termination for circuits containing voice, data and video applications.

Configuration and management of the TSU 610 is available through a variety of methods. The TSU 610 supports SNMP with Gets, Sets and Traps functionality through a built-in Agent. ADTRAN Enterprise MIBs support management for the TSU 610 and all installed expansion modules. For access to SNMP features, the TSU 610 has a SLIP interface. In addition to SNMP, the unit utilizes the management capabilities found in optional software products from ADTRAN. For Windows® 95 or NT®, the popular T-Watch PRO™ software package facilitates easy configuration and monitoring of the TSU 610. For more complex network management systems, ADTRAN's ADVISION™ operates on an SNMP Enterprise Management system such as HP OpenView™ and provides full GUI configuration and control via SNMP.

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Printed in the U.S.A. on recycled paper.
61200610L2-8B November 1999
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Product Specifications

NETWORK INTERFACE

Modularity

- End User, Field Installable Modules
- Type II Metallic T1
- ADTRAN HDSL (2 pair)

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 -36dB

DSO Assignment

- User selectable

T1 Transmit Timing

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

MANAGEMENT OPTIONS

Front Panel LEDs

- System status, test, alarm, los, yellow and error
- Status indicator for each module slot
- Remote access indicator

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
- Front and rear panel access

SNMP/Telnet

- SLIP connection to router
- MIB II, RFC 1213 & 1407 compliant
- ADTRAN Enterprise MIB for extended monitoring, 610 control/configuration and expansion module support

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)

Test Pattern Generator

- QRSS and 511
(selectable DSOs with detector)
- All 0s and All 1s (Transmit Only)

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

Network Interface Test Jacks

- Bantam Jacks: TX, RX and TX, RX monitor

AGENCY APPROVALS

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

ENVIRONMENT

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

PHYSICAL

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

AC Power

- Power: 90-130 VAC, 60 Hz, 40W Max

DC Power

- Power: 21-26 VDC or 40-56 VDC, 40W Max

PRODUCT INCLUDES

- One 15 ft 8-pin to 8-pin modular cable, one 6 ft 8-pin to 8-pin modular cable, two modular to female DB-25 adapters, 19' rackmount ears and user manual

Ordering Information

EQUIPMENT	PART #
TSU 610 AC.....	1200610L2
TSU 610 DC.....	1200610L2#DC
TSU 610 HDSL.....	4200615L2
TSU 610 DC HDSL.....	4200615L2#DC
Type II T1 Module.....	1200650L1
ADTRAN HDSL Module.....	1200651L1

* 610L2, 610L2#DC include Type II T1 Module



TSU 610 Back

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