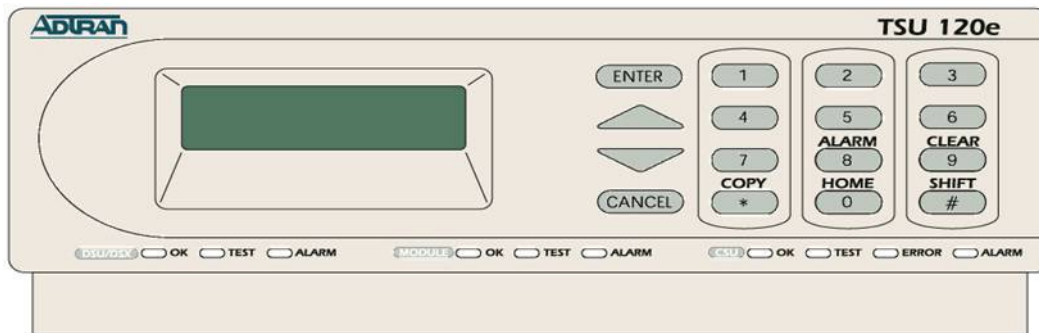


# TSU 120/120e

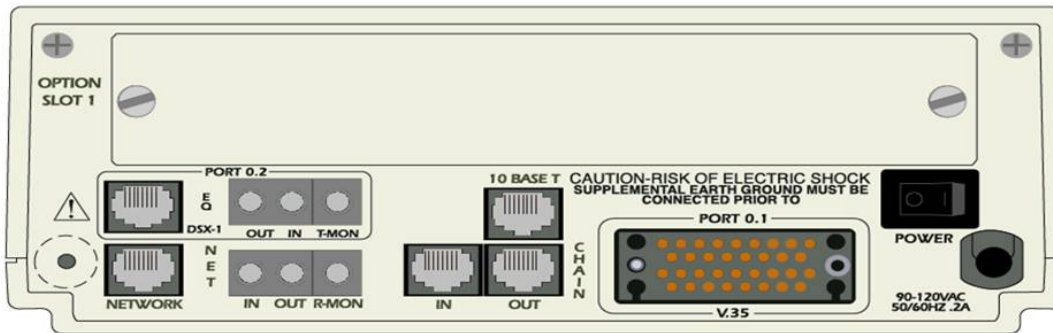
2<sup>nd</sup> Generation

## Modular T1/FT1 DSU

### Front View



### Rear View



### Plug-In with Plug-On Module Installed



## Physical Interfaces

- **Integrated Ports**
  - One T1/FT1 Network Interface (Integrated CSU/DSU)
  - One V.35 Nx56/64 DTE Interface
  - One DSX-1 Interface
  - One 10 Base T Ethernet Interface (TSU 120e)
  - Bantam Test Jacks
  - Chain In/Out Ports

## Physical Specifications

- Chassis: Stand Alone
- Dimensions: 3.125" H, 8.5" W, 12.5" D
- Weight: 4 lbs
- Operating Temperature: 32°F to 122°F (0°C to 50°C)
- Mean Time Between Failure (MTBF)
  - TSU 120 : 228,246 Hrs
  - TSU 120e : 216,193 Hrs

## User Modules

- **DSX-1 Module**
  - Pass Through for T1 RBS/PRI or Data
  - DSX-1 Plug-On only passes RBS when installed on a D&I Plug-In and DS0s are mapped to/from the D&I
  - RBS Can Pass Between the NI and a Plug-In DSX-1
  - Line Length: 0 – 655 ft.
- **Quad FXS Module (Plug In Only)**
  - FXS Distance Limitation: 12k ft.
  - Message Waiting Indication Not Supported
- **Drop and Insert (D&I) Module**
  - Provides a Second T1 Interface
- **Dual FXS Module**
  - FXS Distance Limitation: 12k ft.
  - Supports Message Waiting Indication When Used With Dual FXO
  - Dual FXS Plug-On Must Be Installed On Dual FXS Plug-In
  - FXS Signaling Types
    - Loop Start / Ground Start
    - Tandem (E&M)
    - Dial Pulse Originate (DPO)
    - Private Line Automatic Ringdown (PLAR)
- **Dual FXO Module**
  - FXO Signaling Types
    - Loop Start / Ground Start
    - Dial Pulse Terminate (DPT)
- **Dual E&M/TO Module**
  - Supports E&M Type I, II, III and V
  - 2 or 4 Wire Mode
  - Transmit Only (TO Mode)
- **Dual OCU DP Module**
  - Connects external 56/64k CSU/DSU devices over point to point T1
  - Does not support 56/64k DDS extension/backhaul from PSTN
  - Asynchronous operation only
  - DDS breakout from carrier provided T1
  - Line Length: 18k ft. over 24 AWG Copper
- **Dual DSU III Module**
  - Synchronous Data Rates from 2.4 to 64 kbps
  - Asynchronous Data Rates from 2.4 to 57.6 kbps
  - Provides two EIA-232 or V.35 Interfaces (Adapter Cable Required)

## User Modules (Continued)

- **Nx 56/64 V.35 Module**
  - Female Connector
  - Synchronous Data Rates from 56 kbps to 1.536 Mbps
- **Nx 56/64 530 Module**
  - Female Connector
  - Synchronous Data Rates from 56 kbps to 1.536 Mbps
- **TSU NetVanta Router Module (Plug-In Only)**
  - Supports all features of the NetVanta 3200 2<sup>nd</sup> Gen
  - Network T1 must be B8ZS/ESF
  - Single Ethernet Interface

## Performance and Design Considerations

- Network Interface
  - Physical Interface: RJ-48c
  - Framing: D4 (SF)/ESF
  - Line Code: AMI/B8ZS
  - T1 Timing: Network, Secondary NI, Internal, or DTE
  - DS0 Assignment: User Selectable
- V.35 DTE Interface
  - Physical Interface: V.35 (Winchester Type 34 Pin)
  - BIT Rate: 56 Kbps to 1.536 Mbps
  - V.35 Cable not included

## Performance Monitoring

- Performance Data
  - BPVs/CRCs, ES, SES, UAS, %AS, %EF SEC
  - Alarms and Error Rates
- Reports
  - NI information stored for 24 Hrs in 15 minute intervals
- PRMS
  - ANSI Performance Report
  - Messages (User Selectable)
- SNMP (TSU 120e Only)

## Power Specifications

- AC Power: 90-120 VAC
- Power Consumption: 15 W, 52 BTU
- Max Current Draw : 200 mA

## Agency Approvals

- FCC part 15 Class A, FCC Part 68
- UL 1950, CUL

## Warranty

- 5 Year (Repair & Return)
- [www.ADTRAN.com/Warranty](http://www.ADTRAN.com/Warranty)

## Product Includes

- All TSU 120/120e units ship with the following:
  - One 6 ft. modular 8-pin to 8-pin Cable
  - Two 15 ft. T1 Cables
  - Modular-to-Female DB-15 Adapter
  - Modular-to-Female DB-25 Adapter
  - User Manual

## Ordering Information

| TSU 120/120e                        | Part Number |
|-------------------------------------|-------------|
| TSU 120e 2 <sup>nd</sup> Generation | 1202129L2   |
| TSU 120 2 <sup>nd</sup> Generation  | 1202129L1   |

| Modules & Accessories                | Part Number  |
|--------------------------------------|--------------|
| DSX-1 Module (Plug-In)               | 1200055L1#HS |
| Drop/Insert Module (Plug-In)         | 1200065L1    |
| Quad FXS Plus Module (Plug-In)       | 1202300L1    |
| Dual FXS Plus (MW) Module (Plug-In)  | 1200080L1#HS |
| Dual FXO Module (Plug-In)            | 1200103L2    |
| Dual E&M/TO Module (Plug-In)         | 1200105L3    |
| Dual OCU DP Module (Plug-In)         | 1200230L1    |
| Dual DSU III Module (Plug-In)        | 1200127L1#HS |
| Nx56/64 V.35 Module (Plug-In)        | 1202054L1    |
| Nx56/64 530 Module (Plug-In)         | 1200054L2    |
| TSU NetVanta Router Module (Plug-In) | 1202350L1    |
| DSX-1 Module (Plug-On)               | 1200114L1    |
| Dual FXS Plus (MW) Module (Plug-On)  | 1200082L1#HS |
| Dual FXO Module (Plug-On)            | 1200106L3    |
| Dual E&M/TO Module (Plug-On)         | 1200106L3    |
| Dual OCU DP Module (Plug-On)         | 1200231L1    |
| Dual DSU III Module (Plug-On)        | 1200128L1    |
| Nx56/64 V.35 Module (Plug-On)        | 1202053L1    |
| V.35 Connector Adapter Cable         | 1200167L1    |
| RS-232 Connector Adapter Cable       | 1200167L2    |
| TSU 1XX Dual Mounting Shelf          | 1200084L2    |

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