



ETU02-MUX E1 Multiplexer

The ETU02-MUX is a 1U 19(23)" 4 slot rack mountable multiplexing solution for Fractional E1 network services. Up to four DTE devices may be linked to this model at data rates of 64Kbps to 2048Kbps. There is also provision for one optional E1 sub-link which will perform drop & insert with user-defined timeslot connections from a PABX or other E1 equipment to E1 network services. The Fractional E1 2 or 4 port multiplexer supports local control and diagnostics via an LCD display and LED status indicators located on the front panel or via a serial console port. These features enable users to easily configure the unit, execute the in-service diagnostics and monitor the network status. The ETU02-MUX provides for optional SNMP Network Management System, which allow the user to remotely control and manage the system via SNMP protocol. This model fully meets all of the E1 specifications including ITU-T G.703, G.704, G.706, G.732, and G.823.

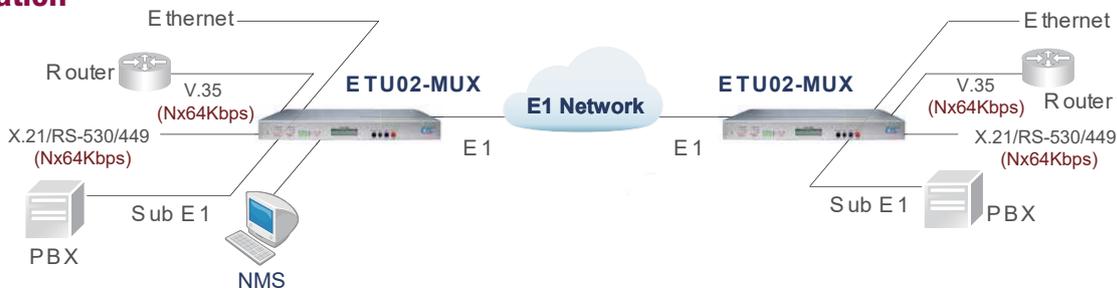
Features

- Provides 4 slots, removable interfaces: V35, X21, RS530, RS449, RS232, G.703 Co-directional, NRZ, Ethernet Bridge and Router.
- Optional drop and insert E1 port (Sub E1)
- Built-in BERT with V.54 diagnostic capabilities for performing local and remote loopback
- Setup and Control via front Panel with LCD display or RS-232 terminal
- Multiple clock source selection (Internal or External: E1 recovery, DTE or DCE)
- Optional SNMP management

Specifications

E1 and Sub-E1	Framing: Unframed / Framed CCS(PCM31) Framed: CAS(PCM30) Bit rate: 2.048Mbps±0 ppm Line code: AMI / HDB3 Line impedance: 75 ohm (BNC) / 120 ohm (DB-15, RJ-45)	User Data Channel	BERT Test Patterns: 511, 2047, 2e15-1, 2e20-1, QRSS, 2e23-1, All 1, All 0, Alt, 0011, 3 in 24, 1 in 16, 1 in 8, 1 in 4 test pattern.
Transmitter level	Relative receive level: 0 to -43dB Pulse: Nominal 2.37V ±10% for 75ohm Amplitude: Nominal 3.00V ±10% for 120ohm Zero amplitude: ±0.1V Transmit frequency: Internal timing±100 ppm Tracking: Recovery timing±100 ppm External timing: ±100 ppm Jitter performance: According to ITU-T G.823 Return loss: 12dB for 51 ~ 102KHz 18dB for 102 ~ 2048KHz, 14dB for 2048 ~ 3072KHz Interface connector: 15-pin D-type F, BNC	Clock modes	Clock mode 0 (DCE1) Receive and transmit clock (recovered) to the sync DTE Clock mode 0 (DCE2) Receive and transmit clock (internal oscillator) to the sync DTE Clock mode 0 (DCE3) Receive and transmit clock from the sync DCE (from ETC and ERC pin) Clock mode 0 (DCE4) Receive and transmit clock from the sync DCE (all from ETC pin)
User Data Channel	Data rate: Nx56Kbps or Nx64Kbps Control signals: CTS constantly on DSR constantly on, except during test loops DCD constantly on or follows RTS, except during signal loss Loopback: Line, Payload, local, DTE loopback	Key Pad	4 operation keys
		LCD	16 x 2 character backlit LCD
		Indications	Signal loss, Sync loss, Alarm (AIS, MRAI, RAI), TD, RD, Error, Test
		Standard	ITU-T G.703/G.704/G.706, G.732 & G823
		Power Input	AC: 90 ~250V, DC24: -18 ~-36VDC, DC48: -36 ~-72VDC
		Power / Consumption	10W
		Dimensions / Weight	235 x 438 x 45mm (D x W x H) / 2.9kg
		Temperature	0~50°C (Operating), -10~70°C (Storage)
		Humidity	10~90% non-condensing
		Certification	CE, FCC
		MTBF	57,000 hrs

Application



Ordering Information

Model Name	Type	Description
ETU02-Mux4-AC	Power	E1 Mux with 4 data ports, AC power
ETU02-Mux4-DC	Power	E1 Mux with 4 data ports, DC power
ETU02-Mux4-AD	Power	E1 Mux with 4 data ports, AC+DC power
ETU02-Mux2-AC	Power	E1 Mux with 2 data ports, AC power

ETU02-Mux2-DC	Power	E1 Mux with 2 data ports, DC power
ETU02-Mux2-AD	Power	E1 Mux with 2 data ports, AC+DC power

Port Number Power Type
ETU02 - MUX -
 Example: ETU02 - MUX4- AC

Interface Module for ETU02-MUX, ETU01A & ETU011

ETU/TTU-V35

V.35 Interface

Features :

- Compliant with ITU-T V.35 standards
- Winchester type 34-pin MB34 M-Block female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to ITU-T V.11 (RS-422)



ETU/TTU-232

RS-232 Interface

Features :

- Compliant with EIA RS-232-C (Unbalanced)
- Compatible to ITU-T V.24 25-pin D Sub female connector
- Synchronous data rate at 64 or 128Kb/s Asynchronous (transparent) at up to 19.2K or 38.4K Data Communications Equipment interface



ETU/TTU-X21

X.21 Interface

Features :

- Compliant with ITU-T X.21 standard (Balanced)
- 15-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to V.11



ETU/TTU-530

RS-530 Interface

Features :

- Compliant with Category 1 EIA-530 (Balanced) 25-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to RS-422



ETU/TTU-NRZ

Non-Return to Zero Interface

Features :

- 4 BNC connectors: TxD, TxC, RxD and RxC (Data&Clock)
- NRZ line coding Logic "1" 0V +/- 0.3V Logic "0" -1.5V +/- 0.3V
- Synchronous data rate Nx64 (where N=1 to 32)



ETU/TTU-449

RS-449(V.36) Interface

Features :

- Compliant with EIA/TIA-530-A (Balanced)
- 37-pin D Sub female connector
- Synchronous data rate at Nx64 (where N=1 to 32)
- Data Communications Equipment interface electrically compatible to RS-422



ETU/TTU-G64

G.703 64K

Co-directional Interface

Features :

- Pulse shape compliant with ITU-T G.703
- Clock frequency: 64KHz
- Pulse Amplitude: 1.0V
- Zero Amplitude: 0V
- Impedance: 120 Ohms
- 15-Pin D Sub connector
- Range: up to 800m with 24AWG

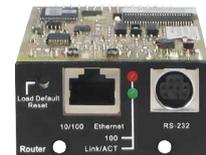


ETU/TTU-ET100R

10/100 Base-TX Ethernet Router

Features :

- Ethernet port IP Address/subnet mask
- Dynamic Routing RIP I & II, Send or Receive on Ethernet or WAN
- PPP, HDLC and Cisco® HDLC WAN protocol encapsulation



ETU/TTU-ET100

10/100 Base-TX Ethernet Bridge

Features :

- High performance bridge for 10Base-T or 100Base-TX Ethernet extension
- Transparent half / Full duplex support on WAN / LAN interface
- Provides Ethernet over E1 economically



Ordering Information

Model Name	Description	ETU/TTU-232	RS-232 ASYN/SYNC interface module
ETU/TTU-V35	V.35 interface module	ETU/TTU-G64	G.703 64Kbps co-directional interface module
ETU/TTU-X21	X.21 interface module	ETU/TTU-NRZ	NRZ interface module (4xBNC)
ETU/TTU-530	RS-530 interface module	ETU/TTU-ET100	10/100Base-TX Ethernet E1 Bridge interface module
ETU/TTU-449	RS-449 interface module	ETU/TTU-ET100R	10/100Base-TX Ethernet Routing interface module

Interface
ETU/TTU - □□□
 Example: ETU/TTU - V35