

## TC-200GTK

## G.SHDSL Modem



### Description

TC-200GTK model, G.SHDSL modem, transports multi mega bit stream over one pair of copper wires using TC-PAM technology. This modem supports multiple data rates ranging from 64 Kbps to 5.7Mbps. It has Fast Ethernet and E1 interface or V.35 interface.

The TC-200GTK model uses in-band Embedded Operation channel for controlling and monitoring the remote unit. The comprehensive diagnostics function developed includes G.SHDSL, E1 line performance monitoring, in-band local and remote loop backs and real time alarm report.

HTTP and SNMP management interface facilitate friendly configuration and diagnostics, LCD display for panel management.

### Features

- Meet ITU-T G.991.2 ETSI TS101 524.
- Support data rate from 64Kbps to 5.7Mbps per 64Kbps increment. In 2 wires
- Feature modular E1, LAN
- Provide remote control and monitoring using in-band EOC channel.
- Support DSL PRBS BER test for E1.
- Support local, remote loop back.
- Perform G.SHDSL and E1 line performance monitoring.

Detect and operate DSL loop crossover.  
Support LCD Display, WEB and SNMP management interface.

## Specification

### G.SHDSL line

Line Coding: 16 TC-PAM, 32 TC-PAM is selectable  
Line Rate: PAM 16/32 192K bps ~ 57000 Kbps for one DSL loop.  
PAM 64/128 15Mbps (LAN only)  
Protection: ITU-T K.20, K.21 and IEC60950  
Standard: ITU-T G.991.2, Annex A (Default), Annex B  
Impedance: 135Ω +/- 5 %  
Connector: RJ45 x 1  
Wire: 2

### System Timing

Payload timing

- (1) Internal clock, accuracy +/- 30ppm
- (2) E1 / V35 input clock
- (3) Line Recovered clock

### SHDSL timing

- (1) Plesiosynchronous, local oscillator: 22.1184MHz +/- 32ppm
- (2) Synchronous
- (3) Hybrid

### Data interfaces

#### LAN Interface

Interface: IEEE 802.3/802.u 10/100 Base-T  
Data Rate: up to 5.7Mbps / 15Mbps (option), Step : Nx64Kbps.  
Bridge: IEEE 802.1D transport, self-learning  
Connector: 4xRJ-45

**E1 Interface**

Line rate: 2048KHz +/- 50 ppm  
Line Code: HDB3  
Framing: PCM31, PCM30, PCM31C, PCM30C and unframed  
Data Rate: 64 Kbps to 2048K bps [NX64Kbps, N=1 - 32]  
Operation: Full E1 or fractional E1  
Pulse shape: Meet ITU-T G.703  
Impedance: balanced 120Ω +/- 5% resistive or unbalanced 75Ω +/-5% resistive  
Connector: 120ohm RJ45 x 1 / 75ohm BNC x 1

**V.35 Data Port Interface**

Interface: V.35  
Data Rate: 64 Kbps to 2048 Kbps  
Connector: MR34

**Maintenance**

**Loopbacks:** Local and remote AL/DL loopbacks via front panel loopback buttons,  
VT-100 menu screen or in-band loopback codes  
DSL PRBS BER testing  
SNR, LOSW, ES, SES and UAS for DSL loops  
Supports G.821 and G.826 error performance statistics for E1 interfaces

**Management Interface**

LCD Display Quick mode configuration(LCD), diagnostics and monitoring  
WEB/ SNMP / Telnet /SSH Device support by IP address to access those services.

**Jitter and Wander**

Meets G.823 and G.824 jitter and wander requirements for E1 interface

**Power input**

DC: -36 ~ -72 VDC  
AC: 90 ~ 260V AC (47 ~ 63 Hz)

**Dimensions**

Enclosure: 210\*129\*44mm (WxLxH)

**Environment**

Temperature: 0 ~ 60 degree C  
Humidity: Up to 95% non-condensing

**Order Information**

Product	Description
TC-200GTK-E1-4ETH-LCD	1xE1, 4x10/100Mbps Ethernet Port, 1xRJ 45 ( DSL) Port, LCD with 220VAC & 48VDC Power Supply
TC-200GTK-V.35-4ETH-LCD	1xV.35, 4x10/100Mbps Ethernet Port, 1xRJ 45 ( DSL) Port, LCD with 220VAC & 48VDC Power Supply

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