



SPECIFICATIONS

Environmental: Operating Temperature: 0°C to 50°C
Storage Temperature: -20°C to 70°C
Relative Humidity: 95% non-condensing

Compliance: UL60950, Third Edition, CSA C22.2/ No. 60950
FCC Part 15 Class A
FCC Part 68
Industry Canada CS-03

T1 SPECIFICATIONS

Line Rate: 1.544 Mbps/s +/-75 bps
Line Coding: AMI or B8ZS
Framing: D4 (SF) or ESF
Input Signal: 0 to -36 dB (DS-1)
Line Build-Out: 0, -7.5, -15, -22.5 dB
Connector: RJ-48C
Testing: 2^15-1, QRSS, ones, and zeros test patterns, local and remote loopbacks

V.35 SERIAL SPECIFICATIONS

Interface Type: Winchester V.35 (female)
Data Rate: 56K to 1.536Mbps in 56k or 64k steps
Testing: 511 Pattern, V.54 Loopback TX/RX

FRONT PANEL LEDs

T1 1/1 Only
Green: Normal activity on the interface
Amber: Interface in test mode
Red (solid): Loss of Signal, or red alarm present
Off: Port is disabled

V.35 TD/RD Only
Green: Active traffic on the associated signal
Amber: Interface in test mode
Off: No data activity, or port is disabled

NOTE *This module is to be installed in NetVanta 900 Series products only.*

INSTALLATION INSTRUCTIONS

1. Remove the locking bar from the chassis.
2. Remove blank panel if installed.
3. Slide the T1/V.35 Expansion Module into the expansion slot (Slot 1) until the module is firmly positioned against the back of the chassis.
Note: Press firmly on the top and bottom of the faceplate to ensure a proper fit.
4. Replace locking bar and secure it with a screwdriver. The locking bar must be attached at all times.
5. Connect the cables to the associated device(s).
6. Complete the installation of system as specified in the Hardware Installation Guide.

V.35 WINCHESTER PINOUT

Pin	CCITT V.24	Description
A	101	Protective ground (PG)
B	102	Signal ground (SG)
C	105	Request to send (RTS) from DTE
D	106	Clear to send (CTS) to DTE
E	107	Data set ready (DSR) to DTE
F	109	Received line signal detector (DCD) to DTE
H	108/2	Data terminal ready (DTR) from DTE
J	125	Ring indicator (RI) to DTE
R	104	Received data (RD-A) to DTE
T	104	Received data (RD-B) to DTE
V	115	RX clock (RC-A) to DTE
X	115	RX clock (RC-B) to DTE
P	103	Transmitted data (TD-A) from DTE
S	103	Transmitted data (TD-B) from DTE
Y	114	TX clock (TC-A) to DTE
AA	114	TX clock (TC-B) to DTE
U	113	External TX clock (ETC-A) from DTE
W	113	External TX clock (ETC-B) from DTE
NN	142	Test mode (TM) to DTE

Quick Start Guide

T1 (RJ-48C) CONNECTION PINOUT

Pin	Name	Description
1	R1	Receive data from the network
2	T1	Receive data from the network
3	—	UNUSED
4	R	Transmit data toward the network
5	T	Transmit data toward the network
6-8	—	UNUSED

COMMANDS

coding {AMI | B8ZS*}

Configures the line coding for the T1 interface.

- AMI** Alternate Mark Inversion
- B8ZS** Bipolar Eight Zero Substitution

fdl {ansi | att | none}

Specifies the FDL standard on the T1.

- ansi** Sets the standard to ANSI T1.403.
- att** Sets the standard to ATT TR54016.
- none** No FDL standard specified.

framing {D4, ESF*}

Configures the framing format of the T1 interface.

- D4** Super Frame T1 framing
- ESF** Extended Super Frame T1 framing

invert txclock

Configures the module to invert the clock used by the serial interface to transmit data from the DTE. By default, invert txclock is disabled.

invert data

Configures the module to invert, transmit, and receive data. Often used as a means to insure ones (1's) density. By default, invert data is disabled.

Note: If invert data is enabled, zero-inhibit should also be selected to prevent an open DTE input from placing zeros on the network.

lbo {0* | -7.5 | -15 | -22.5}

Configures the line build out (in dB) for the T1 interface. Use the **no** form of this command to return to the default value.

loopback {network | local | remote}

Initiates a loopback for testing.

- network** Initiates a loopback on the local interface (T1 interface only).
 - {line} Initiates a physical loopback of the T1 circuit.
 - {payload} Initiates a loopback of the circuit including the T1 framer.
- remote** Transmits a pattern to create a far end loopback.
 - {line} Transmits a physical loopback command to the remote T1 circuit (T1 interface only).
 - {payload} Transmits a loopback command to the remote circuit including the remote T1 framer (T1 interface only).
 - {continuous} Transmits V.54 test pattern over all allocated DS0s (serial interface only).

- {channelized} Transmits V.54 test pattern within each allocated DS0 (serial interface only).
- local** Initiates a physical loopback on the local interface toward the DTE and the far end (serial interface only).

set {CTS, DCD, DSR} {normal* | on}

Signal	RTS	V.54 Loopback	511 TST On	Network Test Active	No DS0 Mapped	Network Alarm
CTS	Follows	OFF	OFF	OFF	OFF	OFF
DCD		—	—	—	OFF	OFF
DSR		OFF	OFF	OFF	OFF	—

On = On under all conditions

This table indicates conditions which cause the DTE Leads to be deactivated in normal mode.

remote-loopback

Enables acceptance of remote loopback requests. The **no** version of this command does not accept remote loopback requests (T1 interface only).

remote-alarm {rai}

Enables the transmission of a remote alarm (T1 interface only).
rai Selects remote TX alarm.

show p511

Displays the 511 test pattern errored seconds and synchronization status (serial interface only).

show test-pattern

Displays the active test-pattern errored seconds (T1 interface only).

shutdown

Turns off the interface. The **no** version of this command turns the interface on and allows it to pass data.

snmp trap link-status

Use the **snmp trap link-status** to control the SNMP variable ifLinkUpDownTrapEnable (RFC 2863) to enable (or disable) the interface to send SNMP traps when there is an interface status change. Use the **no** form of this command to disable this trap.

tdm-group <number (1-1024)> timeslot <DS0 range (1-24)>

Creates a group of contiguous DS0s on this interface to be used during the **cross-connect** process.

- <number> Number to identify this group
- <DS0 Range> Number of DS0s in this group in the form (starting DS0 - ending DS0)

test pattern {p511 | p215 | qrss | ones | zeros | insert | clear}

Initiates a PRBS (pseudo-random binary sequence) from the unit

- p511** Repeating 2⁹-1 test pattern (serial interface only)
- p215** Repeating 2¹⁵-1 test pattern (T1 interface only)
- qrss** Quasi-random test pattern (T1 interface only)
- ones** All ones pattern (T1 interface only)
- zeros** All zeros pattern (T1 interface only)
- insert** Inserts an error into currently active test pattern.
- clear** Clears the test pattern error count.

zero-inhibit

Configures the module to detect an uninterrupted string of zeros being transmitted toward the network. If zeros are transmitted for greater than 1 second, the module will force ones. By default, zero-inhibit is disabled.