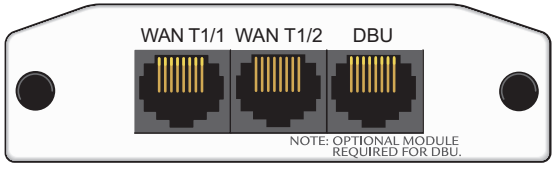
ADTRAN®
Quick Start Guide

NetVanta Dual T1/FT1 Network Interface Module (NIM) P/N 1200872L1



SPECIFICATIONS

Operating Modes	Frame Relay, Multilink Frame Relay, PPP, Multilink PPP, HDLC
T1/FT1 Interfaces	Supported Standards: AT&T TR 62411, AT&T TR 54016, Bellcore TR 194, ANSI T1.403 Line Rate: 1.544 Mbps ±75 bps Line Code: AMI or B8ZS Framing: D4 (SF) or ESF FT1 Line Rate: DS0 channelized (multiples of 64 kbps) Input Signal: 0 to -36 dB (DS1) Line Build-Out: 0, -7.5, -15, -22.5 dB (long), 0 to 655 ft (short) Connector: RJ-48C DS0 Assignment: Programmable
Clock Source	Network, internal, through
Diagnostics	Test pattern Generation and Detection: QRSS, 511, 2^{15} - 1, 2^{20} - 1, all ones, all zeros Network loopbacks (local and remote); responds to both inband and FDL loop codes Alarm generation and detection Network and user sets of performance data (15 minutes and 24 hours)
Compliance	FCC Part 15 Class A, EN 55022 Class A ACTA/FCC Part 68, IC CS-03 UL/CUL 60950
Physical	Dimensions: 2.75-inch W x 4.25-inch D Operating Temperature: 0°C to 50°C Storage Temperature: -20°C to 70°C Relative Humidity: Up to 95 percent, noncondensing

CAUTION

NetVanta modules should be installed only in NetVanta Series products.

INSTALLATION INSTRUCTIONS

1. Remove power from the unit.
2. Slide the option module into the option slot until the module is firmly seated against the chassis.
3. Secure the pins at both edges of the module.
4. Connect the cables to the associated device(s).
5. Complete the installation of the base unit.
6. Restore power to the unit.

WARNING

For NetVanta modules with outside plant connections, ensure that all cables are removed from the module before installing or removing it from the NetVanta chassis.

WAN T1/1 AND T1/2 NETWORK (RJ-48C) CONNECTION PINOUTS

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

NOTE

An optional Dial Backup Interface Module (DIM) is required for dial backup applications.
For a description of the DBU pinouts, refer to the Quick Start Guide included with your DIM shipment.

NOTE

***Important:** For additional details on product features, specifications, installation, and safety, refer to the appropriate Hardware Installation Guide on the **ADTRAN OS System Documentation** CD shipped with the base unit and available online at www.adtran.com.*

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T1/FT1 NIM COMMANDS

clock source [internal | line* | through]

Configures the source timing used for the interface. Use the **no** form of this command to return to the default value. *Note: the Dual T1 NIM supports a single clock source for both T1 interfaces. Changing the clock source on one T1 interface automatically affects the configuration of the other T1 interface. For example, setting the clock source to **line** on the first T1 configures the clock source of the second T1 as **through**.*

internal	Configures the unit to provide clocking using the internal oscillator.
line*	Configures the unit to recover clocking from the T1 circuit.
through	Configures the unit to recover clocking from the circuit connected to the alternate T1 interface.

coding [ami | b8zs*]

Configures the line coding for a T1 physical interface. This setting must match the line coding supplied on the circuit by the service provider.

ami	Configures the line coding for alternate mark inversion (AMI).
b8zs*	Configures the line coding for bipolar eight zero substitution (B8ZS).

fdl [ansi* | att | none]

Configures the format for the facility data link (FDL) channel on the T1 circuit. FDL channels are only available on point-to-point circuits. Use the **no** form of this command to return to the default value.

ansi*	Configures the FDL for ANSI T1.403 standard.
att	Configures the FDL for AT&T TR 54016 standard.
none	Disables FDL on this circuit.

framing [d4 | esf*]

Configures the framing format for the T1 interface. This parameter should match the framing format supplied by your network provider. Use the **no** form of this command to return to the default value.

d4	Specifies D4 superframe (SF) format.
esf*	Specifies extended superframe (ESF) format.

lbo [long *<-22.5, -15, -7.5- 0>* **| short** *<0 to 655>***]**

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

long *<-22.5, -15, -7.5- 0>*	Configures the LBO (in dB) for T1 interfaces with cable lengths greater than 655 feet. Choices are -22.5, -15, -7.5, and 0 dB.
short *<0 to 655>*	Configures the LBO (in feet) for T1 interfaces with cable lengths less than 655 feet. Range is 0 to 655 feet.

loopback network [line | payload]

Initiates a loopback on the interface toward the network. Use the **no** form of this command to deactivate the loopback.

line	Initiates a metallic loopback of the physical T1 network interface.
payload	Initiates a loopback of the T1 framer (CSU portion) of the T1 network interface.

loopback remote line [fdl | inband]

Sends a loopback code to the remote unit to initiate a line loopback. Use the **no** form of this command to send a loopdown code to the remote unit to deactivate the loopback.

fdl	Uses the facility data link (FDL) to initiate a full 1.544 Mbps physical (metallic) loopback of the signal received by the remote unit from the network.
inband	Uses the inband channel to initiate a full 1.544 Mbps physical physical (metallic) loopback of the signal received from the network.

loopback remote payload

Sends a loopback code to the remote unit to initiate a payload loopback. A payload loopback is a 1.536 Mbps loopback of the payload data received from the network maintaining bit-sequence integrity for the information bits by synchronizing (regenerating) the timing. Use the **no** form of this command to send a loopdown code to the remote unit to deactivate the loopback.

remote-alarm [rai]

Selects the alarm signaling type to be sent when a loss of frame is detected on the T1 receive signal. Use the **no** form of this command to disable all transmitted alarms.

rai	Specifies sending a remote alarm indication (RAI) in response to a loss of frame. Also prevents a received RAI from causing a change in interface operational status.

remote-loopback

Configures the interface to respond to loopbacks initiated by a remote unit (or service provider). Use the **no** form of this command to disable this feature.

snmp trap line-status

Controls the Simple Network Management Protocol (SNMP) variable dsx1LineStatusChangeTrapEnable (RFC2495) 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.

snmp trap link-status

Controls the Simple Network Management Protocol (SNMP) variable ifLinkUpDownTrapEnable (RFC2863) 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.

snmp trap threshold-reached

Controls the Simple Network Management Protocol (SNMP) variable adGenAOSDs1ThresholdReached (adGenAOSDs1-Ext MIB) to enable the interface to send SNMP traps when a DS1 performance counter threshold is reached. Use the **no** form of this command to disable this trap.

tdm-group *<group number>* **timeslots** *<1-24>* **speed 64**

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

<group number>	Identifies the created TDM group (valid range: 1 to 255).
timeslots *<1-24>*	Specifies the DS0s to be used in the TDM group. This can be entered as a single number representing one of the 24 T1 channel timeslots or as a contiguous group of DS0s. (For example, **1-10** specifies the first 10 channels of the T1.)
speed 64	Specifies the individual DS0 rate on the T1 interface to be 64 kbps. This is the only supported speed on this module.

test-pattern [clear | errors | insert | ones | p215 | p220 | p511 | qrss | zeros]

Activates the built-in pattern generator and begins sending the specified test pattern. Can be used to verify a data path when used in conjunction with an active loopback. Use the no form of this command to cease pattern generation.

clear	Clears the test pattern error count.
errors	Displays the test pattern error count.
insert	Inserts an error into the currently active test pattern.
ones	Generates a test pattern of continuous ones.
p215	Generates a pseudorandom test pattern sequence based on a 15-bit shift register.
p220	Generates a pseudorandom test pattern sequence based on a 20-bit shift register.
p511	Generates a test pattern of repeating ones and zeros.
qrss	Generates a test pattern of random ones and zeros.
zeros	Generates a test pattern of continuous zeros.

*** Indicates default values.**