



SPECIFICATIONS

Operating Modes	Frame Relay, Multilink Frame Relay, PPP, Multilink PPP, HDLC
E1/FE1 Interface	Supported Standards: ITU-T G.703, ITU-T G.704 (CRC-4), ITU-T G.823, ITU-T G.797 Receiver Sensitivity: -30 dB Line Rate: 2.048 Mbps \pm 50 PPM Line Code: AMI or HDB3 Framing: FAS with optional CRC-4 FE1 Line Rate: Channelized timeslot (in multiples of 56/64 kbps) Connector: RJ-48C
G.703 Interface	Supported Standards: Per ITU-T G.703 Receiver Sensitivity: -30 dB Line Rate: 2.048 Mbps, \pm 50 PPM Line Code: AMI or HDB3 Framing: FAS with optional CRC-4 Capacity: 1 to 31 timeslots If timeslot 16 signaling is used on the drop port, a maximum of 15 timeslots can be mapped to router (1 to 15 or 17 to 31). Connector: RJ-48C
Clock Source	Network, internal, and through
Diagnostics	Test Pattern Generation and Detection: QRSS, 511, all ones, all zeros Network loopbacks Alarm generation and detection Network performance data (15 minutes and 24 hours)
Compliance	FCC Part 15 Class A, EN 55022 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3 AS/ACIF S016, ETSI TBR 12/TBR 13 EN 60950, IEC 60950, AS/NZS 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

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.



NetVanta modules should be installed only in NetVanta Series products.

WAN-E1 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

G.703 (RJ-48C) CONNECTION PINOUTS

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



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.



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.

E1/FE1 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 E1 + G.703 module supports a single clock source for both E1 interfaces.*

internal Provides clocking using the internal oscillator.

line* Recovers clock from the E1 circuit.

through Configures the unit to recover clocking from the circuit connected to the G.703 interface.

coding [ami | hdb3*]

Configures the line coding for the E1 physical interface. The settings must match the line coding supplied on the circuit by the service provider.

ami Configures the line coding for alternate mark inversion (AMI).

hdb3* Configures the line coding for high-density bipolar 3 (HDB3).

description <text>

Identifies the specified interface, both physical and virtual (for example, circuit ID, contact information, etc.), using up to 80 alphanumeric characters.

framing [crc4]

Configures the framing format for the E1 interface. This parameter should match the framing format provided by the service provider or external device. Use the **no** form of this command to return to the default value.

crc4 Enables CRC-4 bits to be transmitted in the outgoing data stream. Received signal is checked for CRC-4 errors.

loop-alarm-detect

Enables detection of loop alarms on the E1 interface. Use the **no** form of this command to disable loop alarm detection. This setting is enabled by default.

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 E1 network interface.

payload Initiates a loopback of the E1 framer (CSU portion) of the E1 network interface.

loopback remote v54

Initiates an E1 remote loopback test (with a V.54 loopback pattern). Use the **no** form of this command to disable this feature.

remote-alarm [rai* | ais]

Selects the alarm signaling type to be sent when a loss of frame is detected on the E1 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..

ais Sends an alarm indication signal (AIS) as an unframed all-ones signal

remote-loopback

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

sa4tx-bit [0 | 1*]

Selects the Tx value of Sa4 in this E1 interface. Use the **no** form of this command to return to the default value of 1.

show test-pattern

Display results from test patterns inserted using the **test-pattern** command.

shutdown

Disables the interface (both physical and virtual) so that no data will be passed through. Use the **no** form of this command to turn on the interface and allow it to pass data. By default, all interfaces are disabled.

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.

tdm-group <group number> timeslots <1-31> speed [56 | 64*]

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

<group number> Identifies the created TDM group (valid range: 1 to 255).

timeslots <1-31> Specifies the channels to be used in the TDM group. This can be entered as a single number representing one of the 31 E1 channel timeslots or as a contiguous group of channels. (For example, **1-10** specifies the first 10 channels of the E1.)

speed [56 | 64*] Optional. Specifies the individual channel rate on the E1 interface to be 56 kbps or 64 kbps. The default speed is 64 kbps.

test-pattern [clear | insert | ones | 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.

insert Inserts an error into the currently active test pattern. Display the injected error result using the **show test-pattern** command.

ones Generates a test pattern of continuous ones.

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.

ts16

Enables timeslot 16 multiframe to be checked on the receive signal. Use the **no** form of this command to disable timeslot 16.

* Indicates default values.