



## SPECIFICATIONS

<b>SHDSL Interface</b>	Line rate: 200 to 2312 kbps in 64k increments ITU-T standards: G.991.2 SHDSL Operating modes: line termination (CO) and network termination (CPE) Connector: RJ-45
<b>Clock Source</b>	CO operating mode: internal CPE operating mode: network
<b>Diagnostics</b>	Test pattern generation and detection: 2 <sup>15</sup> Network loopbacks (local and remote) Alarm generation and detection Programmable alarm threshold settings for loop attenuation and signal-to-noise ratio margin
<b>Line Code</b>	TC-PAM

## WAN-SHDSL NETWORK (RJ-45) PINOUT

Pin	Name	Description
1-3	—	Unused
4	T	SHDSL Tip
5	R	SHDSL Ring
6-8	—	Unused

## DBU (RJ-48C) PINOUT

Pin	Name	Description
1-2	—	Unused
3	R1	Network-Ring 1
4	R	Network-Ring
5	T	Network-Tip
6	T1	Network-Tip 1
7-8	—	Unused

## INSTALLATION INSTRUCTIONS

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



*An optional Dial Backup Interface Module (DIM) is required for dial backup applications.*

## SHDSL NIM COMMANDS

### alarm-threshold {loop-attenuation | snr-margin}

Sets thresholds for specific alarm conditions.

**loop-attenuation** Enter a value from 1-127 dB. If signal energy loss on the loop exceeds the configured value, NetVanta issues an alarm.

**snr-margin** Signal-to-noise ratio margin. Enter a value from 1-15 dB. If the difference in amplitude between the baseband signal and the noise exceeds the configured value, NetVanta issues an alarm.

### alias <text>

Comment line to provide the text name assigned by the SNMP network management system.

### boot alternate-image

Executes new code after a firmware upgrade.

### description <text>

Comment line to provide an identifier for this interface (for example, circuit ID, contact information, etc.).

### equipment-type {co | cpe}

Determines the operating mode for the SHDSL interface. The default for this command is **cpe**.

**co** Use this option only in a campus environment when operating two SHDSL NIMs back-to-back. In this setup, configure the Master NIM to **co** and the Slave NIM to **cpe**.

**cpe** Use this option when interfacing directly with your service provider or when acting as the Slave NIM in a campus environment.

### inband-detection

Enables inband loopback pattern detection on the SHDSL interface.

### inband-protocol {pn127 | v54}

Designates the inband loopback pattern to send/detect on the SHDSL interface.

**pn127** Selects PN127 as the inband loopback pattern to send/detect.

**v54** Selects V.54 as the inband loopback pattern to send/detect.

## SHDSL NIM COMMANDS (CONTINUED)

### linerate <selections are 200 to 2312 kbps in 64k increments>

Defines the line rate for the SHDSL interface (the value includes 8 kbps of framing overhead). This command is functional only in **co** operating mode (see the description for the **equipment-type** command). The default for this command is 2056 kbps. The first two selections listed (72 and 136 kbps) are not supported by this unit.

### loopback {network | remote}

Initiates a loopback on the SHDSL interface.

**network** Initiates a loopback test, looping the data toward the network.

**remote** Sends a network loopback request to the remote unit to initiate a loopback. This command is functional only in **co** operating mode (see the description for the **equipment-type** command).

### outage-retrain

Causes the SHDSL interface to force the SHDSL retrain sequence (which takes the line down temporarily) if the interface detects more than ten consecutive errored seconds. A retrain is forced in hopes that the newly retrained line will perform better.

### snmp {trap | trap link-status}

Controls SNMP trap functionality for the SHDSL interface.

**trap** Enables traps for the SHDSL interface.

**trap link-status** Controls the SNMP variable, ifLinkUpDownTrapEnable (RFC 2863), which enables/disables the interface to send SNMP traps when there is an interface status change.

### test-pattern {2^15 | clear, | insert | show}

Activates built-in pattern generation, which can be used to verify a data path when used in conjunction with an active loopback.

**2^15** Initiates test pattern generation from the unit.

**clear** Clears the test pattern results.

**insert** Inserts a single error into the currently active test pattern.

**show** Displays the test pattern results.