NetVanta 3200G 3G Wireless Router

P/N 4703863G1

3G CDMA NIM Specifications

Wireless Technologies	1xRTT 1xEVDO Revision 0 1xEVDO Revision A
Frequency Bands	Band Class 0 (Cellular 800 MHz) Band Class 1 (PCS 1.9 GHz)
Compliance	FCC Part 15, Class A FCC Parts 2, 22, 24 UL/CUL 60950-1 RSS 102 IC ES-003 RSS 129/133 RSS 132/133

The 3G CDMA network interface module (NIM) device has been designed to operate with the antennas listed below, and having a maximum gain of 2 dB. Antennas not included in this list or having a gain greater than 2 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

Proper antennas are: Pulse/Larson Dipole Antenna, Part Number: SPDA24850/1900

To reduce potential radio interference to other users, the antenna type and its gain should be chosen so that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

3G CDMA NIM LED Descriptions

LED Label	LED Color	Indication
WWAN	Off	3G modem is not powered.
	Green (solid)	3G modem is powered, associated, and authenticated, but not transmitting or receiving.
	Green (slow flash)	3G modem is powered and searching, but not associated or authenticated.
	Green (intermittent flash)	3G modem activity is proportional to transmitting/receiving speed (3 Hz minimum rate, 20 Hz maximum rate).
RSSI (Received Signal Strength Indication)	Off	No service or no signal detected.
	Red (solid)	Low signal strength.
	Amber (solid)	Medium signal strength.
	Green (solid)	High signal strength.
1xRTT	Off	No 1xRTT service is available.
	Green (solid)	1xRTT service is available.
EVDO	Off	No 1xEVDO service is available.
	Green (solid)	1xEVDO service is available.

Antenna Installation Instructions

1. Place either of the two antennas directly onto the antenna port labeled **ANT1** on the rear panel.
2. Using the thumb screws only, carefully thread the antenna onto the connector until it is secure.
3. Repeat Step 2 with the second antenna, attaching it to the **ANT2** port.
4. Position antennas in a “V” shape at a 90 degree angle to each other.

Getting a Cellular Account

Before you attempt to connect to the 3G cellular network, make sure you have subscribed to an appropriate CDMA service plan with your wireless service provider. The electronic serial number (ESN) will be needed for this process. The ESN can be obtained by using the **show interface cellular hardware** command at the command line interface (CLI) prompt. Refer to page 3 for instructions on accessing the AOS CLI. The following is sample output of the **show interface cellular hardware** command showing the ESN:

```
#show interface cellular 1/1 hardware
Electronic Serial Number (ESN): 0x12345678
Preferred Roaming List (PRL) Version: 12345
Mobile Directory Number (MDN): 0123456789
Mobile Station ID (MSID): 0123456789
System ID (SID): 1234
Network ID (NID): 12
```

Getting Started

Once you have subscribed to a CDMA service plan, you must activate the NetVanta 3G CDMA NIM. Two activation and configuration methods are available for your NIM:

- Web-based graphical user interface (GUI)
- CLI

The GUI lets you configure the unit's settings and provides online guidance and explanations for each setting. However, using the AOS CLI may be necessary for more advanced configurations.

Access the GUI

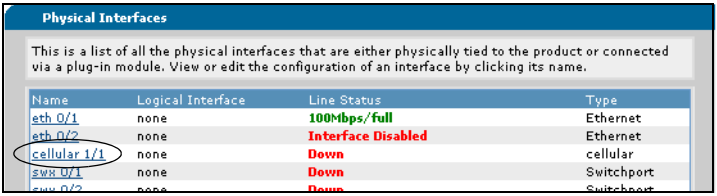
You can access the GUI from any Web browser on your network by following these steps:

1. Connect the router to your PC using the Ethernet port on the front of the unit and an Ethernet cross-over cable.
2. During bootup, your PC will obtain an IP address from the NetVanta unit's Dynamic Host Configuration Protocol (DHCP) server. By default, the DHCP server is enabled.
3. Enter the unit's IP address in your browser address line. The default IP address is **10.10.10.1**.
4. You will then be prompted for the user name and password (the default settings are **admin** and **password**).
5. The initial GUI screen appears.

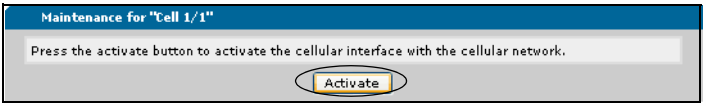
Activate the 3G CDMA NIM Using the GUI

To activate the 3G CDMA NIM and cellular interface using the GUI, follow these steps:

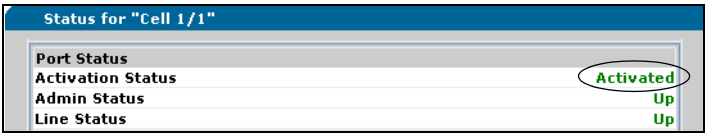
1. Select **Physical Interfaces** from the **System** menu.
2. Select the **Cellular** interface to modify from the menu.



3. Select **Activate** in the **Maintenance** dialogue box.



4. When the activation call is in progress, the WWAN LED on the 3G NIM on the back of the 3G router will be flashing constantly. When the activation call is complete, the WWAN LED will stop flashing. At this point, the **Status** dialogue box will indicate if the activation call was successful.



Access the CLI Using the CONSOLE Port

To establish a connection to the NetVanta router **CONSOLE** port, you need the following items:

- VT100 terminal or PC (with VT100 terminal emulation software)
- Straight-through serial cable with a DB-9 (male) connector on one end and the appropriate interface for your terminal or PC communication port on the other end

1. Connect the DB-9 (male) connector of your serial cable to the **CONSOLE** port on the rear panel of the unit and connect the other end of the serial cable to the terminal or PC.
2. Once the unit is powered up, open a VT100 terminal session using the following settings: 9600 baud, 8 data bits, no parity bits, and 1 stop bit. Press **<Enter>** to activate the AOS CLI.
3. Enter **enable** at the **>** prompt.
4. Enter the enable password when prompted. The default password is **password**.

Access the CLI Using a Telnet Session

To establish a connection to the NetVanta router using a Telnet session, you need the following items:

- VT100 terminal or PC (with VT100 terminal emulation software)
- Ethernet cross-over cable

1. Connect the router to your PC using the Ethernet port on the front of the unit and an Ethernet cross-over cable.
2. During bootup, your PC will obtain an IP address from the NetVanta unit's DHCP server. By default, the DHCP server is enabled.
3. Open a Telnet session by going to **Start > Run** and entering **telnet 10.10.10.1**.
4. You will be prompted for a password. The default password is **password**.
5. Enter **enable** at the **>** prompt.
6. Enter the enable password when prompted. The default password is **password**.

Activating the 3G CDMA NIM Using the CLI

To activate the 3G CDMA NIM and cellular interface using the CLI, follow these steps:

1. Enter **config terminal** at the **#** prompt.
2. At the **(config)#** prompt, enter **interface cellular 1/1** to access the configuration parameters for the cellular interface.
3. At the **(config-cellular 1/1)#** prompt, enter **cdma activate [oma-dm | otasp]**. If you are connecting to the Sprint network, use the **oma-dm** keyword. If you are connecting to the Verizon network, use the **otasp** keyword.
4. If the activation is successful, you will see the **Activation SUCCESSFUL** message in the command output. If you see the **Activation FAILED** message, repeat activation Step 3 until you are successful.
5. Enter **exit** to exit the cellular interface commands and return to the Global Configuration mode.

CONNECTING TO THE CELLULAR NETWORK

By default, your NetVanta 3200G 3G Wireless Router is shipped with DHCP, domain naming system (DNS), and the demand interface enabled. This default configuration allows the user to connect to the cellular network without any further configuration.

Once the 3G router is activated on the cellular network, ping a host device to test connectivity. Connecting to the cellular network generally takes two ping cycles to complete. When the 3G router has successfully connected, the demand interface should change its state to up.

CONFIGURE YOUR APPLICATION

For more detail on configuring your system, refer to the *AOS Command Reference Guide* (article number 2219) and *Wireless Configuration Guide* (article number 2078) provided on the *AOS Documentation* CD included in your shipment or available online at http://kb.adtran.com.

Important: *For additional details on product features, specifications, installation, and safety, refer to the appropriate hardware installation guide on the* ***AOS Documentation*** *CD shipped with the base unit and available online at http://kb.adtran.com.*