ADSL Modem

Installation Guide

Installation Instructions
Westell ADSL Modem

1. Package Inspection and Contents

Inspection

Upon receipt, thoroughly inspect the unit for damage. If the unit was damaged during transit, report the damage immediately to the Verizon Online Customer Support. DO NOT return damaged merchandise to Verizon Online until you have first obtained a Return Material Authorization from Verizon Online. For information about how to return the unit, contact your Verizon Online Customer Support representative.

Verizon Online Technical Support: Phone (toll-free): 1-800-567-6789

Contents

The ADSL modem is shipped with a box labeled **Accessories**. In this box you will find:

- Power supply cord
- Ethernet cable
- DSL Modem phone cord

2. Safety

Follow these safety precautions when installing any electronic equipment:

- Never install any telephone wiring during a lightning storm.

- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

- Use caution when installing or modifying telephone lines.

- When installed, this equipment is to be used behind devices that provide primary lightning protection.

⚠️ **WARNING** ⚠️
**Risk of electric shock. Voltages up to 140 Vdc (with reference to ground)
may be present on telecommunications circuits.**

3. Installation

IMPORTANT

Before you connect the modem, you must have an available Ethernet card (either 10Base-T or set to run at 10 Megabits per second) installed in your computer. Refer to the Ethernet card manufacturer's instructions for installing and configuring your Ethernet card. See the Appendix in this guide to make sure you have an Ethernet card installed.

Connecting the Westell ADSL Modem

Refer to the diagram and easy step-by-step instructions below for connecting your ADSL modem.
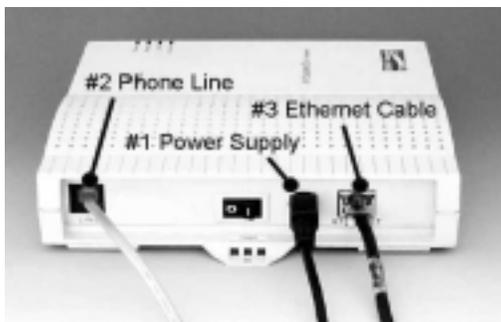
1 Verify that you have an available Ethernet card, either 10Base-T or configured to 10 Megabits per second, installed in your computer. If you do not know how to check, see the Appendix.

2 Plug the power supply cord into your electrical outlet and connect the other end to the round connector on the back of the modem (**#1**). Do not force the connector—it only fits one way.

3 Connect the DSL Modem phone cord to the **LINE** jack on the back of the modem (**#2**). You <u>must</u> use the DSL Modem phone cord in your Accessories box.

4 Connect the other end of the DSL modem phone cord to a phone jack on the wall (or the 2-for-1 adapter). **IMPORTANT: <u>Do Not</u>** use a DSL filter on this connection. (Exception: you can connect this cord to the ADSL jack on the DSL filter used for wall phones.)

5 Connect the Ethernet cable to the Ethernet card in your computer and to the **ETHERNET** jack on the back of the modem (**#3**).

6 Turn the modem **ON** (on is **I**, off is **O**) and wait for the Power, Ready, and Link lights to turn green.

   - The **Power** light illuminates to a steady green immediately.

   - The **Ready** light flashes while the DSL modem synchronizes with Verizon's central office which might take a minute or two.

   - The **Power**, **Ready** and **Link** lights illuminate to a steady green when the modem is synchronized.

If the Power, Ready, and Link lights are all steady green, your modem is connected, on, and ready. (The Activity light illuminates only when you send or receive data.) The following section tells you more about the modem indicator lights.

If you experience any problems, please contact **Verizon DSL Technical Support** at **1-800-567-6789**.

Modem Indicator Lights

The Modem indicator lights (see picture below) are used to verify the unit's operation and status. The tables below describe what the lights mean.

Connections are located on the side of the ADSL Modem

Power
Ready
Link
Activity
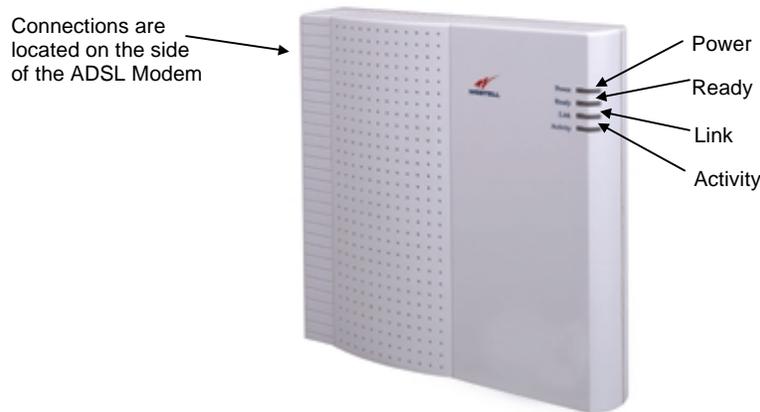
Power Indicator

State	Description
Steady Green	Power ON
No Light	No power

Ready Indicator

State	Description
Slow Flashing Green	Power ON and attempting synchronization
Fast Flashing Green	Power ON and synchronized with central office and downloading operational sequence
Steady Green	Power ON and synchronized with central office
Steady Green Intermittent Red	Power ON and synchronized with central office, but a line error condition was detected
Steady Red	Unit diagnostic failed
Blinking Red	Unit failed power-up diagnostic
No Light	No power

Link Indicator

State	Description
Steady Green	Link between your computer and your DSL modem is established
No Light	No link established between your computer and your DSL modem

Activity Indicators

State	Description
Pulsing Yellow	Traffic being transmitted. Pulses should match the receipt or transmission of Ethernet data between your DSL modem and your computer.
No Light	No traffic

Mounting the ADSL Modem on a wall (Optional)

To mount the ADSL modem on a wall:

1. Obtain two pan-head screws (one #8 and one #6) and two #4 – #8 wall anchors. (Not provided.)

2. With the ADSL modem held up against the wall where it is to be mounted, mark the upper keyhole slot and screw location.

3. Drill a 3/16" hole for the upper anchor and insert the anchor and larger (#8) screw until the face of the screw is approximately 3/16" from the wall.

4. Test-fit the unit on the screw, and adjust the screw depth for a sliding fit.

5. With a pencil, mark the opening in lower mounting tab. Remove the unit from the wall.

6. Drill a 3/16" hole for the lower anchor and insert anchor. Hang the unit on the upper screw.

7. Insert the smaller (#6) screw through the hole in the lower mounting tab.

8. Tighten the lower screw lightly with a screwdriver. Do not overtighten.

4. Product Specifications

DIMENSIONS
Height – 7.5 in (19 cm)
Width – 7.78 in (19.76 cm)
Depth – 1.9 in (4.82 cm)

WEIGHT
Approx. 2.30 lbs (1.04 kg) with power supply

ENVIRONMENTAL
Ambient Operating Temperature – +32 to +113°F (0 to +45°C)
Relative Humidity – 5 to 95%, non-condensing

POWER SUPPLY
120 VAC (±10%) wall-mount power supply

POWER CONSUMPTION
Less than 10 watts typical from 120 VAC

CONNECTORS
POWER – 3-pin mini-DIN connector
LINE (DSL) – 6-pin (RJ-11) modular jack
ETHERNET – 8-pin (RJ-45) modular jack

ETHERNET CONNECTOR PINOUT
An RJ-45 type that carries the Receive data on Pins 1 and 2, and the Transmit data on Pins 3 and 6

ETHERNET INTERFACE
Provides transmit and receive data paths for 10Base-T Network Connection.

LINE (DSL) CONNECTOR PINOUT
An RJ-11 type that carries combined ADSL and POTS signals on Pins 3 and 4.

DSL
DSL Line Code – Discrete MultiTone (DMT) (Alcatel)
DSL Rates – 32 Kbps to 8 Mbps downstream and 32 Kbps to 800 Kbps upstream
Power Spectral Density – -40 dBm/Hz
DSL Impedance – 100 Ohms
DSL Performance – per Category 1 in ANSI T1.413

EMC
FCC, Class B
EN50081-1, Class B
EN50082-1
GR-1089-CORE, Issue 2

SAFETY
UL 1950
cUL
EN60950

REGULATORY APPROVAL
UL
CSA

Appendix

IMPORTANT: Before you can connect the Westell ADSL modem to your computer, your computer must have an Ethernet card. The Ethernet card must be:

- Installed and available
- Either a 10Base-T (10 Megabits per second) card, or configured to 10 Megabits per second.

Follow the instructions below for your operating system to find out if an Ethernet card is installed, available, and set to the correct speed.

Windows 95/98/Millenium

1   Click **Start**, then **Settings**, then **Control Panel**. The Control Panel opens.

2   Double-click the **Network** icon. (Tip: Icons in the Control Panel often display in alphabetical order).
    The Network window opens.

3   Click the **Configuration** tab.

4   In the large box on this window, look for the name of your Ethernet card. This name might contain
    words such as Ethernet adapter, Etherlink, or LAN adapter. Check your Ethernet card manufacturer's
    documentation if you need to find the exact name of the card.

5   If an Ethernet card is listed, it is **installed**. Go on to the next step. If not, you need to install one
    according to the Ethernet card manufacturer's instructions.

6   Your Ethernet card is **available** if it is not being used for another device. One way to check is to find the
    Ethernet jack on your computer and find out if it is empty. The jack looks the same as the jack marked
    ETHERNET on the back of the Westell modem.

7   If your card is a 10Base-T card (10 Megabits per second), or if it is set to 10 Megabits per second, you
    can install the Westell ADSL modem. (See the instructions under "Installation" in this guide.) If you
    are not sure, consult the documentation from your Ethernet card's manufacturer.

Windows NT

1   Click **Start**, then **Settings**, then **Control Panel**. The Control Panel opens.

2   Double-click the **Network** icon. (Tip: Icons in the Control Panel often display in alphabetical order.)
    The Network window opens. If you see an error message, your Ethernet card or its driver is not
    installed. Follow your Ethernet card manufacturer's instructions for installation and configuration to 10
    Megabits per second.

3   Click the **Adapters** tab.

4   In the Network Adapters list, look for the name of your Ethernet card. This name might contain words
    such as Ethernet adapter, Etherlink, or LAN adapter. Check the documentation from your Ethernet card
    manufacturer if you need to find the exact name of the card.

5   If an Ethernet card is listed, it is **installed**, go on to the next step. If not, you need to install one
    according to the Ethernet card manufacturer's instructions.

6   Your Ethernet card is **available** if it is not being used for another device. One way to check is to find the Ethernet jack on your computer and find out if it is empty. The jack looks the same as the jack marked ETHERNET on the back of the Westell modem.

7   If your card is a 10Base-T card (10 Megabits per second), or if it is set to 10 Megabits per second, you can install the Westell ADSL modem—see the instructions under "Installation" in this guide. If you are not sure, consult your Ethernet card manufacturer's documentation.

Windows 2000 Professional

1   Click **Start**, then **Settings**, then **Control Panel**. The Control Panel opens.

2   Double-click the **Network and Dial-up Connections** icon. The Network and Dial-up Connections window opens. If you see an error message, your Ethernet card or its driver is not installed, follow your Ethernet card manufacturer's instructions for installation and configuration to 10 Megabits per second.

3   Click the **Local Area Connection** icon and read the left pane to verify that this icon is for the Ethernet card that you plan to use with Verizon Online DSL.

If you see more than one Local Area Connection icon, click each one and read the left panel to locate the one for the Ethernet card.

If you see no Local Area Connection icon for the Ethernet card, install an Ethernet card following the Ethernet card manufacturer's instructions.

4   **Right-click** the Local Area Connection icon for the Ethernet card, and click **Properties** in the drop-down menu.

5   In the Local Area Connection Properties window, verify that the **Connect using** box contains the name of the Ethernet card. This name might contain words such as Ethernet adapter, Etherlink, or LAN adapter. Check your Ethernet card manufacturer's documentation if you need to find the exact name of the card

6   Your Ethernet card is **available** if it is not being used for another device. One way to check is to find the Ethernet jack on your computer and find out if it is empty. The jack looks the same as the jack marked ETHERNET on the back of the Westell modem.

7   If your card is a 10Base-T card (10 Megabits per second), or if it is set to 10 Megabits per second, you can install the Westell ADSL modem. See the instructions under "Installation" in this guide. If you are not sure, consult your Ethernet card manufacturer's documentation.

Apple Macintosh

An Ethernet card is built into iMac, G3 Power Mac, and G3 PowerBook computers. To activate this card and find out if it is available:

1   Click the **Apple** icon, then **Control Panels**, then **Extension Manager**.

2   Search for **Apple Ethernet NB**.

3   Click **Apple Ethernet NB** to activate the built-in card.

4   Restart.

5   Your Ethernet card is **available** if it is not being used for another device. One way to check is to find the Ethernet jack on your computer and find out if it is empty. The jack looks the same as the jack marked ETHERNET on the back of the Westell modem.

6   If your card is set to 10Base-T (10 Megabits per second), you can install the Westell ADSL modem. (See the instructions under "Installation" in this guide.) If you are not sure, consult your computer documentation.

Product Assistance and General Inquiries

Product Return

For equipment return, contact:

Westell Customer Support
   Phone: Toll Free - 1-630-375-4500
   Fax: 1-630-375-4931
   Address:
         750 North Commons Drive
         Aurora, Illinois 60504

   Web Address (Westell's Home Page): www.westell.com

NOTE: DO NOT return damaged merchandise to Westell until you have first obtained a Return Material Authorization from Westell. For return of material, contact your Westell Customer Support representative

Publication

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FCC COMPLIANCE NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment to a different circuit from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

PART 68 – EQUIPMENT REGISTRATION

This equipment (ADSL modem) also complies with Part 68 of the FCC rules. A label on the bottom of this equipment contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment is designated to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. An FCC compliant telephone cord and modular plug is provided with the equipment. See the installation instructions for details.

If this terminal equipment (ADSL modem) causes harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved. The telephone company will notify you in advance if temporary discontinuance of service is required. If advance notification is not practical, the telephone company will notify the customer as soon as possible. You will be advised of your right to file a complaint with the FCC, if you believe such action is necessary.

The telephone company may make changes to their facilities, equipment, operations, or procedures that could affect the operation of this equipment. If this happens, the telephone company will provide advance notice in order for you to make the modifications necessary to maintain uninterrupted service.

If you experience trouble with this equipment (ADSL modem), do not try to repair the equipment yourself. The equipment cannot be repaired in the field and must be returned to the manufacturer. For instructions on product return, contact Westell Customer Support at (630) 375-4500.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection of this equipment to party line service is subject to state tariffs.

030-300108D