

SpeedStream 4000 Series

ADSL USB Modem Installation Guide



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Efficient Networks, Inc.
4201 Spring Valley Road, Suite 1200
Dallas, Texas 75244

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Introduction

About the 4000 Series Modems

The SpeedStream 4000 series external Asymmetric Digital Subscriber Line (ADSL) modem provides a high-speed internet connectivity for a single PC running Windows 98. The modem sends and receives data over standard phone lines using Discrete Multi-tone (DMT) digital subscriber line (DSL) transmission. The modem is connected to your PC through a Universal Serial Bus (USB) port.

The modem requires a telephone line that supports ADSL. This service is configured by your telephone company.

Data from the PC is transmitted and received using methods similar to that used for analog modems. Data transmission over the DSL link is performed by a combination of software on the PC and software and hardware in the modem. Because a standard USB port is employed, installation of an adapter card inside the PC is not necessary.

Installation Requirements

The following are the system requirements for installation:

- Windows 98 operating system already installed.
- 32 Mbytes RAM
- Pentium-class processor (100 Mhz or better) required.
- 1 Universal Serial Bus (USB) port

NOTE: You may need the Windows (95, 98 or NT) operating system CD during installation. If you do not have this CD, contact your PC vendor for details on where the Windows files are stored on your machine.

Installing a Software Upgrade

If you have installed a previous version of the modem driver software, and you want to upgrade to a newer version, you must remove the currently installed drivers before installing the new version. Please refer to the

instructions for removing the modem software on page 16. Then follow the instructions in the next section to install the new revision of the driver software.

Terminology

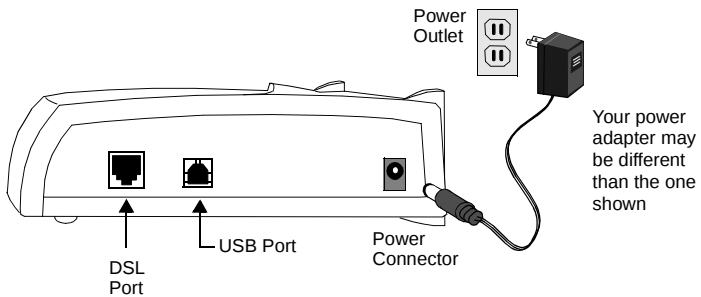
ADSL	Asymmetric Digital Subscriber Line
ATM	Asynchronous Transfer Mode
CIP	Classical IP over ATM
CO	Central Office
DMT	Discrete Multi-tone
DSL	Digital Subscriber Line
Firmware	Software, in binary form, stored within a flash PROM
POST	Power-On Self Test
PPP	Point-to-Point Protocol
USB	Universal Serial Bus
VPN	Virtual Private Networking

Hardware Installation

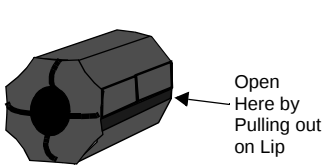
Installation Instructions

NOTE: The labels for the back panel of the modem are located on the underside of the unit.

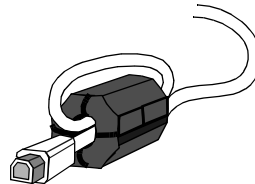
- 1 Connect the power cable to the power connector on the back of the modem; then connect it to a power outlet.



- 2 Locate the **ferrite choke** and open it by pulling up on the lip on the non-hinged side. Attach the choke to the USB cable (marked with this symbol: ) as shown in the figure below.



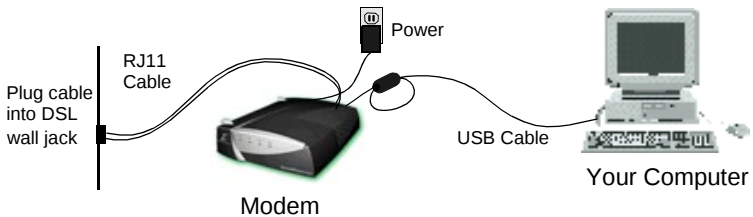
Ferrite Choke



Attach choke by looping USB cable and clipping it on the doubled strand.

Attach as close as possible to modem-end of USB cable.

- 3 After attaching the ferrite choke, attach the USB cable to the **USB** port on the back of the modem and connect the other end of the cable to the USB port on your computer.
- 4 Connect one end of the USB cable (marked with this symbol: ) to the **USB** port on the back of the modem and connect the other end of the cable to the USB port on your computer.
- 5 Connect one end of an RJ11 telephone cable to the modem's **DSL** port and the other end to the DSL service port (wall jack).



- 6 Proceed with the software installation described in the next section.

Table 1 Modem LED Indicator Descriptions

LED	Description
Off	No line power or no USB power
Yellow	Powering up, firmware being download
Blinking Yellow/Green	Has passed Power-on Self Test (POST), looking for tone on ADSL line
Blinking Green	Has passed Power-on Self Test (POST), ADSL line is attempting to train
Green	Unit is functional, ADSL line is connected and ATM cell delineation is present
Red	Hardware failure detected
Blinking Yellow	Modem in maintenance state (occurs with new firmware download or factory testing)

Software Installation

Product Overview

The SpeedStream 4000 Series Modem provides high-speed connectivity using Asynchronous Transfer Mode (ATM) over an Asymmetric Digital Subscriber Line (ADSL).

There are two types of software that can be installed on the 4000-series modem:

- Point-to-Point Protocol (PPP) software driver
- CIP/1483 (Classical IP/RFC 1483 Multiprotocol Encapsulation) software driver.

The main difference between the two is the way that the modem connects. With the PPP software, the user must initiate the connection using the Microsoft Dial-Up Networking application. With the CIP/1483 software, the connection to the Internet is up all the time and is re-established whenever the PC is rebooted.

Your service provider will advise you on which type of software to install for your DSL service. The following procedure can be used to install either type of software. Simply follow the step-by-step instructions in the following sections to install and configure the modem.

PPP Driver Installation

Installation Requirements

Microsoft Virtual Private Networking (VPN) Adapter is required by the PPP driver. The VPN adapter is normally provided in Windows 98 installation. If it has not been installed or was removed, it must be re-installed.

To check whether VPN is installed:

- 1 Select **My Computer > Control Panel > Network**.
- 2 On the **Configuration** list, there should be a “**Microsoft Virtual Private Networking Adapter**” listed.

- 3 If not, select the **Add** button and double-click on **Adapter**.
- 4 Scroll down in the **Manufacturers** list and select **Microsoft**.
- 5 Under **Network Adapters**, double-click **Microsoft Virtual Private Networking Adapter**.

PPP Driver Installation

- 1 When the power is connected to the modem and the USB cable is connected from the modem to the PC, the **Add New Hardware Wizard** will appear. This dialog indicates that an unknown device is installed. Insert the installation CD-ROM and click **Next**.



- 2 On the next dialog, the first option **Search for the best driver for your device (Recommended)** should be selected.



- 3 On the next dialog, select only the checkbox labeled **Specify a location**. Then click the **Browse** button.



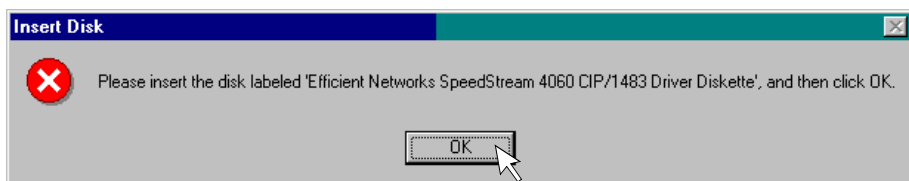
- 3-a In the browse list, locate your CD-ROM drive letter and double-click on it; then double-click the **W98** folder followed by the **Ppp** folder. Click **OK**.

3-b Click **Next** on the Add New Hardware Wizard dialog box.

- 4 The next dialog box states that “Windows is now ready to install the best driver for this device.” Click **Next**. Windows will then copy the driver files from your CD-ROM.

As the files are being copied, you may be prompted for the Windows 98 CD. If so, insert the CD and click **OK**.

- 5 Next you may see the **Insert Disk** dialog box. Click **OK**.



- 6 On the **Copying Files** dialog box, pull down the “**Copy files from:**” list and select **<drive>: W98**. Click **OK**.
- 7 Click **Finish** on the Add New Hardware Wizard.
- 8 At this point, you will be asked to restart Windows. Click **Yes** to restart the PC.
- 9 When Windows comes back up, a series of configuration dialog boxes will be presented. Use your service provider’s instructions to set the parameters.
 - When the **Connections** dialog box appears, highlight the connection (if shown) and click **Modify**. Enter the **VC** number specified by your service provider.
 - If no connection is listed, then click the **Add** button and enter a specific name for the connection along with the VPI and VCI settings as specified by your service provider. Click **OK** when you are finished.
 - Click **Next**.
- 10 Click the **Finish** button to complete the configuration.
- 11 When the driver installation is complete, set up your dial-up connection as described in the next section.

Setting up a PPP Connection

After installing the PPP software, you may be required by your service provider to configure the IP address before you connect using the Dial-Up Networking applet.

- 1 Select **My Computer**, then **Dial-Up Networking**.
- 2 You will see an icon for the ADSL PPP connection that was defined when you installed the driver. Double-click on the connection icon.
- 3 Enter a password. Select the “**Connect**” button to create the connection.
- 4 A modem icon will appear on the taskbar when the connection has been established.

CIP/1483 Driver Installation

- 1 When the power is connected to the modem and the USB cable is connected from the modem to the PC, the **Add New Hardware Wizard** will appear. This dialog indicates that an unknown device is installed. Insert the installation CD-ROM and click **Next**.



- 2 On the next dialog, the first option **Search for the best driver for your device (Recommended)** should be selected.



- 3 On the next dialog, select only the checkbox labeled **Specify a location**. Then click the **Browse** button.



- 3-a In the browse list, locate your CD-ROM drive letter and double-click on it; then double-click the **W98** folder followed by the **Cip-1483** folder.

3-b Click **Next** on the Add New Hardware Wizard dialog box.

- 4 The next dialog box states that “Windows is now ready to install the best driver for this device.” Click **Next**. Windows will then copy the driver files from your CD-ROM.

As the files are being copied, you may be prompted for the Windows 98 CD. If so, insert the CD and click **OK**.

- 5 Next, a series of configuration dialog boxes will be presented. Use your service provider’s instructions to set the parameters on each dialog or click **Next** to select the default values.
- 6 Click the **Finish** button to complete the configuration. You may be prompted for the Windows 98 installation CD-ROM. If so, insert the CD-ROM and click **Next**.
- 7 When the driver installation is complete, you will be prompted to restart Windows. Click **Yes**.
- 8 When the system comes back up, you may need to configure the Internet Protocol (IP) address for your connection.

Configuring a CIP/1483 Driver

If you are installing a CIP/1483 driver, review the following sections for important information on the configuration of the modem.

Configuring the IP Address

When using the CIP/1483 driver, you will need to configure an Internet Protocol (IP) address that will be used to identify your computer on the network.

- 1 Select **My Computer > Control Panel > Network**.
- 2 Select the **TCP/IP** entry for our device in the list and click on the **Properties** button.
- 3 You may need to configure a specific IP address or you can configure the system to obtain an IP address automatically. Follow your service provider’s instructions to configure the IP address of your system.

- 4 When configuration is complete, click **OK**. You may be prompted to reboot the computer. If so, click **Yes**.

SpeedStream Status

After the driver software is properly installed and a connection has been established, you will see the following icons on the taskbar:



Indicates that the modem has an active connection. The lights will blink when the modem is transmitting.



Indicates that the modem is not connected or configured properly. Right-clicking on the taskbar icon provides a menu of detailed status and on-line help.

The taskbar icon may be turned off by going to the **Control Panel** and selecting the **SpeedStream Status** applet. This will bring up the **SpeedStream Status** dialog. The icon is displayed when the **Show Icon on Taskbar** checkbox is checked.

Using SpeedStream with Multiple User Profiles

If your system was configured with multiple user profiles before the modem was installed, the SpeedStream connection will only be visible to the user who installed it. To copy the connection to other users profiles, copy all files in your Dial-Up Networking folder with a *.dun* extension to C:\. Then log in as each individual user and copy the *.dun* files to the Dial-Up Networking Folder.

Removing the Modem Software

- 1 Disconnect the modem's USB connector from your PC.
- 2 Select **Start** then **Settings** and open the **Control Panel**.
- 3 From the Control Panel, select **Network**.

- 4 Select the **Configuration** tab, and select our product from the list.
- 5 Click on the **Remove** button and select **OK** to close the **Network** dialog.
- 6 When prompted, restart Windows.

SpeedStream 4000 Series Specifications

Size	5.56 in. x 7.3 in. x 1.75" (14.12 cm x 18.54 cm x 4.44 cm)
Weight	2 lbs, 11 oz (1.2 Kg) (includes modem, power supply and cable)
Power (standard)	Wall-mount AC to DC adapter. 10-21vDC @ 1.1 amp output. AC input to meet country specific input requirements. • USA: 110 vAC, 60 Hz, 2 amp max • Europe: 220 vAC, 50 Hz, 1 amp max
Temperature	Operating: 0 to 40° C Non-Operating, storage: -10 to 85° C
Humidity	10% to 90% noncondensing
USB Interface	
Cabling	USB Cable
Connector	USB connector
DSL Interface	
Connector	Two-contact, shielded RJ11 jack (pins 3 & 4, tip and ring interchangeable; optional configuration with pins 2 & 5 available from your distributor)
Operating distance	18,000 feet maximum on standard 26 AWG copper pair wire