SpeedStream®

Wireless USB Adapter

User's Manual

Model SS1022

SIEMENS

Part No. 007-0313-001

Regulatory compliance

FCC Warning

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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

IMPORTANT NOTE:

Federal Communications Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

About this manual

This User's Manual describes how to install and operate your SpeedStream Wireless USB Adapter. Please read this manual before you install the product.

This manual includes the following topics:

- Product description and features
- Hardware installation procedure
- Software installation procedure
- FAQs

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Chapter 1 - Introduction

Thank you for purchasing the SpeedStream Wireless USB Adapter. This high-speed Wireless USB Adapter provides you with an innovative wireless networking solution. The Adapter is easy to set up and use. With this innovative wireless technology, you can share files and printers on the network—without inconvenient wires! Now you can carry the LAN in your pocket!

The Adapter is a network adapter with a rate of 1, 2, 5.5, and 11 Mbps operating in the ISM band using Direct Sequence Spread Spectrum (DSSS) transmission implementing the IEEE 802.11b standard. This adapter provides Device Drivers for Windows® 98, Windows® 2000, Windows® XP and Windows® Me. It also provides tools for the configuration of the adapter. The tool, as well as the installation steps of the plug-and-play procedure for the Microsoft Windows 98, 2000, XP and Windows Me operating systems, is described in this document.

Features

The SpeedStream Wireless USB Adapter offers compliance with the IEEE 802.11b specification. This feature allows them to communicate with other wireless devices that support the standard. Features of the adapter are:

- **Uses 2.4GHz frequency band, which complies with worldwide requirement**
- **Wireless interface following the IEEE 802.11b standard**
- **Using Universal Serial Bus (USB) interface**
- **Enciphering/deciphering of wireless data by the implementation of the WEP algorithm**
- **Wire-free access to networked resources from anywhere beyond the desktop**
- **Allows users to move between Access Points without resetting their connection configuration**
- **Delivers data rates up to 11 Mbps**
- **Supports 11, 5.5, 2, and 1 Mbps rates**
- **Provides SpeedStream Wireless USB Adapter Configuration utility**
- **Antenna is built in to the Adapter with LEDs indicating Power and Link**
- **Supports most popular operating systems: Windows 98/2000/XP & Windows Me**

What is Wireless LAN?

Wireless Local Area Network (WLAN) systems offer a great number of advantages over traditional wired systems. WLANs are flexible and easy to setup and manage. They are also more economical than wired LAN systems.

Using radio frequency (RF) technology, WLAN transmit and receive data through the air. WLAN combine data connectivity with user mobility. For example, users can roam from a conference room to their office without being disconnected from the LAN.

Using WLANs, users can conveniently access-shared information, and network administrators can configure and augment networks without installing or moving network cables.

WLAN technology provides users with many convenient and cost saving features:

- **Mobility:** WLANs provide LAN users with access to real-time information anywhere in their organization, providing service opportunities that are impossible with wired networks.
- **Ease of Installation:** Installation is easy for novice and expert users alike, eliminating the need to install network cables in walls and ceilings.
- **Scalability**: WLAN can be configured in a variety of topologies to adapt to specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to full infrastructure networks of thousands of users roaming over a broad area.

Wireless LAN Modes

Wireless LANs can be configured in one of two ways:

Ad-hoc Networking	Also known as a peer-to-peer network, an ad-hoc network is one that allows all workstations and computers in the network to act as servers to all other users on the network. Users on the network can share files, print to a shared printer, and access the Internet with a shared modem. However, with ad-hoc networking, users can only communicate with other wireless LAN computers that are in the wireless LAN workgroup, and are within range.
Infrastructure Networking	Infrastructure networking differs from ad-hoc networking in that it includes an access point. Unlike the ad-hoc structure where users on the LAN contend the shared bandwidth, on an infrastructure network the access point can manage the bandwidth to maximize

	bandwidth utilization. Additionally, the access point enables users on a wireless LAN to access an existing wired network, allowing wireless users to take advantage of the wired network's resources, such as Internet, email, file transfer, and printer sharing. Infrastructure networking has the following advantages over ad-hoc networking: • **Extended range:** each wireless LAN computer within the range of the access point can communicate with other wireless LAN computers within range of the access point. • **Roaming:** the access point enables a wireless LAN computer to move through a building and still be connected to the LAN. • **Wired to wireless LAN connectivity:** the access point bridges the gap between wireless LANs and their wired counterparts.

Notes on Wireless LAN Configuration

When configuring a wireless LAN (WLAN), be sure to note the following points:

- Optimize the performance of the WLAN by ensuring that the distance between access points is not too far. In most buildings, WLAN cards operate within a range of 100 ~ 300 feet, depending on the thickness and structure of the walls.
- Radio waves can pass through walls and glass but not metal. If there is interference in transmitting through a wall, it may be that the wall has reinforcing metal in its structure. Install another access point to circumvent this problem.
- Floors usually have metal girders and metal reinforcing struts that interfere with WLAN transmission.

This concludes the first chapter. The next chapter deals with the hardware installation of the Adapter.

Chapter 2 - Hardware Installation

This chapter covers connecting your SpeedStream Wireless USB Adapter to the USB port of a desktop / notebook PC.

Package Contents

Please make sure that items below are included in the package.

- ✓ SpeedStream Wireless USB Adapter
- ✓ 6ft. USB cable
- ✓ CD containing drivers and documentation
- ✓ Quick Start Guide
- ✓ Product Registration/Extended Warranty card
- ✓ Safety and Certifications/Software License and Warranty

System Requirements for the Adapter

- Operating System: MS Windows 98, Windows 2000, XP & Windows Me
- Desktop PC or notebook PC with CD-ROM drive
- One free USB port
- Pentium-Class 90MHz or higher

Connecting the USB Adapter

NOTE: These instructions apply to most desktop/notebook computers. For detailed information on connecting USB adapters to your desktop/notebook PC, consult the desktop/notebook PC User's Manual.

The Adapter's USB port is located on the back of the Adapter.

The Adapter comes with a USB cable that has two different types of connectors – type A and type B. Type A connector of the USB cable plugs into your

notebook/desktop PC's USB port. The type B connector of the USB cable connects to the USB port of your SpeedStream Wireless USB Adapter.

USB Type A **USB Type B**

LED Indicators

The following table describes the meaning of LED indicators:

LED	MEANING
POWER	Indicates that the Adapter is powered on when the LED lights up.
LINK	Indicates link status. The LED lights up while the wireless connection is linked. If the light is blinking, it is disconnected, and is scanning the wireless network.

Disconnecting the USB Adapter

In Windows 98/Me operating systems, you do not have to power down your notebook/desktop PC to remove the Adapter. The Adapter is hot swappable—you can remove the Adapter when your notebook/desktop PC is powered on. However, Microsoft recommends that you stop the Adapter before removing the Adapter. Refer to your Windows 98/Me online help for information on stopping the USB Adapter.

WARNING: *Do not remove the Wireless USB Adapter when a data transmission is taking place. Exit your communications program normally, stop the Adapter if necessary, and then remove the adapter.*

Chapter 3 – Driver Installation for Windows

The following sections cover the Speedstream Wireless USB Adapter driver installation in the Windows 98/2000/Me/XP operating systems.

Note: You have to install your hardware first before you begin to install the drivers.

Driver installation for Windows® 98

Follow the steps below to install the SpeedStream Wireless USB Adapter drivers for Windows 98.

1. Connect the SpeedStream Wireless USB Adapter to the USB port of a notebook or desktop PC. (Refer to Chapter 2 – Hardware installation)

2. After Windows 98 detects the SpeedStream Wireless USB Adapter, the *Add New Hardware Wizard* window appears. Click **Nex**t to continue the installation.

3. A screen appears prompting you to select an installation method. Select **Search for the best driver for your device. (Recommended)** and click **Next** to continue.

4. Ensure that the **CD-ROM drive** is selected. Insert the driver CD-ROM into your CD-ROM drive and click **Next** to continue.

5. The following screen appears showing the driver search result. Click **Next** to continue the installation.

6. Windows 98 copies files to your hard disk. The following screen will appear to inform you when the software installation has finished. Click **Finish** to complete the installation.

7. The following screen will ask you to restart your computer to complete the installation. Click **Yes** to restart.

*NOTE : In most cases, Windows will automatically copy all of the files needed for networking. If Windows asks you for the files and prompts you to input the path to the files. Follow the instructions on your screen, and then click **OK** to continue.*

The system will then start to install the Wireless utility automatically. Proceed to Chapter 4 for installation procedure details.

Driver installation for Windows® 2000

Follow the steps below to install the SpeedStream Wireless USB Adapter drivers for Windows 2000.

1. Connect the SpeedStream Wireless USB Adapter to the USB port of a notebook or desktop PC. (Refer to Chapter 2 – Hardware installation)

2. After Windows 2000 detects the SpeedStream Wireless USB Adapter, the *Found New Hardware Wizard* window appears. Click **Next** to start the installation.

3. A screen appears prompting you to select an installation method. Select **Search**

for a suitable driver for my device (recommended) and click **Next** to continue.

4. Ensure that the **CD-ROM driver** is selected and insert the driver CD-ROM into your CD-ROM drive and click **Next** to continue.

5. The following screen appears showing the driver search result. Click **Next** to

continue the installation.

6. The following screen appears. Click **Yes** to continue

7. Windows has finished installing software for the device. Click **Finish** to complete the installation.

The system will then start to install the Wireless utility automatically. Proceed to Chapter 4 for installation procedure details.

Driver installation for Windows® Me

Follow the steps below to install the SpeedStream Wireless USB Adapter drivers for Windows Me.

1. Connect the SpeedStream Wireless USB Adapter to the USB port of a notebook or desktop PC. (Refer to Chapter 2 – Hardware installation)

2. After Windows detects the SpeedStream Wireless USB Adapter, the *Add New Hardware Wizard* window appears. Select **Automatic search for a better driver (Recommended)** and insert the driver CD-ROM into CD-ROM drive and click **Next** to continue.

3. The system will find the setup files and follow the instruction to copy files to your hard disk. The following screen will appear when the software installation has finished. Click **Finish** to complete the installation.

4. The following screen will ask you to restart your computer to complete the installation. Click **Yes** to restart.

NOTE. : In most cases, Windows will automatically copy all of the files needed for

networking. If Windows asks you for the files and prompts you to input the path to the files, follow the instructions on your screen, then click ***OK*** *to continue.*

The system will then start to install the Wireless utility automatically. Proceed to Chapter 4 for installation procedure details.

Driver installation for Windows® XP

Follow the steps below to install the SpeedStream Wireless USB Adapter drivers for Windows XP.

1. Connect the SpeedStream Wireless USB Adapter to the USB port of a notebook or desktop PC. (Refer to Chapter 2 – Hardware installation)

2. After Windows XP detects the SpeedStream Wireless USB Adapter, the *Found New Hardware Wizard* window appears. Select **Install the software automatically (Recommended)** and insert the driver CD-ROM into CD-ROM drive and click **Next** to continue.

3. Click **Continue Anyway** to continue the installation.

4. Windows has finished installing software for the device. Click **Finish** to complete the installation

The system will then start to install the Wireless utility automatically. Proceed to Chapter 4 for installation procedure details.

Chapter 4 – Using the Wireless Utility

The following sections cover the SpeedStream Wireless USB Adapter utility installation and configuration.

Installing the SpeedStream Wireless LAN Utility

After you have installed the SpeedStream Wireless USB Adapter driver and have rebooted the computer, the system will start to install the Wireless Utility automatically. Follow the steps below to install the wireless utility.

1. Once you see the following screen, click **Next** to continue.

2. The screen will show you the default destination chosen by the utility. Click **Next** to continue or click the **Browse** button to select an alternate destination.

3. The following screen will add program icons to the Program Folder. You may type a new folder name or select one from the existing folders list. Click **Next** to continue or click **Back** to review or change any settings.

4. The following screen will start to copy the program files. Click **Next** to continue or click **Back** to review or change any settings.

5. The following screen shows you the Setup utility's progress.

6. Windows has finished installing SpeedStream Wireless LAN Utility. Click **Finish** to complete the installation.

After you have installed the utility, you will see the wireless utility icon in the Windows taskbar/system tray near the time:

Using the Wireless Utility In Windows XP

SpeedStream Wireless LAN Utility

There are two ways to configure the SpeedStream Wireless USB Adapter. One is the SpeedStream Wireless LAN Utility; the other one is the Windows Wireless Network Configuration.

Use Windows Wireless Network Configuration

1. Right-Click the wireless icon and choose **Exit** SpeedStream Wireless LAN Utility.

2. Click the Windows Wireless Network Configuration icon.

Windows Wireless Network Configuration

3. Click the **Advanced** button.

4. Ensure that "*Use Windows to configure my wireless network settings*" is selected and click **OK**.

5. Click the Windows Wireless Network Configuration icon again to open the Windows Wireless Network Configuration.

Windows Wireless Network Configuration

6. Select *SpeedStream* and click the **Connect** button.

7. The Windows Wireless Network Configuration will now be enabled. Click the Windows Wireless Configuration icon.

Windows Wireless Network Configuration is enabled

8. Click **Properties** to start the Windows Wireless Network Configuration.

Use SpeedStream Wireless LAN Utility

1. Exit the SpeedStream Wireless LAN Utility.

2. Click Windows Wireless Network Configuration icon.

Windows Wireless Network Configuration

3. Click the **Advanced** button.

4. **Do not** select "Use windows to configure my wireless network settings"; click **OK**.

5. Click Start -> All Programs -> SpeedStream Wireless USB then click SpeedStream Wireless LAN Utility to restart the SpeedStream Wireless LAN Utility.

6. The SpeedStream Wireless LAN Utility will appear, Double-click the icon to open the configuration utility.

SpeedStream Wireless LAN Utility

7. Click the **Re-Search** button to start the SpeedStream Wireless LAN Utility. (Refer to *Configuring the USB Wireless Network Adapter* on the following page.)

Using the SpeedStream Wireless LAN Utility In Windows 98, 2000 and Me

SpeedStream Wireless LAN Utility icon

Icon	Meaning
	Green: indicates a connection is linked to a wireless network.

	Red: indicates that the wireless LAN card is looking for an available access point.

Double-click the icon to open the SpeedStream Wireless LAN Utility. (Refer to Configuring the USB Wireless Network Adapter.)

Configuring the USB Wireless Network Adapter

1. This screen shows you the status of your current connection. Click **Re-Search** to search for a wireless connection (the adapter will search for the connection automatically when it is activated).

2. Select the "**Configuration**" tab. The **profile** setting allows you to save configurations in different profiles for different working environments. The default profile will contain the initial configuration setting when you install the adapter. Under the **Operating Mode** drop-box, you may choose either Infrastructure or Ad-Hoc. The Infrastructure mode allows a wireless adapter to communicate with a wired network employing an Access Point, while the Ad-Hoc mode allows wireless-to-wireless, peer-to-peer communication. If you choose Infrastructure, the **SSID** should have the same name as the Access Point. If you choose **Ad-Hoc**, all clients should share the same **SSID** name. You may also select which **Transfer Rate** you wish to use: **1, 2, 5.5, 11Mbps** or **Auto Rate**. Under **Power Saving Mode**, you can select **Enabled** to allow your adapter to go to sleep mode while the adapter doesn't detect any data transmission. Or select **Disabled** to make the adapter never go into sleep mode. Click **Apply** to save the settings.

3. Select the "**Site Survey**" tab. The list on the adjacent screen shows you available Access Points and their features. Click on the desired Access Point, then click **Connect** to connect or **Search** to search for more Access Points. Click **OK** when you are finished.

4. Click on the "**Encryption"** tab. Under the drop-box, you can choose to have WEP encryption **Disabled, 64-Bit, or 128-Bit.** Wired Equivalent Privacy (WEP) is an encryption scheme used to protect wireless data communication. The Disabled setting prevents the sharing of data with other computers on the WEP network. For data sharing to be enabled, select the level of encryption desired, either 64 or 128-bit.

5. Select the "**Advanced**" tab. You can choose the **fragmentation threshold** to define the maximum data frame size your adapter will transmit. When the packet error rate is high, you may set the threshold value to transmit shorter frames. You may select **RTS/CTS threshold** to define when your adapter will send out RTS/CTS frames to reserve bandwidth for transmission. By using the RTS/CTS function, you may request bandwidth from AP to allow you have better chance to send out your data. For the **Security, i**t's only applicable while WEP is enabled. For the **Authentication Type,** the current supported algorithms are Open System, Shared Key, and Auto. The algorithm will be invoked when associated to Access Point. To associate to the desired Access Point you must set the same algorithm as the one of the desired Access Point. When select Auto mode, the driver can auto detect the Authentication Type of the Access Point you are going to associate. You can also select **Preamble Type** which is for framing synchronization. The possible settings are Long and Short. The setting must be the same as the setting of the Access Point you are going to associate.

6. The **"About"** tab shows you copyright and version information about the driver, the configuration utility, and the firmware. Click **OK** to complete the configuration.

Chapter 5 – Installing Network Protocols

Protocols are necessary for computers to be recognized on your network. Windows 2000 users need to check their Windows User Guides for protocol installation.

Installing the Network Protocols for Windows 98 and Millennium

1. From the **Start** Menu, select **Settings** and bring up the **Control Panel**. From the Control Panel, double-click on the **Network** icon.

Note: Before adding any network protocols, verify that the protocol is not already installed. Never install duplicate protocols.

2. Select *Siemens SpeedStream Wireless USB* from the list and click the **Add** button.

3. Highlight **Protocol** and click the **Add** button.

4. Select **Microsoft** from the list of "Manufacturers" and **TCP/IP** from the list of

"Network Protocols" and click the **OK** button to complete the installation.

Appendix A – FAQ

1. **What is the IEEE 802.11 standard?**

   - The IEEE 802.11 is a wireless LAN industry standard, and the objective of IEEE 802.11 is to make sure that different manufactures' wireless LAN devices can communicate to each other.

2. **What is WEP?**

   - As described in the IEEE 802.11 standard, WEP (Wired Equivalent Privacy) is a data privacy mechanism based on a 40 bit shared key algorithm.

3. **My notebook / desktop PC cannot recognize the USB Wireless Network Adapter.**

   - Check that the Adapter is connected to the USB port of your notebook / desktop PC properly.
   - Also ensure that the USB controller is enabled in the BIOS of your notebook / desktop PC.

4. **How do I check that the USB controller on my notebook / desktop PC is working properly?**

   - Right click on **My Computer** and select **Properties.** Click on the **Device Manager** tab and select the **Universal Serial Bus Controllers.** Click on **Properties** button. In the **General** tab, check under "**Device status**" that the USB controller is working properly.

5. **The Adapter does not work properly.**

   - Check that the Adapter drivers are loaded properly. You can easily check it through the **Network Adapter** (Right click on **My Computer** and select **Properties.** Click on the **Device Manager** tab and select the **Network Adapter**). If there is a yellow exclamation mark on USB Wireless Network Adapter, the resource may be conflicting. Uninstall the Adapter and restart your notebook / desktop PC, then repeat the hardware and software installation as specified in this manual.

6. **In Infrastructure mode, my notebook / desktop PC cannot communicate with the others PCs on the network.**

   - First, make sure that the SSID is same as the other PCs.
   - Check that your Adapter is configured on the same channel & WEP mode setting as the other PCs on the network.

Appendix B – Specifications

Standards:	IEEE 802.11b USB 1.0
Channels:	11 Channels (US, Canada) 13 Channels (Europe) 14 Channels (Japan)
Antenna:	Dipole Antenna inside
Frequency:	2.412 to 2.462GHz (Industrial Scientific Medical Band)
Data Rate:	up to 11Mbps
Operating Ranges:	Indoor (varies depends on the environment): Up to 50M @ 11Mbps Up to 80M @ 5.5Mbps Outdoor (varies depends on the environment): Up to 150M @ 11Mbps Up to 300M @ 5.5Mbps
Temperature:	Operating: 0° ~ 55° C Storage: -25° ~ 70° C
Humidity:	10% to 90% (non-condensing)