

HomeLink™ Series

Phoneline + 10/100 USB Network Adapter



Model No.: **USB100H1**

User Guide

LINKSYS®

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FCC STATEMENT

The Phonline + 10/100 USB network Adapter 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 according to 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 is found 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 or device
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

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Introduction

The Phoneline + 10/100 USB Network Adapter

Congratulations on your purchase of the Linksys HomeLink Phoneline + 10/100 USB Network Adapter. The Linksys HomeLink Phoneline + 10/100 USB Network Adapter offers instant connectivity to multiple PCs over your telephone wiring. There's no need for a switch, a hub, or any additional cables. The network runs on standard home-grade telephone wires just like the ones you use everyday.

The HomeLink Phoneline + 10/100 USB Network Adapter allows your phone line to carry computer data along with your regular telephone voice service. The USB device is equipped with two standard telephone ports and one 10/100 dual-speed Fast Ethernet port. You can connect to any 1Mbps HomeLink network or any Ethernet or Fast Ethernet network without swapping devices or running multiple adapters. The adapter connects to your Windows 98 or Windows 2000 computer's USB port. Since your HomeLink network runs on regular telephone cables, there's no extra hardware to buy. Plug the Phoneline + 10/100 USB Network Adapter into any standard wall jack and you're networked.

Features

- Connect to a Network Using Your Existing Telephone Line
- Works with any Windows 98 or Windows 2000 PC With a USB Port
- 1Mbps Transfer Rate Over Telephone Lines
- Dual-Speed RJ-45 Port Automatically Detects Ethernet or Fast Ethernet Speeds
- External USB Network Adapter with two RJ-11 Modular Telephone Ports and one RJ-45 Auto-Sensing 10BaseT/100BaseTX Port
- USB Cable Included—Nothing More to Buy
- 4 Easy to Read LED Status Indicators
- HomePNA Compliant
- Connect Up to 25 Computers Together On Your HomeLink Phonewire Network
- Free 24-Hour Technical Support (North America only)
- Limited 1-Year Warranty



Package Contents for the Phoneline + 10/100 USB Network Adapter

- One HomeLink Phoneline + 10/100 USB Network Adapter
- One Standard USB Cable
- One Standard Telephone Cable
- One Driver Diskette
- One User Guide and Registration Card

Windows & Computer Compatibility



To use this device, you must have Microsoft Windows 98 or Windows 2000 installed on your PC. If you do not have Windows 98 or Windows 2000, this device will not work.

Also, the device requires that a USB port is installed and enabled on your PC. Some PCs have a disabled USB port. If your port doesn't seem to be working, there may be jumpers on the motherboard or a menu option in the BIOS that will enable a PC's USB port. Consult your computer's user guide. Some motherboards have USB interfaces, but no ports. You should be able to install your own USB port and attach it to your PC's motherboard using hardware purchased at any computer store. Consult your computer's user guide.

Getting to Know the Phoneline + 10/100 USB Network Adapter

The Adapter's Ports



USB

The USB port is where your 10/100 USB Network Adapter will connect to your computer. This port is a USB type B port.

LAN 10/100


The LAN 10/100 port allows your computer to be connected to an Ethernet or Fast Ethernet network. If you are using the LAN 10/100 port, the HomeLink and Phone ports will be inactive.

Phone

The Phone port adds an extra phone jack to your home. The phone jack will only carry telephone service if your HomeLink network plugs into one of your phone jacks. If you do not attach a telephone into the Phone port, you can use the Phone port to daisy chain to another HomeLink computer. See page 7 for details on daisy chaining.

HomeLink

The HomeLink port allows your computer to be connected to a HomePNA network. If you use the HomeLink port, the LAN 10/100 port will be inactive.



Note: The Phoneline + 10/100 USB Network Adapter supports only one network media type at a time. If you want to use the adapter to connect your PC to a Phoneline network, the 10/100 function is disabled, and vice versa.

The Adapter's LEDs



- ACT** The Activity LED will flicker orange when network data is passing through the USB Network Adapter.
- HOMELINK** The HomeLink LED will illuminate green if a successful connection is made to a Phoneline network.
- 10** The 10Mbps LED will illuminate green if a successful 10Mbps connection is made to an Ethernet network.
- 100** The 100Mbps LED will illuminate green if a successful 100Mbps connection is made to a Fast Ethernet network.

Only one of the **HOMELINK**, **10**, or **100** LEDs should be illuminated at any time. If none of the three are illuminated, your USB Network Adapter is not making a successful network connection.

The USB Icon

Whenever you see the USB Icon (below), a USB port is nearby.



USB Cabling

The EtherFast 10/100 USB Network Adapter comes with one USB cable. One end of the USB cable has a rectangular plug, which is called a **type A** connector. The other end of the cable has a square plug, or a **type B** connector.



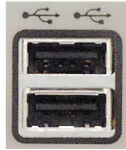
Type A



Type B

The USB cable's type B end connects to the USB device—in this case the USB Network Adapter. The type A end connects to a computer's USB port.

The picture below shows two USB ports as they might be found on your computer. Note the two USB icons above the port.



Modem and Fax Compatibility

If you have only one phone jack in a room and you want to use your modem or fax, it is recommended that you purchase a telephone jack splitter. Plug your telephone or fax into one of the splitter's ports, and your HomeLink USB Network Adapter into the other.

Installing the Phonline + 10/100 USB Network Adapter

Overview

The following instructions will help you physically connect your computer to your network through your Phonline + 10/100 USB Network Adapter. After you physically install the adapter, you have to then install the adapter's driver software onto your computer and configure your computer to access your network. Driver installation and PC configuration instructions follow these device installation instructions.



Keep in mind that the USB Network Adapter will only support one network media type at a time. The adapter can not connect any device to a Phonline network and an Ethernet network at the same time.

Installing the USB Network Adapter & Cabling

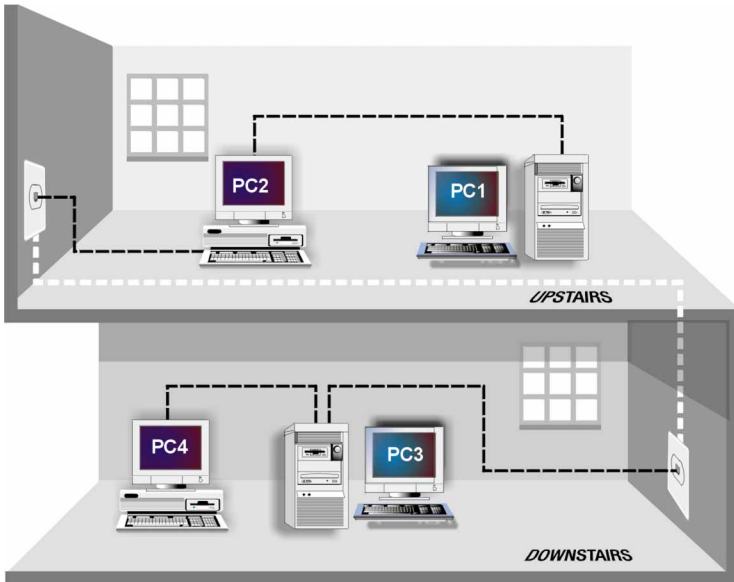
Note: USB cabling and port information can be found on pages 3-5.

1. **Insert the cable's type B plug** into the adapter's B-type port.
2. **Insert the other end of the USB cable** (the type A connector) into the USB port on your PC.

Your computer is now connected to your USB Network Adapter. Continue onto the next page to connect your computer to a Phonline network, or go to page 8 to connect it to an Ethernet or Fast Ethernet network.

Connecting to a Phoneline Network

Computers on a Phoneline network can either connect through their HomeLink ports, or through your home's existing telephone wiring. The diagram below shows a HomeLink network that takes advantage of both types of connections.



Follow the instructions below to connect your computer to your HomeLink network.

1. **Connect one end of your telephone cabling** to your Phoneline + 10/100 USB Network Adapter's **HomeLink Port**.
2. **Connect the other end of that telephone cable** into another computer's **HomeLink** port, or into a networked wall jack.

Your computer is now connected to your Phoneline network.

- If your computer runs **Windows 98**, go to page 9 now for driver installation instructions.
- If your computer runs **Windows 2000**, go to page 20 now.

Connecting to an Ethernet or Fast Ethernet Network

1. **Attach one end of an Ethernet cable** into the USB Network Adapter's **LAN 10/100** port.
2. **Plug the other end of the cable** into a Ethernet or Fast Ethernet hub, switch, or router. If you plan to use both 10BaseT and 100Mbps network segments on the same network, you'll need a dual-speed hub or switch that allows segments of different speeds to communicate. For more information on 10/100 dual-speed hubs and switches, visit the Linksys web site at www.linksys.com.

Your computer is now connected to your Ethernet or Fast Ethernet network.

- If your computer runs **Windows 98**, go to page 9 now for driver installation instructions.
- If your computer runs **Windows 2000**, go to page 20 now.

Windows 98 Installation & Setup

Overview

After physically installing the Phoneline + 10/100 USB Network Adapter in your computer, follow these instructions to install the network driver. The installation procedure for the network driver will vary slightly depending on which version of Windows 98 you are using, and on your current system configuration. If at any time during the installation you encounter problems, consult the Troubleshooting section on page 23.

Installing the USB Network Adapter's Driver

After installing the HomeLink + 10/100 USB Network Adapter, follow the instructions below to install the adapter's software into your Windows 98 computer.

1. If you haven't already, **start up your computer**.
2. **Windows 98 will automatically detect** the presence of the LINKSYS USB Adapter hardware in your computer.
3. Slide the *Linksys Driver Disk* into your floppy drive while the *Add New Hardware Wizard* window is visible. Click **Next**.



4. Select "Search for the best driver for your device (Recommended)." Click **Next**.



5. Select "Floppy disk drives". Click **Next** to continue.



Note: Windows 98 may ask you for a **computer or workgroup name**. If so, skip ahead to the instructions on page 15. Once you have established your computer and workgroup names, return to where you left off and continue with the installation.

6. A window will open saying that Windows is now ready to install the *Linksys EtherFast 1/10/100 USB Network Adapter* driver. Click **Next**.



7. Windows will begin copying the USB Adapter's driver files to your PC. Refer to the chart below to help guide you through the process.

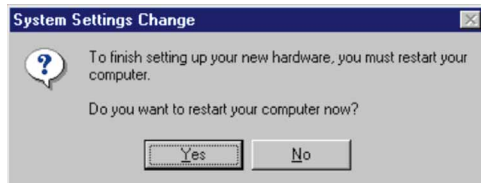
Under no circumstance are you to click Cancel or Skip File!

<ul style="list-style-type: none"> • If your PC asks for the Linksys Setup or Driver Disk 	<ol style="list-style-type: none"> 1. Click OK. 2. Ensure that the Linksys Driver Disk is in your PC's floppy drive. 3. Type "a:\\" in the "Copy files from:" box. 4. Click OK.
<ul style="list-style-type: none"> • If you are asked to supply your Windows 98 Installation Files or Disks 	<ol style="list-style-type: none"> 1. Click OK. 2. If you have a Windows 98 CD-ROM, type "d:\win98" in the "Copy files from:" box, where "d:" is your CD-ROM drive. 3. If you don't have a Windows 98 CD-ROM, type: "c:\windows\options\lcabs". 4. Click OK.
<ul style="list-style-type: none"> • If you are asked for a file that includes "USB100H1" in its name 	<ol style="list-style-type: none"> 1. Insert the Linksys Driver Disk into your PC's floppy drive. 2. Type "a:\\" in the "Copy files from:" box. 3. Click OK
<ul style="list-style-type: none"> • If you receive a Version Conflict error 	<ol style="list-style-type: none"> 1. Choose to keep the newest version of the file by clicking Yes.

8. Windows will finish installing the software onto your PC. Click **Finish**.



9. When asked if you want to restart your PC, remove the Program Disk and click **Yes**. If you are using the Windows CD-ROM, leave it in your PC. You may need it later. If Windows does not ask you to restart your PC, click the **Start** button. Choose **Shut Down**, choose **Restart**, then click **Yes**.



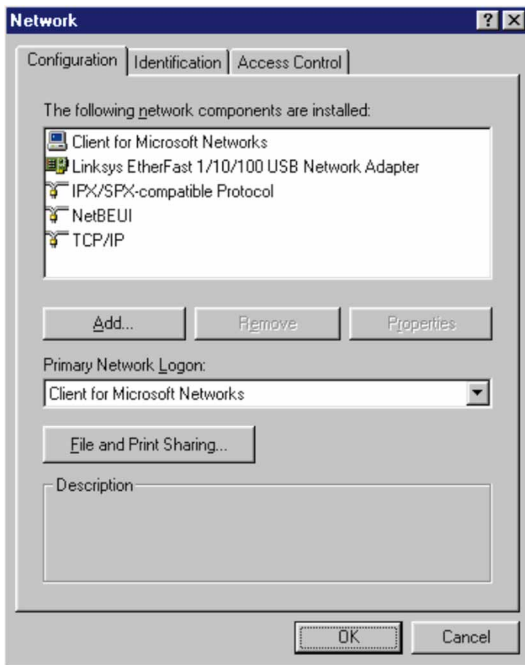
The Windows 98 driver installation is complete. Please continue on to the next section, which will provide instructions for configuring Windows 98's network protocol. Consult your network administrator for your network configuration information if necessary.



*Note: From this point on, you must provide Windows with a User Name and Password every time you are prompted to do so. Remember to click **OK** to properly log into Windows. If you click **Cancel** or hit the **Escape [ESC]** key, you will not log into the network.*

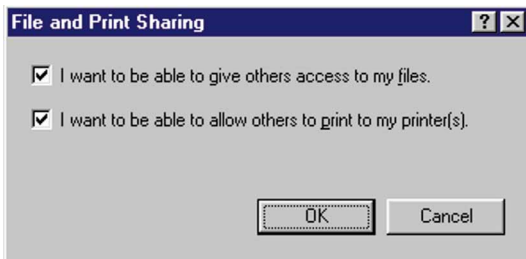
Network Component Configuration

1. Once you are back at the Windows 98 desktop, click on your taskbar's **Start** button, then **Settings**, then **Control Panel**, then double-click the **Network** icon.
2. The Network window will appear. Click on the **Configuration** tab. A window similar to the one below will appear. There may be other components listed in addition to the ones shown below (for example, a *Dial-up Adapter*), which is normal.
 - *Client for Microsoft Networks*
 - *Linksys EtherFast 1/10/100 USB Network Adapter*
 - *IPX/SPX-compatible Protocol*
 - *NetBEUI*
 - *TCP/IP*



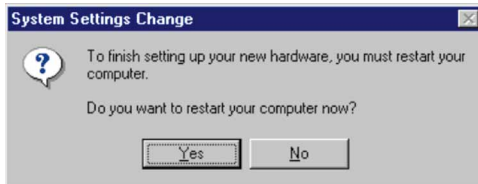
If any of the components shown above are missing, however, you'll need to manually install them. If so, refer to *Manually Installing Network Components in Windows 98* on page 34 now.

- Click the **File and Print Sharing** button. The File and Print Sharing window will appear.



- If you'd like others to be able to access the files on your PC's hard drive, select **I want to be able to give others access to my files**.
- If you'd like to share your printer with other users on the network, select **I want to be able to allow others to print to my printer**.
- Click the **OK** button. *File and Printer Sharing for Microsoft Networks* should now appear in the list of installed components.

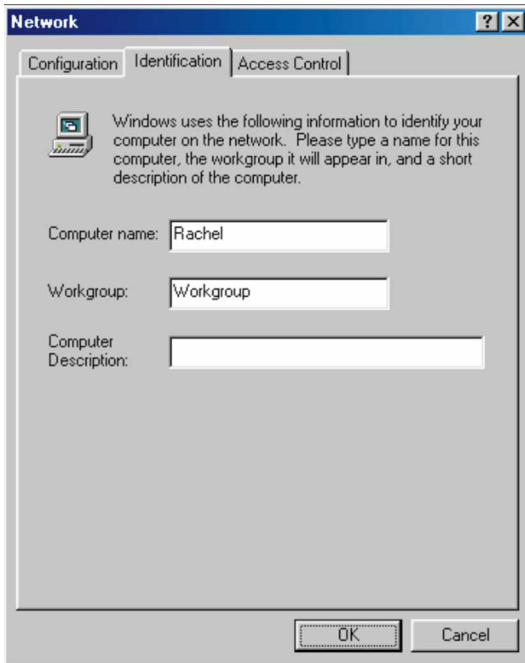
Note: If you do not enable File and Print Sharing, your PC will be invisible on the network and inaccessible to other users.



7. After ensuring that all of the listed network components are installed on your system, in the *Primary Network Logon* box select **Client for Microsoft Networks**.

Note: Your Computer and Workgroup Names must both be fewer than 15 characters, and should only consist only of numbers and letters.

8. Click on the **Identification** tab. Type the **name of your computer** in the *Computer Name* box. Choose a name that is unique from the other computer names on the network.

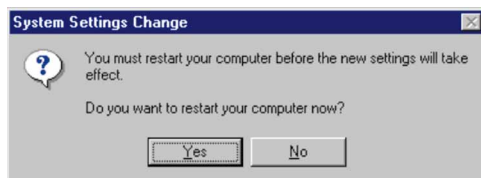


9. Type the **name of your workgroup** in the *Workgroup* box. The Workgroup name should be the same Workgroup Name in use by all of the other PCs on the network. Do **NOT** click **OK** when you are done.
10. Enter a **description of your computer** in the *Computer Description* box. *This box is optional, and can be left blank.*

- Optional: Choose the **Access Control** tab. Ensure that **Shared-level access control** is selected. If the setting is on **User-Level access control** and you can't change it, skip to problem 4 in the Troubleshooting section on page 23.



- Click the **OK** button. Your system may or may not ask you for your Windows 98 CD-ROM or the location of the Windows 98 installation files. If it does, direct Windows to the appropriate location, (i.e., D:\win98 if you have the Windows 98 CD-ROM, or C:\windows\options\cabs).
- Once Windows has copied the necessary files, the *System Settings Change* window appears. Remove all disks from your PC and click **Yes** to restart your PC. If you don't see this window, simply shut down Windows 98 and restart your PC. Remember to remove the Driver Disk from the floppy drive prior to rebooting.



14. A Logon window will appear, requiring you to enter a **User name** and **Password**. Make up a user name and password (if you haven't already) and click **OK**. Do not click the **Cancel** button or **Escape [ESC]** key. Clicking either of these buttons will prevent you from logging into the network. If the logon does not appear or if it does not allow you to log on, refer to problem 3 in the Troubleshooting section on page 23.

15. Once you are at the Windows 98 desktop, double-click on the **Network Neighborhood** icon. You should see one icon for the entire network and the names of the other PCs on the network.
 - **If you can see your computer along with all the other computers on the network in Network Neighborhood, then the Windows 98 network configuration is complete. Continue with *Sharing Your Files and Printers in Windows 98* on the next page if you want data from your PC to be available to others on the network. You may stop here, however, if you wish to configure File and Print Sharing at a later time.**
 - If you don't see anything at all in Network Neighborhood, press the **F5** key on your keyboard a few times to refresh the screen. If that doesn't work, go to Troubleshooting problem 9 on page 25.
 - If you only see your own computer in Network Neighborhood, skip to problem 5 of the Troubleshooting section on page 23.
 - If you see all computers on the network except yours, press the **F5** key a few times. If, after a minute or so, you still can't see your own PC, see problem 8 on page 25 of the Troubleshooting section.
 - If you only see computers that are running the same operating system as you and you don't see any others, go to problem 7 on page 24.

Sharing Your Files and Printers in Windows 98

Overview

By sharing your files and printers, other PCs on your network will be able to access the resources on your PC.

Before sharing your files and printers, you should prepare your computer to be used with any file servers that may be on the network. If you are **not** using Windows 98 with an NT or NetWare file server, or if you are not sure if you have a file server, continue below.

If you are using an NT or NetWare file server, go to page 26 for client setup.

Enabling File Sharing

1. Double-click your **My Computer** icon. A window of available disk drives will appear.
2. Using your right mouse button, click once on the drive or folder that you want to make available to other users.
3. Click on **Sharing**, followed by the **Sharing** tab. Click on **Share As**.
4. In the Share Name box, enter a name for the drive or folder you are sharing. This can be any drive on your PC—floppy drive, hard drive, CD drive, zip drive, etc.
5. Decide on the type of access that you want to give other users.
 - **Read-Only access** allows other users to view the files on the selected drive or folder.
 - **Full access** allows other users to create, change, or delete files on the selected drive or folder.
 - **Depends on Password** allows other users to have Read-Only and/or Full access to the selected drive or folder, depending on the password that you decide to give them.
6. If you want to assign access passwords, type the passwords into the Password boxes.

***Note:** If you are only using your PC to access the Internet, it is highly recommended that you create passwords for your shares.*

7. When you're done, click on the **Apply** button, followed by **OK**. Repeat steps 1-7 for any drive or folder you desire to share on the network.

You have successfully enabled File Sharing on your PC. Your selected drives or folders can now be accessed by other network users. If a user tries to access one of your password-protected drives or folders, he or she will be asked for the appropriate Read-Only or Full-Access password. Continue on if you wish to share your PC's printer over the network.

Enabling Printer Sharing

1. Double-click on the **My Computer** icon.
2. Double-click the **Printers** folder. A window of available printers will appear.
3. Using your right mouse button, click once on the printer that you want to share with other users. Click on **Sharing**, followed by the **Sharing** tab.
4. Click on **Share As**. In the Share Name box, give a name to the printer you want to share. If you want to assign a password to the printer so that only certain users can access it, type a password in the Password box.
5. Click on the **Apply** button, followed by **OK**. Your printer(s) are now shared.

The Printer Sharing setup and installation is complete. Your printer can now be accessed by other network users. The printer's driver may have to be installed on other PCs. Consult your printer's documentation.

***Note:** Not all printers may be shared on the network. Others may require special instructions. Refer to your printer's user guide or contact your printer manufacturer if you think this may be the case with your printer.*

Windows 2000 Installation & Setup

Overview

After physically installing the Phoneline + 10/100 USB Network Adapter in your computer, follow these instructions to install the network driver. The installation procedure for the network driver could vary slightly depending on which version of Windows 2000 you are using, and on your current system configuration. If at any time during the installation you encounter problems, consult the Troubleshooting section on page 23.

Installing the Network Adapter's Driver

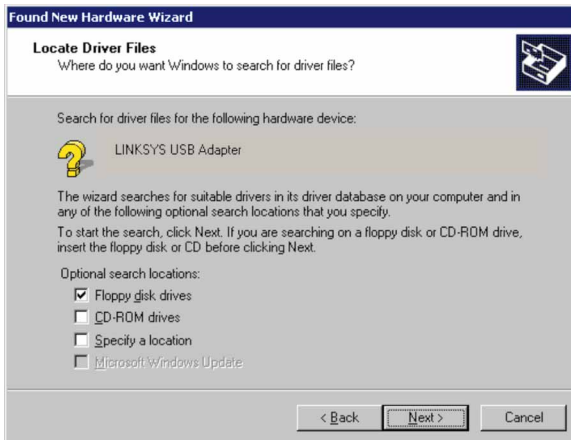
1. If you haven't already, start your computer and boot Windows 2000.
2. Windows will display the *Welcome to the Found New Hardware Wizard* box. Click **Next**.



3. The *Install Hardware Device Drivers* dialog box will appear. When *Linksys USB Adapter* is displayed, select “*Search for a suitable driver for my device (Recommended)*”. Click **Next**.



5. The *Locate Driver Files* dialog box will appear. Select the “*Floppy disk drives*” option and insert the Driver Disk into your floppy drive. Click **Next**.



6. The *Driver File Search Results* dialog box will appear. Click **Next**.



7. The *Completing the Found New Hardware Wizard* dialog box will appear. The following adapter name will be shown: *Linksys EtherFast 1/10/100 USB Network Adapter*. Click **Finish**.



8. Remove the Program Disk from the floppy drive.

The USB Network Adapter driver installation is complete. If you want to share files or printers, refer to your Microsoft documentation or ask your system administrator.

Troubleshooting

1. Windows doesn't detect new hardware with the HomeLink Adapter hardware installed, or it continues to detect the adapter each time I restart the PC.

- You might not have installed the adapter correctly or securely into the appropriate port of your computer. Check that the adapter is securely inserted into the appropriate slot.
- The system BIOS might not be USB compatible, your PC's USB settings may not be enabled, or the motherboard may have USB options not supported by Windows 98 or Windows 2000. If you are not sure, contact your PC's manufacturer.

2. Windows can't locate the driver for the HomeLink Adapter device.

- You may have inserted the wrong diskette into your PC's drive.
- The diskette may be defective or files may be missing, or you may be pointing Windows to the wrong directory or drive.

3. The Windows Logon screen doesn't appear after I restart my computer.

- Click on **Start**, then **Log Off**. Log back in. If this doesn't solve the problem, your PC's manufacturer may have disabled Windows' networking. Contact your computer's manufacturer for help. If using Windows 2000, refer to your Microsoft documentation.

4. On the Access Control Tab, User Level Access is selected, but Shared Level Access is grayed out and not accessible.

- You previously had your primary network logon set to *Client for NetWare Networks*. On the **Configuration** tab of the *Network Properties* window, ensure that your primary network logon is set to *Client for Microsoft Networks*.
- Your personal web server PC or Microsoft Front Page may require you to choose a user level for security reasons.

5. In Network Neighborhood I can only see myself and no other computers on the network.

- Make sure that the cables are connected correctly. Make sure you are getting Link or Activity lights on both the HomeLink Adapter and your hub if you are using one. Try changing to a new cable that you know is working.
- Verify that the HomeLink Adapter's Phoneline configuration is set to Auto Configuration.

- Try connecting your PCs using **only** the phone wire provided with the HomeLink adapter. Disconnect your PCs from any phone jacks and remove any telephone, modem, or other device that you have connected to the HomeLink adapters.
- If the PCs are far away from each other, bring them close to each other and try connecting them directly together. This test will determine whether your phone line or your HomeLink hardware is causing your network to malfunction.
- Ensure that the other PC is turned on!

6. I've decided that I don't want to share a drive or printer anymore, or I have decided to physically remove a drive or printer from my network.

- You're going to have to reconfigure your File and Printer Sharing settings manually. To do so, double-click on your **My Computer** icon. Click on the **Printers** folder. A window of available printers will appear. Using your right mouse button, click once on the printer that you want to disable on the network. Click on **Sharing**, followed by the **Sharing** tab. Click on **Not Shared**. When you're done, click on the **Apply** button, followed by **OK**.
- You can disable shared drives in the same way. In Windows Explorer, right-click on the drive you want to stop sharing. Click on **Sharing**, followed by the **Sharing** tab. Click on **Not Shared**. When you're done, click on the **Apply** button, followed by **OK**.

7. In Network Neighborhood, you can only see computers running the same operating system as you. For example, since you are running Windows 98, you can only see other Windows 98 computers and not any computer running Windows 95.

- Click **Start**, **Find**, then **Computer** and type the name of any other computer in the window that comes up. Click **Find Now**.
- Make sure that you are using the same protocols and workgroup names on the computers. To do this, click on **Start**, **Settings**, **Control Panel**, then double-click on the **Network** icon. Click on the **Configuration** tab and verify your protocol settings. If any protocols are missing, add any needed protocol(s) using the **Add** button in the Network window. Next, click on the **Identification** tab for Workgroup settings. Make sure they are consistent with your other PCs.
- If all computers are using the same protocol(s) and Workgroup name, and Windows 95 computers can't see Windows 98 computers, enable NetBIOS on all the computers using Windows 95 and 98.
- IPX/SPX-compatible Protocol should be installed on all computers.
- Bring up the properties of the IPX/SPX-compatible Protocol. To do this,

click on **Start, Settings, Control Panel**, then open **Network** and click on the **Configuration** tab. Highlight *IPX/SPX-compatible Protocol* (only one of them) and click on **Properties**.

- Click on the **NetBIOS** tab. Put a check next to *I want to enable NetBIOS over IPX/SPX* and click **OK**. Click **OK** again.
- After Windows finishes copying the appropriate files, restart your computer. When you've returned to the desktop, open **Network Neighborhood** or my network places and look for the other PCs on your network.

8. In Network Neighborhood, I can only see some of the computers.

- Choose **Start, Find, Computer** and type the name of the computer in the window that comes up and click **Find Now**.
- Now make sure that you are using the same protocol(s) and work-group name on computers. To do this, click **Start, Settings, Control Panel** on two computers running different Windows operating systems. Click on the **Network** icon, choose the **Configuration** tab, then click on the **Identification** tab for Workgroup name. Compare the protocols on both computers and make sure that they are the same. If any protocols are missing, refer to page 34 to install any needed protocol(s).
- Ensure that File & Print sharing is enabled on every computer.

9. Network Neighborhood is empty.

- Verify that your Microsoft Client is installed. See the Windows 98 setup instructions in this guide for directions.
- Verify that you have logged in correctly. Refresh the screen by pressing F5 several times.

Appendix

Client for Microsoft Setup for Windows 98

If you are installing the Phoneline + 10/100 USB Network Adapter in a Windows 98 PC that you plan on logging into a NT domain server, follow the directions below.

1. Start up Windows. Click on **Start, Settings**, then **Control Panel**. Double-click on **Network**. The Network window appears. Click on the **Configuration** tab.
2. In the Primary Logon Box, you have two choices. Choose one **Client for Microsoft Networks**, which instructs your PC to log into an NT 4.0 or Windows 2000 server where you already have a username and password set up.
3. Under the the following network components are installed box, highlight Client for Microsoft Networks and click on the **Properties** button.
4. The *Client for Networks Properties* window will appear. Under the *Logon Validation* box, make sure that *Log on to Windows NT domain* is checked. Enter the name of your domain into the *Windows NT Domain* box
5. *Optional*: Click on the **Access Control** tab. Make sure that *Share-level access control* is selected; do not choose *User-level access control*. If Access Control is grayed out and cannot be selected, refer to Problem 5 in the Troubleshooting section on page 46.
6. When you're done, click **OK**. When asked if you want to restart your PC, choose to do so.

The Microsoft Client portion of the Windows setup is complete.

Novell NetWare 3.x Client Setup for Windows 98

The instructions below explain how to set up the regular Novell NetWare 3.x client for use on a Windows 98 PC.

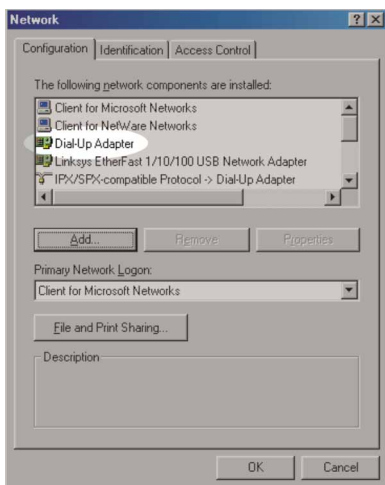
1. Follow the Windows 98 setup instructions.
2. Start up Windows 98. Click on **Start, Settings**, then **Control Panel**. Double-click on **Network**. The Network window appears. Click on the **Configuration** tab.
3. In the Primary Logon Box, choose *Client for NetWare Networks*. If you don't see this option, refer to page 34 to install this component.
4. Under the *The following network components are installed* box, highlight *Client for NetWare Networks* and click on the **Properties** button.
5. The *Client for NetWare Networks Properties* window appears. Under the **General** tab, enter the name of your network's Preferred Server. *Assign the First Network Drive Letter*; the default is F. Make sure the **Enable** logon script processing is checked.
6. Click **OK**. Click on the **Access Control** tab. Make sure the *Share-level access control* option is selected; do not select *User-level access control*.
7. When you're done, click **OK** to restart your computer.

The NetWare Client portion of your Windows setup is complete.

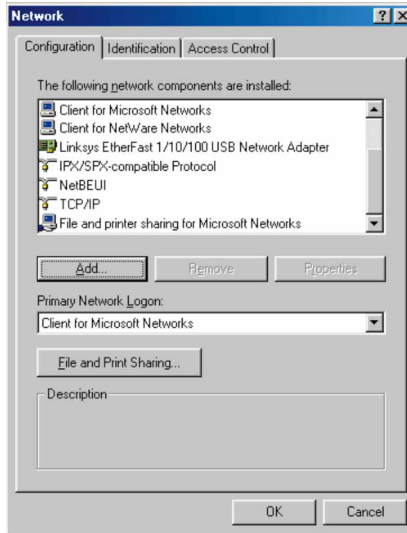
Starting Over in Windows 98

If you experience installation difficulties, you may need to re-install all of the Windows networking components from scratch. The instructions below explain how to give your PC a clean sweep so that you can retry the USB Network Adapter's software installation.

1. At the desktop click on the **Start** Button, highlight **Settings**, click on **Control Panel**.
2. Double-click on the **Network** Icon.
3. If the Configuration box has a component called Dial-Up Adapter, skip forward to step 5. If it doesn't, continue with step 4.

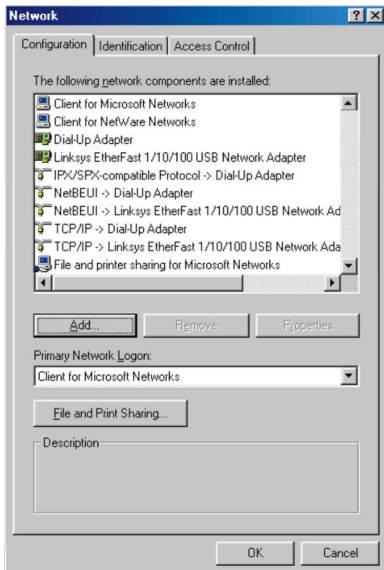


4. Remove any instance of the name Linksys in the box. This includes *IPX/SPX...Linksys*, *NetBEUI...Linksys*, and *TCP/IP...Linksys*. Also remove *Client for Microsoft Networks*, *Client for NetWare Networks*, and *File and Printer Sharing for Microsoft Networks*.



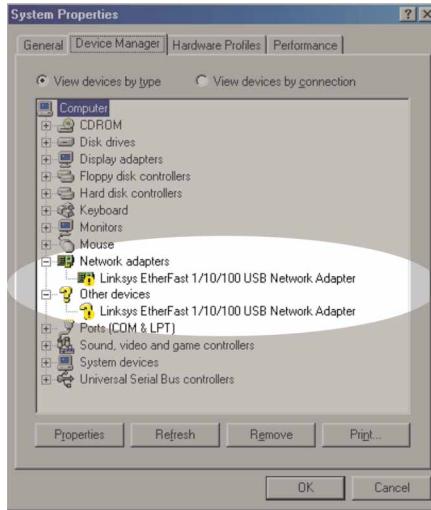
In some cases, removing one of these components may in turn automatically remove other components as well. If this happens, skip ahead to step six.

- For PCs with Dial-Up Networking and/or an AOL adapter, remove any instance of the name Linksys, all IPX/SPX protocols, all NetBEUI, all Clients, and File and Printer Sharing for Microsoft Networks. Do **not** remove *Dial-Up Adapter*, *AOL Adapter*, *TCP/IP-Compatible Protocol-AOL Adapter* or *TCP/IP-Compatible Protocol-Dial-Up Adapter*.



- When you have completed the removal of all unnecessary components, click **OK**. When asked to restart, click **No**.
- Return to the Windows Control Panel. Double-click on the **System** Icon. The System Properties window will appear. Click on the **Device Manager** Tab.

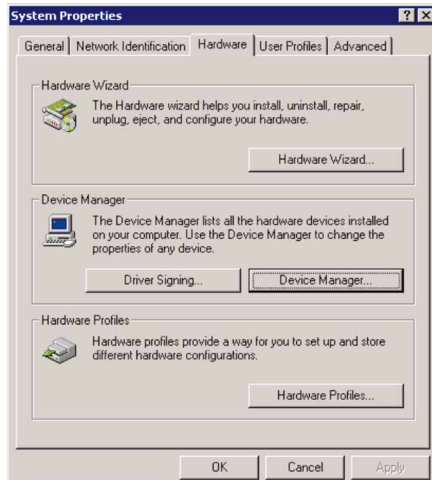
8. If **Network Adapters** is listed, then expand it by clicking on the **plus** [+]
sign and remove all devices with the name Linksys in its description. (If
at any point you are asked to restart the computer, click **No**).



9. If **Other Devices** is listed, click the **plus** [+]
sign beside it. Remove *Linksys EtherFast 1/10/100 USB Network Adapter*.
10. Click the **OK** button, shut down Windows, and restart your computer.
11. After your computer has restarted, turn to page 9 for Windows 98 and follow the setup instructions.

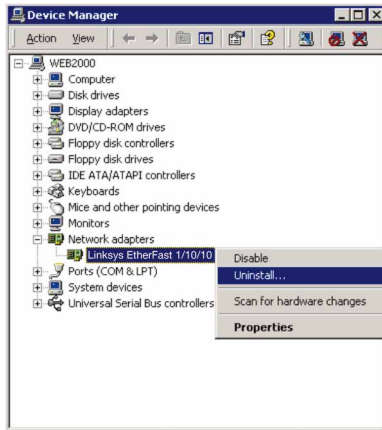
Starting Over in Windows 2000

1. Click the **Start** button, choose **Settings**, choose **Control Panel**, then double-click the **System** icon. The *System Properties* window will open.
2. Choose the **Hardware** tab.



3. Click the **Device Manager** button. The *Device Manager* window will open.
4. Click the **plus sign (+)** beside *Network Adapters*. The *Linksys EtherFast 1/10/100 USB Network Adapter* listing should appear.

5. Right-click on **Linksys EtherFast 1/10/100 USB Network Adapter**. A context menu should open (see the example below).



6. First, choose **Disable**.
7. When asked if you want to disable the device, click **Yes**.



8. Right-click on the **Linksys EtherFast 1/10/100 USB Network Adapter** again. This time, select **Uninstall...** Click **OK**.



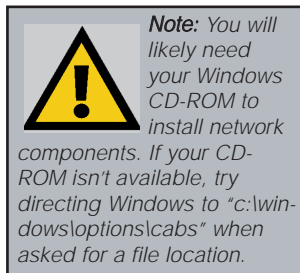
9. The *Network Adapters* category should no longer be listed.
10. Click the **OK** button, restart your computer, and go to page 20 to install the Windows 2000 drivers.

Manually Installing Network Components in Windows 98

There may be times when you will need to manually install missing Windows networking components.

1. Click on **Start, Settings**, then **Control Panel**.
2. Double-click the **Network** icon. The Network window appears.
3. Click the **Configuration** tab. Make sure that the following network components are installed.

- *Client for Microsoft Networks*
- *Linksys EtherFast 1/10/100 USB Network Adapter*
- *IPX/SPX-compatible Protocol*
- *NetBEUI*
- *TCP/IP*



There may be other components listed in addition to the ones shown above. If any of the above components are missing, add them as follows.

Client for Microsoft Networks

If you plan on connecting to an NT file server or peer-to-peer network, click on the **Add** button. Highlight *Client* and click on **Add**. Choose **Microsoft** as the manufacturer in the Network Client box. Highlight *Client for Microsoft Networks* and click **OK**. The computer will begin copying files to your system. When the installation is complete, you will be asked if you want to reboot. Click **OK**.

Client for NetWare Networks

If you plan on connecting to a Novell NetWare server (3.x), click on the **Add** button. Highlight *Client* and click **Add**. In the Network Client window, select *Manufacturer* and choose **Microsoft**. Highlight *Client for Microsoft Networks*. Click **OK**. The computer will begin copying files to your system. When the installation is complete, you will be asked if you want to reboot. Click **OK**.

IPX/SPX-compatible Protocol

Click the **Add** button. Choose *Protocol* and click the **Add** button. Select *Manufacturer* and choose **Microsoft**. Under the Network Protocol box, highlight *IPX/SPX-compatible protocol*. Click **OK**. The computer will begin copying files to your system. When the installation is complete, you will be asked if you want to reboot. Click **OK**.

NetBEUI

Click the **Add** button. Select *Protocol*, then click **Add**. Under *Manufacturer*, highlight **Microsoft**. Under *Network Protocol*, highlight **NetBEUI**. Click **OK**. The computer will begin copying files to your system. When the installation is complete, you will be asked if you want to reboot. Click **OK**.

TCP/IP

Click the **Add** button. Select *Protocol*, then click **Add**. Under *Manufacturer*, highlight **Microsoft**. Under *Network Protocol*, highlight **TCP/IP**. Click **OK**. The computer will begin copying files to your system. When the installation is complete, you will be asked if you want to reboot. Click **OK**.

Linux, Open Source and Beta Operating Systems

Linksys does not provide technical support for **Linux**, **BSD**, or other freeware and open source operating systems. Although many Linksys products have been proven to perform well under Linux and other freeware OSes, technical support for setup and troubleshooting is not provided. For information on where to find device drivers and setup instructions for Linux and other freeware OSes, visit the support pages and FAQ files on the Linksys website at **www.linksys.com**.

Linksys does not provide technical support for Beta operating systems.

Twisted-Pair Cabling

There are different grades, or categories, of twisted-pair cabling. Category 5 is the most reliable and is highly recommended. Category 3 is a good second choice. Straight-through cables are used for connecting computers to a hub. Crossover cables are used for connecting a hub to another hub (there is an exception: some hubs have a built-in uplink port that is crossed internally, which allows you to link or connect hubs together with a straight-through cable instead).

RJ-45 Color Chart

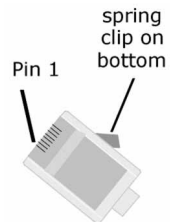
- Wire 1** → **White with an Orange Stripe**
- Wire 2** → **Orange**
- Wire 3** → **White with a Green Stripe**
- Wire 4** → **Blue**
- Wire 5** → **White with a Blue Stripe**
- Wire 6** → **Green**
- Wire 7** → **White with a Brown Stripe**
- Wire 8** → **Brown**

straight-through cable		crossed cable	
Wire	Becomes	Wire	Becomes
1	→ 1	1	→ 3
2	→ 2	2	→ 6
3	→ 3	3	→ 1
6	→ 6	6	→ 2

You can buy pre-made Category 5 cabling, or cut and crimp your own. Category 5 cables can be purchased or crimped as either straight-through or crossover. Inside a Category 5 cable are 8 thin, color-coded wires inside that run from one end of the cable to the other. All 8 wires are used. In a straight-through cable, wires 1, 2, 3, and 6 at one end of the cable are also wires 1, 2, 3, and 6 at the other end. In a crossover cable, the order of the wires change from one end to the other: wire 1 becomes 3, and 2 becomes 6. See the diagrams on the

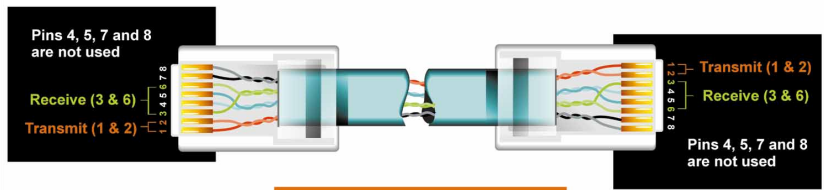
next page for more detailed information on straight-through and crossover cabling.

To determine which wire is wire number 1, hold the cable so that the end of the plastic RJ-45 tip (the part that goes into a wall jack first) is facing away from you. Face the clip down so that the copper side faces up (the springy clip will now be parallel to the floor). When looking down on the copper side, wire 1 will be on the far left.



Crimping Your Own Network Cables

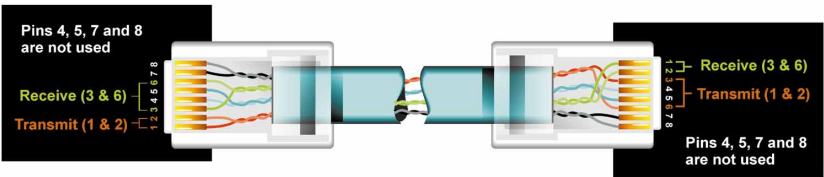
• Straight-Through Cabling



Pin number	Wire Color
Pin 1 ==>	Orange/White
Pin 2 ==>	Orange
Pin 3 ==>	Green/White
Pin 4 ==>	Blue
Pin 5 ==>	Blue/White
Pin 6 ==>	Green
Pin 7 ==>	Brown/White
Pin 8 ==>	Brown

Straight-Through		
Wire		Becomes
1	→	1
2	→	2
3	→	3
6	→	6

• Cross-Over Cabling



Pin number	Wire Color
Pin 1 ==>	Orange/White
Pin 2 ==>	Orange
Pin 3 ==>	Green/White
Pin 4 ==>	Blue
Pin 5 ==>	Blue/White
Pin 6 ==>	Green
Pin 7 ==>	Brown/White
Pin 8 ==>	Brown

Crossed-Over		
Wire		Becomes
1	→	3
2	→	6
3	→	1
6	→	2

Telephone Cabling

The telephone cables you use can be either crossover or straight-through cables. Standard telephone cables like the ones you use everyday in your home should do the job.



Specifications

Model Number:	USB100H1
Standards:	IEEE 802.3 IEEE 802.3u, HPNA 1.1, USB v1.0 or higher
Protocol:	CSMA/CD
Ports:	1 USB Type B Port 2 RJ-11 Standard Modular Telephone Ports (With Pass-Through) 1 10BaseT/100BaseTX Auto-Sensing RJ-45 RJ-11 and RJ-45 Ports are Mutually Exclusive
Speed:	1Mbps (Phoneline), 10Mbps (Ethernet), 100Mbps (Fast Ethernet)
Cabling	
<i>Phoneline:</i>	Standard Copper Telephone Cable
<i>10/100:</i>	UTP/STP Category 5 (or better)
Topology:	Star (Ethernet and Fast Ethernet) or Daisy Chain (HomeLink)
Bus Speed:	12Mbps (Buffered) Universal Serial Bus
LED Status Lights:	Activity (ACT), HOMELINK, 10Mbps (10), 100Mbps (100)

Environmental

Dimensions:	3.8" x 2.6" x 1.2" (97 x 66 x 30 mm)
Unit Weight:	5.0 oz. (156 g)
Power:	5v Bus Powered from PC
Certifications:	FCC Class B, CE Mark (Commercial)
Operating Temperature:	32°F to 122°F (0°C to 49°C)
Storage Temperature:	-4°F to 158°F (-20°C to 70°C)
Operating Humidity:	10% to 85% Non-Condensing
Storage Humidity:	5% to 90% Non-Condensing

Customer Support

For help with the installation or operation of your HomeLink Phoneline + 10/100 USB Network Adapter, contact Linksys Customer Support at one of the phone numbers or Internet addresses below.

Customer Support	800-326-7114
	949-261-1288
Fax	949-261-8868
E-mail	support@linksys.com
Web	http://www.linksys.com
FTP Site	ftp.linksys.com



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