

**Instant Ethernet Series**

# USB Network Adapter



**User Guide**

**LINKSYS**

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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 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

Congratulations on your purchase of the **USB Network Adapter**.

Now you can connect to any 10Mbps or 10Mbps/100Mbps hub without having to install any internal cards or hardware! The USB Network Adapter from Linksys allows you to connect to a network instantly from a USB-enabled PC, notebook PC, or even a USB hub. The Plug-and-Play compatible device attaches to any Universal Serial Bus-enabled PC or hub via a USB Type B receptacle. Connect a standard Category 5 RJ-45 network cable in the other end, install the included NDIS drivers, and go. You'll be networked in no time!

The **USB Network Adapter** is bus-powered -- it draws power from the host PC and requires no external power cords. The low 500mA maximum power consumption rate is complimented by an energy-saving auto-sleep function. Compatibility with Windows 98 makes it easy for almost anyone with a USB-ready PC or notebook to connect to a 10Mbps or 10/100 network. Use it in conjunction with a USB 4-Port Hub, (Model: USBHUB04) and you can operate up to four USB devices simultaneously. The USB Network Adapter features an 8Mbps maximum throughput, easy-to-read LEDs, compact design, a 1-year limited warranty, and free world-class technical support -- all for a low price that's hard to beat.

## Here are some of the features of the USB10T

- One B-type USB Port For a Standard USB cable
- One RJ-45 10BaseT Port For a Straight-Through Category 3 or 5 Cable
- Fast 8Mbps Data Throughput with 6Mbps Burst Transfer
- Easy-to-Read Link and Activity LED Indicators
- No External Power Supply Needed
- Low Power Consumption Rate
- Auto-Sleep Mode Conserves Power and Notebook PC Battery Life
- Compact Design -- Perfect for Use with Laptops and Notebook PCs
- Fully Compatible with any USB Hub
- Plug-and-Play Compatible with Windows 98 for Easy Installation
- CE, FCC Class B Approved
- Free Technical Support on the Phone and on the Web
- Free Software Upgrades
- 1-Year Limited Warranty

## About USB

USB, which is short for **Universal Serial Bus**, is a technology designed to make connecting devices to computers easier. Originally developed in 1996 by a group of computer industry leaders that included Compaq, Digital, IBM, Intel, Microsoft, NEC, and Northern Telecom, USB is quickly becoming the first choice for users who want to add peripherals to their computers.

USB is unique because it is **Plug-and-Play**, which allows a computer to instantly recognize when a device like a keyboard, mouse, or scanner has been connected to it. Once the device has been recognized, it's ready to go. No special setup is required. Similarly, USB supports **hot swapping** - - the insertion or removal of devices while the computer is turned on. You can swap one device for another without having to power down your system or install any special software -- it really is that easy.

Another unique USB feature is its ability to allow multiple devices to be connected to a computer's single USB port. When used in conjunction with a USB Hub, like the Linksys USB 4-Port Hub, multiple devices can operate simultaneously and independent of each other, allowing easy access to an enormous array of different devices at the same time. Hubs and devices can be connected together -- you can connect up to **127 devices** to a PC's USB port.

Some of the devices that USB supports include digital cameras and scanners, joysticks, gamepads, keyboards, hard drives, mice, modems, phones, printers, speakers, and more.

## IMPORTANT DISCLAIMER

In order to use this device, you must have a copy of Microsoft Windows 98 operating system installed on your PC. Some versions of Windows 95 version B (OSR2) support USB, but the device drivers included in this package are designed specifically for Windows 98. If you do not have Windows 98, this device **will not** work.

Also, the device requires that a USB port is installed and enabled on your PC. Some PCs have a USB port, but it is disabled. Usually there is a toggle switch 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.



# Hardware Setup

Before installing the adapter, make sure you have received all of the following items. If any of the items are damaged or missing, contact your vendor for replacements:

- USB Network Adapter
- USB Cable
- User Guide and Registration Card
- Program Disk

After unpacking the adapter, follow the steps below to complete the installation.

## Connecting the USB Network Adapter

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

The adapter has two ports. One is for **RJ-45** UTP network cabling – it looks like an over-sized phone jack. The other port looks like a square hole – this is the USB B-type port.

1. Make sure your PC is powered on and that you are at the Windows 98 desktop.
2. Insert the cable's square B-type plug into the adapter's B-type port.

3. Insert the other end of the USB cable (the A-type connector) into the USB port on your PC. The adapter is now connected to your PC.

4. Connect your adapter to a 10Mbps or 10Mbps/100Mbps auto-sensing hub using Category 5 UTP RJ-45 straight-through cabling. The RJ-45 jacks should fit into the RJ-45 port on both the adapter and the hub.

**Note:** Do **NOT** connect the USB Network Adapter directly to another network card or adapter.

Remember that a 10Mbps/100Mbps dual speed network always uses **Category 5 Twisted Pair RJ-45** cabling or better. Cables of lesser quality and category will not work. Be sure that your cables are free of defects and that they do not exceed **100 meters** (328 feet) in length.

If you are connecting to a 10Mbps Ethernet, you can use Category 3 cables instead. However, it is always best to use Cat 5 Fast Ethernet cables so that you won't need to buy new cables when you upgrade to Fast Ethernet.

# Windows 98 Setup

After installing the USB Network Adapter, follow the instructions below to install the adapter's software.

1. Install the USB Network Adapter if you haven't already.
2. Start up your computer and Windows 98.
3. At this point, Windows 98 should display a "New Hardware Found" window.

If the message is not displayed, and this is the first time that you are using the device, check to make sure that the USB port on your computer is enabled. Usually, there is a toggle switch on the motherboard of your PC or a setting option in the PC's BIOS that turns the USB port on and off.

Consult your PC's user guide to learn how to enable your computer's USB port.

4. When you see the New Hardware Found message, continue on the step 5.
5. While the Update Device Driver Wizard window is visible, put the USB Network Adapter program diskette into drive A and click on **Next**. A window will appear and ask you *What would you like Windows to do?*

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

7. A window will appear asking *Where would you like Windows 98 to search for the driver?* Make sure that *Floppy disk drive* is selected and that **a:\** is specified in the location window. Click **Next** to continue.

8. Windows will begin searching your drives for the correct device drivers. If a message appears that reads *Windows found the following updated driver for this device*, go to step 9.

If a window appears that reads *Windows was unable to locate the driver for this device*, skip to problem 2 of the Troubleshooting section.

9. After Windows detects the proper network adapter device driver on the disk, click on the **Finish** button when it appears.

10. When the Insert Disk message appears, click **OK**.

11. When the *Copying Files...* window appears, type **a:\** into the box displayed and click **OK**. Note that all of the files that Linksys provides begin with the name **USB10T**. If at any time Windows asks you to supply any other files, insert the Windows 98 CD-ROM or disks as needed, direct Windows to the proper location, and click **OK**.

For example, if you have a Windows 98 CD-ROM, and it is located in drive D, you would type **d:\win98** and press **Enter** when asked to supply the path to the CD-ROM.

12. Windows will finish copying all the necessary files to your system. When asked if you want to restart your computer, click **No**. This window may not appear, depending on your computer's configuration. If it doesn't, just move on to the next step.

13. Once you are back at the Windows 98 desktop, click on the **Start** button. Click on **Settings**, then **Control Panel**.

14. Double-click on the **Network** icon. The Network window will appear.

15. Click on the **Configuration** tab. Make sure that the following network components are installed:



**Client for Microsoft Networks**  
**Client for Netware Network**  
**Linksys USB-Network Adapter**  
**IPX/SPX-compatible Protocol**  
**NetBEUI**

There may be other components listed in addition to the ones shown above. However, if any components shown above are missing, you'll need to install them manually. Follow the instructions on page 20.

16. In the Primary Network Logon box, select *Client for Microsoft Networks*.

17. Click on the **Identification** tab.



Type the name of your PC in the **Computer name** box. Make up a name that is unique from the other computers' names on the network. You can call it anything you'd like, (eg: Tardis, JoePC, etc.).

18. Type the name of your workgroup in the **Workgroup** box. The name you type should be the same workgroup name in use by all of the other PCs on the network. The Workgroup box is case sensitive -- be sure to use the same case that is in use on your other PCs.

19. Enter a description of your PC in the **Computer Description** box. This box is optional.

20. Click on the **Access Control** tab.



Make sure 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 5 in the Troubleshooting section.

21. Click on the **OK** button. Your system may or may not ask you to insert your Windows 98 CD-ROM or Diskette. If it does, insert your disk into the proper drive and direct Windows to it.

22. Once Windows is done copying the necessary files, the System Settings Change window appears. Remove all disks from your computer and click on **Yes** to restart your PC. If you don't see this window, simply close down Windows 98 and restart your computer.

The driver installation is complete.

23. Once the computer has restarted and Windows is up, a Logon window will appear requiring you to enter a username and password. Make up a username and password, enter them, and click **OK**.

Do not click the **Cancel** button, or you won't be able to log onto the network. If the logon window does not appear or if it does not allow you to log on, refer to the problem number 3 in the troubleshooting section.

24. Once you are at the Windows 98 desktop, double-click on the **Network Neighborhood** icon. You should see the names of the other PCs on the



network that have enabled file and printer sharing. When you're finished, if you still need to set up file and printer sharing so your PC shows up in Network Neighborhood, proceed to the Enabling File & Printer Sharing section.

If you don't see anything at all, press the **F5** key a few times on your keyboard to refresh the screen.

If you only see your computer in Network Neighborhood, skip to problem 6 in the Troubleshooting section.

If you see all computers on the network except yours, and the other PCs can't see your computer, see the Troubleshooting section.

## **Enabling File and Printer Sharing in Windows 98**

File and printer sharing in Windows 98 allows you to share files or printers that are on your computer with other PCs on the network. If you don't enable file or printer sharing, your PC will be "invisible" to all of the other PCs on the network, (even yourself).

1. To set up sharing for the first time on a computer, click on **Start, Settings, Control Panel**, then double-click on **Network**.

Click on the **Configuration** tab, followed by the **File and Printer Sharing** button. The File and Printer 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 on the **OK** button. *File and Printer Sharing for Microsoft networks* should now appear in the list of installed components. Click **OK**. When asked to restart your PC, choose to do so.

2. After following the preparation instructions, double-click on your **My Computer** icon. A window of available disk drives will appear. Using your right mouse button, click once on the drive or folder that you want to make available to other users. Click on **Sharing**, followed by the **Sharing** tab. Click on **Share As**. In the Share Name box, enter a name for the drive or folder you are sharing, (eg: C-Drive, CD-ROM, Leela, etc.).

Next, decide on the type of access that you want to give other users:

- **Read-Only** access lets other users view the files on your PC.
- **Full** access lets users create, change, or delete files on your PC.
- **Depends on Password** lets users have Read-Only and/or Full access, depending on the password that you decide to give them.

Use your mouse to select the type of file sharing access that you want other users to have. If you

want to assign access password(s), type them into the Password box(es).

3. When you're done, click on the **Apply** button, followed by **OK**. Your drive(s) or folder(s) can now be accessed from other users whenever they click on their Windows **Network Neighborhood** icons. If a user tries to access one of your drives that's password-protected, he or she will be asked for the appropriate Read-Only or Full access password.

4. To share your printer(s), 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 share with other users. Click on **Sharing**, followed by the **Sharing** tab. Click on **Share As**. In the Share Name box, give a name to the printer you're about to share (Jack's HP4, for example).

If you want to assign a password to the printer so only certain users can access it, type a password in the Password box. When you're done, click on the **Apply** button, followed by **OK**.

Your printer(s) is now shared. When you're finished, restart your PC, log into your network. The setup is complete.

**Note:** Some printers may not be networkable or may require extra setup steps or software. Refer to the printer's user guide or contact the manufacturer if you are unsure.

# Troubleshooting

Troubleshooting hints for Windows 98 can be found below. The USB10T is not compatible with any other operating system. Please see the disclaimer on page 4.

## Troubleshooting Hints for Windows 98

Problem 1: *Windows 98 doesn't detect new hardware with the USB Adapter hardware installed, or it continues to detect the adapter each time you restart your PC.*

### Solutions

You might not have installed the USB adapter correctly. Check that the USB cable and RJ-45 cable are securely inserted into the appropriate ports.

You may have previously aborted a new hardware setup. Reinstall the hardware.

The motherboard in your system might not be USB enabled, your PC's USB settings may not be enabled, or the motherboard may have USB options not supported by Windows 98. Your PC's USB port may not be supplying the Ethernet Adapter with a sufficient amount of power.

If you are not sure, consult your PC user guide or contact your PC's manufacturer.

Problem 2: *Windows 98 can't locate the driver for the USB Adapter device.*

Solutions

You may have inserted the wrong diskette into your PC's drive.

The diskette may be defective or files may be missing. Make sure the disk has files called USB10T.INF and USB10T.SYS on it.

Problem 3: *The Windows Logon screen doesn't appear after you restart your computer.*

Solutions

Click on **Start, Logoff**. If this doesn't solve the problem, your PC's manufacturer may have disabled 98's networking. Contact your computer's manufacturer for help.

Problem 4: *After entering a username and password, a window appears that reads, "No Domain Server could be found to validate your Username and Password."*

Solution

Click on **Start, Settings, Control Panel**. Double-click on **Network**. Click on the **Configuration** tab. Under **The Following Network Components are Installed** box, highlight **Client for Microsoft Networks** and click on the **Properties** button. Once you are in the Client For Microsoft Networks **Properties** window, make sure that Log on to Windows NT Domain is Unchecked. Once

you have made sure that it is Unchecked click on the **OK** button.

*Problem 5: On the Access Control Tab, User Level Access is selected, but Shared Level Access is grayed out and not accessible.*

### Solutions

You previously had your primary network logon set to Client for Netware Networks. On the Configuration Tab of the Network Properties window, make sure that your primary network logon is set to **Client for Microsoft Networks**.

*Problem 6: In Network Neighborhood you can only see your self and no other computers on the network.*

### Solutions

Make sure that the cables are connected correctly. Make sure you are getting Link or Activity lights on the USB adapter and a Link light on your hub or switch. If the lights are out, try changing to a new USB or RJ-45 cable that you know is working.

Your hub must be a 10BaseT or 10/100 auto-sensing hub, or you must use a switch.

Your workgroup name may be different from other computers on your network. Make sure each PC on the network is using the same workgroup name.

**Problem 7:** *In Network Neighborhood, you can see all other computers on the network but not yourself, and all other computers can see each other and not your computer.*

**Solutions**

You may not have enabled File and Printer Sharing. Please see the File and Printer Sharing section of guide.

The USB Adapter might not be setup properly. Try reinstalling the adapter.

**Problem 8:** *Network Neighborhood is Empty.*

**Solutions**

Verify that your Microsoft Client is installed. See the Windows 98 setup instructions in this guide for directions.

**Problem 9:** *You receive DHCP Errors in 98.*

**Solutions**

Remove the TCP/IP component from Windows 98's networking. To do this, click on **Start**, **Settings**, **Control Panel**, then double-click on **Network**. Click once on the component entry with the word TCP/IP in it, then click on the **Remove** button. Click **OK** when finished. If the problem persists, contact your network administrator or refer to your Windows 98 documentation. Linksys does not provide technical support for the installation, setup, or troubleshooting of the TCP/IP protocol.

Problem 10: *LEDs on the adapter flash back and forth in rhythm.*

### Solutions

Driver for the USB network adapter has not been installed properly. You must re-install the drivers.

Problem 11: *On some notebook PCs, the USB Network Adapter fails to configure correctly after the drivers have been loaded.*

After loading the software drivers, it may be necessary to do the following:

1. Log off and unplug the device from your PC's USB port
2. Turn off your PC.
3. Plug the device back in and then reboot.
4. Log on as a different user after the PC reboots.



# Manually Installing Network Components

There may be times when you might need to manually install missing Windows 98 networking components.

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

*Client for Microsoft Networks*  
*Client for NetWare Network*  
*Linksys USB-Network Adapter*  
*IPX/SPX-compatible Protocol*  
*NetBEUI*

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**. In the Network Client box, highlight *Client for Microsoft Networks* and click **OK**.

## Client for Netware Networks

If you plan on connecting to a Novell NetWare workstation, click on the **Add** button. Highlight *Client* and click on **Add**. In the Network Client window, select *Manufacturer* and choose **Microsoft**. Highlight *Client for NetWare Networks* on the right, then click **OK**.

## IPX/SPX-compatible Protocol

Click on the **Add** button. Choose *Protocol* and click on the **Add** button. Select *Manufacturer* and choose **Microsoft**. Under the Network Protocol box, highlight *IPX/SPX-compatible protocol*. Click **OK**. If you have a Dial-Up or AOL adapter installed, remove the *IPX-SPX-Compatible protocol* for Dial-Up or AOL

## NetBEUI

Click on the **Add** button. Select *Protocol*, then click on **Add**. Under *Manufacturer*, choose **Microsoft**. Under Network Protocol, highlight *NetBEUI*. Click **OK**. If you have a Dial-Up adapter installed, remove the *NetBEUI for Dial-Up Adpater* protocol.

4. If you were referred to this section by the Windows setup instructions, please return to the setup now on page 7 and continue following the instructions.

**Note:** For the installation, setup, and troubleshooting of the TCP/IP protocol, contact your system administrator or refer to your Windows 98 documentation. Linksys does not provide technical support for the TCP/IP protocol.

# Specifications

<b>Standards</b>	ISO8802/3, IEEE 802.3 (10BaseT), USB Spec. v 1.0
<b>Transfer Rate</b>	10BaseT Half Duplex 8Mbps
<b>LEDs</b>	Link, Activity
<b>Ports</b>	1 USB Type B port 1 10BaseT RJ-45 port
<b>Cabling</b>	
<b>Network</b>	UTP/STP Category 3 or 5 100 Meters (328 feet) Max.
<b>USB</b>	Standard Shielded USB Cable 5 Meters (16.4 feet) Max.
<b>Power</b>	5V Bus Powered from USB Host Controller or Hub
<b>Buffer</b>	32Kb
<b>Certification</b>	FCC Class A & CE
<b>Dimensions</b>	3.2" x 2.1" x 1.0"
<b>Weight</b>	2.0 oz.

# Customer Support

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

<b>Customer Support</b>	949-261-1288
<b>Fax</b>	949-261-8868
<b>Bulletin Board</b>	949-261-2888 (33.6, 8-N-1)
<b>Email</b>	support@linksys.com
<b>Web</b>	<a href="http://www.linksys.com">http://www.linksys.com</a>
<b>FTP Site</b>	<a href="ftp.linksys.com">ftp.linksys.com</a>





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