EUT : USB Ethernet Adapter

FCC ID : MQ4USB10TA

ABOCOM SYSTEMS, INC.

USER'S MANUAL

Contents

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 Linksys 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.

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 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
- 2' 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 and 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.

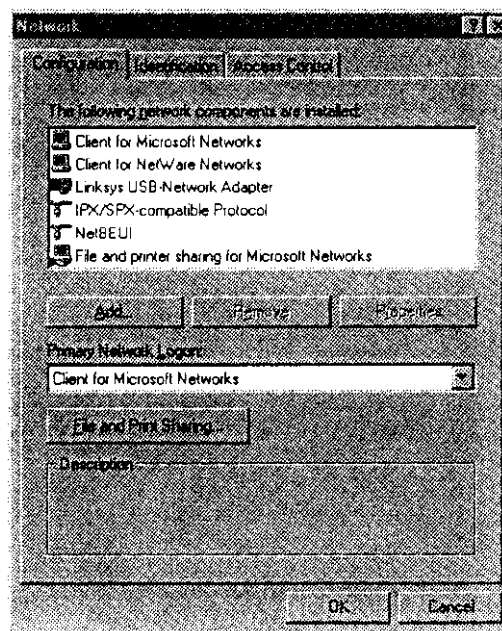2. Insert the cable's square B-type plug into the adapter's B-type port.

5. Windows will begin searching for the correct device drivers. A message will appear that reads windows found the Linksys USB Network Adapter driver. Click on **Finish**. If a window appears that reads Windows was unable to locate the driver for this device, skip to problem 2 of the troubleshooting section.

6. Windows 98 will begin copying a number of files onto your computer. If Windows asks you to supply your original Windows 98 installation or setup disks, insert the CD-ROM or disks as needed, and direct 98 to the proper location. 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. If Windows asks you to supply a file called USB10T.SYS or USB10T.INF, type A:\ in the window that comes up.

7. Windows will finish copying all of the necessary files to your system. When asked if you want to restart your computer, click **No**. Once the driver has been installed, you must make some changes to your network settings, make sure that you have all of the following component installed (click on **Start**, **Settings**, **Control Panel** and double-click on **Network**): *See the pictures on pages 10 and 11*
• **Microsoft Family Logon** (Note: Used for different user profiles, Not required)
• **Client for Microsoft Networks**
• **Client for NetWare Networks** (Note: Required only if connecting to a Novell 3.x server.)
• **Linksys USB Network Adapter**
• **IPX/SPX Compatible Protocol**
• **NetBEUI**

The following examples show what your configuration should look like. The first picture shows the configuration for the USB adapter only. The second picture shows the USB adapter and dial-up.

11. Enter a description of your PC in the Computer Description box.

12. Click on the **Access Control** tab. Make sure that "Shared-level access control" is selected. If connecting to a Netware server, share level can be set to "User-level access control." If the setting is on "User-level access control" and you can't change it, skip to problem 5 in the Troubleshooting section.

13. 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

14. 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 installation is complete.

15. 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.

16. 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, 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 & 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 Print Sharing** button. The File and Printer Sharing window will appear. *See the picture on the next page.* 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

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 3.

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. 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. Also, 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.*

Twisted Pair Cabling

There are different grades, or categories, of twisted-pair cabling. Category 5 is the most reliable and widely compatible, and is required for Fast Ethernet.

You can buy Category 5 cabling that is pre-made, or you can cut and crimp your own. Category 5 cables can be purchased or crimped as either straight-through or crossed. A Category 5 cable has 8 thin, color-coded wires inside that run from one end of the cable to the other. Only wires 1, 2, 3, and 6 are used by Ethernet networks. 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 crossed cable, the order of the wires change from one end to the other: wire 1 becomes 3, and 2 becomes 6 and vice versa.

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

The color code for the 4 wires should be as follows: **Wire 1**, white with an orange stripe; **Wire 2**, orange; **Wire 3**, white with a green stripe; **Wire 6**, green. The other four wires have to be connected as follows: **Wire 4**, blue; **Wire 5**, white with a blue stripe; **Wire 7**, white with a brown stripe, **Wire 8**, brown.

To figure out 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. Flip the clip so that the copper side faces up (the springy clip will now be parallel to the floor). When looking down on the coppers, wire 1 will be on the far left.

Specifications

Model	USB10T
Standards	IEEE 802.3 10BaseT
Transfer Rate	8Mbps Half Duplex
Ports	1 RJ-45, 1 USB B-Type Female
LED Indicators	Link, Transmit/Receive
Buffer	32K
Dimensions	2.7" X 2" X 1"
Weight	0.1 lb.
Cabling	
Hub-To-Station	UTP Category 3 or 5 (100m)
Environmental	
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Operating Humidity	10% to 85% non-condensing
Storage Humidity	5% to 90% non-condensing
Emissions and Susceptibility	FCC Part 15, Class B CE Mark, Commercial

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. If the lights are out, try changing to a new USB or RJ-45 cable that you know is working.

Your workgroup name may be different from other comput-ers 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 rein-stalling 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 network-ing. 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 Linksys technical support.
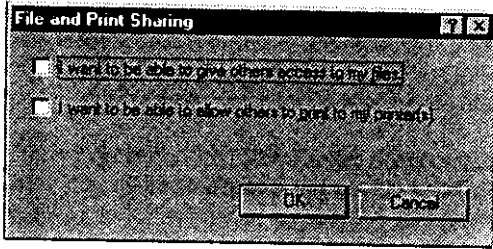
Problem 10: LEDs on the adapter flash back and forth in rhythm.

Solutions

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

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. To share files, 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 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, give your computer a name (you can call it whatever you want-- Mary's Computer, Tardis, etc.). Next, decide on the type of access that you want to give other users:
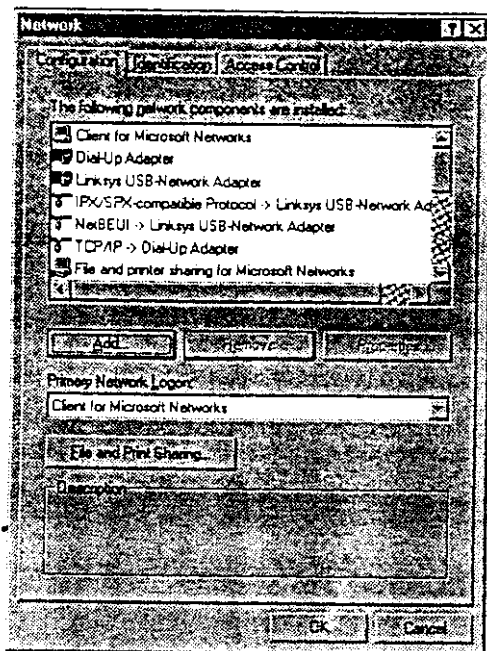
• Read-Only access lets other users view the files on your PC.

• 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) can now be accessed from other users whenever they click on their Windows 98 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: Not all printers can be shared over the network, please consult your printer's documentation or the manufacturer of the printer if you can transfer files but have problems printing over the network.

If any components are missing, use the **Add** button to add them in. All the protocols and clients required and listed above are provided by Microsoft. After you click **Add**, highlight the component you need (Client or Protocol), click **Add**, highlight Microsoft, then double click on the item you want to add.

8. If you are using a Windows NT, Windows for workgroups, Windows 95 or Windows 98 network, enable the File and Printer Sharing (see the section titled Enabling File & Printer Sharing in Windows 98 for more details) to make your computer visible on the network. If you're not using NT or Novell, change the Primary Network Logon to Windows Logon and restart your computer. However:

If you are connecting to a Novell NetWare server (version 3.11 or 3.12 only) with 98, you should do this instead:

• change the primary Network Logon to **Client for Novell Networks**.
• double-click on the **Client for NetWare Networks** next and enter the proper settings. then click OK.

9. 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.
10. 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.
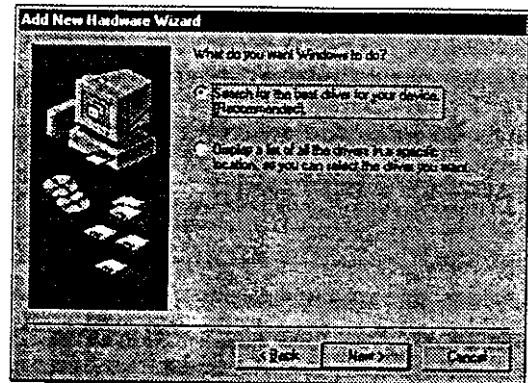
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3. Insert the other end of the USB cable (the A-type connector) into the USB port on your PC. The adapter is now connected to your PC.

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.
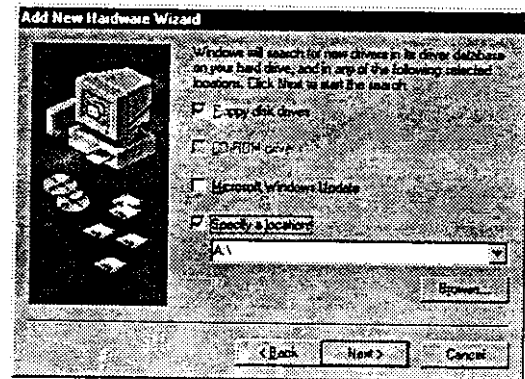
Windows 98 Setup

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. After Windows 98 has started, your PC should find the new hardware and display the 'New Hardware Wizard' window. When the hardware installation wizard comes up, insert the driver diskette for the USB Network Adapter (Program Disk) into A: drive and click **Next**. 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 that turns the USB port on and off. Consult your PC's user guide to learn how to enable your computer's USB port.

3. In the next window select Search for Best Driver for your device (Recommended) and click **Next**.

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4. Select a location and in the bottom box, type in A:\, and click **Next**.

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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 of 500mA Maximum
- Auto-Sleep Mode Conserves Power and Notebook PC Battery Life
- Compact Design -- Perfect for Use with Laptops and Notebook PCs
- Fully Compatible with Linksys USB 4-Port Hub (Model: USBHUB04)
- Plug-and-Play Compatible with Windows 98 for Easy Installation
- Extensive Use of VLSI Components for Reliability
- 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 4-Port Hub, (Linksys Model: USBHUB04), all four ports 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, virtual reality headgear and gloves, keyboards, hard drives, mice, modems, phones, printers, speakers, and more.

FEDERAL COMMUNICATIONS COMMISSION

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection. This equipment generates, uses and can radiated 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 o 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.

Shielded interface cables (except UTP cable) must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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