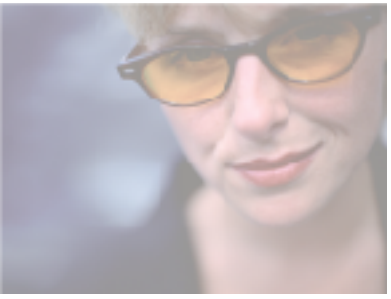
Your Gateway Computer

# Setting Up

## Your Windows Network



Setting Up | Configuring | Gateway™

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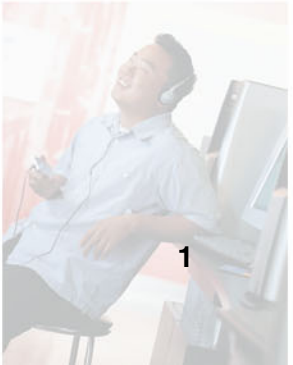
# A

# Networking Basics

Read the following chapter to learn the benefits of using a wired and wireless Ethernet network and the types of wired and wireless Ethernet networks.


- "Learning the Basics" on page 3

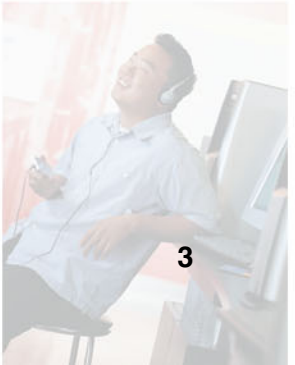



# 1 Learning the Basics

Connecting your home, small office, or home office computers lets you share drives, printers, and a single Internet connection among the connected computers.

Read this chapter to learn about:


- "Selecting a network connection" on page 4
- "Using a wired Ethernet network" on page 5
- "Using a wireless Ethernet network" on page 9

# Selecting a network connection

The biggest decision you need to make when creating your network is what type of connection you will use. Gateway supports both wired and wireless Ethernet networks. Use the following criteria as a guide when selecting a network connection.

## Wired Ethernet network

Create a wired Ethernet network if:

- You are building a new home or your existing home already has Ethernet cable installed in each room that has a device you want to connect
- You are creating a network in an office or business where network speed is more important than moving about with your computer
- Your computer has an Ethernet jack for connecting to the network

For more information, see "Wired Ethernet Networking" on page 17.

## Wireless Ethernet network

Create a wireless Ethernet (IEEE 802.11a, IEEE 802.11b, or IEEE 802.11g) network if:

- You are looking for an alternative to installing cable for connectivity
- The ability to move about with your computer is as important as network speed
- Your computer has wireless Ethernet for networking

For more information, see "Wireless Ethernet Networking" on page 49.

**Help and Support**

For more information about selecting network connections in Windows XP, click **Start**, then click **Help and Support**.

Type the keyword **networks** or **network types** in the HelpSpot **Search** box 

, then click the arrow.

# Using a wired Ethernet network

A wired Ethernet network consists of two or more computers connected together through an Ethernet cable. This connection type is commonly used in offices around the world and can be used to build computer networks in the home.

## Ethernet, Fast Ethernet, or Gigabit Ethernet

Ethernet is available at three different speeds. Standard Ethernet runs at 10 Mbps, Fast Ethernet runs at 100 Mbps, and Gigabit Ethernet runs at 1000 Mbps. Most home networks are built using Standard or Fast Ethernet components. Business networks are typically built using Fast or Gigabit Ethernet components.

To create a wired Ethernet network, you or your electrician must:

- Install special Ethernet cables in your home or office

**Important**

Check local code requirements before installing Ethernet cable or other wiring in your home or office. Your municipality may require you to obtain a permit and hire a licensed installer.

- Install an Ethernet card in each of your desktop computers (if your computers do not already have built-in Ethernet jacks)
- Install an Ethernet PC Card in each of your notebooks (if your notebooks do not already have built-in Ethernet jacks)
- Install an Ethernet *router*, *switch*, or *hub*

**Tips & Tricks**

If you are connecting just two computers (known as a peer-to-peer wired Ethernet network), you can eliminate the router, switch, or hub and use a special *crossover* cable.

# Example wired Ethernet network

The following is an example of a wired Ethernet network. The network is made up of a router, a cable or DSL modem, your computers, and cables connecting each of these components. The router is the central control point for the network. Attached to the router are all of your computers or Ethernet-ready devices. Also connected to the router is a cable or DSL modem that provides access to the Internet.


**Tips & Tricks**

To add the ability to access a wireless Ethernet network to your wired Ethernet network, connect an access point to the router, switch, or hub. For more information about accessing a wireless Ethernet, see “Using a wireless Ethernet network” on page 9.

# Equipment you need for a wired Ethernet network

For a wired Ethernet network you need:

- An Ethernet jack on each desktop computer, notebook, and tablet PC.

  - OR -

  An Ethernet card (also called network interface cards or NICs) installed in each desktop computer.

  - OR -

  An Ethernet PC Card installed in each notebook.

- An Ethernet router. Select a router that gives you the following features:
  - A jack for connecting to a cable or DSL modem.
  - The ability to assign IP addresses to your network computers dynamically. This prevents intruders from seeing the computers over the Internet.
  - A built-in *firewall* to protect the computers on your network from intruders trying to access your data over the Internet.
  - Built-in switching (with enough ports for all computers and devices on the network) so you will not have to purchase a hub or switch.
- If you did not purchase a router that includes built-in switching or if the router does not have enough ports to attach all your computers, an Ethernet hub or switch with enough ports for all computers and devices in the network.
- Ethernet cable going from each computer to the router, hub, or switch.

**Important**

For best results, all Ethernet components should be either standard Ethernet (10 Mbps), Fast Ethernet (100 Mbps or 10/100), or Gigabit Ethernet (1000 Mbps or 10/100/1000). A mixture of components rated at different speeds will result in your network running at the speed of the slowest rated component.

# Setting up a wired Ethernet network

To set up a wired Ethernet network, read the following chapters:

- “Creating a Wired Ethernet Network” on page 19
- “Configuring Windows for a Wired Network” on page 29
- “Sharing Your Resources” on page 131

# Using a wireless Ethernet network

A wireless Ethernet network is ideal for creating a home or office network or adding mobility to an existing wired Ethernet network. A wireless Ethernet network allows you the freedom to move about your home or office with your notebook or tablet PC. For example, you can take your notebook or tablet PC from your home office to your patio without having an Ethernet jack available.

**Warning**

Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. IEEE 802.11a, IEEE 802.11b, and IEEE 802.11g communication devices are examples of devices that provide wireless communication. For information, see "Turning Your Wireless Emitter On or Off" on page 125.

**Important**

If your computer came equipped with an internal radio frequency wireless device, see "Safety, Regulatory, and Legal Information" in your user's guide for general wireless regulatory and safety guidelines. To find out if your computer has an internal wireless device, check the device manager. For more information, see "To determine which wireless adapter is installed in your computer:" on page 52.

# Wireless Ethernet speed and frequency

Wireless Ethernet is available at two different speeds and at two different frequencies. The following table compares the various wireless Ethernet network types.

| Network Type | Speed | Frequency | Advantages | Disadvantages |
|---|---|---|---|---|
| IEEE 802.11a | 54 Mbps | 5 GHz | Less possible interference than IEEE 802.11b and IEEE 802.11g | ▪ Shorter range (25 to 75 feet) than IEEE 802.11b and IEEE 802.11g<br>▪ Not compatible with IEEE 802.11b or IEEE 802.11g networks |
| IEEE 802.11b | 11 Mbps | 2.4 GHz | ▪ Large number of access points already exist in airports, college campuses, and businesses<br>▪ Compatible with IEEE 802.11g networks<br>▪ Longer range (100 to 150 feet) than IEEE 802.11a | ▪ Possible interference from cordless phones and microwaves<br>▪ Not compatible with IEEE 802.11a networks |
| IEEE 802.11g | 54 Mbps | 2.4 GHz | ▪ Compatible with IEEE 802.11b networks<br>▪ Longer range (100 to 150 feet) than IEEE 802.11a | ▪ Possible interference from cordless phones and microwaves<br>▪ Not compatible with IEEE 802.11a networks |

**Important**

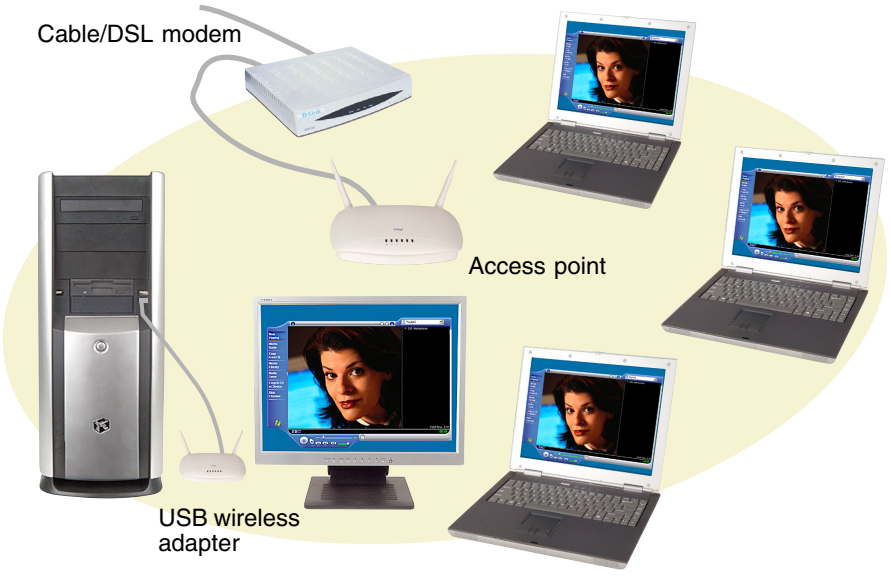
The speed of a wireless network is related to signal strength. Signal strength is affected by the distance between your wireless network devices, by radio interference, and by interference from natural obstructions such as walls, floors, and doors.

The two most common ways to set up a wireless Ethernet network are access point and peer-to-peer.

# Example access point wireless Ethernet network

By using an *access point*, you can join a wireless Ethernet network and access a wired Ethernet network. The following example shows how an access point also lets you access the Internet.

The following is an example of an access point wireless Ethernet network. The network is made up of an access point, a cable or DSL modem, and your computers. The access point is the central control point for the network. Attached to the access point is the cable or DSL modem that provides access to the Internet. Each of the computers or Ethernet-ready devices communicate with the access point using radio waves. If your computer does not have built-in wireless Ethernet capabilities, you need to add a wireless PCI card (desktop), PC card (notebook), or USB adapter.




**Tips & Tricks**

If you want to access a wired Ethernet network from your wireless Ethernet computers, connect an access point to the router, switch, or hub. For more information about accessing a wired Ethernet, see "Using a wired Ethernet network" on page 5.

# Equipment you need for an access point wireless Ethernet network

For an access point wireless Ethernet network you need:

- A wireless Ethernet PCI card installed in each desktop computer

  - OR -

  A wireless Ethernet USB adapter attached to each desktop or notebook computer

  - OR -

  A notebook or tablet PC with wireless Ethernet built-in

  - OR -

  A wireless Ethernet PC Card installed in each notebook that does not have wireless Ethernet built-in

- A wireless Ethernet access point to connect your wireless Ethernet network to the Internet or a wired Ethernet network

**Important**

IEEE 802.11b and IEEE 802.11g use the same radio frequency. IEEE 802.11a uses a different radio frequency than IEEE 802.11b and IEEE 802.11g. All wireless Ethernet components must use the same frequency. A combination of IEEE 802.11a and IEEE 802.11b or IEEE 802.11a and IEEE 802.11g components will not work. Some wireless devices can broadcast and receive signals on both frequencies.

A mixture of IEEE 802.11b and IEEE 802.11g components will result in your network running at the speed of the slower IEEE 802.11b components.

# Setting up an access point wireless Ethernet network

To set up an access point wireless Ethernet network, read the following chapters:

- "Configuring Windows for a Wireless Network" on page 51
- "Creating a Wireless Access Point Network" on page 71
- "Turning Your Wireless Emitter On or Off" on page 125
- "Sharing Your Resources" on page 131

# Example peer-to-peer wireless Ethernet network

Use a peer-to-peer (also known as ad hoc) wireless Ethernet network if you are setting up or joining a temporary computer-to-computer network. This type of network does not include access into a wired network or the Internet. You can create this type of network to quickly move files from one computer to another.

# Equipment you need for a peer-to-peer wireless Ethernet network

For a peer-to-peer wireless Ethernet network you need:

- A wireless Ethernet PCI card installed in each desktop computer

  - OR -

  A wireless Ethernet USB adapter attached to each desktop or notebook computer

  - OR -

  A notebook or tablet PC with wireless Ethernet built-in

  - OR -

  A wireless Ethernet PC Card installed in each notebook that does not have wireless Ethernet built-in

# Setting up a peer-to-peer wireless Ethernet network

To set up a peer-to-peer wireless Ethernet network, read the following chapters:


- "Configuring Windows for a Wireless Network" on page 51
- "Creating a Peer-to-Peer Wireless Network" on page 99
- "Turning Your Wireless Emitter On or Off" on page 125
- "Sharing Your Resources" on page 131

# For more information

For more information about purchasing equipment for your home or office Ethernet network, discuss your particular needs with your Gateway store representative. In addition, several books and Internet sites are dedicated to networking. See these sources for more information about networking your home or office with wired or wireless Ethernet.

**Help and Support**

For more information about networking in Windows XP, click **Start**, then click **Help and Support**.

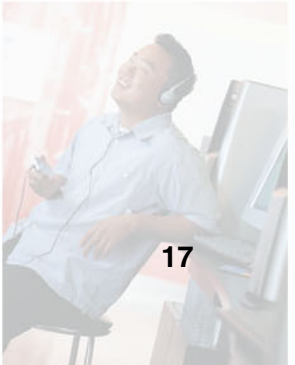
Type the keyword **networking** in the HelpSpot **Search** box Search , then click the arrow.

# B

# Wired Ethernet Networking

Read the following chapters to learn how to set up and use a wired Ethernet network.


- "Creating a Wired Ethernet Network" on page 19
- "Configuring Windows for a Wired Network" on page 29

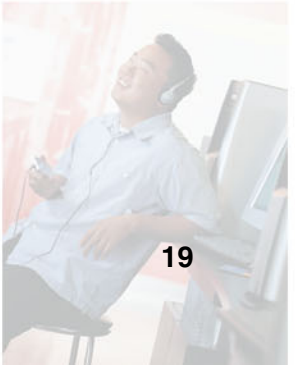



# 2

# Creating a Wired Ethernet Network

This chapter describes how to set up the hardware for a wired Ethernet network. Read this chapter to learn about:


- "Determining if your computer has wired Ethernet already installed" on page 20
- "Installing Ethernet cards and drivers" on page 20
- "Setting up a peer-to-peer wired Ethernet network" on page 22
- "Setting up a network using a hub or switch" on page 23
- "Setting up a network using a router and optional hub or switch" on page 25

# Determining if your computer has wired Ethernet already installed

Many Gateway computers are shipped with wired Ethernet built in.

### To determine if wired Ethernet is already installed on your computer:

1. In Windows XP, click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Performance and Maintenance**.

   -OR-

   In Windows 2000, click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.

2. Click/Double-click **System**, click the **Hardware** tab, then click **Device Manager**. The *Device Manager* window opens.

3. Click the plus (+) in front of **Network adapters**. The wired Ethernet card installed in your computer is listed. If one is not listed, you must install one.

# Installing Ethernet cards and drivers

If you have decided to use wired Ethernet for your network and your computers do not have wired Ethernet already installed, you need to install the necessary cards and drivers in your computers. To order Ethernet PCI or PC cards, visit the Accessories Store at accessories.gateway.com.

Use the documentation that comes with your Ethernet cards for instructions on installing the card.

# Setting up the hardware

If you are setting up a:

- Peer-to-peer network using two computers, see "Setting up a peer-to-peer wired Ethernet network" on page 22.
- Network using a hub (with no shared access to the Internet), see "Setting up a network using a hub or switch" on page 23.
- Network using a hub and a router (with shared access to the Internet), see "Setting up a network using a router and optional hub or switch" on page 25.

We recommend, and describe, the use of category 5, unshielded, twisted-pair cable (approximately 1/4" in diameter with a thin outer-jacket, containing eight color-coded wires), and equipment compatible with this type of cable. This type of cable is equipped with RJ-45 connectors (like a large telephone jack connector, but with eight pins) on each end.

**Important**

Category 5 cables are available in two different types; straight-through cables, used to connect computers to a hub, and crossover cables, used to connect two computers or two hubs.

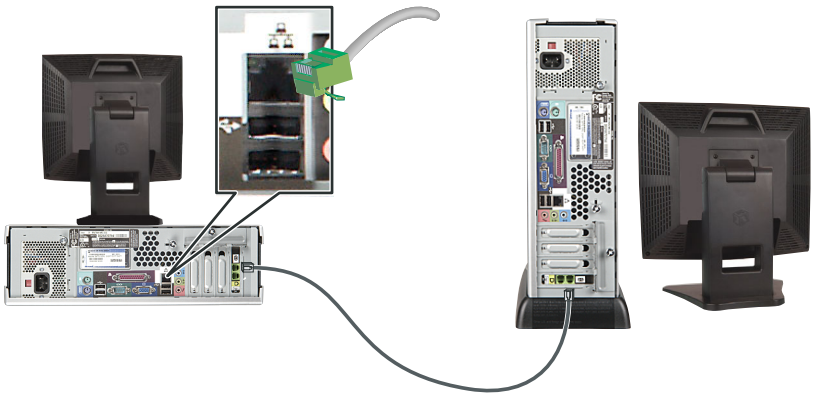
To determine which type of cable you have, hold both ends of the cable with the connectors facing away from you and with the spring clip on the bottom. For straight-through cable, the wires on both connectors are attached to copper pins in the same order (same colors, left to right). For a crossover cable, the wires on each connector are attached to the copper pins in a different order (different colors, left to right).

# Setting up a peer-to-peer wired Ethernet network

Setting up a peer-to-peer network requires only two computers, with wired Ethernet available on each computer, and a single crossover cable. Use this type of network if you are setting up a temporary network to transfer files from one computer to another.

## To set up a peer-to-peer network:

- Connect the ends of a network crossover cable to the network ports on both of the computers.

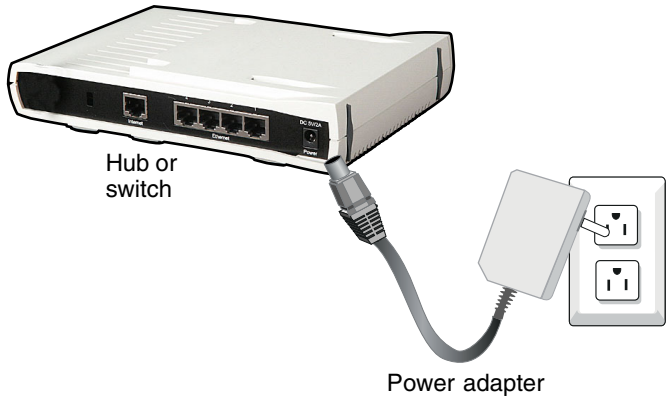


# Setting up a network using a hub or switch

If you are setting up a network with more than two computers and your network does not access the Internet, you need a hub or switch. A hub or switch has ports that allow four, eight, or more computers to be connected to the same network. The hub or switch allows the computers to communicate on the network. In addition to a hub or switch, you need a straight-through cable for each computer you want to connect to the network.

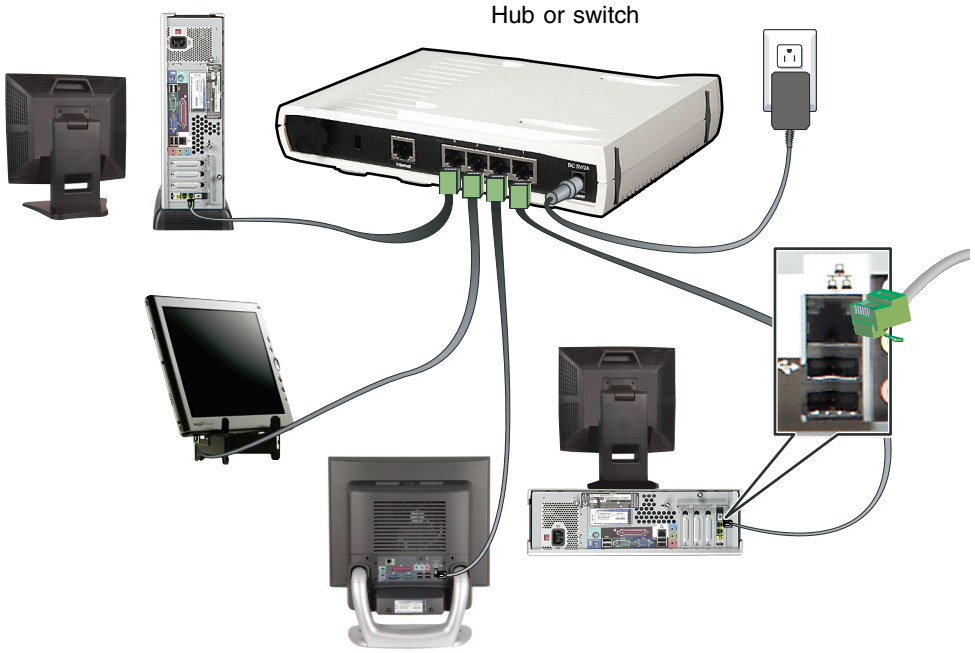
## To set up a network with a hub or switch:

1. Plug one end of the power adapter into the AC connector on the hub or switch and the other end into a grounded, 110V electrical outlet.




2. Turn on your computer.

**3** Plug one end of a straight-through network cable into any numbered port on the hub or switch (except the uplink port), then plug the other end into the network jack on the computer. Green indicators on the front of the hub or switch should light to indicate a good connection.

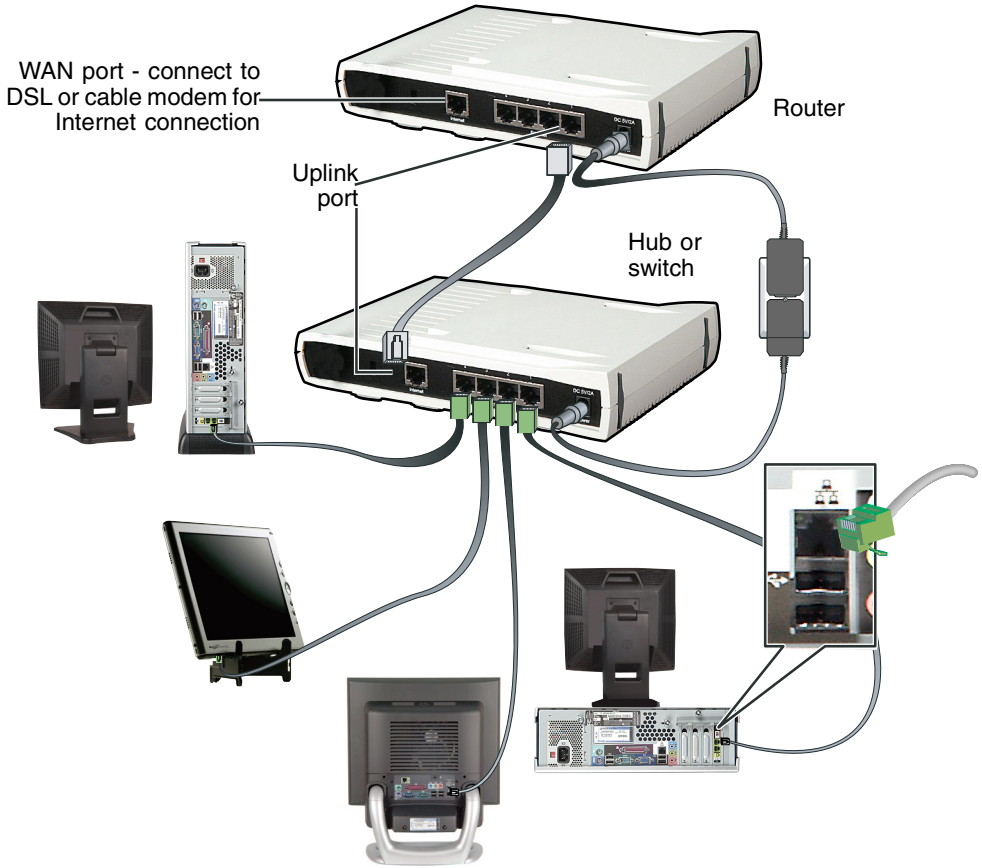



**4** Repeat Step 2 through Step 3 for each computer on the network.

# Setting up a network using a router and optional hub or switch

If you are setting up a network for more than two computers and you will be connecting your network to a high-speed Broadband Internet connection (cable or DSL modem), we recommend the use of a router. A router lets you access the Internet connection from any network computer. The router can assign IP addresses to the computers on the network and can provide firewall protection for your network as well.

In addition to a router, you need a straight-through cable for each computer you want to connect to the network. If your router does not have built-in switching, or if you have more computers than your router has ports, you need a hub or switch and a straight-through cable to connect the hub or switch to the router.



## To set up a network using a router and optional hub or switch:

1. If you are using a hub or switch, plug one end of the power adapter into the AC connector on the hub or switch and the other end into a grounded, 110V electrical outlet.

   -OR-

   If you are not using a hub, go to Step 2.

2. Plug one end of the power adapter into the AC connector on the router and the other end into a grounded, 110V electrical outlet.

3. If you are using a hub or switch, plug one end of a straight-through network cable into the uplink port on the hub or switch (identified by a label or a switch). Plug the other end of the cable into the uplink port on the router. If the router has only a single port, use the LAN port and set the switch on the back of the router to crossover (X).

4. Turn on your computers.

5. If you are using a hub or switch, plug one end of a straight-through network cable into any numbered port on the hub or switch (except the uplink port). Plug the other end of the cable into the network connector on the computer. As each computer is connected to the hub or switch, the corresponding green indicator should light on the front of the hub or switch, indicating a good connection.

   -OR-

   If you are not using a hub or switch, plug one end of a straight-through network cable into any numbered port on the router (except the WAN port). The WAN port is used to connect the router to the DSL or cable modem, and is identified by a label or a switch. Plug the other end of the cable into the network connector on the computer. As each computer is connected to the router, the corresponding green indicator should light on the front of the router, indicating a good connection.

6. Repeat Step 5 for each computer on the network.

7. For an Internet connection, plug a straight-through cable into the WAN port on the router and the other end into the Ethernet jack on the DSL or cable modem.

# Where to go from here

## Configuring your wired Ethernet network

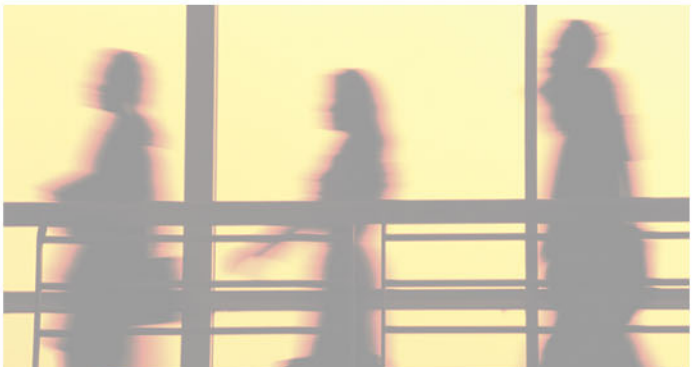
Now that your wired Ethernet network has been set up, you are ready to configure the network and router. Go to "Configuring Windows for a Wired Network" on page 29.

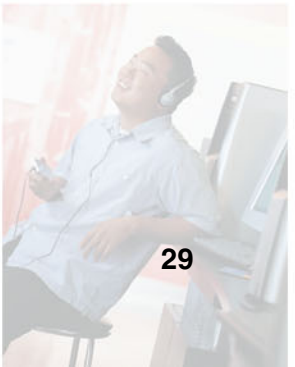
# Configuring Windows for a Wired Network

# 3

This chapter describes how to configure Windows XP or Windows 2000 for a wired Ethernet network. Read this chapter to learn about:


- "Naming the computers and the workgroup" on page 30
- "Configuring the TCP/IP protocol" on page 40
- "Configuring your router" on page 47



# Naming the computers and the workgroup

Each computer on your network must have a unique name and be identified as part of a workgroup. This must be done individually on each computer.

To name your computers in Windows XP, go to "Naming the computers and the workgroup in Windows XP" on page 30.

To name your computers in Windows 2000, go to "Naming the computers and the workgroup in Windows 2000" on page 38.

## Naming the computers and the workgroup in Windows XP

Use the Windows XP Network Setup Wizard to name each computer and workgroup as well as select other network settings in Windows XP.

**Important**

The network setup procedure uses the Windows XP Network Setup Wizard. The example screens show those screens that typically appear in the course of using the wizard. If your network situation differs from that used in this example, you may encounter additional screens or screens with different selections. Make sure that you read each screen in the wizard and make your selections based on your particular network situation.

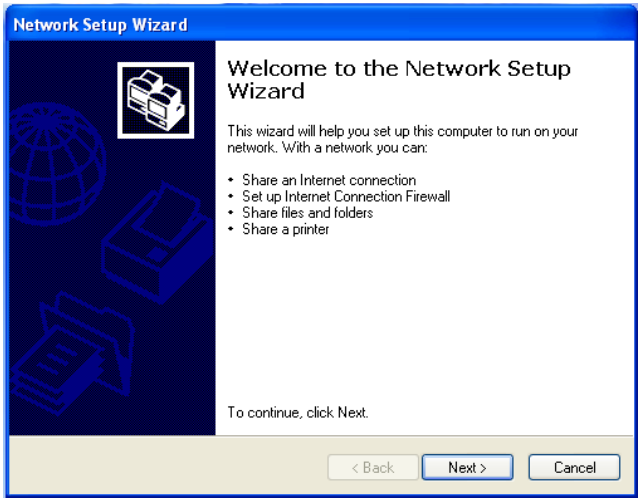
## To run the Windows XP Network Setup Wizard:

1 Make sure the hardware is connected and turned on as described in "Creating a Wired Ethernet Network" on page 19.

2 Click the Network Setup Wizard icon on the Windows XP taskbar. The *Network Setup Wizard* opens.

-OR-

Click **Start**, **All Programs**, **Accessories**, **Communications**, then click **Network Setup Wizard**. The *Network Setup Wizard* opens.



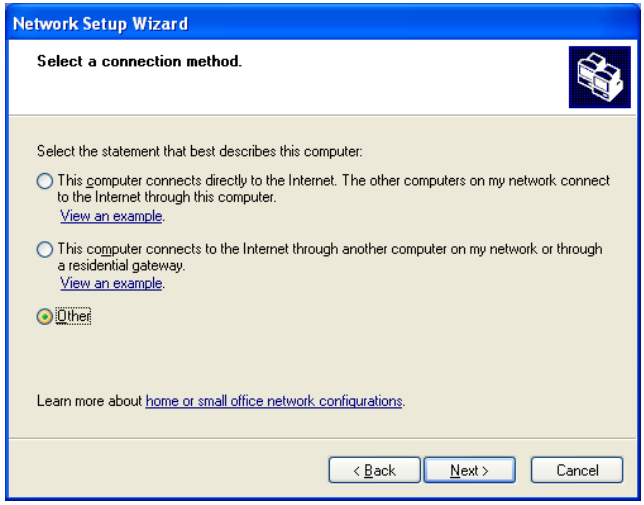

3 Click **Next** to continue through the wizard.

**4** Click **Next**. The *Select a connection method* screen opens.

**Important**

If *The wizard found disconnected network hardware* screen opens instead of the *Select a connection method* screen, make sure that one end of the Ethernet cable is connected to your computer and the other end is connected to a router, switch, hub, or computer that is **turned on**, then click **Next**.

*The wizard found disconnected network hardware* screen will open if your computer also has wireless Ethernet networking built-in. If your computer has wireless Ethernet networking built-in, and your computer is connected to a router, switch, hub, or computer that is turned on, click **Ignore disconnected network hardware**, then click **Next**.



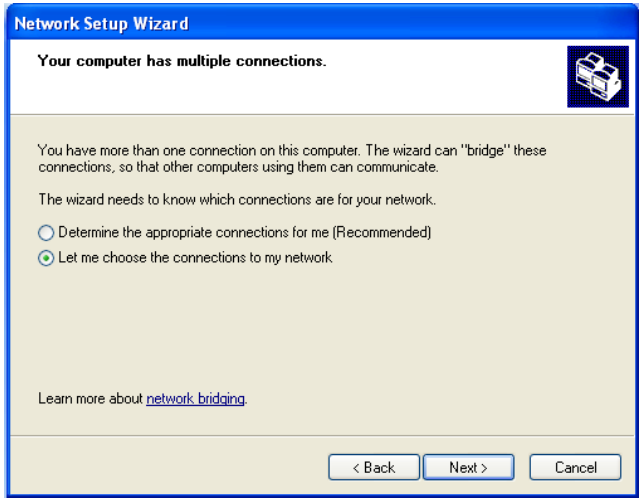
5 Click the method that the computer uses to access the Internet.

If you are connecting to a wired Ethernet network, and you are accessing the Internet through a router (as in the example in "Setting up a network using a router and optional hub or switch" on page 25), click **This computer connects to the Internet through another computer on my network or through a residential gateway.**

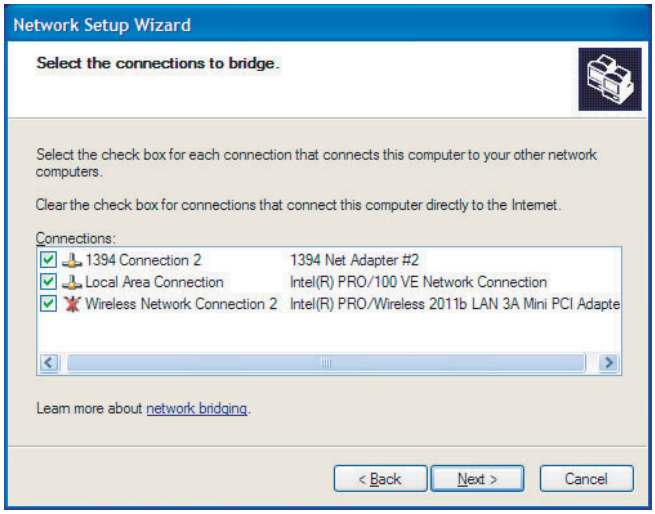
-OR-

If you are connecting to a wired Ethernet network, and you are not accessing the Internet (as in the example in "Setting up a peer-to-peer wired Ethernet network" on page 22), click **Other**, then click **Next.** Click **This computer belongs to a network that does not have an Internet connection**.

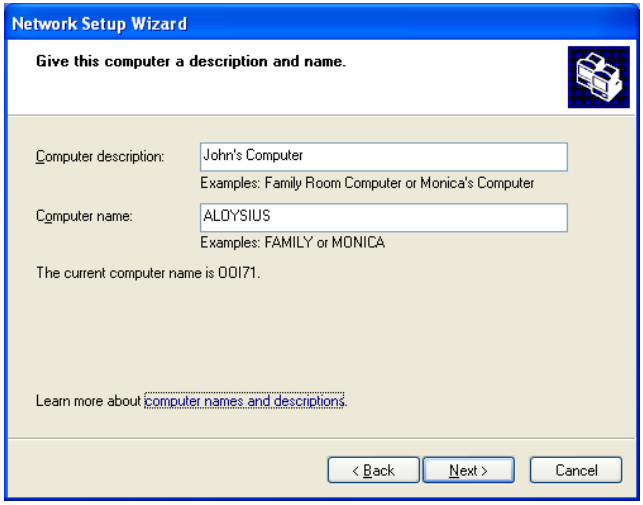
6 Click **Next**. If your computer has both wired and wireless Ethernet capabilities, the *Your computer has multiple connections* screen opens.



7 If your computer has both wired and wireless Ethernet capabilities, click **Let me choose the connections to my network**, then click **Next**. The *Select the connections to bridge* screen opens.



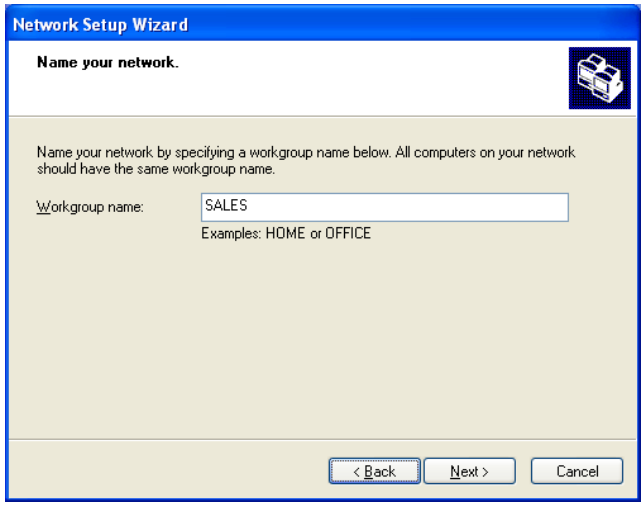
8 Click to select the **Local Area Connection** check box, then click **Next**. The *Give this computer a description and name* screen opens.




9 Type a description of the computer in the **Computer description** box.

10 Type a unique computer name in the **Computer name** box. This name identifies the computer to other users on the network. Use a computer name of up to 15 characters with no blank spaces. Each computer name must be unique on your network. All-numeric computer names are not allowed. Names must contain some letters.

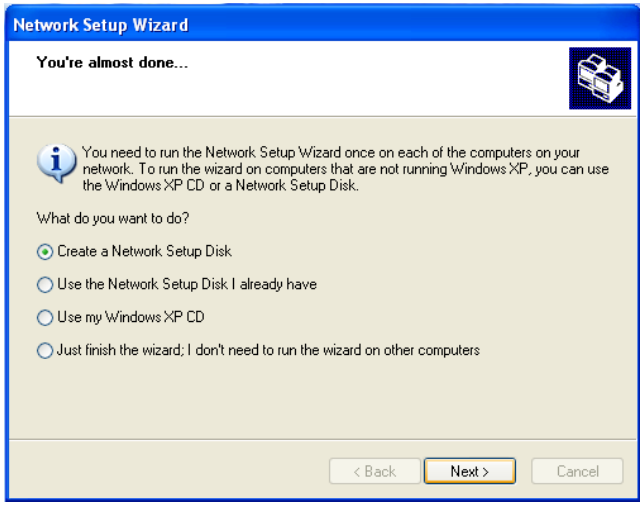
**11** Click **Next**. The *Name your network* screen opens.




**12** Type a name for your workgroup in the **Workgroup** box. Use a workgroup name of up to 15 characters with no blank spaces. The workgroup name must be the same for all computers in your network workgroup, and the name must be different than any computer name on your network.

**13** Click **Next**. The *Ready to apply network settings* screen opens.

**14** Click **Next** to apply the network settings. The *You're almost done* screen opens.




**15** If you are setting up an Ethernet network on other computers, you may want to use the Network Setup Wizard to do so. Click a method for installing and configuring the network on your other computers, then click **Next**.

**16** Click **Finish**. Go to "Configuring the TCP/IP protocol" on page 40.

**Important**

You must give each computer on the network a unique Computer Name and the same Workgroup Name.

**Help and Support**

For more information about using the Network Setup Wizard in Windows XP, click **Start**, then click **Help and Support**.

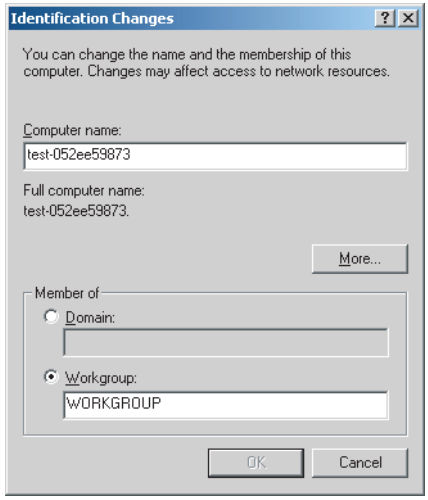
Type the keyword **Network Setup Wizard** in the HelpSpot **Search** box Search , then click the arrow.

# Naming the computers and the workgroup in Windows 2000

The first time you use networking on your computer, you need to give each computer a unique name and assign each computer to the same workgroup. If you are naming the computer and workgroup in Windows XP, see "Naming the computers and the workgroup in Windows XP" on page 30.

## To identify this computer on the network:

1. Click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.
2. Double-click the **System** icon. The *System Identification* dialog box opens.
3. Click the **Network Identification** tab.
4. Click **Properties**. The *Identification Changes* dialog box opens.




5. Type a unique computer name in the **Computer name** box. This name identifies the computer to other users on the network. Use a computer name of up to 15 characters with no blank spaces. Each computer name must be unique on your network. All-numeric computer names are not allowed. Names must contain some letters.

6 Type a name for your workgroup in the **Workgroup** box. Use a workgroup name of up to 15 characters with no blank spaces. The workgroup name must be the same for all computers in your network workgroup, and the name must be different than any computer name on your network.

7 Click **OK** to close the *Identification Changes* dialog box.

8 Click **OK** to close the *System Identification* dialog box. Go to "Configuring the TCP/IP protocol" on page 40.

**Important**

You must give each computer on the network a unique Computer Name and the same Workgroup Name.

# Configuring the TCP/IP protocol

A *networking protocol* is a language computers use to talk to each other. One of several available protocols must be set up on each computer you plan to use on your network. We recommend you use the Transmission Control Protocol/Internet Protocol (TCP/IP), which is widely accepted and compatible for local area networks (LANs), as well as for Internet communications.

When networking is set up in Windows XP or Windows 2000, TCP/IP is automatically installed as the default protocol.

## Terms you should know

**DHCP** - Dynamic Host Configuration Protocol (DHCP) lets a router temporarily assign an IP address to a computer on the network.

**IP Address** - Internet Protocol (IP) address is a number that uniquely identifies a computer on the network.

**Subnet Mask** - This number identifies what subnetwork the computer is located on. This number will be the same on all computers on a home network.

## Entering the IP address and subnet mask on each computer

In order to use the TCP/IP protocol on each computer, you must either set the protocol to "Obtain an IP address from a DHCP server" or make the IP address settings manually. If you use a router that can act as the Dynamic Host Configuration Protocol (DHCP) server, you can select "Obtain an IP address from a DHCP server." Or if you require a static IP address (one that does not change), you must set the IP address manually. This means that you need to enter an IP address and a subnet mask.

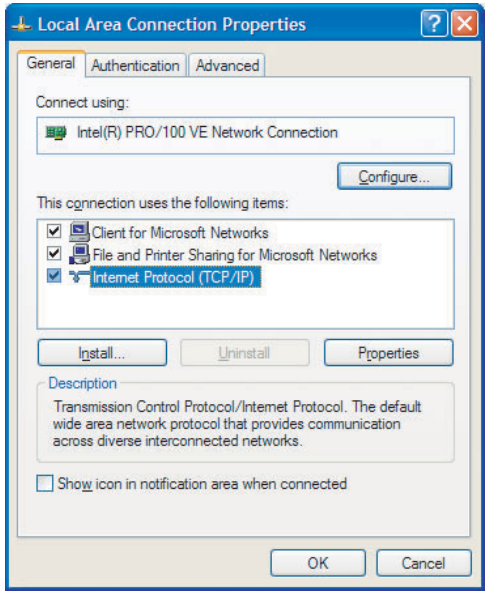
If you are using Windows XP, go to "Entering the IP address and subnet mask in Windows XP" on page 41.

If you are using Windows 2000, go to "Entering the IP address and subnet mask in Windows 2000" on page 44.

## Entering the IP address and subnet mask in Windows XP

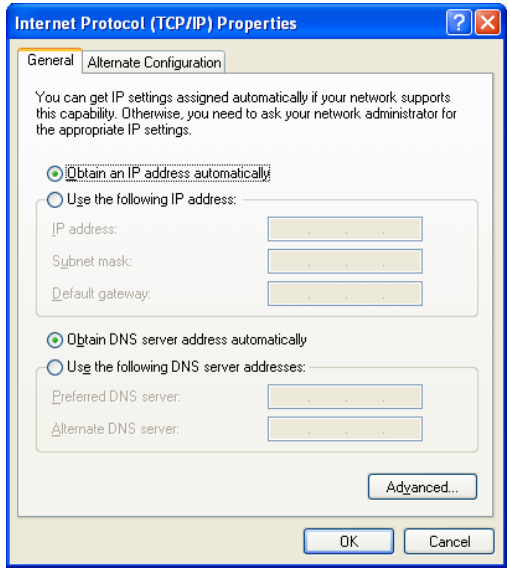
### To enter the IP address and the subnet mask:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.
3. Right-click **Local Area Connection**, then click **Properties**. The *Local Area Connection Properties* dialog box opens.




4. Click to select the **Internet Protocol (TCP/IP)** check box in the **This connection uses the following items** list. If you do not see TCP/IP, drag the scroll bar to see more choices.
5. Click **Properties.** The *Internet Protocol (TCP/IP) Properties* dialog box opens.

**6** Click the **General** tab.



7 If you are connecting to an office Ethernet network and are required to type a static IP address and subnet mask, ask your network system administrator for the correct values.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and a router that automatically assigns IP addresses to computers on the network, click **Obtain an IP address automatically**.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and do not have a router, use the IP address and subnet mask provided by your cable or DSL provider as the address for your computer. Each computer connected to your network will need a unique, static IP address.

- OR -

If you are connecting to a home Ethernet network, do not have a cable or DSL modem, and do not have a router, click **Use the following IP address**, then type the following values.

a Type the IP address in the **IP address** box. Use the value **192.168.0.N** where N is any number between 1 and 254. We suggest 1 for the first computer on your network, 2 for the next, and so on. The number must be unique on your network.

b Type the subnet mask in the **Subnet mask** box. Use the value **255.255.255.0** for all computers.

8 Click **OK** to close the *Internet Protocol (TCP/IP) Properties* dialog box.

9 Click **OK** to close the *Local Area Connection Properties* dialog box.

10 Click **X** to close the *Network Connections* window.

11 Repeat this procedure for every computer on your network.

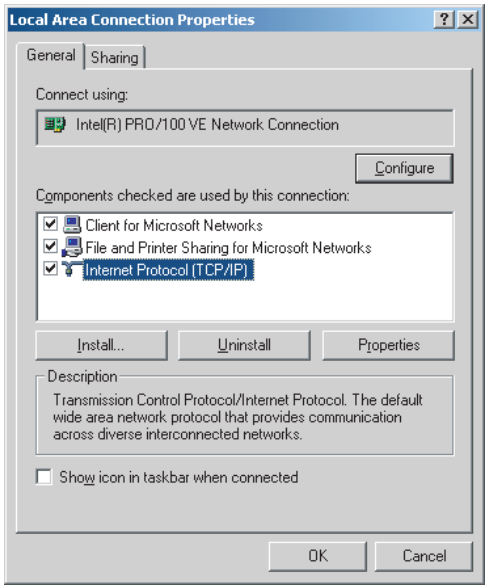
12 After you enter the IP address on all your computers, go to "Configuring your router" on page 47.

## Entering the IP address and subnet mask in Windows 2000

### To enter the IP address and the subnet mask:

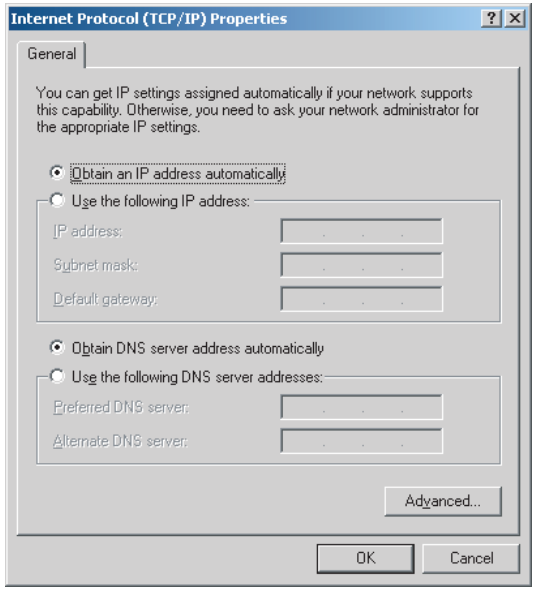
1. Click **Start**, **Settings**, then click **Network and Dial-up Connections**. The *Network and Dial-up Connections* window opens. This window has an icon for each networking connection available on your computer. For example, if you have both wired and wireless Ethernet hardware installed on your computer, there will be two icons, one for your wired Ethernet hardware and one for your wireless Ethernet hardware.

2. Right-click the **Local Area Connection** icon for the wired Ethernet hardware, then click **Properties**. The *Local Area Connection Properties* dialog box opens.




3. Click to select the **Internet Protocol (TCP/IP)** check box in the **Components checked are used by this connection** list. If you do not see TCP/IP, drag the scroll bar to see more choices.

**4** Click **Properties**. The *Internet Protocol (TCP/IP) Properties* dialog box opens.



5 If you are connecting to an office Ethernet network and are required to type a static IP address and subnet mask, ask your network system administrator for the correct values.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and a router that automatically assigns IP addresses to computers on the network, click **Obtain an IP address automatically**.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and do not have a router, use the IP address and subnet mask provided by your cable or DSL provider as the address for your computer. Each computer connected to your network will need a unique, static IP address.

- OR -

If you are connecting to a home Ethernet network, do not have a cable or DSL modem, and do not have a router, click **Use the following IP address**, then type the following values.

a Type the IP address in the **IP address** box. Use the value **192.168.0.N** where N is any number between 1 and 254. We suggest 1 for the first computer on your network, 2 for the next, and so on. The number must be unique on your network.

b Type the subnet mask in the **Subnet mask** box. Use the value **255.255.255.0** for all computers.

6 Click **OK** to close the *Internet Protocol (TCP/IP) Properties* dialog box.

7 Click **OK** to close the *Local Area Connection Properties* dialog box.

8 Click **X** to close the *Network and Dial-up Connections* window.

9 Repeat this procedure for every computer on your network.

10 After you enter the IP address on all your computers, go to "Configuring your router" on page 47.

# Configuring your router

After you have set up the TCP/IP protocol on your computers, you can configure your router using your Web browser. For these instructions, we assume that you are using the router to connect your network to a high-speed Broadband Internet connection through an Internet service provider (ISP) and that you are configuring it as a DHCP server.

**Important**

The following configuration information applies to Linksys® EtherFast Cable/DSL routers. For any other brand or model of router, see the manufacturer's documentation, which may accompany the router or be available from the manufacturer's Web site.

## To configure the Linksys EtherFast Cable/DSL router:

1. From one of the computers connected to the network, open your Web browser, type **http://192.168.1.1** in the browser's address box, then press **ENTER**.
2. When prompted for a username and password, leave the username box empty and type **admin** in the password box, then click **OK**. The Setup page opens.
3. Enter the following values in the appropriate fields:
   - **Router Name** and **Domain Name** - Check with your ISP to see if entries are required in these fields and, if so, what entries are required. Normally, leaving the fields blank will work.
   - **LAN IP Address** - We recommend that you accept the defaults.
   - **WAN IP Address** - If your ISP assigns you a different IP address each time you log on, click **Obtain an IP Address Automatically**. If your ISP requires a fixed IP address, click **Specify an IP Address**, then enter the values provided by your ISP.
4. When you are finished entering information on the Setup page, click **Apply**.
5. Click the **DHCP** tab on the top of the screen.
6. Click the **Enable** checkbox, then click **Apply**.

7 Press the reset button on your cable or DSL modem, then restart the computer.

# Where to go from here

## Using your wired Ethernet network

Now that your wired Ethernet network has been created and configured, you are ready to use the network. Go to "Sharing Your Resources" on page 131.

## Adding a wireless access point to your wired Ethernet network

If you are also setting up wireless Ethernet networking on your computer, or adding a wireless access point to your wired Ethernet network, go to "Wireless Ethernet Networking" on page 49.

## Troubleshooting your wired Ethernet network

If you cannot get your wired Ethernet network to work, go to "Troubleshooting Your Ethernet Network" on page 145.

# Wireless Ethernet Networking

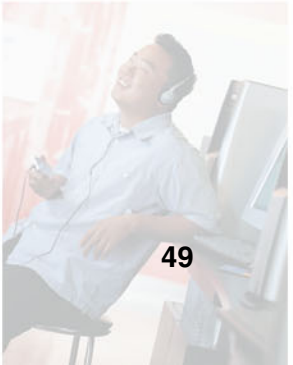
C

Read the following chapters to learn how to set up and use a wireless Ethernet network:

- "Configuring Windows for a Wireless Network" on page 51
- "Creating a Wireless Access Point Network" on page 71

  -OR-

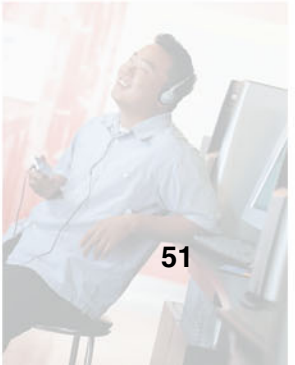
  "Creating a Peer-to-Peer Wireless Network" on page 99
- "Turning Your Wireless Emitter On or Off" on page 125



# 4 Configuring Windows for a Wireless Network

This chapter describes how to configure Windows XP or Windows 2000 for a wireless Ethernet network. Read this chapter to learn about:


- "Installing the wireless Ethernet driver" on page 52
- "Naming the computers and the workgroup" on page 54
- "Configuring the TCP/IP protocol" on page 63

# Installing the wireless Ethernet driver

If your Gateway computer has built-in wireless Ethernet, the first time you start your computer, it automatically installs the wireless Ethernet driver. You may need to install the driver if you reinstall Windows.

**Important**

The Broadcom Wireless LAN driver is used with Gateway computers that have a built-in Broadcom wireless Ethernet adapter.

The Intel Calexico Wireless LAN driver is used with Gateway computers that have a built-in Intel Calexico wireless Ethernet adapter.

The Agere ORiNOCO Ethernet driver is used with Gateway computers that have a built-in Agere ORiNOCO wireless Ethernet adapter.

If your computer has a different built-in wireless Ethernet adapter, see your user's guide for the procedure to install your driver.

## To determine which wireless adapter is installed in your computer:

1. In Windows XP, click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Performance and Maintenance**.

   -OR-

   In Windows 2000, click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.

2. Click/Double-click **System**, click the **Hardware** tab, then click **Device Manager**. The *Device Manager* window opens.

3. Click the plus (+) in front of **Network adapters**. The type of wireless Ethernet adapter installed in your computer is listed.

### To see if the wireless Ethernet driver is installed:

1. Locate the wireless adapter in the *Device Manager* window by following the steps in "To determine which wireless adapter is installed in your computer:" on page 52.
2. Right-click the wireless adapter, then click **Properties**.
3. Click the **Driver** tab. The driver is listed.

You may need to install the driver if it was not installed on your computer or if you reinstall Windows.

### To install the wireless Ethernet driver:

1. Insert the red *Drivers and Applications* CD into your CD or DVD drive.
2. If this is the first time you have inserted the CD, accept the End User License Agreement (EULA) by clicking **Yes, I accept it**, then clicking **Continue**. The Gateway Driver and Application Recovery program starts and the **Drivers and Applications Recovery** tab appears.
3. Click **Broadcom Wireless LAN PC Card**.

   -OR-

   Click **Intel Calexico Wireless LAN PC Card**.

   -OR-

   Click **ORiNOCO Wireless LAN PC Card**.
4. Click **Install**.
5. Follow any additional on-screen instructions.

# Naming the computers and the workgroup

Each computer on your network must have a unique name and be identified as part of a workgroup. This must be done individually on each computer.

If you are naming the computers and workgroup in Windows XP, see "Naming the computers and the workgroup in Windows XP" on page 54.

If you are naming the computers and workgroup in Windows 2000, see "Naming the computers and the workgroup in Windows 2000" on page 61.

## Naming the computers and the workgroup in Windows XP

Use the Windows XP Network Setup Wizard to name each computer and workgroup as well as select other network settings in Windows XP.

**Important**

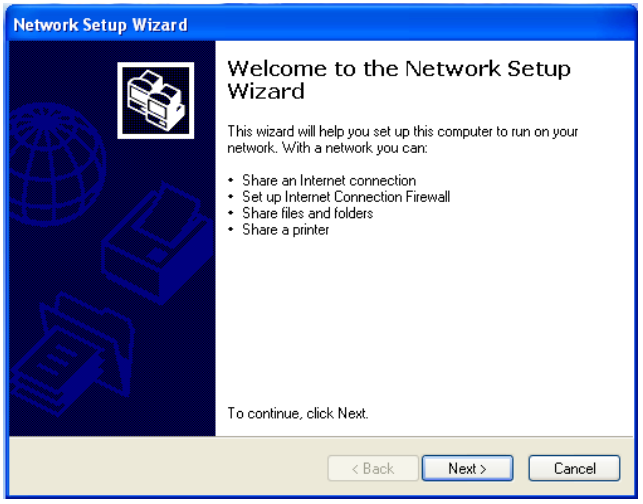
The network setup procedure uses the Windows XP Network Setup Wizard. The example screens show those screens that typically appear in the course of using the wizard. If your network situation differs from that used in this example, you may encounter additional screens or screens with different selections. Make sure that you read each screen in the wizard and make your selections based on your particular network situation.

## To run the Windows XP Network Setup Wizard:

1. Click the Network Setup Wizard icon on the Windows XP taskbar. The *Network Setup Wizard* opens.

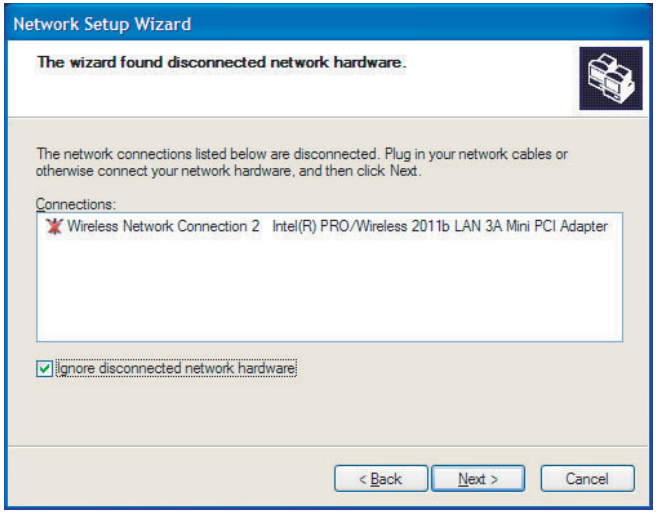
   -OR-

   Click **Start**, **All Programs**, **Accessories**, **Communications**, then click **Network Setup Wizard**. The *Network Setup Wizard* opens.

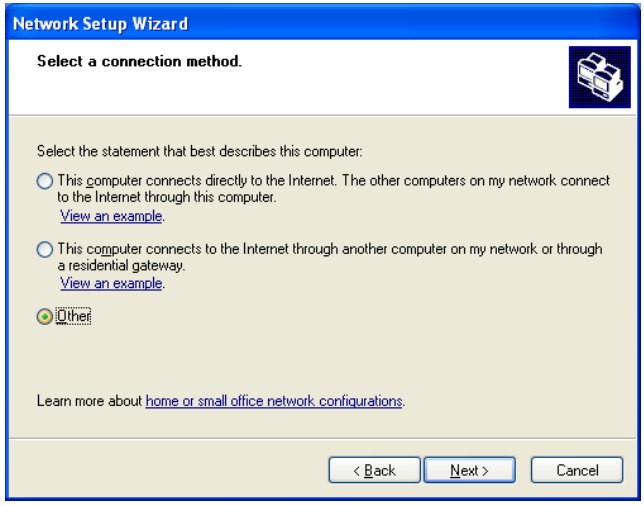



2. Click **Next** to continue through the wizard.

3 Click **Next**. The *The wizard found disconnected network hardware* screen opens.




4 Click to select the **Ignore disconnected network hardware** check box, then click **Next**. The *Select a connection method* screen opens.



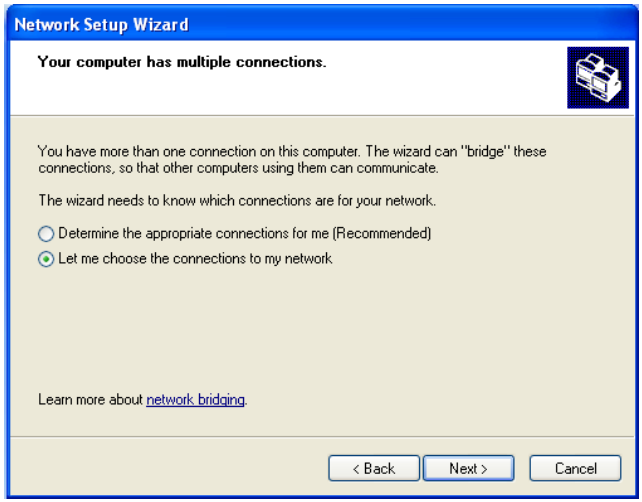
5 Click the method that the computer uses to access the Internet.

If you are connecting to a wireless Ethernet network, and you are accessing the Internet through a router or wireless access point router (as in the example on page 11), click **This computer connects to the Internet through another computer on my network or through a residential gateway.**

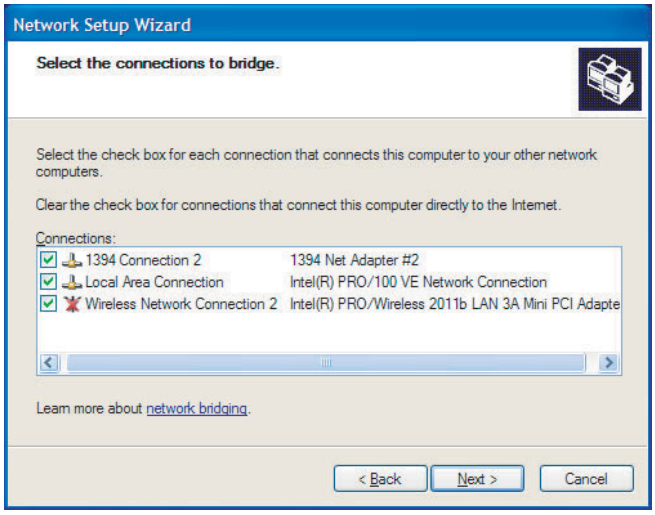
-OR-

If you are connecting to a wireless Ethernet network, and you are not accessing the Internet (as in the example on page 14), click **Other**, then click **Next.** Click **This computer belongs to a network that does not have an Internet connection.**

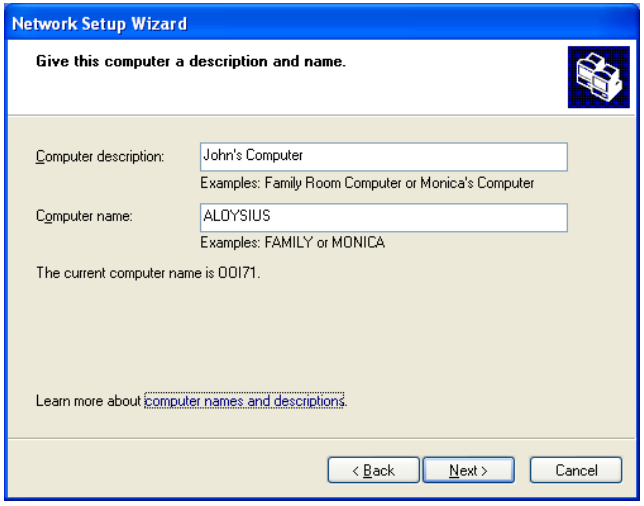
6 Click **Next**. If your computer has both wired and wireless Ethernet capabilities, the *Your computer has multiple connections* screen opens.



**7** If your computer has both wired and wireless Ethernet capabilities, click **Let me choose the connections to my network**, then click **Next**. The *Select the connections to bridge* screen opens.



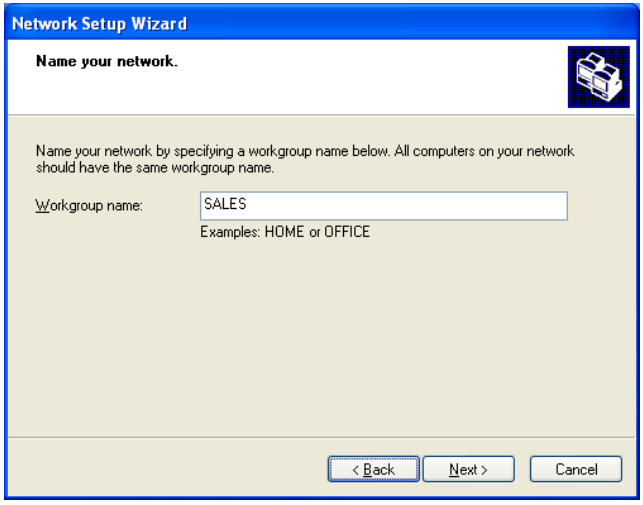

**8** Click to select the **Wireless Network Connection** check box, then click **Next**. The *Give this computer a description and name* screen opens.




**9** Type a description of the computer in the **Computer description** box.

**10** Type a unique computer name in the **Computer name** box. This name identifies the computer to other users on the network. Use a computer name of up to 15 characters with no blank spaces. Each computer name must be unique on your network. All-numeric computer names are not allowed. Names must contain some letters.

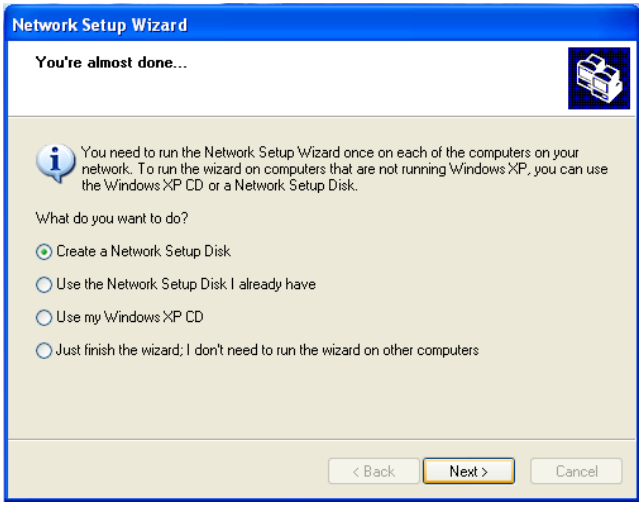
**11** Click **Next**. The *Name your network* screen opens.




**12** Type a name for your workgroup in the **Workgroup** box. Use a workgroup name of up to 15 characters with no blank spaces. The workgroup name must be the same for all computers in your network workgroup, and the name must be different than any computer name on your network.

**13** Click **Next**. The *Ready to apply network settings* screen opens.

**14** Click **Next** to apply the network settings. The *You're almost done* screen opens.




**15** If you are setting up an Ethernet network on other computers, you may want to use the Network Setup Wizard to do so. Click a method for installing and configuring the network on your other computers, then click **Next**.

**16** Click **Finish**. Go to "Configuring the TCP/IP protocol" on page 63.

**Important**

You must give each computer on the network a unique Computer Name and the same Workgroup Name.

**Help and Support**

For more information about using the Network Setup Wizard in Windows XP, click **Start**, then click **Help and Support**.

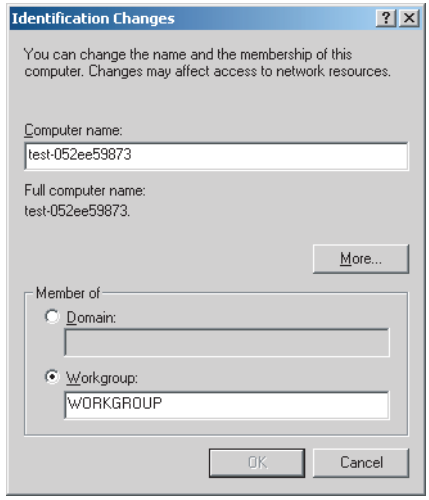
Type the keyword **Network Setup Wizard** in the HelpSpot **Search** box Search , then click the arrow.

# Naming the computers and the workgroup in Windows 2000

The first time you use networking on your computer, you need to give each computer a unique name and assign each computer to the same workgroup. If you are naming the computer and workgroup in Windows XP, see "Naming the computers and the workgroup in Windows XP" on page 54.

## To identify this computer on the network:

1. Click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.
2. Double-click the **System** icon. The *System Identification* dialog box opens.
3. Click the **Network Identification** tab.
4. Click **Properties**. The *Identification Changes* dialog box opens.




5. Type a unique computer name in the **Computer name** box. This name identifies the computer to other users on the network. Use a computer name of up to 15 characters with no blank spaces. Each computer name must be unique on your network. All-numeric computer names are not allowed. Names must contain some letters.

6 Type a name for your workgroup in the **Workgroup** box. Use a workgroup name of up to 15 characters with no blank spaces. The workgroup name must be the same for all computers in your network workgroup, and the name must be different than any computer name on your network.

7 Click **OK** to close the *Identification Changes* dialog box.

8 Click **OK** to close the *System Identification* dialog box.

9 Click **OK** to close the *System Identification* dialog box. Go to "Configuring the TCP/IP protocol" on page 63.

**Important**

You must give each computer on the network a unique Computer Name and the same Workgroup Name.

# Configuring the TCP/IP protocol

A *networking protocol* is a language computers use to talk to each other. One of several available protocols must be set up on each computer you plan to use on your network. We recommend you use the Transmission Control Protocol/Internet Protocol (TCP/IP), which is widely accepted and compatible for local area networks (LANs), as well as for Internet communications.

When networking is set up in Windows XP or Windows 2000, TCP/IP is automatically installed as the default protocol.

## Terms you should know

**DHCP** - Dynamic Host Configuration Protocol (DHCP) enables a router to temporarily assign an IP address to a computer on the network.

**IP Address** - Internet Protocol (IP) address is a number that uniquely identifies a computer on the network.

**Subnet Mask** - This number identifies what subnetwork the computer is located on. This number will be the same on all computers on a home network.

## Entering the IP address and subnet mask on each computer

In order to use the TCP/IP protocol on each computer, you must either set the protocol to "Obtain an IP address from a DHCP server" or make the IP address settings manually. If you use a wireless access point router that can act as the Dynamic Host Configuration Protocol (DHCP) server, you can select "Obtain an IP address from a DHCP server." Or if you require a static IP address (one that does not change), you must set the IP address manually. This means that you need to enter an IP address and a subnet mask.

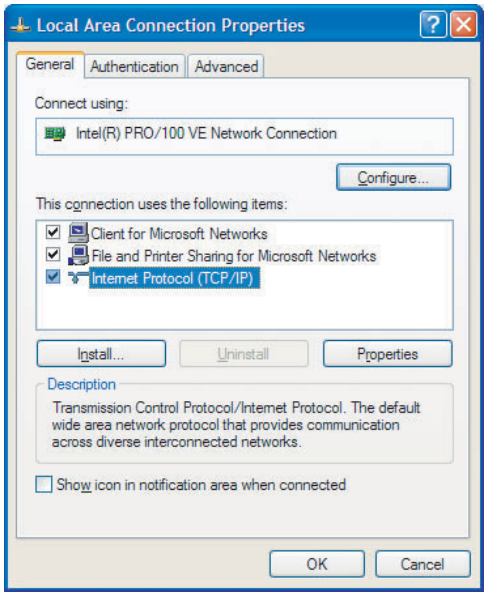
If you are using Windows XP, go to "Entering the IP address and subnet mask in Windows XP" on page 64.

If you are using Windows 2000, go to "Entering the IP address and subnet mask in Windows 2000" on page 67.

## Entering the IP address and subnet mask in Windows XP

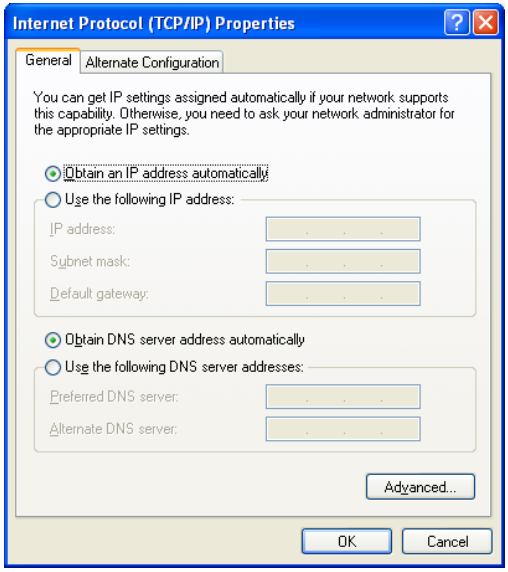
### To enter the IP address and the subnet mask:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.
3. Right-click **Local Area Connection**, then click **Properties**. The *Local Area Connection Properties* dialog box opens.




4. Click to select the **Internet Protocol (TCP/IP)** check box in the **This connection uses the following items** list. If you do not see TCP/IP, drag the scroll bar to see more choices.
5. Click **Properties.** The *Internet Protocol (TCP/IP) Properties* dialog box opens.

**6** Click the **General** tab.



7 If you are connecting to an office Ethernet network and are required to type a static IP address and subnet mask, ask your network system administrator for the correct values.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and a wireless access point router that automatically assigns IP addresses to computers on the network, click **Obtain an IP address automatically**.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and do not have a wireless access point router, use the IP address and subnet mask provided by your cable or DSL provider as the address for your computer. Each computer connected to your network will need a unique, static IP address.

- OR -

If you are connecting to a home Ethernet network, do not have a cable or DSL modem, and do not have a wireless access point router, click **Use the following IP address**, then type the following values.

a Type the IP address in the **IP address** box. Use the value **192.168.0.N** where N is any number between 1 and 254. We suggest 1 for the first computer on your network, 2 for the next, and so on. The number must be unique on your network.

b Type the subnet mask in the **Subnet mask** box. Use the value **255.255.255.0** for all computers.

8 Click **OK** to close the *Internet Protocol (TCP/IP) Properties* dialog box.

9 Click **OK** to close the *Local Area Connection Properties* dialog box.

10 Click **X** to close the *Network Connections* window.

11 Repeat this procedure for every computer on your network.

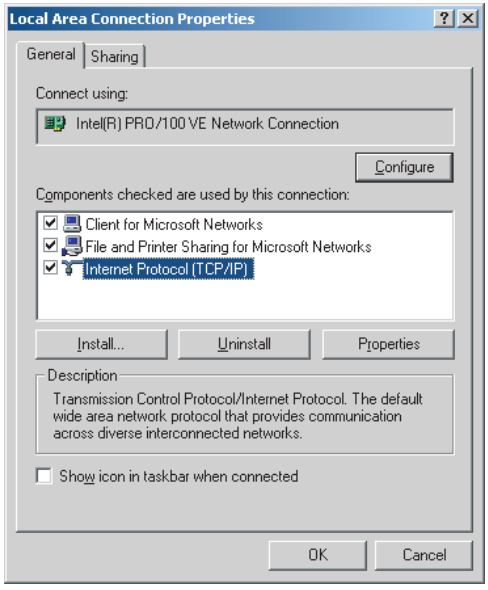
12 After you enter the IP addresses on all your computers, go to "Where to go from here" on page 70.

## Entering the IP address and subnet mask in Windows 2000

### To enter the IP address and the subnet mask:

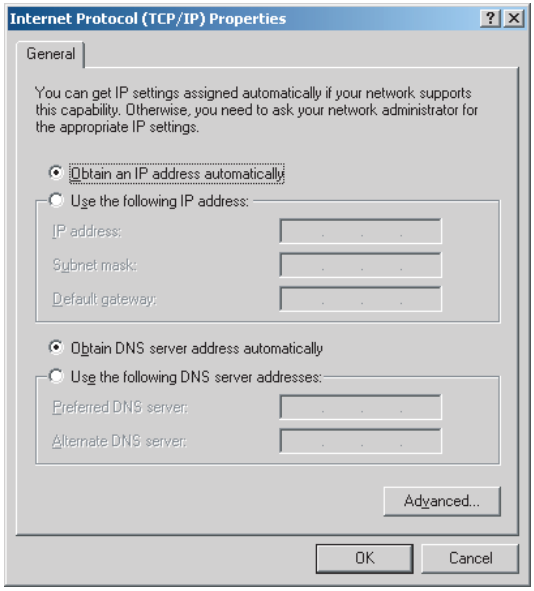
1. Click **Start**, **Settings**, then click **Network and Dial-up Connections**. The *Network and Dial-up Connections* window opens. This window has an icon for each networking connection available on your computer. For example, if you have both wired and wireless Ethernet hardware installed on your computer, there will be two icons, one for your wired Ethernet hardware and one for your wireless Ethernet hardware.

2. Right-click the **Local Area Connection** icon for the wireless Ethernet hardware, then click **Properties**. The *Local Area Connection Properties* dialog box opens.




3. Click to select the **Internet Protocol (TCP/IP)** check box in the **Components checked are used by this connection** list. If you do not see TCP/IP, drag the scroll bar to see more choices.

**4** Click **Properties**. The *Internet Protocol (TCP/IP) Properties* dialog box opens.



5 If you are connecting to an office Ethernet network and are required to type a static IP address and subnet mask, ask your network system administrator for the correct values.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and a wireless access point router that automatically assigns IP addresses to computers on the network, click **Obtain an IP address automatically**.

- OR -

If you are connecting to a home Ethernet network, have a cable or DSL modem, and do not have a wireless access point router, use the IP address and subnet mask provided by your cable or DSL provider as the address for your computer. Each computer connected to your network will need a unique, static IP address.

- OR -

If you are connecting to a home Ethernet network, do not have a cable or DSL modem, and do not have a wireless access point router, click **Use the following IP address**, then type the following values.

a Type the IP address in the **IP address** box. Use the value **192.168.0.N** where N is any number between 1 and 254. We suggest 1 for the first computer on your network, 2 for the next, and so on. The number must be unique on your network.

b Type the subnet mask in the **Subnet mask** box. Use the value **255.255.255.0** for all computers.

6 Click **OK** to close the *Internet Protocol (TCP/IP) Properties* dialog box.

7 Click **OK** to close the *Local Area Connection Properties* dialog box.

8 Click **X** to close the *Network and Dial-up Connections* window.

9 Repeat this procedure for every computer on your network.

10 After you enter the IP addresses on all your computers, go to "Where to go from here" on page 70.

# Where to go from here

## Creating a wireless Ethernet network

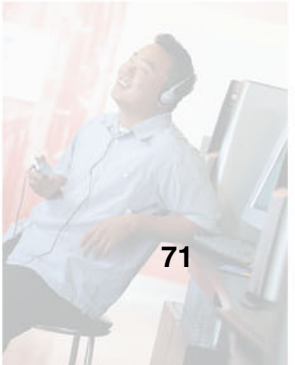
Now that your wireless Ethernet network has been configured, you are ready to create a wireless network. Go to "Creating a Wireless Access Point Network" on page 71 or "Creating a Peer-to-Peer Wireless Network" on page 99.

# Creating a Wireless Access Point Network

# 5

This chapter describes how to create an access point wireless Ethernet network. Read this chapter to learn about:


- "Setting up your access point" on page 72
- "Connecting to an access point network in Windows XP" on page 75
- "Connecting to an access point network in Windows 2000" on page 81

# Setting up your access point

See the instructions that came with your access point or wireless access point router for initial setup. How you set up your access point varies depending on the features of the access point and your networking situation.

## Mounting the access point

When selecting a place to mount your access point, consider the following guidelines:

- Mount your access point as high as possible (to avoid interference from natural obstacles and appliances).
- Mount your access point in a location so you can run an Ethernet cable from the access point to either your wired Ethernet network or your cable or DSL modem.

## Configuring the access point

**Important**

The following configuration information applies to the Linksys wireless access point router with 4-port switch. For any other brand or model of access point, see the manufacturer's documentation, which may accompany the access point or be available from the manufacturer's Web site.

### To configure the Linksys wireless access point router with 4-port switch:

1. If you are connecting any wired devices to your wireless access point router, follow the instructions in "Setting up a network using a router and optional hub or switch" on page 25, then go to Step 7.

   -OR-

   If you are not connecting any wired devices to your wireless access point router, go to Step 2.

2. Plug one end of a straight-through cable into the WAN port on the wireless access point router and the other end into the DSL or cable modem.

3 Plug one end of the power adapter into the AC connector on the wireless access point router and the other end into a grounded, 110V electrical outlet.

4 Turn on the DSL or cable modem.

5 Press the reset button on the wireless access point router.

6 Temporarily connect a computer to the wireless access point router using a straight-through cable and turn the computer on.

7 From one of the computers connected to your wireless access point router, open your Web browser.

8 In the browser's Address box, type **http://192.168.1.1**, then press ENTER.

9 When prompted for a username and password, leave the username box empty and type **admin** in the password box, then click **OK**. The setup page opens.

10 Enter the following values in the appropriate fields:

- **Host Name** and **Domain Name** - Check with your ISP to see if entries are required in these fields and, if so, what entries are required.
- **Enable/Disable wireless** - Click **Enable** to turn on the wireless functions of your access point router.
- **SSID** - Type a unique name for your wireless access point.
- **Allow Broadcast SSID to associate** - Clicking **Yes** allows you to automatically see the SSID in the **Available Networks** list (see "Connecting to an access point network" on page 75). Clicking **No** means that you will need to manually add the access point (see "Adding an access point" on page 79). Clicking **No** makes your wireless network more secure because intruders will not be able to connect to your network without knowing the name of your access point.
- **Channel** - In the United States, you can specify any channel between 1 and 11.
- **WEP** - To use WEP encryption, select **Mandatory**. If you use WEP encryption, all computers on your network must use the same WEP encryption. See the documentation for your access point on how to use WEP encryption.

- **WAN Connection Type** - If your ISP assigns you a different IP address each time you log on, click **Obtain an IP Address Automatically**. If your ISP requires a fixed IP address, click **Static IP**, then enter the values provided by your ISP.

**11** Click **Apply**, then click **Continue** to save the settings.

**12** If you temporarily connected a computer to the access point router in Step 6, disconnect it.

**13** Reset the power on your cable or DSL modem.

**14** Restart all of your computers on the network.

To connect to an access point in Windows XP, see "Connecting to an access point network in Windows XP" on page 75.

To connect to an access point in Windows 2000, see "Connecting to an access point network in Windows 2000" on page 81.

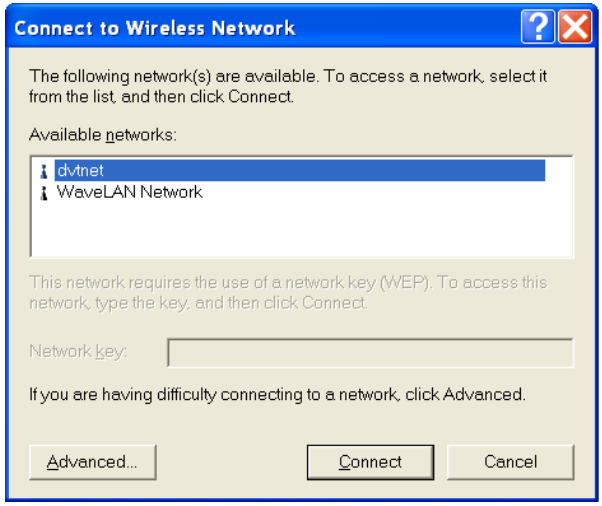
# Connecting to an access point network in Windows XP

After you have set up your wireless access point, you need to set up the network connection on your computers.

## Connecting to an access point network

### To connect to an access point wireless Ethernet network in Windows XP:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.
3. Right-click **Wireless Network Connection**, then click **View Available Wireless Networks**. The *Connect to Wireless Network* dialog box opens.



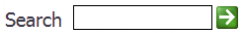
4 Click the network you created in the **Available networks** list, then click **Connect**. If you are unable to connect to the network in the **Available networks** list, see "Configuring computer settings for an access point" on page 77.

-OR-

If the network you created does not appear in the **Available networks** list, see "Adding an access point" on page 79.

**Help and Support**

For more information about connecting to a wireless network in Windows XP, click **Start**, then click **Help and Support**.

Type the keyword **connecting to wireless network** in the HelpSpot **Search** box 

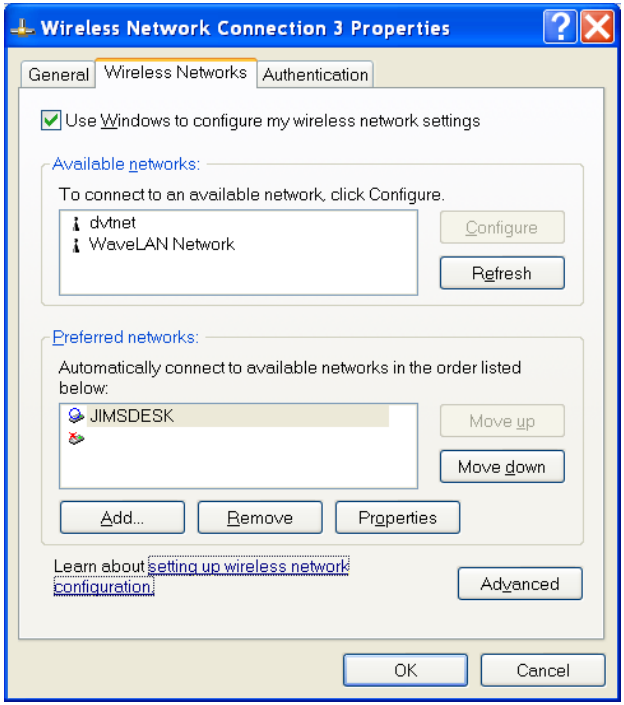
, then click the arrow.

# Configuring computer settings for an access point

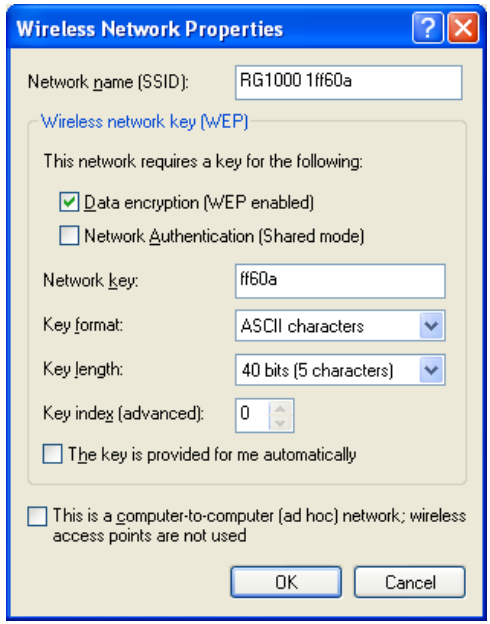
If you are unable to connect to an access point in the **Available networks** list, the most likely cause is that the access point is using WEP security. You need to configure your network settings to use the same WEP security settings as those used by the access point.

## To configure computer settings for an access point wireless Ethernet network in Windows XP:

1. With the *Connect to Wireless Network* dialog box open, click the network you want to configure your computer for, then click **Advanced**. The *Wireless Network Connection Properties* dialog box opens.
2. Click the **Wireless Networks** tab.



3 Click to select the access point network in the **Available networks** box, then click **Configure**. The *Wireless Network Properties* dialog box opens. The name of the network already appears in the **Network name (SSID)** box.




4 Set the Wireless network key (WEP) settings to match those set on the access point.

5 Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is not selected.

6 Click **OK** to close the *Wireless Network Properties* dialog box.

7 Now that you have completed setting up your access point network in Windows XP, go to "Using Your Ethernet Network" on page 129.

**Help and Support**

For more information about configuring a wireless network in Windows XP, click **Start**, then click **Help and Support**.

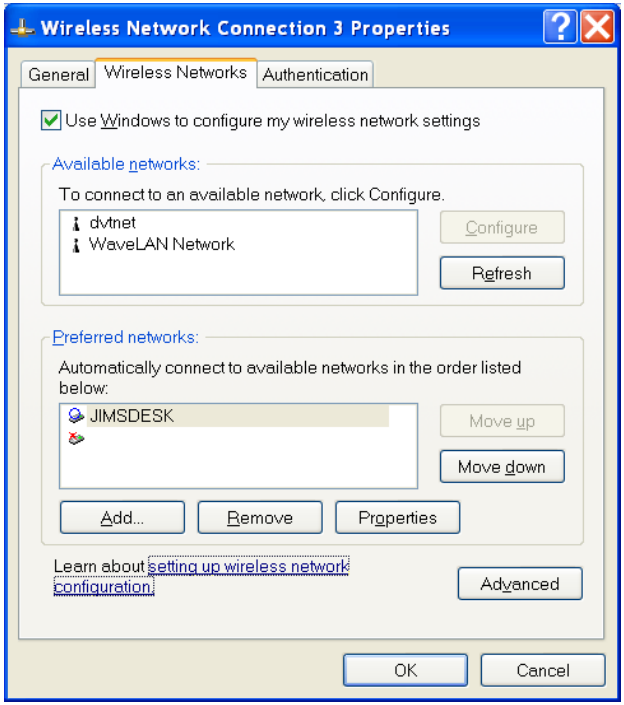
Type the keyword **wireless network** in the HelpSpot **Search** box Search , then click the arrow.

# Adding an access point

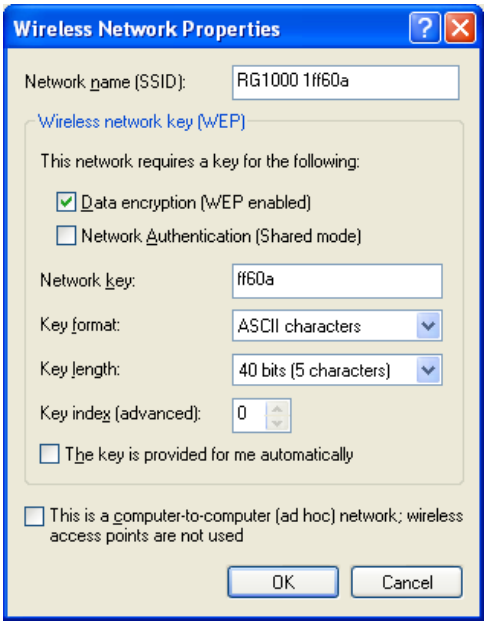
If an access point does not appear in the **Available networks** list, and you know the access point is turned on, you need to add it manually. This typically happens when you set the access point's **Allow Broadcast SSID to associate** to **No**. For more information, see "Configuring the access point" on page 72.

## To manually add an access point wireless Ethernet network in Windows XP:

1. With the *Connect to Wireless Network* dialog box open, click **Advanced**. The *Wireless Network Connection Properties* dialog box opens.
2. Click the **Wireless Networks** tab.



3 Click **Add**. The *Wireless Network Properties* dialog box opens.




4 Type the name of the network in the **Network name (SSID)** box.

5 Set the Wireless network key (WEP) settings to match those set on the access point.

6 Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is not selected.

7 Click **OK** to close the *Wireless Network Properties* dialog box.

8 Now that you have completed setting up your access point network in Windows XP, go to "Where to go from here" on page 97.

**Help and Support**

For more information about configuring a wireless network in Windows XP, click **Start**, then click **Help and Support**.

Type the keyword **wireless network** in the HelpSpot **Search** box Search , then click the arrow.

# Connecting to an access point network in Windows 2000

If you use the Broadcom mini PCI card, connecting to an access point network in Windows 2000 is similar to connecting to an access point network in Windows XP. For more information, see "Using the Broadcom Wireless Configuration Utility" on page 82.

If you use the Intel or Agere ORiNOCO mini PCI card, you cannot connect to an access point network using Windows 2000 without first creating a profile in a client manager program. If your Gateway computer has built in wireless networking using the Intel mini PCI card, see "Using Intel PROSet" on page 86. If your Gateway computer has built in wireless networking using the Agere ORiNOCO mini PCI card, see "Using the ORiNOCO Client Manager" on page 92.

If your Windows 2000 computer does not use the Broadcom Wireless Configuration Utility, Intel client manager, or Agere client manager, see the documentation that came with your wireless networking solution.

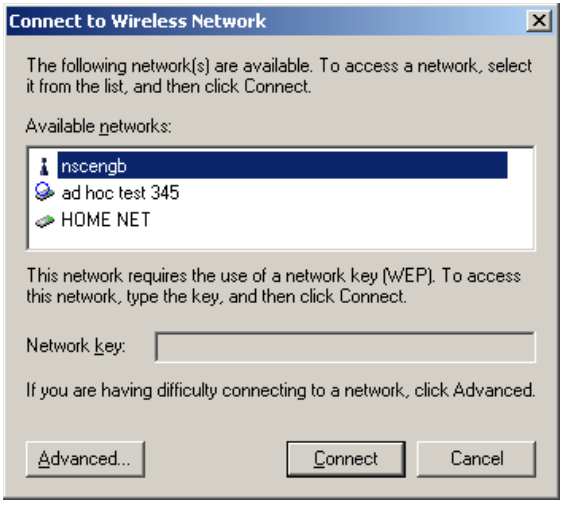
If you do not know which card you have, see "To determine which wireless adapter is installed in your computer:" on page 52.

# Using the Broadcom Wireless Configuration Utility

## Connecting to an access point network using the Broadcom Wireless Configuration Utility

### To connect to an access point wireless Ethernet network using the Broadcom Wireless Configuration Utility:

1 Double-click the Broadcom Wireless Configuration Utility icon on the taskbar. The *Connect to Wireless Network* dialog box opens.




2 Click the network you created in the **Available networks** list, then click **Connect**. If you are unable to connect to the network in the **Available networks** list, see "Configuring computer settings for an access point using the Broadcom Wireless Configuration Utility" on page 83.

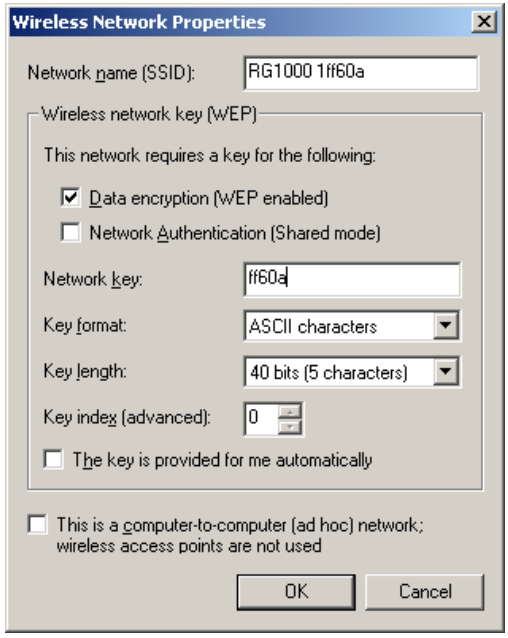
-OR-

If the network you created does not appear in the **Available networks** list, see "Adding an access point using the Broadcom Wireless Configuration Utility" on page 84.

## Configuring computer settings for an access point using the Broadcom Wireless Configuration Utility

### To configure an access point network using the Broadcom Wireless Configuration Utility:

1. With the access point highlighted in the *Connect to Wireless Network* dialog box, click **Advanced**. The Broadcom Wireless Configuration Utility opens.
2. Click to select the access point in the **Available networks** box, then click **Configure**. The *Wireless Network Properties* dialog box opens.




3. Set the Wireless network key (WEP) settings to match those set on the access point.
4. Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is not selected.
5. Click **OK** to close the *Wireless Network Properties* dialog box.

6 After you have completed setting up your access point network in Windows 2000, go to "Where to go from here" on page 97.

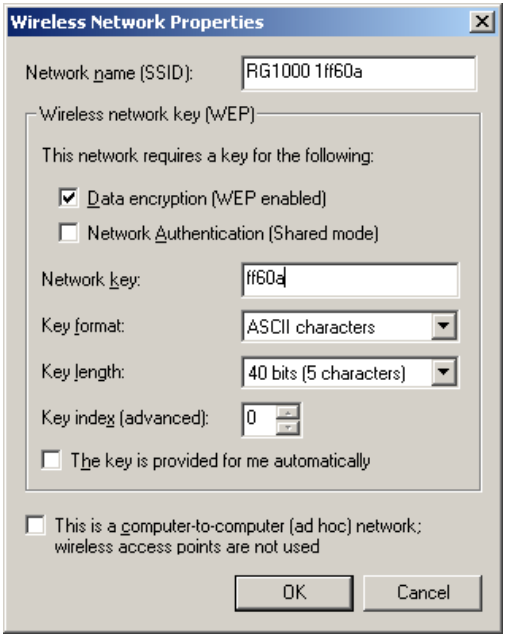
## Adding an access point using the Broadcom Wireless Configuration Utility

If an access point does not appear in the **Available networks** list, and you know the access point is turned on, you need to add it manually. This typically happens when you set the access point's **Allow Broadcast SSID to associate** to **No**. For more information, see "Configuring the access point" on page 72.

### To manually add an access point wireless Ethernet network using the Broadcom Wireless Configuration Utility:

1 With the *Connect to Wireless Network* dialog box open, click **Advanced**. The Broadcom Wireless Configuration Utility opens.

2 Click **Add**. The *Wireless Network Properties* dialog box opens.




3 Type the name of the network in the **Network name (SSID)** box.

4 Set the Wireless network key (WEP) settings to match those set on the access point.

5 Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is not selected.

6 Click **OK** to close the *Wireless Network Properties* dialog box.

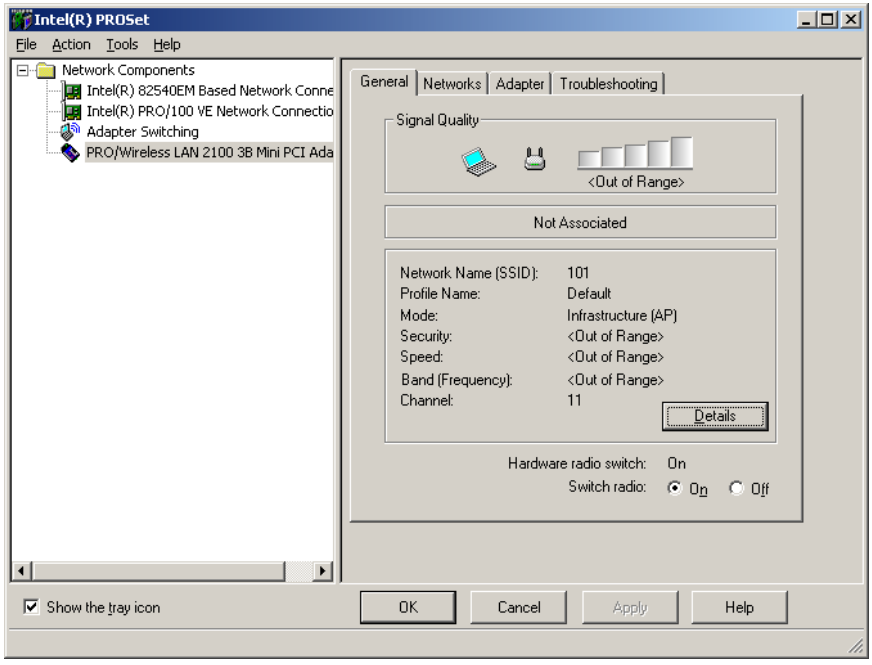
7 After you have completed setting up your access point network in Windows 2000, go to "Where to go from here" on page 97.

# Using Intel PROSet

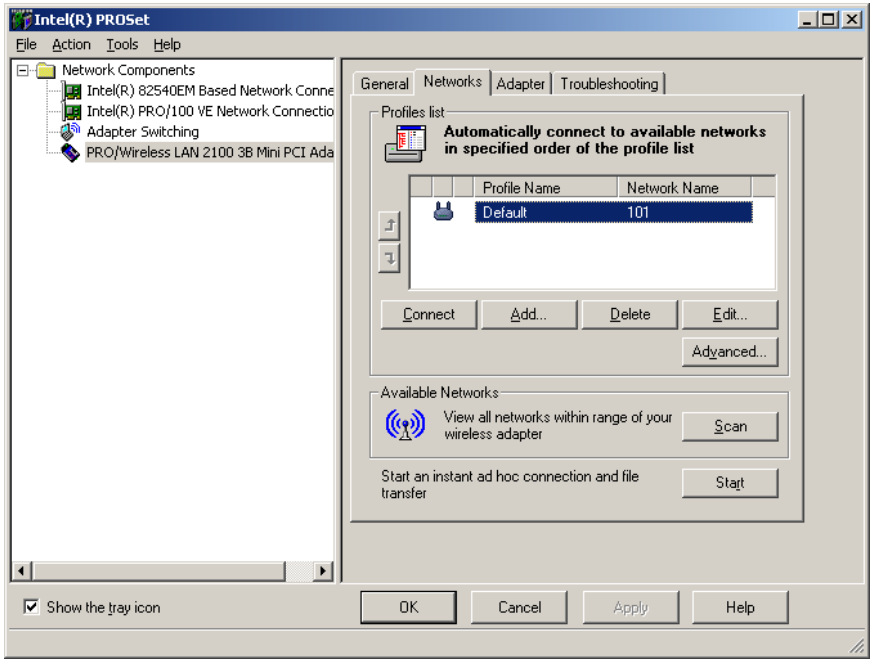
## Configuring computer settings for an access point using Intel PROSet

### To configure an access point network using Intel PROSet:

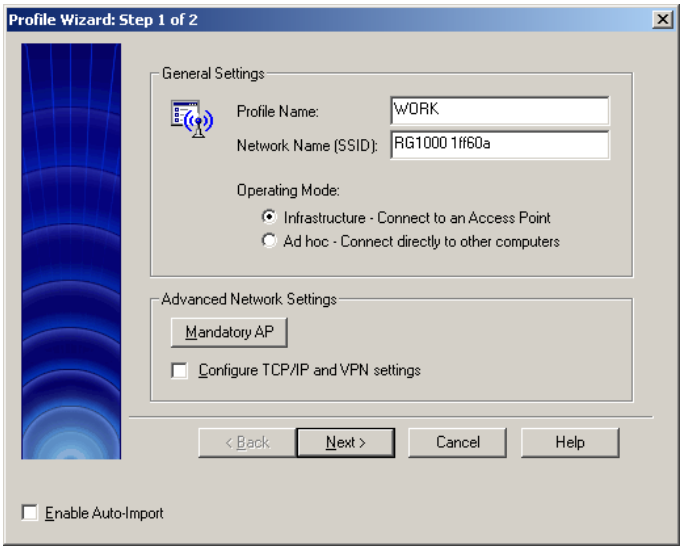
1. Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.
2. In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.



**3** Click the **Networks** tab.



4 Click **Add** to add a new profile. The *Profile Wizard* opens to the *General Settings* screen.




5 Type the name of the profile you are creating in the **Profile Name** box. For example, if you will be using your computer on two different networks, such as at home and at work, you may want to name one profile **Home** and the other one **Work**.

6 Type the name of the network in the **Network Name (SSID)** box. This is the SSID of the access point you are connecting to.

7 Click **Infrastructure - Connect to an Access Point**.

8 Click **Next**. The *Security Settings* screen opens.


9 Set the Wireless network key (WEP) settings to match those set on the access point.

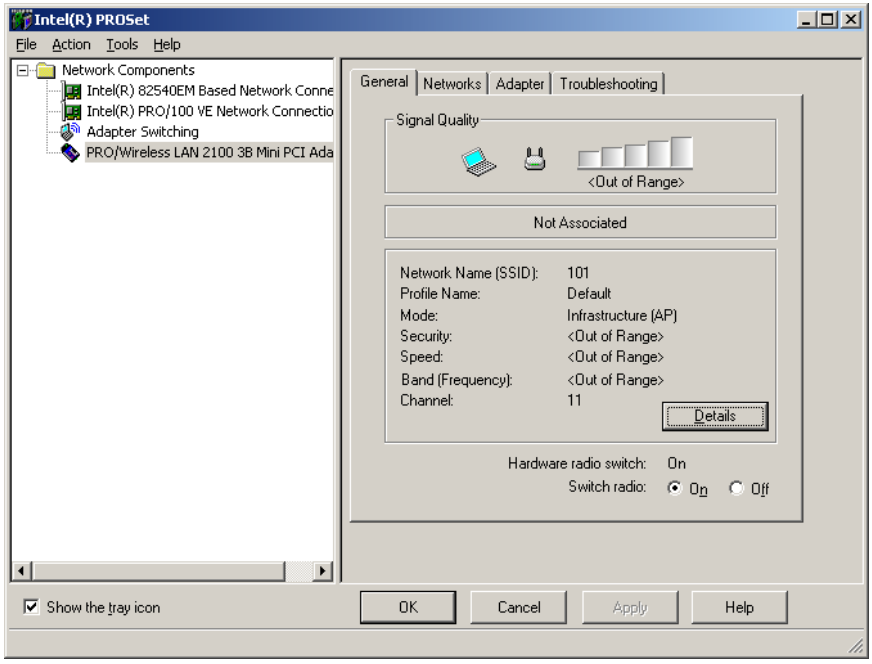
10 Click **Finish**.

11 Now that your Intel PROSet profile is set up, go to "Connecting to an access point network using Intel PROSet" on page 90.

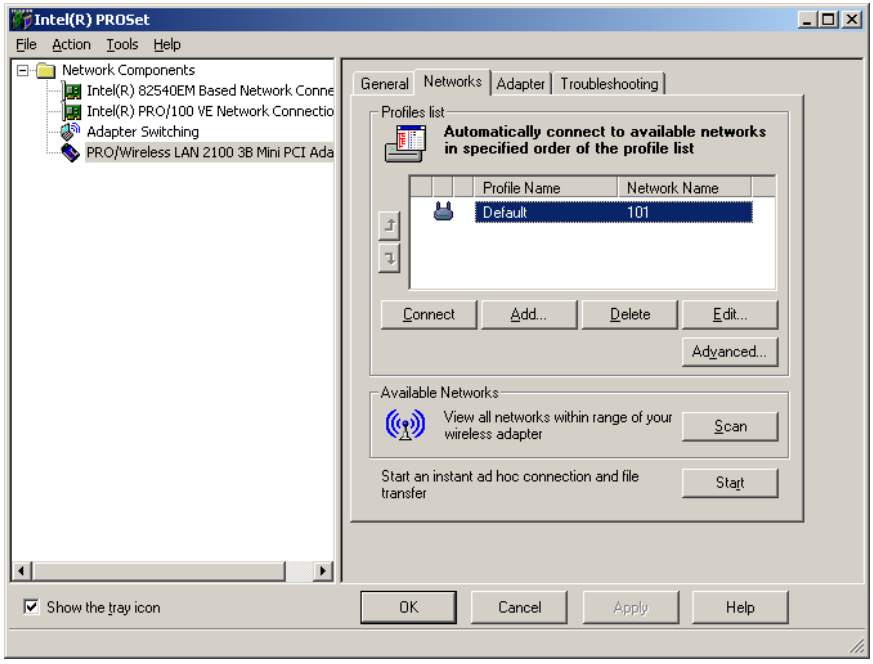
## Connecting to an access point network using Intel PROSet

### To connect to a wireless Ethernet network using Intel PROSet:

1. Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.
2. In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.



**3** Click the **Networks** tab.




**4** Click to highlight the profile for the network you created, then click **Connect**.

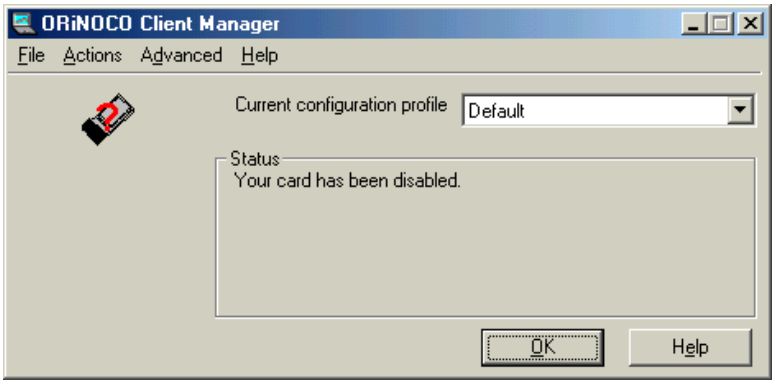
**5** After you have completed setting up your access point network in Windows 2000, go to "Where to go from here" on page 97.

# Using the ORiNOCO Client Manager

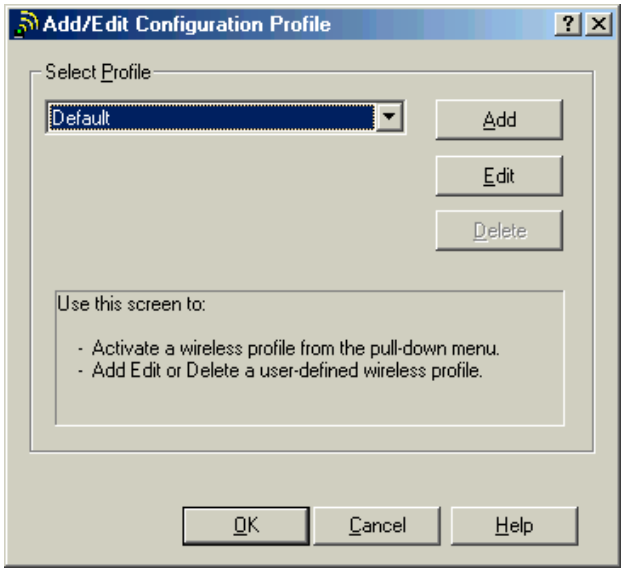
## Configuring computer settings for an access point using the ORiNOCO Client Manager

### To configure an access point network using the ORiNOCO Client Manager:

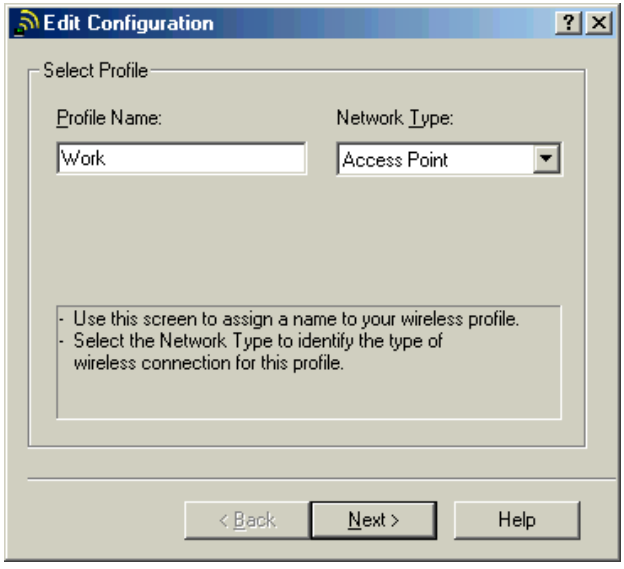
1 Click **Start**, **Programs**, **ORiNOCO**, then click **Client Manager**. The *ORiNOCO Client Manager* window opens.



**2** Click **Actions**, then click **Add/Edit Configuration Profile**. The *Add/Edit Configuration Profile* dialog box opens.



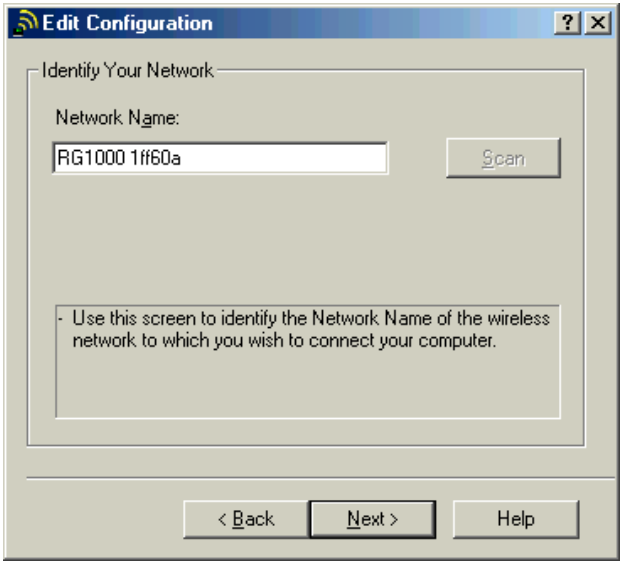

**3** Click **Add** to add a new profile. The *Edit Configuration* wizard opens to the *Select Profile* screen.



4 Type the name of the profile you are creating in the **Profile Name** box. When you create the first profile, you should rename the Default profile to the name of your profile. For example, if you will be using your computer on two different networks, such as at home and at work, you may want to name one profile **Home** and the other one **Work**.

5 Click the arrow to open the **Network Type** list, then click **Access Point**.

6 Click **Next**. The *Identify Your Network* screen opens.




7 Type the name of the network in the **Network Name** box. This is the SSID of the access point you are connecting to.

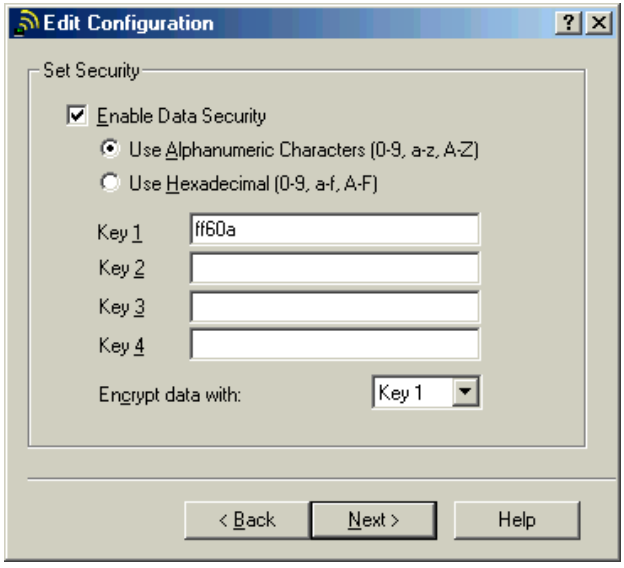
-OR-

Type **Any** to connect to the first access point available.

-OR-

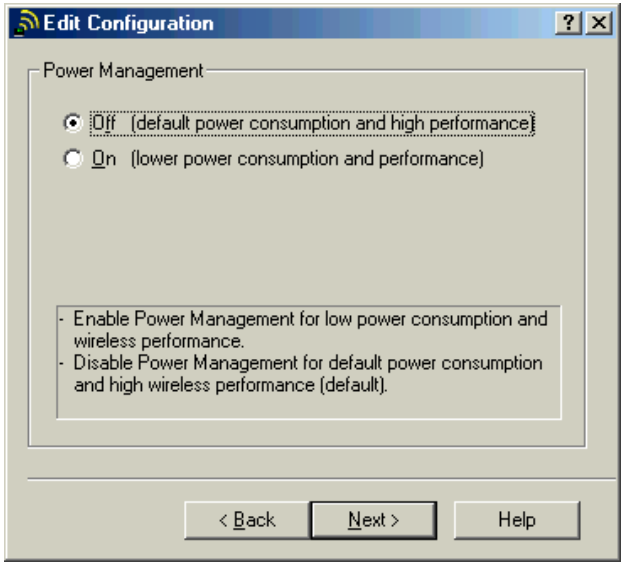
Click **Scan** to scan for all access points that are within range of your computer. Click to select a network name from the list that appears, then click **OK**.

**8** Click **Next**. The *Set Security* screen opens.



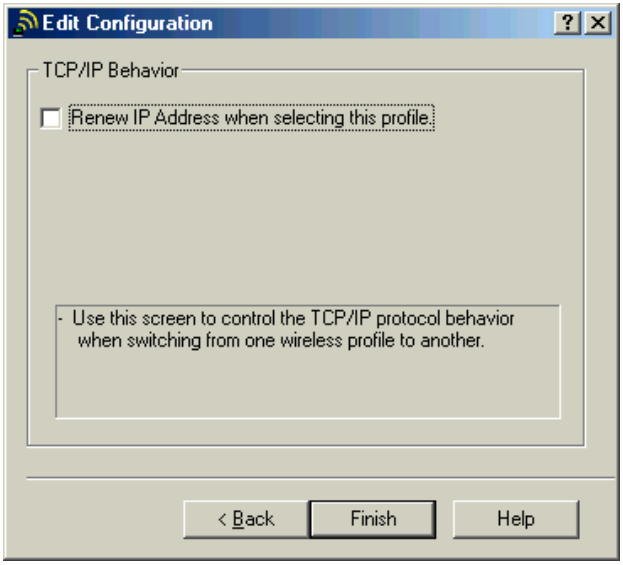

**9** Set the Wireless network key (WEP) settings to match those set on the access point.

**10** Click **Next**. The *Power Management* screen opens.



11 Click the type of power management you want to use.

12 Click **Next**. The *TCP/IP Behavior* screen opens.




13 Click the check box if you are using this computer on more than one network. This will force the computer to renew the TCP/IP address each time you change profiles.

14 Click **Finish** to close the *Edit Configuration* wizard.

15 Now that your ORiNOCO profile is set up, go to "Connecting to an access point network using the ORiNOCO Client Manager" on page 96.

## Connecting to an access point network using the ORiNOCO Client Manager

### To connect to a wireless Ethernet network using the ORiNOCO Client Manager:

1 Right-click the ORiNOCO Client Manager icon on the taskbar.

2 Click **Configuration Profile**, then click the profile for the network you want to access.

3 After you have completed setting up your access point network in Windows 2000, go to "Where to go from here" on page 97.

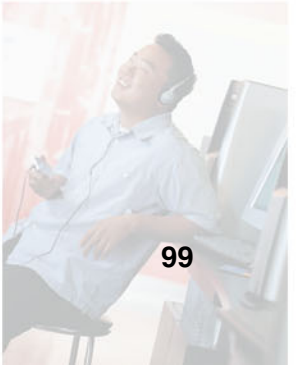
# Where to go from here

Now that your access point wireless Ethernet network has been created and configured, you need to be able to turn your wireless emitter on and off. Go to "Turning Your Wireless Emitter On or Off" on page 125.

# 6 Creating a Peer-to-Peer Wireless Network

This chapter describes how to create a peer-to-peer wireless Ethernet network without an access point. Read this chapter to learn about:


- "Connecting to a peer-to-peer wireless Ethernet network in Windows XP" on page 100
- "Connecting to a peer-to-peer wireless Ethernet network in Windows 2000" on page 107

# Connecting to a peer-to-peer wireless Ethernet network in Windows XP

If you are using Windows XP, go to "Creating a peer-to-peer wireless Ethernet network in Windows XP" on page 100.

If you are using Windows 2000, go to "Connecting to a peer-to-peer wireless Ethernet network in Windows 2000" on page 107.

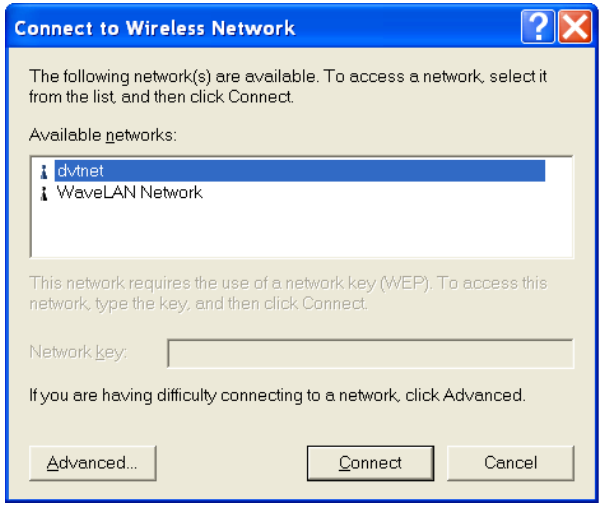
## Creating a peer-to-peer wireless Ethernet network in Windows XP

To establish a peer-to-peer wireless Ethernet network, you need to create the network on one computer.

### To create a peer-to-peer wireless Ethernet network in Windows XP:

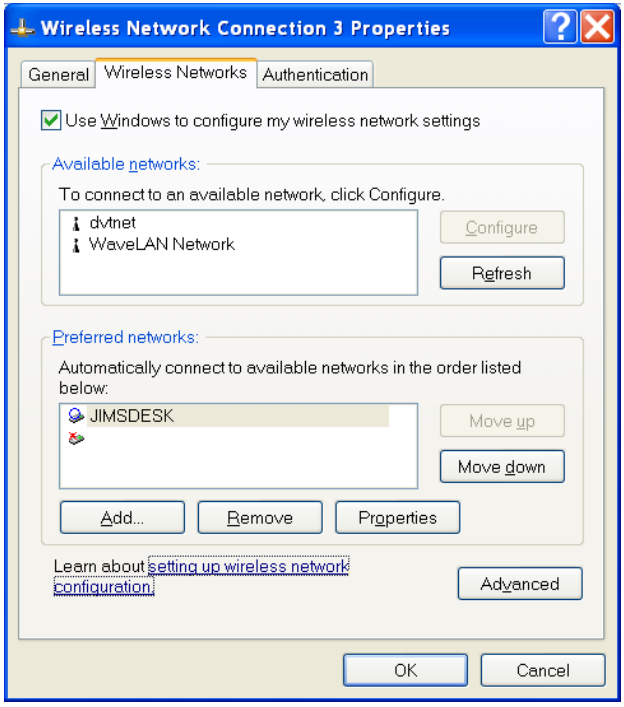
1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.

**3** Right-click **Wireless Network Connection**, then click **View Available Wireless Networks**. The *Connect to Wireless Network* dialog box opens.

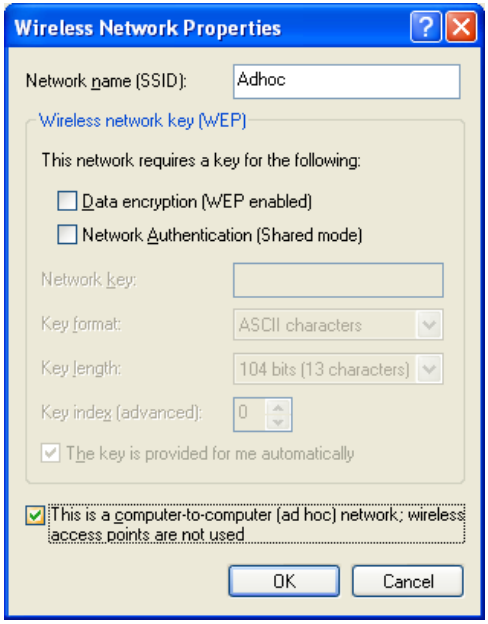



**4** Click **Advanced**. The *Wireless Network Connection Properties* dialog box opens.

**5** Click the **Wireless Networks** tab.



6 Click **Add**. The *Wireless Network Properties* dialog box opens.




7 Type the name of the network in the **Network name (SSID)** box. For a peer-to-peer network, this can be any network name not already in use, for example **Adhoc**.

8 Click the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box.

9 Set the Wireless network key (WEP) settings to match those agreed to by the other members of your peer-to-peer network.

10 Click **OK** to close the *Wireless Network Properties* dialog box. Go to "Connecting to a peer-to-peer wireless network" on page 104.

**Help and Support**

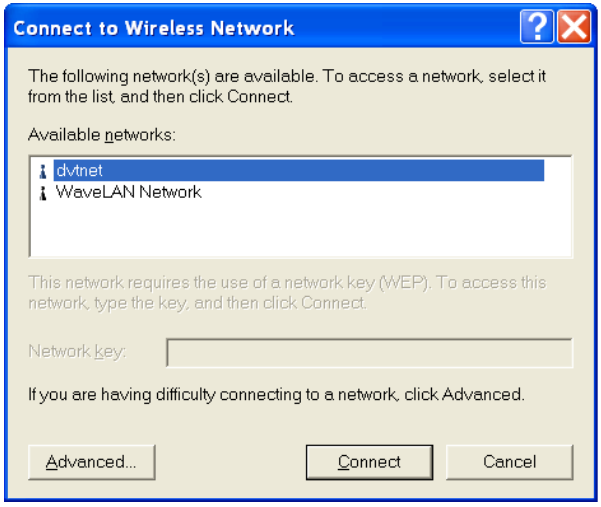
For more information about configuring a wireless network in Windows XP, click **Start**, then click **Help and Support**.

Type the keyword **wireless network** in the HelpSpot **Search** box Search , then click the arrow.

# Connecting to a peer-to-peer wireless network

## To connect to a peer-to-peer wireless Ethernet network in Windows XP:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.
3. Right-click **Wireless Network Connection**, then click **View Available Wireless Networks**. The *Connect to Wireless Network* dialog box opens.




4. Click the network you want to connect to in the **Available networks** list, then click **Connect**.
5. If you are unable to connect to the network, see "Configuring computer settings for a peer-to-peer network" on page 105.

-OR

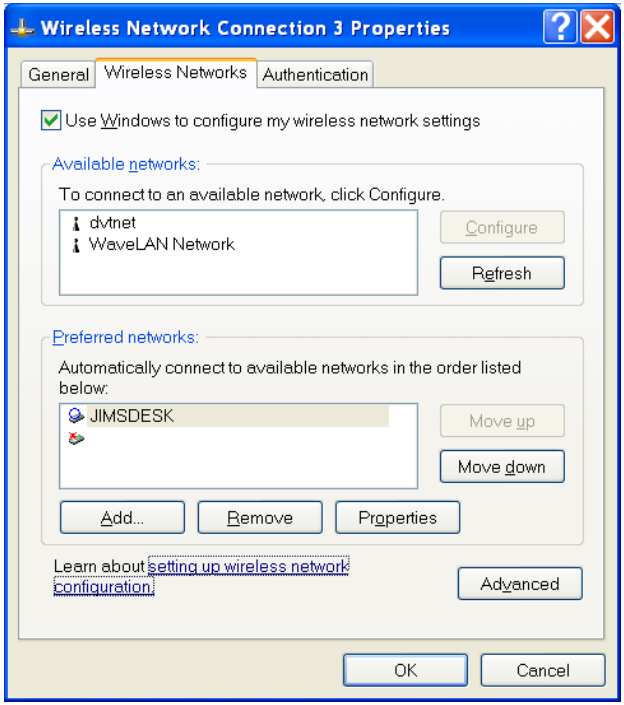
Now that you have completed setting up your peer-to-peer network in Windows XP, go to "Using Your Ethernet Network" on page 129.

# Configuring computer settings for a peer-to-peer network

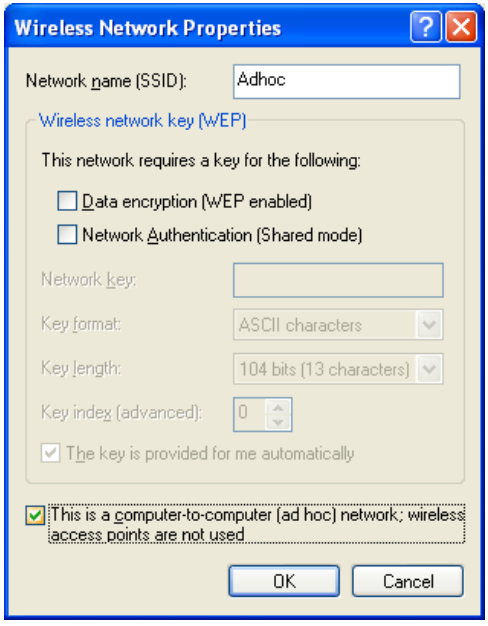
If you are unable to connect to a peer-to-peer network in the **Available networks** list, the most likely cause it that the other computers are using WEP security. You need to configure your network settings to use the same WEP security settings as those used by the other computers.

## To configure computer settings for a peer-to-peer wireless Ethernet network in Windows XP:

1. With the *Connect to Wireless Network* dialog box open, click the network you want to configure your computer for, then click **Advanced**. The *Wireless Network Connection Properties* dialog box opens.
2. Click the **Wireless Networks** tab.



3 Click to select the peer-to-peer network in the **Available networks** box, then click **Configure**. The *Wireless Network Properties* dialog box opens. The name of the network already appears in the **Network name (SSID)** box.




4 Set the Wireless network key (WEP) settings to match those agreed to by the other members of your peer-to-peer network.

5 Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is selected.

6 Click **OK** to close the *Wireless Network Properties* dialog box.

Now that you have completed setting up your peer-to-peer network in Windows XP, go to "Where to go from here" on page 123.

**Help and Support**

For more information about configuring a wireless network in Windows XP, click **Start**, then click **Help and Support**.

Type the keyword **wireless network** in the HelpSpot **Search** box Search , then click the arrow.

# Connecting to a peer-to-peer wireless Ethernet network in Windows 2000

If you use the Broadcom mini PCI card, connecting to a peer-to-peer network in Windows 2000 is similar to connecting to a peer-to-peer network in Windows XP. For more information, see "Using the Broadcom Wireless Configuration Utility" on page 108.

If you use the Intel or Agere ORiNOCO mini PCI card, you cannot connect to a peer-to-peer network using Windows 2000 without first creating a profile in a client manager program. If your Gateway computer has built in wireless networking using the Intel mini PCI card, see "Using Intel PROSet" on page 112. If your Gateway computer has built in wireless networking using the Agere ORiNOCO mini PCI card, see "Using the ORiNOCO Client Manager" on page 118.

If your Windows 2000 computer does not use the Broadcom Wireless Configuration Utility, Intel client manager, or Agere client manager, see the documentation that came with your wireless networking solution.

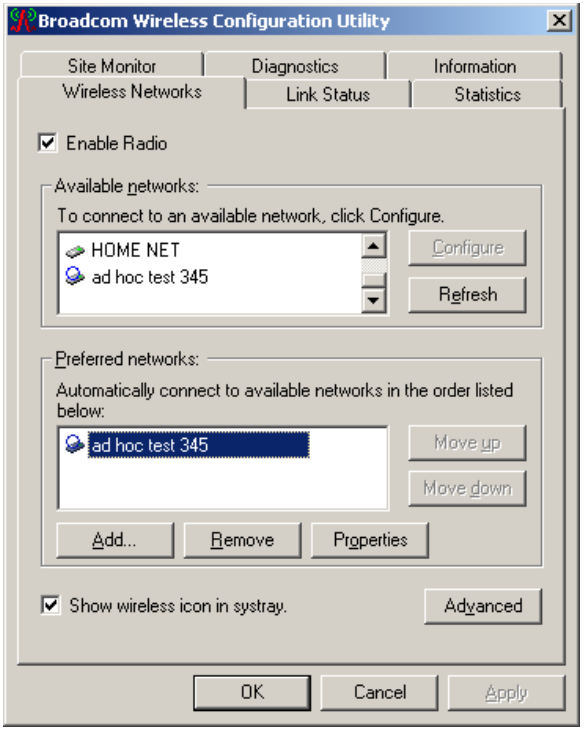
If you do not know which card you have, see "To determine which wireless adapter is installed in your computer:" on page 52.

# Using the Broadcom Wireless Configuration Utility

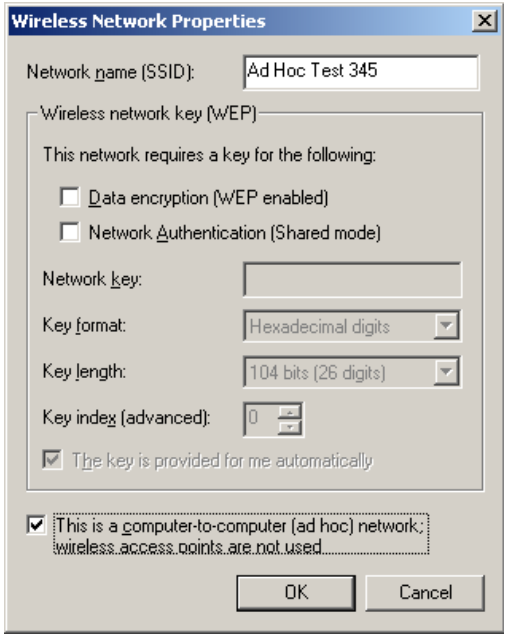
## Creating a peer-to-peer wireless network using the Broadcom Wireless Configuration Utility

### To create a peer-to-peer wireless network using the Broadcom Wireless Configuration Utility:

1. Right-click the Broadcom Wireless Configuration Utility icon on the taskbar.
2. Click **Open Utility.** The Broadcom Wireless Configuration Utility opens.



3 Click **Add** to add a new network. The *Profile Wizard* opens to the *General Settings* screen.




4 Type the name of the network in the **Network name (SSID)** box. For a peer-to-peer network, type any network name that has been agreed upon by the other members of the network, for example **Adhoc**. This name cannot already be in use.

5 Click **This is a computer-to-computer (ad hoc) network; wireless access points are not used**.

6 Set the Wireless network key (WEP) settings to match those agreed to by the other members of your peer-to-peer network.

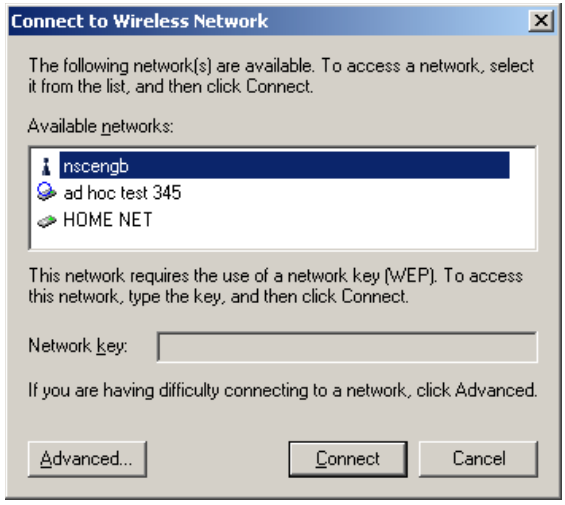
7 Click **OK**.

8 Go to "Connecting to a peer-to-peer wireless network using the Broadcom Wireless Configuration Utility" on page 110.

## Connecting to a peer-to-peer wireless network using the Broadcom Wireless Configuration Utility

### To connect to a wireless Ethernet network using the Broadcom Wireless Configuration Utility:

1. Double-click the Broadcom Wireless Configuration Utility icon on the taskbar. The *Connect to Wireless Network* dialog box opens.




2. Click the network you want to connect to, then click **Connect**.

3. If you are unable to connect to the network, see "Configuring computer settings for a peer-to-peer network using the Broadcom Wireless Configuration Utility" on page 111.

   -OR-

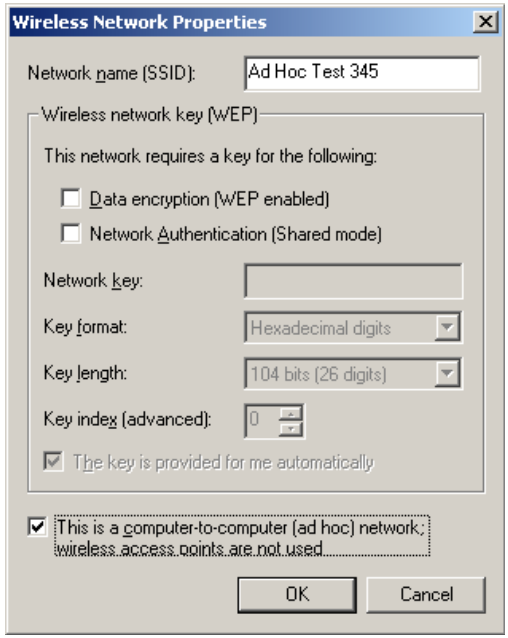
   Now that you have completed setting up your peer-to-peer network in Windows 2000, go to "Where to go from here" on page 123.

## Configuring computer settings for a peer-to-peer network using the Broadcom Wireless Configuration Utility

If you are unable to connect to a peer-to-peer network in the **Available networks** list, the most likely cause it that the other computers are using WEP security. You need to configure your network settings to use the same WEP security settings as those used by the other computers.

### To configure computer settings for a peer-to-peer wireless Ethernet network using the Broadcom Wireless Configuration Utility:

1. With the peer-to-peer network highlighted in the *Connect to Wireless Network* dialog box, click **Advanced**. The Broadcom Wireless Configuration Utility opens.
2. Click to select the peer-to-peer network in the **Available networks** box, then click **Configure**. The *Wireless Network Properties* dialog box opens.




3. Set the Wireless network key (WEP) settings to match those set on the access point.
4. Make sure that the **This is a computer-to-computer (ad hoc) network; wireless access points are not used** check box is selected.

5 Click **OK** to close the *Wireless Network Properties* dialog box. Go to "Where to go from here" on page 123.

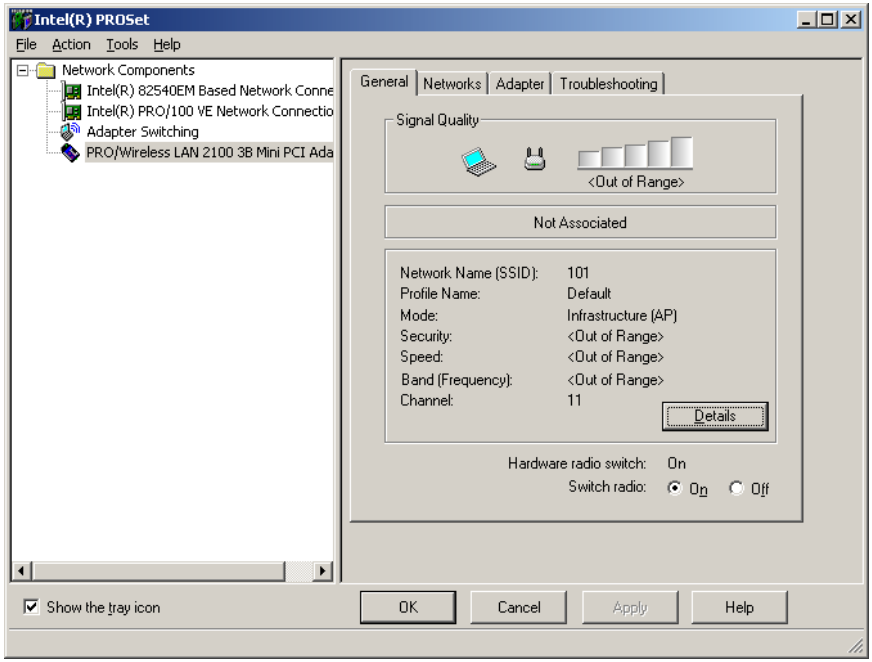
# Using Intel PROSet

## Configuring computer settings for a peer-to-peer wireless network using Intel PROSet

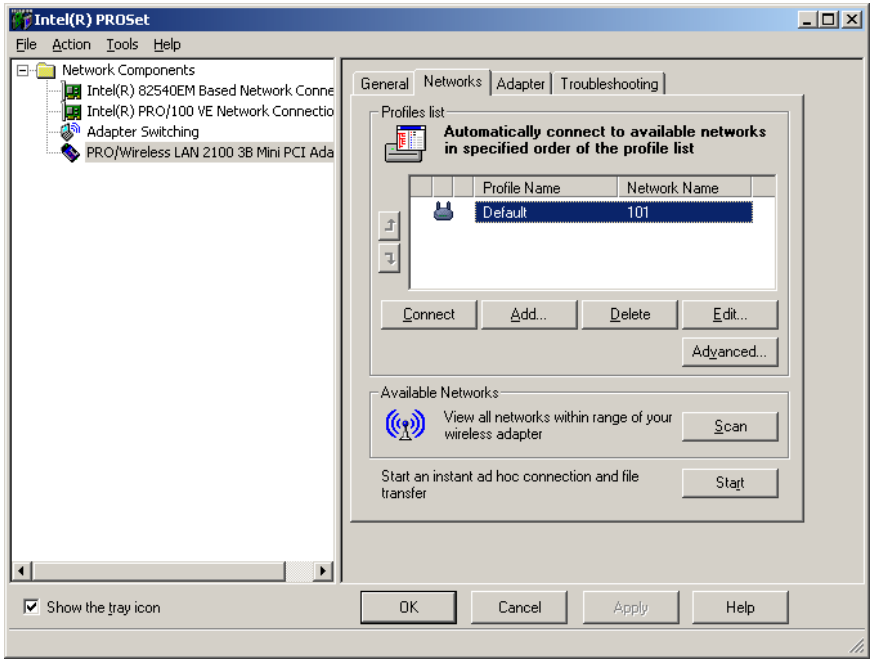
### To configure a peer-to-peer wireless network using Intel PROSet:

1 Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.

2 In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.



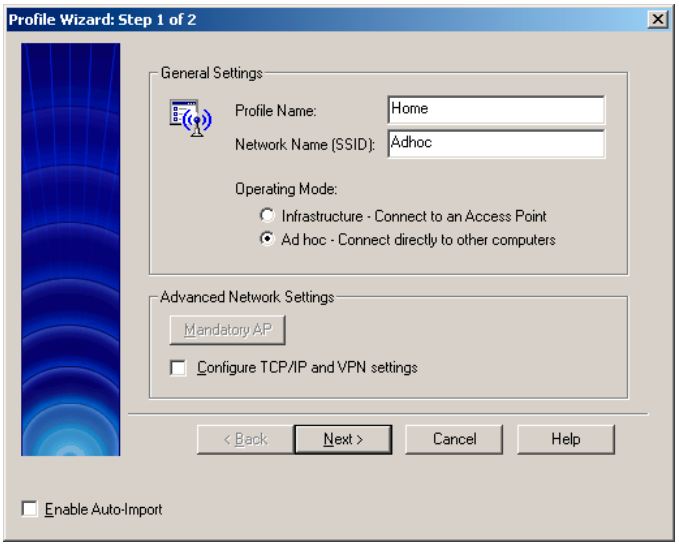
**3** Click the **Networks** tab.




**Important**

Do not use the **Start** button on the Networks tab unless all computers are using Intel PRO/Wireless LAN Adapters. See the help in Intel PROSet for more information about using this feature.

4 Click **Add** to add a new profile. The *Profile Wizard* opens to the *General Settings* screen.




5 Type the name of the profile you are creating in the **Profile Name** box. For example, if you will be using your computer on two different networks, such as at home and at work, you may want to name one profile **Home** and the other one **Work**.

6 Type the name of the network in the **Network Name (SSID)** box. For a peer-to-peer network, type any network name that has been agreed upon by the other members of the network, for example **Adhoc**. This name cannot already be in use.

7 Click **Ad hoc - Connect directly to other computers**.

**8** Click **Next**. The *Security Settings* screen opens.


**9** Set the Wireless network key (WEP) settings to match those agreed to by the other members of your peer-to-peer network.

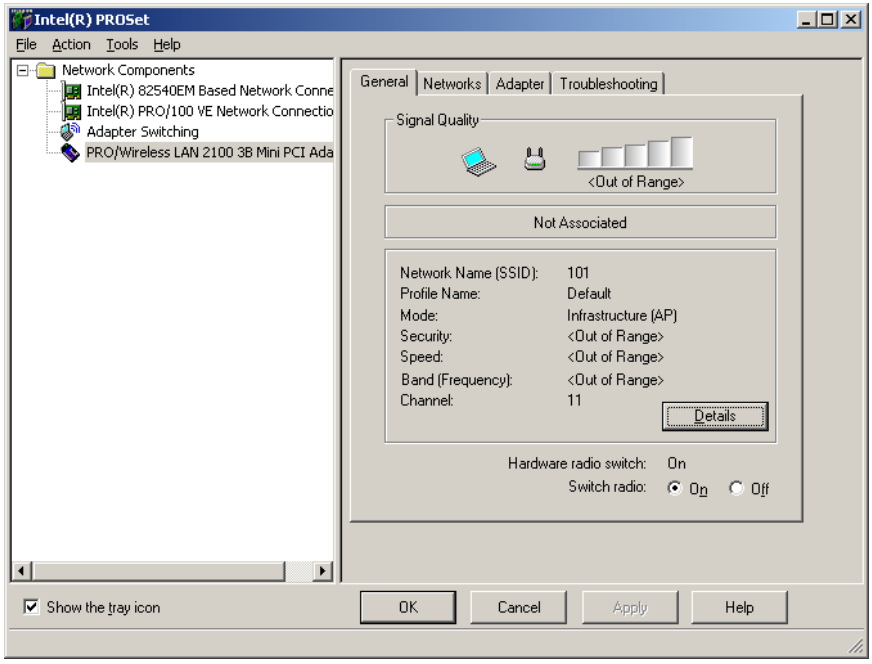
**10** Click **Finish**.

**11** Now that your Intel PROSet profile is set up, go to "Connecting to a peer-to-peer wireless network using Intel PROSet" on page 116.

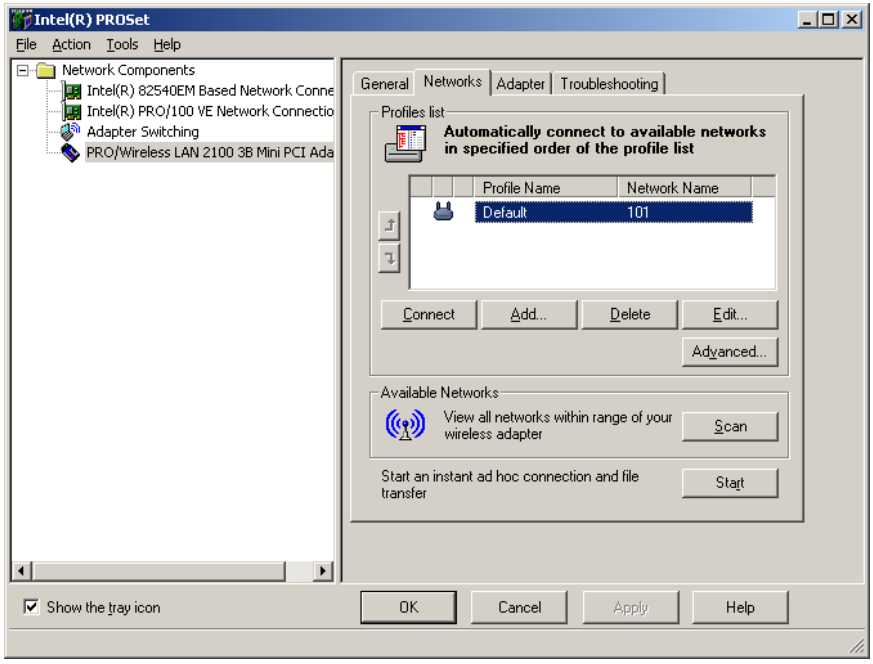
## Connecting to a peer-to-peer wireless network using Intel PROSet

### To connect to a wireless Ethernet network using Intel PROSet:

1. Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.
2. In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.



**3** Click the **Networks** tab.



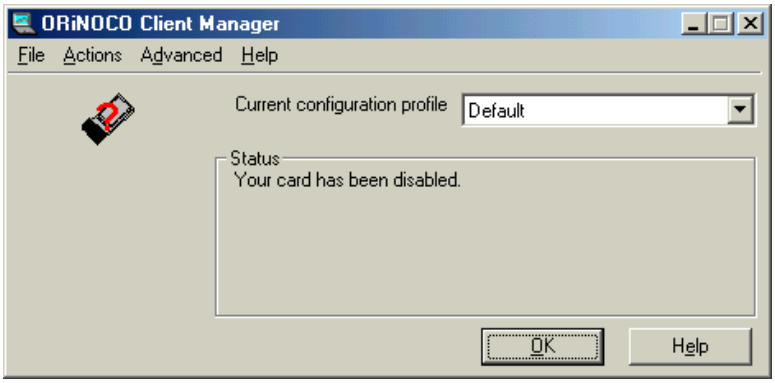

**4** Click to highlight the profile for the network you want to access, then click **Connect**. Go to "Where to go from here" on page 123.

# Using the ORiNOCO Client Manager

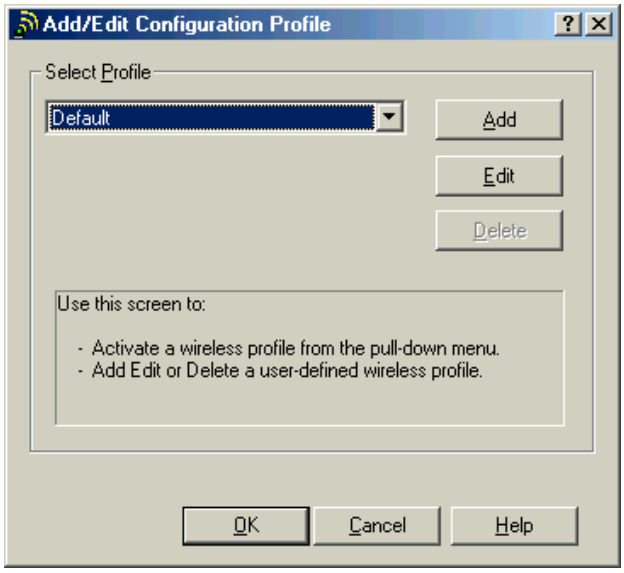
## Configuring computer settings for a peer-to-peer wireless network using the ORiNOCO Client Manager

### To create a peer-to-peer wireless Ethernet network using the ORiNOCO Client Manager:

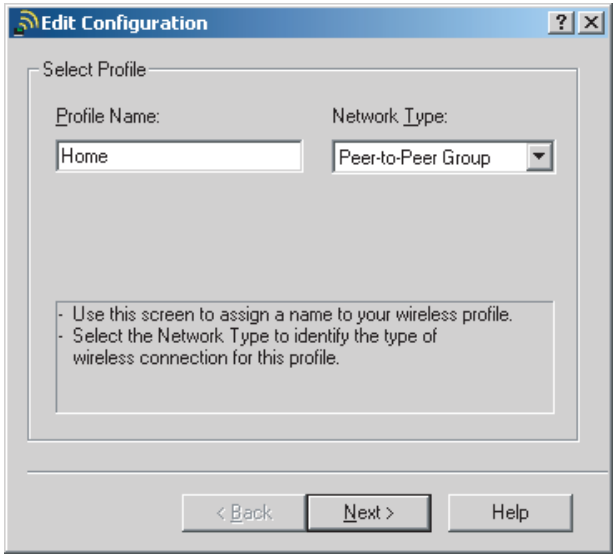
1 Click **Start**, **Programs**, **ORiNOCO**, then click **Client Manager**. The *ORiNOCO Client Manager* window opens.



**2** Click **Actions**, then click **Add/Edit Configuration Profile**. The *Add/Edit Configuration Profile* dialog box opens.



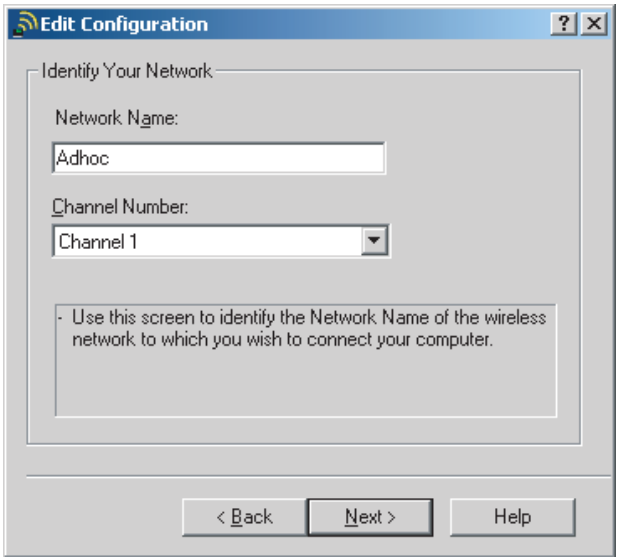

**3** Click **Add** to add a new profile. The *Edit Configuration* wizard opens to the *Select Profile* screen.



4 Type the name of the profile you are creating in the **Profile Name** box. When you create the first profile, you should rename the Default profile to the name of your profile. For example, if you will be using your computer on two different networks, such as at home and at work, you may want to name one profile **Home** and the other one **Work**.

5 Click the arrow to open the **Network Type** list, then click **Peer-to-Peer Group**.

6 Click **Next**. The *Identify Your Network* screen opens.

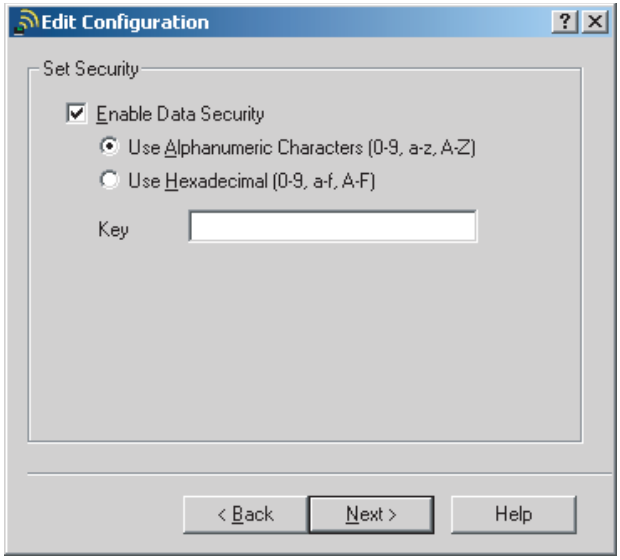



7 Type the name of the network in the **Network Name** box. For a peer-to-peer network, type any network name that has been agreed upon by the other members of the network, for example **Adhoc**. This name cannot already be in use.

**Important**

All computers on your network must have the same network name.

**8** Click **Next**. The *Set Security* screen opens.



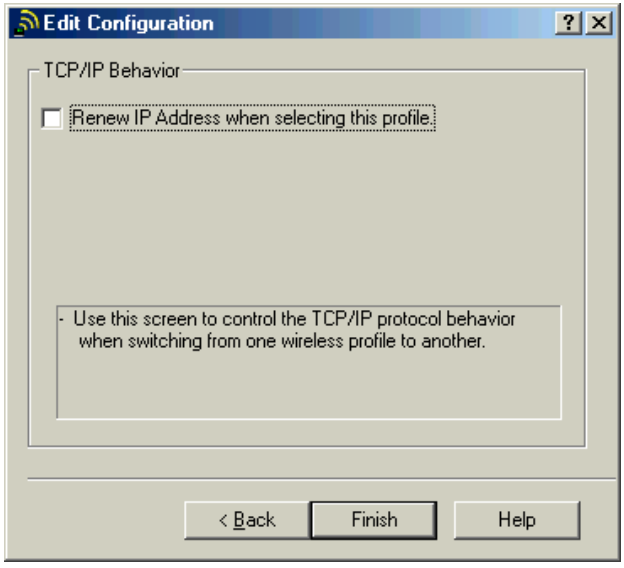

**9** Click the **Enable Data Security** check box.

**10** Set the Wireless network key (WEP) settings to match those agreed to by the other members of your peer-to-peer network.

**Important**

All computers on your network must have the same encryption key.

**11** Click **Next**. The *TCP/IP Behavior* screen opens.




**12** Click the check box if you are using this computer on more than one network. This will force the computer to renew the TCP/IP address each time you change profiles.

**13** Click **Finish** to close the *Edit Configuration* wizard.

**14** Now that your ORiNOCO profile is set up, go to "Connecting to an peer-to-peer network using the ORiNOCO Client Manager" on page 122.

## Connecting to an peer-to-peer network using the ORiNOCO Client Manager

### To connect to a wireless Ethernet network using the ORiNOCO Client Manager:

**1** Right-click the ORiNOCO Client Manager icon on the taskbar.

**2** Click **Configuration Profile**, then click the profile for the network you want to access. Go to "Where to go from here" on page 123.

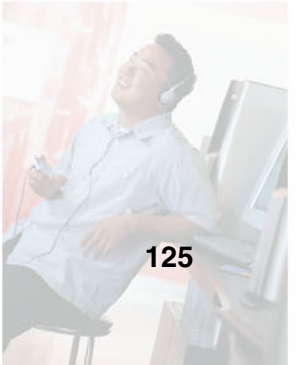
# Where to go from here

Now that your peer-to-peer wireless Ethernet network has been created and configured, you need to be able to turn your wireless emitter on and off. Go to "Turning Your Wireless Emitter On or Off" on page 125.

# 7 Turning Your Wireless Emitter On or Off

You can turn off the wireless emitter to conserve the battery charge on your notebook or tablet PC. There are times, such as when you are flying in an aircraft, when you should turn off your wireless emitter. Read this chapter to learn about:


- "Turning your wireless emitter on or off in Windows XP" on page 126
- "Turning your wireless emitter on or off in Windows 2000" on page 126

# Turning your wireless emitter on or off in Windows XP

### To turn the wireless emitter on or off in Windows XP:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.
3. Right-click **Wireless Network Connection**, then click **Enable** to turn on the wireless emitter or click **Disable** to turn off the wireless emitter.

# Turning your wireless emitter on or off in Windows 2000

## Using the Broadcom Wireless Configuration Utility

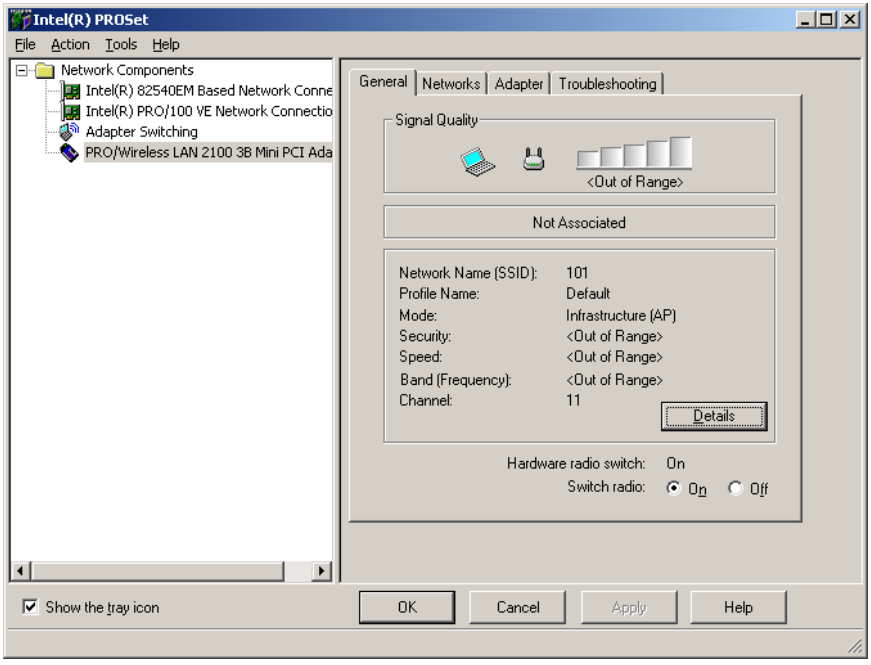
### To turn the wireless emitter on or off using the Broadcom Wireless Configuration Utility:

1. Right-click the Broadcom Wireless Configuration Utility icon  on the taskbar.
2. Click **Enable Radio** to turn on the wireless emitter or **Disable Radio** to turn off the wireless emitter.

# Using Intel PROSet

## To turn the wireless emitter on or off using Intel PROSet:

1. Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.
2. In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.




3. Click **Switch radio On** to turn on the wireless emitter or **Switch radio Off** to turn off the wireless emitter.
4. Click **OK**.

## Using the ORiNOCO Client Manager

### To turn the wireless emitter on or off using the ORiNOCO Client Manager:

1. Right-click the ORiNOCO Client Manager icon  on the taskbar.
2. Click **Enable Radio** to turn on the wireless emitter or **Disable Radio** to turn off the wireless emitter.

# Where to go from here

### Using your wireless Ethernet network

Now that your wireless Ethernet has been created and configured, and you know how to turn your wireless emitter on and off, you are ready to use the network. Go to "Sharing Your Resources" on page 131.

### Troubleshooting your wireless Ethernet network

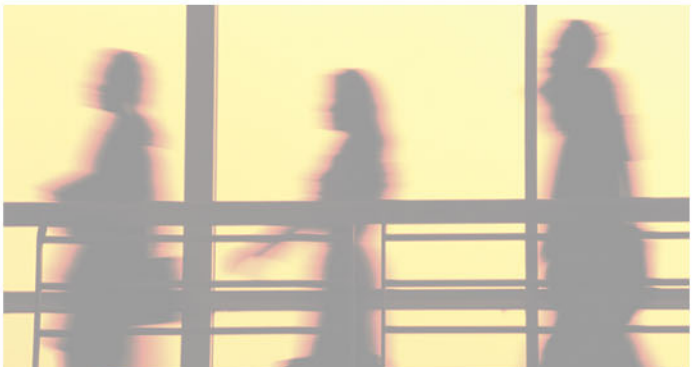
If you cannot get your wireless Ethernet network to work, go to "Troubleshooting Your Ethernet Network" on page 145.

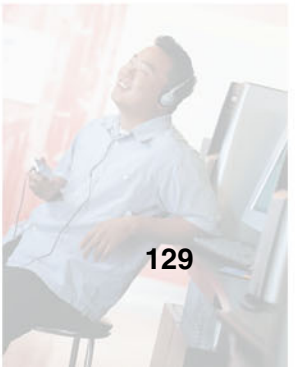
# D

# Using Your Ethernet Network

Read the following chapters to use and troubleshoot your Ethernet network:


- "Sharing Your Resources" on page 131
- "Troubleshooting Your Ethernet Network" on page 145

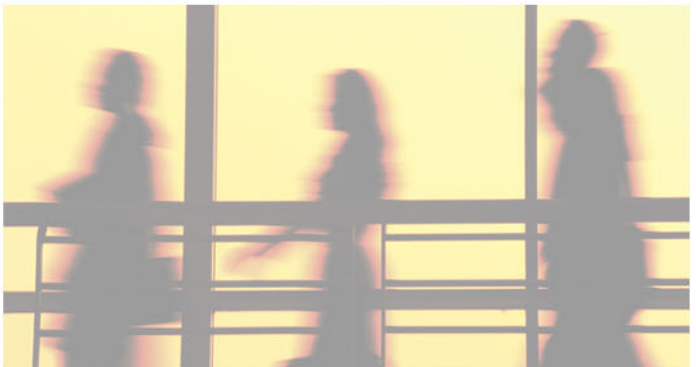



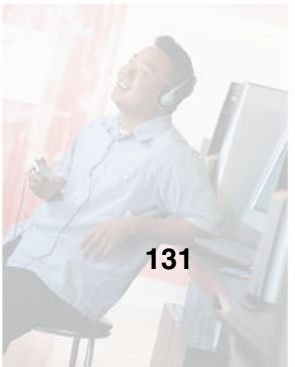


# 8 Sharing Your Resources

After you are connected to a wired or wireless Ethernet network you can share access to the Internet, share information, share peripheral devices, and stream audio and video files. Read this chapter to learn about:


- "Sharing an Internet connection" on page 132
- "Sharing drives and printers" on page 138
- "Using the network" on page 142



# Sharing an Internet connection

Internet sharing lets all computers on the network access the Internet at the same time using one Internet service provider (ISP) connection.

**Important**

The Internet setup procedure uses the Windows XP New Connection Wizard and Internet Explorer. The example screens show those screens that typically appear in the course of using the wizard. If your Internet connection differs from that used in this example, you may encounter additional screens or screens with different selections. Make sure that you read each screen in the wizard and make your selections based on your particular Internet connection situation.

If you use a browser other than Internet Explorer, see the help provided with that browser for configuring it for use on a network.

**Important**

If you are using a dial-up modem instead of a broadband connection, see the documentation that came with your router or access point for the correct procedure.

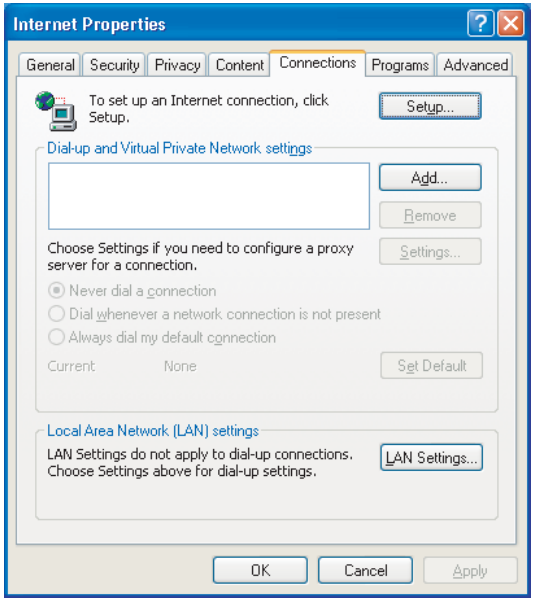
If you are using Windows XP, go to "To set up Internet Explorer on each computer on your Ethernet network in Windows XP:" on page 132.

If you are using Windows 2000, go to "To set up Internet Explorer on each computer on your Ethernet network in Windows 2000:" on page 135.

## To set up Internet Explorer on each computer on your Ethernet network in Windows XP:

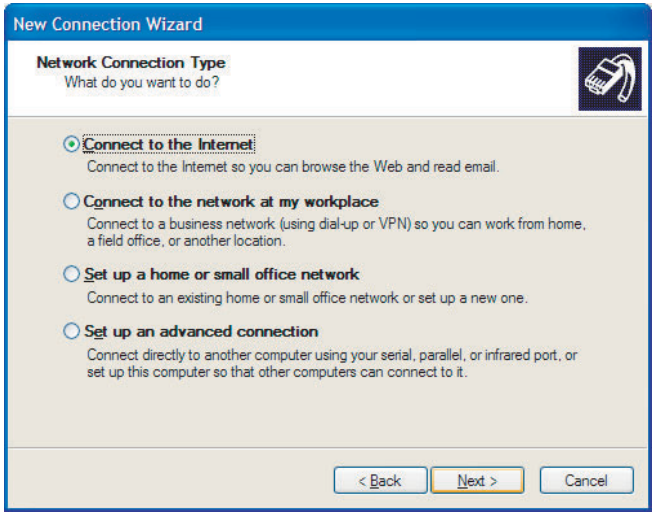
1. Make sure that the router or access point is turned on and configured as instructed by your cable or DSL provider.
2. Click **Start**, right-click **Internet**, then click **Internet Properties**. The *Internet Properties* dialog box opens.

**3** Click the **Connections** tab.

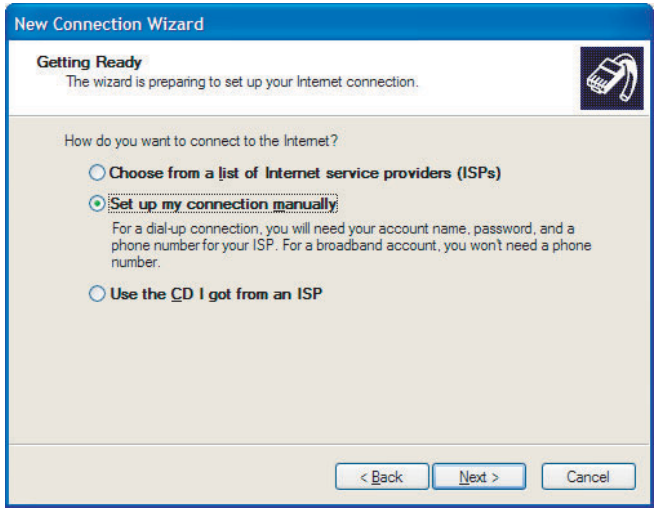



**4** Click **Setup**. The New Connection Wizard opens.

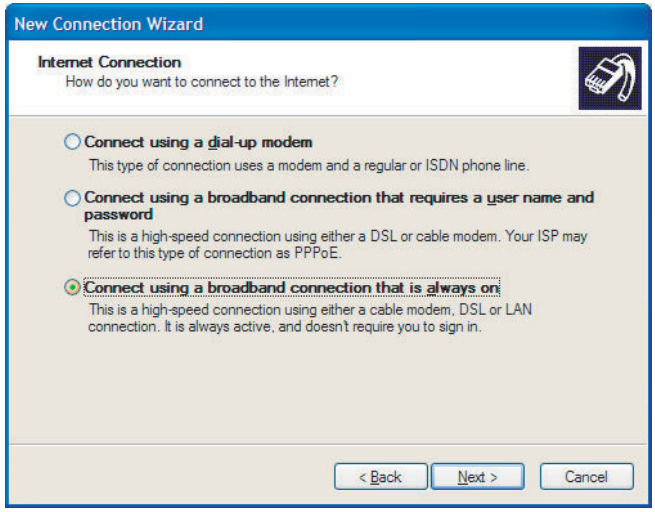
**5** Click **Next**. The *Network Connection Type* screen opens.



**6** Click **Connect to the Internet**, then click **Next**. The *Getting Ready* screen opens.




**7** Click **Set up my connection manually**, then click **Next**. The *Internet Connection* screen opens.



8 Click the type of Internet connection you are setting up, then click **Next**.

9 Click **Finish**.

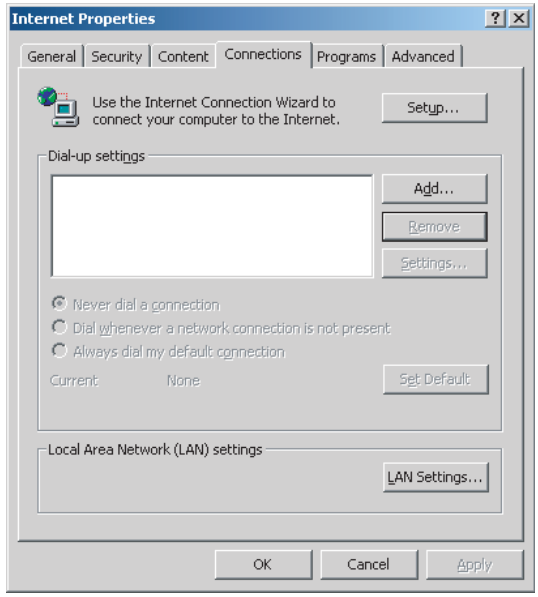
10 Repeat this procedure for each computer on your network. Go to "To access the Internet from your computer:" on page 138.

## To set up Internet Explorer on each computer on your Ethernet network in Windows 2000:

1 Make sure that the router or access point is turned on and configured as instructed by your cable or DSL provider.

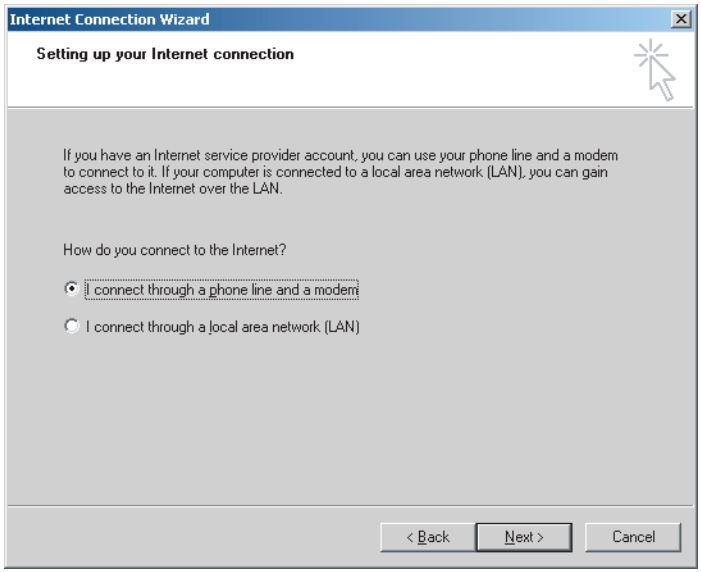
2 Right-click the **Internet Explorer** icon on your desktop, then click **Properties**. The *Internet Properties* dialog box opens.

3 Click the **Connections** tab.

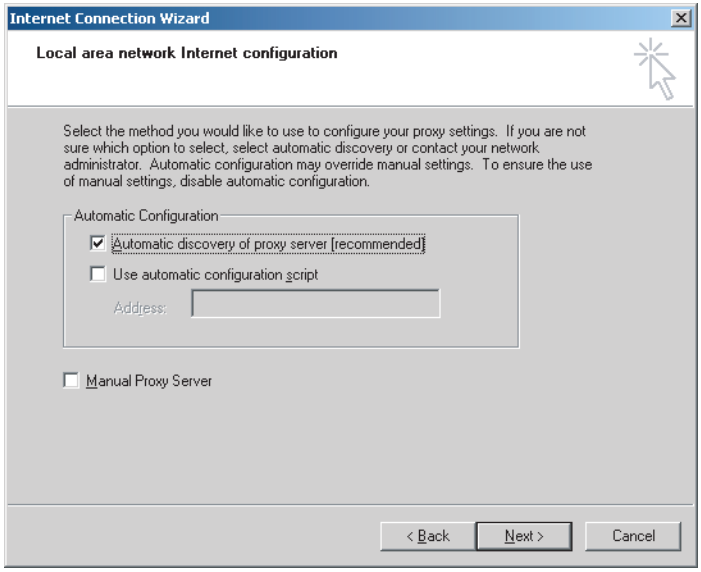



4 Click **Setup**. The Internet Connection Wizard opens.

5 Click **I want to set up my Internet connection manually, or I want to connect through a local area network (LAN)**, then click **Next**. The *Setting up your Internet connection* screen opens.



6 Click **I connect through a local area network (LAN)**, then click **Next**. The *Local area network Internet connection* screen opens.




7 Click to select the **Automatic discovery of proxy server (recommended)** check box, then click **Next**. The *Set Up Your Internet Mail Account* screen opens.

8 If you want to set up an Internet e-mail account **other** than the e-mail account supplied by your Internet service provider, select **Yes** then click **Next**. Follow the on-screen instructions to complete the Internet mail setup. When you are finished setting up mail, click **Finish**.

- OR -

If you do not want to set up an e-mail account **other** than the e-mail account supplied by your Internet service provider, select **No,** click **Next**, then click **Finish**.

9 Repeat this procedure for each computer on your network. Go to "To access the Internet from your computer:" on page 138.

### To access the Internet from your computer:

1 Make sure that the router or access point is turned on.

2 Open Internet Explorer.

# Sharing drives and printers

With a network, you can *share* drives (for example hard drives, diskette drives, and CD or DVD drives) and printers among the computers connected to the network.

After the drives and printers on each network computer are shared, you can access them as though they were attached directly to your computer. Then you can:

- View a network drive
- Open and copy files stored on other network computers
- Print documents on network printers

**Important**

To share a printer among the network computers, each computer must have the shared printer's drivers installed. Follow the instructions included with your printer to install the printer drivers on each computer.

Before you can share your drives and printers, you need to turn on Windows file and printer sharing on **all** the network computers.

### To turn on Windows file and printer sharing:

1 In Windows XP, click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**.

-OR-

In Windows 2000, click **Start**, **Settings**, then click **Control Panel**. The *Control Panel* window opens.

2 Click/Double-click the **Network Connections** or **Network and Dial-up Connections** icon.

3 Right-click the Local Area Network icon that you want to set up file and printer sharing on, then click **Properties**.

4 Click **File and Printer Sharing for Microsoft Networks**.

5 Click **OK**.

6 If prompted, restart your computer.

7 Repeat this procedure on every computer on the network.

# Sharing drives or folders

If you want to share a drive or folder, use the following instructions.

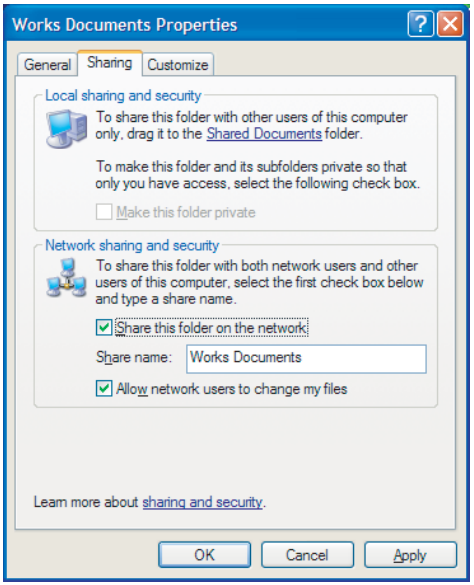
### To share drives or folders:

1 Make sure that each computer on your network has Windows file and printer sharing turned on by following the steps in "To turn on Windows file and printer sharing:" on page 138.

2 Right-click the drive or folder that you want to share, then click **Sharing and Security** or **Sharing**. The folder properties dialog box opens.

If you share a drive, the entire contents of that drive will be available to everyone on your network. If you share a folder, only the contents of that folder will be available to everyone on the network.

3 Click the **Sharing** tab.




4 In Windows XP, if you want to share the drive or folder with anyone on the network (network sharing), click to select the **Share this folder on the network** check box.

-OR-

In Windows 2000, if you want to share the drive or folder with anybody on the network (network sharing), click to select the **Share this folder** check box.

5 Click **OK**.

# Un-sharing drives, folders, and files

If you want to un-share a drive, folder, or file, use the following instructions.

### To un-share drives or folders:

1. Right-click the drive or folder that you want to un-share, then click **Sharing and Security** or **Sharing**.
2. In Windows XP, make sure that the **Share this folder on the network** check box is not selected.

   -OR-

   In Windows 2000, click **Do not share this folder.**
3. Click **OK**.

# Sharing printers

### To share printers in Windows XP:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Printers and Other Hardware**.
2. Click/Double-click the **Printers and Faxes** icon. The *Printers and Faxes* window opens.
3. Right-click the name of the printer you want to share, then click **Sharing**.
4. Click **Share this printer.**
5. Click **OK**.

### To share printers in Windows 2000:

1. Click **Start**, **Settings**, then click **Printers**.
2. Right-click the name of the printer you want to share, then click **Sharing**.
3. Click **Shared as**.
4. Click **OK**.

# Using the network

After the drives and printers on each network computer are shared, you can:

- View shared drives and folders
- Map a network drive
- Open and copy files stored on other network computers
- Print documents on network printers

## Viewing shared drives and folders

### To view shared drives and folders:

1. In Windows XP, click **Start**, then click **My Network Places**. The *My Network Places* window opens.

   -OR-

   In Windows 2000, double-click the **My Network Places** icon. The *My Network Places* window opens.

2. Click/Double-click **Entire Network**. The *Entire Network* window opens. If you do not see the contents of the network after you double-click **Entire Network**, click **entire contents**.
3. Double-click **Microsoft Windows Network**.
4. Double-click the name of your workgroup. The names of each of the computers in your workgroup are listed. For more information about workgroups, see "Naming the computers and the workgroup" on page 30.

5 Double-click the name of the computer containing the drive or folder you want to view. All shared drives and folders are listed.

# Mapping a Network Drive

After a drive or folder on one computer is mapped as a drive on another computer, the contents of the drive or folder can be accessed as if the drive were attached directly to the computer.

For example, the My Documents folder on computer 1 is mapped as the Z drive on computer 2. To access the My Documents folder on computer 1 from computer 2, double-click the Z drive.

### To map a network drive:

1 Locate the drive or folder by completing the steps in "Viewing shared drives and folders" on page 142.

2 Right-click the drive or folder, then click **Map Network Drive**. The Map Network Drive wizard opens.

3 Click the arrow button to open the **Drive** list, then click the drive letter you want to map this drive or folder to.

4 Click **Finish**.

# Opening files across the network

### To open files across the network:

1 Start the program for the file you want to open.

2 Click **File**, then click **Open**.

3 Browse to the network drive that contains the file you want to open.

4 Double-click the folder containing the file, then double-click the file.

# Copying files across the network

### To copy files across the network:

1. In Windows XP, click **Start**, then click **My Computer**. The *My Computer* window opens.

   -OR-

   In Windows 2000, double-click the **My Computer** icon.
2. Browse to the network drive that contains the file you want to copy.
3. Browse to the file you want to copy.
4. Click the file.
5. Click **Edit**, then click **Copy**.
6. Double-click the folder where you want to copy the file to.
7. Click **Edit**, then click **Paste**.

# Printing files across the network

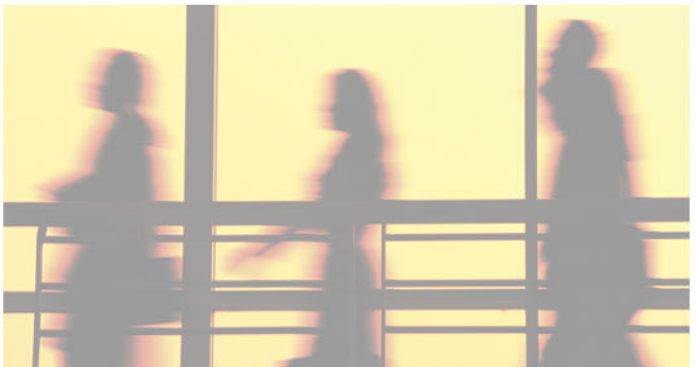
### To print files across the network:

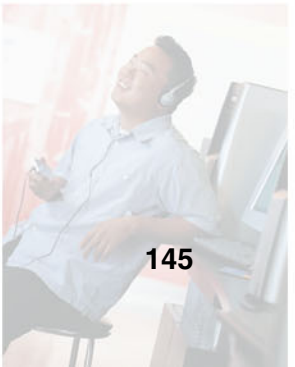
1. Open the file you want to print.
2. Click **File**, then click **Print**.
3. In the printer name list, click the network printer.
4. Click **OK**.

# Troubleshooting Your Ethernet Network

# 9

This chapter provides some solutions to common computer problems. Read this chapter to learn how to troubleshoot typical hardware and software issues.





# Wired Ethernet Network

### You cannot see the other computers on your network

- Make sure that your Ethernet cable is plugged into the Ethernet jack on your computer. Make sure that the other end is plugged into a router, hub, or switch.
- Make sure that all computers are plugged into a powered electrical outlet and turned on.
- Make sure that the router, hub, or switch is plugged into a powered electrical outlet and turned on. Most routers, hubs, and switches have lights that indicate they are working. For more information, see the documentation that came with your router, hub, or switch.
- Make sure that all computers on your network have the same workgroup name.
- Make sure that all computers are using the same Subnet Mask.
- If you assigned IP addresses to the computers, make sure that all computers have different IP addresses. For home networks, IP addresses should be 192.168.N.N where N is a number you assign between 0 and 254. The first N should be the same for all computers on your network and the second N should be different for all computers on your network.

### The computer does not recognize an add-in Ethernet card

- Shut down and restart your computer.
- Make sure that you have installed the required software. For more information, see the documentation that came with your Ethernet card.
- Reseat the card. For more information, see your computer's user's guide or the documentation that came with your Ethernet card.

### Your wired Ethernet network is running slower than you expect

- If your wired Ethernet network is running slower than you expect, check the speed of each Ethernet component. For best results, all Ethernet components should be either standard Ethernet (10 Mbps), Fast Ethernet (100 Mbps or 10/100 Mbps), or Gigabit Ethernet (1000 Mbps or 10/100/1000 Mbps). A mixture of Ethernet, Fast Ethernet, and Gigabit Ethernet components will result in your network running at the slowest component speed.

# Wireless Ethernet Network

### Your wireless Ethernet network is running slower than you expect

- If your wireless Ethernet network is running slower than you expect, you should check your network signal strength. If you find the signal strength is low, try moving to a new location to increase the signal strength.

**Important**

Signal strength is affected by the distance between your wireless network devices, by radio interference, and by interference from natural obstructions such as walls, floors, and doors.

### To check the signal strength of your wireless Ethernet network in Windows XP:

1. Click **Start**, then click **Control Panel**. The *Control Panel* window opens. If your Control Panel is in Category View, click **Network and Internet Connections**. The *Network and Internet Connections* window opens.
2. Click/Double-click **Network Connections**. The *Network Connections* window opens.

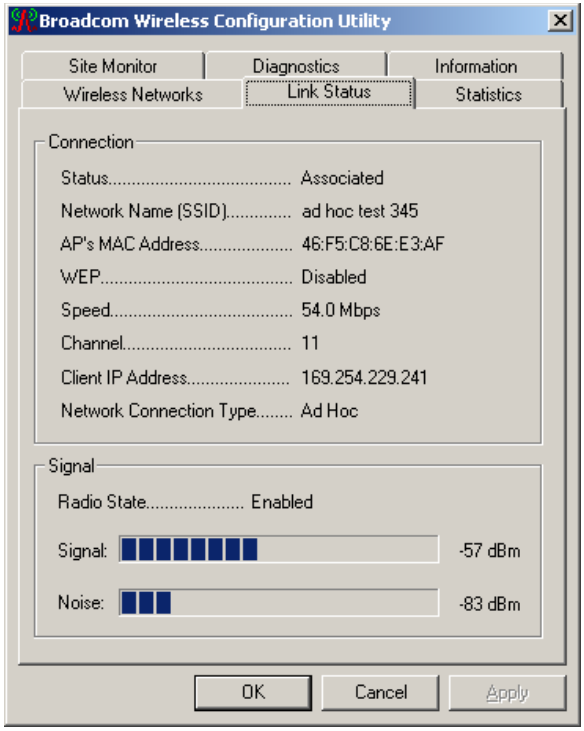
3 Right-click **Wireless Network Connection**, then click **Status**. The *Wireless Network Connection Status* dialog box opens. The meter shows the signal strength for wireless Ethernet networking on your computer if other computers with the same network name are within range of your computer.


## To check the signal strength of your wireless Ethernet network in Windows 2000 using the Broadcom Wireless Configuration Utility:

1 Right-click the Broadcom Wireless Configuration Utility icon on the taskbar.

2 Click **Open Utility**. The Broadcom Wireless Configuration Utility opens.

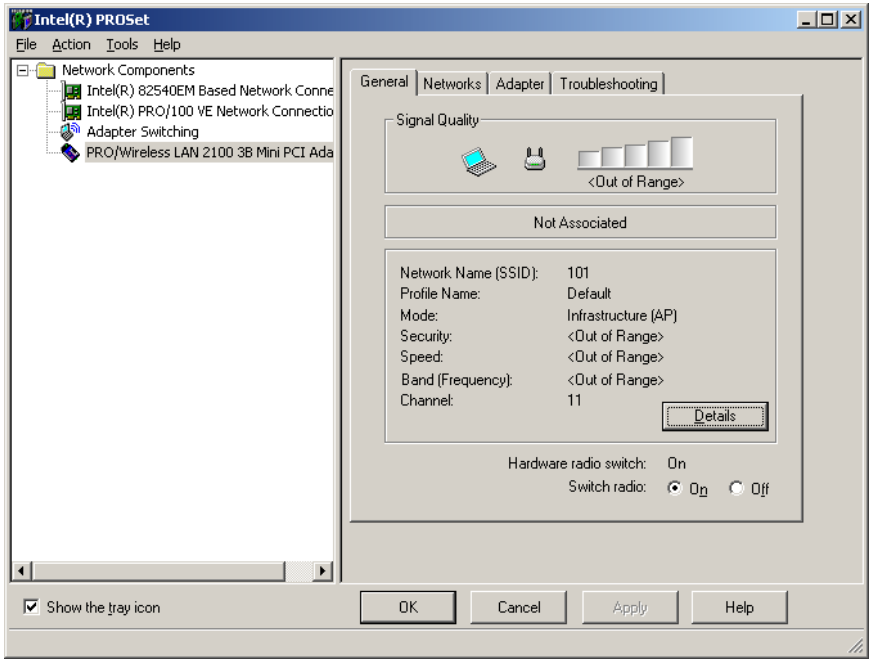
**3** Click **Link Status**.




The top meter shows the signal strength for wireless Ethernet networking on your computer if access points or other computers with the same network name are within range of your computer.

## To check the signal strength of your wireless Ethernet network in Windows 2000 using Intel PROSet:

1. Click **Start**, **Programs**, **Intel Network Adapters**, then click **Intel PROSet**. The *Intel PROSet* window opens.
2. In the left pane, click **PRO/Wireless LAN 2100 3B Mini PCI Adapter**.

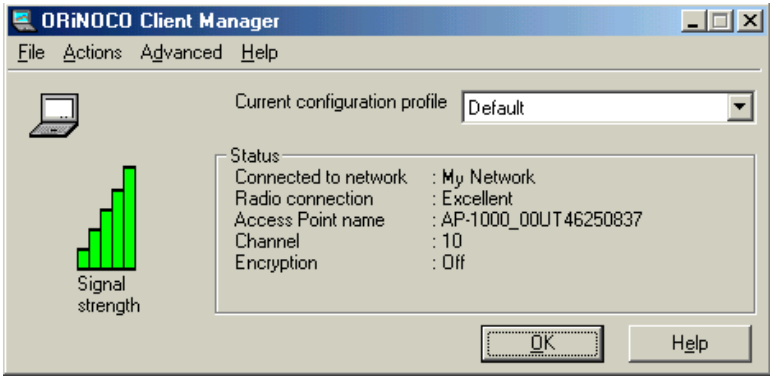



The meter at the top shows the signal strength for wireless Ethernet networking on your computer if access points or other computers with the same network name are within range of your computer. The status box in the middle provides status and error messages.

### To check the signal strength of your wireless Ethernet network in Windows 2000 using the ORiNOCO client manager:

- Click **Start**, **Programs**, **ORiNOCO**, then click **Client Manager**. The *ORiNOCO Client Manager* window opens.

  The meter on the left side shows the signal strength for wireless Ethernet on your computer if access points or other computers with the same network name are within range of your computer. The status box in the middle provides status and error messages.




# Technical Support

See your user's guide for Gateway Technical Support information.

# Safety, Regulatory, and Legal Information

See your user's guide for important safety, regulatory, and legal information.

# Notices


14303 Gateway Place
Poway, CA 92064 USA

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