

D-LINK *Air* DWL-120

2.4GHz Wireless USB Adapter

Manual

(09/27/2002)

D-Link

Building Networks for People

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Package Contents



Contents of Package:

- **D-Link Air DWL-120**
2.4 GHz Wireless USB Adapter
- Manual, Warranty and Drivers on CD
- Quick Installation Guide

If any of the above items are missing, please contact your reseller.

System Requirements:

- A computer with an available USB port
- Windows XP, Windows 2000, Windows Me, or Windows 98SE
- At least 32 MB of memory and a 300 MHz processor
- An 802.11b Access Point or Router (e.g., DWL-900AP for **Infrastructure Mode**) or another 802.11b wireless adapter (e.g., DWL-650 for **Ad-Hoc mode**.)

Introduction

The D-Link *Air* DWL-120 2.4GHz Wireless USB Adapter is an ideal way to extend the reach and number of computers connected to your wireless network. After completing the steps outlined in the Quick Installation Guide (included in your package) you will have the ability to share information and resources, such as files and printers, and take full advantage of a “connected” environment for work or play!

This DWL-120 comes with software drivers for the most popular Microsoft Windows operating systems and can be integrated into a larger network, running Windows XP, Windows 2000, Windows ME, or Windows 98SE in either Ad Hoc mode (without an Access Point) or Infrastructure mode (with an Access Point.) The IEEE 802.11b standards compliance means this adapter gives you the flexibility to connect it to any 802.11b network. The IEEE 802.11b Ethernet standard allows you to connect computers and devices at speeds up to 11Mbps, dependent upon the distance between wireless adapters, the configuration of your working environment, or the capabilities or limitations of your computer systems.

This manual provides a quick introduction to wireless technology and its application as it relates to networking. Take a moment to read through this manual and familiarize yourself with wireless technology. You should also give yourself some time to become familiar with your new wireless network.

Features and Benefits

- Provides high-speed wireless connection at up to 11Mbps
- Operates in the 2.4 to 2.4835 GHz Direct Sequence Spread Spectrum
- Supports wireless data encryption with 64-bit WEP and 128-bit WEP for more secure networking
- Supports infrastructure networks via an Access Point and peer-to-peer communication in ad-hoc mode
- User-friendly configuration and diagnostic utilities
- Cost-effective wireless solution
- IEEE 802.11b and Wi-Fi Certified
- Connects at up to 328 feet indoors*
- WHQL Certification for Windows XP
- Easy installation
- One year warranty

* *Environmental factors may adversely affect range*

Features

Antenna
Used to wirelessly connect to 802.11b networks

Link/Activity LED
Link - Indicates that the DWL-120 is properly installed in the computer.
Activity - Blinks when data is being transmitted through the wireless connection.

Mini-USB port
Used to connect the DWL-120 to your computer



Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

Wireless Basics (*continued*)

People use wireless LAN technology for many different purposes:

Mobility - Productivity increases when people have access to data in any location within the operating range of the WLAN. Management decisions based on real-time information can significantly improve worker efficiency.

Low Implementation Costs – WLANs (Wireless Local Area Networks) are easy to set up, manage, change and relocate. Networks that frequently change, both physically and logically, can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

Installation Speed and Simplicity - Installing a wireless LAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings.

Network Expansion - Wireless technology allows the network to go where wires cannot.

Scalability – Wireless Local Area Networks (WLANs) can be configured in a variety of topologies to meet the needs of specific applications or existing infrastructures. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to larger infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

Wireless Basics (*continued*)

The DWL-120 is compatible with the D-Link Air 802.11b family of products which include:

- ◆ 2.4GHz Wireless Cardbus Adapters used with laptop computers (DWL-650)
- ◆ 2.4GHz Wireless PCI cards used with desktop computers (DWL-520)
- ◆ Wireless Access Points (DWL-900AP)

Standards-Based Technology

Based on the IEEE **802.11b** standard, the DWL-120 is interoperable with existing compatible 2.4GHz wireless technology with data transfer speeds of up to 11Mbps.

Wireless Basics (continued)

Installation Considerations

The D-Link *Air* DWL-120 lets you access your network, using a wireless connection, from virtually anywhere. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the antenna of the DWL-120 in an upright position.
2. Keep the number of walls and ceilings between the DWL-120 and other network devices to a minimum - each wall or ceiling can reduce your D-Link *Air* Wireless product's range from 3-90 feet (1-30 meters.) Position your receiving devices so that the number of walls or ceilings is minimized.
3. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Try to make sure that devices are positioned so that the signal will travel straight through a wall or ceiling for better reception.
4. Building Materials make a difference - a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
5. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

Getting Started

With its default settings, the DWL-120 will connect with other D-Link *Air* products, right out of the box.

There are basically two modes of networking:

Infrastructure – using an Access Point, such as the DWL-900AP+.

Ad-Hoc – directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DWL-120 wireless network USB adapters.

On the following pages we will show you an example of an **Infrastructure Network** and an **Ad-Hoc Network**.

An **Infrastructure** network contains an Access Point or Router. The **Infrastructure Network** example shown on the following page contains the following D-Link network devices (your existing network may be comprised of other devices):

A wireless Router - **D-Link AirPro DI-764**

A laptop computer with a wireless adapter -
D-Link AirPlus DWL-650+

A desktop computer with another **D-Link Air DWL-120**

A Cable modem - **D-Link DCM-200**

Getting Started

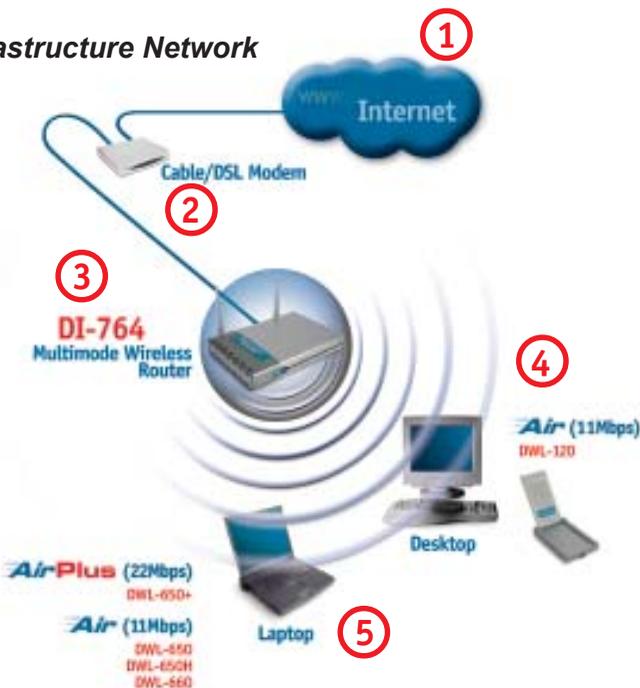
Setting up a Wireless Infrastructure Network

Please refer to the following sections of this manual for additional information about setting up a network:

Networking Basics - learn how to check and assign your IP Address; share printers and files.

Using the Configuration Menu - learn the settings for the DWL-120, using the web-based interface.

Troubleshooting - learn how to check for common installation issues and other tips for troubleshooting.



Please remember that **D-Link Air** wireless devices are pre-configured to connect together, right out of the box, with their default settings.

For a typical wireless setup at home (as shown above), please do the following:

- 1** You will need broadband Internet access (a Cable or DSL-subscriber line into your home or office)
- 2** Consult with your Cable or DSL provider for proper installation of the modem
- 3** Connect the Cable or DSL modem to your broadband router (see the *Quick Installation Guide* included with your router.)
- 4** Install the D-Link Air DWL-120 wireless USB adapter into an available USB port on your desktop computer. (See the *Quick Installation Guide* included with the DWL-120.)
- 5** If you are connecting a laptop computer to your network, install the drivers for the wireless cardbus adapter (e.g., **DWL-650+** or **DWL-650**) into a laptop computer. (See the *Quick Installation Guide* included with the DWL-A650, DWL-650+, or DWL-650.)

Getting Started

Setting up a Wireless Ad Hoc Network



- 1** Install the **D-Link Air DWL-120** Wireless USB adapter into the desktop computer. See the **Quick Installation Guide** included with the product for installation instructions.
- 2** Install a wireless network adapter into the laptop computer. In the example above the **DWL-650+ or DWL-650** may be installed into a laptop computer. See the **Quick Installation Guide** included with the product.
- 3** Set the wireless configuration for the adapters to Ad-Hoc mode, set the adapters to the same channel, and assign an IP Address to each computer on the Ad-Hoc network. (See Box below)

IP Address

When assigning IP Addresses to the computers on the network, please remember that the **IP Address for each computer must be in the same IP Address range as all the computers in the network**, and the subnet mask must be exactly the same for all the computers in the network.

For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.

IMPORTANT: If computers or other devices are assigned the same IP Address, one or more of the devices may not be visible on the network.

Using the Configuration Utility

With its default settings, the DWL-120 will connect with other D-Link *Air* products, right out of the box.

D-Link Air DWL-120 uses the **Configuration Utility** as the management software. The utility provides the user an easy interface to change any settings related to the wireless adapter. When the computer is started, the **Configuration Utility** starts automatically and the system tray icon is loaded in the toolbar (see illustration below.) Clicking on the utility icon will start the **Configuration Utility**. Another way to start the **Configuration Utility** is to click on **Start>Programs>D-Link DWL-120**.

A new icon -  will appear in your Icon tray. **Double-click** on the icon shown above. The screen below will be displayed with the following default settings:

Associated SSID:

The Service Set Identifier is the name assigned to the wireless network. The factory SSID setting is set to default.

MAC Address:

Displays the MAC Address of the Access Point that is associated with the DWL-120.

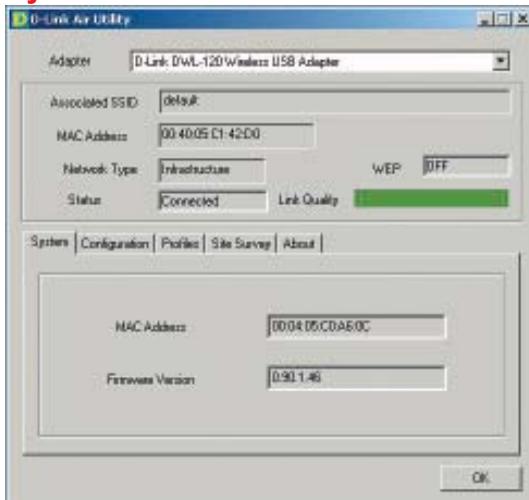
Network Type:

The default setting is Infrastructure. Ad-Hoc mode is used for peer-to-peer networking.

Status:

Displays the current connection state of the DWL-120.

System



WEP:

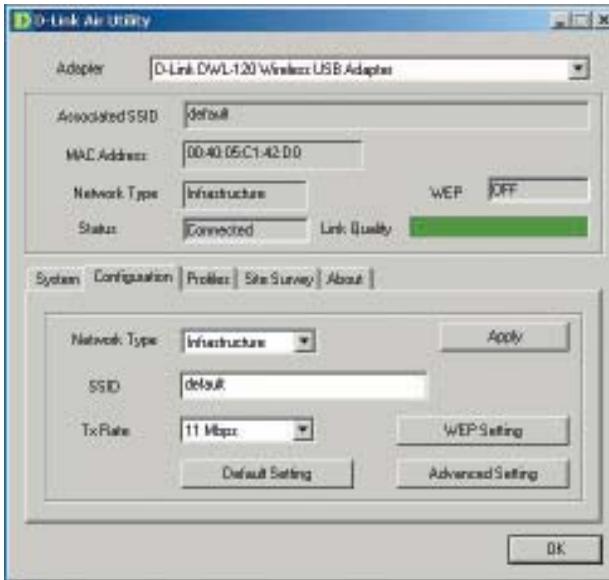
(Wireless Encryption Protocol)
Displays encryption status.

Link Quality:

Displays the wireless signal strength for the DWL-120 wireless connection to the access point.

Using the Configuration Utility

Configuration



Network Type:

Infrastructure is the factory default setting. Ad-Hoc mode is used for peer to peer networking. See the *Getting Started* section in this manual for examples of these network types.

SSID:

The Service Set Identifier is the name assigned to the wireless network. The factory SSID setting is set to **default**. Make changes here to match the SSID on existing Wireless Router or Access Point.

Tx Rate:

You can adjust the transmission rate to get the best signal possible depending on your usage and your environment.

Default Setting:

Reverts the DWL-120 back to its factory default settings

WEP Setting:

Will allow you to configure the Encryption for your DWL-120. By default WEP is **disabled**.

Advanced Setting:

To configure advanced settings for Power, RTS and Fragmentation Threshold.

Using the Configuration Utility

Configuration>WEP Setting



If you enable **WEP encryption** make sure to match the WEP encryption on the router or access point.

WEP stands for Wired Equivalent Privacy. It is a security protocol for Wireless Local Area Networks

Hexadecimal format consists of numbers 0-9 and letters a-f.

WEP type:

Select **128 bit** WEP or **64 bit** WEP encryption

Default Key ID:

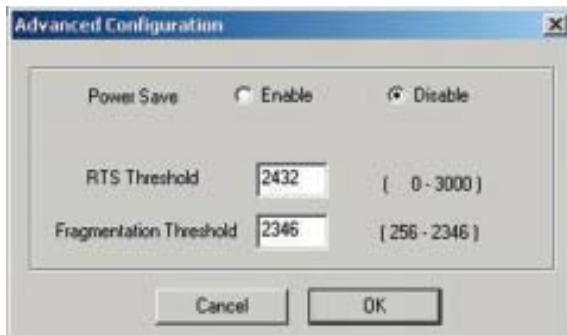
1 is the default key, or you may select a key from 1-4

Input WEP keys:

Input up to 4 WEP keys in hexadecimal format

Click **OK** if you have made any changes

Configuration>Advanced Setting



Power Save:

Select Enable or Disable; **Disable** is the default setting

RTS Threshold:

Request to Send threshold measures the value in bytes. Any packet size exceeding 2432 will trigger the DWL-120 to use RTS/CTS mechanism for transmission.

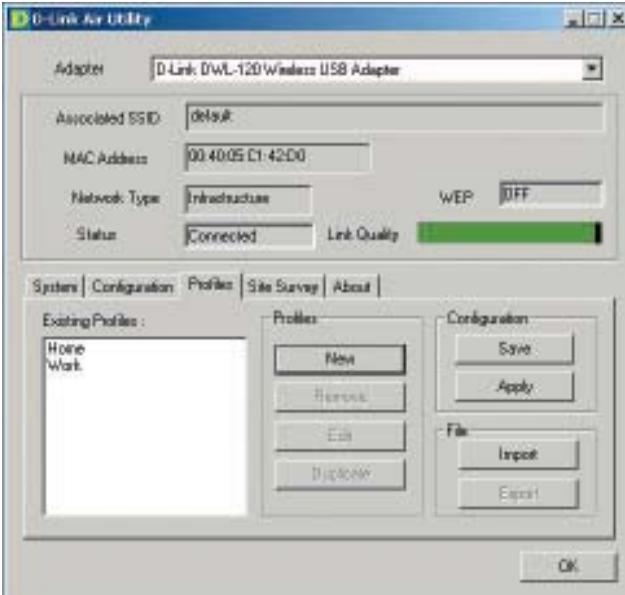
Fragmentation Threshold:

The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission.

Click **OK** if you have made any changes

Using the Configuration Utility

Profiles



New:

Click **New** to create a new profile; a pop-up window will appear allowing you to configure the new profile. (See the example on the next page.)

Remove:

Highlight the profile you wish to remove; click **Remove**

Edit:

Highlight the profile you wish to edit; click **Edit**; a pop-up window will appear allowing you to edit the profile. (See the example on the next page.)

Duplicate:

Highlight the profile you wish to duplicate; click **Duplicate**

Configuration >Save:

Click **Save** to save the new profile

Configuration >Apply:

Click **Apply** to use a selected profile for your network configuration

File >Import:

Click on **Import** to select an existing profile on your hard drive

File >Export:

Click on **Export** to save a selected profile to your hard drive

Click OK if you have made any changes

Using the Configuration Utility

Network Type:

Select Infrastructure or Ad-Hoc

SSID:

All devices on the network must share the same SSID to be able to communicate

TxRate:

Choose the data rate speed

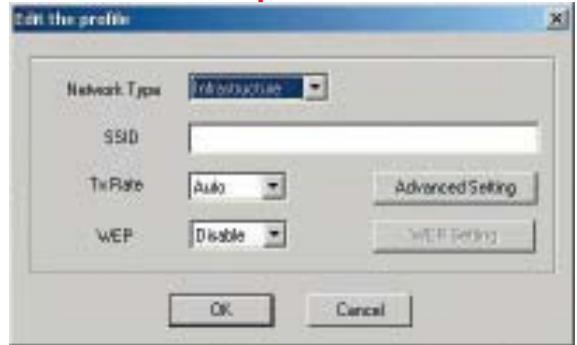
WEP:

Choose Enable or Disable. Disable is the default setting. If you enable WEP, you must Enable WEP on all devices on the network, in order to communicate.

Advanced Setting:

Click to access Advanced configuration

Edit/Create new profile

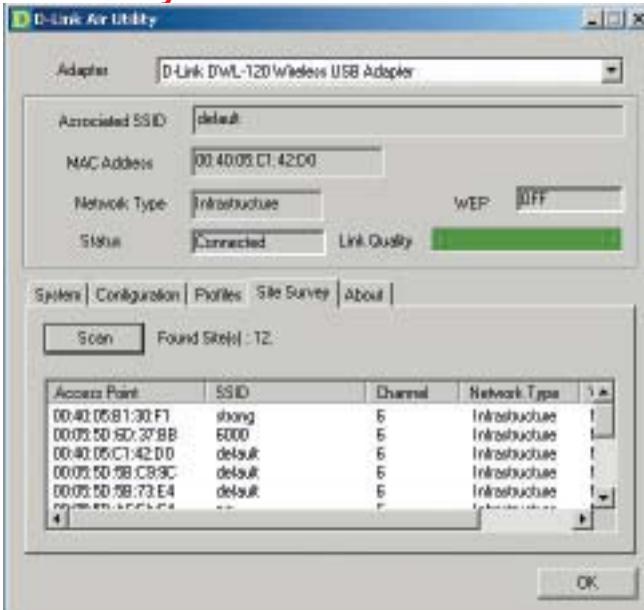


WEP Setting:

Click to configure the WEP setting

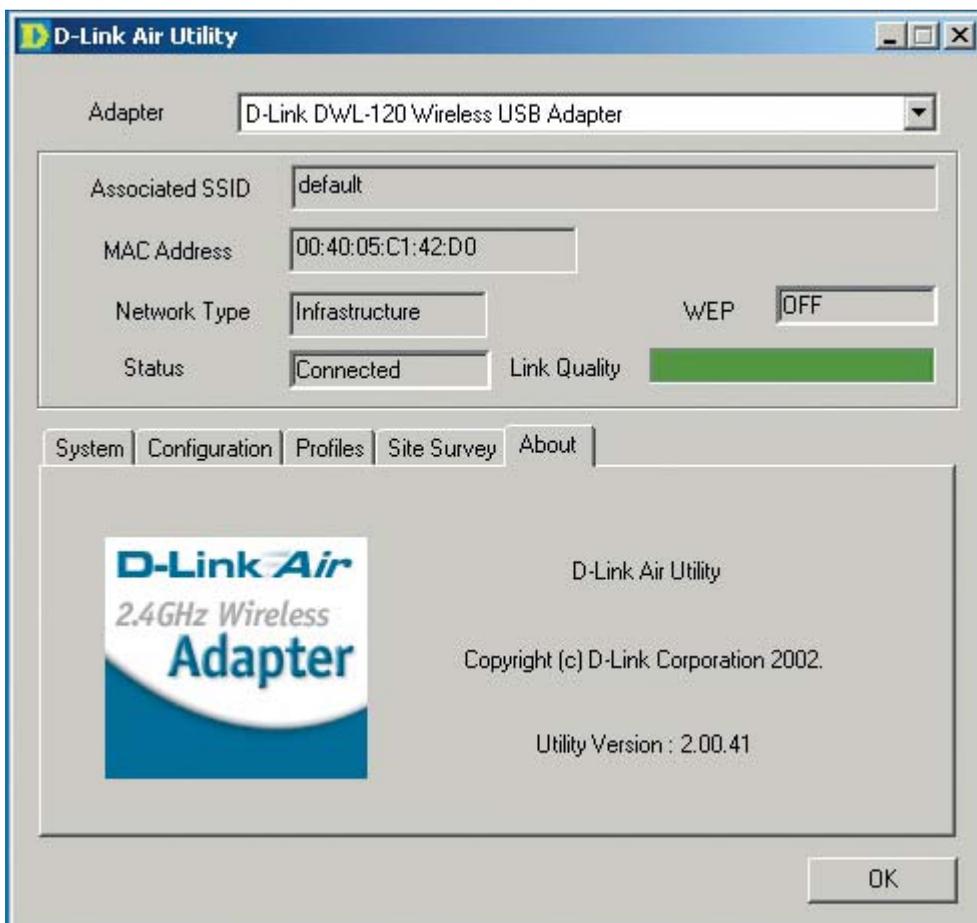
Click **OK** if you have made any changes

Site Survey



View all the devices in the network from the **Site Survey** tab.

Using the Configuration Utility



The **About** tab displays the utility (firmware) version.

Networking Basics

Using the Network Setup Wizard in Windows XP

In this section you will learn how to establish a network at home or work, using **Microsoft Windows XP**.

Note: Please refer to websites such as <http://www.homenethelp.com> and <http://www.microsoft.com/windows2000> for information about networking computers using Windows 2000, ME or 98SE.

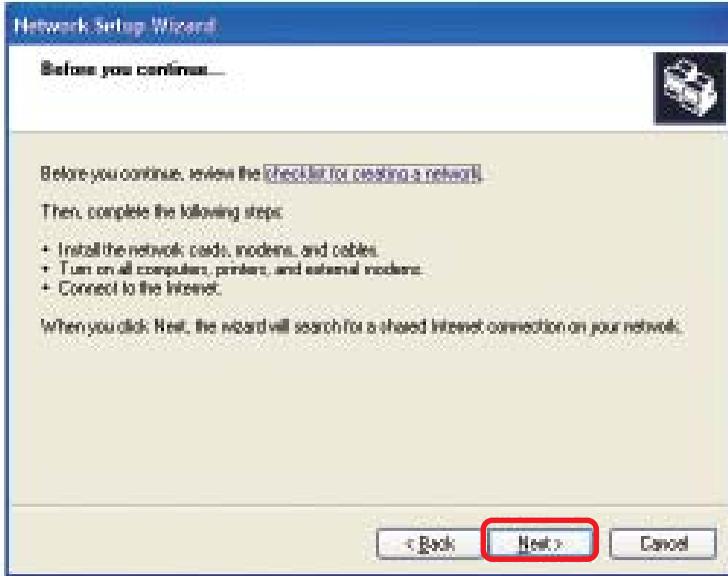
Go to **Start>Control Panel>Network Connections**
Select **Set up a home or small office network**



When this screen appears, **Click Next.**

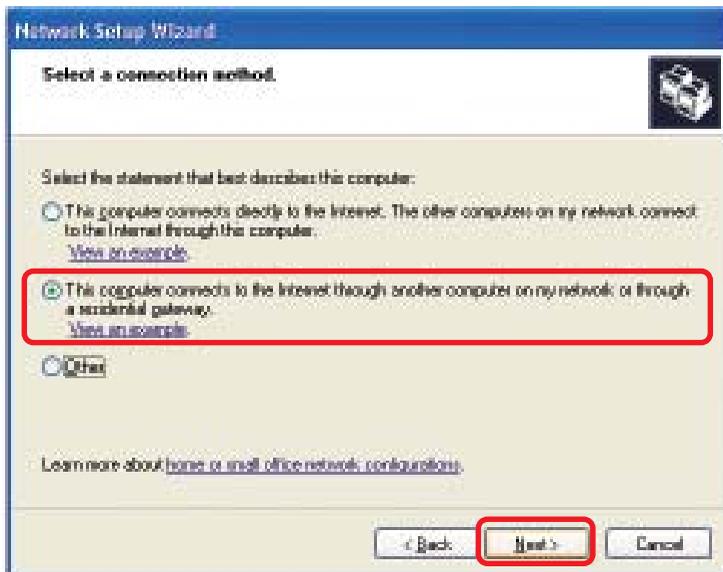
Networking Basics

Please follow all the instructions in this window:



Click **Next**

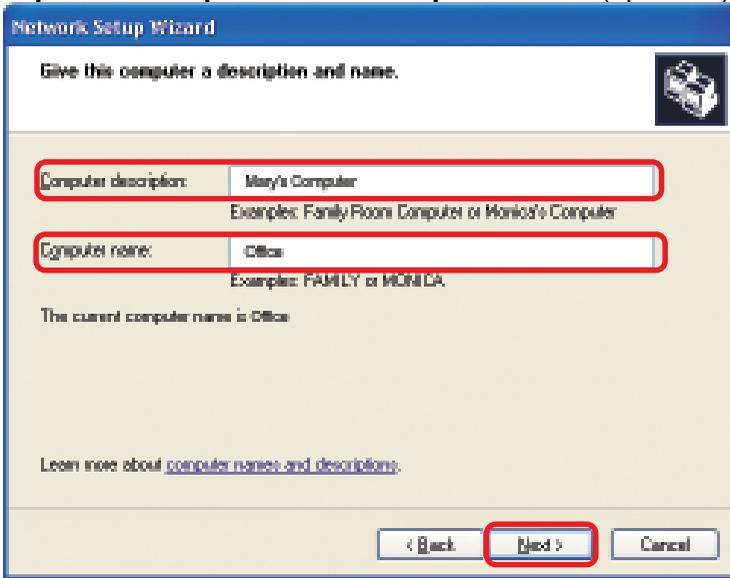
In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.



Click **Next**

Networking Basics

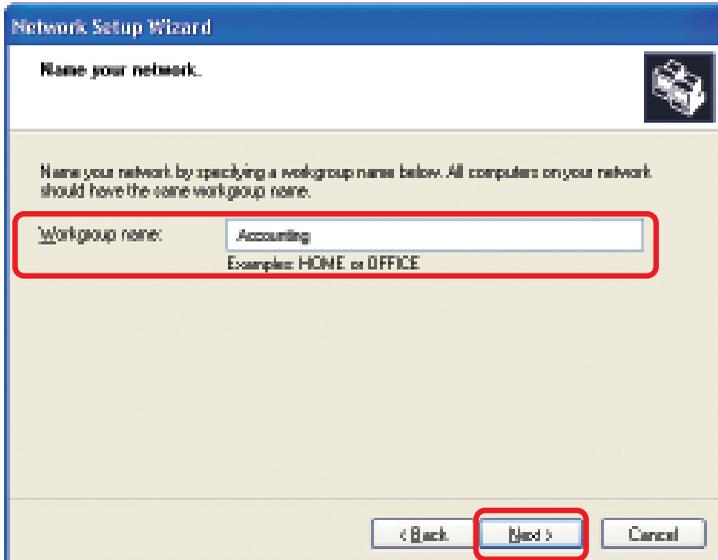
Enter a **Computer description** and a **Computer name** (optional.)



The screenshot shows the 'Network Setup Wizard' window with the title 'Give this computer a description and name.' The window contains two text input fields, both highlighted with red rectangles. The first field is labeled 'Computer description:' and contains the text 'Mary's Computer'. Below it, there is a smaller text label 'Examples: Family Room Computer or Monica's Computer'. The second field is labeled 'Computer name:' and contains the text 'Office'. Below it, there is a smaller text label 'Examples: FAMILY or MONICA'. Below the fields, there is a line of text: 'The current computer name is Office'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a red rectangle.

Click **Next**

Enter a **Workgroup** name. All computers on your network should have the same **Workgroup name**.

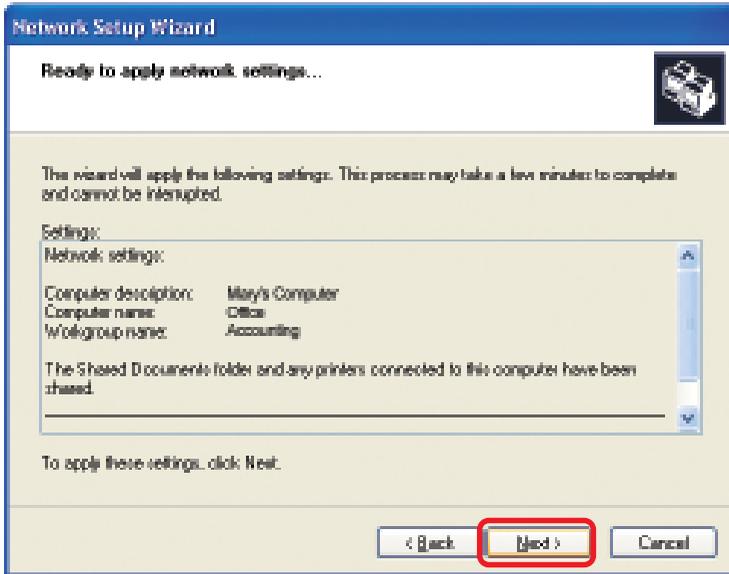


The screenshot shows the 'Network Setup Wizard' window with the title 'Name your network.' The window contains a text input field highlighted with a red rectangle. The field is labeled 'Workgroup name:' and contains the text '.Accounting'. Below it, there is a smaller text label 'Examples: HOME or OFFICE'. At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a red rectangle.

Click **Next**

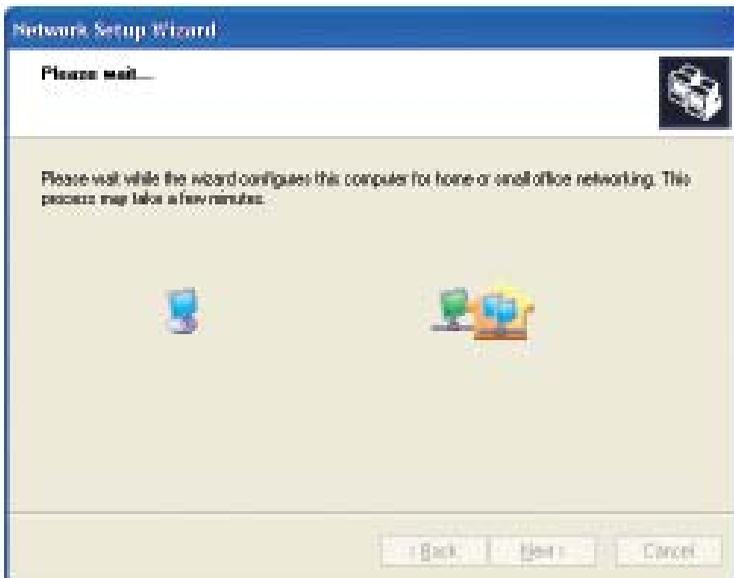
Networking Basics

Please wait while the **Network Setup Wizard** applies the changes.



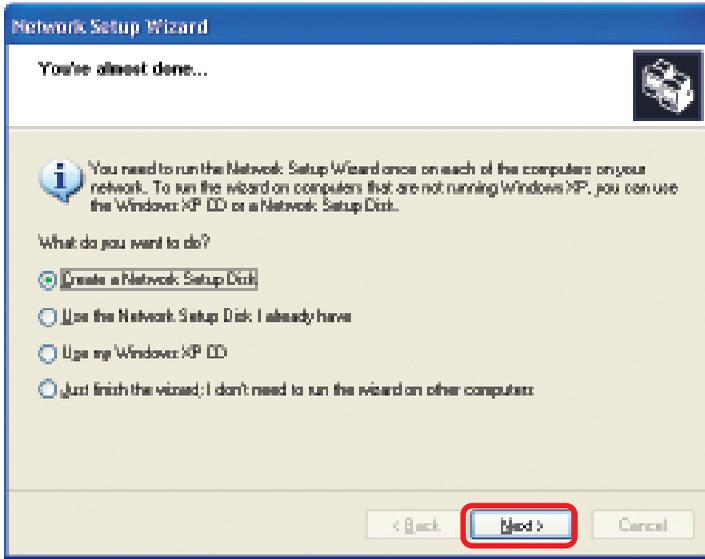
When the changes are complete, click **Next**.

Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.

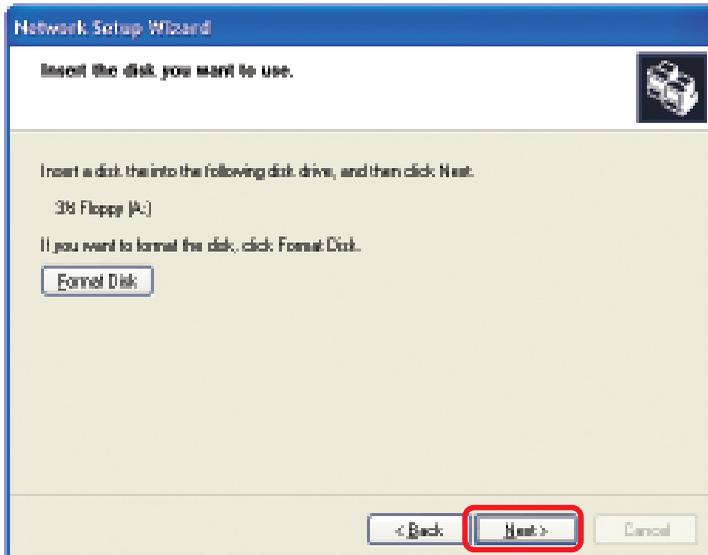


Networking Basics

In the window below, select the option that fits your needs. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.



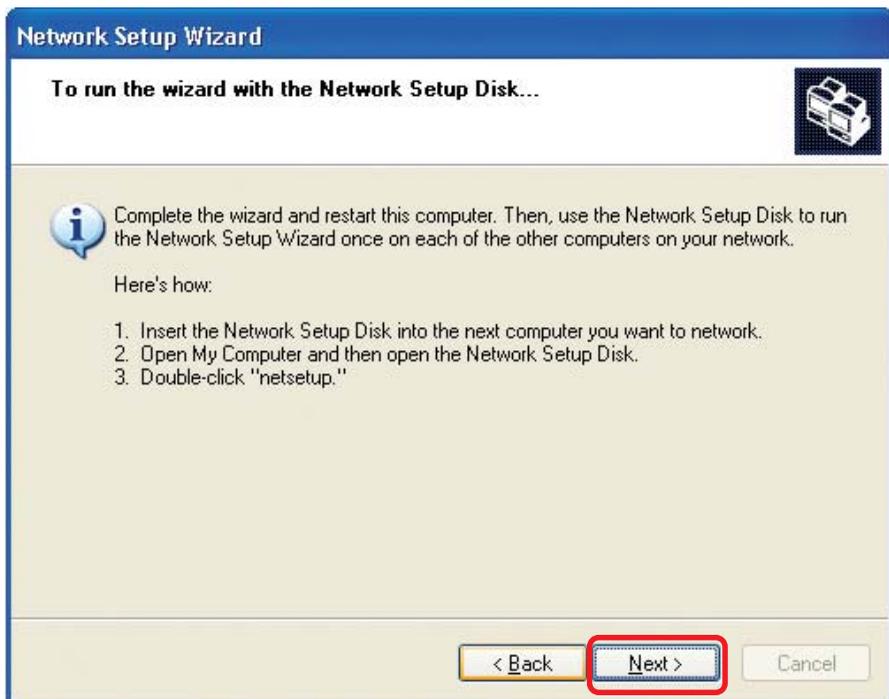
Insert a disk into the Floppy Disk Drive, in this case drive **A**.



Networking Basics

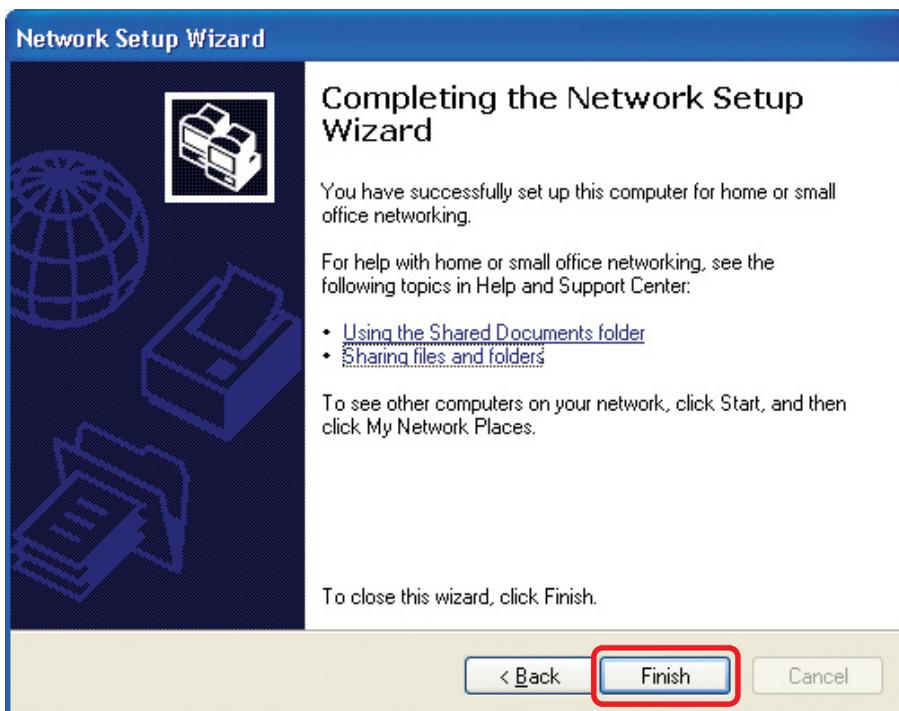


Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.



Networking Basics

Please read the information on this screen, then click **Finish** to complete the **Network Setup Wizard**.



The new settings will take effect when you restart the computer. Click **Yes** to restart the computer.



You have completed configuring this computer. Next, you will need to run the **Network Setup Disk** on all the other computers on your network. After running the **Network Setup Disk** on all your computers, your new wireless network will be ready to use.

Networking Basics

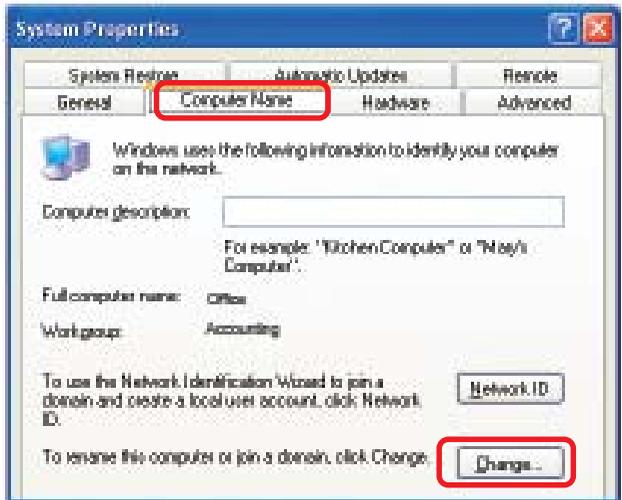
Naming your Computer

To name your computer, please follow these directions: In **Windows XP**:

- Click **Start** (in the lower left corner of the screen)
- **Right-click** on **My Computer**
- Select **Properties** and click



- Select the **Computer Name Tab** in the System Properties window.

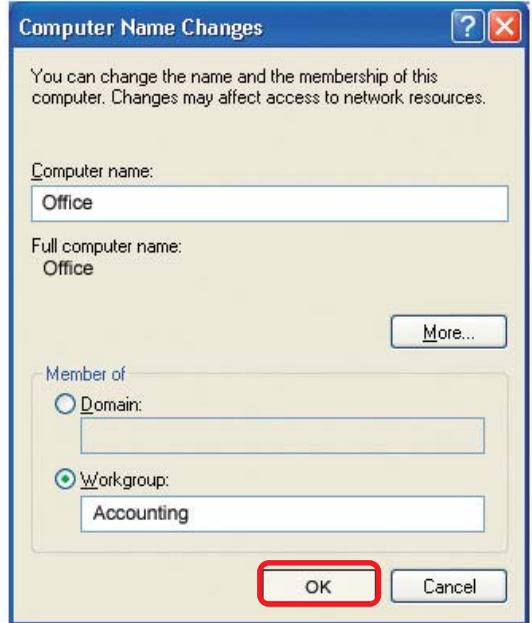


- You may enter a **Computer Description** if you wish; this field is optional.
- To rename the computer and join a domain, Click **Change**.

Networking Basics

Naming your Computer

- In this window, enter the **Computer name**
- Select **Workgroup** and enter the name of the **Workgroup**
- All computers on your network must have the same **Workgroup** name.
- Click **OK**



Checking the IP Address in Windows XP

The wireless adapter-equipped computers in your network must be in the same IP Address range (see Getting Started in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

- Right-click on the **Local Area Connection icon** in the task bar
- Click on **Status**



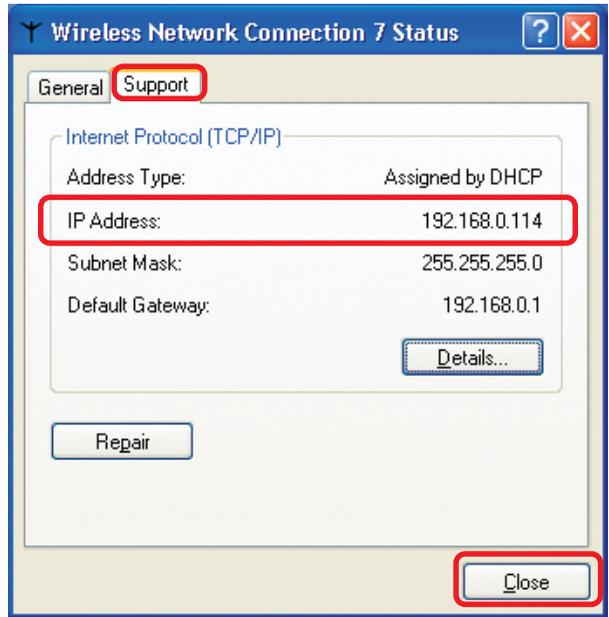
Networking Basics

Checking the IP Address in Windows XP

This window will appear.

- Click the **Support** tab

- Click **Close**



Assigning a Static IP Address in Windows XP/2000

Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

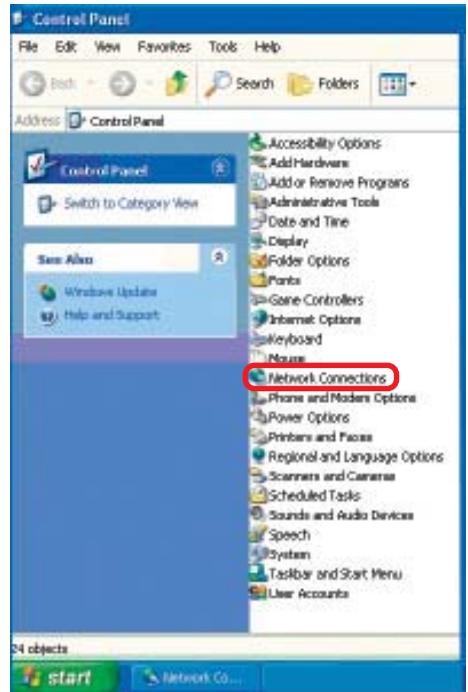
- Go to **Start**
- Double-click on **Control Panel**



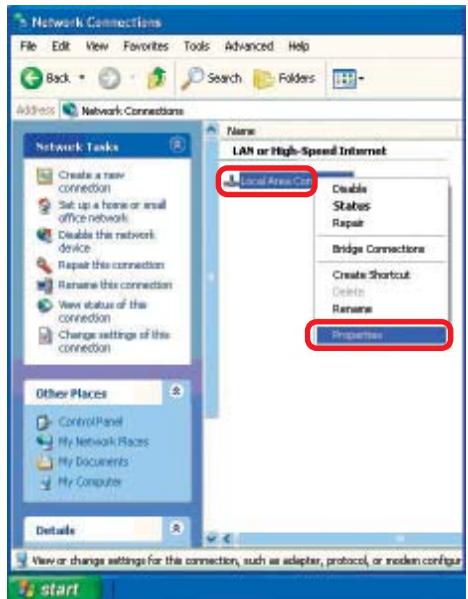
Networking Basics

Assigning a Static IP Address in Windows XP/2000

- Double-click on **Network Connections**



- Right-click on **Local Area Connections**



- Double-click on **Properties**

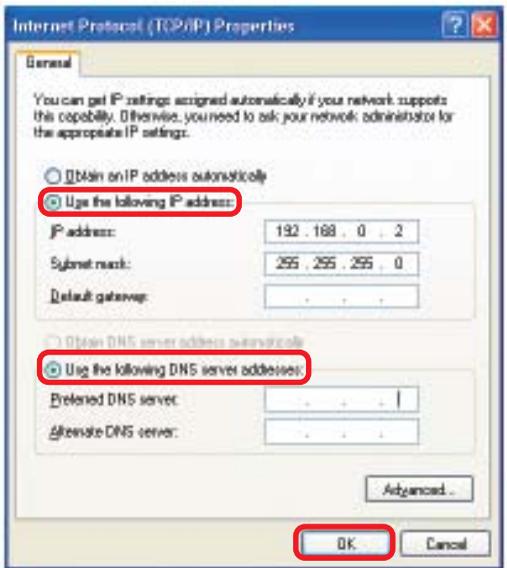
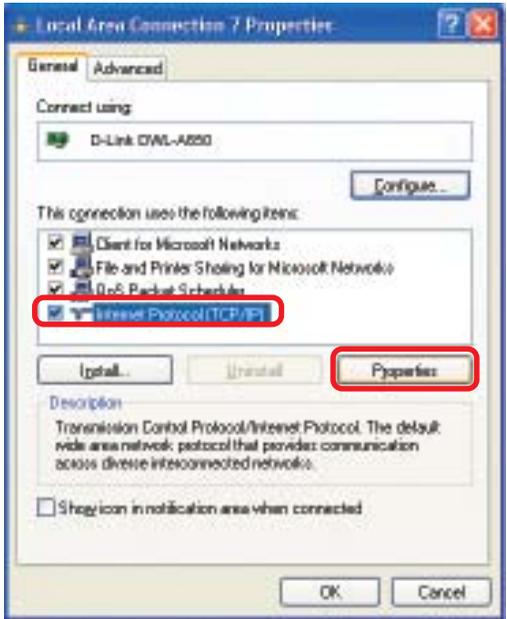
Networking Basics

Assigning a Static IP Address in Windows XP/2000

- Click on **Internet Protocol (TCP/IP)**
- Click **Properties**
- Input your **IP address and subnet mask**. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)
- Input your **DNS server addresses**. (Note: If you are entering a DNS server, you must enter the IP Address of the Default Gateway.)

The DNS server information will be supplied by your ISP (Internet Service Provider.)

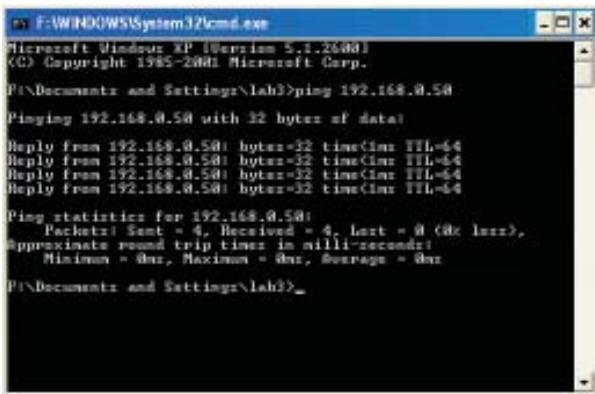
- Click **OK**



Networking Basics

Checking the Wireless Connection by Pinging in Windows XP and 2000

- Go to **Start > Run >** type **cmd**. A window similar to this one will appear. Type **ping xxx.xxx.xxx.xxx**, where **xxx** is the **IP Address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the Wireless Router or Access Point, as shown.



```
F:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lah3>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

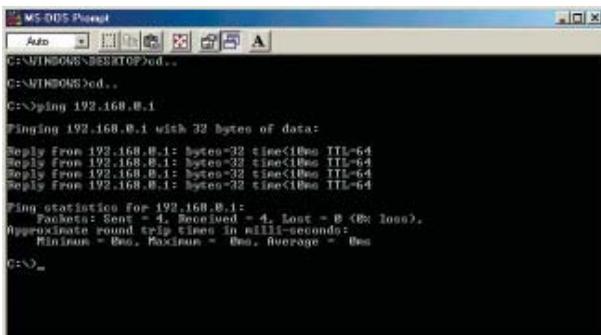
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

F:\Documents and Settings\lah3>_
```

Checking the Wireless Connection by Pinging in Windows Me and 98

- Go to **Start > Run >** type **command**. A window similar to this will appear. Type **ping xxx.xxx.xxx.xxx** where **xxx** is the **IP Address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.



```
MS-DOS Prompt
Auto
C:\WINDOWS\DESKTOP>cd..
C:\WINDOWS>cd..
C:\>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time<10ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

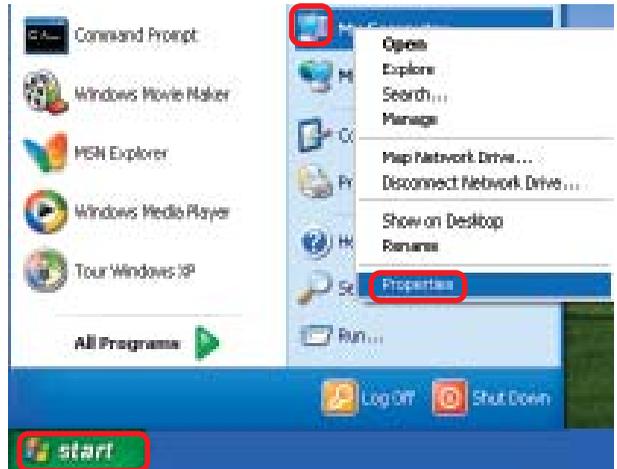
C:\>_
```

Troubleshooting

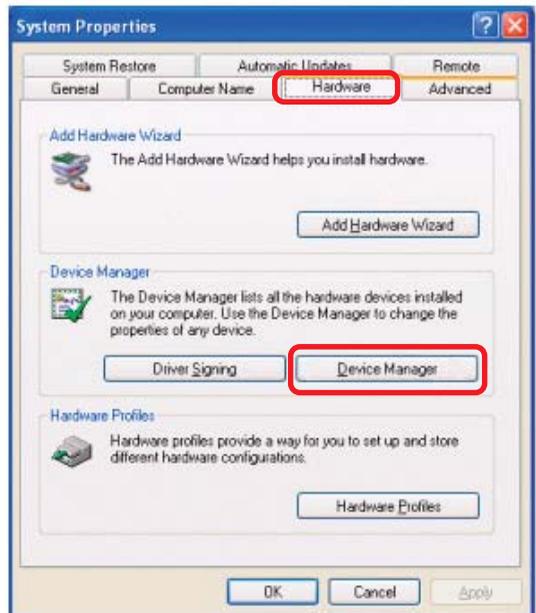
This chapter provides solutions to problems that can occur during the installation and operation of the DWL-120. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows XP. If you have another operating system, these solutions will still apply although the appearance on your computer screen may differ.)

1. Check that the drivers for the DWL-120 are installed properly.

- Go to Start > My Computer > Properties



- Select the Hardware Tab



- Click Device Manager

Troubleshooting

2. What variables may cause my wireless products to lose reception?

D-Link products let you access your network from virtually anywhere you want. However, the positioning of the products within your environment will affect the wireless range. Please refer to **Installation Considerations** in the **Wireless Basics** section of this manual for further information about the most advantageous placement of your D-Link wireless products.

3. Why does my wireless connection keep dropping?

- Antenna Orientation- Try different antenna orientations for the DWL-120. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the Channel on your Router, Access Point and Wireless adapter to a different Channel to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, Monitors, electric motors, etc.

4. Why can't I get a wireless connection?

If you have enabled Encryption on the DWL-120, you must also enable encryption on all wireless devices in the network in order to establish a wireless connection.

- The Encryption settings are: 64 or 128 bit. Make sure that the encryption bit level is the same on the Router and the DWL-120.
- Make sure that the SSID on the Router (if you have one in your network) and the DWL-120 are exactly the same. If they are not, wireless connection will not be established. The default SSID is **default**.

Technical Specifications

Standard

- IEEE 802.11b
- WIFI Certified
- WHQL Certified

Diagnostic LED

- Power
- Link Status

Temperature

- Operating: 0°C to 55°C (32°F to 131°F)
- Storing: -20°C to 75°C (-4°F to 167°F)

Humidity:

- 95%, non-condensing

Antenna Type:

- Integrated

Modulation Technique:

- DSSS

Physical Dimensions:

- L = 3.3 inches
- W = 2.1 inches
- H = 0.2 inches

Data Rates:

- 1,2,5.5,11 Mbps (with Automatic Fallback)

Interface:

- USB 1.1

Available Channels:

- Eleven channels for North America

Media Access Protocol:

- CSMA/CA with ACK

Contacting Technical Support

You can find the most recent software and user documentation on the D-Link website.

D-Link Technical Support over the Internet:

<http://support.dlink.com>

When contacting technical support, please provide the following information:

- Serial number of the unit
- Model number or product name
- Software type and version number

Warranty and Registration

Wichtige Sicherheitshinweise

1. Bitte lesen Sie sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den spätern Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie keine Flüssig- oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Um eine Beschädigung des Gerätes zu vermeiden sollten Sie nur Zubehörteile verwenden, die vom Hersteller zugelassen sind.
5. Das Gerät is vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sichern Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.
9. Die Netzanschlußsteckdose muß aus Gründen der elektrischen Sicherheit einen Schutzleiterkontakt haben.
10. Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollete auch nichts auf der Leitung abgestellt werden.
11. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
12. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
13. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. Elektrischen Schlag auslösen.
14. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.

15. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
- a – Netzkabel oder Netzstecker sind beschädigt.
 - b – Flüssigkeit ist in das Gerät eingedrungen.
 - c – Das Gerät war Feuchtigkeit ausgesetzt.
 - d – Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
 - e – Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
 - f – Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
16. Bei Reparaturen dürfen nur Originalersatzteile bzw. den Originalteilen entsprechende Teile verwendet werden. Der Einsatz von ungeeigneten Ersatzteilen kann eine weitere Beschädigung hervorrufen.
17. Wenden Sie sich mit allen Fragen die Service und Reparatur betreffen an Ihren Servicepartner. Somit stellen Sie die Betriebssicherheit des Gerätes sicher.

Limited Warranty

Hardware:

D-Link warrants its hardware products to be free from defects in workmanship and materials, under normal use and service, for the following periods measured from date of purchase from D-Link or its Authorized Reseller:

<u>Product Type</u>	<u>Warranty Period</u>
Complete products	One year
Spare parts and spare kits	90 days

The one-year period of warranty on complete products applies on condition that the product's Registration Card is filled out and returned to a D-Link office within ninety (90) days of purchase. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card. Failing such timely registration of purchase, the warranty period shall be limited to 90 days.

If the product proves defective within the applicable warranty period, D-Link will provide repair or replacement of the product. D-Link shall have the sole discretion whether to repair or replace, and replacement product may be new or reconditioned. Replacement product shall be of equivalent or better specifications, relative to the defective product, but need not be identical. Any product or part repaired by D-Link pursuant to this warranty shall have a warranty period of not less than 90 days, from date of such repair, irrespective of any earlier expiration of original warranty period. When D-Link provides replacement, then the defective product becomes the property of D-Link.

Warranty service may be obtained by contacting a D-Link office within the applicable warranty period, and requesting a Return Material Authorization (RMA) number. If a Registration Card for the product in question has not been returned to D-Link, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided. If Purchaser's circumstances require special handling of warranty correction, then at the time of requesting RMA number, Purchaser may also propose special procedure as may be suitable to the case.

After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. The package must be mailed or otherwise shipped to D-Link with all costs of mailing/shipping/insurance prepaid; D-Link will ordinarily reimburse Purchaser for mailing/shipping/insurance expenses incurred for return of defective product in accordance with this warranty. D-Link shall never be responsible for any software, firmware, information, or memory data of Purchaser contained in, stored on, or integrated with any product returned to D-Link pursuant to this warranty.

Any package returned to D-Link without an RMA number will be rejected and shipped back to Purchaser at Purchaser's expense, and D-Link reserves the right in such a case to levy a reasonable handling charge in addition mailing or shipping costs.

Software:

Warranty service for software products may be obtained by contacting a D-Link office within the applicable warranty period. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card. If a Registration Card for the product in question has not been returned to a D-Link office, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided when requesting warranty service. The term "purchase" in this software warranty refers to the purchase transaction and resulting licence to use such software.

D-Link warrants that its software products will perform in substantial conformance with the applicable product documentation provided by D-Link with such software product, for a period of ninety (90) days from the date of purchase from D-Link or its Authorized Reseller. D-Link warrants the magnetic media, on which D-Link provides its software product, against failure during the same warranty period. This warranty applies to purchased software, and to replacement software provided by D-Link pursuant to this warranty, but shall not apply to any update or replacement which may be provided for download via the Internet, or to any update which may otherwise be provided free of charge.

D-Link's sole obligation under this software warranty shall be to replace any defective software product with product which substantially conforms to D-Link's applicable product documentation. Purchaser assumes responsibility for the selection of appropriate application and system/platform software and associated reference materials. D-Link makes no warranty that its software products will work in combination with any hardware, or any application or system/platform software product provided by any third party, excepting only such products as are expressly represented, in D-Link's applicable product documentation as being compatible. D-Link's obligation under this warranty shall be a reasonable effort to provide compatibility, but D-Link shall have no obligation to provide compatibility when there is fault in the third-party hardware or software. D-Link makes no warranty that operation of its software products will be uninterrupted or absolutely error-free, and no warranty that all defects in the software product, within or without the scope of D-Link's applicable product documentation, will be corrected.

LIMITATION OF WARRANTIES

IF THE D-LINK PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT D-LINK'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. D-LINK NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION MAINTENANCE OR USE OF D-LINK'S PRODUCTS.

D-LINK SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY THE CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING OR OTHER HAZARD.

LIMITATION OF LIABILITY

IN NO EVENT WILL D-LINK BE LIABLE FOR ANY DAMAGES, INCLUDING LOSS OF DATA, LOSS OF PROFITS, COST OF COVER OR OTHER INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES ARISING OUT THE INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE OR INTERRUPTION OF A D- LINK PRODUCT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

IF YOU PURCHASED A D-LINK PRODUCT IN THE UNITED STATES, SOME STATES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

D-Link Offices for Registration and Warranty Service

The product's Registration Card, provided at the back of this manual, must be sent to a D-Link office. To obtain an RMA number for warranty

service as to a hardware product, or to obtain warranty service as to a software product, contact the D-Link office nearest you. An addresses/telephone/fax list of D-Link offices is provided in the back of this manual.

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FCC Warning

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CE Mark Warning

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

Warnung!

Dies ist ein Produkt der Klasse A. Im Wohnbereich kann dieses Produkt Funkstörungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

Precaución!

Este es un producto de Clase A. En un entorno doméstico, puede causar interferencias de radio, en cuyo caso, puede requerirse al usuario para que adopte las medidas adecuadas.

Attention!

Ceci est un produit de classe A. Dans un environnement domestique, ce produit pourrait causer des interférences radio, auquel cas l'utilisateur devrait prendre les mesures adéquates.

Attenzione!

Il presente prodotto appartiene alla classe A. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l'utente debba assumere provvedimenti adeguati.

BSMI Warning

警告使用者

這是甲類的資訊產品,在居住的環境中使用時,可能會造成射頻干擾,在這種情況下使用者會被要求採取某些適當的對策。

AVERTISSEMENT AUX UTILISATEURS

La décision N° 01-480 en date du 23 mai 2001 prise par l'Autorité de Régulation des Télécommunications (ART) autorise l'utilisation d'une partie de la bande de fréquences 2400-2483,5 MHz pour les réseaux locaux radioélectriques (RLAN)

Au niveau national, seule la bande 2446,5-2483,5 MHz est autorisée pour des produits ayant une puissance limitée à 100 mW

Cette bande de fréquences correspond aux canaux 10,11,12 et 13.

En installant et utilisant les produits réseaux sans fils de la gamme proposée par D-Link, vous vous engagez donc à respecter cette réglementation et à n'utiliser que ces 4 canaux.

WARNING

The Decision N° 01-480 taken by ART (Autorité de Régulation de Télécommunications) on May 23, 2001 authorizes the utilisation of a part of the 2400-2483.5MHz band for Radio Local Area Network (RLAN) in France.

Only the 2446.5-2483.5MHz band is authorized for RLAN with products with a limited power to 100mW.

This band concerns the channels 10, 11, 12 and 13.

Using and installing D-Link Wireless solutions for RLAN, you commit to respect this regulation et to use only these four channels.

Australia

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