D-Link *Air* DWL-122
2.4GHz Wireless USB Adapter

Manual

D-Link
Building Networks for People

Contents

Package Contents

Contents of Package:

- **D-Link *Air* DWL-122**
  2.4 GHz Wireless USB Adapter

- Manual on CD-ROM

- Quick Installation Guide

- USB Extenstion Cable

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

System Requirements:

- A computer or laptop with an available USB port

- Windows XP/2000/Me/98SE

- Mac OSX (v10.2x or later)

- At least 32 MB of memory and a 300 MHz processor

- Properly installed and working USB Controller

3

Introduction

The D-Link *Air* DWL-122 Wireless USB Adapter is a convenient Plug & Play USB 1.1 solution that brings wireless networking to your laptop or desktop PC.

With transfer rates up to 11Mbps you can connect to a wireless network at home, at the office or at any wireless hotspot. Now you can stay connected wherever you are and wherever you go.

The DWL-122 is Wi-Fi compliant, meaning that it can connect and interoperate with other 802.11b Wi-Fi-compliant wireless routers, access points and adapters. The DWL-122 connects to any available USB port on a laptop or desktop Windows and Macintosh-based computer and also includes a standard USB extension cable. With the optional USB extension cable, the DWL-122 can be positioned virtually anywhere at a workstation to achieve the best available wireless signal reception - whether that workstation is in your office, on your deck or patio, by the pool, at the local coffee shop, or in an airport terminal while waiting to board your next flight.

The adapter works with Apple Mac OS X (10.2x or later) Jaguar, Microsoft Windows XP, Windows 2000 and other Windows operating systems to ensure that you'll be up and running on a wireless network in just a matter of seconds. The DWL-122 also features 64 or 128-bit WEP encryption providing a level of security for the data that you wirelessly transmit.

Using its default settings, the DWL-122 automatically connects to other D-Link Wireless products as soon as it's active.

Features and Benefits

- Compact size for placement anywhere

- Convenience of Plug & Play installation

- Fully 802.11b compatible

- Powered by the USB port; no external power source is needed

- USB 1.1 standard

- Network Security with with 64-bit and 128-bit WEP encryption

- Supports infrastructure networks via an Access Point or Router and Peer-to-Peer communication in Ad-Hoc mode

- User-friendly configuration and diagnostic utilities

- Connects at up to 328 feet indoors*

- One year warranty (USA only)

Environmental factors may adversely affect range

5

Features

Internal Antenna
Used to wirelessly connect
to 802.11b networks

D-Link
DWL-122
Wireless USB Adapter

PWR
LNK

Link/Activity LED

Power - Indicates that the
DWL-122 is properly
installed in the computer.

Link - Blinks when data is
being transmitted through
the wireless connection.

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. D-Link wireless products will allow you access to the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking brings.

A WLAN is a cellular computer network that transmits and receives data with radio signals instead of wires. WLANs 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.

6

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 are easy to set up, manage, change and relocate. Networks that frequently change can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

Installation and Network Expansion - Installing a WLAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings. Wireless technology allows the network to go where wires cannot go - even outside the home or office.

Scalability – WLANs can be configured in a variety of topologies to meet the needs of specific applications and installations. 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.

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices.

7

Wireless Basics *(continued)*

Installation Considerations

The D-Link *Air* DWL-122 lets you access your network, using a wireless connection, from virtually anywhere within its operating range. 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 number of walls and ceilings between the DWL-122 and other network devices to a minimum - each wall or ceiling can reduce your D-Link wireless product's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

2. 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! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.

3. Building Materials can impede the wireless signal - 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.

4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate extreme RF noise.

8

Getting Started

Inserting the DWL-122

Insert the DWL-122 into an available USB port.

Using the DWL-122 with the extension cord

Plug one end of the USB extension cord into the USB port on your computer and plug the other end into the DWL-122.

Removing the DWL-122 (Windows XP)

After installing the DWL-122, this icon will appear in the taskbar at the bottom of the screen (for WinXP service pack I and above).

Before you disengage the DWL-122 from the USB port, you must click on the icon (illustrated above) that resides in the taskbar. When the screen at right appears, highlight the DWL-122.

Click **Stop**

Windows will notify you when it is safe to remove the DWL-122 from the USB port.

9

> **With its default settings, the DWL-122 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 or Router, such as the DI-614+.

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-122 wireless 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 D-Link network devices listed here; (your existing network may be comprised of other devices).

A wireless broadband Router-
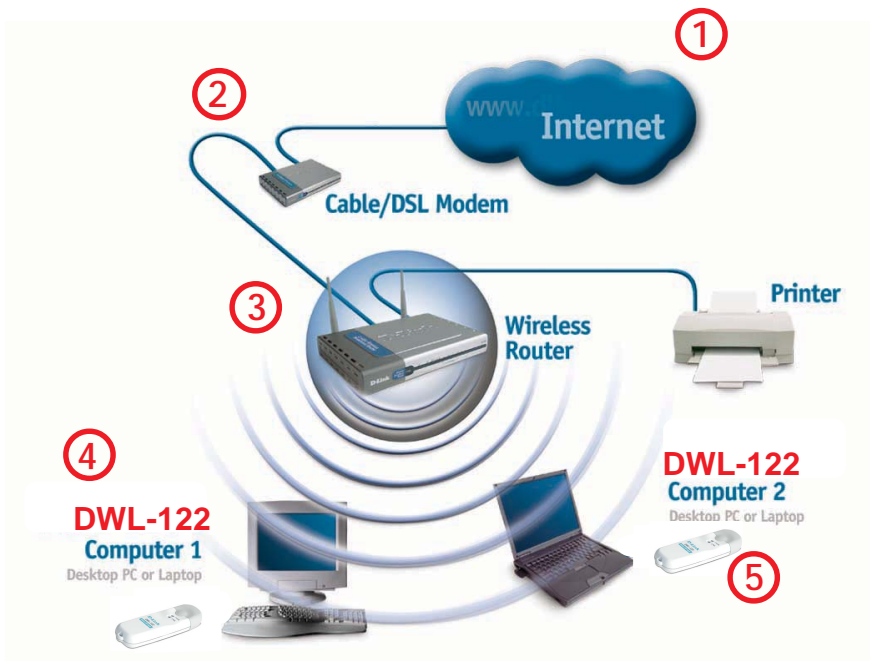**D-Link *Air*Plus DI-614+**

A laptop computer with a USB wireless network adapter -
D-Link *Air* DWL-122

A desktop computer with a USB wireless network adapter -
D-Link *Air* DWL-122

A Cable modem -
D-Link DCM-201

10

Setting up a Wireless Infrastructure Network

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-122 wireless USB adapter into an available USB port on your desktop computer. *(See the **Quick Installation Guide** included with the DWL-122.)*

5   If you are connecting a laptop computer to your network, you can install the DWL-122 into an available USB port on your laptop. (*See the **Quick Installation Guide** included with the DWL-122*.)

11

Computer

Laptop

D-Link *Air*
DWL-122

D-Link *Air*
DWL-122

1 Install the **D-Link *Air* DWL-122** Wireless USB adapter into the desktop computer. *(See the **Quick Installation Guide** included with the product for installation instructions.)*

2 Install another DWL-122 into the laptop computer.
*(See the **Quick Installation Guide** included with the product for installation instructions.)*

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.

12

Using the Configuration Utility with Windows OS

D-Link *Air* **DWL-122** 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-122**.

If you are using Windows XP, you can use either the Zero Configuration Utility or the D-Link Configuration Utility.

To use the D-Link Configuration Utility with XP, click on the D-Link Configuration Utility icon in the taskbar in the lower corner of your computer screen.

Select the **Wireless Networks** tab; uncheck the box in the properties window that enables windows configuration. After you have done this, you can then use the D-Link Configuration Utility with XP by clicking on the D-Link Configuration Utility icon again.
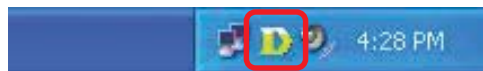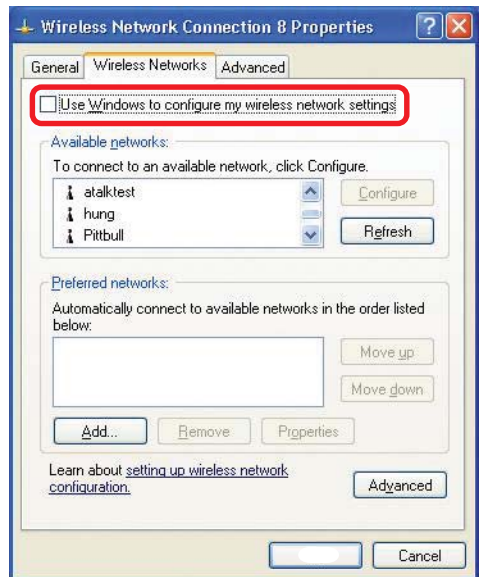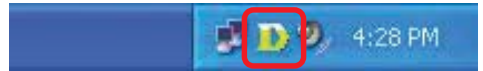
A new icon will appear in your Icon tray. **Double-click** on the **D** icon shown in the tray.

13

Using the Configuration Utility with Windows OS *(continued)*

Status:
Displays the MAC Address of the Access Point or Router to which the DWL-122 is associated

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

Frequency:
802.11b indicates that the DWL-122 is communicating in the 2.4GHz band.

Link Info

D D-Link Air USB Utility	☒

▶ **Link Info**	Status: Associated BSSID=00:40:05:B8:4D:AF
	SSID: default
▶ Configuration	Frequency: 802.11b
	Wireless Mode: Infrastructure
▶ Advanced	Encryption: Disabled
	Tx Rate: 11.0 Mbps
▶ Site Survey	Channel: 6 [Rescan]
▶ About	

Signal Strength
Signal Strength   54%

Packet Count
Transmit   Receive
>100
50
0

Wireless Mode:
Either **Infrastructure** or **Ad-Hoc** will be displayed here. (Please see the *Getting Started* section in this manual for an explanation of these two modes.)

Encryption:
You can see if WEP (Wired Equivalent Privacy) is **Enabled** or **Disabled** here.

Tx Rate:
The default setting is **Auto**; Tx Rate settings are automatically determined for an optimal speed up to a maximum of 11Mbps.

Channel:
The default setting is **Auto**. The channel selection is automatically determined by the DWL-122.

Signal Strength:
Displays the signal strength of the DWL-122's wireless connection to the Access Point or Router.
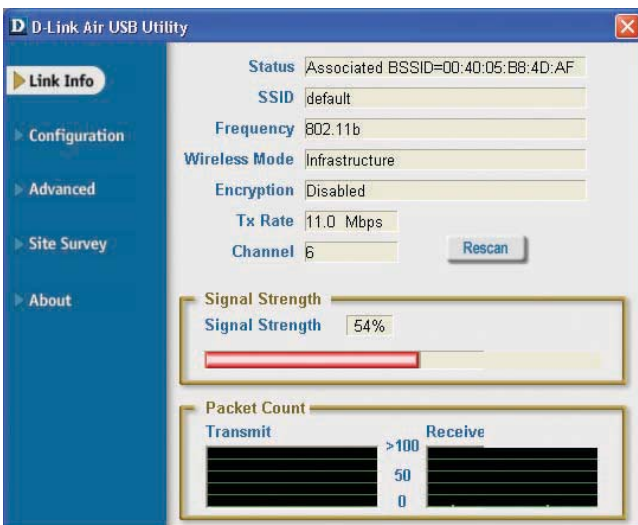
Packet Count:
Displays the statistics of the data packets that are transmitted and received.

Rescan Button:
Rescans for the strongest signal with the current SSID and associates with that Access Point or Router

14

Using the Configuration Utility with Windows OS *(continued)*

SSID:

Service Set Identifier is a name that identifies a wireless network. Access Points and wireless devices attempting to connect to a specific WLAN (Wireless Local Area Network) must use the same SSID. The default setting is **default**.

Wireless Mode:

Click on the pull-down menu; select from the following options:

> **Infrastructure** - connecting to the WLAN using an Access Point.(This is the **default** setting).
>
> **Ad-Hoc –** wireless mode used when connecting directly to a computer equipped with a wireless adapter in a peer-to-peer environment.

Data Encryption:

Select **Enabled** or **Disabled.**

Authentication:

Choose one of the following modes:

> **Open Authentication** – the DWL-122 is visible to all devices on the network
>
> **Shared Authentication** – allows communication only with other devices with identical WEP settings
>
> **Auto** – will automatically adjust to the Authentication mode of the wireless Access Point or Router

Key Length:

Select the key length and either ASCII (e.g., a word) or hexadecimal format.

Keys 1-4:

Select the default key

> *Hexadecimal digits consist of the numbers 0-9 and the letters A-F*
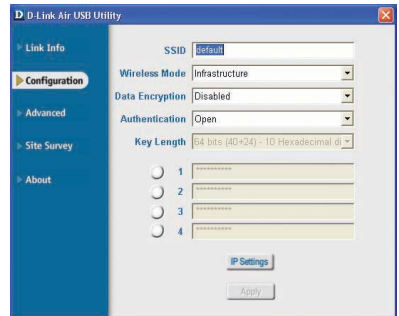>
> *ASCII (American Standard Code for Information Interchange) is a code for representing English letters as numbers from 0-127*
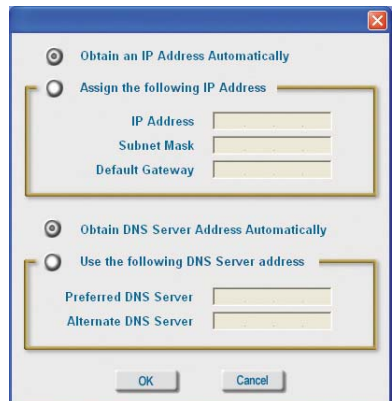
IP Settings:

When you click **IP Settings** in the Configuration window, the pop-up screen above will appear. Configure the IP Settings in this window.

Click **Apply** to save changes.

Configuration

IP Settings

15

Using the Configuration Utility with Windows OS *(continued)*

Ad-Hoc Channel:
All devices in the Ad Hoc network must be set to the same channel

Profile IP Settings:
You can **Enable** or **Disable** the *IP Settings* portion of your profile here. If you select **Disable** you will need to configure the IP Address information each time you connect to a network. If you select **Enable** you will maintain the same IP Address information each time you connect to a network.

Advanced

Power Mode:
Disable -this default setting consumes the most power
Enable - this setting consumes the least power

Launch Utility on Startup:
Select **Enable** or **Disable**

Data Packet Parameter:
Select the parameters here

Fragmentation Threshold:
This value should remain at its default setting of 2432. If you experience a high packet error rate, you may slightly increase your Fragmentation Threshold within the value range of 256 to 2432. Setting the Fragmentation Threshold too low may result in poor performance.

RTS Threshold:
This value should remain at its default setting of 2432. If inconsistent data flow is a problem, only a minor modification should be made.

Click **Apply** if you have made any changes   16
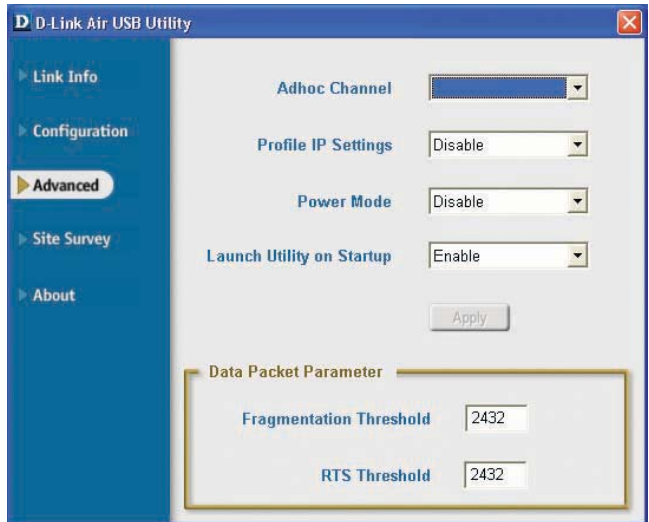
Using the Configuration Utility with Windows OS *(continued)*

Available Network:
The top section of the window displays the **Available Networks**. Scroll up and down the list and highlight the network to which you wish to connect. Click on the **Connect** button.

Profile:
In the lower half of the screen, you can manage the profiles that you have created for the wireless network at home, at the office and in public places. Scroll up and down and highlight the profile that you wish to configure. You can **Add** or **Remove** a profile, or configure the **Properties** of the profile in order to connect with an available network.

Refresh:
Click on **Refresh** to get the most updated list of available networks.

Site Survey

Configure:
Highlight an existing network and click **Configure**; the configuration window on the next page will appear.

Advanced:
Highlight a network; click **Advanced** and the screen on the next page will appear.

Add:
Click **Add** and the screen on the next page will appear.

Remove:
Highlight a network profile; click **Remove** to remove a network from the profile list.

Properties:
Highlight a network profile; click **Properties** and the screen on the next page will appear.
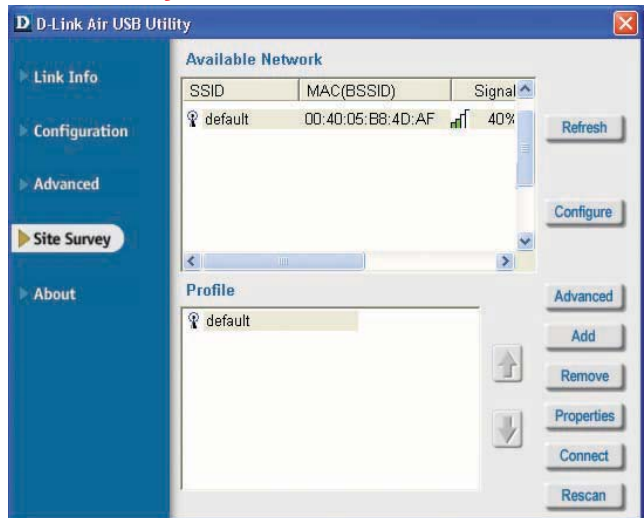
Connect:
Highlight a network profile; click **Connect** to connect to that network.

Rescan:
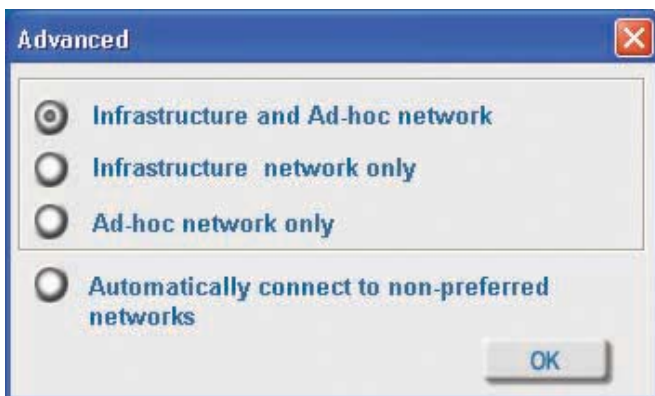Click Rescan to rescan and connect to the strongest signal with the current SSID.

17

Using the Configuration Utility with Windows OS *(continued)*

Advanced

In this window you can select the type of network connection.

Click **OK** to save the changes.

Advanced

- ⦿ Infrastructure and Ad-hoc network
- ○ Infrastructure network only
- ○ Ad-hoc network only

- ○ Automatically connect to non-preferred networks

OK

Configuration, Add or Properties

If you clicked on **Add,** you can configure, in this window, all the properties of a profile that you wish to add to the network.

If you clicked on **Configuration or Properties** you can configure, in this window, all the properties of a profile that already exists in the network.

Click **OK** to save the changes.

Configuration

SSID	
Wireless Mode	Infrastructure ▼
Data Encryption	Disabled ▼
Authentication	Open ▼
Key Length	64 bits (40+24) - 10 Hexadecir ▼

- ○ 1
- ○ 2
- ○ 3
- ○ 4

IP Settings

OK   Cancel

18

Using the Configuration Utility with Windows OS *(continued)*

About

The **About** tab displays the MAC Address, the utility and the firmware versions.

19

Using the Configuration Settings with Macintosh OS

After you have completed the installation of the DWL-122 into your Macintosh computer (please refer to the *Quick Installation Guide* included with the product), follow the steps below to access the configuration settings.

From the **Apple** pull-down menu select **System Preferences**.

Double-click on the **Wireless Adaptor** icon.

Using the Configuration Utility with Macintosh OS *(continued)*

This window will appear displaying the following:

Current Wireless Network settings: *Network Name; Network Type; Link Status; Channel; and Signal Strength*

Available Wireless Networks including:
Name; Type; Signal; Channel; Privacy

Start Scan: click *Start Scan* to rescan for an available wireless network at your current location

Connect: highlight a network profile and click Connect to connect to that network profile

Wireless Adaptor Settings:
Radio On: select or deselect
Frequency Band: displays the frequency band; default is 2.4GHz (may not be changeable)
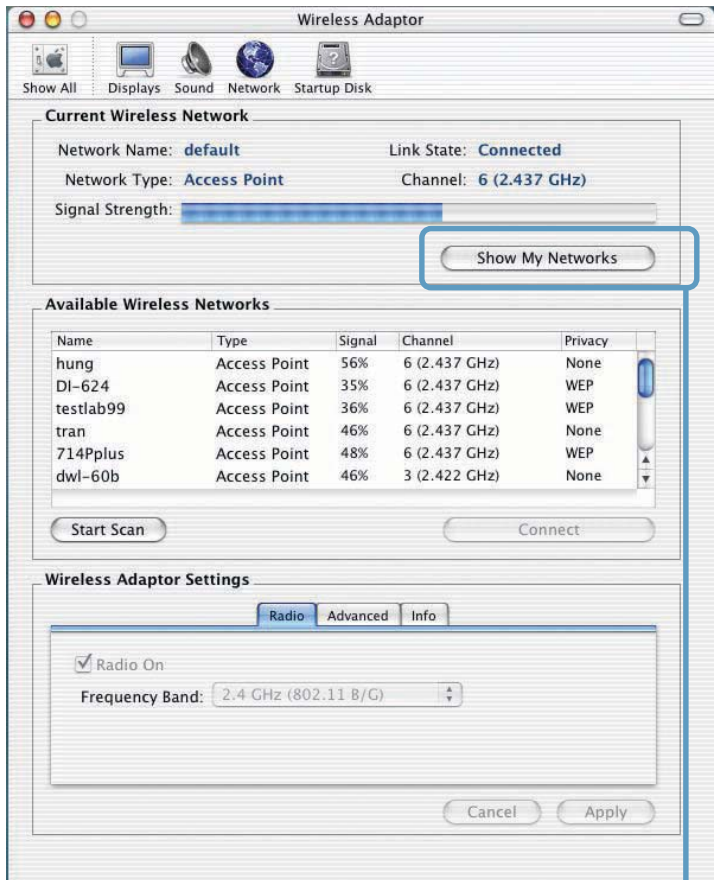
Click **Show My Networks** to manage your network profiles

21

Using the Configuration Utility with Macintosh OS *(continued)*

My Networks
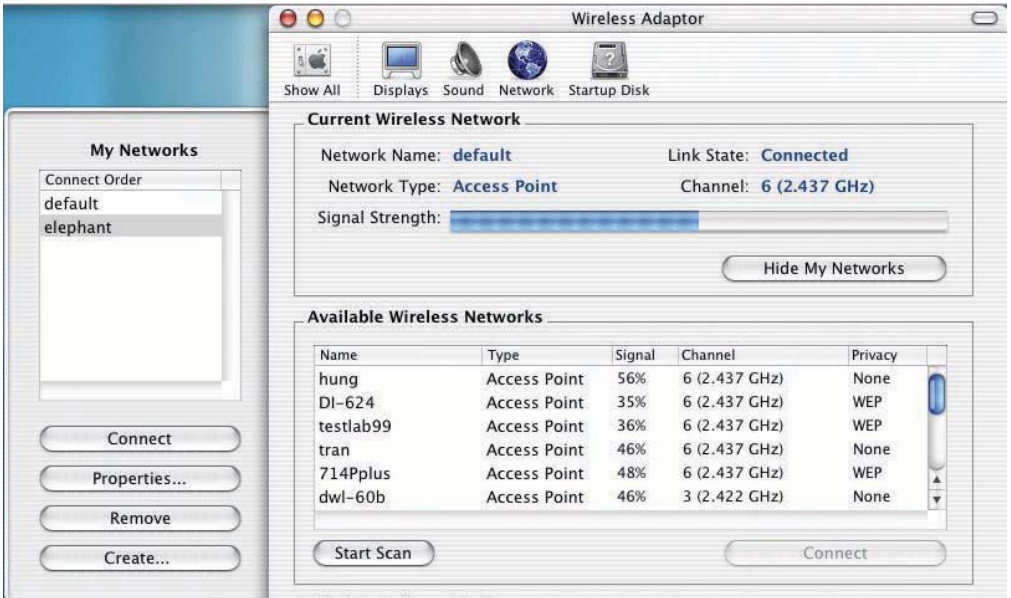
Connect: highlight a network profile and click **Connect** to connect to that network profile

Properties: highlight a network profile and click **Properties** to configure that network profile. (See screens on the next page.)
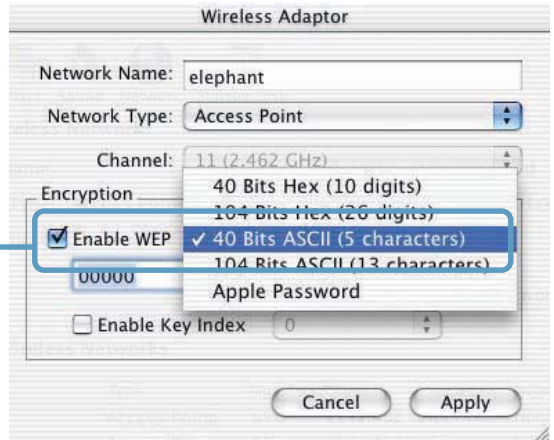
Remove: highlight a network profile and click **Remove** to remove that network from the profile list

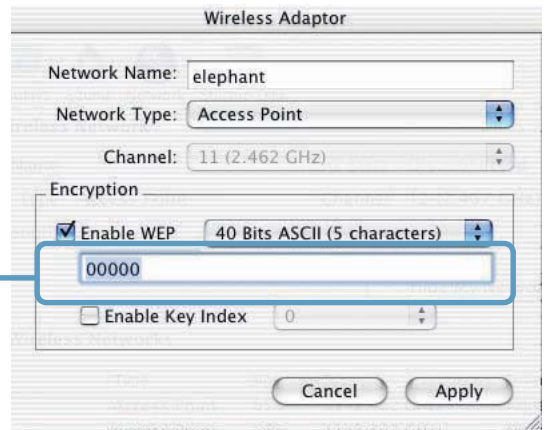**Create:** click **Create** to create a new network profile, manually. (See screens on the next page.)

22

Using the Configuration Utility with Macintosh OS *(continued)*
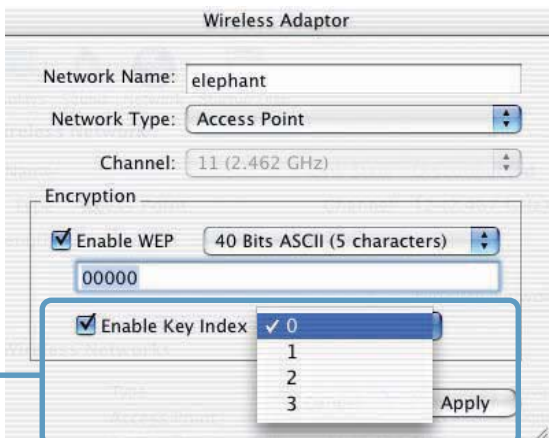
My Networks >
Create and/or Properties

Select the level of WEP encryption. In the example, 40 Bits ASCII was chosen.

Wireless Adaptor

Network Name: elephant
Network Type: Access Point
Channel: 11 (2.462 GHz)
Encryption
40 Bits Hex (10 digits)
104 Bits Hex (26 digits)
☑ Enable WEP ✓ 40 Bits ASCII (5 characters)
104 Bits ASCII (13 characters)
00000 Apple Password
☐ Enable Key Index 0
Cancel Apply

Enter the WEP string, in this case 5 ASCII characters have been entered.

Wireless Adaptor

Network Name: elephant
Network Type: Access Point
Channel: 11 (2.462 GHz)
Encryption
☑ Enable WEP 40 Bits ASCII (5 characters)
00000
☐ Enable Key Index 0
Cancel Apply

Select the key that you wish to use. You can input up to four keys.

Wireless Adaptor

Network Name: elephant
Network Type: Access Point
Channel: 11 (2.462 GHz)
Encryption
☑ Enable WEP 40 Bits ASCII (5 characters)
00000
☑ Enable Key Index ✓ 0
1
2
3
Apply

23

Using the Configuration Utility with Macintosh OS *(continued)*

Power Save:

Always On - consumes the most power

Max Power Save - consumes the least power

Power Save - consumes a moderate amount of power

Advanced

Wireless Adaptor Settings

Radio | Advanced | Info

Power Save: Always On
Authentication: Open
World Mode: Active Scanning

Cancel   Apply

Authentication: Choose one of the following modes:

Open Authentication - the DWL-122 is visible to all devices on the network

Shared Authentication - allows communication only with devices with identical WEP settings

Auto - will automatically adjust to the Authentication mode of the wireless Access Point or Router

World Mode: select Active Scanning to continuously rescan and associate with the Access Point or Router with the strongest signal in the SSID. (Not available for adapters sold in the USA.)

Info

This **Info** tab displays the MAC Address and the Firmware and Driver versions

Wireless Adaptor Settings

Radio | Advanced | Info

MAC Address: 00:05:5D:9A:66:A0
Primary Firmware: 1.01.03.21
Secondary Firmware: 1.07.01.00
Driver Version: 1.2.1d0

Cancel   Apply

24
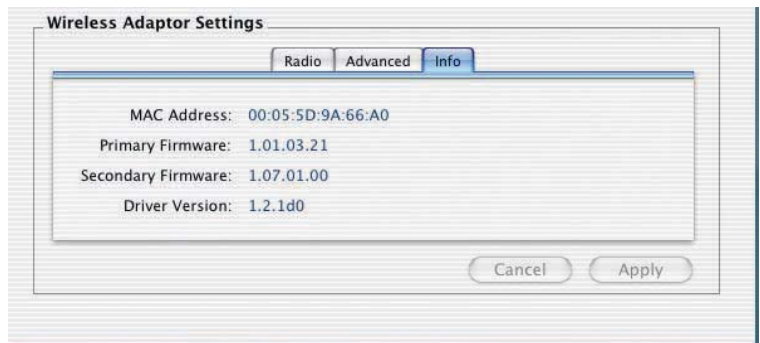
Networking Basics

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**
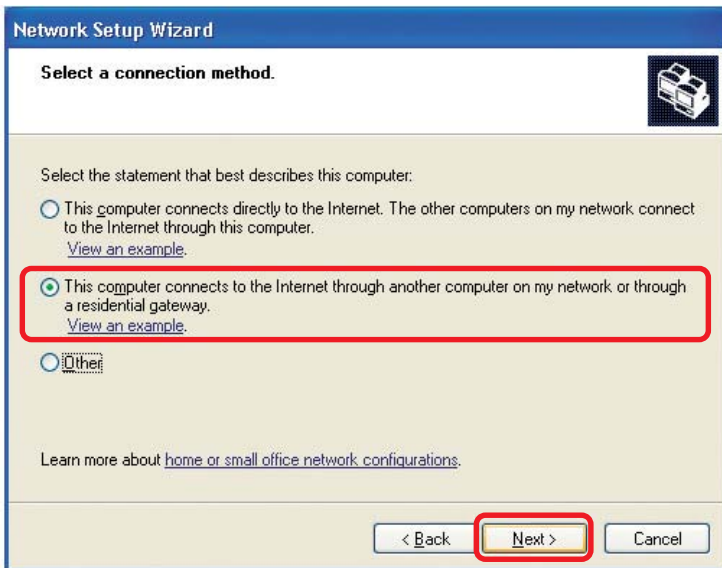Select **Set up a home or small office network**

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

Networking Basics *(continued)*

Please follow all the instructions in this window:
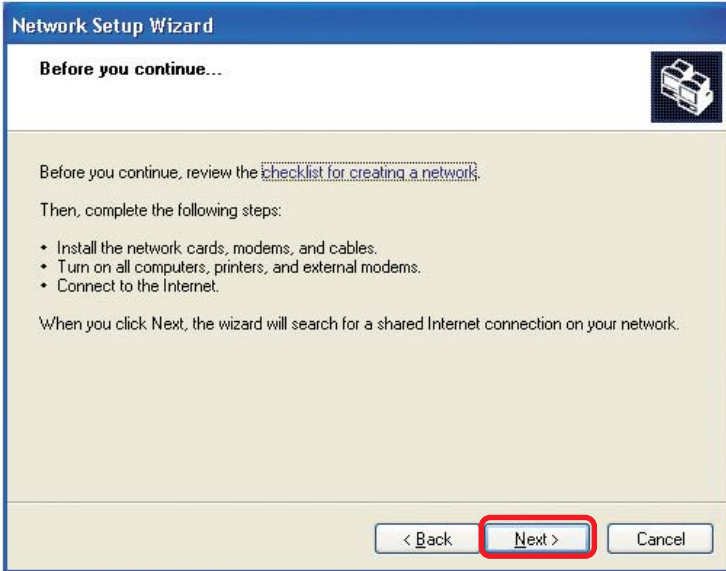
Click **Next**
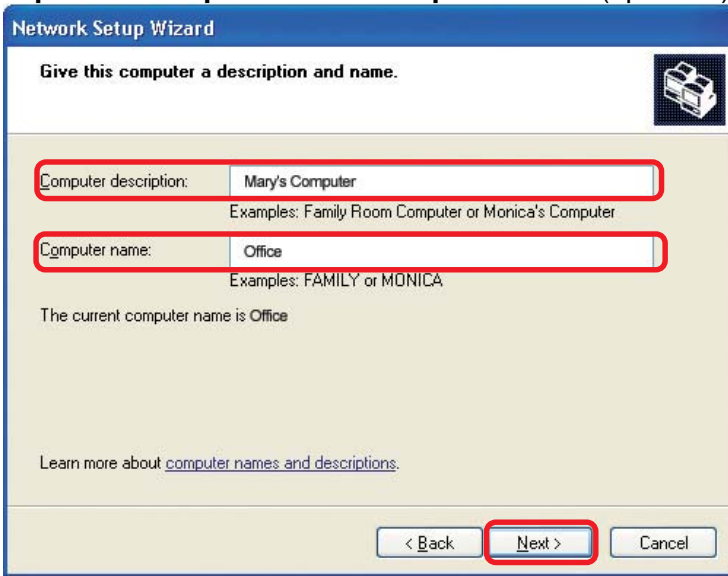
In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.

Click **Next**

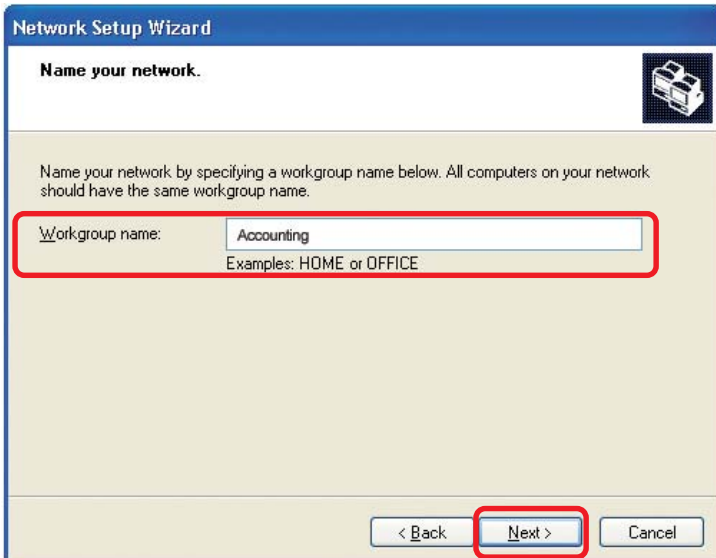Enter a **Computer description** and a **Computer name** (optional.)

Network Setup Wizard

Give this computer a description and name.

Computer description: Mary's Computer

Examples: Family Room Computer or Monica's Computer

Computer name: Office

Examples: FAMILY or MONICA

The current computer name is Office

Learn more about computer names and descriptions.

[< Back] [Next >] [Cancel]

Click **Next**

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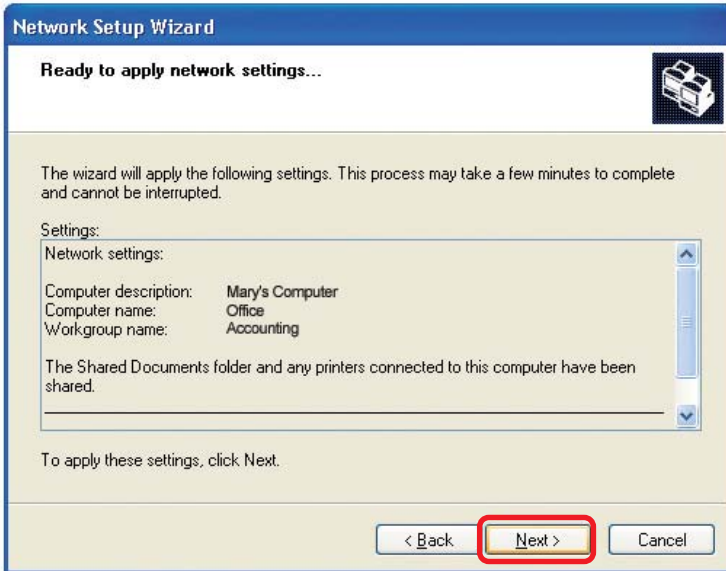
Network Setup Wizard

Name your network.

Name your network by specifying a workgroup name below. All computers on your network should have the same workgroup name.

Workgroup name: Accounting

Examples: HOME or OFFICE

[< Back] [Next >] [Cancel]

Click **Next**

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

Network Setup Wizard

Ready to apply network settings...

The wizard will apply the following settings. This process may take a few minutes to complete and cannot be interrupted.

Settings:

Network settings:

Computer description: Mary's Computer
Computer name: Office
Workgroup name: Accounting

The Shared Documents folder and any printers connected to this computer have been shared.

To apply these settings, click Next.

[< Back]   [**Next >**]   [Cancel]

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

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

Network Setup Wizard

Ready to apply network settings...

The wizard will apply the following settings. This process may take a few minutes to complete and cannot be interrupted.

Settings:

Network settings:

Computer description: Mary's Computer
Computer name: Office
Workgroup name: Accounting

The Shared Documents folder and any printers connected to this computer have been shared.

To apply these settings, click Next.

[< Back]   [Next >]   [Cancel]

28
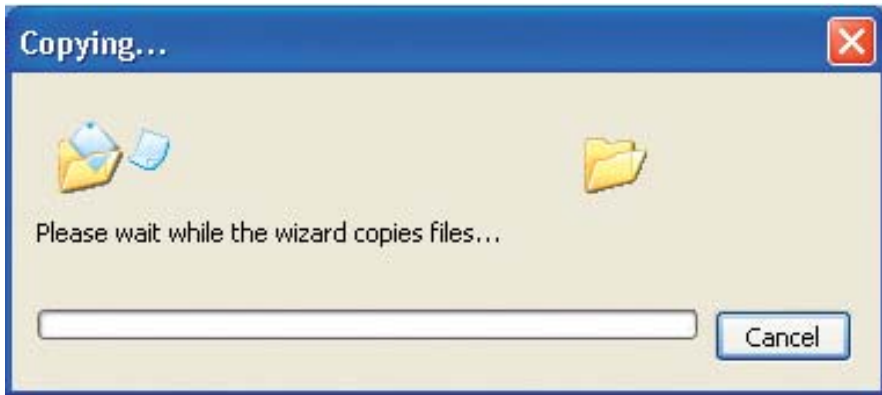
Networking Basics *(continued)*

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**.
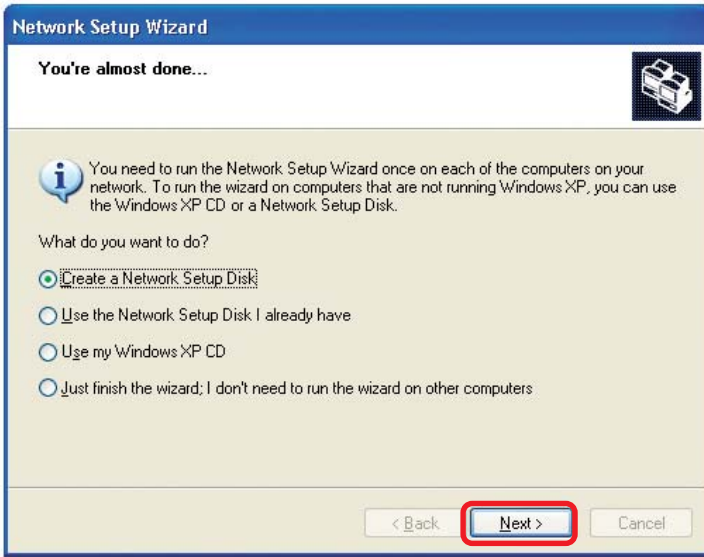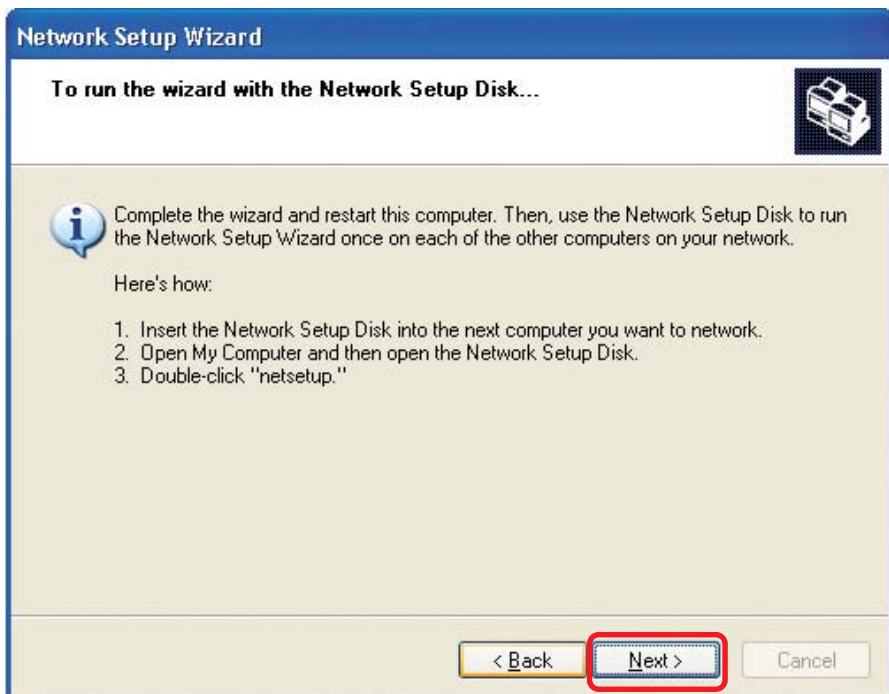

Insert a disk into the Floppy Disk Drive, in this case drive **A.**

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.**
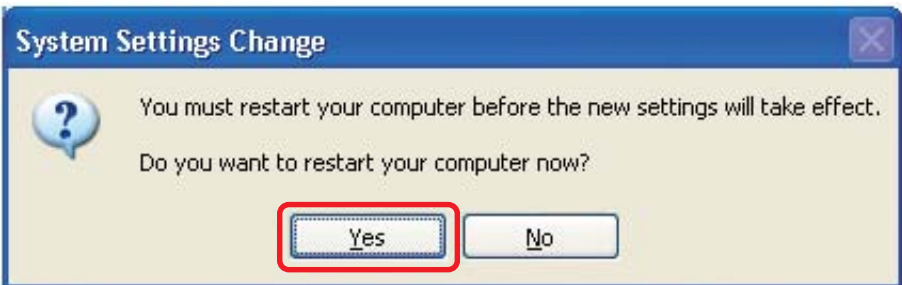

30

Networking Basics *(continued)*

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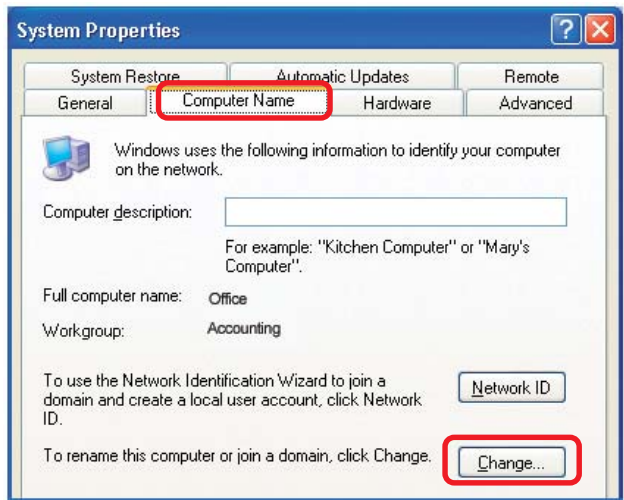
To name your computer, using **Windows XP,** please follow these directions:

■ Click **Start** (in the lower left corner of the screen)

■ **Right-click** on **My Computer**

■ Select **Properties** and click

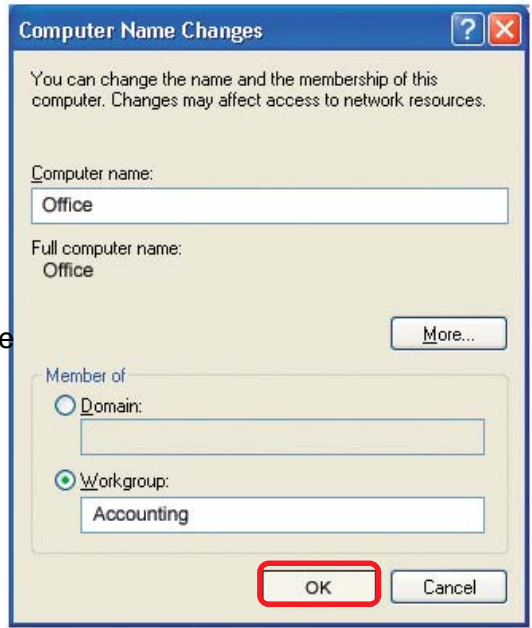■ Select the **Computer Name Tab** in the System Properties window.

■ You may enter a **Computer Description** if you wish; this field is optional.

■ To rename the computer and join a domain, Click **Change**.

32

Naming your Computer

■ In this window, enter the **Computer name**

■ Select **Workgroup** and enter the name of the

■ All computers on your network must have the same **Workgroup** name.

■ Click **OK**

Computer Name Changes ？✕

You can change the name and the membership of this computer. Changes may affect access to network resources.

Computer name:
Office

Full computer name:
Office

More...

Member of

○ Domain:

⦿ Workgroup:
Accounting

OK   Cancel

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

Disable
Status
Repair
View Available Wireless Networks
Open Network Connections

3:05 PM

■ Click on **Status**

33

This window will appear.

■ Click the
Support tab

■ Click **Close**

Assigning a Static IP Address in <u>Windows XP/2000</u>

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:
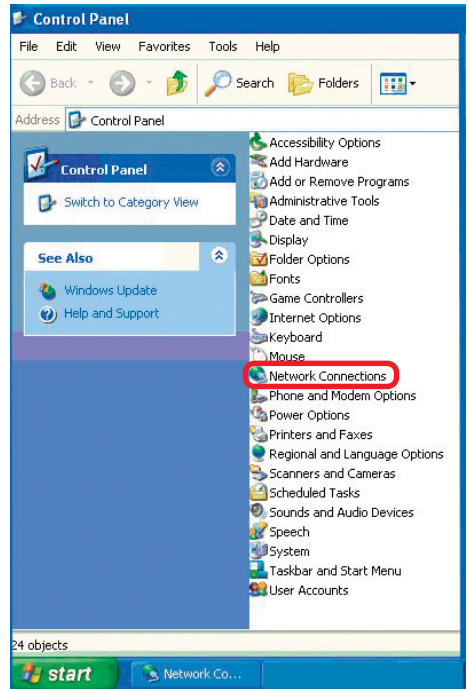
■ Go to **Start**

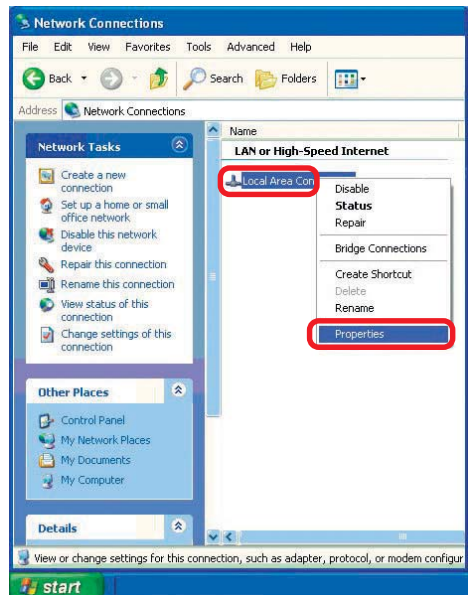■ Double-click
on **Control
Panel**

34
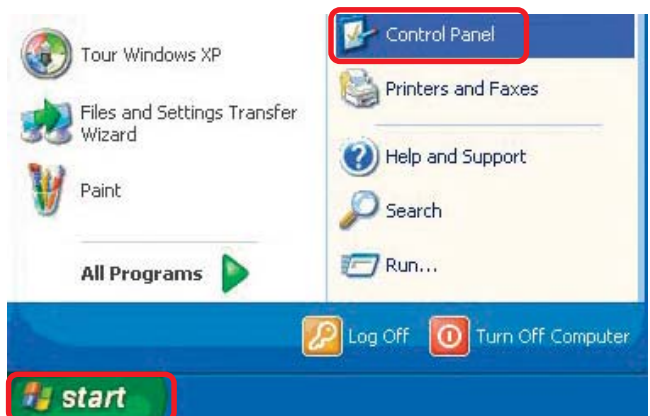
Assigning a Static IP Address in Windows XP/2000

■ Double-click
on **Network
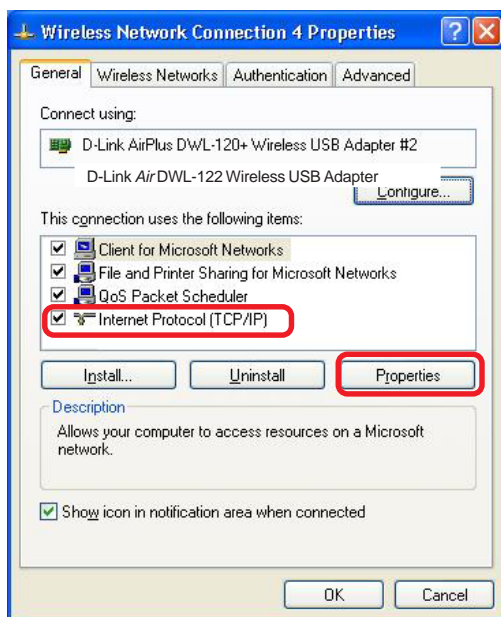Connections**

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

■ Double-click on
Properties

35

Assigning a Static IP Address in Windows XP/2000

■ Click on **Internet Protocol (TCP/IP)**

■ Click **Properties**

■ In the window below, select **Use the following IP address**. 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.)

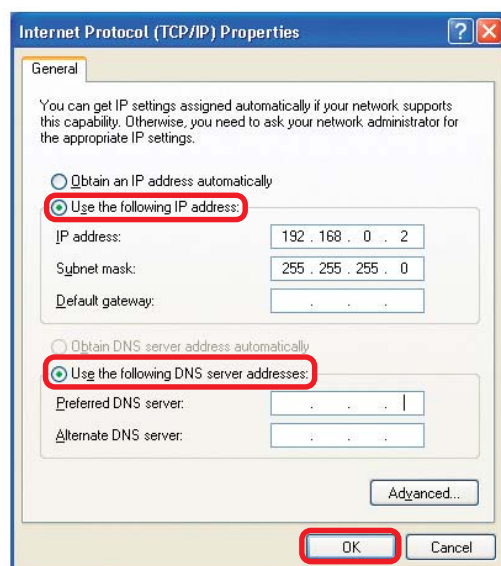■ **IP Address:**
   e.g., 192.168.0.2

■ **Subnet Mask:**
   255.255.255.0

■ **Default Gateway:**
   Enter the LAN IP address of the wireless router. (D-Link wireless routers have a LAN IP address of 192.168.0.1)

■ Select **Use the following DNS server addresses**.
   Enter the LAN IP address of the Wireless Router. (D-Link wireless routers have a LAN IP address of 192.168.0.1)
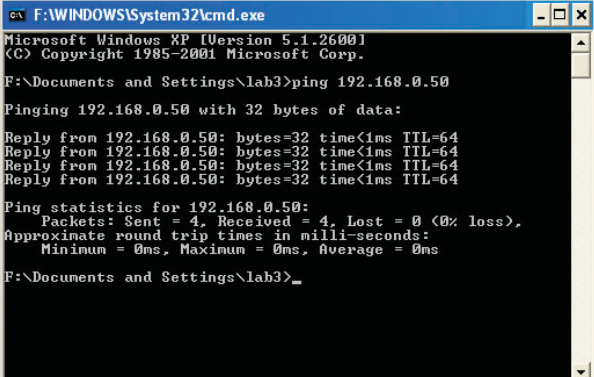
■ Click **OK**

36

Networking Basics *(continued)*

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
Acess 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\lab3>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
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
Reply from 192.168.0.50: bytes=32 time<1ms TTL=64
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\lab3>_
```
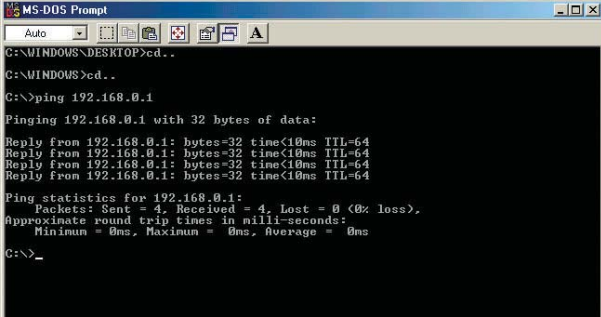
Checking the Wireless Connection by
Pinging in Windows Me and 98*

■ 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                                           _ □ ×

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
Reply from 192.168.0.1: bytes=32 time<10ms TTL=64
Reply from 192.168.0.1: bytes=32 time<10ms TTL=64
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:\>_
```

** The IP Addresses in these illustrations are examples only. The actual IP Addresses
that you ping may be different than those displayed here.*

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DWL-122. 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-122 are installed properly.

- **Go to Start > My Computer > Properties**
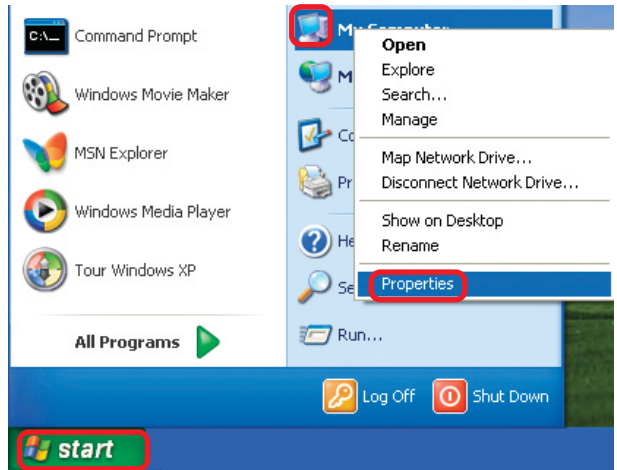
- Select the **Hardware Tab**
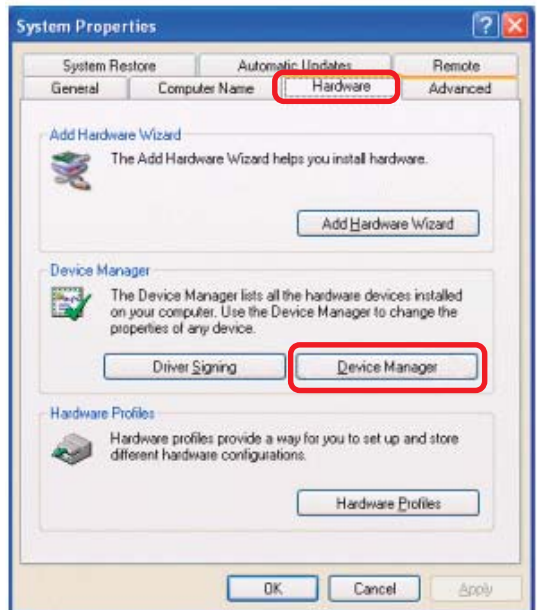
- Click **Device Manager**

Troubleshooting *(continued)*

- Double-click on **Network Adapters**

- Right-click on **D-Link *Air* DWL-122 Wireless USB Adapter**

- Select **Properties** to check that the drivers are installed properly

- Look under **Device Status** to check that the device is working properly

- Click **OK**

Troubleshooting *(continued)*

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 **Wirel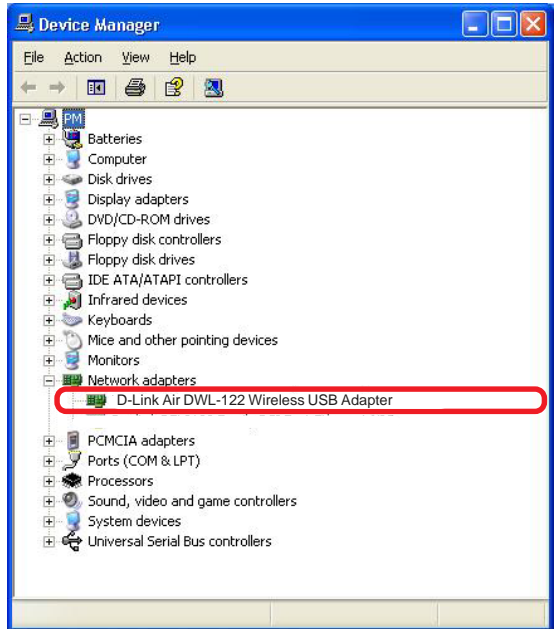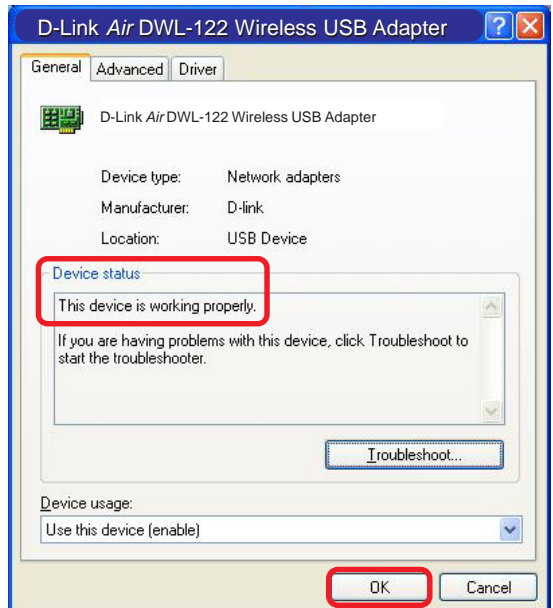ess Basics** section of this manual for further information about the most advantageous placement of your D-Link wireless products.

3. Why does my wireless connection keep dropping?

- 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-122, 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 Access Point or Router and the DWL-122.

- Make sure that the SSID on the Access Point or Router (if you have one in your network) and the DWL-122 are exactly the same. If they are not, a wireless connection will not be established. The default SSID is **default**.

40

Technical Specifications

Standard

- IEEE 802.11b

Diagnostic LED

- Power
- Link Status

Temperature

- Operating: 0ºC to 55ºC (32ºF to 131ºF)
- Storing: -20ºC to 75ºC (-4ºF to 167ºF)

Humidity:

- Operating: 5-95%, non-condensing
- Storing: 10-90%, non-condensing

Antenna Type:

- Integrated microstrip diversity antenna

Modulation Technique:

- DSSS

Physical Dimensions:

- L = 3.25 inches (82.5mm)
- W = 1.07 inches (27.2mm)
- H = 0.47 inches (12mm)

Data Rates:

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

Interface:

- USB 1.1

Available Channels:

- Eleven channels for North America

Media Access Protocol:

- CSMA/CA with ACK

41

Technical Specifications (continued)

Operating Voltage:

- 5VDC ± 5%, powered through USB port

Encryption:

- RC4 Encryption algorithm
- 64 or 128-bit WEP Encryption

MTBF:

- >30,000 hours

Modulation Schemes:

- DQPSK, DBPSK and CCK

Transmitter Output Power:

- Typical 16dBm, 40mW

Receiver Sensitivity:

- Typical -81dBm for 11Mbps @ 8% PER (Packet Error Rate)
- Typical -86dBm for 2Mbps @ 8% PER (Packet Error Rate)

Technical Support

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

D-Link provides free technical support for customers within the United States and within Canada for the duration of the warranty period on this product.

U.S. and Canadian customers can contact D-Link Technical Support through our website, or by phone.

Tech Support for customers within the United States:

D-Link Technical Support over the Telephone:
(877) 453-5465
24 hours a day, seven days a week.

D-Link Technical Support over the Internet:
http://support.dlink.com
email:support@dlink.com

Tech Support for customers within Canada:

D-Link Technical Support over the Telephone:
(800) 361-5265
Monday to Friday 8:30am to 9:00pm EST

D-Link Technical Support over the Internet:
http://support.dlink.ca
email:support@dlink.ca

Warranty and Registration
(USA only)

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor and
- Products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type ("Warranty Period"), except as otherwise stated herein.

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or have an identical make, model or part. D-Link may in its sole discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund at D-Link's sole discretion. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for hardware and software of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

44

■ The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same.

■ The original product owner must obtain a Return Material Authorization ("RMA") number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.

■ 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. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the Product and will not ship back any accessories.

■ The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

■ Return Merchandise Ship-To Address
USA: 53 Discovery Drive, Irvine, CA 92618
Canada: 2180 Winston Park Drive, Oakville, ON, L6H 5W1 (Visit http://www.dlink.ca for detailed warranty information within Canada)

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: This limited warranty provided by D-Link does not cover: Products, if in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM

45

LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This limited warranty provides specific legal rights and the product owner may also have other rights which vary from state to state.

Trademarks: D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective manufacturers or owners.

Copyright Statement: No part of this publication or documentation accompanying this Product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976. Contents are subject to change without prior notice. Copyright© 2002 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

CE Mark Warning: This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC 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 communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures**:**

■ Reorient 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.

For detailed warranty outside the United States, please contact corresponding local D-Link office.

FCC Caution:

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment; such modifications could void the user's authority to operate the equipment.

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.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this equipment must be installed to provide a separation distance of at least eight inches (20 cm) from all persons.

This equipment must not be operated in conjunction with any other antenna.

Register your D-Link product online at http://support.dlink.com/register/

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com