

# USER MANUAL

DWA-130

VERSION 1.0



**D-Link**<sup>®</sup>

**WIRELESS**

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# Package Contents

- D-Link DWA-130 Wireless N™ USB Adapter
- Cradle
- Manual and Warranty on CD
- D-Link Wireless Connection Manager on CD
- Quick Installation Guide



# System Requirements

- A computer or laptop with an available USB 2.0 port
- Windows® Vista™, 2000 (Service Pack 4) or XP (Service Pack 2)
- CD-ROM Drive
- 300MHz processor and at least 64MB of RAM
- A draft 802.11n or 802.11g access point or wireless router

# Introduction

The DWA-130 Wireless N™ USB Adapter is a convenient wireless connectivity solution for desktop or notebook PCs. Instead of stringing Ethernet cables to your PC or dismantling your desktop computer case, the DWA-130 can enable Draft 802.11n wireless connectivity by simply utilizing your desktop or notebook PC's USB port.

Powered by Wireless N™ technology, the DWA-130 provides a faster wireless connection and superior reception than 802.11g\*. The DWA-130 is designed for use in bigger homes and for those that demand higher bandwidth networking. Maximize wireless performance by connecting this USB Adapter to a Wireless N™ router and stay connected from virtually anywhere in the home. This USB Adapter supports WPA and WPA2 encryption to prevent outside intrusion and protect your personal information from being exposed.

D-Link's Quick Setup Wizard guides you step-by-step through the installation process. The D-Link Wireless Manager is included with this product to keep track of all your most frequently accessed networks.

Compact in size, robust in speed the DWA-130 Wireless N™ USB Adapter is great for travel and a convenient solution for providing high performance wireless connectivity to your desktop or notebook PC. Enjoy the many benefits of wireless connectivity today!

\* Maximum wireless signal rate derived from IEEE Standard 802.11g and Draft 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

# Features

- Compact size for placement anywhere.
- Convenience of Plug & Play installation.
- Fully 802.11g compatible.
- Draft 802.11n compliant.
- Powered by the USB port; no external power source required.
- USB 2.0 standard\*.
- You can securely connect to a wireless network using WPA/WPA2 (Wi-Fi Protected Access) providing you a much higher level of security for your data and communication than has previously been available. You may also use 802.1x for wireless authentication.
- Position the DWA-130 almost anywhere in your workspace to achieve the best reception possible.
- Supports Infrastructure networks via an access point
- User-friendly configuration and diagnostic utilities.

\* Using a USB 1.1 port will adversely affect throughput.

# Hardware Overview



**USB Port**

Used to connect the DWA-130 to your computer.

# Installation

This section will walk you through the installation process. If you have a built-in wireless adapter, please disable it in device manager before installing your D-Link adapter. Also, if you have previously installed another wireless adapter, please make sure any software is uninstalled.

## Getting Started

Before installing your new D-Link wireless adapter, please verify the following:

- Remove any previous installations of wireless adapters
- Disable any built-in wireless adapters
- Verify the settings such as the SSID and security settings of the network(s) you want to connect to

## Remove Existing Installations

If you've installed a different manufacture's adapter or a different model D-Link adapter, make sure the software is uninstalled before installing the new software. Some utilities may cause a conflict with the new software. If you plan to use multiple adapters at different times, make sure the utilities are not set to load when your computer boots up. Windows® XP users may use the built-in wireless utility for all adapters.

To remove any old software:

Windows® XP/Vista™ users: Click **Start > Control Panel > Add or Remove Programs**.

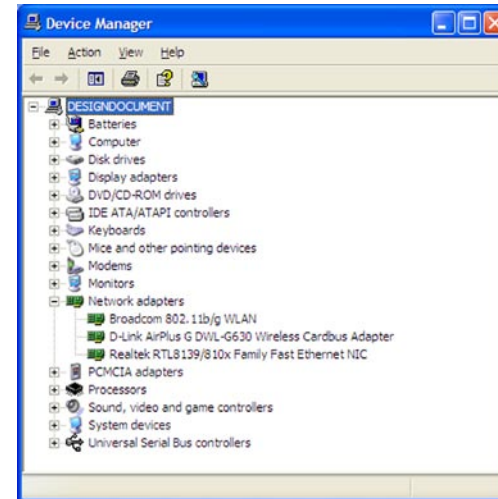
Windows® 2000 users: Click **Start > Settings > Control Panel > Add or Remove Programs**.

# Disable Other Wireless Adapters

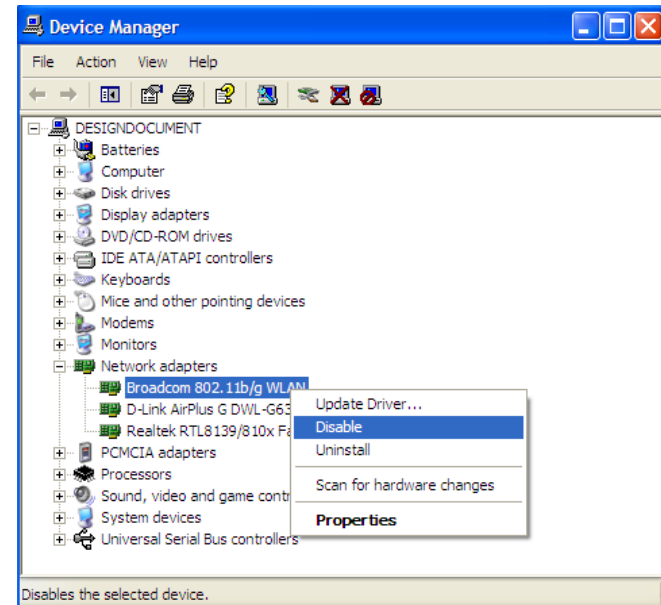
Most newer laptops may include a built-in wireless adapter. To prevent any conflicts with the D-Link wireless adapter, it is recommended to disable the wireless adapter (as well as any unused Ethernet adapters).

From the desktop, right-click on the **My Computer** icon and select **Properties**.

Click the **Hardware** tab and then click **Device Manager**. Scroll down the list and click the **+** sign to the left of **Network Adapters**.

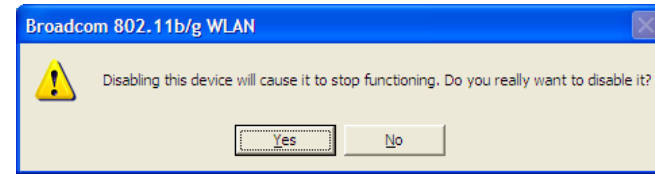


Right-click the adapter you would like to disable and select **Disable**.



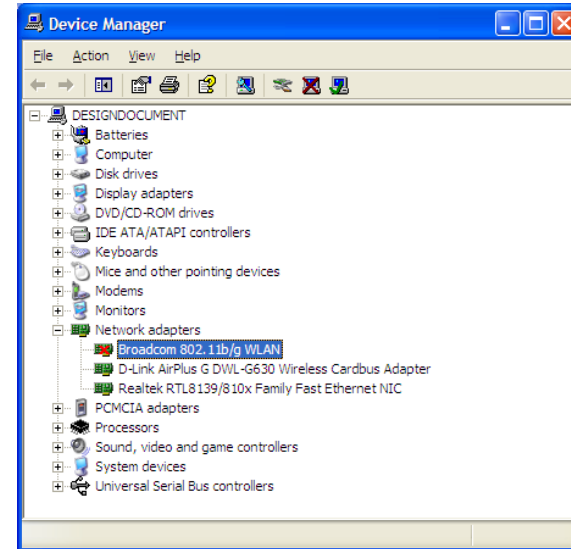


Click **Yes** to disable the adapter.



The adapter is now disabled. When disabled, a red X will be displayed.

Disabling the adapter will not remove the drivers. If you would like to use the adapter, simply right-click it and select **Enable**.



# Wireless Installation Considerations

The D-Link wireless adapter lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. 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 D-Link adapter and other network devices to a minimum - each wall or ceiling can reduce your adapter'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 make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
- 4.** Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
- 5.** If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

# Adapter Installation

**Warning: Do NOT install the DWA-130 USB Adapter into your computer before installing the driver software from the D-Link CD.**

Turn on the computer and Insert the D-Link DWA-130 Driver CD in the CD-ROM drive.

If the CD Autorun function does not automatically start on your computer, go to **Start > Run**. In the run box type “**D:\DWA130.exe**” (where **D:** represents the drive letter of your CD-ROM drive).

When the autorun screen appears, click **Install Drivers**.

Click **Install Drivers**



The *InstallShield Wizard* window will appear.



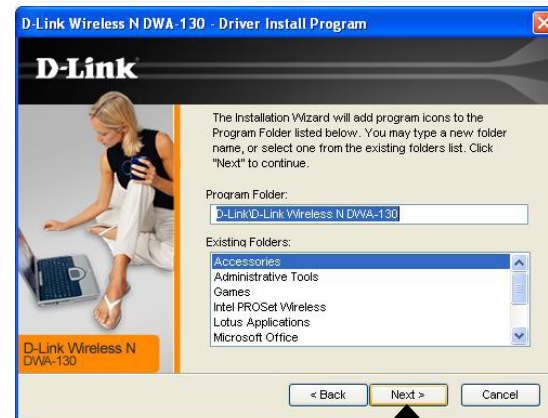
Click **Next**

By default setup will install to the default location: *C:\Program Files\D-Link\DWA-130*, where C: represents the drive letter of your hard drive. To install to a different location click **Browse** and specify the location.



Click **Next**

Select the Program Files folder location.



Click **Next**

Insert the adapter into an available USB port on your computer.

If the *Found New Hardware Wizard* appears, click **Cancel**.



Click **Next**

The Wireless Connection Wizard will now appear.

If you want to manually connect to a wireless network, refer to page 15. The following instructions will connect you to a wireless network using Wi-Fi Protected Setup (WPS).



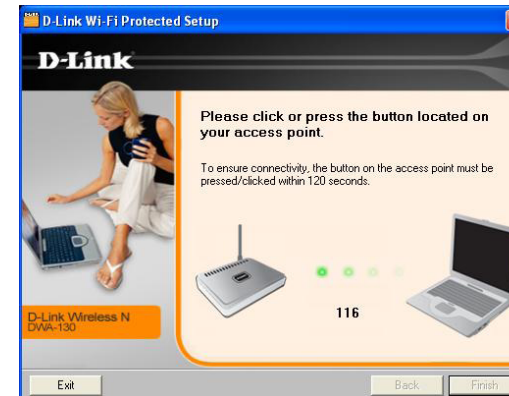
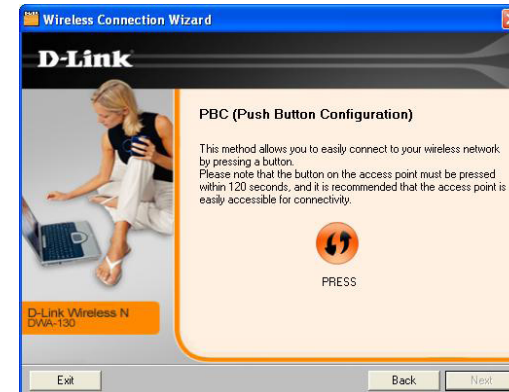
Click **Next**

## Push Button Configuration (PBC)

To connect to your network using the WPS push button configuration method, click the virtual button as shown in the screenshot.

Press the WPS button on your access point or wireless router within 2 minutes to establish connectivity.

When this screen appears, you have successfully connected to your wireless network. Click **Next** to complete your setup.



Click **Next**

To manually connect to your wireless network, select **Manually connect to a wireless network** and then click **Next**.



Click **Next**

Enter the network name (SSID) manually. If you enter the SSID incorrectly, you will automatically be brought to the site survey page. Click **Scan** to display the site survey page.



Click **Next**

Click the **Scan** button to display a list of wireless networks (site survey). Click on the network name (SSID) and click **Next**.



Click **Next**

When this screen appears, you are successfully connected to your wireless network. Click **Next** to complete your setup.



Click **Next**

Click **Finish** to continue. If you are prompted to reboot your computer, select **Yes, I want to restart my computer now.**



Click **Finish**



# Configuration

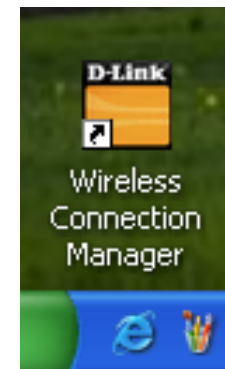
This section will show you how to configure your new D-Link wireless adapter using the D-Link Utility as well as the Windows® XP Zero Configuration Utility and Vista WLAN Autoconfiguration.

## D-Link Wireless Connection Manager

The D-Link DWA-130 uses the Wireless Connection Manager as the management software. The manager provides the user an easy interface to change any settings related to the wireless adapter. Clicking on the Wireless Connection Manager icon on the desktop will start the Configuration.

If you are using Windows® Vista™ please skip to page 27 or Windows® XP skip to page 29.

Double-click the **Wireless Connection Manager** icon on your desktop.



## Wireless Networks

The Wireless Networks (Site Survey) page will display all wireless networks that are available in your area. To connect to a network, simply highlight the wireless network (SSID) and click **Connect**.

**SSID:** The SSID (Service Set Identifier) is the name of the wireless network.

**MAC:** Displays the MAC address of the wireless device.

**Signal:** Displays the Link Quality of the wireless connection.

**Security:** If there is a “lock” icon, this means the wireless network is secure. You must know the encryption key/security settings to connect.

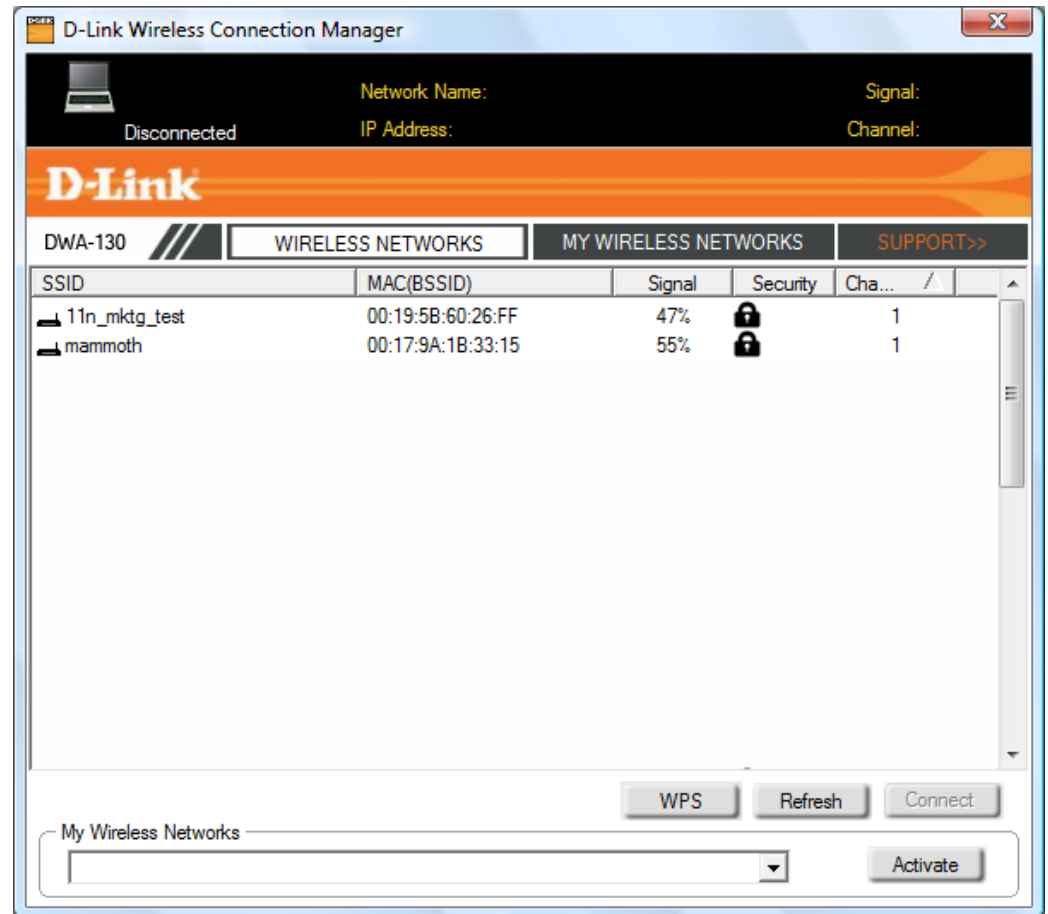
**Channel:** Displays the channel of the wireless network.

**WPS Button:** Connect to a wireless network using Wi-Fi Protected Setup. Refer to the next page.

**Refresh Button:** Rescans for available wireless networks in your area.

**Connect Button:** Highlight a wireless network and click the **Connect** button. If the network is secure, a pop-up window will appear. Enter the security information to connect (refer to the **Wireless Security** section for more information).

**Activate Button:** Select a wireless network profile from the drop-down menu and click **Activate** to connect. Allow up to 30 seconds to connect.



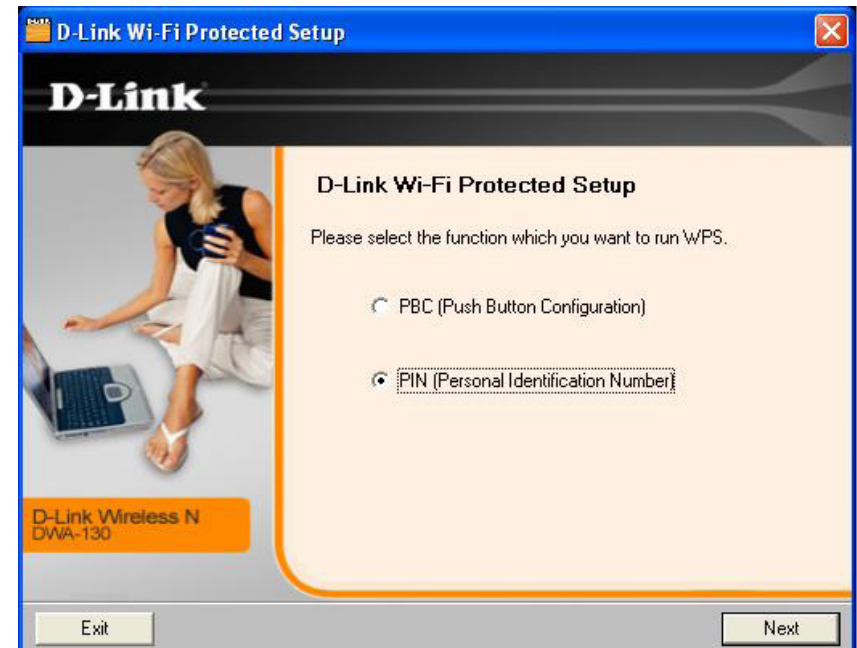
## Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) System is designed for easy setup of security-enabled Wi-Fi networks. It is recommended to have the access point or wireless router nearby during setup.

For more information on WPS, visit the Wi-Fi Alliance website at [www.wi-fi.org](http://www.wi-fi.org).

“**Push Button Configuration**” (PBC) is a virtual button in the utility that connects you to other WPS-enabled devices. A connection can be established by clicking on the virtual button, then pushing the physical button on the access point or wireless router within 120 seconds. Refer to page 14.

“**Personal Identification Number**” (PIN) is a unique number generated randomly by the wireless adapter’s utility. Entering this number in the utility of the WPS-enabled wireless router or access point connects you with the intended wireless network. Refer to the next page for more information.



## Personal Identification Number (PIN)

If you want to connect using the PBC method, refer to page 14. To use the PIN method, select PIN (Personal Identification Number) and click **Next**.



Click **Next**

Make sure your access point or wireless router is close by. Write down the number on the screen. Enter this number in your access point or wireless router. Please refer to the manufacture's manual for instructions.

Once you click **Next**, you will have 2 minutes to enter this number in your access point or wireless router.



Click **Next**

The adapter will try to establish connectivity to your access point or wireless router.



When this screen appears, you have successfully established connectivity. Click **Finish** to complete your setup.



Click **Finish**

# My Wireless Networks

The My Wireless Networks page will allow you to create, edit, and delete wireless network profiles. Every time you connect to a network using the *Wireless Networks* page, a profile will automatically be created.

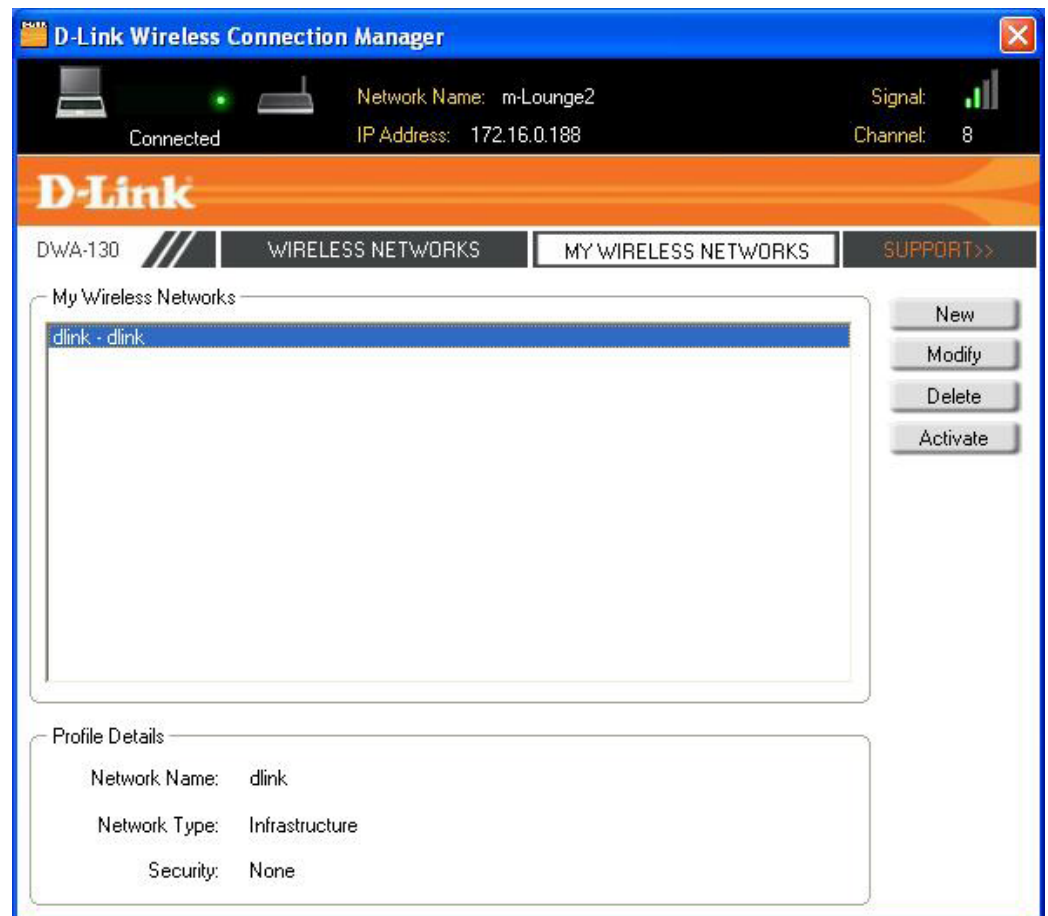
**New Button:** Click **New** to create a new wireless network profile (refer to page 23).

**Modify:** Click **Modify** to edit a current profile (refer to page 24).

**Delete:** Click **Delete** to remove a profile.

**Activate:** Click **Activate** to use a profile. Allow up to 30 seconds to connect to the wireless network.

**Profile Details:** The Profile Details section will display information about the wireless network such as the network name (SSID), network type (Infrastructure), and if the network is secured.



## Add Profile

You may add a new network by clicking the **New** button from the *My Wireless Networks* page.

**Profile Name:** Enter a name for your profile (e.g. Home, Office, Coffee Shop).

**SSID:** Enter the SSID of the wireless network.

**Network Type:** Select the network type. If you are connecting to a wireless router or access point, select **Infrastructure**. (Ad-hoc mode is not supported)

**Security Type:** Select the type of security used. Please refer to the **Wireless Security** section for more information.

**OK Button:** Click **OK** to save your settings.

The screenshot shows a 'Profile Settings' dialog box with the following fields and options:

- Basic Settings:**
  - Profile Name: [Text Box]
  - SSID: [Text Box]
  - Network Type:  Infrastructure
- Set Security Option:**
  - None
  - WPA/WPA2-Personal
  - WPA/WPA2-Enterprise
  - 802.1X
- No Security:** [Empty Panel]
- Buttons:** OK, Cancel

## Modify Profile

You may edit an existing profile by selecting the profile and clicking the **Modify** button from the *My Wireless Networks* page.

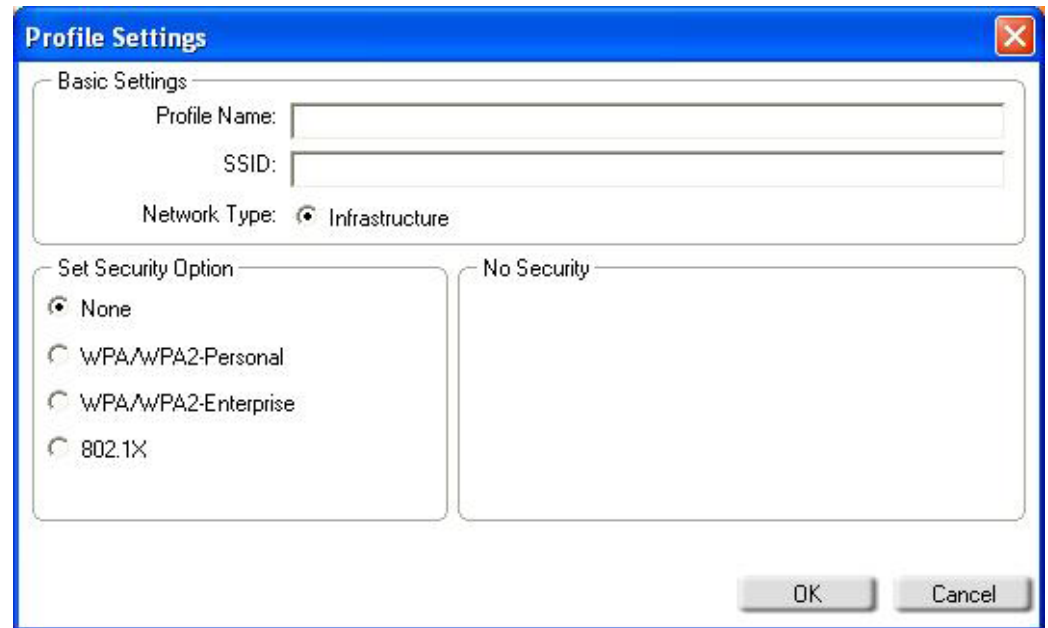
**Profile Name:** Enter a name for your profile (e.g. Home, Office, Coffee Shop).

**SSID:** Displays the SSID of the network.

**Network Type:** Displays the network type.

**Security Type:** Select the type of security used. Please refer to the **Wireless Security** section for more information.

**OK Button:** Click **OK** to save your settings.



The screenshot shows a dialog box titled "Profile Settings" with a close button in the top right corner. The dialog is divided into two main sections: "Basic Settings" and "Set Security Option".

**Basic Settings:**

- Profile Name: [Text input field]
- SSID: [Text input field]
- Network Type:  Infrastructure

**Set Security Option:**

- None
- WPA/WPA2-Personal
- WPA/WPA2-Enterprise
- 802.1X

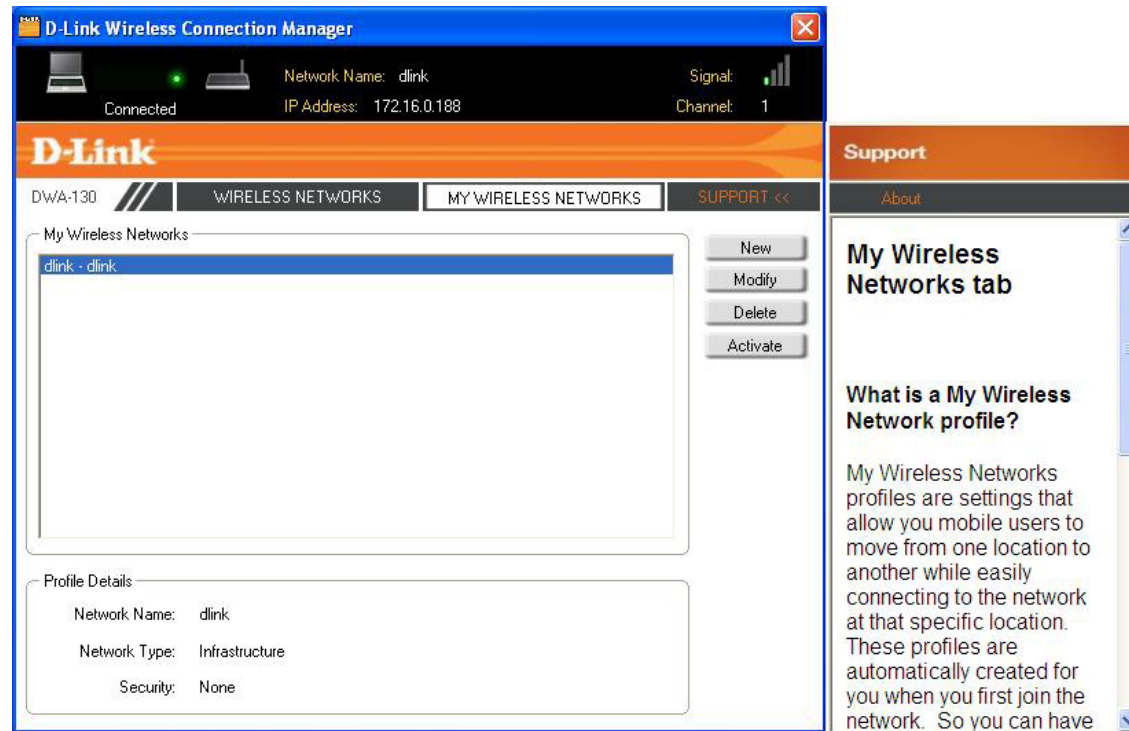
**No Security:** [Empty text area]

At the bottom right of the dialog are two buttons: "OK" and "Cancel".



# Support

If you need help, click the Support button. A panel will appear to the right of the utility which will display information about the utility.



## About



The About screen gives you information about the Firmware and Utility Versions of the DWA-130.

# Connect to a Wireless Network Using Windows® Vista™

Windows® Vista™ users may use the built-in wireless utility. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® Vista™ utility as seen below.

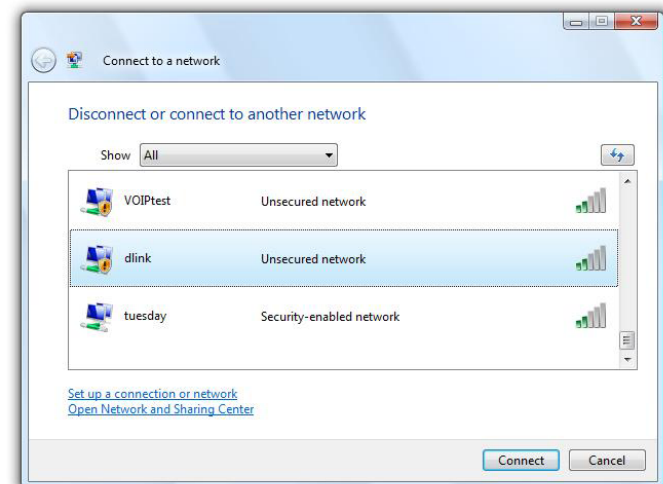
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **Connect to a network**.

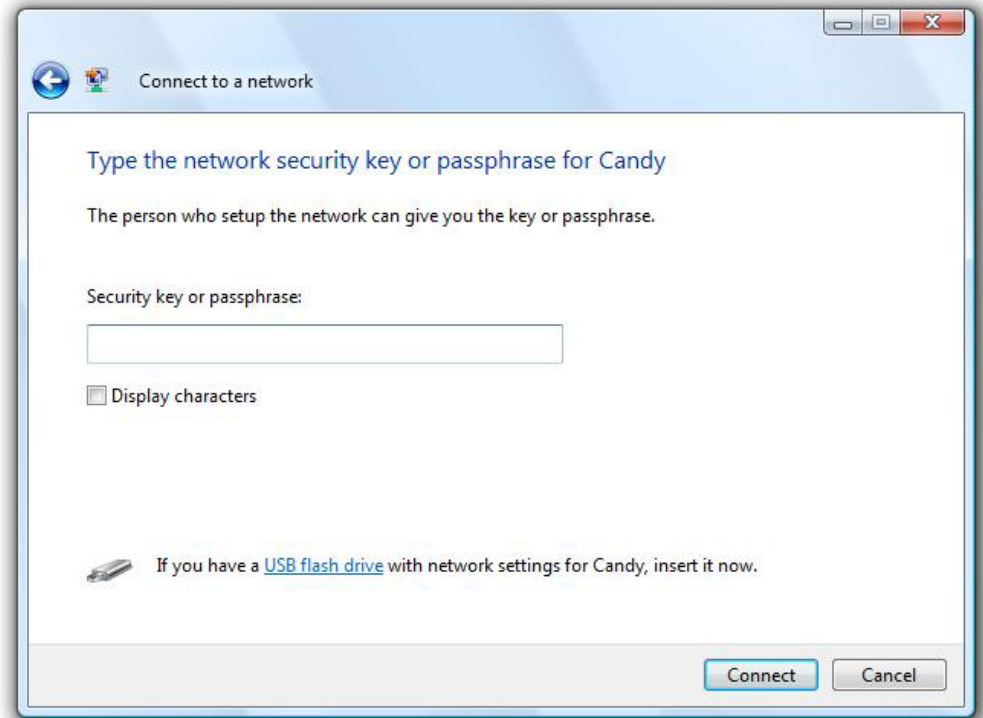
The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



# Connect to a Wireless Network Using Windows® XP

Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

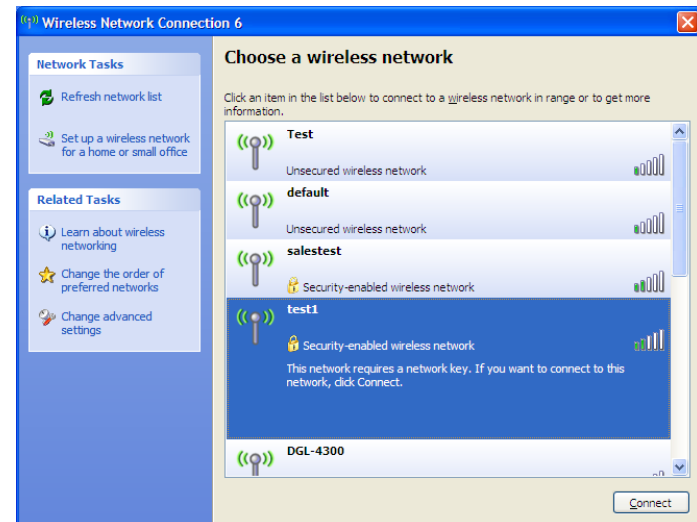
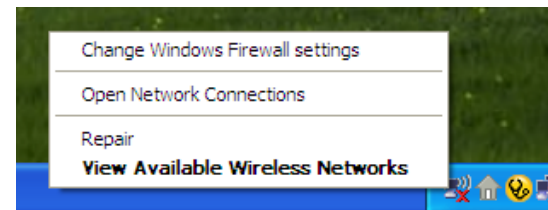
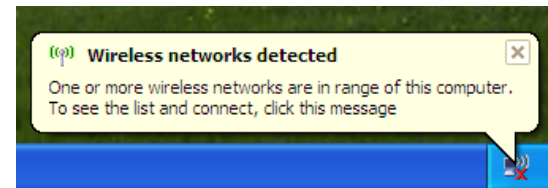
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.

The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



# Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DWA-130 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA (Wi-Fi Protected Access)
- 802.1x (RADIUS)
- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)

## What is WPA?

WPA, or Wi-Fi Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?\*&\_) and spaces. This key must be the exact same key entered on your wireless router or access point.

WPA/WPA2 incorporates user authentication through the Extensible Authentication Protocol (EAP). EAP is built on a more secure public key encryption system to ensure that only authorized network users can access the network.

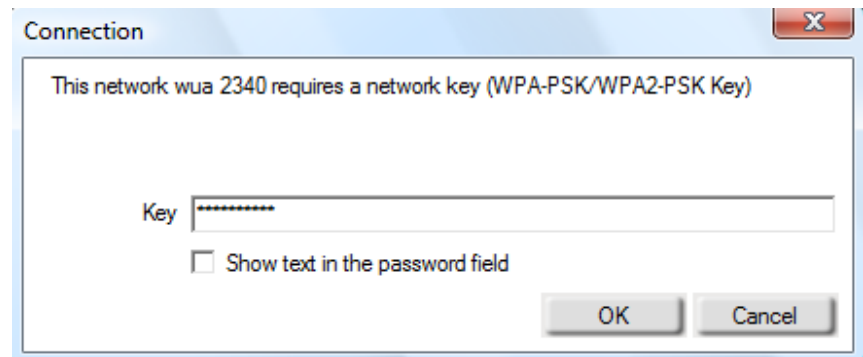
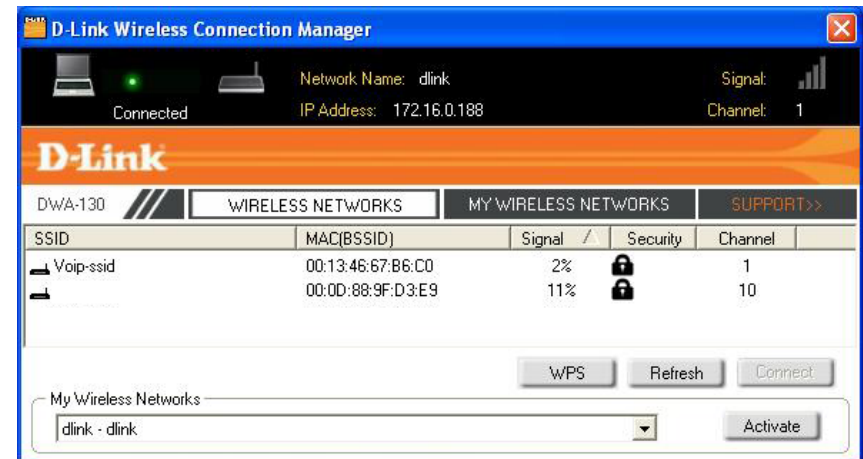
# Configure WPA/WPA2 Passphrase

## Using the D-Link Wireless Connection Manager

It is recommended to enable WPA-PSK on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA-PSK passphrase being used.

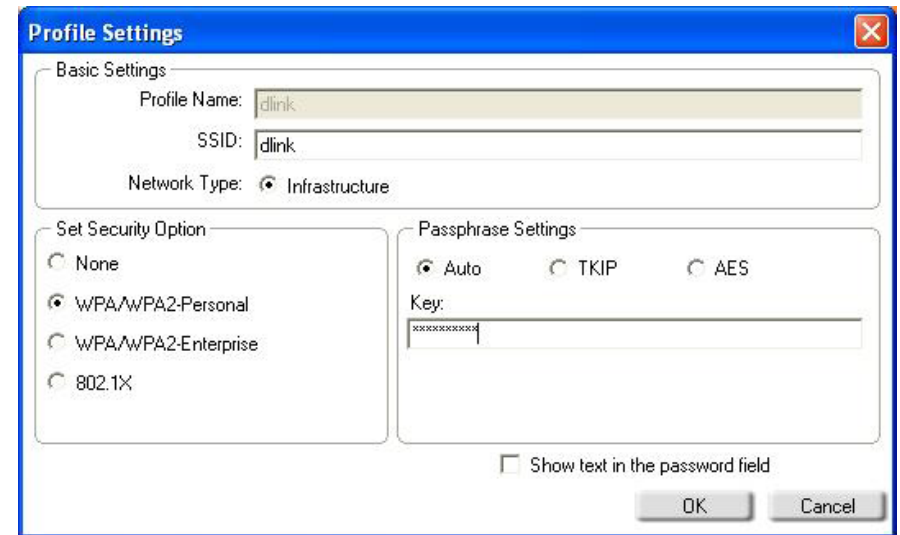
1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop.
2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**. If the network is using WPA-PSK, the screen (as shown to the bottom-right) will appear.
3. Enter the WPA-PSK passphrase exactly as it is on your wireless router or access point. Click the **Show text in the password field** box to see the passphrase. Unchecking it will hide it.
4. Click **OK** to connect to the network. Allow up to 30 seconds to connect.

If you would like to create a new network and enter the WPA-PSK settings, refer to the next page.



It is recommended to enable WPA-PSK on your wireless router or access point before configuring your wireless adapter. Make sure you enter the passphrase exactly the same on all wireless devices.

1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop. Click on **New** to create a new profile or highlight an existing profile and click **Modify**.
2. Select **WPA/WPA2-Personal** under *Set Security Option*.
3. Select **TKIP** or **AES**.
4. Enter the passphrase exactly as it is on your wireless router or access point.
5. Click **OK** to connect to the network. Allow up to 30 seconds to connect.





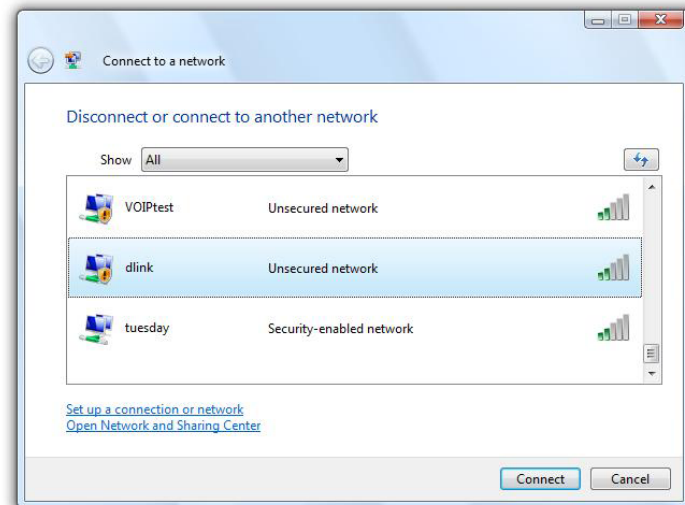
# Configure WPA/WPA2 Passphrase Using Windows® Vista

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Open the Windows® Vista™ Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.

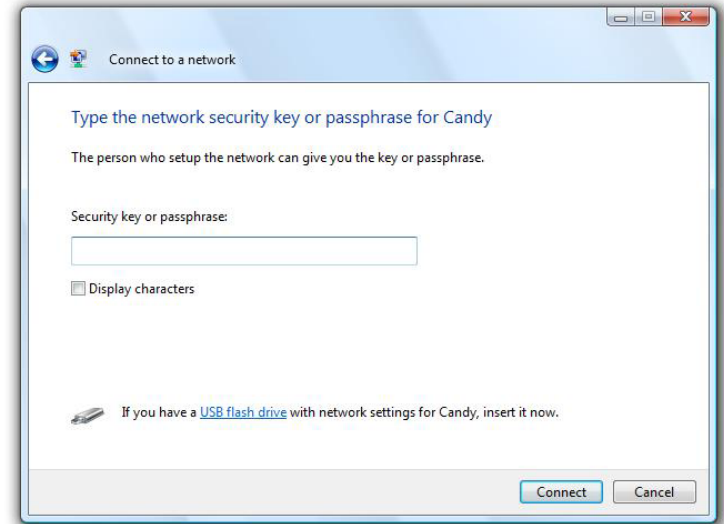


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

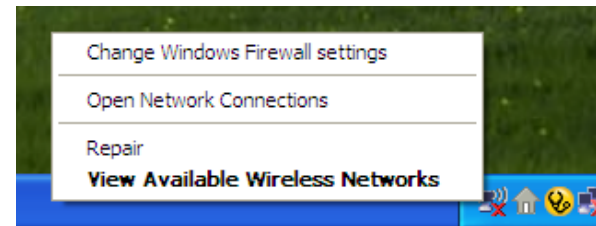


# Configure WPA/WPA2 Passphrase

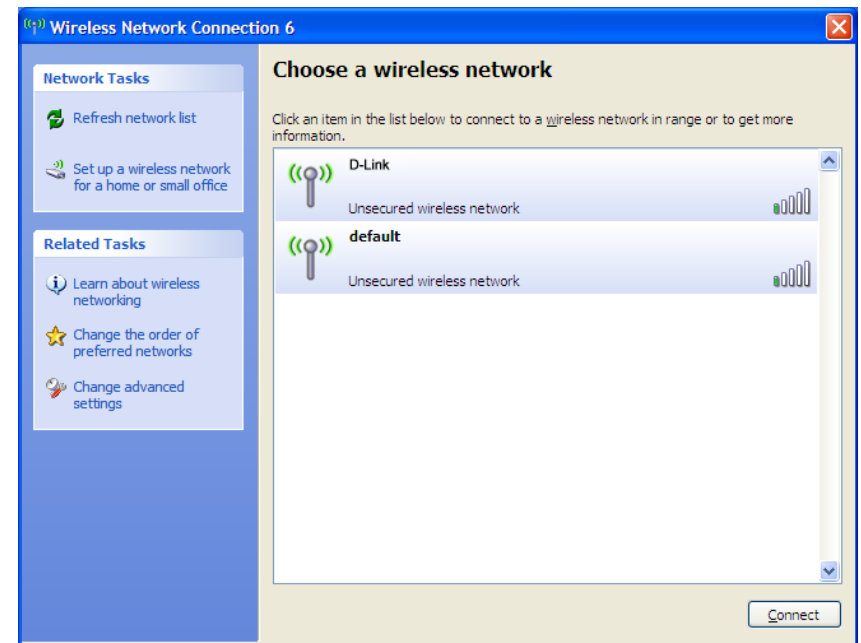
## Using the Windows® XP Utility

It is recommended to enable WPA-PSK on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA-PSK key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK passphrase and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA-PSK settings are correct. The WPA-PSK passphrase must be exactly the same as on the wireless router or access point.

