



User Manual

Wireless AC Dual Band USB Adapter

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Package Contents



D-Link DWA-171 Wireless AC Dual Band USB Adapter



CD with drivers and software

System Requirements

- A computer or laptop with an available USB 2.0 or USB 3.0 port
- Windows® 8, 7 or XP (Service Pack 3)
- CD-ROM Drive
- A 802.11ac (draft), 802.11n, 802.11g or 802.11a access point or wireless router

Introduction

The Wireless AC Dual Band USB Adapter (DWA-171) delivers powerful wireless AC technology to your desktop or notebook computer. Simply plug the adapter into an available USB port and connect to a wireless network to access a secure, high-speed internet connection – 2.4GHz (150Mbps) or 5GHz (up to 433Mbps). And with integrated Dual Band technology, you'll have reduced Wi-Fi interference to maximize throughput for faster streaming, gaming, and Skype calls.

Interference-Free Bandwidth

The Wireless AC Dual Band USB Adapter (DWA-171) delivers Dual Band technology to your home network for intelligent, versatile, interference-free bandwidth. Check your email and surf the Internet on the 2.4GHz band; or game, make Skype calls and stream HD movies to multiple devices using the cleaner, interference-free 5GHz band. Whatever you like to do online, Dual Band has you covered.

Easy WPS Push Button Setup

Quickly and easily establish a fast, secure home network that will have you browsing, streaming, and watching in minutes. It's as easy as push and connect!

Compatible With All Your Wireless Products

While the Wireless AC Dual Band USB Adapter delivers cutting-edge 802.11ac speed to your home network, it's also backward compatible with all of your current wireless products – no updates or adapters necessary.

What is wireless AC?

802.11ac is a new networking standard that produces high-throughput wireless speed on the 5GHz band. What does this mean for your home network? Flawless HD video streaming, faster gaming, and lag-free Skype and Facetime calls, all with less Wi-Fi interference for smooth, lightning-fast performance. And while your home gains all the cutting-edge benefits of 11ac, D-Link's Wireless AC Dual Band USB Adapter is also compatible with all of your current Wireless N products.

"Maximum wireless signal rate derived from draft IEEE 802.11ac specification and IEEE Standard 802.11n specification. D-Link makes no warranties as to forward compatibility with future standards or compatibility with draft 802.11ac devices from other manufacturers. 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 factors may adversely affect wireless signal range. Up to 433Mbps wireless speeds achieved when connecting to other 802.11ac devices. Data throughput may also be limited by the product's interface, less than 480 Mbps for a USB 2.0 interface. The inclusion of a specific product or manufacturer does not imply its endorsement of D-Link or the D-Link product. Computer must adhere to Microsoft's recommended System Requirements."

Features

- Draft IEEE 802.11ac, 802.11n, 802.11g and 802.11a Compliant
- Dual Band N Technology for use in 2.4GHz or 5GHz Networks
- Wireless AC Technology for Superior Wireless Performance
- Access Secure Networks using WPA™ or WPA2™
- Wi-Fi Protected Setup™ (WPS) Push Button for Easy Connection to a Wireless Network

Hardware Overview



1	WPS Button	Press the WPS button to automatically connect to a WPS-enabled wireless router or access point and establish connectivity. Refer to page 19.
2	USB Connector	Used to connect the DWA-171 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® 7 and XP users may use the built-in wireless utility for all adapters.

To remove any old software:

Windows® 7 users: Click Start > Control Panel > Uninstall Programs.

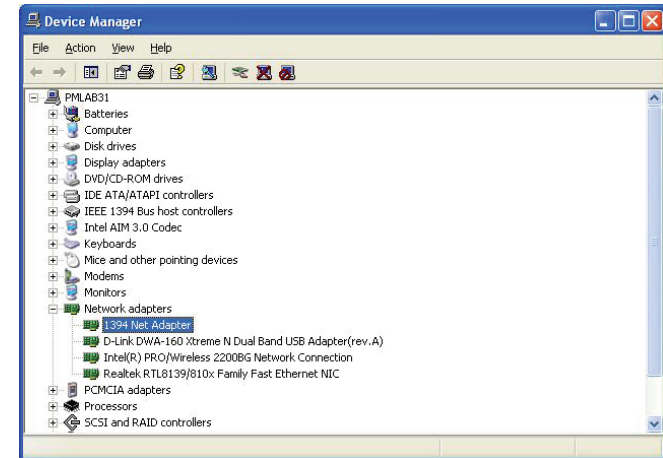
Windows® XP users: Click Start > Control Panel > Add or Remove Programs.

Disable Other Wireless Adapters

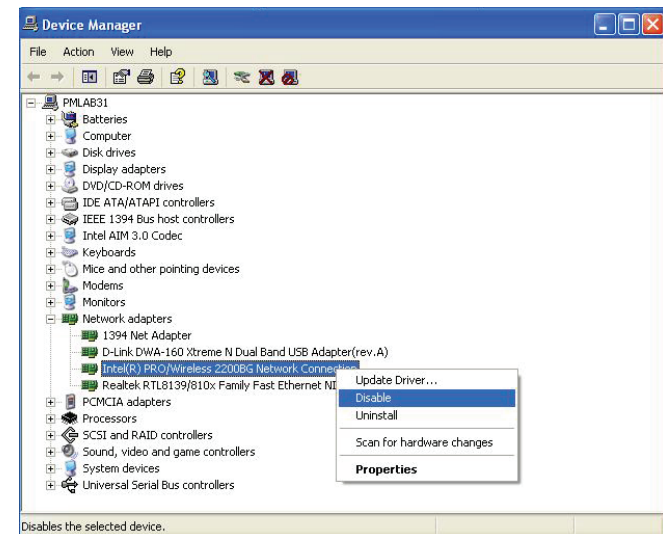
Most newer laptops may include a built-in wireless adapter. To prevent any conflicts with the D-Link wireless adapter, it is recommended to disable the wireless adapter (as well as any unused Ethernet adapters).

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

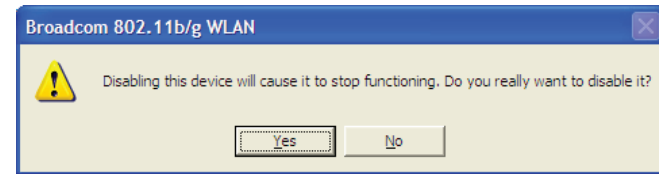
Click the **Hardware** tab and then click **Device Manager**. Scroll down the list and click the **+** sign to the left of **Network Adapters**.



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

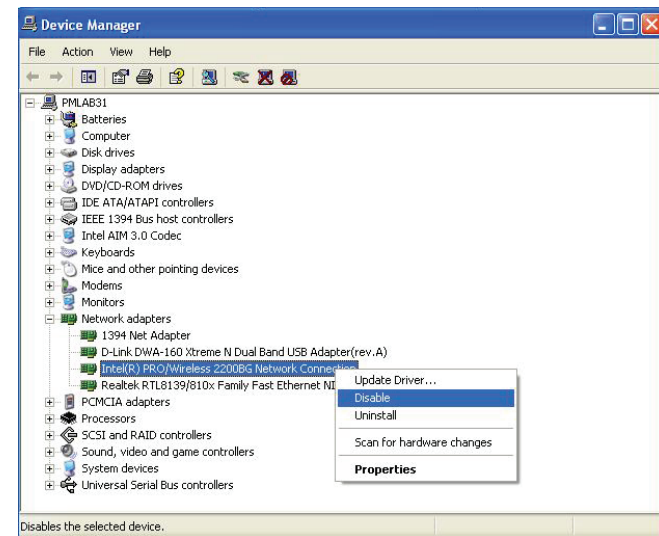


Click **Yes** to disable the adapter.



When the adapter is disabled, a down arrow or a grayed icon 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-171 adapter into your computer before installing the driver software from the D-Link CD.

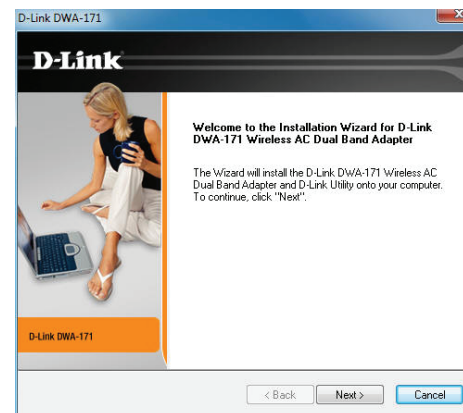
Turn on the computer and Insert the D-Link DWA-171 Driver CD in the CD-ROM drive.

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

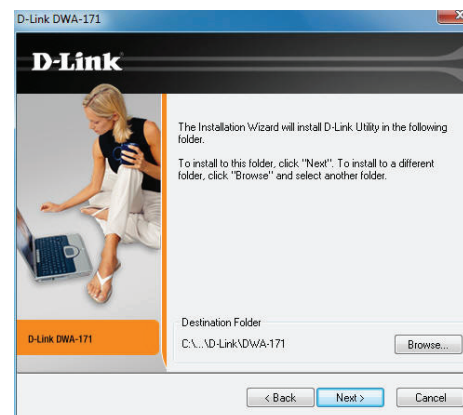
When the autorun screen appears, click **Install**.



The welcome window will appear. Click **Next** to continue.



By default setup will install to the default location: *C:\Program Files\D-Link\DWA-171*, where C: represents the drive letter of your hard drive. To install to a different location click **Browse** and specify the location, then click **Next**.



Select the Program Files folder location and click **Next**.



Insert the adapter into an available USB port on your computer. Click **Next** to continue.

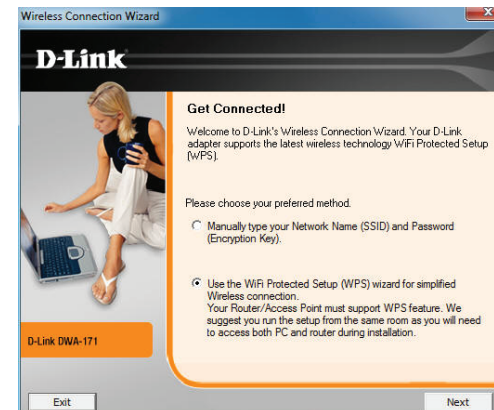
If the *Found New Hardware Wizard* appears, click **Cancel**.



The drivers and software will now install. Please allow 1-2 minutes for this process to finish.

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** to continue.



Push Button Configuration (PBC)

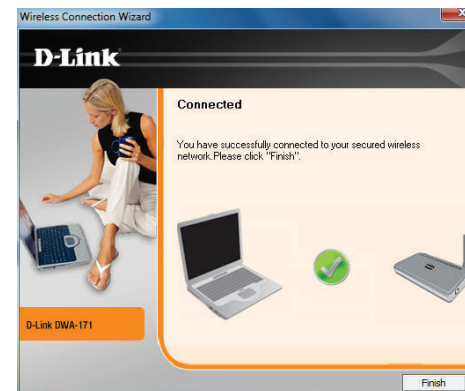
To connect to your network using the WPS push button configuration method, click the virtual button as shown in the screenshot.

Note: You may also connect to your network by pressing the WPS button on the adapter and holding for two seconds until the wizard screen comes up. Then, press the WPS button on the router/access point to continue.

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

Note: Some devices may require you to launch WPS from software or a web interface. Please refer to your router or access point's user manual for more information.

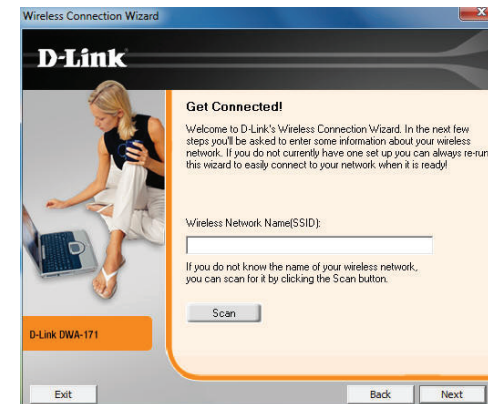
When this screen appears, you have successfully connected to your wireless network. Click **Next** to complete your setup.



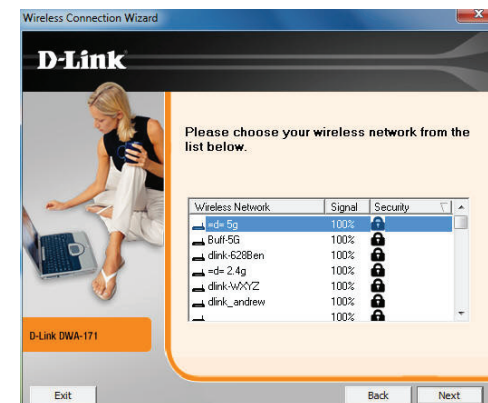
To manually connect to your wireless network, select **Manually type your Network Name (SSID)** and then click **Next**.



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.



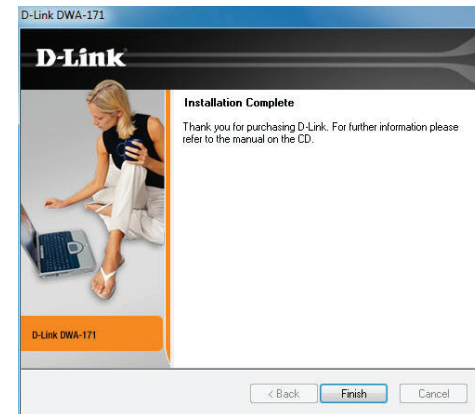
Click the **Scan** button to display a list of wireless networks (site survey). Click on the network name (SSID) and click **Next**.



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



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



Configuration

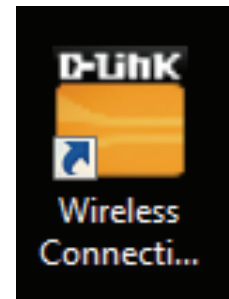
This section will show you how to configure your new D-Link wireless adapter using the D-Link Utility as well as Windows® wireless utility.

D-Link Wireless Connection Manager

The D-Link DWA-171 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® 8, 7 or XP, please skip to pages 28 or 29 respectively.

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.

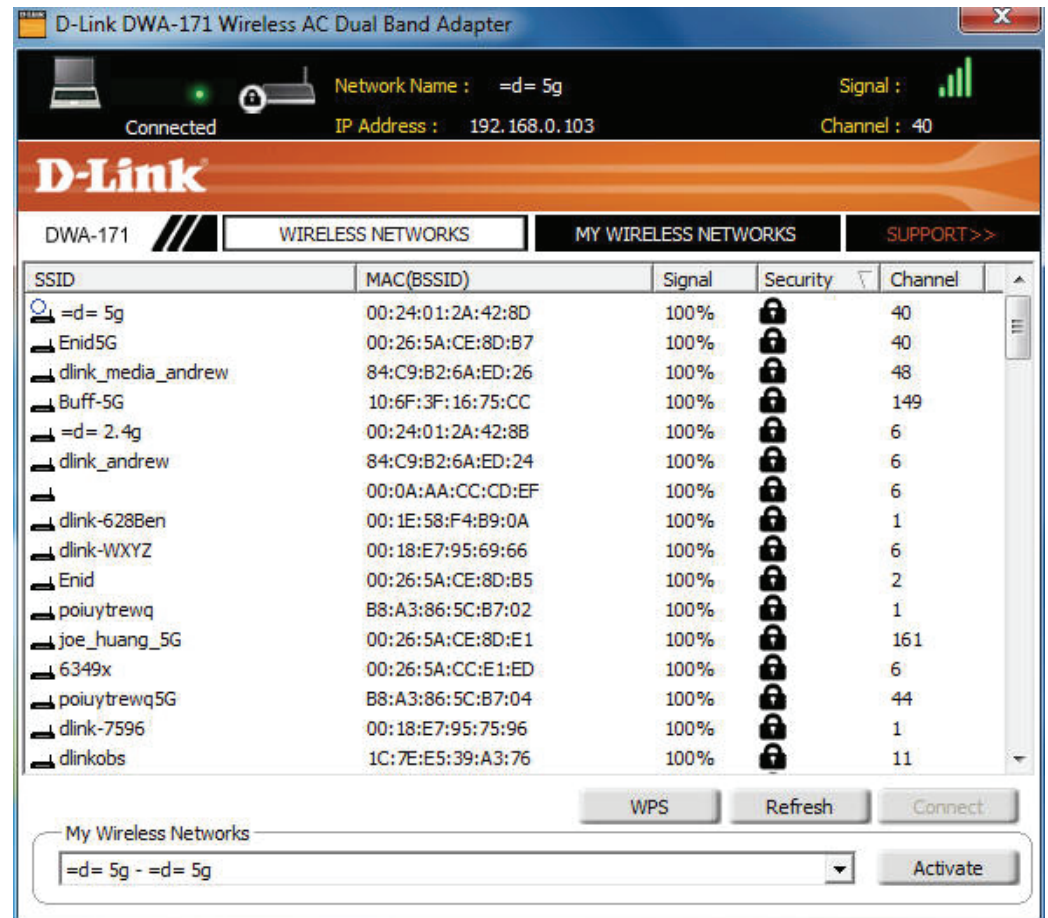
Channel: Displays the channel of the wireless network.

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)

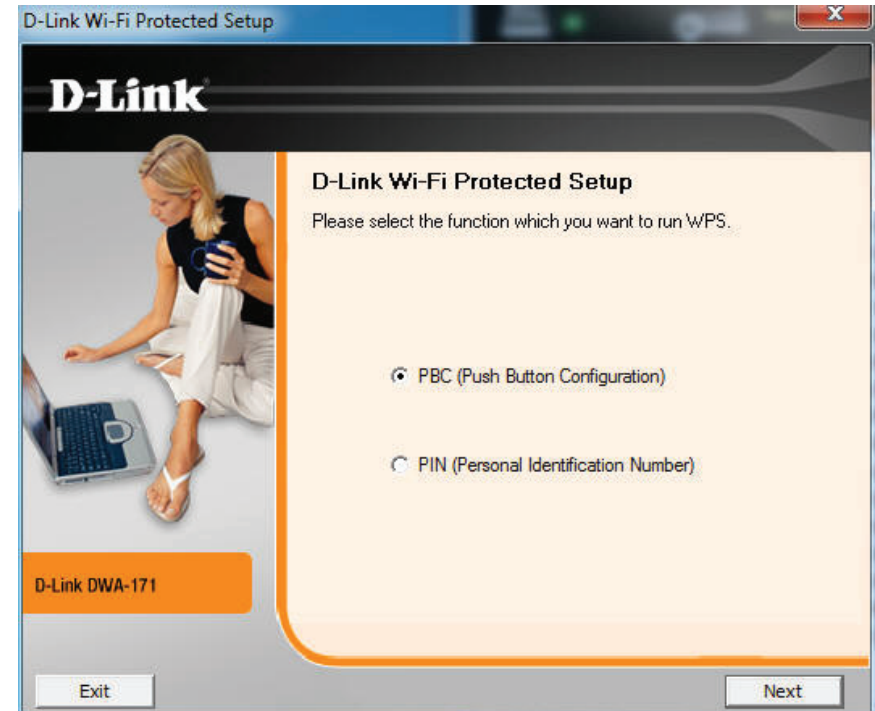
Wi-Fi Protected Setup (WPS) System is designed for easy setup of security-enabled Wi-Fi networks. It is recommended to have the access point or wireless router nearby during setup.

For more information on WPS, visit the Wi-Fi Alliance website at www.wi-fi.org.

“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.

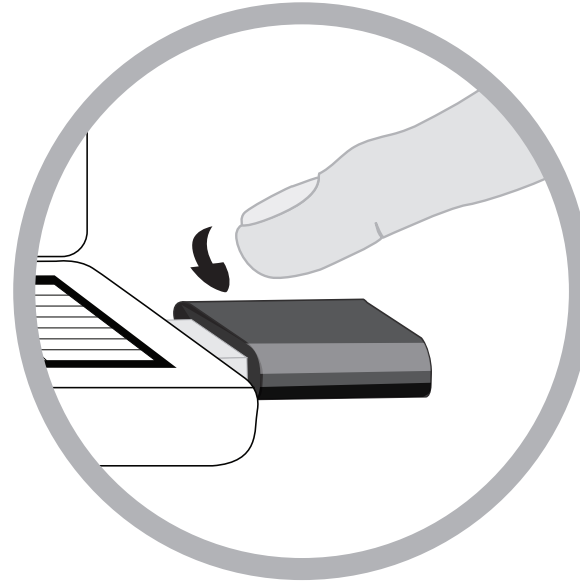
Note: You may also use the physical button on the DWA-171 instead of using the D-Link software. Refer to the next page.

“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 page 22 for more information.



Push Button

1. To connect to your network, press the WPS button on the adapter and hold for two seconds until the wizard screen appears.

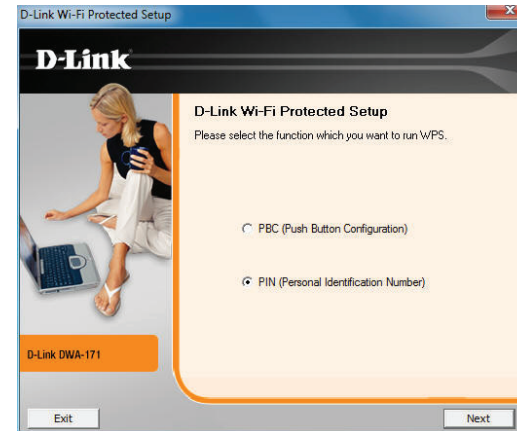


2. Press the WPS button located on your access point or router to continue. This screen will appear once you have successfully established connection with your network.



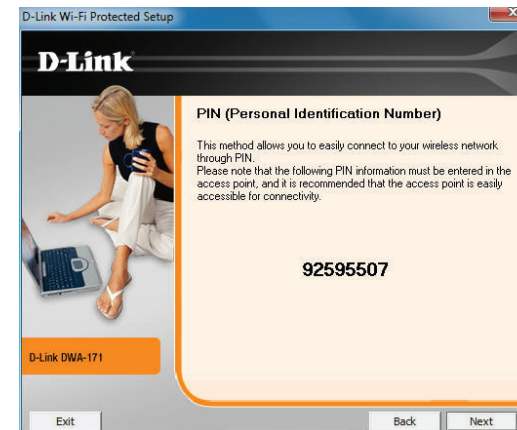
Personal Identification Number (PIN)

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**.

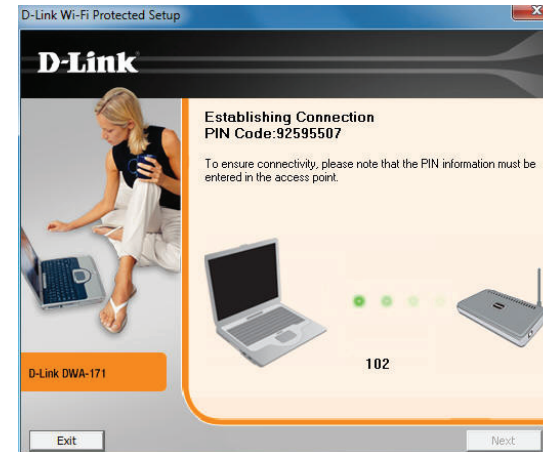


Make sure your access point or wireless router is close by. Write down the number on the screen. Enter this number in your access point or wireless router. Please refer to the manufacture's manual for instructions.

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



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.

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 24).

Modify: Click **Modify** to edit a current profile (refer to page 25).

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.

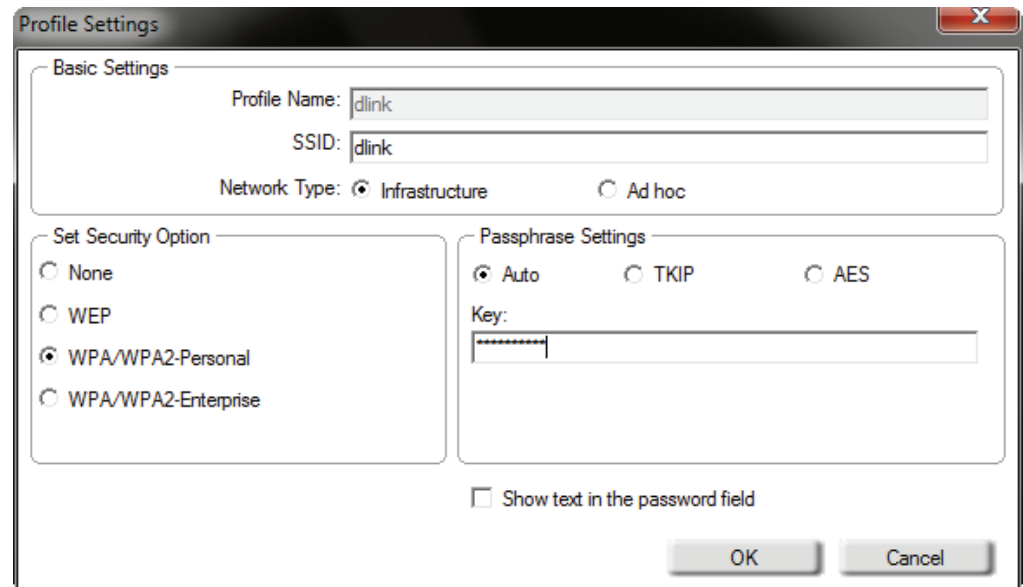
Profile Name: Enter a name for your profile (e.g. Home, Office, Coffee Shop).

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**.

Set Security Select the type of security used. Please refer to the **Option: 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:
 - SSID:
 - Network Type: ☒ Infrastructure ☐ Ad hoc
- Set Security Option:**
 - ☐ None
 - ☐ WEP
 - ☒ WPA/WPA2-Personal
 - ☐ WPA/WPA2-Enterprise
- Passphrase Settings:**
 - ☒ Auto ☐ TKIP ☐ AES
 - Key:
- ☐ Show text in the password field
- 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.

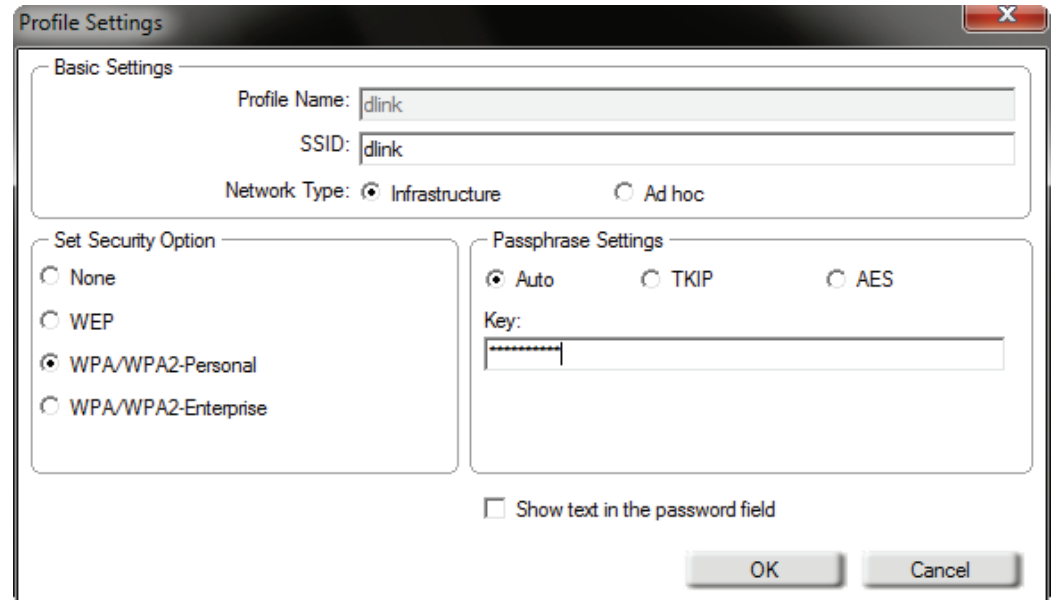
Profile Name: Enter a name for your profile (e.g. Home, Office, Coffee Shop).

SSID: Displays the SSID of the network.

Network Type: Displays the network type.

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

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

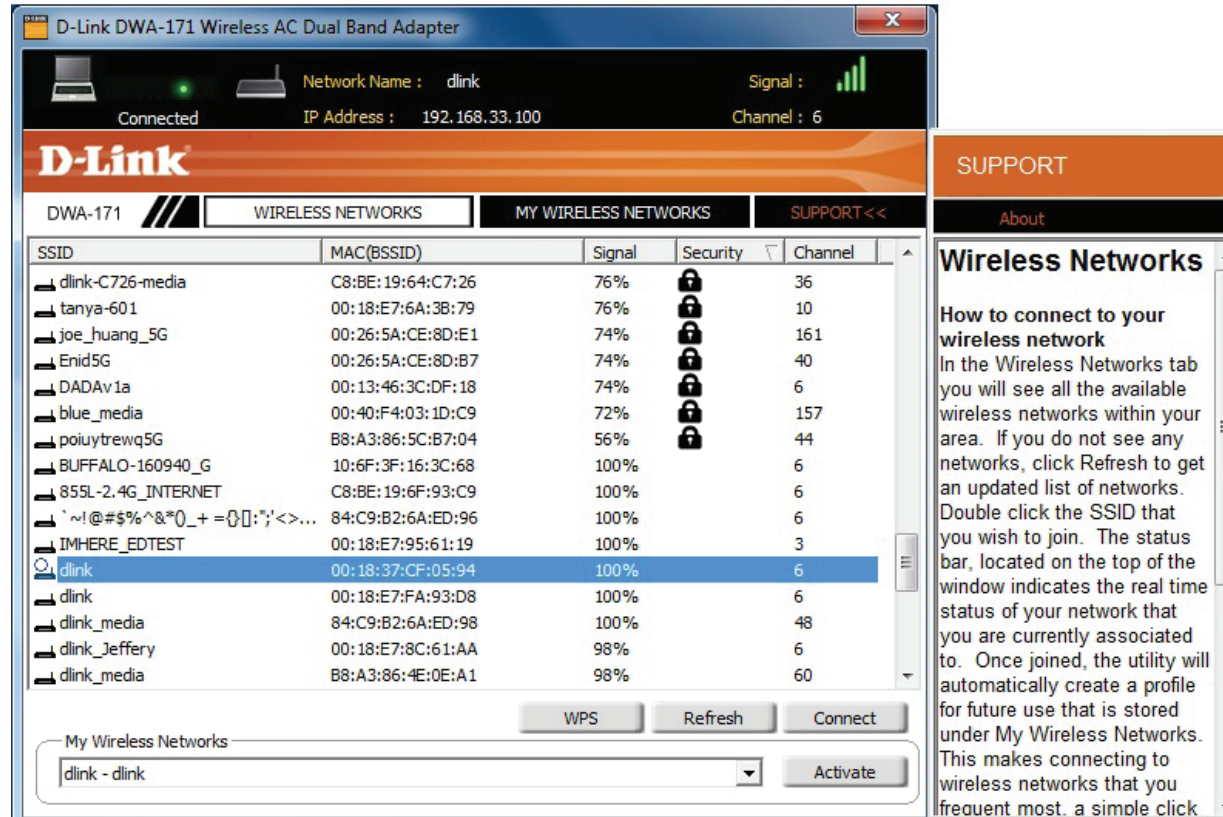


The screenshot shows a 'Profile Settings' dialog box with the following fields and options:

- Basic Settings:**
 - Profile Name:
 - SSID:
 - Network Type: ☒ Infrastructure ☐ Ad hoc
- Set Security Option:**
 - ☐ None
 - ☐ WEP
 - ☒ WPA/WPA2-Personal
 - ☐ WPA/WPA2-Enterprise
- Passphrase Settings:**
 - ☒ Auto ☐ TKIP ☐ AES
 - Key:
- ☐ Show text in the password field
- Buttons: OK, 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

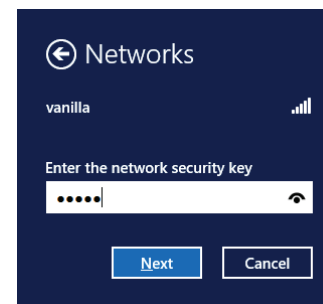
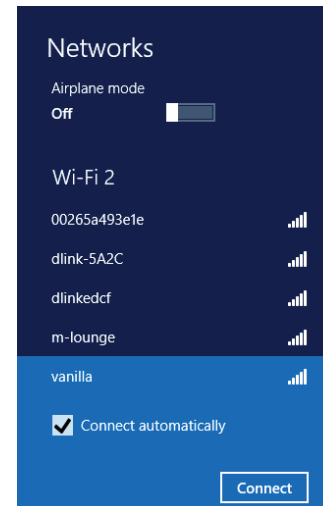
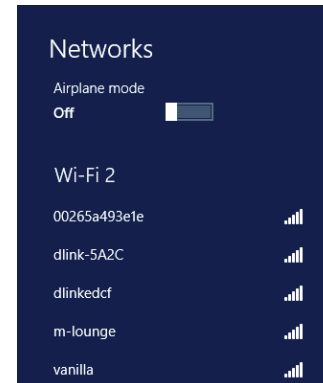
The About screen gives you information about the Firmware and Utility Versions of the DWA-171.



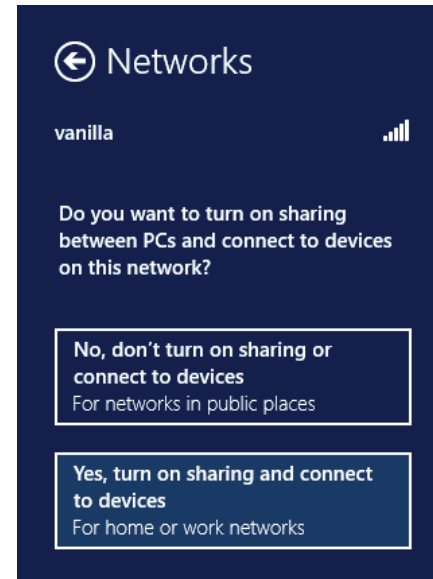
Connect to a Wireless Network

Windows® 8

1. Click on the wireless computer icon in your system tray (lower-right corner next to the time).
2. A list of available wireless networks will appear.
3. Click the wireless network (SSID) you want to connect to and then click **Connect**.
4. If the network is secure/encrypted, enter the Wi-Fi password (security key) and click **Next**.



5. Click either to enable or disable file sharing.
6. You will now be connected to your wireless network.



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

Windows® 7

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

or

Left-click the wireless icon in your system tray (lower-right corner next to the time).

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 your TCP/IP settings for your wireless adapter. Refer to the *Networking Basics* section in this manual for more information.



Windows® XP

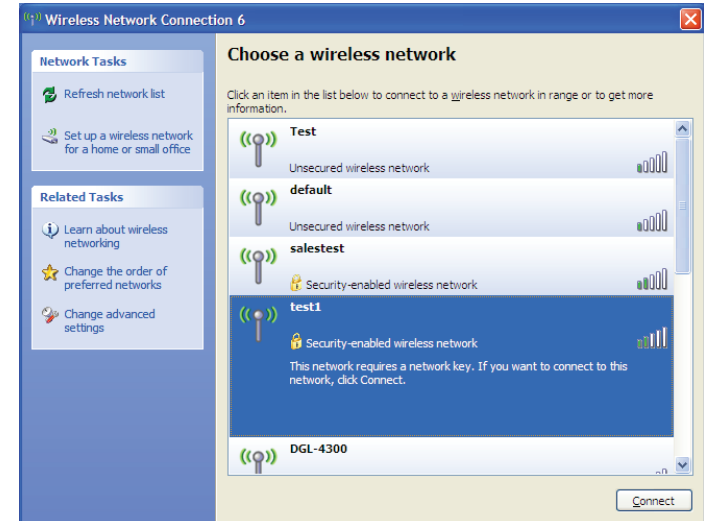
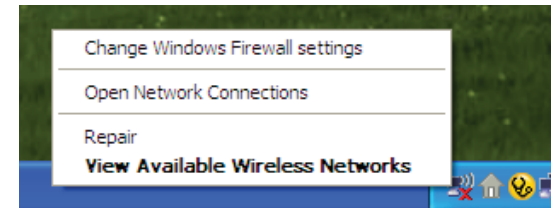
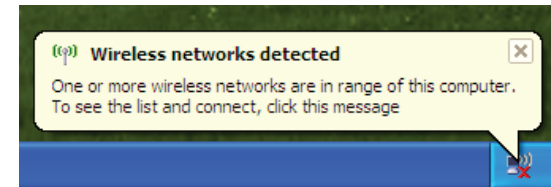
If you receive the *Wireless Networks Detected* bubble, click on the center of the bubble to access the utility.

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 the 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-171 offers the following types of security:

- WPA/WPA2-Personal
- WPA/WPA2-Enterprise

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/WPA2-Personal 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-Enterprise 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.

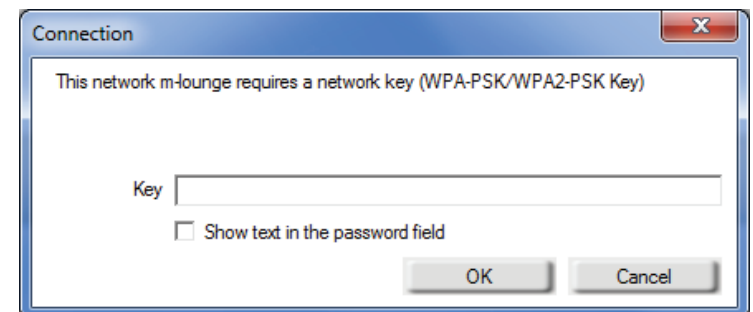
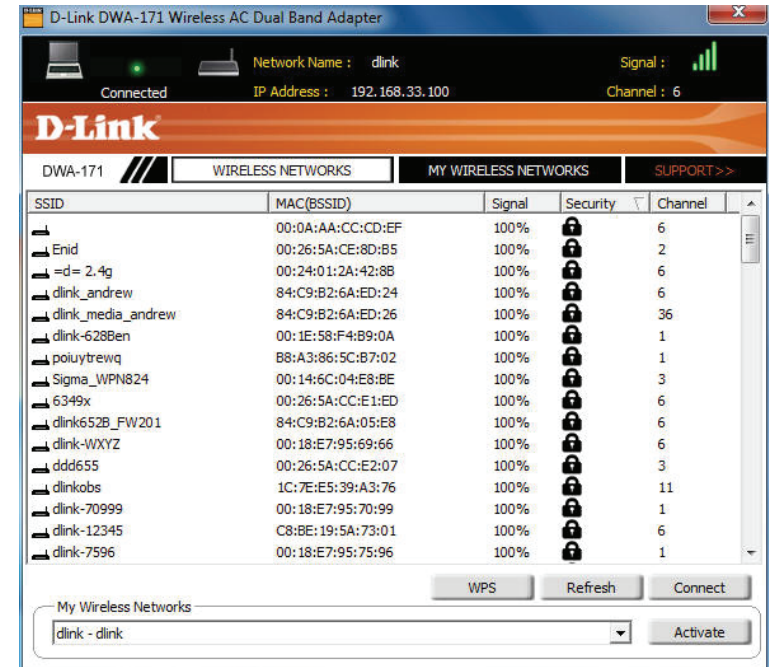
Configure WPA/WPA2-Personal

Using the D-Link Wireless Connection Manager

It is recommended to enable WPA/WPA2-Personal 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/WPA2-Personal passphrase being used.

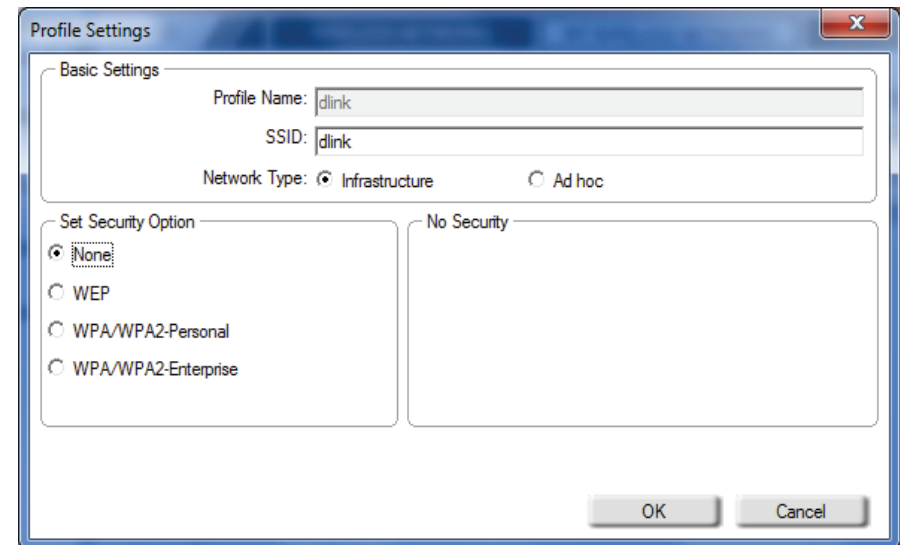
1. Open the Wireless Connection Manager by double-clicking on the D-Link icon on your desktop.
2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**. If the network is using WPA/WPA2-Personal, the screen (as shown to the bottom-right) will appear.
3. Enter the WPA/WPA2-Personal 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/WPA2-Personal settings, refer to the next page.



It is recommended to enable WPA/WPA2-Personal 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, AES, or Auto**.
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.



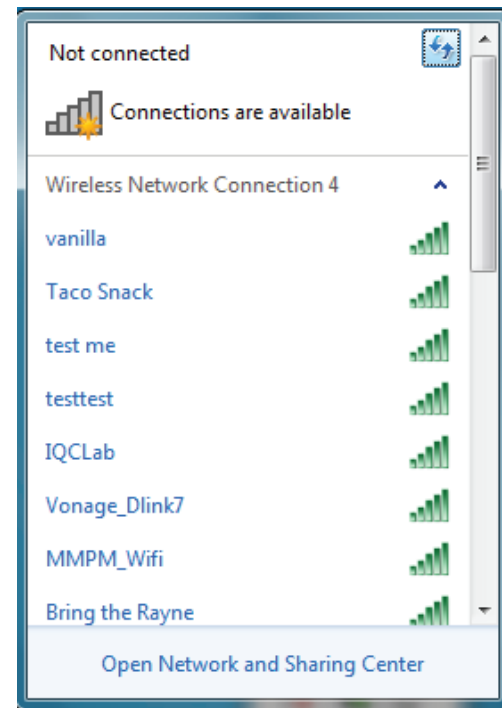
Configure WPA/WPA2 Passphrase Windows® 7

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. Click on the wireless icon in your system tray (lower-right corner).



2. The utility will display any available wireless networks in your area.

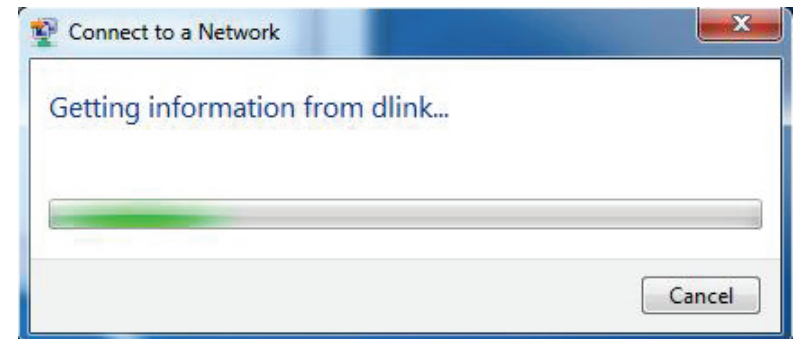


3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

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

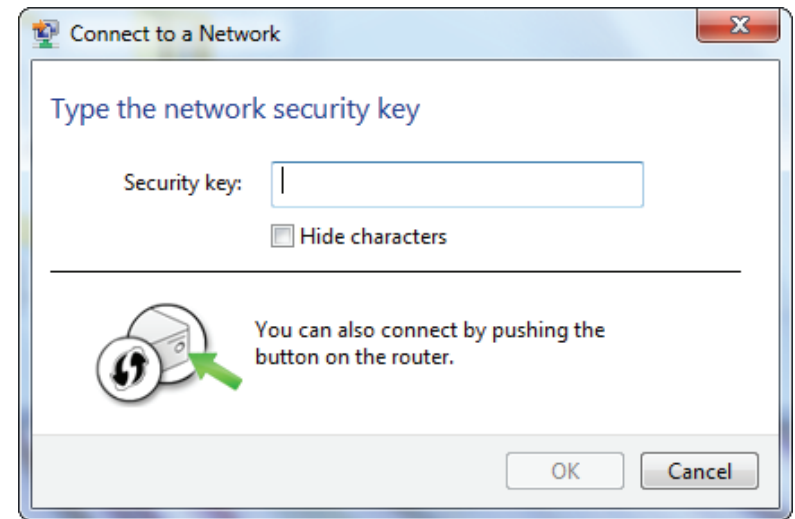


4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

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.



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

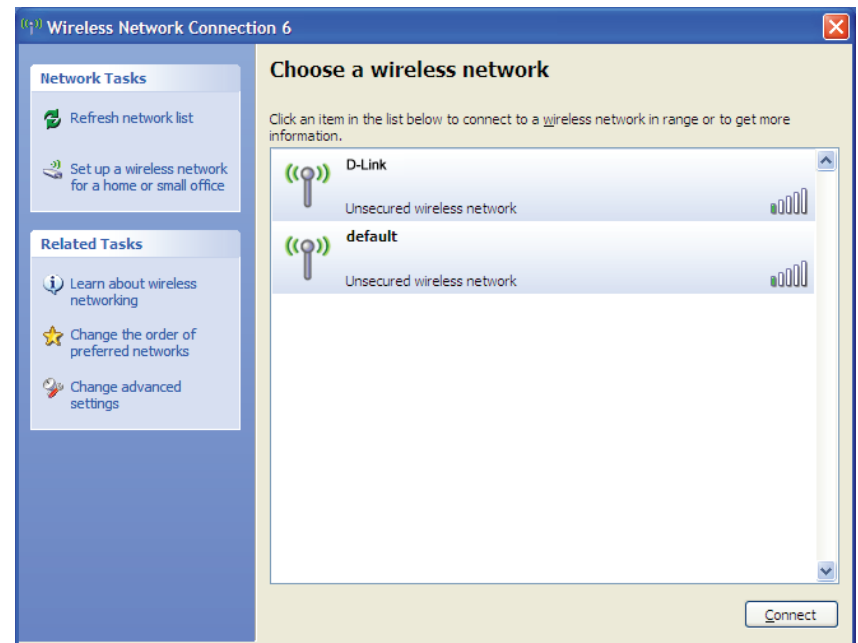
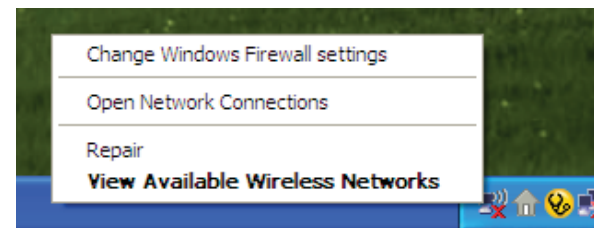
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



Windows® XP

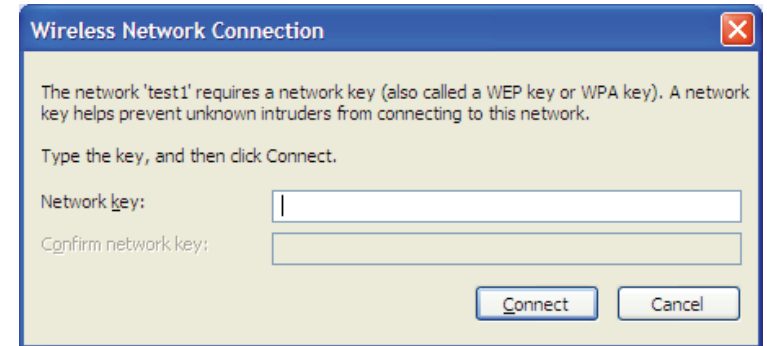
It is recommended to enable WPA/WPA2-Personal on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA/WPA2-Personal key being used.

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/WPA2-Personal 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/WPA2-Personal settings are correct. The WPA/WPA2-Personal passphrase must be exactly the same as on the wireless router or access point.

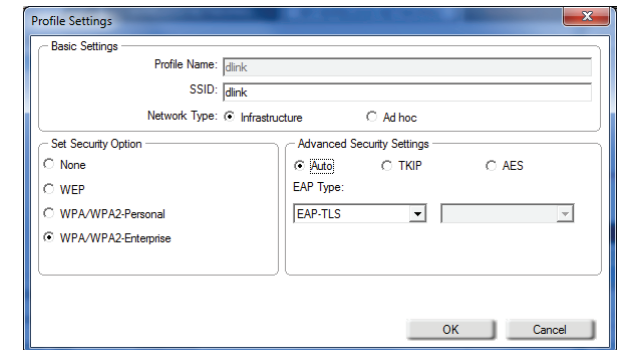


Configure WPA/WPA2-Enterprise

Using the D-Link Wireless Connection Manager

WPA/WPA2-Enterprise is for advanced users who are familiar with using a RADIUS server and setting up certificates.

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-Enterprise** under *Set Security Option* and then select **Auto**, **TKIP** or **AES**.
3. Under *EAP Type*, select **EAP-TLS** or **PEAP**. Extensible Authentication Protocols allow devices on the network to request authentication from the RADIUS server in the network. All the devices on the network must use the same EAP type when using a RADIUS server for authentication.
4. Click **OK** to save your settings.



Troubleshooting

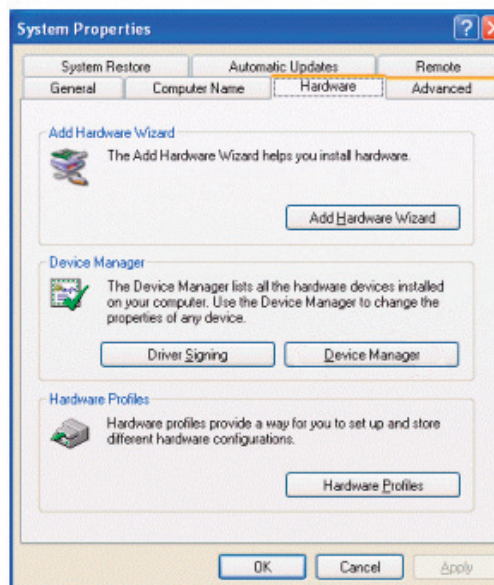
This chapter provides solutions to problems that can occur during the installation and operation of the DWA-171. Read the following descriptions if you are having problems.

1. How do I know if my adapter is installed properly?

Windows XP - Go to **Start > My Computer > Properties > Hardware > Device Manager**.

Windows 7 - Go to **Start > Device Manager**.

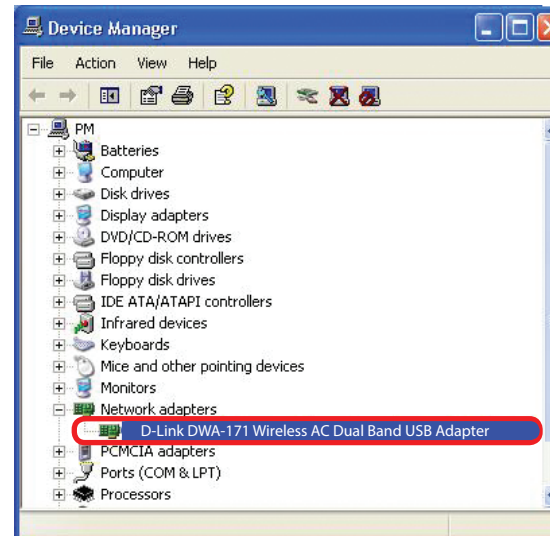
Windows 8 - Press the **Windows key** and **X** together and then click **Device Manager**.



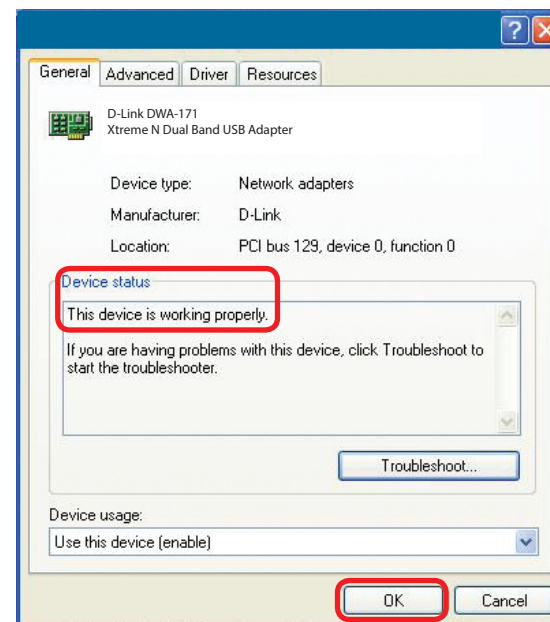
Click the + sign next to **Network Adapters**.

Right-click on **D-Link DWA-171 Wireless AC Dual Band 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** to continue.



2. The computer does not recognize the DWA-171 Wireless Adapter.

Make sure that the DWA-171 Wireless Adapter is properly seated in the computer's USB port.

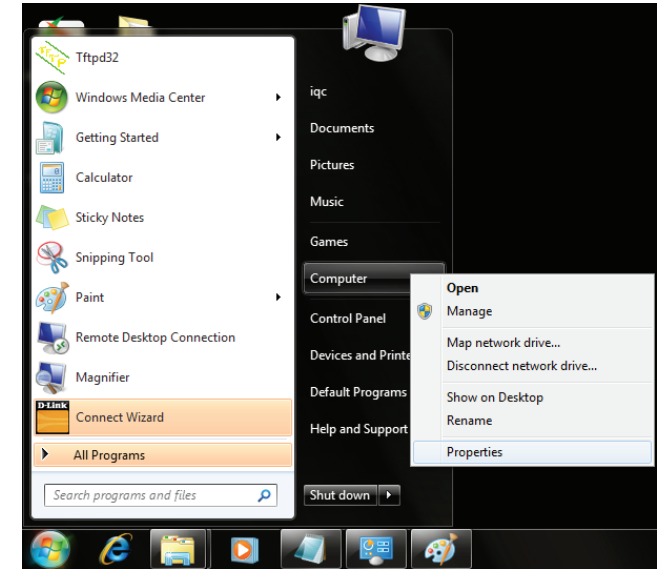
If Windows® does not detect the hardware upon insertion of the adapter, make sure to completely remove drivers that were previously loaded.

3. The computer with the DWA-171 installed is unable to connect to the wireless network and/or the Internet.

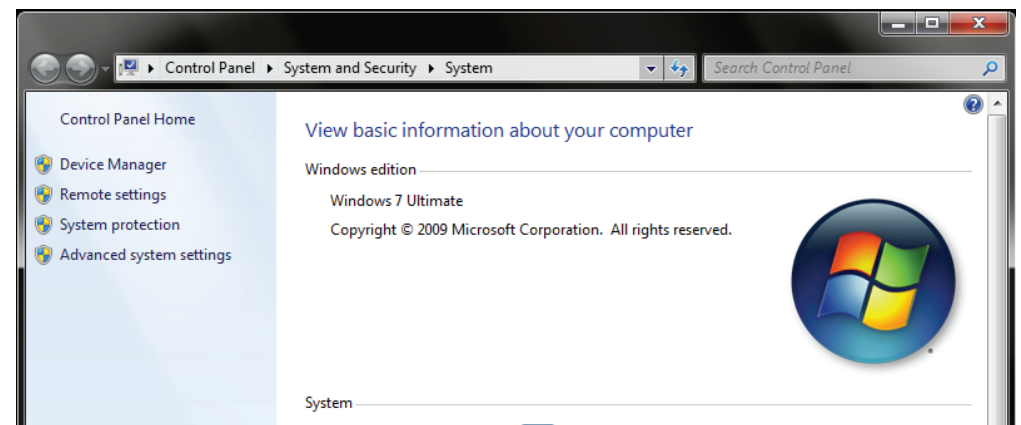
- Check that the LED indicators for the broadband modem are indicating normal activity. If not, there may be a problem with the broadband connection.
- Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP Address, subnet mask, gateway, and DNS settings are correctly entered for the network
- In **Infrastructure** mode, make sure the same **Service Set Identifier (SSID)** is specified on the settings for the wireless clients and access points. By default, the SSID factory setting for D-Link products is blank. (Double-click on the WLAN icon in the taskbar. The *Link Info* screen will display the SSID setting.)

Windows® 7 Troubleshooting

Go to **Start** > right-click **Computer** > **Properties**.



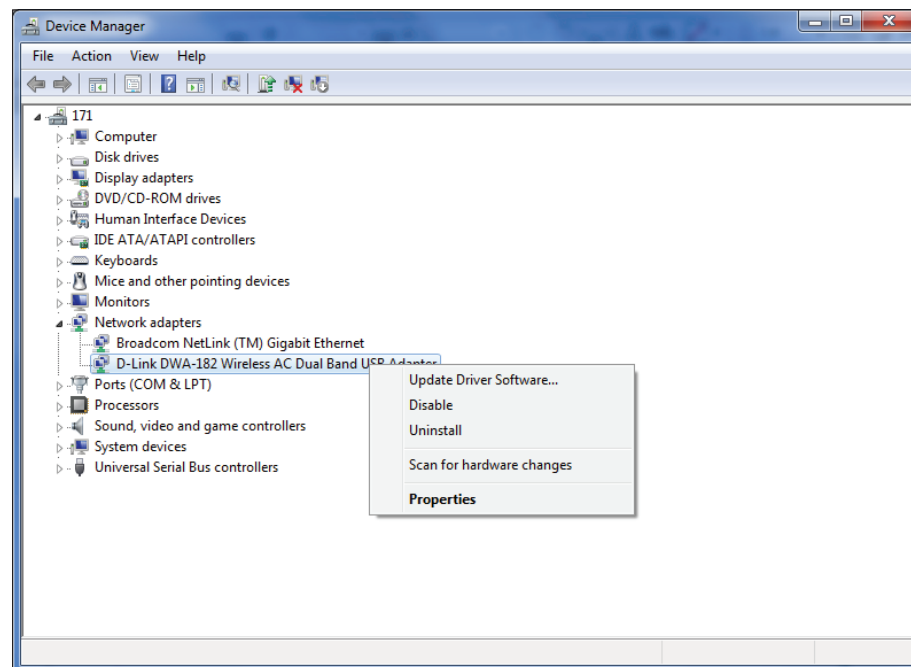
Select the **Device Manager**.



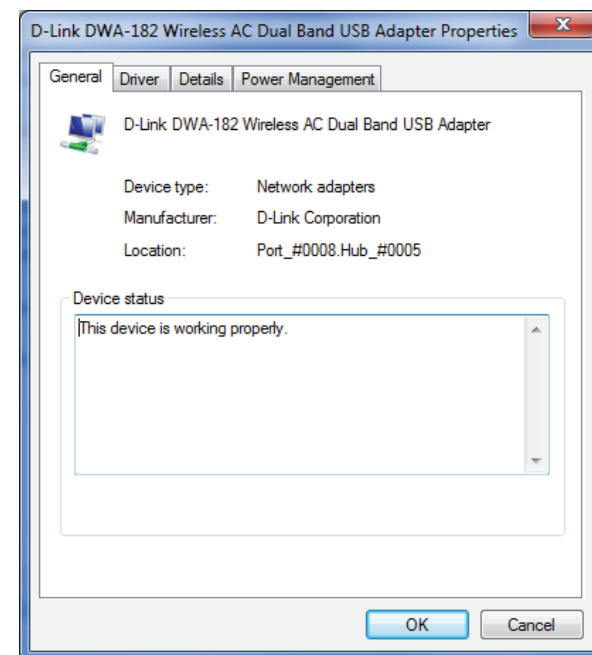
Click the + sign next to **Network Adapters**.

Right-click on **D-Link DWA-171 Wireless Desktop 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** to continue.



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.

What is Wireless?

Wireless or Wi-Fi® technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

Why D-Link Wireless?

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth® is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, or business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

- Stay on top of everything at home as you would at the office
- Remotely access your office network from home
- Share an Internet connection and printer with multiple computers
- No need to dedicate office space

Where is wireless used?

Wireless technology is expanding everywhere not just at home or the office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link USB Adapter with your laptop, you can access the hotspot to connect to the Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless networks are easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

Tips

Here are a few things to keep in mind, when you install a wireless network.

Centralize your router or Access Point

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This can significantly reduce any interference that the appliances might cause since they operate on the same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on WPA™/WPA2™ security features on the router. Refer to the product manual for detailed information on how to set it up.

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer.

An Infrastructure network contains an Access Point or wireless router. All the wireless devices, or clients, will connect to the wireless router or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless USB Adapters. All the adapters must be in Ad-Hoc mode to communicate.

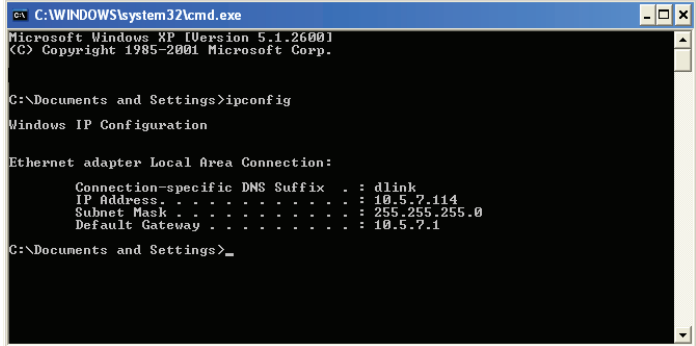
Networking Basics

Check your IP address

After you install your new D-Link wireless adapter and have established a wireless connection, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. router) automatically. To verify your IP address, please follow the steps below.

Windows® XP Users

- Click on **Start > Run**. In the run box type *cmd* and click **OK**.
- At the prompt, type *ipconfig* and press **Enter**.
- This will display the IP address, subnet mask, and the default gateway of your adapter.



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

C:\Documents and Settings>ipconfig

Windows IP Configuration

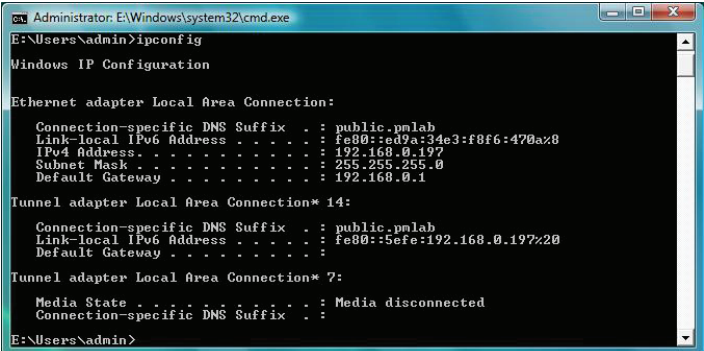
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . . : 10.5.7.114
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>
```

Windows® 7/ Users

- Click **Start > All Programs > Accessories > Command Prompt**. You may need administrative access to run this application.
- For all additional prompt windows inquiring of running the command prompt application, select **Yes, OK**, or **Continue**.
- At the prompt, type *ipconfig* and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.



```
Administrator: E:\Windows\system32\cmd.exe
E:\Users\Admin>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : public.pmlab
    Link-local IPv6 Address . . . . . : fe80::ed9a:34e3:f8f6:470a%8
    IPv4 Address. . . . . : 192.168.0.197
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1

Tunnel adapter Local Area Connection* 14:

    Connection-specific DNS Suffix  . : public.pmlab
    Link-local IPv6 Address . . . . . : fe80::sefe:192.168.0.197%20
    Default Gateway . . . . . :

Tunnel adapter Local Area Connection* 7:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

E:\Users\Admin>
```

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

Statically Assign an IP Address

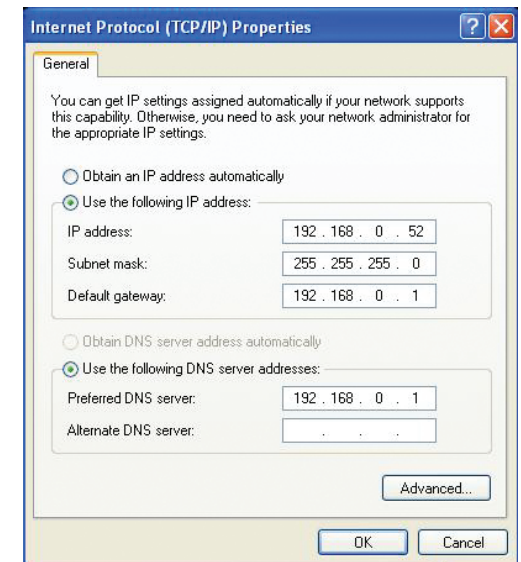
If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Windows® XP Users

- **Windows® XP** - Click on **Start > Control Panel**. Make sure you are in Classic View. Double-click on the Network Connections icon.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter (or other adapter) which will be connected to your router.
- Highlight **Internet Protocol (TCP/IP)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router.

Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.

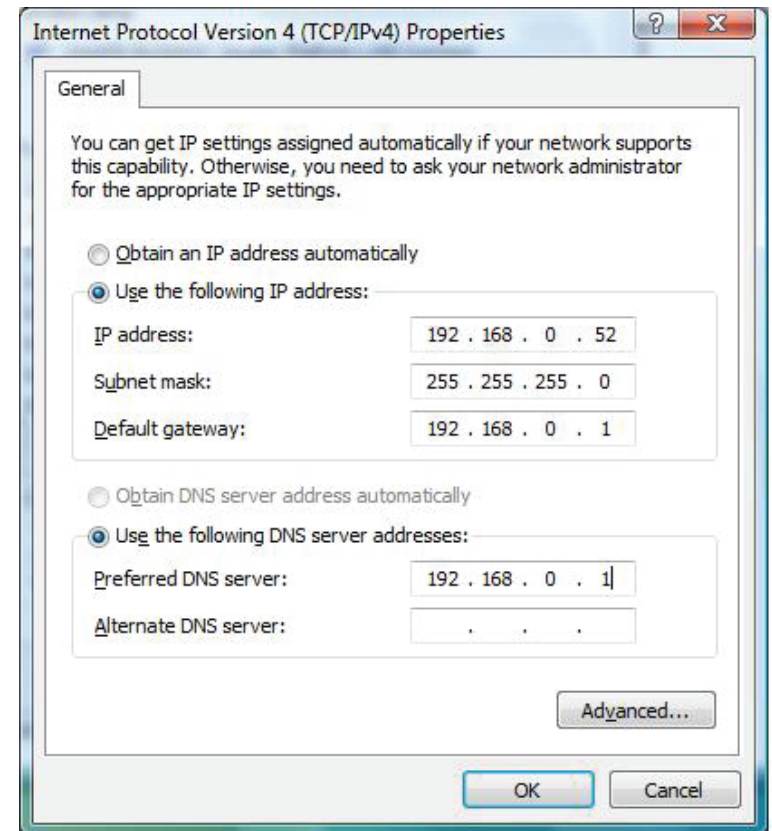


Windows® 7/ Users

- Click on **Start > Control Panel** (make sure you are in Classic View). Double-click on the **Network and Sharing Center** icon. If you are using Windows, click on **Manage network connections** along the left panel in the window. For Windows® 7, click on **Change adapter settings**.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter which will be connected to your network.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.

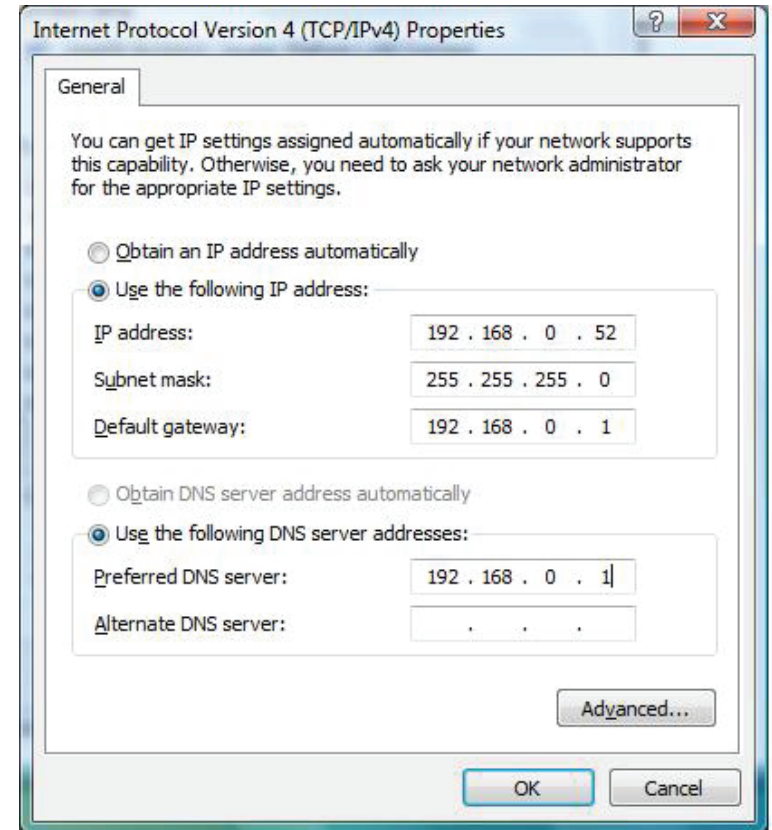


Windows® 8 Users

- Press the **Windows** key and then type **IP**. Click **Settings** on the right side and then click **View Network Connections**.
- Right-click on the adapter which represents your D-Link wireless network adapter.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



Technical Specifications

Standards

- IEEE 802.11ac (draft)
- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.11a
- IEEE 802.11b

Bus Type

- USB 2.0

Security

- Wi-Fi Protected Access (WPA™ & WPA2™)
- Wi-Fi Protected Setup - PIN & PBC

Current Consumption

- 220 mA at continuous transmit mode

Operating Voltage

- 5.0 VDC +/- 10%

Operating Temperature

- 32°F to 104°F (0°C to 40°C)

Operating Humidity

- 10% to 90% maximum (non-condensing)

Dimensions

- 36.6mmx18.8mmx8mm (1.4x0.73x0.32 inches)

Weight

- 3.9 grams

Certifications

- FCC Class B
- CE
- C-Tick
- IC
- Wi-Fi
- Wi-Fi Protected Setup

* Maximum wireless signal rate derived from IEEE Standard 802.11ac (draft), 802.11n and 802.11g 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 factors will adversely affect wireless signal range.

Warranty

Federal Communication Commission Interference Statement:

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.

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.

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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For operation within 5.15 ~ 5.25GHz / 5.47 ~ 5.725GHz frequency range, it is restricted to indoor environment. The band from 5600-5650MHz will be disabled by the software during the manufacturing and cannot be changed by the end user. This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Radiation Exposure Statement:

The product comply with the FCC portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada 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.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Caution:

- (i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
- (ii) the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the e.i.r.p. limit; and
- (iii) the maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.
- (iv) Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

Le guide d'utilisation des dispositifs pour réseaux locaux doit inclure des instructions précises sur les restrictions susmentionnées, notamment :

- (i) les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- (ii) le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5 250-5 350 MHz et 5 470-5 725 MHz doit se conformer à la limite de p.i.r.e.;
- (iii) le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5 725-5 825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.
- (iv) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Radiation Exposure Statement:

The product comply with the Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

Déclaration d'exposition aux radiations:

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.

Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

以下警語適用台灣地區

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

在5.25-5.35GHz頻帶內操作之無線資訊傳輸設備，限於室內使用