D-Link

User Manual

Wireless N900 Dual Band USB Adapter

DWA-162

Preface

D-Link reserves the right to revise this publication and to make changes in the content hereof without obligation to notify any person or organization of such revisions or changes.

Manual Revisions

Revision	Date	Description
1.0	December 19, 2012	Initial release for Revision A1

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Table of Contents

Preface	2
Manual Revisions	2
Trademarks	2
Product Overview	4
Package Contents	∠
System Requirements	∠
Introduction	5
Features	6
Hardware Overview	7
Installation	8
Getting Started	8
Remove Existing Installations	8
Disable Other Adapters	9
Wireless Installation Considerations	11
Adapter Installation	12
Connect to a Wireless Network	15
Wi-Fi [®] Protected Setup (WPS)	15
Windows [®] 8	16
Windows [®] 7	18
Windows Vista [®]	20
Windows [®] XP	22

Troubleshooting	24
Wireless Basics	27
Wireless Modes	31
Networking Basics	32
Check your IP address	
Windows [®] XP Users	
Windows [®] 7/Vista [®] Users	
Windows [®] 8 Users	
Statically Assign an IP Address	
Windows [®] XP Users	
Windows [®] 7/ Vista [®] Users	
Windows [®] 8 Users	35
Technical Specifications	36
Contacting Technical Support	37
Warranty	38
Registration	44

Package Contents



System Requirements

- Windows[®] 8, 7, Vista[®], or XP (32/64-bit)
- CD-ROM Drive (must support 80mm Mini CD)
- An 802.11n, 802.11g, or 802.11a wireless network
- 20MB hard drive space
- An available USB port

Introduction

The DWA-162 Wireless N900 Dual Band 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-162 can enable 802.11n wireless connectivity by simply utilizing your desktop or notebook PC's USB port.

Powered by Wireless N900 Dual Band technology, the DWA-162 provides a faster wireless connection and superior reception than 802.11a or 802.11g*. The DWA-162 is designed for use in bigger homes and for those that demand higher networking, and its 5GHz Mediaband helps avoid interference by providing a clearer wireless band for signals than existing 802.11g products. Maximize wireless performance by connecting this USB Adapter to a Wireless N Dual Band Media router or an Wireless N Gaming router, and stay connected from virtually anywhere in the home. This USB Adapter supports WPATM and WPA2TM encryption to prevent outside intrusion and protect your personal information from being exposed.

* Maximum wireless signal rate derived from IEEE Standard 802.11a, 802.11g and 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, lowers actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

Features

- Compact size for placement anywhere.
- Fully 802.11g and 802.11a compatible.
- 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-162 almost anywhere in your workspace to achieve the best reception possible.
- Supports Infrastructure networks via an access point or wireless router.

* Using a USB 1.1 port will adversely affect throughput.

Hardware Overview



1	LED	A blinking blue light indicates the adapter is installed and working correctly. A fast blinking light indicates the adapter is scanning for an available wireless network. If the light is off, the adapter is not properly installed.
2	WPS Button	Press the WPS button to automatically connect to a WPS-enabled wireless router or access point and establish connectivity. Refer to page 15.
3	Micro USB Connector	Used to connect the DWA-162 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 and Ethernet 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[®] users may use the built-in wireless utility for all adapters.

To remove any old software: Windows[®] 8 users: Press Windows Key + Q > Control Panel > Uninstall Programs. Windows[®] 7 users: Click Start > Control Panel > Uninstall Programs. Windows Vista[®] users: Click Start > Control Panel > Add or Remove Programs. Windows[®] XP users: Click Start > Control Panel > Add or Remove Programs.

Disable Other 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).

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

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

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

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







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 in not in use.

Adapter Installation

Warning: Do NOT connect the DWA-162 Wireless N Dual Band USB Adapter to your computer before installing the driver software from the D-Link CD.

Turn on the computer and insert the D-Link DWA-162 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.



Section 2 - Installation

The *InstallShield Wizard* window will appear. Select your language from the drop-down menu and click **OK** to continue.

Once the Welcome screen appears, click **Next** to continue.

Connect the DWA-162 adapter to an available USB slot on your computer. If the *Found New Hardware Wizard* appears, click **Cancel**.

Click Next to continue.







The DWA-162 drivers will now be installed. This may take up to one minute.



Your DWA-162 adapter is now installed.



Connect to a Wireless Network 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.

"Push Button Configuration" (PBC) is a physical button on the DWA-162 and most wireless devices such as routers. A connection can be established by pressing the WPS button on the DWA-162 and then pushing the button on your access point or wireless router within 120 seconds.

- 1. Press the WPS button located on your wireless router or access point. Please refer to the user manual of your router or access point if you do not know how to start the WPS process.
- 2. To connect to your network, press the WPS button on the adapter and hold for two seconds. Allow up to two minutes for the devices to connect.





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.

- Networks Airplane mode orr Wi-Fi 2 00265a493ete all diek-5A2C all diek-6A2C all mi-lounge all ventila
- 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

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.

Not connected -Th Connections are available Wireless Network Connection ~ dlink -1 ✓ Connect automatically Connect kay2690_24 james2690g ALPHA dlink 888 SD6_WLAN DAP-2690g Open Network and Sharing Center

4. 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.

Connect to a Netwo	ork 📃 🔀
Type the network	k security key
Security key:	1
	Hide characters
02	You can also connect by pushing the button on the router.
	OK

Windows Vista®

1. Open the 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**.



Show A	£	1	
VOP	test	Unsecured network	-11
Si dini		Unsecured network	ના
tvesid	Sey.	Security-inabled nativork	না

Section 3 - Connect to a Wireless Network

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.

Type	the network security key or passphrase for Candy	
Thepe	erson who setup the network can give you the key or passphrase.	
Securi	ey key or passphrase:	
Diq	play characters	
2	If you have a USE flash if you with network settings for Candy, insert if now	

Windows® XP

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**.



letwork Tasks	Choose a wireless network	
😴 Ratheab network list	Click an item in the list below to connect to a gratest network information.	k in range or to get more
Set up a un vieta network for a home or small offer	((Q)) D-Link Unsecured inveless network	litte
telated Tasks	((p)) default Lineeared wreiess network	eul)

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.

Wireless Network Co	nnection	<
The network 'test1' requir key helps prevent unknow	es a network key (also called a WEP key or WPA key). A networ on intruders from connecting to this network.	k
Type the key, and then c	lick Connect.	
Network <u>k</u> ey:	1]
Confirm network key		1
	Connect Cancel	1

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DWA-162. 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 Vista/7 - Go to **Start** > **Device Manager**.

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

_	Open
Withdows Movie Maker	Seventing
	Manage
MSN Explorer	Map Network Drive Pr Disconnect Network Drive
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Tour Windows 201	Del Enceller
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em Properties	?
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General Computer N Add Herdwere Wizard Add Herdwere Wizard The Add Hardware Device Markager The Device Manage Oniver Sofary de Driver Sofary de Driver Sofary de Hardware Profiles Hardware profiles p	ame Hardware Advanced Wizard helps you instal hardware Add Hardware Wizard er lists all the hardware devices installed lise the Device Manager to change the vice. Device Manager Outdown a way for you to set up and store- configurations Hardware Ptofiles

Click the + sign next to Network Adapters.

Right-click on **D-Link DWA-162 Wireless N 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.

achordi	Advanced Driv	er Resources
	D-Link DWA-162 Xtreme N Dual Band	l USB Adapter
	Device type:	Network adapters
	Manufacturer:	D-Link
	Location:	PCI bus 129, device 0, function 0
This If you start	device is working proble u are having proble the troubleshooter.	properly. Ims with this device, click Troubleshoot to
This If you start	device is working p u are having proble the troubleshooter.	properly.
This If you start	device is working proble u are having proble the troubleshooter.	properly. Ims with this device, click Troubleshoot to Troubleshoot
This If you start Device	device is working p u are having proble the troubleshooter. usage:	properly. Ims with this device, click Troubleshoot to Troubleshoot
This If you start Device Use th	device is working p u are having proble the troubleshooter. usage: is device (enable)	properly. Imms with this device, click Troubleshoot to Troubleshoot

2. The computer does not recognize the DWA-162 Wireless Adapter.

Make sure that the DWA-162 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-162 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.)

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.

Windows[®] 7/Vista[®] Users

- Click **Start**, type **cmd** in the search box and then click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.

Windows[®] 8 Users

- Press the Windows key and R together. Type cmd in the box and click OK.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.

epific DHS Suffix ublic.pelab #88:tedya:30+3:FSF6:478act ar Lucal Area Connection= 14: prelific DHS Suffix public.pelab femm::5ef+:172.168.0.177.28





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

- 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** 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.

	And Statements
You can get IP settings assigned this capability. Otherwise, you ne the appropriate IP settings.	automatically if your network, supports ed to ask your network, administrator for
O Obtain an IP address autor	utically.
O Use the following IP address	
IP address	192 168 0 .52
Subnet mask:	255 . 255 . 255 . 0
Default gateway	192 168 0 1
Trans Distances of Sec.	and a state
Use the following DNS serv	er addesses.
Preferred DNS server:	192.168.0 1
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	Advanced

Windows® 7/ Vista® 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 Vista, 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.
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- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.

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You can get IP settings assigned this capability. Otherwise, you r for the appropriate IP settings.	d automatically if your network supports need to ask your network administrator
💮 Obtain an IP address auto	matically
Use the following IP addre	ss:
IP address:	192 + 168 + 0 + 52
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192,168,0,1
Obtain DNS server addres	s automatically
• Use the following DNS serv	/er addresses:
Preferred DNS server:	192 . 168 . 0 . 1
Alternate DNS server:	4 + 4
	Advanced
	OK Cancel

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.

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Obtain an IP addres	s automatically
O Use the following IP	address:
IP address:	192 + 168 + 0 + 52
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192,168,0,1
Obtain DNS server a	ridress automatically
• Use the following DN	IS server addresses:
Preferred DNS server:	192 . 168 . 0 . 1
Alternate DNS server:	9 9 9
	Advanced
	OK Cancel

Technical Specifications

Standards

- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.11a

Bus Type

• USB 2.0 (1.1 compatible)

Security

• WPA[™]/WPA2[™] - Wi-Fi Protected Access • WPS (PIN and PBC)

Media Access Control

CSMA/CA with ACK

Frequency Range

- 2.4GHz to 2.462GHz (North America)
- 5.15GHz to 5.35GHz (North America)
- 5.725GHz to 5.825GHz (North America)

Power Consumption (802.11n)

- Tx: 500 mA
- Rx: 235 mA

Modulation Technology

Orthogonal Frequency

Division Multiplexing (OFDM)

Complementary Code Keying (CCK)

Transmitter Power Output

16 dBm (802.11g/n)
15 dBm (802.11a)

Operating Voltage

• 5 VDC +/- 10%

Operating Temperature • 32°F to 104°F (0°C to 40°C)

Operating Humidity

• 10% to 90% maximum (non-condensing)

Dimensions

• 1.5" x 3.5" x 0.5"

Weight

• 0.1 lbs (.05kg)

Certifications

- FCC Class B
 IC
- Wi-Fi®

Warranty

1 Year Limited

* Maximum wireless signal rate derived from IEEE Standard 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.

Contacting Technical Support

Before you contact technical support, please have the following ready:

- Model number of the product (e.g., DWA-162)
- Hardware Revision (located on the label on the adapter (e.g., rev A1))
- Serial Number (s/n number located on the label on the adapter).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support: (877) 453-5465

Internet Support: http://support.dlink.com

For customers within Canada:

Phone Support: (800) 361-5265

Internet Support: http://support.dlink.ca

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for 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, or addresses with an APO or FPO.

Limited Warranty:

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

• Hardware: One (1) year

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any 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, at its option, 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 or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual 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 refurd.

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 ("Software 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 Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, 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 the portion of the actual purchase price paid that is attributable to the Software. 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. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. 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 (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 portions 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:

- 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, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support (USA 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form. Enter the assigned Case ID Number at https://rma.dlink.com/ (USA only).
- 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 and shipped to D-Link Systems, Inc.
- **USA residents** send to 17595 Mt. Herrmann, Fountain Valley, CA 92708. 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. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. 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.
- Canadian residents send to D-Link Networks, Inc., 2525 Meadowvale Boulevard Mississauga, Ontario, L5N 552 Canada. 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 Purolator Canada or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link
 if you use an address in Canada, otherwise we will ship the product to you freight collect. Expedited shipping is available upon
 request and provided shipping charges are prepaid by the customer. 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. RMA phone number: 1-800-361-5265 Hours of Operation: Monday-Friday, 9:00AM 9:00PM EST.

What Is Not Covered:

The Limited Warranty provided herein by D-Link does not cover:

Products that, 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; and 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.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited 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 NONINFRINGEMENT.

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 THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. 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 NONCONFORMING PRODUCT. THE MAXIMUM 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 you may also have other rights which vary from state to state.

Trademarks:

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Federal Communication Commission Interference Statement:

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

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

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.

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

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. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Industry Canada statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Caution:

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

Because high power radars are allocated as primary users (meaning they have priority) in 5250-5350 MHz and 5650-5850 MHz, these radars could cause interference and/or damage to license exempt LAN devices.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **20cm** between the radiator & your body.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Registration

Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.