



User Manual

Wireless N450 MediaBridge®/Access Point

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	October 20, 2011	• Initial Release

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Package Contents



D-Link DAP-1533 Wireless N450 MediaBridge®/Access Point



Ethernet Cable



Power Adapter



CD-ROM with User Manual

Note: Using a power supply with a different voltage than the one included with the DAP-1533 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• An Ethernet-based Cable or DSL modem with a broadband router• IEEE 802.11n/g/a wireless clients (AP and Bridge modes)• IEEE 802.11n/g/a wireless router or access point (Bridge mode)• 10/100/1000 Ethernet Devices
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none">• Windows®, Macintosh, or Linux-based operating system• An installed Ethernet adapter <p>Browser Requirements:</p> <ul style="list-style-type: none">• Microsoft® Internet Explorer® 6.0 or higher• Google® Chrome 2.0 or higher• Mozilla® Firefox® 3.0 or higher• Apple Safari® 3.0 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>

Introduction

Wireless N450 MediaBridge®/Access Point - Flexible networking solutions

Whether you're wanting to give high bandwidth to your Ethernet-ready devices in your entertainment system or you want to add wireless capability to your existing wired network, the Wireless N450 MediaBridge®/Access Point is perfect for you.

Wireless Bridge Mode - Great for connecting your entertainment system to your existing wireless network

With 4 Gigabit ports, you can connect any Ethernet-enabled devices such as cable/satellite boxes, game consoles, Internet-ready TV or Network Attached Storage (NAS) to your existing wireless network for blazing wired speeds.

Access Point Mode - Extend your existing wired network

Connect the Wireless N450 MediaBridge®/Access Point to an existing wired network to extend it wirelessly. Stream HD videos to the far corners of your home or play online games without any skipping or delays.

Dual Band - Great performance for everything you do

The dual band technology in the Wireless N450 MediaBridge®/Access Point means you can select either 2.4GHz or 5GHz wireless signals to adjust for your different networking needs. You can do all you normally do with your network using the 2.4GHz band. The 5GHz band helps avoid interference by providing a clearer wireless band for HD signals.

Think green

D-Link Green™ devices are about providing eco-friendly alternatives without compromising performance. They are designed to help conserve energy, protect our environment from harmful substances, and reduce waste by using recyclable packaging. Learn more, visit www.dlinkgreen.com.

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

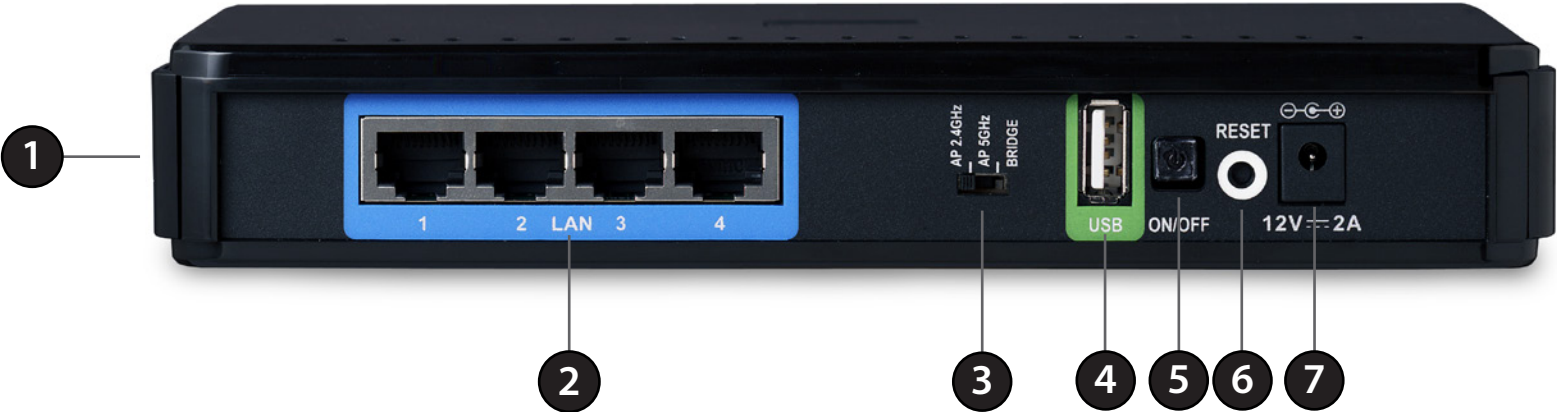
Features

- **Faster Wireless Networking** - The DAP-1533 provides up to 450Mbps* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio. The performance of this 802.11n wireless access point gives you the freedom of wireless networking at speeds 13x faster than 802.11g.
- **Compatible with 802.11a and 802.11g Devices** - The DAP-1533 is still fully compatible with the IEEE 802.11a/g standard, so it can connect with existing 802.11a/g PCI, USB, and Cardbus adapters.
- **WPS PBC-** (Wi-Fi Protected Setup Push Button Configuration) Push Button Configuration is a button that can be pressed to add the device to an existing network or to create a new network. A virtual button can be used on the utility while a physical button is placed on the side of the device.

This easy setup method allows you to form a secured wireless link between the DAP-1533 and another WPS-enabled device. A PC is no longer needed to log into the Web-based interface.
- **Share Multifunction Printers and 3G Mobile Internet Connection** - Through the SharePort™ Plus Utility, you can connect multifunction printers to the USB ports to share printing and scanning functions among family members.
- **User-friendly Setup Wizard** - Through its easy-to-use Web-based user interface, the DAP-1533 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your access point to your specific settings within minutes.

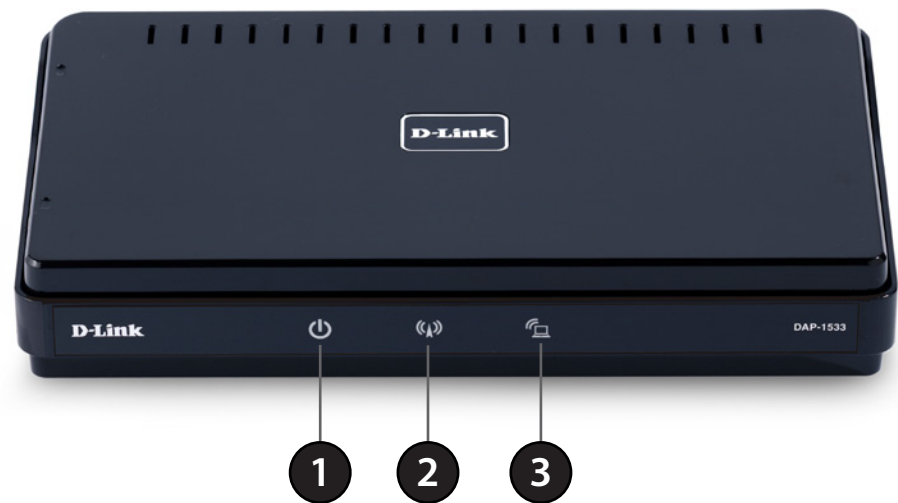
Hardware Overview

Connections



1	WPS Button	Press for 3 seconds to start the WPS process. After pressing, the AP or Bridge LED (depending what mode you have selected) will blink. Within 2 minutes, press the WPS button on the wireless device you want to connect to.
2	LAN Ports (1-4)	Connect 10/100/1000 Ethernet devices such as computers, switches, and NAS devices.
3	Mode Switch	Three-way switch used to select AP 2.4GHz , AP 5GHz or Bridge mode.
4	USB Port	Connect a multifunction printer and share printing and scanning functions to users on your network. You may also connect a USB thumb drive/external hard drive for WCN and sharing files.
5	ON/OFF Button	Press to power on and off your DAP-1533.
6	Reset Button	Pressing the Reset button restores the DAP-1533 to its original factory default settings.
7	Power Receptor	Receptor for the supplied power adapter.

LEDs



1	Power LED	A solid green light indicates a proper connection to the power supply.
2	AP LED	A solid light indicates that the DAP-1533 is in AP mode. This LED will blink during the WPS connection process.
3	Bridge LED	A solid light indicates that the DAP-1533 is in bridge mode. This LED will blink during the WPS connection process.

Installation

This section will walk you through the installation process. Placement of the DAP-1533 is very important. Do not place the DAP-1533 in an enclosed area such as a closet, cabinet, or in the attic or garage.

Wireless Installation Considerations

The D-Link wireless access point 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:

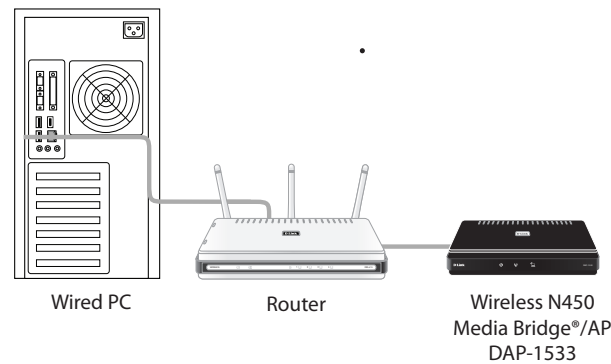
1. Keep the number of walls and ceilings between the D-Link access point and other network devices to a minimum. Each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line 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 access points, 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.

AP/Bridge Mode

Depending on how you want to use your DAP-1533 will determine which mode you use. This section will help you figure out which setting works with your setup.

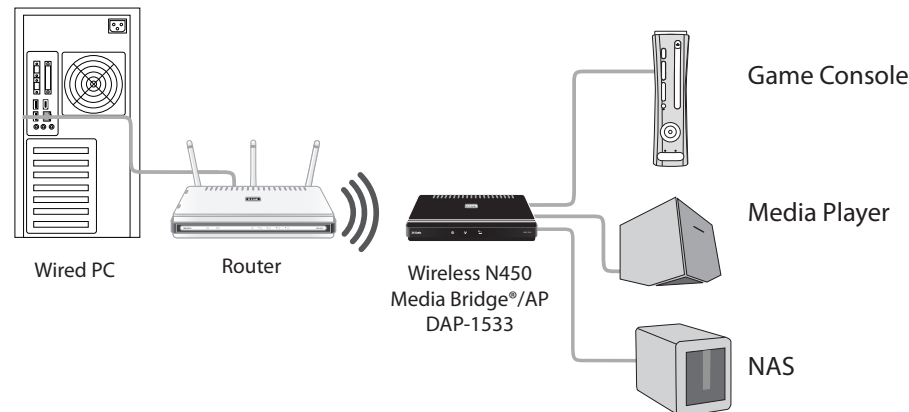
AP Mode

If you already have a wired or wireless router, and want to add an access point to connect your wireless clients to your network, you will need to move the switch on the back panel of the DAP-1533 to “AP2.4GHz” (for 2.4GHz) or “AP 5GHz” (for 5GHz).



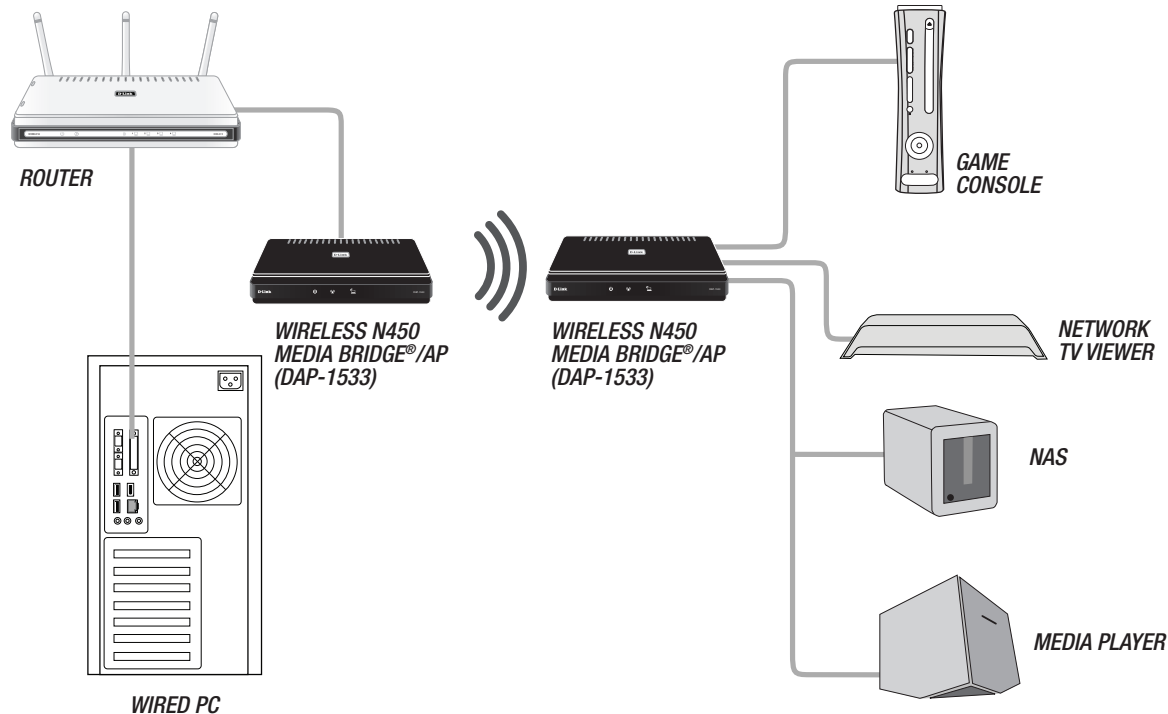
Bridge Mode

If you want to connect multiple Ethernet-enabled devices such as game consoles, media players, or network attached storage devices wirelessly to your wireless router or AP device, you will need to move the switch on the back panel of the DAP-1533 to “Bridge”.



Create a Full MediaBand (5GHz wireless) Network

If you have two DAP-1533 devices and want to create a wireless network with full MediaBand technology you will need to connect one Wireless Bridge to your router and move the switch on the back panel to “AP 5GHz”. The second Wireless Bridge will need to be placed next to your Ethernet-enabled devices and you will need to move the switch on the back panel to “Bridge”.



One Touch AP Configuration

One Touch AP Configuration works like WPS but can transfer the wireless settings from an existing access point or wireless router to the DAP-1533 in access point mode. This is best used if you are using the DAP-1533 to replace an existing access point or wireless router. If you want to connect your DAP-1533 to your wireless clients, or using Bridge mode, refer to WPS.

1. Select **AP 2.4GHz or AP 5GHz Mode** located on the back of the device. Then, Insert the power adapter into the power receptacle located on the rear panel of the DAP-1533 and plug the adapter into a suitable nearby power source. Press the power button to turn the device on.
2. Press the WPS button on your Router or Access Point. The AP LED will flash on and off.
3. Press the WPS Push Button on the DAP-1533 and **hold it for 5 seconds**.
4. When One click AP setup is complete, your DAP-1533 will have the same Wireless settings as your existing Router or AP.
5. Connect an Ethernet cable from one of the LAN ports on the DAP-1533 and connect it to an Ethernet port on your existing AP or wireless router.

Note: Since the DAP-1533 and your existing access point or wireless router will have the same wireless settings, you will need to make sure they are out of range with each other. If they are within range, this may cause interference. It is strongly recommended to disable the wireless function on your existing access point or wireless router.

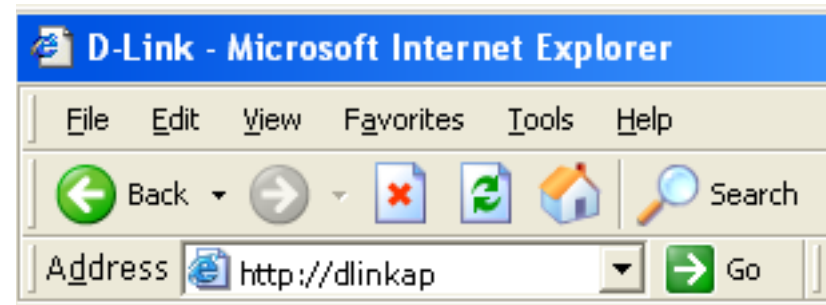
Configuration for AP Mode

This section will show you how to configure your new D-Link wireless access point using the web-based configuration utility.

Web-based Configuration Utility

To access the configuration utility, open a web browser such as Internet Explorer and enter **http://dlinkap** or **http://192.168.0.50** in the address field.

Note: You must include **http://** in order to connect to the web browser.



Enter **Admin** for the user name and then enter your password. Leave the password blank by default.

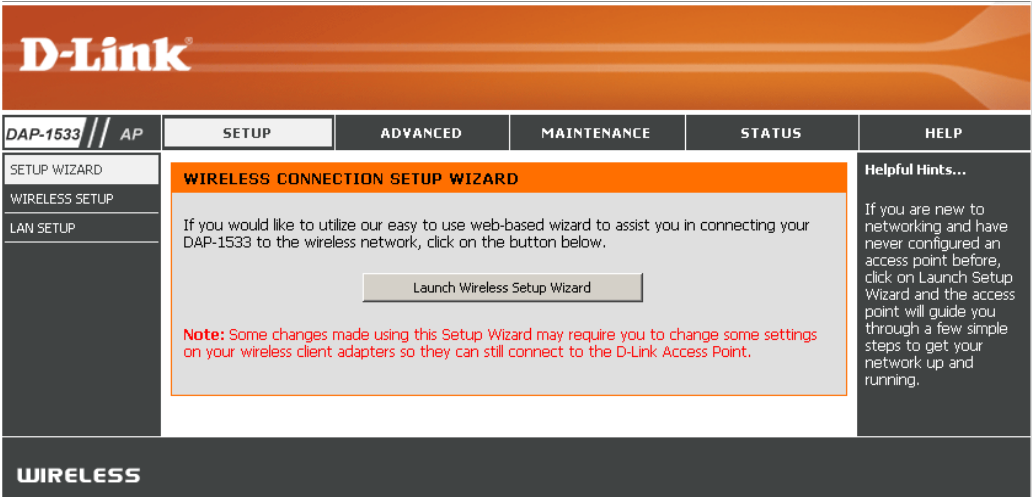
A screenshot of the D-Link web-based configuration utility's login page. The page has an orange header with the word "LOGIN" in white. Below the header, it says "Log in to the Access Point". There are two labels: "User Name :" and "Password :". The "User Name" field is a dropdown menu with "Admin" selected. The "Password" field is a text input box. Below these fields is a "Login" button.

If you get a Page Cannot be Displayed error, please refer to the Troubleshooting section for assistance.

Setup Wizard

Click **Launch Wireless Setup Wizard** to quickly configure your access point.

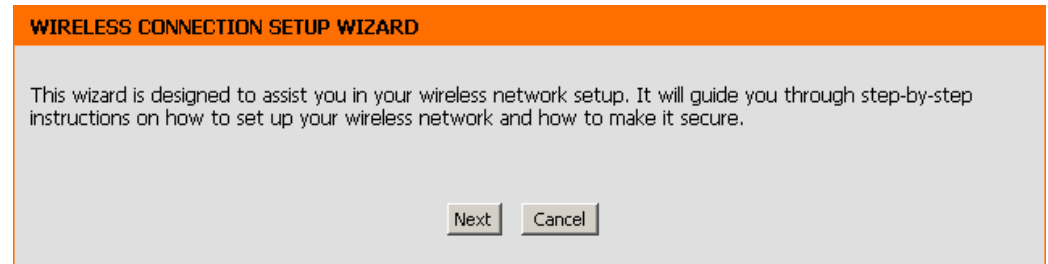
If you want to enter your settings without running the wizard, click **Wireless Settings** (on the left side) and skip to page 21.



Wireless Setup Wizard

This Wizard is designed to assist you in connecting your wireless device to your access point. It will guide you through step-by-step instructions on how to get your wireless device connected.

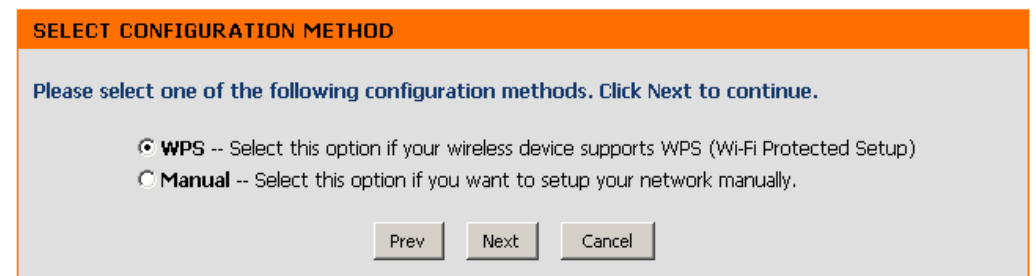
Click **Next** to continue.



Select **WPS** as the configuration method only if your wireless device supports Wi-Fi Protected Setup.

Skip to page 20 for Manual configuration.

Click **Next** to continue.



VIRTUAL PUSH BUTTON

Please press down the Push Button (physical or virtual) on the wireless device you are adding to your wireless network within **115** seconds ...

Click **Next** to continue.

ADD WIRELESS DEVICE WITH WPS

You have succeeded to add the wireless device to your wireless network.

Next

Click **End** to complete the setup.

CONNECT TO WIRELESS DEVICE

The wireless setup wizard has completed.

Finish

Select **Manual** as the configuration method to set up your network manually.

Click **Next** to continue.



SELECT CONFIGURATION METHOD

Please select one of the following configuration methods and click **next** to continue.

☐ **WPS** -- Select this option if your wireless device supports WPS (Wi-Fi Protected Setup)

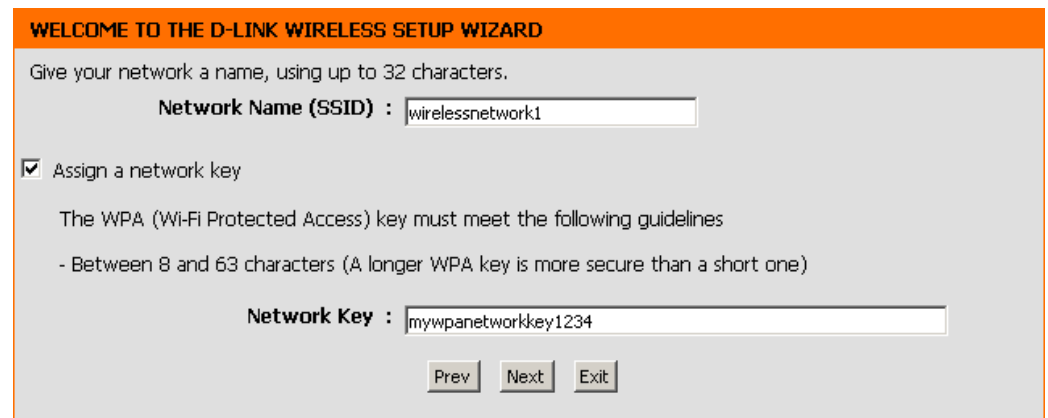
☒ **Manual** -- Select this option if you want to setup your network manually

Prev Next Cancel

Enter a network name (SSID) and uncheck **Assign a network key** to automatically create a network key.

To Manually assign a network key, check **Assign a network key** and enter a key in the box.

Click **Next** to continue.



WELCOME TO THE D-LINK WIRELESS SETUP WIZARD

Give your network a name, using up to 32 characters.

Network Name (SSID) : wirelessnetwork1

☒ **Assign a network key**

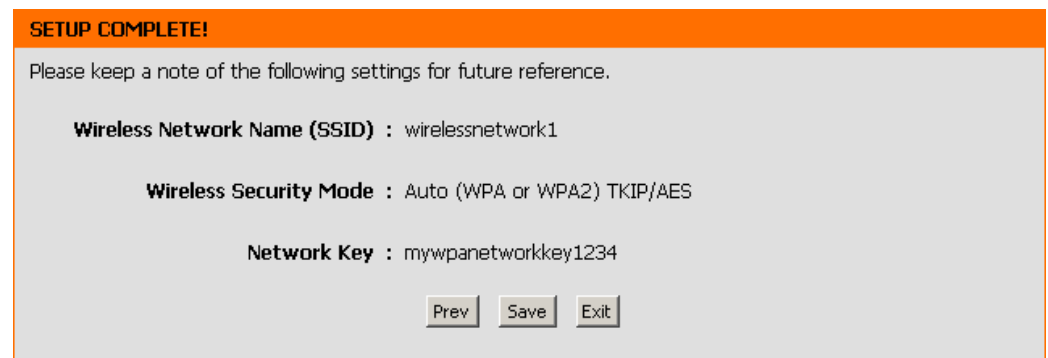
The WPA (Wi-Fi Protected Access) key must meet the following guidelines

- Between 8 and 63 characters (A longer WPA key is more secure than a short one)

Network Key : mywpanetworkkey1234

Prev Next Exit

Click **Save** to save your network settings.



SETUP COMPLETE!

Please keep a note of the following settings for future reference.

Wireless Network Name (SSID) : wirelessnetwork1

Wireless Security Mode : Auto (WPA or WPA2) TKIP/AES

Network Key : mywpanetworkkey1234

Prev Save Exit

Manual Configuration

Wireless Setup

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name.

Wireless Band: Displays either 2.4GHz or 5.0GHz.

Wireless Mode: Choose the wireless mode you would like to use.

Enable Auto Channel Scan: Select to enable auto channel scan.

Wireless Channel: The Auto Channel Scan setting can be selected to allow the DAP-1533 to choose the channel with the least amount of interference.

Channel Width: Operating frequency band. Choose 2.4GHz for visibility to legacy devices and for longer range. Choose 5GHz for least interference.

Visibility Status: Select Invisible if you do not want the SSID of your wireless network to be broadcasted by the DAP-1533. If checked, the SSID of the DAP-1533 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DAP-1533 in order to connect to it.

WIRELESS NETWORK SETTINGS

Enable Wireless : ☒ Always ☐ Add New Schedule

Wireless Network Name : (Also called the SSID)

Band :

Wireless Mode :

Enable Auto Channel Scan : ☒

Wireless Channel : (Domain:US)

Channel Width :

Visibility Status: ☒ Visible ☐ Invisible

WIRELESS SECURITY MODE

Security Mode :

WPA

Use **WPA or WPA2** mode to achieve a balance of strong security and best compatibility. This mode uses WPA for legacy clients while maintaining higher security with stations that are WPA2 capable. Also the strongest cipher that the client supports will be used. For best security, use **WPA2 Only** mode. This mode uses AES(CCMP) cipher and legacy stations are not allowed access with WPA security. For maximum compatibility, use **WPA Only**. This mode uses TKIP cipher. Some gaming and legacy devices work only in this mode.

To achieve better wireless performance use WPA2 Only security mode (or in other words AES cipher).

WPA Mode :

Cipher Type :

PRE-SHARED KEY

Enter an 8- to 63-character alphanumeric pass-phrase. For good security it should be of ample length and should not be a commonly known phrase.

Pre-Shared Key :

Wireless Setup

2.4GHz

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop down menu or click **Add New Schedule** to create a new schedule.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name.

Wireless Band: Displays the band you are using.

Wireless Mode: Select one of the following:
802.11n Only - Select if you are only using 802.11n wireless clients.
Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 11g wireless clients.
Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Enable Auto Channel Scan: Click the **Scan** button to search for all available devices connected to your DAP-1533's Ethernet ports

Wireless Channel: The **Auto Channel Scan** setting can be selected to allow the DAP-1533 to choose the channel with the least amount of interference.

The screenshot shows the D-Link DAP-1533 AP configuration interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar shows a menu with SETUP WIZARD, WIRELESS SETUP (selected), and LAN SETUP. The main content area is titled 'WIRELESS' and contains instructions: 'Use this section to configure the wireless settings for your D-Link Access Point. Please note that changes made on this section may also need to be duplicated on your wireless clients and PC.' Below this are 'Save Settings' and 'Don't Save Settings' buttons. The 'WIRELESS NETWORK SETTINGS' section includes: 'Enable Wireless' (checked, Always), 'Wireless Network Name' (dlink), 'Wireless Band' (2.4GHz), 'Wireless Mode' (Mixed 802.11n, 802.11g and 802.11b), 'Enable Auto Channel Scan' (checked), 'Wireless Channel' (1), 'Channel Width' (Auto 20/40 MHz), and 'Visibility Status' (Visible). The 'WIRELESS SECURITY MODE' section shows 'Security Mode' set to None. A 'Helpful Hints...' sidebar on the right provides additional guidance on network naming, channel selection, and visibility status.

Wireless Setup

5GHz

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions. You may also set up a specific time range (schedule). Select a schedule from the drop down menu or click **Add New Schedule** to create a new schedule.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name.

Wireless Band: Displays the band you are using.

Wireless Mode: Select one of the following:
802.11n Only - Select if you are only using 802.11n wireless clients.
Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 11g wireless clients.
Mixed 802.11n, 802.11g and 802.11b - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Enable Auto Channel Scan: Click the **Scan** button to search for all available devices connected to your DAP-1533's Ethernet ports

Wireless Channel: The **Auto Channel Scan** setting can be selected to allow the DAP-1533 to choose the channel with the least amount of interference.

The screenshot shows the D-Link configuration interface for the DAP-1533 Access Point. The 'WIRELESS' tab is selected, and the 'WIRELESS NETWORK SETTINGS' section is expanded. The settings are as follows:

- Enable Wireless:** Checked, with a dropdown set to 'Always' and an 'Add New Schedule' button.
- Wireless Network Name:** 'dlink_media' (Also called the SSID).
- Wireless Band:** '5GHz'.
- Wireless Mode:** 'Mixed 802.11n and 802.11a'.
- Enable Auto Channel Scan:** Checked.
- Wireless Channel:** '36' (Domain:US).
- Channel Width:** 'Auto 20/40 MHz'.
- Visibility Status:** 'Visible' (radio button selected), 'Invisible' (radio button unselected).
- WIRELESS SECURITY MODE:** 'Security Mode' is set to 'None'.

On the right side, there is a 'Helpful Hints...' section with the following text:

Changing your Wireless Network Name is the first step in securing your wireless network. Change it to a familiar name that does not contain any personal information.

Enable Auto Channel Scan so that the Access Point can select the best possible channel for your wireless network to operate on.

Visibility Status is another way to secure your network. With this option enabled, no wireless clients will be able to see your wireless network when they scan to see what's available. For

Channel Width: Select the Channel Width:

Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.

20MHz - Select if you are not using any 802.11n wireless clients.

Visibility Status: Select Invisible if you do not want the SSID of your wireless network to be broadcasted by the DAP-1533. If checked, the SSID of the DAP-1533 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DAP-1533 in order to connect to it.

Security Mode: Enabling Hidden Mode is another way to secure your network. With this option enabled, no wireless clients will be able to see your wireless network . In order for your wireless devices to connect to your Access Point, you will need to manually enter the Wireless Network Name on each device.

LAN Setup

Dynamic IP

This section will allow you to change the local network settings of the access point and to configure the DHCP settings.

Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

LAN Connection Type: Use the drop-down menu to select Dynamic IP (DHCP) to automatically obtain an IP address on the LAN/private network.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar shows a menu with SETUP WIZARD, WIRELESS SETUP, and LAN SETUP (selected). The main content area is titled 'NETWORK SETTINGS' and contains the following sections:

- DEVICE NAME:** A text box labeled 'Device Name' with the value 'dlinkap'. A note states: 'Device Name allows you to configure this device more easily. You can enter "http://device name" into your web browser instead of IP address for configuration. (Default: http://dlinkap)'.
- LAN IPV4 CONNECTION TYPE:** A dropdown menu labeled 'My LAN Connection is:' with 'Dynamic IP (DHCP)' selected. A note states: 'Choose the IPv4 mode to be used by the Access Point.'
- DYNAMIC IP(DHCP) LAN CONNECTION TYPE:** A section titled 'Enter the IPv4 Address Information.' containing input fields for:
 - IP Address: 192.168.0.50
 - Subnet Mask: 255.255.255.0
 - Gateway Address: 0.0.0.0
 - Primary DNS Server: 0.0.0.0
 - Secondary DNS Server: 0.0.0.0
- LAN IPV6 CONNECTION TYPE:** A dropdown menu labeled 'My IPv6 Connection is:' with 'Link-local only' selected. A note states: 'Choose the IPv6 mode to be used by the Access Point.'
- LAN IPV6 ADDRESS SETTINGS:** A section titled 'Use this section to configure the internal network settings of your AP. The LAN IPv6 Link-Local Address is the IPv6 Address that you use to access the web-based management interface.' with the value 'LAN IPv6 Link-Local Address : FE80::218:E7FF:FE95:5E7C/64'.

On the right side of the interface, there is a 'Helpful Hints...' section with additional information about the Device Name and LAN Settings.

Static IP

Device Name: Enter the Device Name of the AP. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

IPv4 Connection Type: Use the drop-down menu to select **Static IP**.

Access Point IP Address: Enter the IP address of the access point. The default IP address is **http://192.168.0.50**. If you change the IP address, once you click **Save Settings**, you will need to enter the new IP address in your browser to get back into the configuration utility.

Subnet Mask: Enter the Subnet Mask assigned by your ISP.

Default Gateway: Enter the Gateway assigned by your ISP.

The screenshot shows the D-Link configuration web interface for a DAP-1533 AP. The interface has a top navigation bar with tabs: SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links: SETUP WIZARD, WIRELESS SETUP, and LAN SETUP. The main content area is titled 'NETWORK SETTINGS' and contains the following sections:

- DEVICE NAME:** A text box for entering the device name. Below it, a note states: 'Device Name allows you to configure this device more easily. You can enter "http://"device name" into your web browser instead of IP address for configuration. (Default: http://dlinkap)'. The 'Device Name' field is currently empty.
- LAN IPV4 CONNECTION TYPE:** A section titled 'Choose the IPv4 mode to be used by the Access Point.' with a dropdown menu 'My LAN Connection is:' set to 'Static IP'.
- STATIC IP ADDRESS LAN CONNECTION TYPE:** A section titled 'Enter the static address Information' with input fields for:
 - IP Address: 192.168.0.50
 - Subnet Mask: 255.255.255.0
 - Gateway Address: 0.0.0.0
 - Primary DNS Server: 0.0.0.0
 - Secondary DNS Server: 0.0.0.0
- LAN IPV6 CONNECTION TYPE:** A section titled 'Choose the IPv6 mode to be used by the Access Point.' with a dropdown menu 'My IPv6 Connection is:' set to 'Link-local only'.
- LAN IPV6 ADDRESS SETTINGS:** A section titled 'Use this section to configure the internal network settings of your AP. The LAN IPv6 Link-Local Address is the IPv6 Address that you use to access the web-based management interface.' with a text box showing 'LAN IPv6 Link-Local Address : FE80::218:E7FF:FE95:5E7C/64'.

On the right side of the interface, there is a 'Helpful Hints...' section with the following text:

Device Name: Device Name allows you to configure this device more easily when your network using TCP/IP protocol. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. Recommend to change the device name if there're more than one D-Link devices within the subnet.

LAN Settings: Also referred as private settings. LAN settings allow you to configure LAN interface of DAP-1533. LAN IP address is private to your internal network and is not visible to Internet. The factory default setting is Dynamic IP (DHCP).

At the bottom of the interface, there is a 'WIRELESS' tab.

LAN Setup

Static IPv6

- IPv6 Address:** Enter the static IPv6 address provided by your Internet Service Provider.
- Subnet Prefix Length:** Enter the IPv6 subnet prefix length.
- Default Gateway:** Enter the default gateway IP address.
- Primary DNS Server:** Enter the primary DNS server IP address.
- Secondary DNS Server:** Enter the secondary DNS server IP address.

LAN IPv6 CONNECTION TYPE

Choose the IPv6 mode to be used by the Access Point.

My IPv6 Connection is : Static IPv6

LAN IPv6 ADDRESS SETTINGS

Enter the IPv6 address information.

IPv6 Address :

Subnet Prefix Length :

Default Gateway :

Primary DNS Server :

Secondary DNS Server :

LAN Setup

IPv6 - Auto-Configuration

Obtain IPv6 DNS Servers automatically: Select to obtain IPv6 DNS Servers automatically.

Use the following IPv6 DNS Servers: Enter a specific DNS server address.

Primary DNS Server: Enter the primary DNS server IP address.

Secondary DNS Server: Enter the secondary DNS server IP address.

LAN IPv6 CONNECTION TYPE

Choose the IPv6 mode to be used by the Access Point.

My IPv6 Connection is :

Autoconfiguration (SLAAC/DHCPv6)

IPv6 DNS SETTINGS

Obtain DNS server address automatically or enter a specific DNS server address.

☒ Obtain IPv6 DNS servers automatically

☐ Use the following IPv6 DNS servers

Primary DNS Server :

Secondary DNS Server :

Advanced MAC Address Filter

The MAC address filter section can be used to filter network access by machines based on the unique MAC addresses of their network adapter(s). It is most useful to prevent unauthorized wireless devices from connecting to your network. A MAC address is a unique ID assigned by the manufacturer of the network adapter.

Configure MAC Filtering: When **Turn MAC Filtering OFF** is selected, MAC addresses are not used to control network access. When **Turn MAC Filtering ON and ALLOW computers listed to access the network** is selected, only computers with MAC addresses listed in the MAC Address List are granted network access. When **Turn MAC Filtering ON and DENY computers listed to access the network** is selected, any computer with a MAC address listed in the MAC Address List is refused access to the network.

Add MAC Filtering Rule: This parameter allows you to manually add a MAC filtering rule. Click the **Add** button to add the new MAC filtering rule to the MAC Filtering Rules list at the bottom of this screen.

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SETUP ADVANCED MAINTENANCE STATUS HELP

MAC ADDRESS FILTER

ADVANCED WIRELESS

QOS

WI-FI PROTECTED SETUP

USER LIMIT

MAC ADDRESS FILTER

The MAC (Media Access Controller) Address filter option is used to control network access based on the MAC Address of the network adapter. A MAC address is a unique ID assigned by the manufacturer of the network adapter. This feature can be configured to ALLOW or DENY network/Internet access.

Save Settings Don't Save Settings Reboot Now

WIRELESS ACCESS SETTINGS

Configure MAC Filtering below:

Turn MAC Filtering OFF

MAC Address	Wireless Client List
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear
00:00:00:00:00:00	<< MAC Address Clear

Helpful Hints...

Create a list of MAC addresses that you would either like to allow or deny access to your network.

Select a MAC address from the drop down menu, then click the arrow to add that MAC address to the list.

Click the **Clear** button to remove the MAC address from the MAC Filtering list.

Advanced Wireless

Transmit Power: Sets the transmit power of the antennas.

WMM Enable: WMM is QoS for your wireless network. This will improve the quality of video and voice applications for your wireless clients.

Short GI: Check this box to reduce the guard interval time therefore increasing the data capacity. However, it is less reliable and may create higher data loss.

IGMP Snooping: This enables IGMP snooping for the wireless connection. We recommend enabling this if you often use multicast services such as video conferencing and streaming audio/video.

WLAN Partition: Select to enable this feature.

HT20/40 Coexistence: You may choose to Enable or Disable this feature. Enabling this feature allows two “channels,” or paths on which data can travel to be combined to increase performance in some environments.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar lists various configuration options: MAC ADDRESS FILTER, ADVANCED WIRELESS, QOS, WIRELESS PROTECTED SETUP, and USER LIMIT. The main content area is titled 'ADVANCED WIRELESS' and contains a warning message about changing default settings. Below the warning are three buttons: 'Save Settings', 'Don't Save Settings', and 'Reboot Now'. The 'ADVANCED WIRELESS SETTINGS' section includes the following options:

- Transmit Power : 100% (dropdown menu)
- WMM Enable : ☒
- Short GI : ☒
- IGMP Snooping : ☒
- WLAN Partition : ☐
- HT20/40 Coexistence : ☒ Enable ☐ Disable

On the right side of the interface, there is a 'Helpful Hints...' section titled 'Advanced Wireless:' which provides a warning about the potential impact of changing default settings on network performance.

QoS

The Quality of Service (QoS) feature regulates the flow of data through the access point by assigning a priority to each packet. It enhances your experience of wireless network usage by prioritizing the traffic of different applications. Enabling this option allows the AP to prioritize traffic.

Enable QoS: Enable this option if you want QoS to prioritize your traffic.

Priority by LAN Port: There are four priority levels for all LAN ports. The priority level values assigned are LAN Port 1 for Background, LAN Port 2 for Best Effort, LAN Port 3 for Video, and LAN Port 4 for Voice (Voice is the highest level and Background is the lowest level) at a normal priority. Select from the drop-down options.

D-Link

DAP-1533 // AP

SETUP ADVANCED MAINTENANCE STATUS HELP

MAC ADDRESS FILTER

ADVANCED WIRELESS

QoS

WI-FI PROTECTED SETUP

USER LIMIT

QoS

QoS stands for Quality of Service for Wireless Intelligent Stream Handling, a technology developed to enhance the experience of using a wireless network by prioritizing the traffic of different application. The DAP-1533 supports four priority levels.

Save Settings Don't Save Settings Reboot Now

ENABLE QoS

Enable QoS : ☐

PORT PRIORITY

Lan Port 1 : Voice

Lan Port 2 : Voice

Lan Port 3 : Voice

Lan Port 4 : Voice

WIRELESS

Wi-Fi Protected Setup

This feature allows you to add devices to your network using a PIN or button Press. Your devices must support Wi-Fi Protected Setup in order to be configured by this method.

Enable: Select to Enable this feature and add devices to your network.

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DAP-1533 // AP

MAC ADDRESS FILTER

ADVANCED WIRELESS

QOS

WI-FI PROTECTED SETUP

USER LIMIT

SETUP

ADVANCED

MAINTENANCE

STATUS

HELP

WI-FI PROTECTED SETUP

Wi-Fi Protected Setup is used to easily add devices to a network using a PIN or button press. Devices must support Wi-Fi Protected Setup in order to be configured by this method.

If the PIN changes, the new PIN will be used in following Wi-Fi Protected Setup process. Clicking on "Don't Save Settings" button will not reset the PIN.

However, if the new PIN is not saved, it will get lost when the device reboots or loses power.

Save Settings

Don't Save Settings

Reboot Now

WI-FI PROTECTED SETUP

Enable : ☒

Reset to Unconfigured

PIN SETTINGS

Current PIN : 47505049

Generate New PIN

Reset PIN to Default

ADD WIRELESS STATION

Add Wireless Device with WPS

Helpful Hints...

Enable if other wireless devices you wish to include in the local network support Wi-Fi Protected Setup.

Click **Add Wireless Device Wizard** to use Wi-Fi Protected Setup to add wireless devices to the wireless network.

User Limit

The User Limit section allows you to set a maximum number of wireless clients that can connect to the access point.

- Enable User Limit:

Check the box to enable.
- User Limit (1-32):

Enter the maximum number of clients allowed to connect to the access point.

D-Link

DAP-1533 // AP

SETUP

ADVANCED

MAINTENANCE

STATUS

HELP

MAC ADDRESS FILTER

ADVANCED WIRELESS

QOS

WI-FI PROTECTED SETUP

USER LIMIT

USER LIMIT SETTINGS

Please Apply the settings to limit how many wireless stations connecting to AP.

Save Settings

Don't Save Settings

Reboot Now

USER LIMIT SETTINGS

Enable User Limit : ☐

User Limit(1 - 32) :

Helpful Hints...

User Limit can set a limit upon the number of wireless clients. Using user limit, you can prevent scenarios where the DAP-1533 in your network shows performance degradation because it is handling heavy wireless traffic.

WIRELESS

Maintenance Admin

This page will allow you to change the Administrator password. The administrator password has read/write access.

Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

Verify Password: Enter the same password that you entered in the previous text box in order to confirm its accuracy.

The screenshot shows the D-Link Maintenance Admin interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE (selected), STATUS, and HELP. The left sidebar lists menu items: ADMIN, SYSTEM, FIRMWARE, TIME, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'ADMINISTRATOR SETTINGS' and contains the following sections:

- ADMINISTRATOR SETTINGS:** A text box instructs the user to enter a new password in the 'New Password' field and confirm it in the next field. It notes that the password is case-sensitive and must be between 0 and 15 characters in length. Below this are three buttons: 'Save Settings', 'Don't Save Settings', and 'Reboot Now'.
- PASSWORD:** A section titled 'Please enter the same password into both boxes, for confirmation.' containing two input fields labeled 'Password :' and 'Verify Password :'.
- ADMINISTRATION:** A section with a checkbox labeled 'Enable Graphical Authentication :', which is currently checked.

On the right side of the interface, there is a 'Helpful Hints...' section with the following text: 'Passwords: For security reasons, it is recommended that you change the Password for the Administrator accounts. Be sure to write down the Passwords to avoid having to reset the AP in the event that they are forgotten.'

The screenshot shows the D-Link LOGIN page. The title is 'LOGIN' and the subtitle is 'Log in to the Access Point'. The form includes the following elements:

- User Name :** A dropdown menu with 'Admin' selected.
- Password :** A text input field.
- Enter the correct password above and then type the characters you see in the picture below.** A text input field for CAPTCHA verification.
- Regenerate:** A button to refresh the CAPTCHA image.
- Login:** A button to submit the login credentials.

System

Save to Local Hard Drive: Use this option to save the current access point configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

Load from Local Hard Drive: Use this option to load previously saved access point configuration settings. First, click **Browse** to find a previously save file of configuration settings. Then, click the **Load** button to transfer those settings to the access point.

Restore to Factory Default: This option will restore all configuration settings back to the settings that were in effect at the time the access point was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current access point configuration settings, use the **Save** button above.

Note: Restoring the factory default settings will not reset the Wi-Fi Protected Status to Not Configured.

Reboot the Device: Click to reboot the access point.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE (selected), STATUS, and HELP. The left sidebar lists menu items: ADMIN, SYSTEM, FIRMWARE, TIME, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'SAVE AND RESTORE' and contains the following text: 'The current system settings can be saved as a file onto the local hard drive. You can upload any save settings file that was created by the DAP-1533.' Below this, there are three sections: 'Save Settings To Local Hard Drive:' with a 'Save' button; 'Load Settings From Local Hard Drive:' with a text input field, a 'Browse...' button, and an 'Upload Settings' button; and 'Restore To Factory Default Settings: Reboots The Device:' with a 'Restore Device' button and a 'Reboot' button. A 'Helpful Hints...' sidebar on the right provides additional information about saving system settings.

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DAP-1533 // AP

SETUP ADVANCED **MAINTENANCE** STATUS HELP

ADMIN
SYSTEM
FIRMWARE
TIME
SYSTEM CHECK
SCHEDULES

SAVE AND RESTORE

The current system settings can be saved as a file onto the local hard drive. You can upload any save settings file that was created by the DAP-1533.

SAVE AND RESTORE

Save Settings To Local Hard Drive:

Load Settings From Local Hard Drive:

Restore To Factory Default Settings:

Reboots The Device:

Helpful Hints...

Saving System Settings:
Once your Access Point is configured the way you want it, you can save these settings to a configuration file that can later be loaded in the event that the AP's default settings are restored. To do this, click the Save button next to where it says Save Settings to Local Hard Drive.

WIRELESS

Firmware

You can upgrade the firmware of the access point here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support website for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from this site.

Browse: After you have downloaded the new firmware, click Browse to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Upload: Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the access point.

Language Pack

You can change the language of the web UI by uploading available language packs.

Browse: After you have downloaded the new language pack, click **Browse** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack upgrade.

The screenshot shows the D-Link web interface for a DAP-1533 access point. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for ADMIN, SYSTEM, FIRMWARE, TIME, SYSTEM CHECK, and SCHEDULES. The main content area is titled 'FIRMWARE' and contains the following sections:

- FIRMWARE INFORMATION:** Displays 'Current Firmware Version : 1.00' and 'Date: Mon, 22 Aug 2011'. It also shows 'Current Language Pack Version: No Language Pack' and a 'Remove Language Pack' button. A 'Check Online Now for Latest Firmware Version' button is present.
- FIRMWARE UPGRADE:** Includes a note: 'Note: Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration from the Maintenance — System screen.' It also states: 'To upgrade the firmware, your PC must have a wired connection to the access point. Enter the name of the firmware upgrade file, and click on the Upload button.' Below this is an 'Upload' field with a 'Browse...' button and an 'Upload' button.
- LANGUAGE PACK UPGRADE:** Similar to the firmware section, it has an 'Upload' field with a 'Browse...' button and an 'Upload' button.

A 'Helpful Hints...' sidebar on the right provides additional information about firmware updates, stating they are released periodically to improve functionality and add features. It advises users to check the support site for updates and provides a link to check for updates.

Time

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select your Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, click the **Enable Daylight Saving** check box.

Enable NTP Server: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. Check this box to use a NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Select the NTP server from the drop-down menu and then click **Update Now**.

Set the Time and Date Manually: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Save Settings**. You can also click the **Copy Your Computer's Time Settings** button at the bottom of the screen.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar lists menu items: ADMIN, SYSTEM, FIRMWARE, TIME (selected), SYSTEM CHECK, and SCHEDULES. The main content area is titled 'TIME' and contains the following sections:

- TIME CONFIGURATION:**
 - Time: Tuesday, July 19, 2011 3:59:37 AM
 - Time Zone: (GMT-08:00) Pacific Time (US/Canada), Tijuana
 - Enable Daylight Saving: ☐
 - Daylight Saving Offset: +1:00
 - Daylight Saving Dates: DST Start (Mar 3rd Sun 1 am) and DST End (Nov 2nd Sun 1 am)
- AUTOMATIC TIME CONFIGURATION:**
 - Enable NTP Server: ☐
 - NTP Server Used: < Select NTP Server
- SET THE DATE AND TIME MANUALLY:**
 - Date And Time: Year (2011), Month (Jan), Day (19), Hour (03), Minute (59), Second (19), AM
 - Copy Your Computer's Time Settings button

Buttons at the top of the TIME section include 'Save Settings', 'Don't Save Settings', and 'Reboot Now'. A 'Helpful Hints...' sidebar on the right explains the 'System Time Settings' section.

System Check

This section Ping Tests by sending ping packets to test if a computer on the internet is running and responding.

Ping Test / The Ping Test / IPv6 Ping Test is used to send
IPv6 Ping Test: Ping packets to test if a computer is on the Internet. Enter the host name or IP/IPv6 address that you wish to Ping, and click **Ping**.

Ping Result: The results of your ping attempts will be displayed here.

DAP-1533 // AP

ADMIN

SYSTEM

FIRMWARE

TIME

SYSTEM CHECK

SCHEDULES

SETUP

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STATUS

HELP

PING TEST

Ping Test sends "ping" packets to test a computer on the Internet.

PING TEST

Host Name or IP Address : ping

IPv6 PING TEST

Host Name or IPv6 Address: ping

PING RESULT

Enter a host name or IP address above and click "Ping"

Helpful Hints...

"Ping" checks whether a computer on the Internet is running and responding. Enter either the IP address of the target computer or enter its fully qualified domain name.

WIRELESS

Schedules

- Name:** Enter a name for your new schedule.
- Days:** Select a day, a range of days, or All Week to include every day.
- Time:** Enter a start and end time for your schedule.
- Schedule Rules** The list of schedules will be listed here. Click the **List:** **Edit** icon to make changes or click the **Delete** icon to remove the schedule.

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SETUPADVANCEDMAINTENANCESTATUSHELP

ADMINSYSTEMFIRMWARETIMESYSTEM CHECKSCHEDULES

SCHEDULES

The Schedule configuration option is used to manage schedule rules for wireless Lan control features.

ADD SCHEDULE RULE

Name :

Day(s) : ☒ All Week ☐ Select Day(s)

☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

All Day - 24 hrs : ☐

Time format :

24-hour

Start Time :

00

00

AM

 (hour:minute)

End Time :

00

00

AM

 (hour:minute)

Save

Clear

SCHEDULE RULES LIST :

Name	Day(s)	Time Frame		
------	--------	------------	--	--

Helpful Hints...

Schedules are used with a number of other features to define when those features are in effect.

Give each schedule a name that is meaningful to you. For example, a schedule for Monday through Friday from 3:00pm to 9:00pm, might be called "After School".

Click **Save** to add a completed schedule to the list below.

Click **Edit** icon to change an existing schedule.

Click **Delete** icon to permanently delete a schedule.

WIRELESS

Status

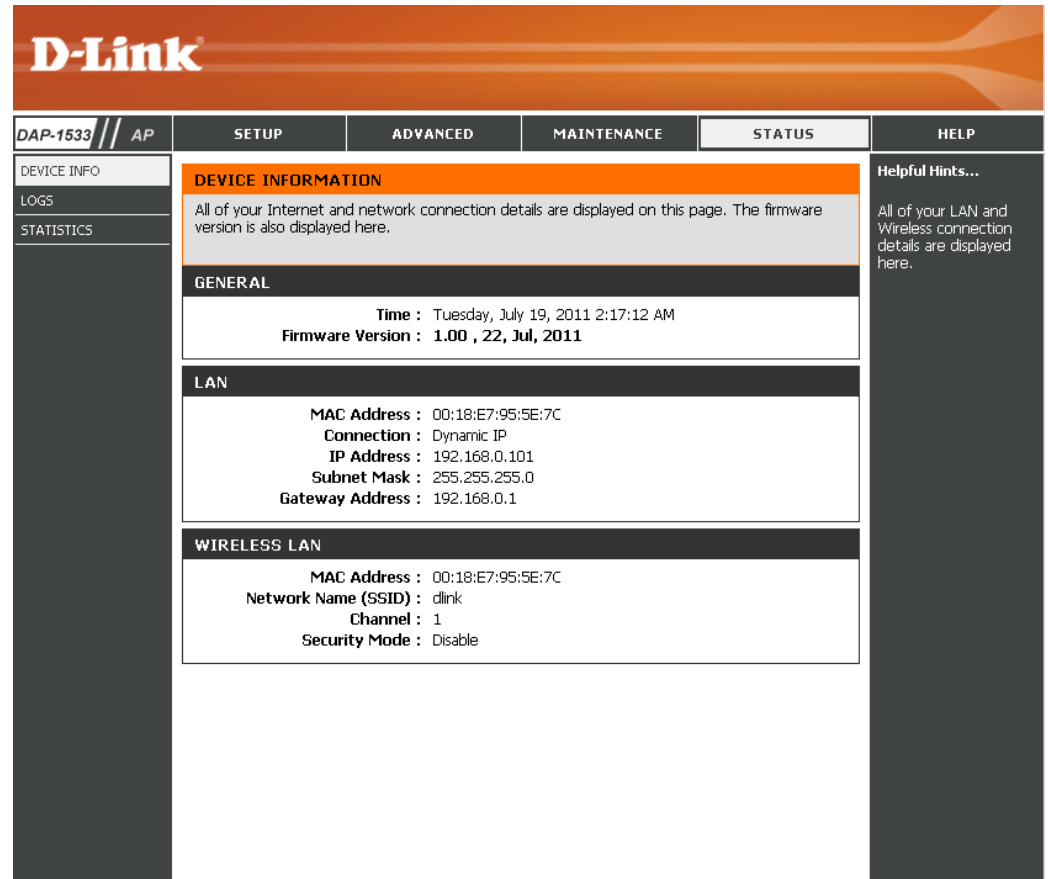
Device Info

This page displays the current information for the DAP-1533. It will display the LAN and wireless LAN information.

General: Displays the access point's time and firmware version.

LAN: Displays the MAC address and the private (local) IP settings for the access point.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.



D-Link

DAP-1533 // AP

SETUP	ADVANCED	MAINTENANCE	STATUS	HELP
DEVICE INFO LOGS STATISTICS	DEVICE INFORMATION All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.			Helpful Hints... All of your LAN and Wireless connection details are displayed here.
	GENERAL Time : Tuesday, July 19, 2011 2:17:12 AM Firmware Version : 1.00 , 22, Jul, 2011			
	LAN MAC Address : 00:18:E7:95:5E:7C Connection : Dynamic IP IP Address : 192.168.0.101 Subnet Mask : 255.255.255.0 Gateway Address : 192.168.0.1			
	WIRELESS LAN MAC Address : 00:18:E7:95:5E:7C Network Name (SSID) : dlink Channel : 1 Security Mode : Disable			

Logs

The access point automatically logs (records) events of possible interest in its internal memory. If there isn't enough internal memory for all events, logs of older events are deleted, but logs of the latest events are retained. The Logs option allows you to view the access point logs.

Log Options: There are two types of logs that can be viewed: **System Activity, Debug Information, Attacks, Dropped Packets** and **Notice**.

Apply Log Settings now: Click to apply the log type settings you chose.

First Page: Click to view the first page.

Last Page: Click to view the last page.

Previous: Click to view the previous page.

Next: Click to view the next page.

Clear: Delete all of the log content.

Save Log: Click the **Save** button to save the access point log file to your computer.

Refresh: Click to refresh the information on this page.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for DEVICE INFO, LOGS, and STATISTICS. The main content area is titled 'LOGS' and includes a description: 'Use this option to view the device logs. You can define what types of events you want to view and the event levels to view.'

The 'LOG OPTIONS' section allows users to select log types using checkboxes:

- ☒ System Activity
- ☐ Debug Information
- ☒ Attacks
- ☐ Dropped Packets
- ☒ Notice

 An 'Apply Log Settings Now' button is located below these options.

The 'LOG DETAILS' section features navigation buttons: First Page, Last Page, Previous, Next, Clear, and Save Log. A 'Refresh' button is also present. Below the navigation buttons, the log entries are displayed in a table with columns for Time and Message. The first entry is 'klogd started: BusyBox v1.01 (2011.07.14-09:06+0000)'. Subsequent entries show network-related events like DHCP client start and bridge firewalling registered. The bottom of the interface has a 'WIRELESS' label.

Time	Message
Jul 19 02:15:12	klogd started: BusyBox v1.01 (2011.07.14-09:06+0000)
Jul 19 02:15:02	Lease of 192.168.0.101 obtained, lease time 604800
Jul 19 02:15:02	Sending discover...
Jul 19 02:15:02	DHCP client start.
Jul 19 02:15:02	[Initialized, firmware version: 1.00NA]
Jul 19 02:15:00	Bridge firewalling registered
Jul 19 02:15:00	
Jul 19 02:15:00	0x0000007e0000-0x0000007f0000 : MAC
Jul 19 02:15:00	0x0000007b0000-0x0000007e0000 : LANG
Jul 19 02:15:00	0x000000030000-0x0000007b0000 : linux4

Statistics

The Statistics page displays all of the LAN and Wireless packets transmit and receive statistics.

TX Packets: The total number of packets sent from the access point.

RX Packets: The total number of packets received by the access point.

TX Packets Dropped: Displays the number of packets that were dropped while sending, due to errors, collisions, or access point resource limitations.

RX Packets Dropped: Displays the number of packets that were dropped while receiving, due to errors, collisions, or access point resource limitations.

TX Bytes: Displays the number of bytes that were sent from the access point.

RX Bytes: Displays the number of bytes that were received by the access point.

The screenshot shows the D-Link DAP-1533 AP web interface. The top navigation bar includes links for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for DEVICE INFO, LOGS, and STATISTICS. The main content area is titled 'TRAFFIC STATISTICS' and includes a description: 'Traffic Statistics display Receive and Transmit packets passing through your router.' Below this are two buttons: 'Refresh Statistics' and 'Clear Statistics'. The 'LAN STATISTICS' section shows the following data:

LAN STATISTICS	
Sent : 6210	Received : 3627
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

The 'WIRELESS STATISTICS' section shows the following data:

WIRELESS STATISTICS	
Sent : 1391	Received : 0
TX Packets Dropped : 0	RX Packets Dropped : 0
Collisions : 0	Errors : 0

On the right side of the interface, there is a 'Helpful Hints...' section with the text: 'This is a summary of the number of packets that have passed between the Wireless and the LAN since the Access Point was last initialized.'

Help

D-Link

DAP-1533

AP

SETUP

ADVANCED

MAINTENANCE

STATUS

HELP

MENU

SETUP

ADVANCED

MAINTENANCE

STATUS

SUPPORT MENU

- Setup
- Advanced
- Maintenance
- Status

SETUP

- Setup Wizard
- Wireless Setup
- Lan Setup

ADVANCED

- MAC Address Filter
- Advanced Wireless
- Wi-Fi Protected Setup
- User Limit

MAINTENANCE

- Admin
- System
- Firmware
- Time
- Schedules

STATUS

- Device Info
- Logs
- Statistics
- Wireless
- IPv6

WIRELESS

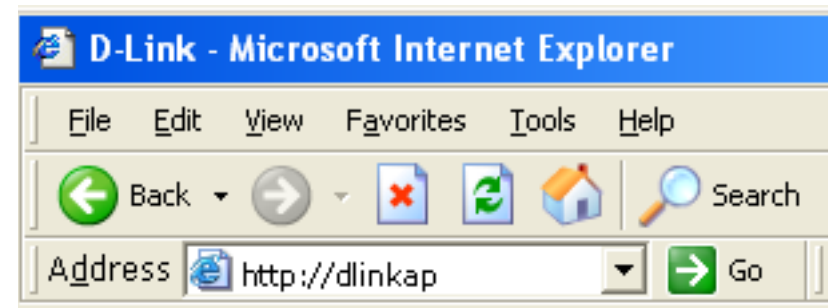
Configuration for Bridge Mode

This section will show you how to configure your new D-Link wireless MediaBridge using the web-based configuration utility.

Web-based Configuration Utility

To access the configuration utility, open a web-browser such as Internet Explorer and enter **http://dlinkap** or enter **192.168.0.50** in the address field.

Note: You must include **http://** in order to connect to the web browser.



Select **Admin** from the drop-down menu and then enter your password. Leave the password blank by default.

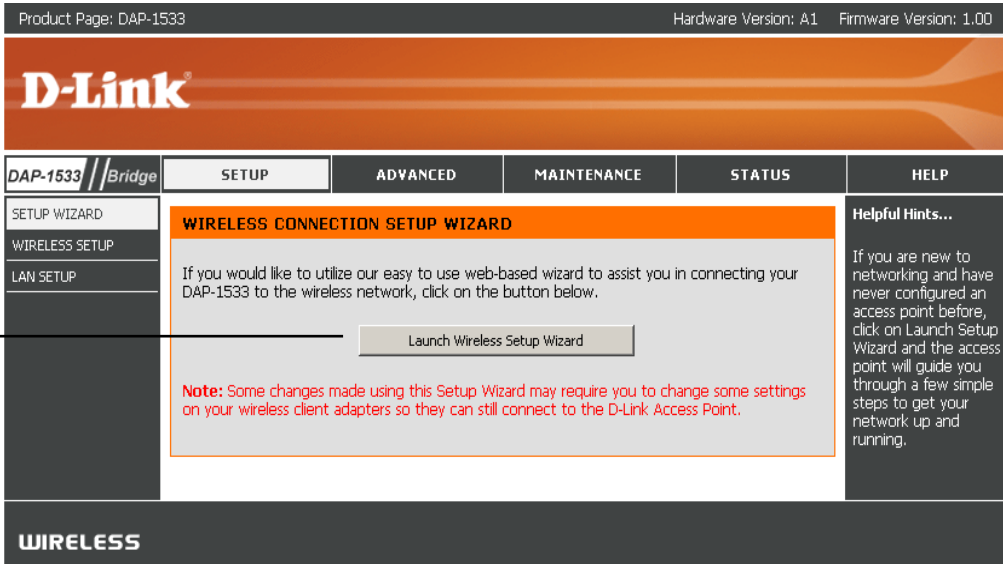
A screenshot of the "LOGIN" page for the D-Link bridge configuration utility. The page has an orange header with the word "LOGIN" in white. Below the header, it says "Log in to the Bridge". There are two fields: "User Name :" with a dropdown menu showing "Admin" and "Password :" with a text input field. A "Login" button is located below the password field.

If you get a Page Cannot be Displayed error, please refer to the Troubleshooting section for assistance.

Setup Wizard

This wizard is designed to assist you in configuring the wireless settings for your bridge. It will guide you through step-by-step instructions on how to setup your wireless network.

Click **Launch Wireless Setup Wizard**



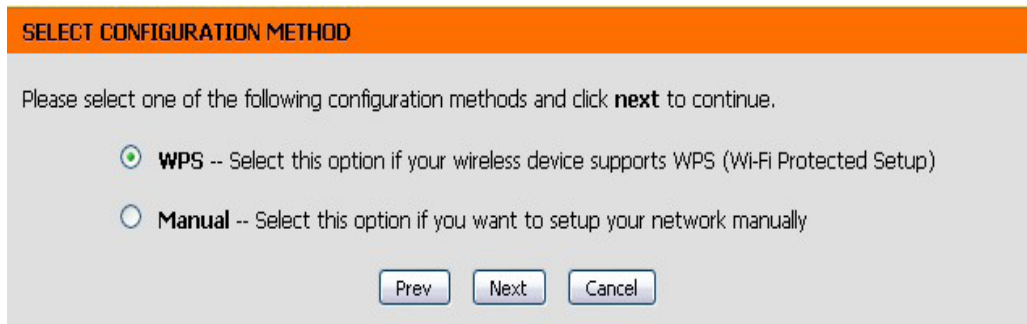
Click **Next** to continue with the wizard setup.



Select **WPS** configuration if you want to use Wi-Fi Protected Setup.

If you want to set up your network manually, skip to page 47.

Click **Next** to continue.



SELECT CONFIGURATION METHOD

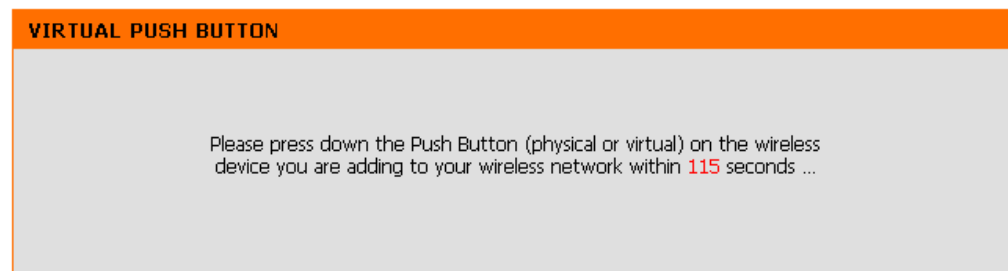
Please select one of the following configuration methods and click **next** to continue.

☒ **WPS** -- Select this option if your wireless device supports WPS (Wi-Fi Protected Setup)

☐ **Manual** -- Select this option if you want to setup your network manually

Prev Next Cancel

Press down the WPS Button on the wireless device you are adding to your network to complete the setup.



VIRTUAL PUSH BUTTON

Please press down the Push Button (physical or virtual) on the wireless device you are adding to your wireless network within **115** seconds ...

Select **Manual** configuration to set up your network manually.

Click **Next** to continue.

SELECT CONFIGURATION METHOD

Please select one of the following configuration methods and click **next** to continue.

☐

WPS -- Select this option if your wireless device supports WPS (Wi-Fi Protected Setup)

☒

Manual -- Select this option if you want to setup your network manually

Prev

Next

Cancel

Please wait while your device scans for an available Network.

SCANNING AVAILABLE NETWORK...

Scanning Available Network...

If you clicked on Site Survey, the following screen will be displayed.

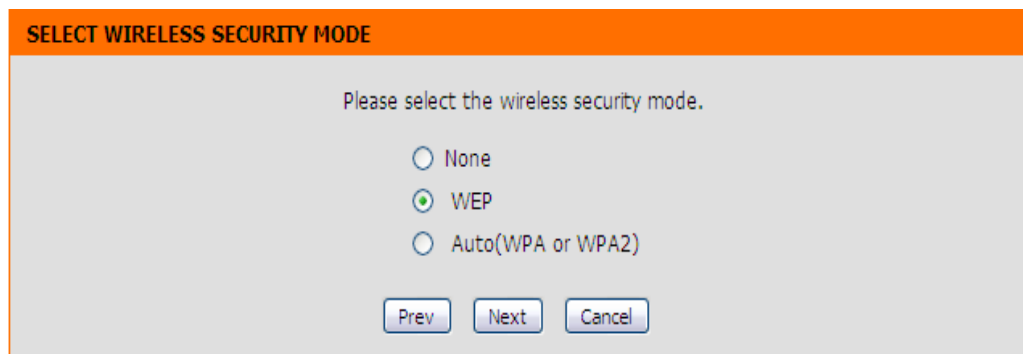
Select your wireless router or access point from the list and click **Connect** to complete the Setup Wizard.

D-Link

	SSID	BSSID	Channel	Type	Encrypt	Signal	Select
	vanilla	5C:D9:98:30:9F:51	1(B+G+N)	AP	WEP/OPEN	94	<input type="radio"/>
	vanilla	00:24:01:AB:CD:E9	1(B+G)	AP	WEP/OPEN	91	<input type="radio"/>
	vanilla	00:24:01:AB:C7:C9	1(B+G)	AP	WEP/OPEN	94	<input type="radio"/>
	Chocolate	06:1C:F0:6B:AF:24	2(B+G+N)	AP	NONE/OPEN	94	<input type="radio"/>
	wishfi	00:24:01:7A:B7:4A	6(B+G+N)	AP	WEP/OPEN	47	<input type="radio"/>
	vanilla	00:24:01:AB:CE:09	6(B+G)	AP	WEP/OPEN	94	<input type="radio"/>

Based on the wireless router or AP device you are connecting to, select the Security Mode which applies.

Click **Next** to continue.



SELECT WIRELESS SECURITY MODE

Please select the wireless security mode.

☐ None

☒ WEP

☐ Auto(WPA or WPA2)

Prev Next Cancel

If you choose **WEP**, enter the wireless security password and click **Next** to complete the Setup Wizard.



SET YOUR WIRELESS SECURITY PASSWORD

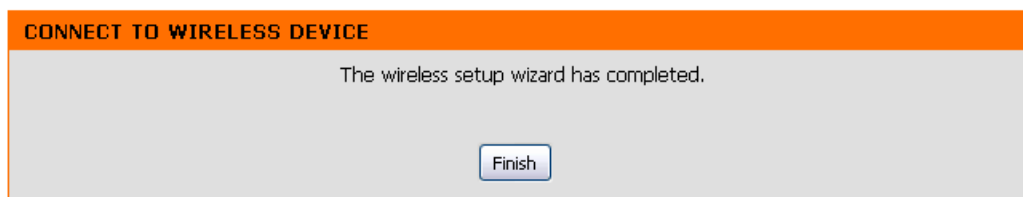
Please enter the wireless password to establish wireless connection.

Password Type: 64Bit (10 hex digits)

Password:

Prev Next Exit

Click **Finish** to connect to the wireless device.

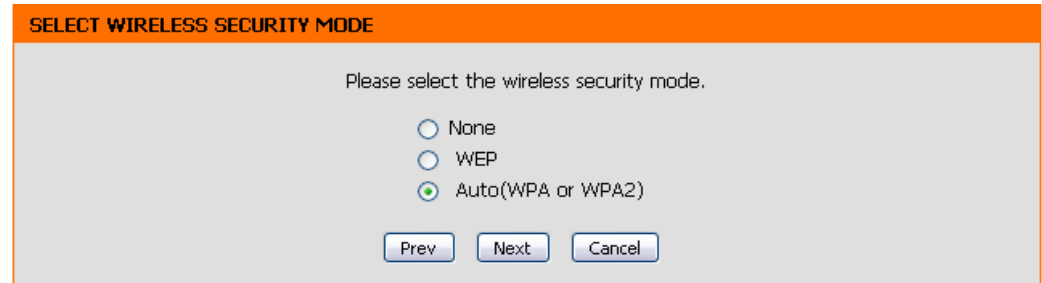


CONNECT TO WIRELESS DEVICE

The wireless setup wizard has completed.

Finish

Select **Auto (WPA or WPA2)** and click **Next** to continue.



SELECT WIRELESS SECURITY MODE

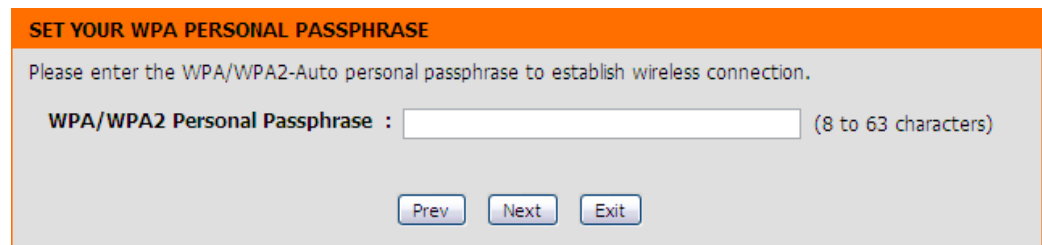
Please select the wireless security mode.

☐ None

☐ WEP

☒ Auto(WPA or WPA2)

Enter the **WPA/WPA2 Personal Passphrase** and click **Next** to establish wireless connection.

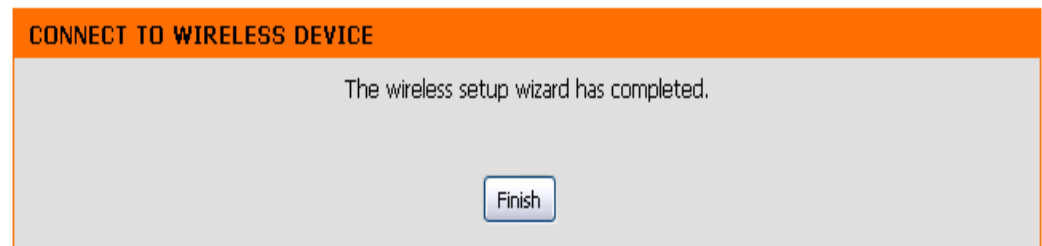


SET YOUR WPA PERSONAL PASSPHRASE

Please enter the WPA/WPA2-Auto personal passphrase to establish wireless connection.

WPA/WPA2 Personal Passphrase : (8 to 63 characters)

Click **Finish** to complete the setup.



CONNECT TO WIRELESS DEVICE

The wireless setup wizard has completed.

Wireless Setup

2.4 GHz

Wireless Type: Select **Infrastructure** or **Ad-Hoc** from the drop-down menu.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name.

Wireless Band: Displays 2.4GHz.

Wireless Mode: Choose the wireless mode you would like to use.

Wireless Channel: The Auto Channel Scan setting can be selected to allow the DAP-1533 to choose the channel with the least amount of interference.

Channel Width: Select the Channel Width:
Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.
20MHz - Select if you are not using any 802.11n wireless clients.

Wireless MAC Clone: This feature allows you to clone the wireless MAC address to connect the device.

Enable: Select to enable Wireless Mac Clone.

MAC Address: Enter the desired MAC address connected to your bridge to enable the clone function.

D-Link

DAP-1533 // Bridge

SETUP ADVANCED MAINTENANCE STATUS HELP

SETUP WIZARD
WIRELESS SETUP
LAN SETUP

WIRELESS

Use this section to configure the wireless settings for your D-Link Access Point. Please note that changes made on this section may also need to be duplicated on your wireless clients and PC.

Save Settings Don't Save Settings

WIRELESS NETWORK SETTINGS

Wireless Type: Infrastructure Site Survey

Wireless Network Name : dlink (Also called the SSID)

Band : 2.4 GHz

Wireless Mode : Mixed 802.11n, 802.11g and 802.11b

Wireless Channel : 1

Channel Width : Auto 20/40 MHz

WIRELESS MAC CLONE

Enable: ☐

MAC Source: Auto

MAC Address:

Helpful Hints...

Changing your Wireless Network Name is the first step in securing your wireless network. Change it to a familiar name that does not contain any personal information.

If you have enabled Wireless Security, make sure you write down the Key or Passphrase that you have configured. You will need to enter this information on any wireless device that you connect to your wireless network.

Wi-Fi Protected Setup provides a more intuitive way of setting up wireless security between the AP and

Wireless Setup

5 GHz

Wireless Type: Select **Infrastructure** or **Ad-Hoc** from the drop-down menu.

Wireless Network Name: When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Invisible, see below). This name is also referred to as the SSID. For security purposes, it is highly recommended to change from the pre-configured network name.

Wireless Band: Displays 5 GHz.

Wireless Mode: Choose the wireless mode you would like to use.

Wireless Channel: The Auto Channel Scan setting can be selected to allow the DAP-1533 to choose the channel with the least amount of interference.

Channel Width: Select the Channel Width:

Auto 20/40 - A feature that enables Wi-Fi CERTIFIED n products that operate with 40 MHz channels in the 2.4 GHz frequency band to sense other Wi-Fi devices in the channel and coordinate a switch to the default mode of 20 MHz channels. Wi-Fi CERTIFIED n devices that support 40 MHz channels in 2.4GHz must include support for this optional feature.

40MHz - A mode of operation in which two "channels," or paths on which data can travel, are combined to increase performance in some environments. In the 2.4 GHz frequency band, Wi-Fi CERTIFIED n products are configured to operate using 20 MHz channels by default, and must employ coexistence mechanisms to help ensure that the device defaults to 20 MHz operation when sharing the frequency with other Wi-Fi networks. In the 5 GHz frequency band, interference is not an issue, so coexistence mechanisms are not required.

D-Link

DAP-1533 // Bridge

SETUP ADVANCED MAINTENANCE STATUS HELP

SETUP WIZARD
WIRELESS SETUP
LAN SETUP

WIRELESS

Use this section to configure the wireless settings for your D-Link Access Point. Please note that changes made on this section may also need to be duplicated on your wireless clients and PC.

Save Settings Don't Save Settings

WIRELESS NETWORK SETTINGS

Wireless Type: Infrastructure Site Survey

Wireless Network Name : dlink (Also called the SSID)

Band : 5 GHz

Wireless Mode : Mixed 802.11n and 802.11a

Wireless Channel : 36

Channel Width : Auto 20/40 MHz

WIRELESS MAC CLONE

Enable: ☐

MAC Source: Auto

MAC Address:

Scan

Helpful Hints...

Changing your Wireless Network Name is the first step in securing your wireless network. Change it to a familiar name that does not contain any personal information.

If you have enabled Wireless Security, make sure you write down the Key or Passphrase that you have configured. You will need to enter this information on any wireless device that you connect to your wireless network.

Wi-Fi Protected Setup provides a more intuitive way of setting up wireless security between the AP and the wireless client. Make sure the wireless

Wireless MAC Clone: This feature allows you to clone the wireless MAC address to connect the device.

Enable: Select to enable Wireless Mac Clone.

MAC Address: Enter the desired MAC address connected to your bridge to enable the clone function.

LAN Settings

Static

This section will allow you to change the local network settings of the bridge and to configure the Static settings.

Device Name: Enter the Device Name of the AP and click **Next** to continue. It is recommended to change the Device Name if there is more than one D-Link device within the subnet.

LAN Connection Use the drop-down menu to select **Static IP** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. Select **Dynamic IP (DHCP)** to automatically assign an IP address to the computers on the LAN/private network.

IPv4 Address: Enter the IPv4 address assigned by your ISP.

Subnet Mask: Enter the Subnet Mask assigned by your ISP.

Default Gateway: Enter the Gateway assigned by your ISP.

Primary DNS Server: Enter the primary DNS server IP address.

Secondary DNS Server: Enter the secondary DNS server IP address.

My IPv6 Connection: Select the mode you would like the router to use to connect to the IPv6 Internet from the drop-down menu.

D-Link

DAP-1533 // Bridge

SETUP ADVANCED MAINTENANCE STATUS HELP

SETUP WIZARD
WIRELESS SETUP
LAN SETUP

NETWORK SETTINGS

Use this section to configure the internal network settings of your AP. Device Name allows you to configure this device more easily when your network using TCP/IP protocol. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. Recommend to change the device name if there're more than one D-Link devices within the subnet.

Save Settings Don't Save Settings

DEVICE NAME

Device Name allows you to configure this device more easily. You can enter "http://device name" into your web browser instead of IP address for configuration. (Default: http://dlinkap)

Device Name : dlinkap

LAN IPv4 CONNECTION TYPE

Choose the IPv4 mode to be used by the Access Point.

My LAN Connection is : Static IP

STATIC IP ADDRESS LAN CONNECTION TYPE

Enter the static address information

IP Address : 192.168.0.50
Subnet Mask : 255.255.255.0
Gateway Address : 0.0.0.0
Primary DNS Server : 0.0.0.0
Secondary DNS Server : 0.0.0.0

LAN IPv6 CONNECTION TYPE

Choose the IPv6 mode to be used by the Access Point.

My IPv6 Connection is : Link-local only

LAN IPv6 ADDRESS SETTINGS

Use this section to configure the internal network settings of your AP. The LAN IPv6 Link-Local Address is the IPv6 Address that you use to access the web-based management interface.

LAN IPv6 Link-Local Address : FE80::218:E7FF:FE95:5E7C/64

WIRELESS

Helpful Hints...

Device Name: Device Name allows you to configure this device more easily when your network using TCP/IP protocol. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. Recommend to change the device name if there're more than one D-Link devices within the subnet.

LAN Settings: Also referred as private settings. LAN settings allow you to configure LAN interface of DAP-1533. LAN IP address is private to your internal network and is not visible to Internet. The factory default setting is Dynamic IP (DHCP).

Dynamic

LAN Connection Type: Select DHCP to automatically obtain an IP address on the LAN/private network.

NETWORK SETTINGS

Use this section to configure the internal network settings of your AP. Device Name allows you to configure this device more easily when your network using TCP/IP protocol. You can enter the device name of the AP into your web browser to access the instead of IP address for configuration. Recommend to change the device name if there're more than one D-Link devices within the subnet.

DEVICE NAME

Device Name allows you to configure this device more easily. You can enter "**http://device name**" into your web browser instead of IP address for configuration. (Default: http://dlinkap)

Device Name :

LAN IPV4 CONNECTION TYPE

Choose the IPv4 mode to be used by the Access Point.

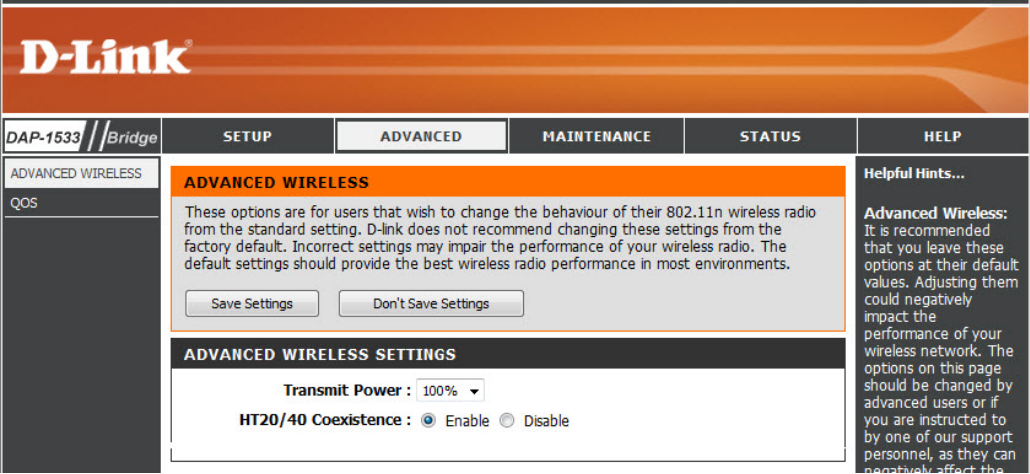
My LAN Connection is :

Advanced

Advanced Wireless

This section allows users to change the LAN Settings. We do not recommend changing these settings from the factory default.

HT20/40 Coexistence: You may choose to Enable or Disable this feature. Enabling this feature allows two “channels,” or paths on which data can travel to be combined to increase performance in some environments.



QoS

The Quality of Service (QoS) feature regulates the flow of data through the access point by assigning a priority to each packet. It enhances your experience of wireless network usage by prioritizing the traffic of different applications. Enabling this option allows the AP to prioritize traffic.

Enable QoS: Enable this option if you want QoS to prioritize your traffic.

Priority by LAN Port: There are four priority levels for all LAN ports. The priority level values assigned are LAN Port 1 for Background, LAN Port 2 for Best Effort, LAN Port 3 for Video, and LAN Port 4 for Voice (Voice is the highest level and Background is the lowest level) at a normal priority. Select from the drop-down options.

The screenshot shows the D-Link configuration interface for a DAP-1533 Bridge. The top navigation bar includes tabs for SETUP, ADVANCED (selected), MAINTENANCE, STATUS, and HELP. The left sidebar shows 'ADVANCED WIRELESS' and 'QoS' (selected). The main content area is titled 'QoS' and contains the following sections:

- QoS Description:** A text box explaining that QoS stands for Quality of Service for Wireless Intelligent Stream Handling, a technology developed to enhance the experience of using a wireless network by prioritizing the traffic of different applications. The DAP-1533 supports four priority levels. Below this text are two buttons: 'Save Settings' and 'Don't Save Settings'.
- ENABLE QoS:** A section with the label 'Enable QoS : ' followed by an unchecked checkbox.
- PORT PRIORITY:** A section with four rows, each representing a LAN port. Each row has a label (Lan Port 1, 2, 3, 4) followed by a dropdown menu. All four dropdown menus are currently set to 'Voice'.

The bottom of the page features a 'WIRELESS' tab.

Maintenance Admin

This page will allow you to change the Administrator password. Admin has read/write access.

Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

Verify Password: Enter the same password that you entered in the previous textbox in order to confirm its accuracy.

D-Link

DAP-1533 // Bridge

SETUP ADVANCED **MAINTENANCE** STATUS HELP

ADMIN **SYSTEM** FIRMWARE TIME

ADMINISTRATOR SETTINGS

Enter the new password in the "New Password" field and again in the next field to confirm. Click on "Save Settings" to execute the password change. The Password is case-sensitive, and can be made up of any keyboard characters. The new password must be between 0 and 15 characters in length.

Save Settings Don't Save Settings

PASSWORD

Please enter the same password into both boxes, for confirmation.

Password :

Verify Password :

ADMINISTRATION

Enable Graphical Authentication : ☐

Helpful Hints...

Passwords:
For security reasons, it is recommended that you change the Password for the Administrator accounts. Be sure to write down the Passwords to avoid having to reset the AP in the event that they are forgotten.

System

Save Settings To Local Hard Drive: Use this option to save the current access point configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

Load From Local Hard Drive: Use this option to load previously saved access point configuration settings. First, use the Browse control to find a previously save file of configuration settings. Then, click the **Load** button to transfer those settings to the access point.

Restore To Factory Default: This option will restore all configuration settings back to the settings that were in effect at the time the access point was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current access point configuration settings, use the **Save** button above.

Reboot The Device: Click to reboot the bridge.

Product Page: DAP-1533 Hardware Version: A1 Firmware Version: 1.00

D-Link

DAP-1533 // Bridge

SETUP ADVANCED MAINTENANCE STATUS HELP

ADMIN
SYSTEM
FIRMWARE
TIME

SAVE AND RESTORE

The current system settings can be saved as a file onto the local hard drive. You can upload any save settings file that was created by the DAP-1533.

SAVE AND RESTORE

Save Settings To Local Hard Drive:

Load Settings From Local Hard Drive:

Restore To Factory Default Settings:

Reboots The Device:

Helpful Hints...

Saving System Settings:
Once your Access Point is configured the way you want it, you can save these settings to a configuration file that can later be loaded in the event that the AP's default settings are restored. To do this, click the Save button next to where it says Save Settings to Local Hard Drive.

Firmware

You can upgrade the firmware of the access point here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from the D-Link support site.

Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

Upload: Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the bridge.

Language Pack

You can change the language of the web UI by uploading available language packs.

Browse: After you have downloaded the new language pack, click **Browse** to locate the language pack file on your hard drive. Click **Upload** to complete the language pack upgrade.

The screenshot shows the D-Link DAP-1533 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar has links for ADMIN, SYSTEM, FIRMWARE, and TIME. The main content area is divided into several sections:

- FIRMWARE:** Contains a message about new firmware for DAP-1533, a link to check for updates, and instructions on how to upgrade. It also includes a warning: "Do not update firmware through wireless network!!".
- FIRMWARE INFORMATION:** Displays the current firmware version (1.00), date (Mon, 22 Aug 2011), and current language pack version (No Language Pack). It includes a "Remove Language Pack" button and a "Check Online Now for Latest Firmware Version" button.
- FIRMWARE UPGRADE:** Contains a note about factory defaults and instructions for upgrading. It includes an "Upload" button and a "Browse..." button.
- LANGUAGE PACK UPGRADE:** Includes an "Upload" button and a "Browse..." button.

The bottom of the interface shows the "WIRELESS" section.

Time

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in. Daylight Saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

Enable Daylight Saving: To select Daylight Saving time manually, click the Enable Daylight Saving check box. Next use the drop down menu to select a Daylight Saving Offset and then enter a start date and an end date for daylight saving time.

Automatic Time Configuration: Click the check box to enable the device to automatically synchronize with a D-Link NTP Server. NTP stands for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Enter the NTP server or select one from the drop down menu.

Set the date and time manually: To manually input the time, enter the values in these fields for the Year, Month, Day, Hour, Minute, and Second and then click **Save Settings**. You can also click the **Copy Your Computer's Time Settings** button at the bottom of the screen.

D-Link

DAP-1533 // Bridge

SETUP ADVANCED MAINTENANCE STATUS HELP

ADMIN
SYSTEM
FIRMWARE
TIME

TIME

The Time Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the NTP (Network Time Protocol) Server. Daylight Saving can also be configured to adjust the time when needed.

Save Settings Don't Save Settings

TIME CONFIGURATION

Time : Tuesday, July 19, 2011 2:41:09 AM
Time Zone : (GMT-08:00) Pacific Time (US/Canada), Tijuana

Enable Daylight Saving : ☐
Daylight Saving Offset : +1:00

Month Week Day of Week Time
Daylight Saving Dates : DST Start Mar 3rd Sun 1 am
DST End Nov 2nd Sun 1 am

AUTOMATIC TIME CONFIGURATION

Enable NTP Server : ☐
NTP Server Used : << Select NTP Server

SET THE DATE AND TIME MANUALLY

Date And Time : Year 2011 Month Jan Day 19
Hour 02 Minute 41 Second 04 AM
Copy Your Computer's Time Settings

WIRELESS

Helpful Hints...

System Time Settings:
This section allows admins to configure, update, and maintain the correct time on the Access Point's internal system clock.

Status

Device Info

This page displays the current information for the DAP-1533. It will display the LAN and wireless LAN information.

General: Displays the access point's time and firmware version.

LAN:

Displays the MAC address and the private (local) IP settings for the access point.

Wireless LAN:

Displays the wireless MAC address and your wireless settings such as SSID and Channel.

D-Link	
DAP-1533 // Bridge	STATUS
DEVICE INFO LOGS STATISTICS	DEVICE INFORMATION All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here. GENERAL Time : Tuesday, July 19, 2011 2:41:51 AM Firmware Version : 1.00 , 22, Jul, 2011 LAN MAC Address : 00:18:E7:95:5E:7C Connection : Dynamic IP IP Address : 192.168.0.101 Subnet Mask : 255.255.255.0 Gateway Address : 192.168.0.1 WIRELESS LAN MAC Address : 00:18:E7:95:5E:7C Network Name (SSID) : dlink Channel : 4 Security Mode : Disable
	Helpful Hints... All of your LAN and Wireless connection details are displayed here.

WIRELESS

Logs

The access point automatically logs (records) events of possible interest in its internal memory. If there isn't enough internal memory for all events, logs of older events are deleted, but logs of the latest events are retained. The Logs option allows you to view the access point logs. You can define what types of events you want to view and the level of the events to view. This access point also has external Syslog Server support so you can send the log files to a computer on your network that is running a Syslog utility.

Log Options: There are two types of logs that can be viewed: **System Activity, Debug Information, Attacks, Dropped Packets** and **Notice**.

Apply Log Settings now: Click to apply the log type settings you chose.

First Page: Click to view the first page.

Last Page: Click to view the last page.

Previous: Click to view the previous page.

Next: Click to view the next page.

Clear: Delete all of the log content.

Save Log: Click the **Save** button to save the access point log file to your computer.

Refresh: Click to refresh the information on this page.

The screenshot shows the D-Link DAP-1533 Bridge web interface. The top navigation bar includes tabs for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for DEVICE INFO, LOGS, and STATISTICS. The main content area is titled 'LOGS' and includes a description: 'Use this option to view the device logs. You can define what types of events you want to view and the event levels to view.'

The 'LOG OPTIONS' section contains checkboxes for Log Type: ☒ System Activity, ☐ Debug Information, ☒ Attacks, ☐ Dropped Packets, and ☒ Notice. An 'Apply Log Settings Now' button is located below these options.

The 'LOG DETAILS' section features navigation buttons: First Page, Last Page, Previous, Next, Clear, and Save Log. A Refresh button is also present. Below the buttons, the log entries are displayed in a table with columns for Time and Message.

Time	Message
Jul 19 02:15:12	klogd started: BusyBox v1.01 (2011.07.14-09:06+0000)
Jul 19 02:15:04	Lease of 192.168.0.101 obtained, lease time 604800
Jul 19 02:15:04	Sending discover...
Jul 19 02:15:02	Sending discover...

A 'Helpful Hints...' section on the right side of the interface suggests checking the log frequently to detect unauthorized network usage.

Statistics

The Statistics page displays all of the LAN and Wireless packets transmit and receive statistics.

TX Packets: The total number of packets sent from the access point.

RX Packets: The total number of packets received by the access point.

TX Packets Dropped: Displays the number of packets that were dropped while sending, due to errors, collisions, or access point resource limitations.

RX Packets Dropped: Displays the number of packets that were dropped while receiving, due to errors, collisions, or access point resource limitations.

TX Bytes: Displays the number of bytes that were sent from the access point.

RX Bytes: Displays the number of bytes that were received by the access point.

The screenshot shows the D-Link DAP-1533 Bridge web interface. The top navigation bar includes links for SETUP, ADVANCED, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for DEVICE INFO, LOGS, and STATISTICS. The main content area is titled 'TRAFFIC STATISTICS' and includes a description: 'Traffic Statistics display Receive and Transmit packets passing through your router.' Below this are two buttons: 'Refresh Statistics' and 'Clear Statistics'. The 'LAN STATISTICS' section shows the following data:


Sent :	10841	Received :	7168
TX Packets Dropped :	0	RX Packets Dropped :	0
Collisions :	0	Errors :	0

The 'WIRELESS STATISTICS' section shows the following data:

Sent :	6369	Received :	0
TX Packets Dropped :	0	RX Packets Dropped :	0
Collisions :	0	Errors :	0

On the right side of the interface, there is a 'Helpful Hints...' section with the text: 'This is a summary of the number of packets that have passed between the Wireless and the LAN since the Access Point was last initialized.'

Help



DAP-1533 // Bridge

SETUP

ADVANCED

MAINTENANCE

STATUS

HELP

MENU

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STATUS

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WIRELESS

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DAP-1533 offers the following types of security:

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

What is WPA?

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

The 2 major improvements over WEP:

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

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

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

Configure WPA/WPA2

It is recommended to enable encryption on your wireless access point before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the access point (192.168.0.50). Click on Setup and then click **Wireless Settings** on the left side.
2. Next to *Security Mode* section, select **Enable WPA Wireless Security (enhanced)** from the drop-down menu.
3. Next to *Cipher Type*, select **TKIP**, **AES**, or **Auto (TKIP/AES)**.
4. Next to *PSK/EAP*, select either **PSK** or **EAP**.
5. Next to *Network Key*, enter a key. The key is entered as a passphrase in ASCII format at both ends of the wireless connection. The passphrase must be between 8-63 characters.
6. Click **Save Settings** at the top of the window to save your settings. If you are configuring the access point with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the access point.

WIRELESS SECURITY MODE	
Security Mode :	Enable WPA Wireless Security (enhanced)
WPA/WPA2	
WPA/WPA2 requires stations to use high grade encryption and authentication.	
Cipher Type :	AUTO(TKIP/AES)
PSK / EAP :	PSK
Network Key :	<input type="text"/>
	(8~63 ASCII or 64 HEX)
WI-FI PROTECTED SETUP	
Enable :	<input checked="" type="checkbox"/>
WiFi Protected Setup :	Enabled / Not configured
	<input type="button" value="Reset to Unconfigured"/>
PIN :	17616478
	<input type="button" value="Reset PIN to Default"/> <input type="button" value="Generate New PIN"/>
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>	

Connect to a Wireless Network Using Windows® 7

It is recommended to enable wireless security (WPA/WPA2) on your 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).



Wireless Icon

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

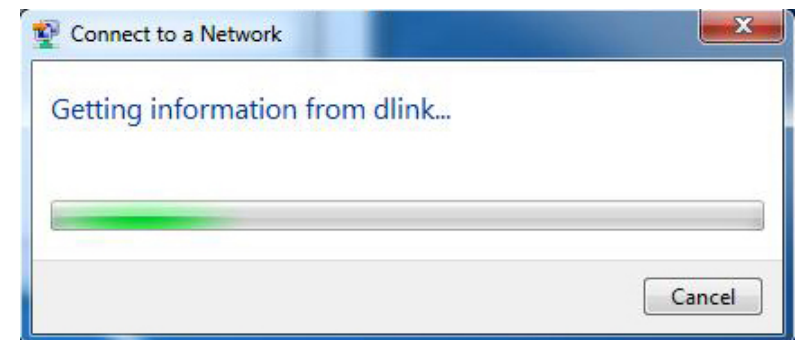


3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

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.

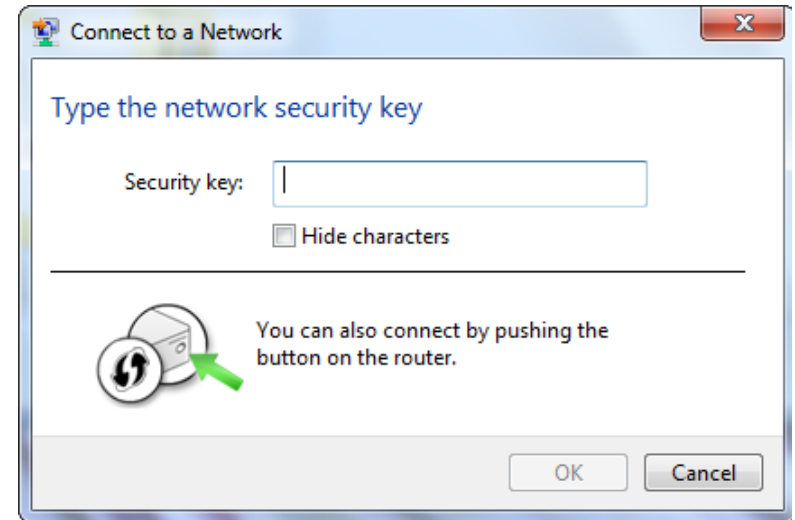


4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase that is on your access point 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.



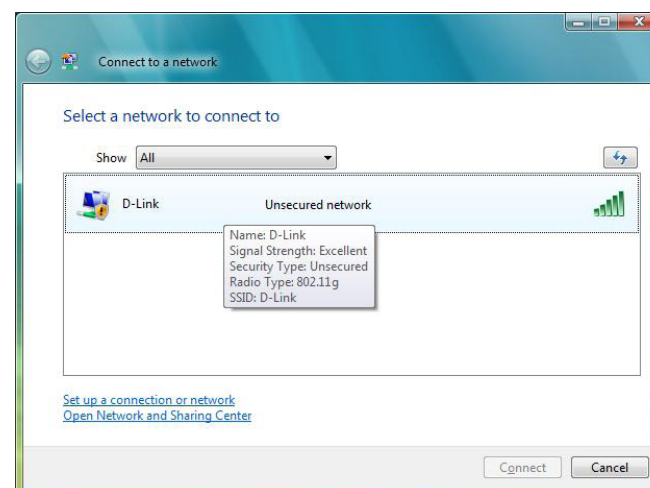
Connect to a Wireless Network Using Windows Vista®

Windows Vista® users may use the convenient, built-in wireless utility. Follow these instructions:

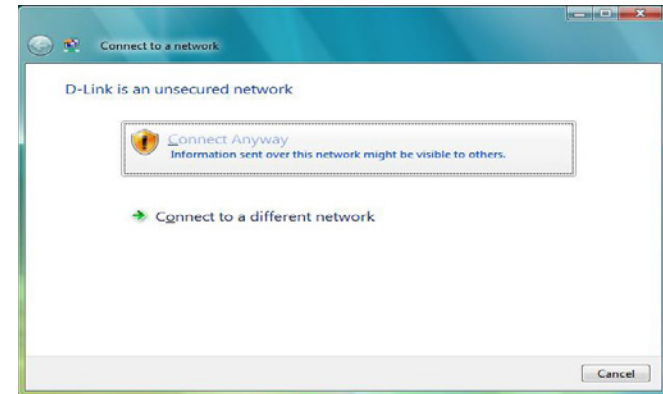
From the Start menu, go to Control Panel, and then click on **Network and Sharing Center**.



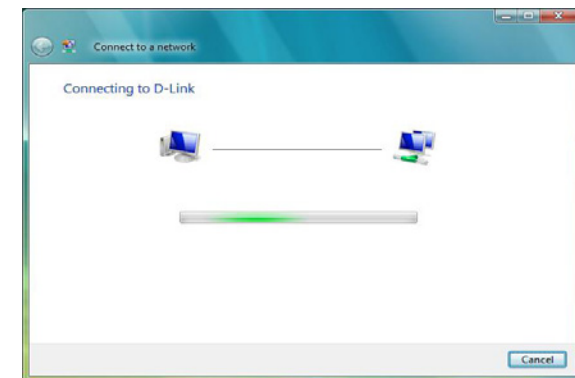
The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) under Select a network to connect to and then click the **Connect** button.



Click **Connect Anyway** to continue.

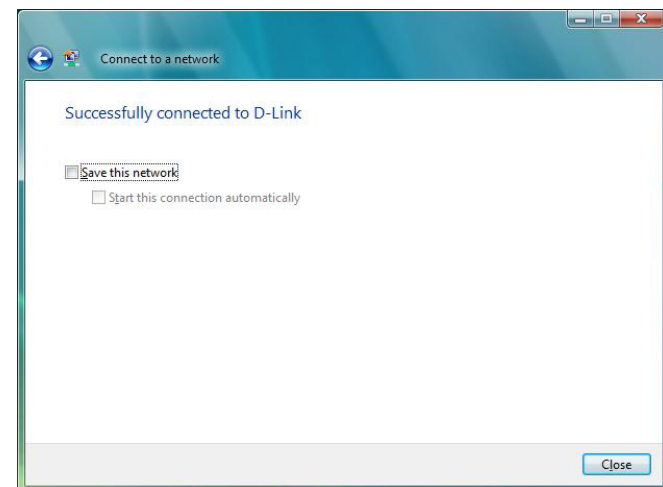


The utility will display the following window to indicate a connection is being made.



The final window indicates the establishment of a successful connection.

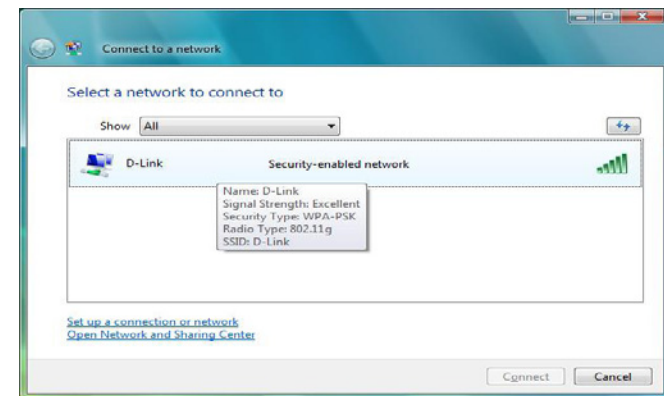
The next two pages display the windows used to connect to either a WEP or a WPA-PSK wireless network.



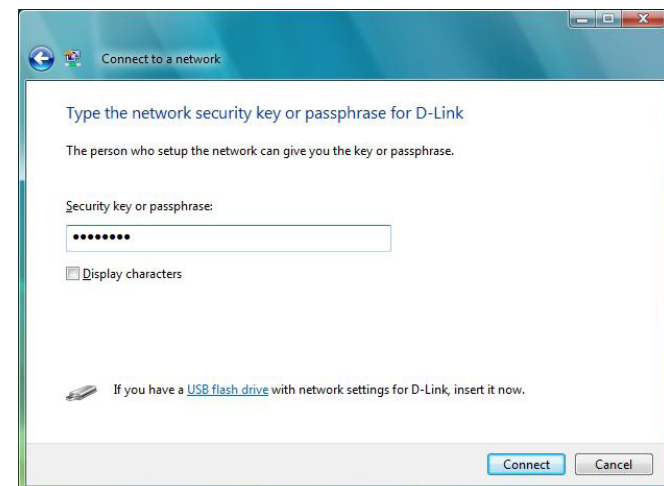
Configure Security

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

Select a network to connect to and then click the **Connect** button.



Enter the appropriate security key or passphrase in the field provided and then click the **Connect** button.



Connect to a Wireless Network

Using Windows® XP

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

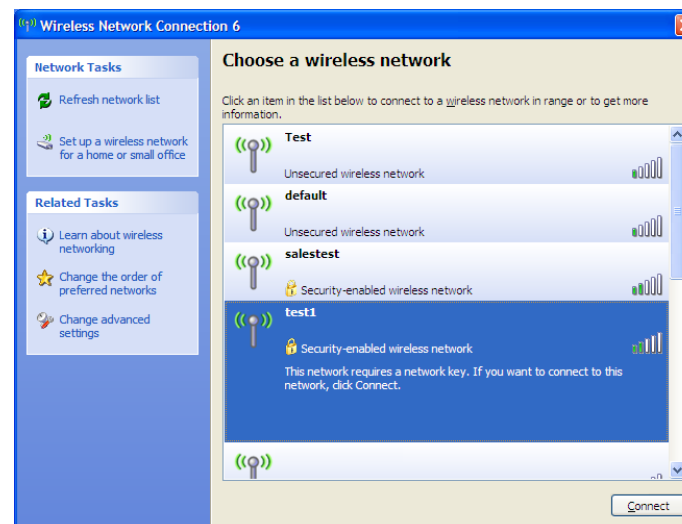
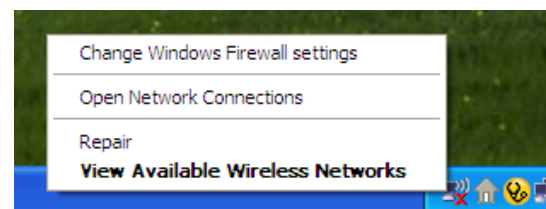
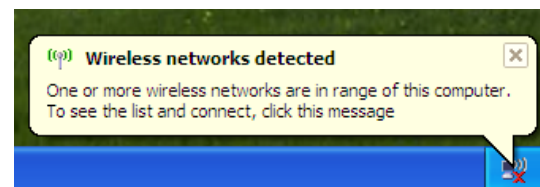
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

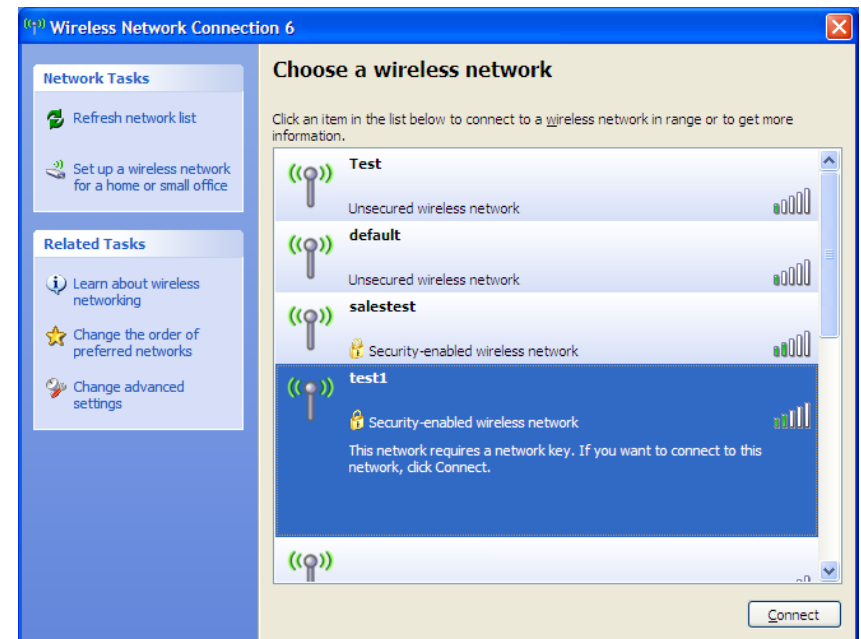
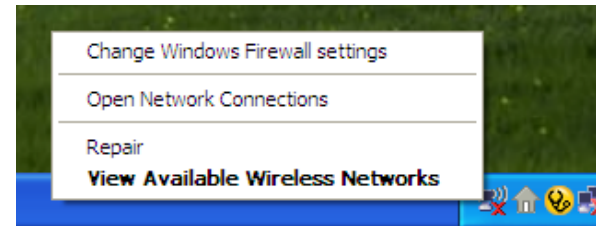
If you get a good signal, but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



Configure Security

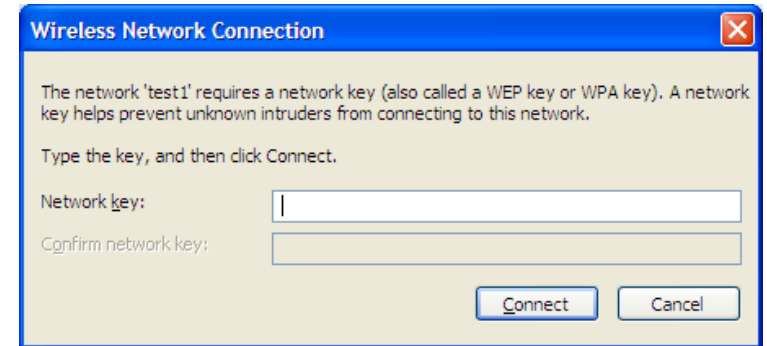
It is recommended to enable wireless security on your wireless bridge or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key being used.

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 security passphrase 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 WPA-PSK passphrase must be exactly the same as on the wireless access point.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-1533. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. Why can't I access the web-based configuration utility?

When entering the IP address of the D-Link access point (192.168.0.50 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Microsoft Internet Explorer 6.0 and higher
 - Mozilla Firefox 3.0 and higher
 - Google Chrome 2.0 and higher
 - Apple Safari 3.0 and higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
 - Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** icon. From the Security tab, click the button to restore the settings to their defaults.
 - Click the Connection tab and set the dial-up option to Never Dial a Connection. Click the **LAN Settings** button. Make sure nothing is checked. Click **OK**.
 - Go to the Advanced tab and click the button to restore these settings to their defaults. Click **OK** three times.
 - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link access point in the address bar. This should open the login page for your the web management.
- If you still cannot access the configuration, unplug the power to the access point for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your access point. Unfortunately this process will change all your settings back to the factory defaults.

To reset the access point, locate the reset button (hole) on the rear panel of the unit. With the access point powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the access point will go through its reboot process. Wait about 30 seconds to access the access point. The default IP address is 192.168.0.50. When logging in, the username is admin and leave the password box empty.

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 Access point 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.

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 as seen in the picture, 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, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, 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 office
- Remotely access your office network from home
- Share 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 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 Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is 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 access point or Access Point

Make sure you place the bridge/access point in a centralized location within your network for the best performance. Try to place the bridge/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, wireless speakers, and televisions as far away as possible from the bridge/access point. This would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the access point. Refer to product manual for detail 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 bridge.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more wireless network Cardbus adapters.

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

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus 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 adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

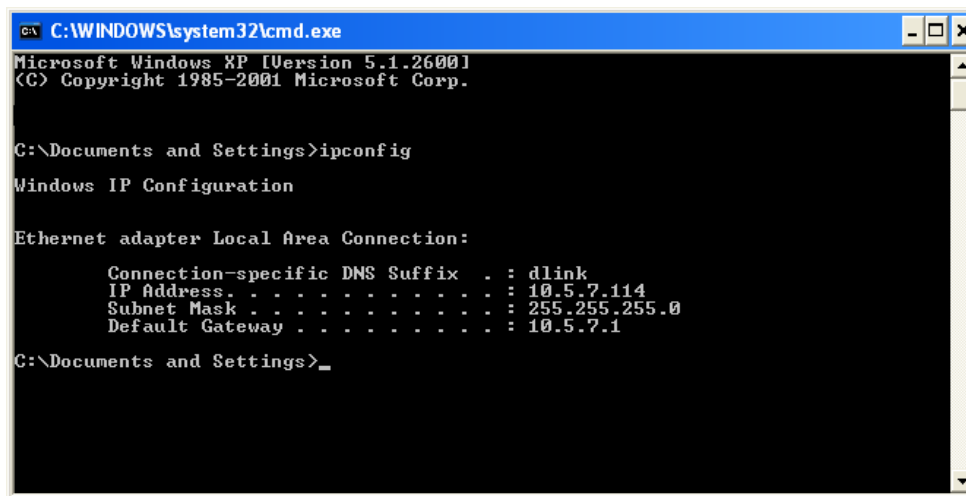
Click on **Start > Run**. In the run box type **cmd** and click **OK**. (Windows® 7/Vista® users type **cmd** in the **Start Search** box.)

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

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

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600.1]
(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>
```

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:

Step 1

Windows® 7 - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center**.

Windows Vista® - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

Windows® XP - Click on **Start > Control Panel > Network Connections**.

Windows® 2000 - From the desktop, right-click **My Network Places > Properties**.

Step 2

Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties**.

Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

Step 4

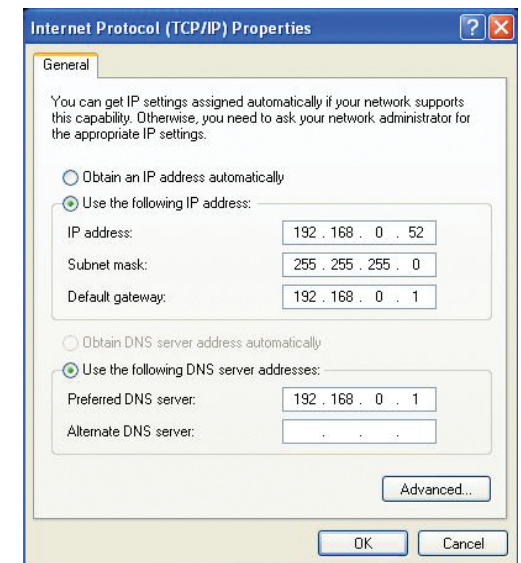
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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 (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

Step 5

Click **OK** twice to save your settings.



Technical Specifications

Standards

- IEEE 802.11n
- IEEE 802.11a
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u

Security

- WPA-Personal
- WPA2-Personal

Wireless Signal Rates¹

IEEE 802.11n 2.4GHz(HT20/40):

- | | |
|-------------------|-------------------|
| • 216Mbps (450) | • 195Mbps (405) |
| • 173.3Mbps (360) | • 144.4Mbps (300) |
| • 130.7Mbps (270) | • 130Mbps (270) |
| • 144.4Mbps (300) | • 130Mbps (270) |
| • 115.6Mbps (240) | • 86.7Mbps (180) |
| • 72.2Mbps (150) | • 65Mbps (135) |
| • 57.8Mbps (120) | • 43.3Mbps (90) |
| • 28.9Mbps (60) | • 21.7Mbps (45) |
| • 14.4Mbps (30) | • 7.2Mbps (15) |

IEEE 802.11n 5GHz(HT20/40):

- | | |
|-------------------|-------------------|
| • 216Mbps (450) | • 195Mbps (405) |
| • 173.3Mbps (360) | • 144.4Mbps (300) |
| • 130.7Mbps (270) | • 130Mbps (270) |
| • 115.6Mbps (240) | • 86.7Mbps (180) |
| • 72.2Mbps (150) | • 65Mbps (135) |
| • 57.8Mbps (120) | • 43.3Mbps (90) |
| • 28.9Mbps (60) | • 21.7Mbps (45) |
| • 14.4Mbps (30) | • 7.2Mbps (15) |

Maximum Operating Voltage

- 5V

Maximum Operating Current

- 725 mA

Modulation

- 11b: DQPSK, DBPSK and CCK
- 11a/g: BPSK, QPSK, 16QAM, 64QAM, OFDM
- 11n: BPSK, QPSK, 16QAM, 64QAM, OFDM, MCS

Frequency Range²

- 2.4GHz to 2.483GHz • 5.15GHz~5.825GHz³

LEDs

- Power
- Bridge
- AP

Operating Temperature

- 32°F to 104°F (0°C to 40°C)

Humidity

- 90% maximum (non-condensing)

Safety & Emissions

- FCC
- IC
- CE

Dimensions

- L = 5.75 inches
- W = 4.5 inches
- H = 1.25 inches

¹Maximum wireless signal rate derived from IEEE Standard 802.11g, 802.11a 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, lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

²Range varies depending on country's regulation.

³The DAP-1533 doesn't include 5.25-5.35GHz & 5.47~5.725GHz.

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<http://tsd.dlink.com.tw/GPL.asp>

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Please direct all inquiries to:
Email: GPLCODE@DLink.com
Snail Mail:
Attn: GPLSOURCE REQUEST
D-Link Systems, Inc.
17595 Mt. Herrmann Street

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(1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

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

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

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

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

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.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

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

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

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 interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the EIRP is not more than required for successful communication.

Caution:

The device for the band 5.150-5.250 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 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

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