D-Link

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User Manual

AC1200 Wi-Fi Range Extender

DAP-1620

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
1.00	August 19, 2015	• Initial release

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Copyright © 2015 by D-Link Corporation. All rights reserved. This publication may not be reproduced, in whole or in part, without prior expressed written permission from D-Link Corporation. The purpose of this product is to create a constant network connection for your devices. As such, it does not have a standby mode or use a power management mode. If you wish to power down this product, please simply unplug it from the power outlet.

Power Usage

This device is an Energy Related Product (ErP) with High Network Availability (HiNA), and automatically switches to a power-saving Network Standby mode within 1 minute of no packets being transmitted. If it is not needed during certain periods of time, it can be unplugged to save energy.
Network Standby: 3.54 watts

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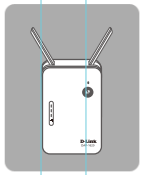
Package Contents



DAP-1620 AC1200 Wi-Fi Range Extender

Wi-Fi Configuration Card

Quick Installation Guide

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

System Requirements

Network Requirements	• A wireless router with an active Internet connection. • IEEE 802.11ac, 802.11n, 802.11g, 802.11b or 802.11a wireless clients/devices
Web-based Configuration Utility Requirements	**A Computer or Mobile Device with the following:** • Windows®, Apple® Mac OS®, or Linux-based operating system • Wireless adapter or Wi-Fi functionality • An Apple® iPhone®, iPod touch®, iPad®, or Android™ mobile device **Browser Requirements:** • Internet Explorer® 9 or later • Firefox® 20.0 or later • Safari® 5.1 or later • Google Chrome™ 25.0 or later

Introduction

Features

Easily Extend Your Existing Network

The DAP-1620 AC1200 Wi-Fi Range Extender lets you easily extend a secure wireless network with a press of a button. Connect the DAP-1620 to a router via Wi-Fi or Ethernet and share your high-speed Internet access in more places throughout your home or small office.

High-speed Wireless Performance With Wireless 802.11ac Technology

Thanks to the latest Wireless N technology, the DAP-1620 provides a wireless connection at up to 1200 Mbps* with other 802.11ac wireless devices. This feature lets you participate in real-time activities online, such as video streaming, online gaming, and real-time audio with smooth performance.

Simple Setup

All it takes is a press of a button to connect compatible WPS devices to the DAP-1620. Its easy-to-use Web UI lets you quickly and easily connect the DAP-1620 to an uplink router, configure the extended wireless network, and manage the administrative settings. The setup wizard will even guide you through the setup process, getting your extended wireless network up and running in no time. Alternatively, connect an Ethernet cable to your existing network infrastructure to quickly and easily create a wireless network.

Compatibility

The DAP-1620 is fully compatible with the IEEE 802.11n/g/b/a and IEEE 802.11ac standards, so you can still use your devices with it.

Latest Wireless Network Security and Encryption

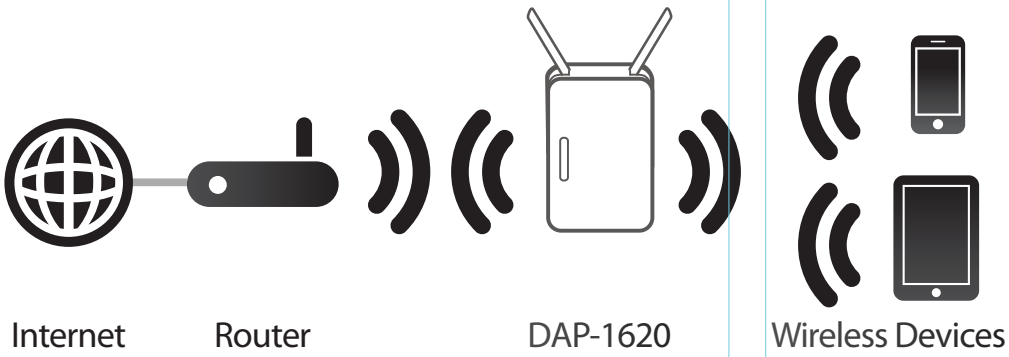
The DAP-1620 supports wireless security features to prevent unauthorized access, be it from over the wireless network or from the Internet. Support for WPA/WPA2 standards ensure that you'll be able to use the best possible encryption methods with your compatible wireless devices.

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

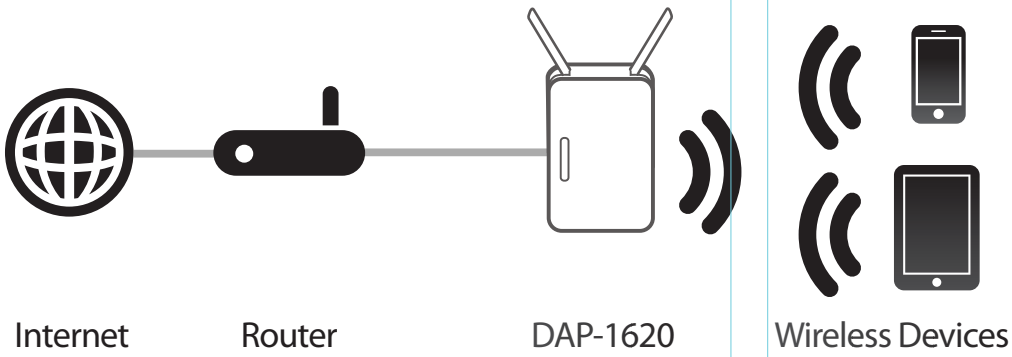
What is a Wireless Extender?

The DAP-1620 acts as a repeater to extend the range of an existing wireless network to provide a better signal for parts of your home or office that may have poor or no reception. Your existing wireless signal will be re-broadcast by the DAP-1620, allowing you to reach the farthest corners of your home or office. The extended network can simply use the same network credentials as the existing network, or you can specify a different network name and password, giving you the flexibility to control network access.

Extend Your Wireless Network using Wi-Fi

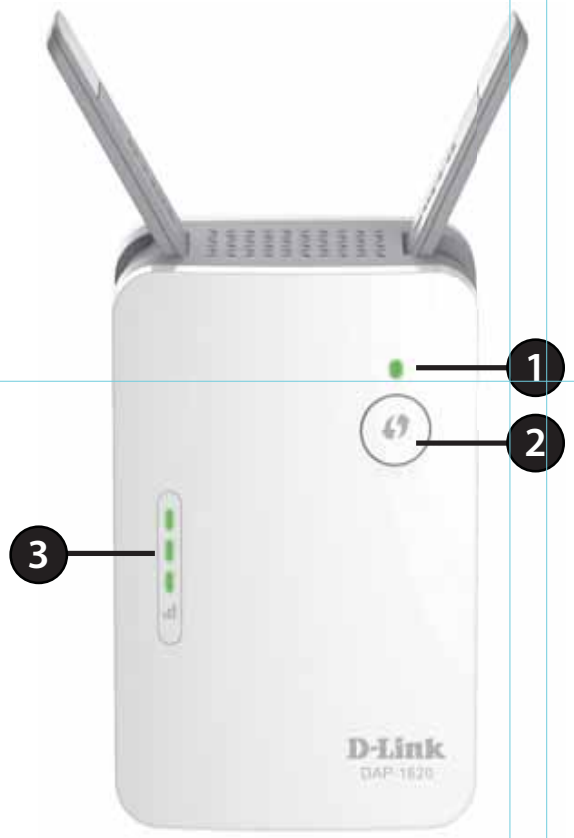


Extend Your Wireless Network using Ethernet



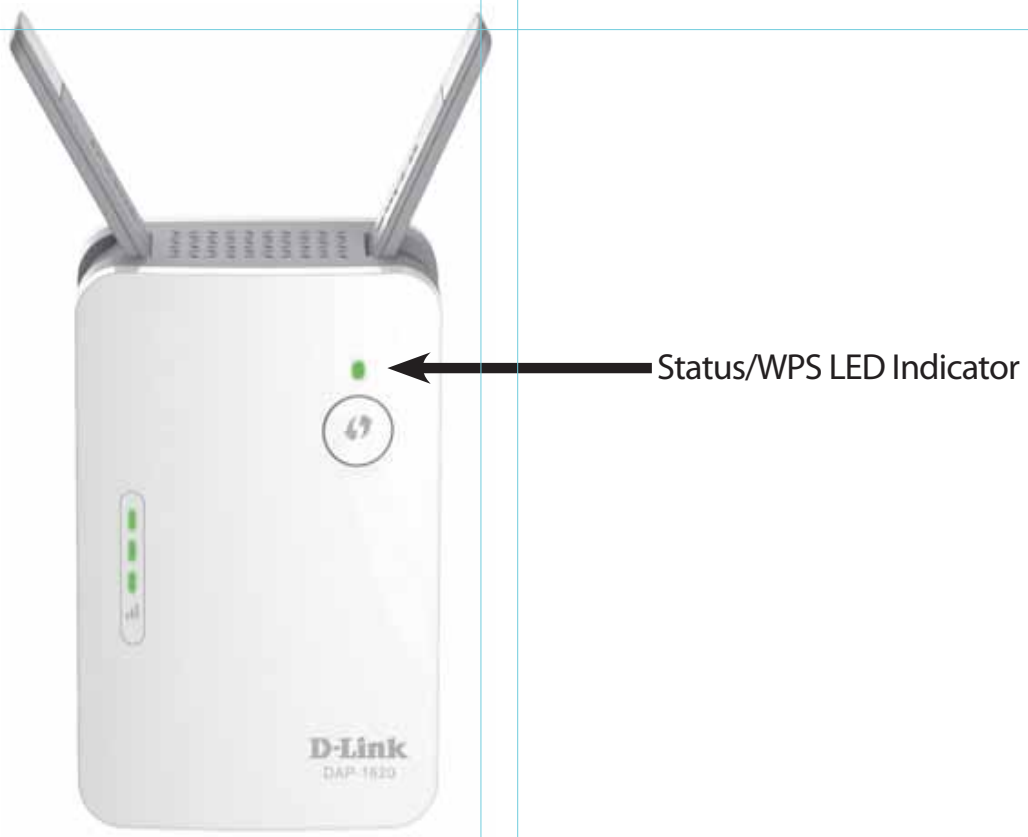
Hardware Overview

Front



1	**Status/WPS LED**	This LED indicates the current status of the DAP-1620, as detailed on the next page.
2	**WPS Button**	Press to establish a connection with another WPS compatible device. See page "WPS Button" on page 42 for more information.
3	**Signal Indicator LED**	The more lit green bars on the Signal Indicator LED, the better the wireless signal to the host network. A single solid amber LED indcates a weak Wi-Fi signal.

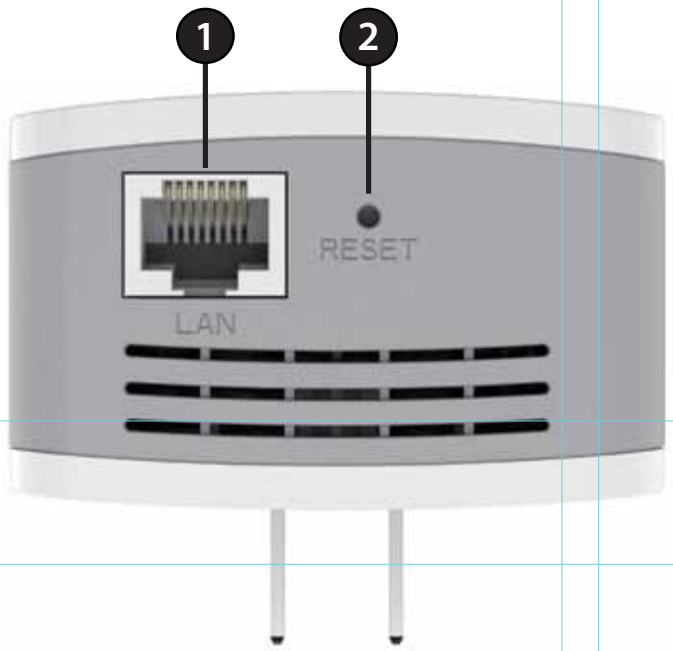
Status/WPS LED Indicator



LED Indicator	Color	Status	Description
Power/Status	Green	Solid	The DAP-1620 is powered on and connected to a host network.
		Blinking	WPS mode is active.
	Red	Solid	The DAP-1620 is powering on or an error has occured.
	Amber	Blinking	The DAP-1620 is not connected to a host network.
	None	Off	Device is not receiving power. Check the power outlet.

Hardware Overview

Bottom



1	**LAN**	Connect an Ethernet cable if adding wireless to wired network.
2	**Reset Button**	Use an unfolded paperclip to press and hold the reset button on the bottom of DAP-1620 for 10 seconds to restore the factory default settings.

Hardware Overview

Back

Locate the Wi-Fi name (SSID) and password for your DAP-1620. This information is printed on the specification sticker on the back of the device. You will need this information to connect your computer or mobile device to the default network (SSID) of your DAP-1620. This information is also provided on the Wi-Fi configuration card.

Installation
Wireless Installation Considerations

The DAP-1620 lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind 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 router 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 (0.5 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.

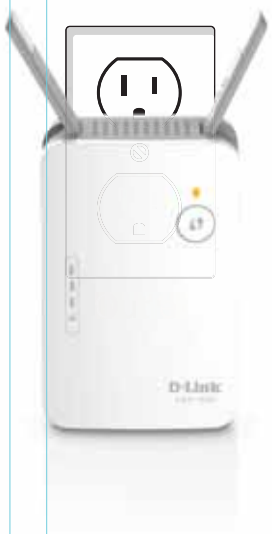
3. Building materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position extenders, access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.

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

5. If you are using 2.4 GHz 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 2.4 GHz 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.

Hardware Setup

Plug in the DAP-1620 to a power outlet. Verify that the power LED is blinking amber before continuing with configuration.



Getting Started

There are several configuration tools you can use to set up your DAP-1620.

- **WPS PBC** - To easily extend an existing wireless network refer to “WPS-PBC Configuration” on page 12 for setup instructions.

- **QRS Mobile App** - Use your Android device or iPhone, iPad, or iPod touch to configure your extender. Refer to “QRS Mobile App Setup” on page 14 for setup instructions.

- **D-Link Setup Wizard** - This wizard will launch when you log into the Extender’s web configuration utility for the first time. Refer to ”Setup Wizard” on page 20 for setup instructions.

- **Manual Setup** - Log into the router and manually configure your router. Refer to “Web-based Configuration” on page 19 for more information on how to manually set up your extender.

WPS-PBC Configuration

NOTE: To connect to a wireless router or AP and extend the Wi-Fi network in your home, please make sure the source router or AP features a WPS Button or has a virtual WPS Button.

Step 1 - Initiate WPS Mode

Wait until the Status/WPS LED is blinking amber. Push the WPS button on the source wireless router or AP, and then push the WPS button on the DAP-1620. The Status/WPS LED will start to flash green. Please allow up to two minutes for the process to finish. The Status/WPS LED will turn solid green when the DAP-1620 has connected successfully to the source wireless router or AP.

Step 2 - Assess Result

If the Signal Indicator LED has a single amber bar after the connection process has finished, the DAP-1620 has established a poor quality connection. To improve the connection quality, the DAP-1620 should be relocated to a wall outlet closer to the source wireless router or AP. The more lit bars on the Signal Indicator LED, the better the wireless signal.

Poor Connection | Ok Connection | Good Connection | Best Connection

Step 3 - Connecting Devices to the DAP-1620

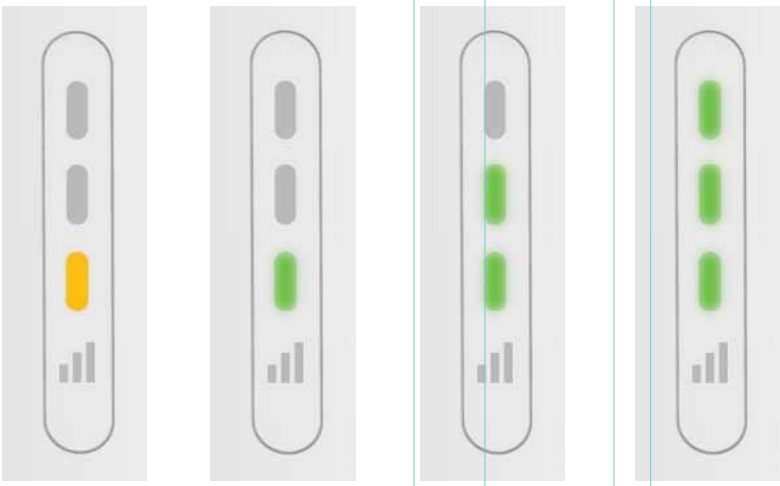
The DAP-1620 is now ready to share the extended Wi-Fi network with your PCs and mobile devices. You may repeat the WPS process or connect to the extension network created by the DAP-1620 using the following network name (SSID):

- 2.4 GHz: **(Your router's SSID)-EXT**
- 5 GHz: **(Your router's SSID)-EXT5G**

Using the 5 GHz extension network is recommended in order to achieve the fastest wireless speeds.

Assessing Your Uplink Signal Strength

The Status/WPS LED will turn solid green when the DAP-1620 has connected successfully to the source wireless router or AP. If the Signal Indicator LED has a single amber bar after the connection process has finished, the DAP-1620 has established a poor quality connection. The more lit bars on the Signal Indicator LED, the better the wireless signal. To improve the connection quality, the DAP-1620 should be relocated closer to the source wireless router. Using the 5 GHz extension network is recommended in order to achieve the fastest wireless speeds.



Poor **Ok** **Good** **Best**

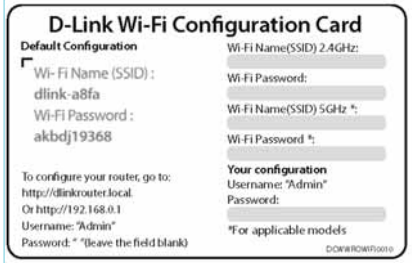
QRS Mobile App Setup

The DAP-1620 can be set up from your iPhone, iPod touch, iPad, or Android smartphone or tablet device using the QRS Mobile app.

Note: The screenshots may be different depending on your mobile device's OS version.

Step 1
Search for the free **QRS Mobile** App on the Apple App Store or Google Play.

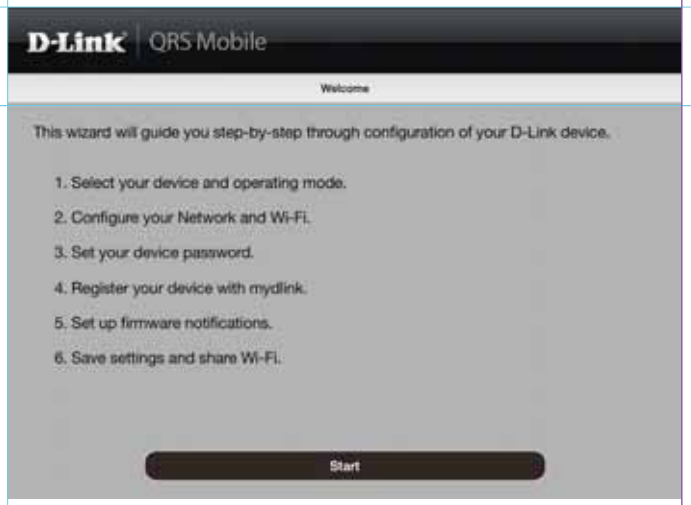
Step 2
Once your app is installed, you may now configure your extender. Connect to the router wirelessly by going to your wireless utility on your device. Scan for the Wi-Fi name (SSID) as listed on the supplied info card. Select and then enter your Wi-Fi password.



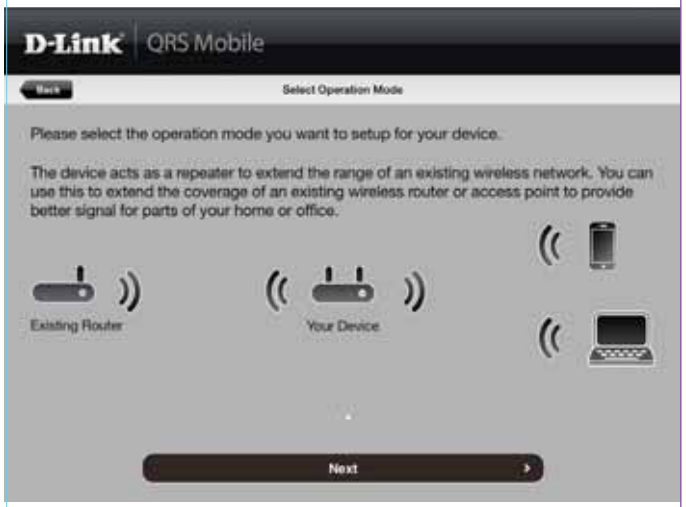
Step 3
Once wirelessly connected to the router, launch the QRS Mobile app from the Home screen of your device.

Note: *The following steps show the iOS interface of the QRS Mobile app. If you are using an Android device, the appearance may be different to that of the screenshots, but the process is the same.*

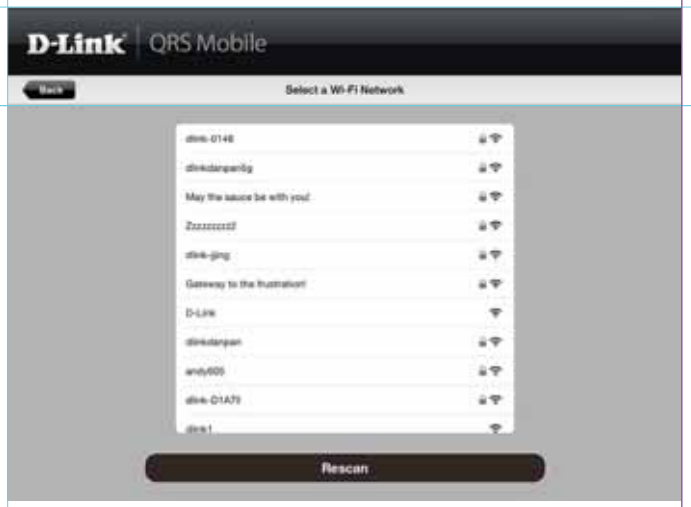
Click **Start** to continue.



Click **Next** to continue.



QRS Mobile will first detect your DAP-1620, then scan for available Wi-Fi networks. Select the network you wish to extend. Tap **Rescan** if your network doesn't show up the first time.

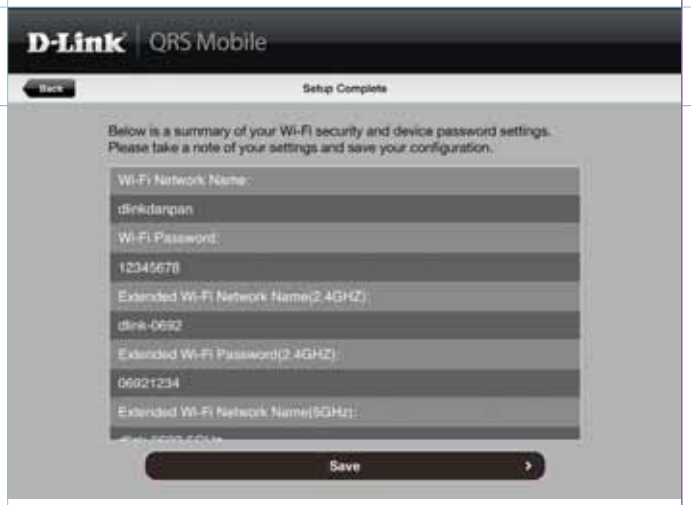


Enter a password for the existing Wi-Fi network. Click **Next** to continue.

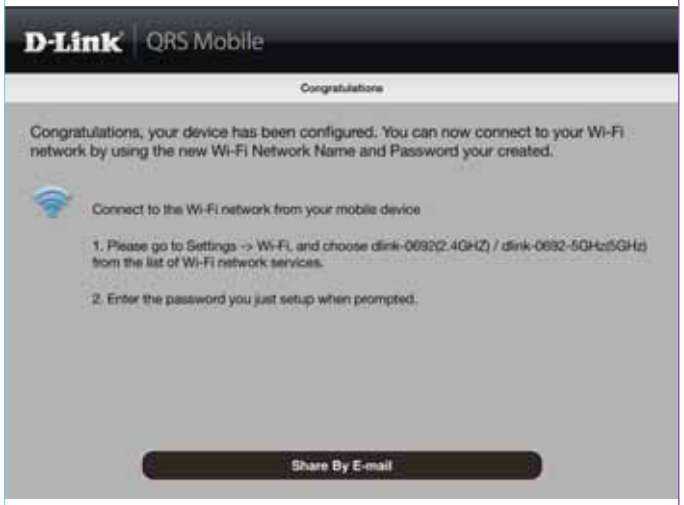
Enter a network name (SSID) and password for the extended Wi-Fi network. Click **Next** to continue.

Create an admin password for the DAP-1620's web-based configuration utility. Click **Next** to continue.

A summary of your settings will be displayed. Click **Save** to reboot the device and to complete the setup.

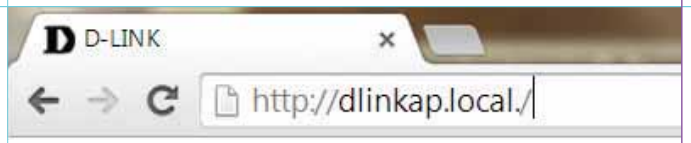


After the setup wizard is complete, the following screen will appear. To connect to the extended network, you can now change your mobile device and laptop Wi-Fi settings to the wireless network name and password you just created. You can also share your Wi-Fi information by clicking **Share by E-mail**.



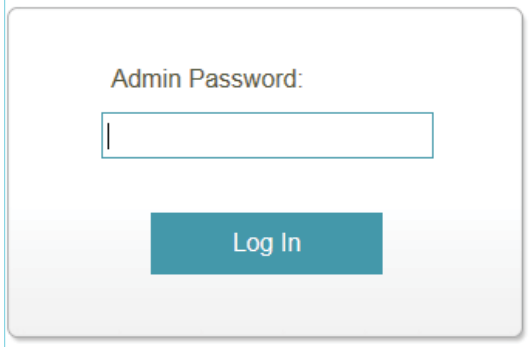
Web-based Configuration

To access the configuration utility for the DAP-1620 AC1200 Wi-Fi Range Extender on your PC, first connect to the DAP-1620 wirelessly using the Wi-Fi name (SSID) and password located on your Wi-Fi Configuration Card. Then open a web browser and enter **http://dlinkap.local./** in your browser's URL field. You may also enter the IP address* of the DAP-1620.



* The default IP address is 192.168.0.50. Once your DAP-1620 connects to your router, it will be assigned a new IP address based on your network's DHCP settings. You will need to log in to your router to see what IP address is assigned to your DAP-1620.
For multiple DAP-1620s, go to **http://dlinkapxxxx.local.** as shown on the included Wi-Fi Configuration Card, with "xxxx" being the last four digits of the DAP-1620's MAC address.

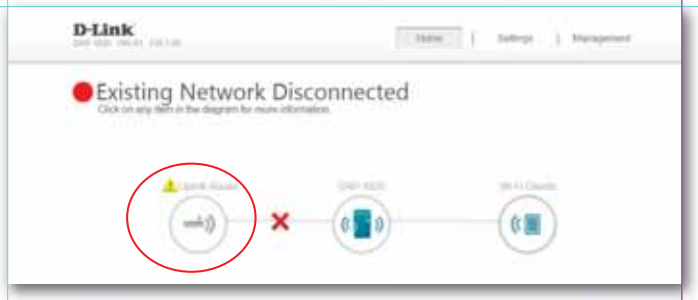
Enter your password. By default, Admin is the username and cannot be changed, and by default, the password is blank.



The configuration interface will open, and you can configure the various settings for the DAP-1620. If you have not yet configured an uplink network, the home screen will show that there is no connection between the DAP-1620 and the uplink router.

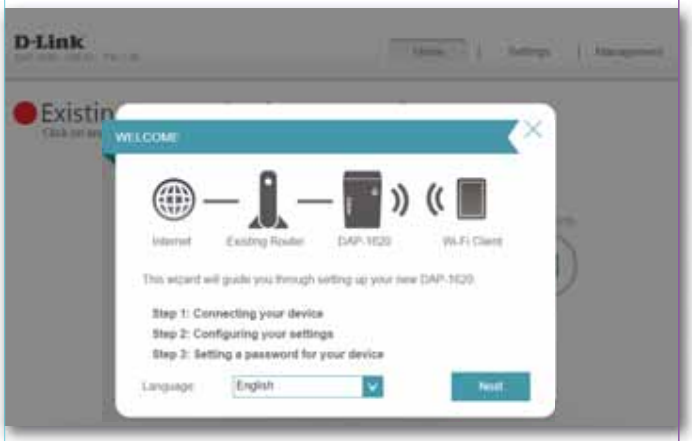
Setup Wizard

If this is your first time logging in to the extender and no connection has been established, the setup wizard will automatically appear.



In the future, if you wish to configure your extender using the setup wizard, click the **Uplink Router** icon.

The setup wizard is designed to guide you through a step-by-step process to configure your new DAP-1620 AC1200 Wi-Fi Range Extender to extend your wireless network and connect to the Internet.



The steps are:

Step 1: Connecting Your Device

Step 2: Configuring Your Settings

Step 3: Setting a Password for Your Device

Click **Next** to begin.

Connecting Your Device via WPS

After clicking the **Next** button from the previous step, the DAP-1620 will automatically initiate a WPS-PBC (Wireless Protected Setup - Push Button Control) search to find an uplink network to extend. If your existing wireless networking device has a physical or virtual WPS button, press or enable it within the 120 seconds allotted by the countdown timer.

If you do not wish to use WPS or your existing networking device does not have a WPS feature, select one of the alternative configuration options:

Extend an existing network, see page 23 for more information or

Add wireless to your wired network, see page 26 for further setup information.

Once the 120 second timer has elapsed, proceed to the next page.

WPS Successful

If a WPS connection is successfully established, the Status/WPS LED will turn green and you will be prompted to configure your extension network settings. The default network names are as follows:

- 2.4 GHz: **(Your router's SSID)-EXT**
- 5 GHz: **(Your router's SSID)-EXT5G**

After WPS completes, the password of "(Your router's SSID)-EXT" will be the same as the router it is extending.

You may independently set both the 2.4 GHz and 5 GHz network names and passwords.

Click **Next** to proceed to **Configure Administrator Password**, refer to page 28 for more information, or click **Back** to return to the previous step.

WPS Unsuccessful

If the WPS countdown timer expires, and no connection to an uplink wireless network could be established, you may press the **retry** button to attempt the process again or if you do not wish to use WPS ,or are having difficulty using the WPS feature, you can try using one of the alternative configuration options:

Extend an existing network, see page 23 for more information or

Add wireless to your wired network, see page 26 for further setup information.

Extend an Existing Network

To set up your network manually, select **Extend an Existing Network** from the setup wizard menu. Click **Next** to continue.

The DAP-1620 will scan for available wireless networks and display a list of results. You may choose one of the following options to proceed:

- If the wireless network you wish to extend was detected by the scan, click on the network to highlight it, then click the **Select** button.
- If the network you would like to extend was not detected by the scan, click the **Manual** button.

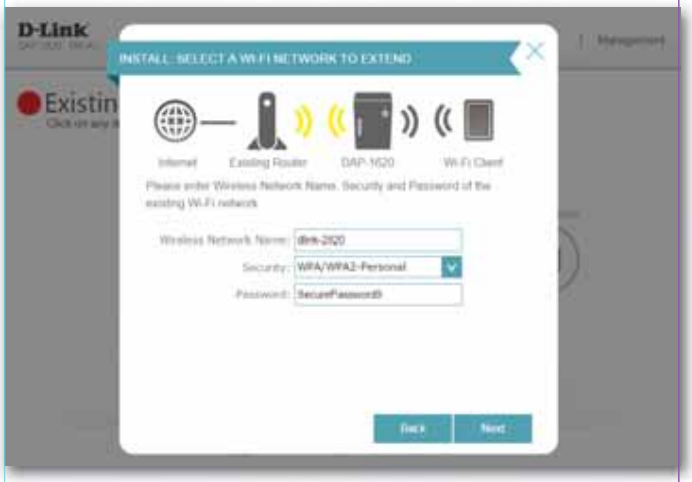
Note: If the wireless network you would like to extend to was not detected by the scan, your DAP-1620 might be out of range and you may need to reposition the extender closer to the uplink wireless device.

If the wireless network you wish to extend was detected by the scan, enter the password now.

Click **Next** to continue on to configure your extension network settings, or click **Back** to return to the previous step.

If you chose **Manual** , enter the Wireless Network Name, type of Security, and Password of the existing Wi-Fi network you wish to connect to.

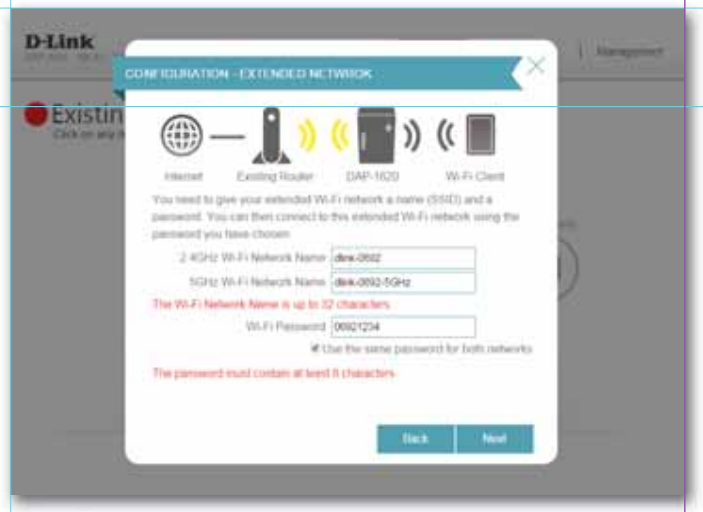
Click **Next** to continue on to configure your extension network settings, or click **Back** to return to the previous step.



If a connection is successfully established, the Status/WPS LED will turn green and you will be directed to confirm the DAP-1620's extension network details. The default network names are as follows:

- 2.4 GHz: **(your router's 2.4 GHz SSID)-EXT**
- 5 GHz: **(your router's 5 GHz SSID)-EXT5G**

The passwords will be copied over from the router to the DAP-1620's networks.



Click **Next** to proceed to **Configure Administrator Password**, refer to page 28 for more information, or click **Back** to return to the previous step.

Add Wireless to Your Wired Network

This portion of the setup wizard will guide you through added wireless to an existing wired network. Click **Add wireless to your wired network**.

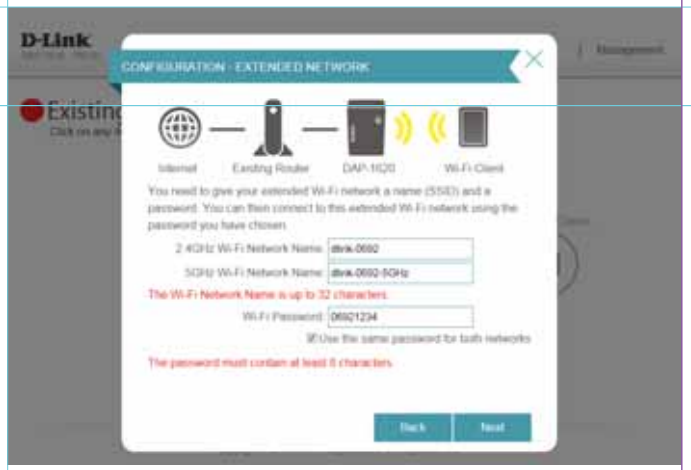
Connect an Ethernet cable to your DAP-1620 if you have not already done so. After making the connection, you will automatically be forwarded to the next step. If you haven't connected an Ethernet cable yet, but will do so later, click **skip**.

If a connection is successfully established, the Status/WPS LED will turn green and you will be directed to confirm the DAP-1620's wireless network details. The default network names are as follows:

- 2.4 GHz: **(dlink-####)**
- 5 GHz: **(dlink-####)-5GHz**

####1234 is the default password.

corresponds to the last 4 digits of your DAP-1620's MAC address**.** You may independently set both the 2.4 GHzand 5 GHz network names and passwords.



Click **Next** to proceed to **Configure Administrator Password**, refer to page 28 for more information, or click **Back** to return to the previous step.

Configure Administrator Password

In order to secure the extender's web configuration utility, please enter a new password. You will be prompted for this password each time you want to use the extender's web configuration utility. Click **Next** to continue onward to **Save Your Configuration**.

Save Your Configuration

At the end of the wizard, you will be presented with a final summary of your settings. It is recommended that you record this information for future reference. Click **Finish** to close the wizard.

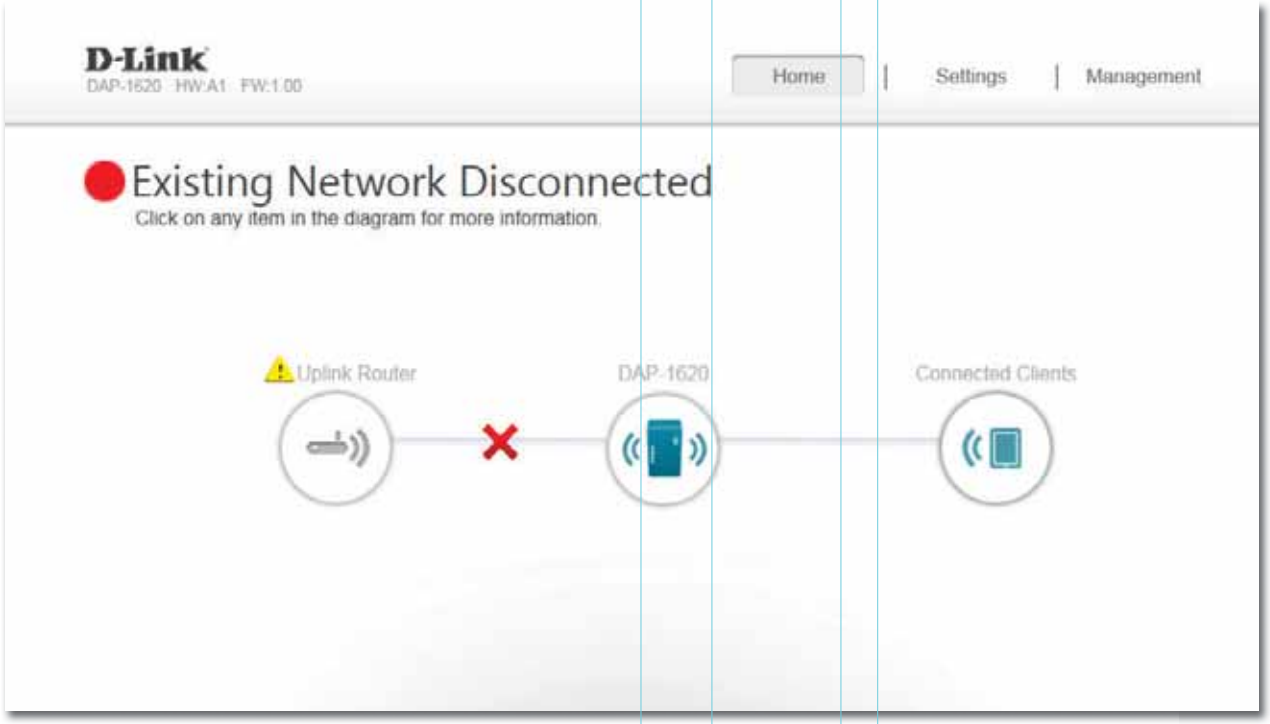
You will be asked if you wish to create a bookmark to the web configuration utility.

Your changes will be saved and the extender will reboot.

Devices may be connected to the new wireless extension network(s) once the extender successfully reboots.

Home Screen

The home screen gives a summary of the current status of devices connected to the DAP-1620. A green check between the device and the uplink router indicates that there is an active connection. A red cross indicates that there is no connection present, or there is a connection error. If there's no active uplink connection, click on the Uplink Router icon to start the setup wizard.



Uplink Router: This icon shows the status of the Internet connection to the uplink router. It is grey if the DAP-1620 is not connected to an uplink router. Once connected, click on it to see its connection details.

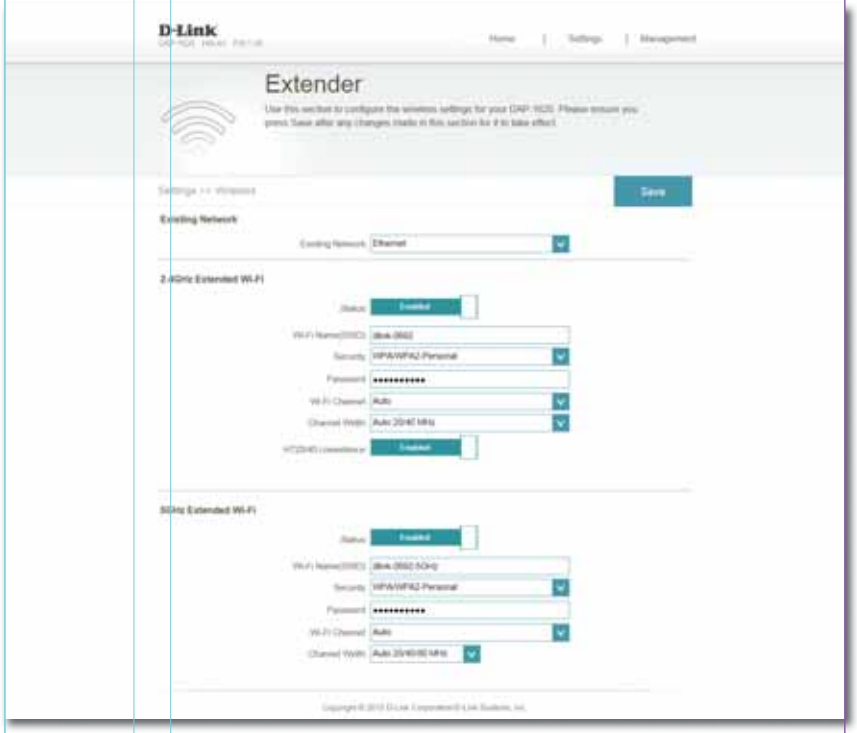
DAP-1620: Click on this icon to see details of the uplink network the DAP-1620 is connected to or connect to another uplink router..

Connected Clients: Click on the Wi-Fi Clients icon to see client details.

Once your Internet connection is set up, you can view the details of both the uplink network and the extended Wi-Fi network by clicking on the DAP-1620 icon.

Extender Settings

This page lets you configure the settings for the DAP-1620's extended wireless network. To access this page, point to the **Settings** drop-down menu at the top of the page, and select Extender. Click **Save** to save the settings and return to the home page.



Existing Network

Existing Network: Select between **Ethernet** or **Wi-Fi** as you existing network depending on if you wish to use the DAP-1620 as a access point or a repeater, respectively.

2.4 GHz

Status: Enable or disable this network by toggling this slider.

Wi-Fi Name (SSID): This is the name of the DAP-1620's extended network. The DAP-1620 will rebroadcast the uplink router's Internet connection under this SSID. You can also choose to make the SSID for the extended network the same as the SSID for the uplink network.

Security: Select the type of wireless security you wish to use for the extended network. Choose **None** or **WPA/WPA2 Personal**.

Password: Enter the password or network key that you wish to use for the extended network.

Wi-Fi Channel: Select **Auto** or any channel from 1 to 11 for use with this network.

Channel Width: Select **Auto 20/40** or **20 MHz** for the bandwidth you wish this network to use.

HT20/40 Coexistence: Enable or disable HT20/40 coexistence by toggling the slider.

5 GHz

Status: Enable or disable this 5 GHz network by toggling this slider.

Wi-Fi Name (SSID): This is the name of the DAP-1620's extended network. The DAP-1620 will rebroadcast the uplink router's Internet connection under this SSID. You can also choose to make the SSID for the extended 5 GHz network the same as the SSID for the uplink network.

Security: Select the type of wireless security you wish to use for the extended network. Choose **None** or **WPA/WPA2 Personal**.

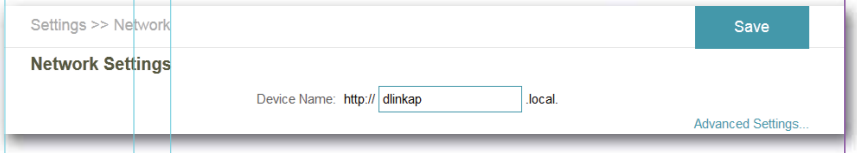
Password: Enter the password or network key that you wish to use for the extended 5 GHz network.

Wi-Fi Channel: Select **Auto** or any channel for use with this network.

Channel Width: Select **Auto 20/40/80**, **20 MHz, or 20/40 MHz** for the bandwidth you wish this network to use.

Network Settings

This page lets you configure the network settings for the DAP-1620. To access this page, point to the **Settings** drop-down menu at the top of the page, then select **Network**. Click **Save** at any time to save the changes you have made on this page.

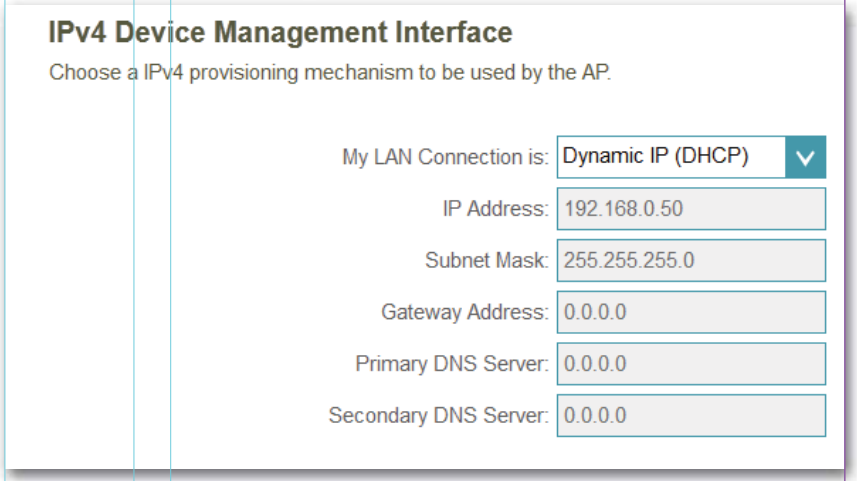


Management Link: You can change the URL name of the device by editing the text in the text box. If you change the name of the device, you will need to enter "http://xxxx.local." (where "xxxx" corresponds to the name of the device) in the address bar of your web browser in order to access the configuration utility.

Advanced Settings

The Advanced Settings section of the Network Settings page allows you to configure both IPv4 and IPv6 settings that will be used by the DAP-1620's extended network.

IPv4 Device Management Interface



My LAN Connection is: Here you can select whether you want the IP to have a **Dynamic IP** or **Static IP** address. If you select Dynamic IP, the options below will not be available.

IP Address: Enter the Static IP address that you want to assign to the extended network AP. This address should be outside of the uplink router's DHCP address pool.

Subnet Mask: Enter the subnet mask.

Gateway Address: Enter the gateway address. This is usually the IP address of the uplink router.

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

Secondary DNS Server: Enter the address of the secondary DNS server. This is optional but will provide backup if the primary server fails.

Autoconfiguration (SLAAC/DHCPv6)

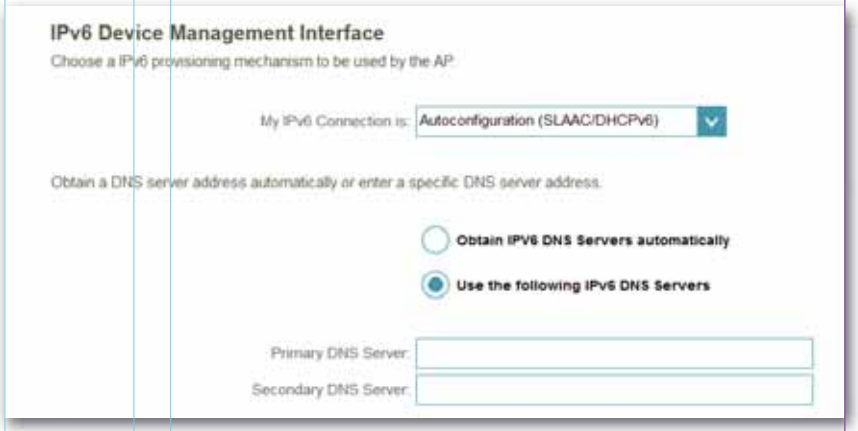
IPv6 Device Management Interface

My IPv6 Connection is: Select **Autoconfiguration (SLAAC/DHCPv6)** to have the DAP-1620 automatically receive an IPv6 address from the uplink router.

Obtain IPv6 DNS Servers Automatically: You can select to obtain IPv6 DNS server information automatically, or you can select to configure DNS servers manually by clicking on the radio dial next to the option.

Primary DNS Server: For manual settings, enter the primary IPv6 DNS server address.

Secondary DNS Server: For manual settings, enter the secondary IPv6 DNS server address. This is optional but will provide backup if the primary server fails.



Static IPv6

IPv6 Device Management Interface

My IPv6 Connection is: Select **Static IPv6** to manually assign an IP address to the DAP-1620.

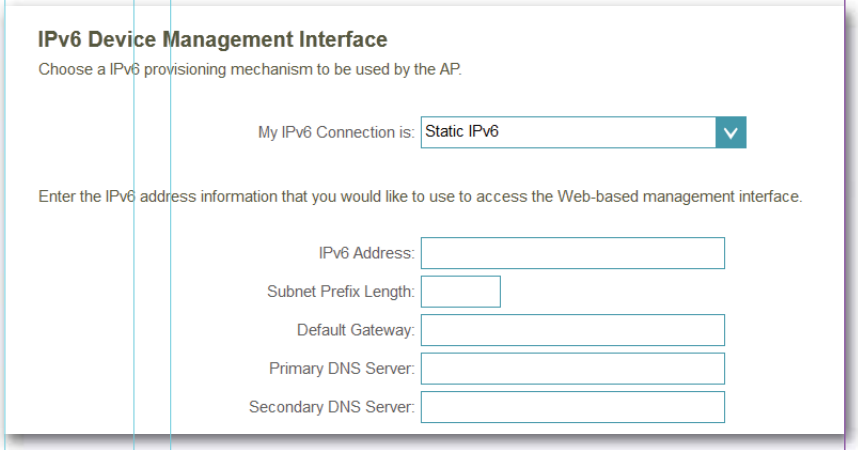
IPv6 Address: Enter the IPv6 address that you want to assign to the extended network AP. This address should be outside of the uplink router's DHCP address pool.

Subnet Prefix Length: Enter the length of the IPv6 subnet prefix.

Default Gateway: Enter the default gateway.

Primary DNS Server: Enter the primary IPv6 DNS server address.

Secondary DNS Server: Enter the secondary IPv6 DNS server address. This is optional but will provide backup if the primary server fails.

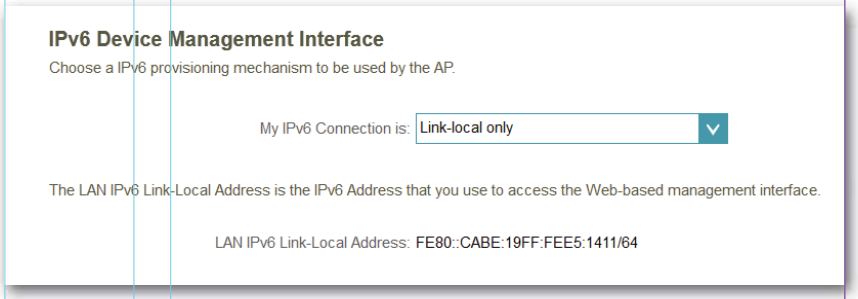


Link-local Only

IPv6 Device Management Interface

My IPv6 Connection is: Select **Link-local only** to only set an IPv6 address for the local network.

LAN IPv6 Link-Local Address: The link-local address of the DAP-1620.



Management

Admin

This page will allow you to set a new password for the administrator account used to configure the DAP-1620. You can also enable graphical authentication (CAPTCHA) on this page. To access this page, point to the **Management** drop down menu at the top of the page, and select **Admin**. Click **Save** at any time to save the changes you have made on this page.

Admin Password: Enter the Admin password.

Enable Graphical Authentication: Click on the slider to enable graphical authentication, or CAPTCHA. This provides an extra layer of security by requiring you to enter a code that is displayed on-screen. This can help prevent unauthorized users from gaining access to your wireless network using automated methods.

Note: The device will reboot after saving the changes for the password to take effect.

System

This page allows you to save or restore your system configuration, reset, or reboot the DAP-1620. To access this page, point to the **Management** drop down menu at the top of the page, and select **System**. Click **Save** at any time to save the changes you have made on this page.

Save Settings To Local Hard Drive: Save the system settings onto a file to the local hard drive. You will then see a file dialog where you can select a location and enter a file name for the configuration file.

Load Settings From Local Hard Drive: Load the system settings from a previously saved file on the local hard drive.

Restore to Factory Default Settings: Restore the system settings to factory default settings. This will erase all currently stored settings.

Reboot the Device: Click **Reboot** to reboot the DAP-1620.

Upgrade

Firmware and language upgrades may be provided for the DAP-1620 in future. You can check and upgrade your firmware and language pack on this page. To access this page, point to the **Management** drop down menu at the top of the page, and select **Upgrade**. Click **Save** at any time to save the changes you have made on this page.

Firmware Information

Firmware Information: This section displays the currently installed firmware version, as well as the date on which the current firmware version was released.

Click **Check For New Firmware** to find out if there is new or updated firmware. If there is, you can download it to your computer.

Upgrade Manually

Upgrade Firmware: Click **Select File** to locate the firmware file on your computer and perform a manual firmware upgrade.

Statistics

This page displays details about your wireless and network connections. To access this page, point to the **Management** drop- down menu at the top of the page, and select **Statistics**. Click **Clear** to reset the statistics.

Wi-Fi

Click on the **Wi-Fi** tab to display the statistics for the connection between the DAP-1620 and the uplink router.

The Blue line indicates the upload speeds and the red line indicates the download speeds.

The table displays the following in real-time:

- Total Packets
- Total Byte(s)
- Total Kbit(s)
- Kbits/sec

Extended Wi-Fi

Click on the **Extended Wi-Fi** tab to display the statistics for the connection between the DAP-1620 and any connected clients.

Connecting Wireless Clients to the Extended Network

WPS Button

Once an uplink network has been established, you may use the DAP-1620's WPS function to add additional wireless clients to your extended network. Most wireless devices such as wireless routers, media players, printers, and cameras will have a WPS button (or a software utility with WPS) that you can press to connect to the DAP-1620. Please refer to the user manual for the wireless device you want to connect to make sure you understand how to enable WPS. Once you know, follow the steps below:

Step 1 - Press the WPS button on the DAP-1620 for about 1 second. The LED on the device will start to blink. You can also use the WPS option in the setup wizard section of the web interface.

Step 2 - Within 120 seconds, press the WPS button on your wireless device.

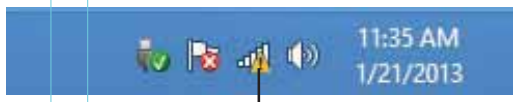
Step 3 - Allow up to 1 minute to configure. Once the LED light stops blinking and turns solid green, you will be connected and your wireless connection will be secured with WPA2.

Windows® 8

WPA/WPA2

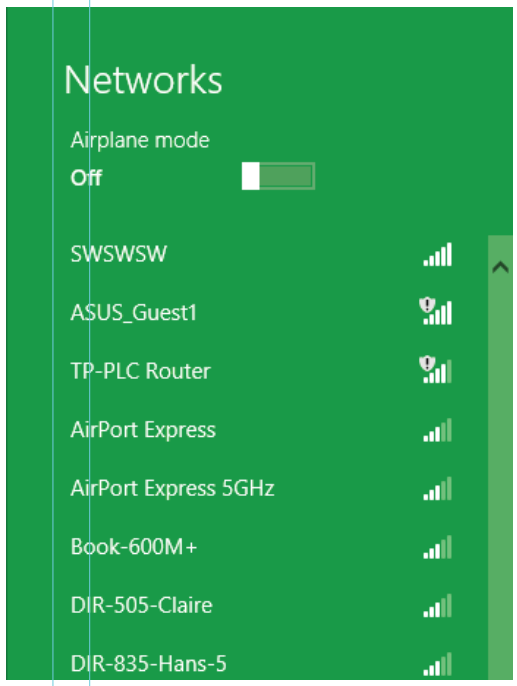
It is recommended to enable wireless security (WPA/WPA2) on your wireless router or extender before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key (Wi-Fi password) being used.

To join an existing network, locate the wireless network icon in the taskbar, next to the time display.



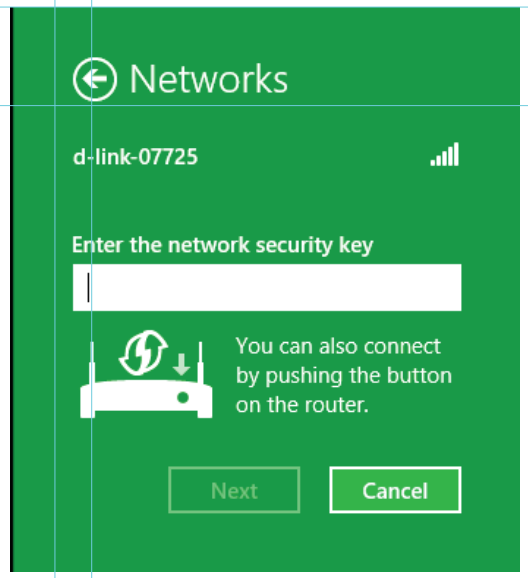
Wireless Icon

Clicking on this icon will display a list of wireless networks which are within connecting proximity of your computer. Select the desired network by clicking on the network name.

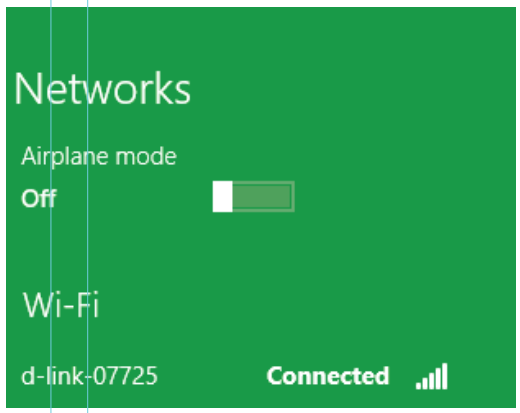


You will then be prompted to enter the network security key (Wi-Fi password) for the wireless network. Enter the password into the box and click **Next**.

If you wish to use Wi-Fi Protected Setup (WPS) to connect to the router, you can also press the WPS button on your router at this point to enable the WPS function.



When you have established a successful connection with a wireless network, the word **Connected** will appear next to the name of the network to which you are connected.



Windows® 7

WPA/WPA2

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

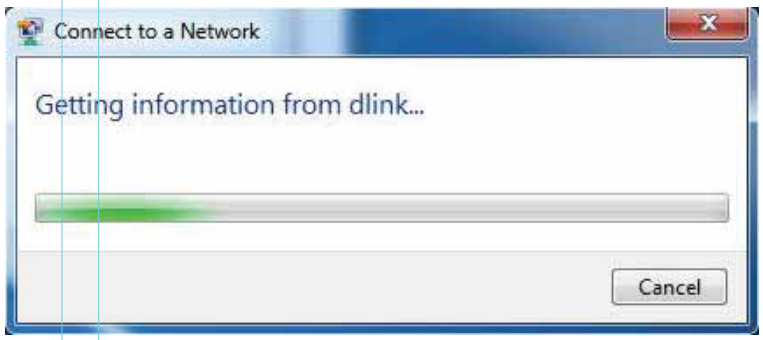
Wireless Icon

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.

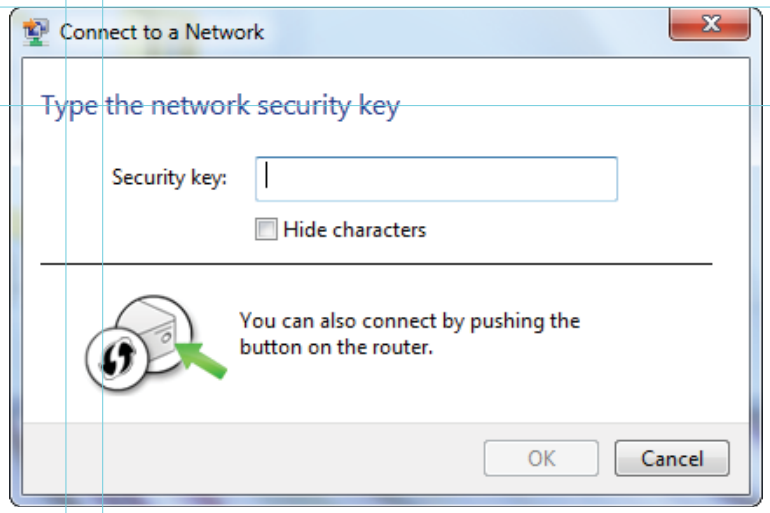
   If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the Wireless Basics section in this manual for more information.

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



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

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



Windows Vista®

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

If you receive the "Wireless Networks Are Available" bubble, click on the center of the bubble to access the utility.

or

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

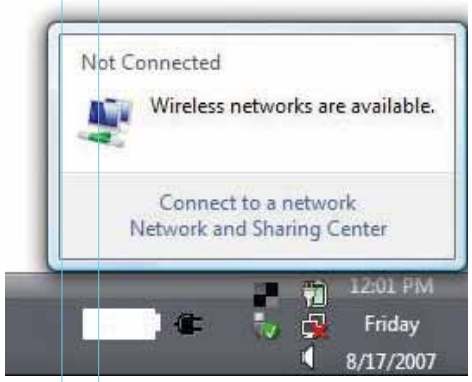
The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click **Connect**.

If you get a good signal but cannot access the Internet, check the TCP/IP settings for your wireless adapter. Refer to "Troubleshooting" on page 54 for more information.

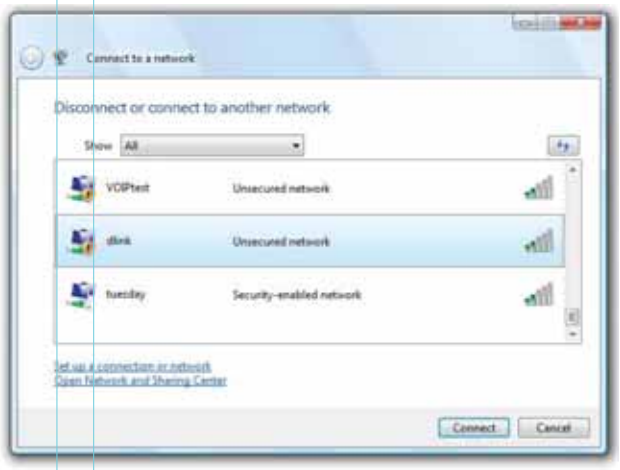
WPA/WPA2

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

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



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



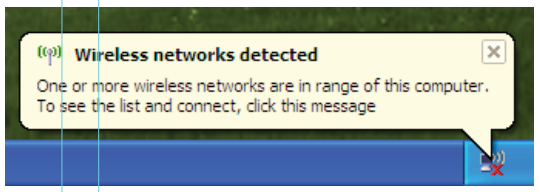
3. Enter the same security key or passphrase that is on your router and click **Connect**.

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

Windows® XP

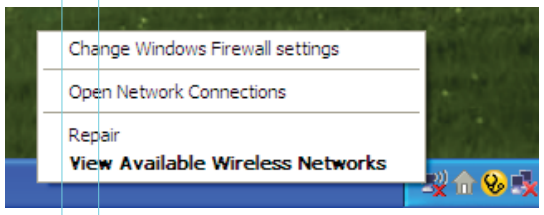
Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities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



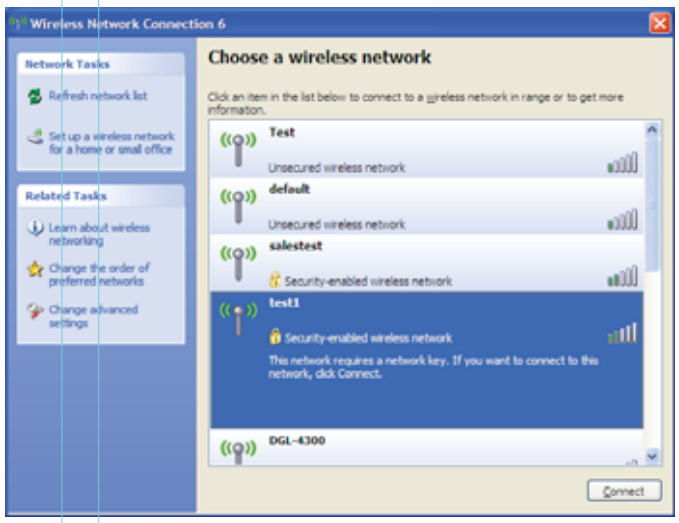
or

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.

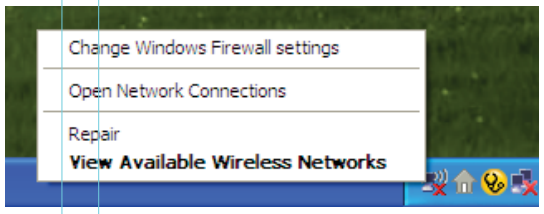
If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Wireless Basics** section in this manual for more information.



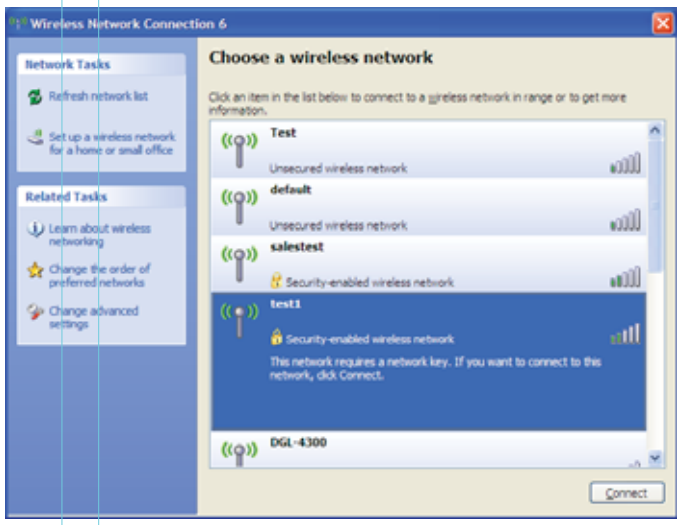
WPA/WPA2

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

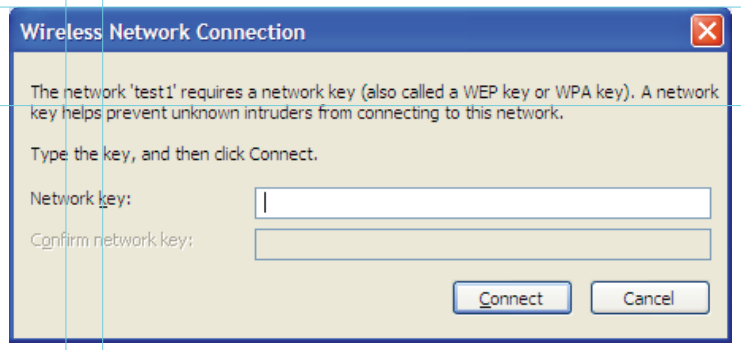
1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.



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



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



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

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DAP-1620. 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 AC1200 Wi-Fi Range Extender (dlinkap.local for example), you are not connecting to a website nor do you 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:
  - Internet Explorer 7 or later
  - Firefox 12.0 or later
  - Safari 4 or later
  - Google Chrome 20.0 or later
- Make sure that you are connected to the same wireless network which is listed on the base of the DAP-1620. If you have an active wired LAN Ethernet connection, try temporarily unplugging the Ethernet cable from the computer you are using, as this may eliminate possible conflicts from having two simultaneous connections on the same computer.
- Disable any Internet security software running on the computer. Software firewalls such as ZoneAlarm, BlackICE, 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 interface. Open your web browser and enter the address of your extender (**http://dlinkap.local**) in the address bar. This should open the login page for your web management. If the DAP-1620 is not connected to an uplink router, you can try accessing the web interface using the default IP address **http://192.168.0.50**.
- If you still cannot access the configuration, unplug the extender from the power outlet for at least 10 seconds and plug it 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 extender. Unfortunately this process will change all your settings back to the factory defaults.

To reset the extender, locate the reset button (hole) on the underside panel of the unit. With the extender powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the extender will go through its reboot process (indicated by the LED turning red). Wait about 30 seconds to access the extender. The default IP address is **http://dlinkap.local**. 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 and conveniently access your network. 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 adapters used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A wireless router is a device used to provide this link.

Tips

Here are a few things to keep in mind when you are installing your AC1200 Wi-Fi Range Extender.

Centralize the extender's location
For best performance, make sure you place the extender in a centralized location within your desired usage area. Try to place the extender so that there are minimal obstructions between it and the uplink router. If possible, use an elevated power outlet, so the signal can be dispersed more easily. If you have a large home or usage area, you may need several extenders in order to achieve optimal coverage.

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

Security
Don't let your neighbors or intruders connect to your wireless network. Secure your wireless network by utilizing the WPA or WEP security feature on the extender and uplink router. Refer to the relevant sections of this manual for further details.

Technical Specifications

Standards
- IEEE 802.11ac
- IEEE 802.11a
- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.11b

Wireless Frequency Range [1]
- 2.4 GHz to 2.4835 GHz
- 5.18 MHz to 5.85 MHz

Device Interfaces
- 802.11ac/n/g/b/a Wireless LAN
- 10/100/1000 Gigabit Ethernet Port
- Reset Button
- WPS Button

Antenna
- External Antenna

Security
- Wi-Fi Protected Access (WPA/WPA2)
- Wi-Fi Protected Setup (WPS)
- Wired Equivalent Privacy (WEP) 64/128-bit

Advanced Features
- QRS Mobile setup app for iOS and Android devices

Device Management
- Web UI

Diagnostic LEDs
- Status/WPS
- 3 Segment Wi-Fi Signal Strength Indicator

[1] Frequency range varies depending on local regulations

Operating Temperature
- 0 to 40 ˚C (32 to 104 ˚F)

Storage Temperature
- Storage: -20 to 65 °C (-4 to 149 °F)

Operating Humidity
- 0% to 90% non-condensing

Storage Humidity
- 5% to 95% non-condensing

Power Input
- AC 110-240 V

Maximum Power Consumption
- 5.5 W

Certifications
- FCC
- CE
- IC
- C-Tick
- UL
- Wi-Fi Certified

Dimensions
- 120 x 59 x 42 mm (4.72 x 2.32 x 1.65 inches)

Weight
- 139 grams (4.9 ounces)

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Safety Statements

Federal Communication Commission Interference Statement

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

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

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

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.

Operation of this device is restricted to indoor use only.

IMPORTANT NOTICE:

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.

Country Code selection feature to be disabled for products marketed to the US/CANADA Industry Canada statement:

Industry Canada statement:
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(1) Ce dispositif ne peut causer d'interférences; et(2) Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Caution:
(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:
(i) les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

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 & your body.

Déclaration d'exposition aux radiations:
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

NCC 警語：

電磁波曝露量 **MPE** 標準值 **(MPE) 1mW/cm2**，送測產品實值為 **0.085mW/cm2**

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

在 5.25-5.35 秭赫頻帶內操作之無線資訊傳輸設備，限於室內使用。