



User Manual

4G LTE Router

DWR-922

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 15, 2014	• Initial release

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Package Contents



DWR-922 4G LTE Router



Power Adapter



3G/4G Antennas



RJ-45 and RJ-11 Cables

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

System Requirements

- A compatible (U)SIM card with service.*
- Computer with Windows, Mac OS, or Linux-based operating system with an installed Ethernet adapter
- Java-enabled browser such as Internet Explorer 6, Safari 4.0, Chrome 20.0, or Firefox 7 or above (for configuration)

* Subject to services and service terms available from your carrier.

Introduction

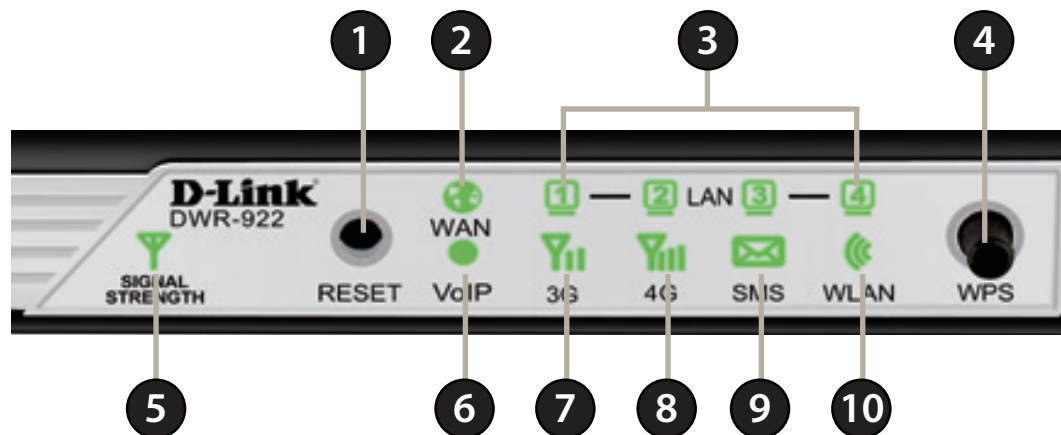
The D-Link 4G LTE Router allows users to access worldwide mobile broadband networks. Once connected, users can transfer data, stream media, and send SMS messages. Simply insert your 3G / 4G SIM card, and share your 3G / 4G Internet connection through a secure 802.11n wireless network or using any of the four 10/100/1000 Ethernet ports.

Keep your wireless network safe with WPA/WPA2 wireless encryption. The DWR-922 utilizes dual-active firewalls (SPI and NAT) to prevent potential attacks across the Internet, and includes MAC address filtering to control access to your network.

The 4G LTE Router can be installed quickly and easily almost anywhere. This router is great for situations where an impromptu wireless network must be set up, or wherever conventional network access is unavailable.

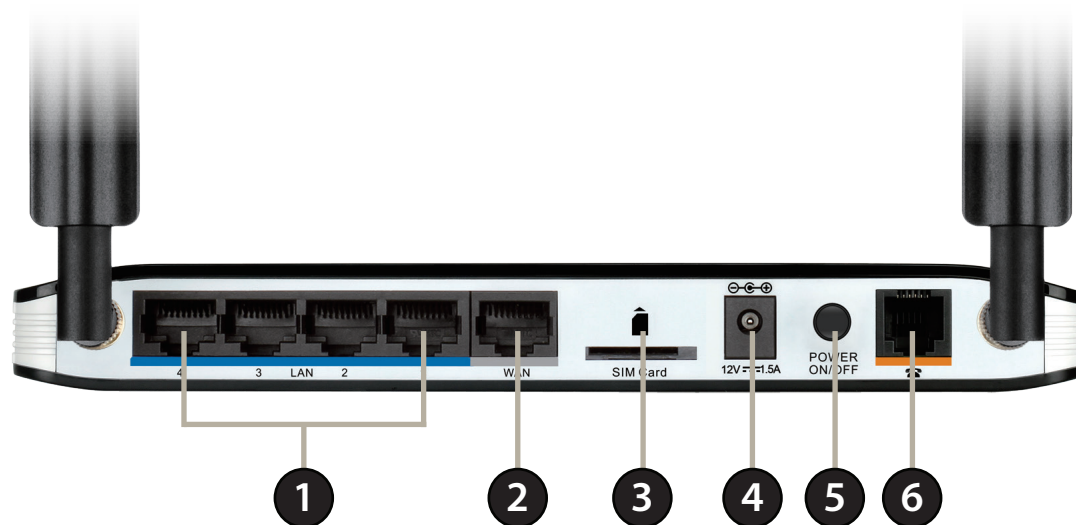
Hardware Overview

Front View



1	Reset Button	Press this button with an unfolded paperclip and hold for ten seconds to reset the device.
2	WAN LED	Will be lit if an Internet connection is established, and will blink when data is being transferred.
3	LAN LEDs 1-4	Will be lit if an Ethernet connection is established, and will blink when data is being transferred.
4	WPS Button	Press this button to initiate a new WPS connection. See Add Wireless Device with WPS on page 18 for details.
5	Signal Strength LED	Will blink red if there is no SIM card / signal. Solid red/amber/green indicates the signal strength.
6	VoIP LED	Will be lit if a VoIP connection is active.
7	3G LED	Will be lit if a 3G connection is established, and will blink when data is being transferred.
8	4G LED	Will be lit if a 4G LTE connection is established, and will blink when data is being transferred.
9	SMS LED	Will be solid green if the SMS inbox is full, or blinking if there is an unread new SMS message.
10	WLAN LED	Will be lit if the wireless function is enabled, and will blink when wireless data is being transferred.

Back View



1	Ethernet LAN Ports	For connection to a network-enabled desktop or notebook computer.
2	Ethernet WAN Port	For connection to a DSL/cable modem or router
3	SIM Card Slot	Accepts a standard (U)SIM card for 3G/4G LTE connectivity.
4	Power Connector	Connects to the included power adapter.
5	Power Button	Turns the device on or off.
6	Phone Port	For connection to a phone handset.

Installation

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

Before You Begin

1. Ensure that your DWR-922 4G LTE Router is disconnected and powered off.
2. Insert a standard (U)SIM card into the SIM card slot on the back of the router as indicated by the SIM card logo next to the slot. The gold contacts should face downwards.

Caution: Always unplug/power down the router before installing or removing the SIM card. Never insert or remove the SIM card while the router is in use.

3. Insert your Internet/WAN network cable into the WAN port on the back of the router.

Note: The 3G/4G connection can also be used as a backup WAN. Once a backup is configured, the router will automatically use 3G / 4G for the Internet connection if the Ethernet WAN is not available.

4. Insert the Ethernet cable into the LAN Port 1 on the back panel of the DWR-922 4G LTE Router and an available Ethernet port on the network adapter in the computer you will use to configure the router.

Note: The DWR-922 4G LTE Router LAN Ports are Auto-MDI/MDIX, so both patch and crossover Ethernet cables can be used.

5. If you have a telephone handset and wish to use the DWR-922 to make VoIP calls, connect one end of the RJ-11 cable to your handset and the other end to the phone port on the back panel of the DWR-922.

Note: Do not directly connect the DWR-922 to a telecommunication network or a building's telephone socket.

6. Connect the power adapter to the socket on the back panel of your DWR-922 4G LTE Router. Plug the other end of the power adapter into a wall outlet or power strip and turn the device on.
 - a. The Status LED will light up to indicate that power has been supplied to the router.
 - b. The LEDs on the front panel will flash on and off as the DWR-922 4G LTE Router performs initialization and Internet connection processes.
 - c. After a few moments, if a connection has been established, the following LEDs will turn solid green: Power, Status, WAN, WLAN, and any LAN Port LEDs that are connected computers or other devices.

Wireless Installation Considerations

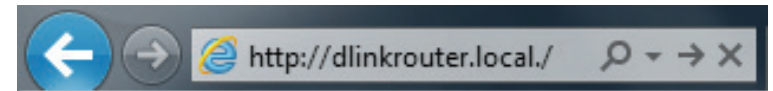
The DWR-922 can be accessed using a wireless connection from anywhere within the operating range of your wireless network. Keep in mind that the quantity, thickness, and location of walls, ceilings, or other objects that the wireless signals must pass through may limit the range of the wireless signal. Ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or office. The key to maximizing the wireless range is to follow these basic guidelines:

1. Minimize the number of walls and ceilings between the D-Link router and other network devices. Each wall or ceiling can reduce your adapter's range from 3 to 90 feet (1 to 30 meters).
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. Try to position access points, wireless routers, and computers so that the signal passes through open doorways and drywall. Materials such as glass, metal, brick, insulation, concrete, and water can affect wireless performance. Large objects such as fish tanks, mirrors, file cabinets, metal doors, and aluminum studs may also have a negative effect on range.
4. If you are using 2.4 GHz cordless phones, make sure that the 2.4 GHz phone base is as far away from your wireless device as possible. The base transmits a signal even if the phone is not in use. In some cases, cordless phones, X-10 wireless devices, and electronic equipment such as ceiling fans, fluorescent lights, and home security systems may dramatically degrade wireless connectivity.

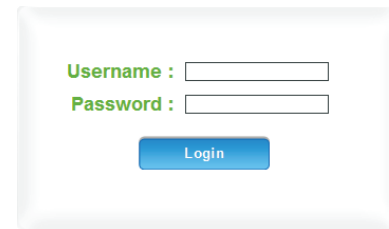
Configuration

Getting Started

To access the configuration utility, open a web-browser such as Internet Explorer and enter the address of the router (**http://dlinkrouter.local./** or **192.168.1.1** by default).

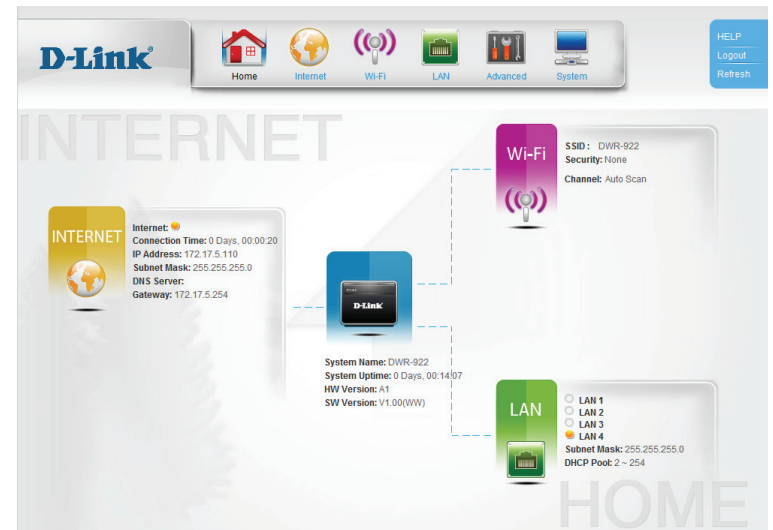


To log in to the configuration utility, enter **admin** as the username, and then enter the password. By default, the password is **admin**.



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

Once you have successfully logged in, you will see the **Home** page. On this page you can view information about your Internet connection, the wireless/LAN status, and system information.



At the top of the page is a menu. Clicking on one of these icons will take you to the appropriate configuration section.

On each page, fill out the desired settings and click **Apply** when you are done or **Reset** to revert to the old settings.

Internet WAN Service

On this page you can configure your Internet connection. If you are not sure which settings to use, please contact your Internet Service Provider (ISP).

Layer2 WAN Connection: Select your Internet connection type: **LTE/3G** or **Ethernet WAN**.

LTE/3G

Dial-Up Profile: If **Auto-Detection** does not work, then try selecting **Manual** and filling out the information (supplied by your LTE/3G ISP).

Authentication: Select **PAP**, **CHAP**, or **AUTO** detection. The default authentication method is **AUTO**.

Roaming: Check the box to enable international LTE / 3G roaming.

Reconnect Mode: Select either **Always On**, **Connect on Demand**, or **Manual**.

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity (if you selected **Always On** above, this setting will have no effect).

Keep Alive: Select **Disable** or **Use Ping** depending on the settings required by your ISP. If you select **Use Ping**, set the ping interval and the IP address to ping.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

■ WAN Service
■ PIN Configuration

WAN Service Configuration

Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it.

WAN Service Interface Configuration
Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection.

State

Layer2 WAN Interface LTE/3G

Dial-Up Profile Auto-Detection Manual

Authentication AUTO

Roaming

Reconnect Mode Always On

Maximum Idle Time 600 (seconds)

Keep Alive Disable Use Ping

MTU 1500

NAT

Apply Reset

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your ISP. The default value is 1500.

NAT: Check the box to enable Network Address Translation (NAT).

The screenshot displays the D-Link web interface for WAN Service Configuration. At the top, there is a navigation bar with the D-Link logo and icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. On the right side of the navigation bar, there are buttons for HELP, Logout, and Refresh. Below the navigation bar, the main content area is titled "WAN Service Configuration". It includes a sub-section "WAN Service Interface Configuration" with the following settings:

- State:
- Layer2 WAN Interface: LTE/3G
- Dial-Up Profile: Auto-Detection Manual
- Authentication: AUTO
- Roaming:
- Reconnect Mode: Always On
- Maximum Idle Time: 600 Second(s)
- Keep Alive: Disable Use Ping
- MTU: 1500
- NAT:

At the bottom of the configuration area, there are two buttons: "Apply" and "Reset".

Ethernet WAN

Select your Internet connection type from the list of options. This information can be obtained from your ISP. The page will update with the appropriate options for the selected connection type.

Dynamic IP Address

Hostname: The hostname is optional but may be required by some ISPs. Leave it blank if you are not sure.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your ISP. The default value is 1500.

NAT: Check the box to enable Network Address Translation (NAT).

IGMP Proxy: Check the box to enable IGMP proxy.

Enable PPPoE Passthrough: Check the box to enable PPPoE passthrough.

Enable IPv6 Passthrough: Check the box to enable IPv6 passthrough.

Clone MAC: Check the box to clone your client's MAC address to the WAN port.

DNS Mode: If your ISP provided DNS server addresses to use, select **Manual DNS** and enter the primary and (if applicable) secondary addresses. Otherwise, select **Auto DNS** to automatically assign a DNS server, or **DNS Disabled** to disable DNS.

D-Link

Home Internet Wi-Fi LAN Advanced System

HELP
Logout
Refresh

■ WAN Service
■ PIN Configuration

WAN Service Configuration

Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it.

WAN Service Interface Configuration
Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection.

State

Layer2 WAN interface Ethernet WAN

Dynamic IP Address Choose this option to obtain an IP address automatically from your ISP.
 Static IP Address Choose this option to set static IP information provided to you by your ISP.
 PPPoE Choose this option if your ISP uses PPPoE.
 Bridge Mode Choose this option if your ISP uses Bridge.

Hostname (optional)

MTU

NAT

IGMP Proxy

Enable PPPoE Passthrough

Enable IPv6 Passthrough

Clone MAC

DNS Mode Auto DNS

Apply Reset

Static IP Address

IP Address: Enter the IP address provided by your ISP.

Subnet Mask: Enter the subnet mask provided by your ISP.

Gateway Address: Enter the gateway address provided by your ISP.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your ISP. The default value is 1500.

NAT: Check the box to enable Network Address Translation (NAT).

IGMP Proxy: Check the box to enable IGMP proxy.

Enable PPPoE Passthrough: Check the box to enable PPPoE passthrough.

Enable IPv6 Passthrough: Check the box to enable IPv6 passthrough.

Clone MAC: Check the box to clone your client's MAC address to the WAN port.

DNS Mode: If your ISP provided DNS server addresses to use, select **Manual DNS** and enter the primary and (if applicable) secondary addresses. Otherwise, select **Auto DNS** to automatically assign a DNS server, or **DNS Disabled** to disable DNS.

The screenshot displays the 'WAN Service Configuration' page in a D-Link web interface. The page title is 'WAN Service Configuration'. Below the title, there is a note: 'Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it.' The main section is 'WAN Service Interface Configuration', with a sub-note: 'Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection.'

The configuration options are as follows:

- State:**
- Layer2 WAN interface:** Ethernet WAN
- Dynamic IP Address:** Choose this option to obtain an IP address automatically from your ISP.
- Static IP Address:** Choose this option to set static IP information provided to you by your ISP.
- PPPoE:** Choose this option if your ISP uses PPPoE.
- Bridge Mode:** Choose this option if your ISP uses Bridge.
- IP Address:** assigned by your ISP
- Subnet Mask:**
- Gateway Address:**
- MTU:**
- NAT:**
- IGMP Proxy:**
- Enable PPPoE Passthrough:**
- Enable IPv6 Passthrough:**
- Clone MAC:**
- DNS Mode:** Manual DNS
- Primary DNS:**
- Secondary DNS:**

At the bottom of the configuration area, there are two buttons: 'Apply' and 'Reset'.

PPPoE

Username: Enter the PPPoE username provided by your ISP.

Password: Enter the PPPoE password provided by your ISP.

PPPoE Service Name: Enter the PPPoE service name provided by your ISP if applicable.

AC Name: Enter the PPPoE access concentrator (AC) name provided by your ISP if applicable.

IP Control: If your ISP provided a static IP address, select **Static IP Address**, otherwise leave this setting at the default, **Dynamic IP Address**.

Static IP Address: If you selected **Static IP Address** above, enter the address provided by your ISP here.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your ISP. The default value is 1500.

NAT: Check the box to enable Network Address Translation (NAT).

IGMP Proxy: Check the box to enable IGMP proxy.

Enable PPPoE Passthrough: Check the box to enable PPPoE passthrough.

Enable IPv6 Passthrough: Check the box to enable IPv6 passthrough.

Connect Mode Select: Select either **Always On**, **Connect on Demand**, or **Manual**.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

■ WAN Service
■ PIN Configuration

WAN Service Configuration

Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it.

WAN Service Interface Configuration
Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection.

State

Layer2 WAN interface Ethernet WAN ▾

Dynamic IP Address Choose this option to obtain an IP address automatically from your ISP.
 Static IP Address Choose this option to set static IP information provided to you by your ISP.
 PPPoE Choose this option if your ISP uses PPPoE.
 Bridge Mode Choose this option if your ISP uses Bridge.

Username

Password

PPPoE Service Name (optional)

AC Name (optional)

IP Control Dynamic IP Address ▾

Static IP Address

MTU

NAT

IGMP Proxy

Enable PPPoE Passthrough

Enable IPv6 Passthrough

Connect Mode Select Connect on Demand ▾

Maximum Idle Time Second(s)

Clone MAC

DNS Mode Auto DNS ▾

Apply Reset

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity (if you selected **Always On** above, this setting will have no effect).

Clone MAC: Check the box to clone your client's MAC address to the WAN port.

DNS Mode: If your ISP provided DNS server addresses to use, select **Manual DNS** and enter the primary and (if applicable) secondary addresses. Otherwise, select **Auto DNS** to automatically assign a DNS server, or **DNS Disabled** to disable DNS.

WAN Service Configuration

Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it.

WAN Service Interface Configuration

Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection.

State

Layer2 WAN interface Ethernet WAN ▾

Dynamic IP Address Choose this option to obtain an IP address automatically from your ISP.
 Static IP Address Choose this option to set static IP information provided to you by your ISP.
 PPPoE Choose this option if your ISP uses PPPoE.
 Bridge Mode Choose this option if your ISP uses Bridge.

Username

Password

PPPoE Service Name (optional)

AC Name (optional)

IP Control Dynamic IP Address ▾

Static IP Address

MTU

NAT

IGMP Proxy

Enable PPPoE Passthrough

Enable IPv6 Passthrough

Connect Mode Select Connect on Demand ▾

Maximum Idle Time Second(s)

Clone MAC

DNS Mode Auto DNS ▾

Apply Reset

Bridge Mode

If you selected **Bridge Mode**, there are no further settings to configure.

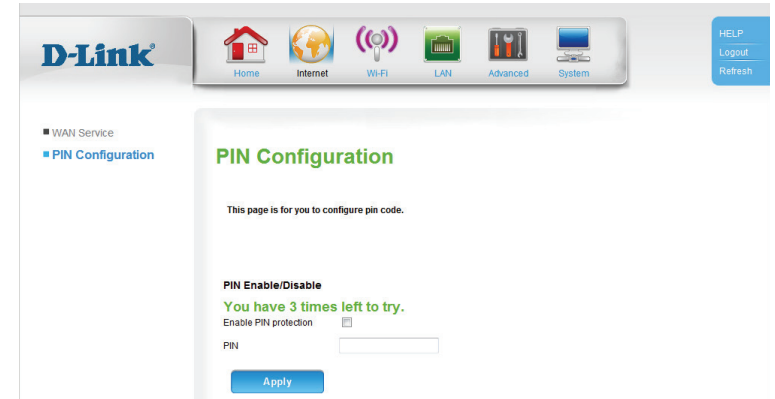
The screenshot shows the D-Link web interface for WAN Service Configuration. At the top, there is a navigation bar with the D-Link logo and icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. On the right side of the navigation bar are buttons for HELP, Logout, and Refresh. Below the navigation bar, there is a sidebar with two menu items: WAN Service (highlighted) and PIN Configuration. The main content area is titled "WAN Service Configuration" and contains the following text: "Choose Add, or Remove to configure a WAN service. Otherwise choose an existing interface by selecting the checkbox to Edit it." Below this is the "WAN Service Interface Configuration" section, which includes the instruction: "Configure your connection here. Please consider the information of your provider on the settings otherwise it may not be possible to establish a connection." The configuration options are: State (checked), Layer2 WAN interface (Ethernet WAN), Dynamic IP Address (radio button), Static IP Address (radio button), PPPoE (radio button), and Bridge Mode (radio button, selected). At the bottom of the configuration area are two buttons: Apply and Reset.

PIN Configuration

On this page you can configure your SIM card's PIN.

To change your SIM's PIN, enter the new PIN in the **PIN** text field. If you also wish to enable or disable PIN protection, check **Enable PIN protection**. This will mean that you have to input your PIN whenever a device using your SIM card is switched on.

Click **Apply** when you are done.



Wi-Fi Wireless Setup

On this page you can configure your wireless settings.

Wireless Function Enable: Check the box to enable the router's wireless functionality.

Wi-Fi Protected Setup: Check **Enable** to enable Wi-Fi Protected Setup (WPS).

Current PIN: Displays the current WPS PIN. Click **Generate New PIN** to generate a new WPS PIN, or **Reset PIN to default** to reset the WPS PIN to its default value.

Wi-Fi Protected Status: Displays the configuration status of WPS. If you want to revert to unconfigured status, select **Reset to Unconfigured**.

Add Wireless Device with WPS: Click this button to connect a wireless device using WPS. See below for details.

SSID: Create a name for your wireless network using up to 32 characters.

Hide SSID: Check the box if you do not want to broadcast the SSID of your wireless network.

Country: Select your country from the drop-down menu.

The screenshot shows the D-Link router's web interface for configuring wireless settings. The page title is "Wireless Configuration". It includes a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System, along with a HELP, Logout, and Refresh button. The main content area is titled "Wireless Configuration" and contains the following sections:

- Wireless Function:** Includes a "Wireless Function Enable" checkbox which is checked.
- Wi-Fi Protected Setup (Also called WCN 2.0 in Windows Vista):** Includes a "NOTE: For SSID1 only" and an "Enable" checkbox which is checked. Below it, the "Current PIN" is displayed as 33352909. There are buttons for "Generate New PIN" and "Reset PIN to default".
- Wi-Fi Protected Status:** The status is "Configured". There are buttons for "Reset to Unconfigured" and "Add Wireless Device with WPS".
- Wireless Setting:** Includes a text input for "SSID" with the value "DWR-922". There is an "Enable Access Point" checkbox which is checked. There is a "Hide SSID" checkbox which is unchecked. The "Country" is set to "AUSTRALIA" in a dropdown menu. The "Channel" is set to "Auto Scan (recommended)" in a dropdown menu, with "(Current: CH 6)" shown below it. The "Security" is set to "None" in a dropdown menu. At the bottom of this section are "Apply" and "Reset" buttons.

Channel: Select the wireless channel. The default is **Auto Scan (recommended)**.

Security: Select the desired wireless encryption mode. **WPA/WPA2** is recommended if your clients support it. See below for details.

Wireless Security

WEP

Authentication Type: Select whether to use **Open** or **Shared** authentication.

WEP Key: For a 64-bit key, enter 10 hexadecimal (0-9, A-F) values or 5 ASCII values. For a 128-bit key, enter 26 hexadecimal values or 13 ASCII values.

WPA/WPA2

These settings apply to both **WPA2** and **WPA/WPA2** encryption types.

Cipher Type: Select **AES** or **TKIP+AES**. **AES** is the most secure, but **TKIP+AES** allows for compatibility with clients that don't support **AES**.

Group Key Interval: Enter the group key interval, or leave it at the default value (3600).

WPA Type: Select either **802.1x** to use a RADIUS server for authentication, or **PSK String** to use a Pre-Shared Key (PSK).

PSK String: If you are using a Pre-Shared Key (PSK), choose a key (between 8 and 63 characters) here.

Wireless Setting

SSID:

Enable Access Point:

Hide SSID:

Country:

Channel: (Current: CH 6)

Security:

Security:

Authentication Type:

WEP Setting

Please enter 10 or 26 hexadecimal values (0-9, A-F) or 5 or 13 ASCII values, e.g. 10 characters: 1234567890 for a 64 bit key.

WEP Key

Security:

Cipher Type:

Group Key Interval:

WPA Setting

WPA Type: 802.1x PSK String

PSK String:

Security:

Cipher Type:

Group Key Interval:

WPA Setting

WPA Type: 802.1x PSK String

Server IP Address:


Port:

Secret:

Server IP Address: If you are using a RADIUS server for authentication, enter the server IP address here.

Port: Enter the port used by your RADIUS server.

Secret: Enter the shared secret/password for your RADIUS server.



WPA Setting

WPA Type 802.1x PSK String

Server IP Address

Port

Secret

Add Wireless Device with WPS

PIN: If the device you are connecting has a PIN, enter it here and click **Connect**.

PUSH BUTTON: If the device you are connecting has a Push Button, click **Virtual Push Button**. This has the same function as the physical WPS button in the front of the router.

If you clicked **Virtual Push Button**, you will be prompted to push the button on the device you are connecting within 120 seconds.



The image shows a screenshot of the D-Link router's web interface. The top navigation bar includes the D-Link logo and several menu items: Home, Internet, Wi-Fi, LAN, Advanced, and System. On the right side of the navigation bar, there are links for HELP, Logout, and Refresh. The main content area is titled "ADD WIRELESS DEVICE WITH WPS". Below the title, there is a paragraph explaining that there are two ways to add a wireless device: PIN or Push Button. It states that if the device only has a PIN number, the user should enter it and click "Connect". If the device has both options, the user can use the "Virtual Push Button". Below this text, there is a "Virtual Push Button" button. At the bottom of the page, there is a "Virtual Push Button" section with a timer that says "Please press down the Push Button (physical or virtual) on the wireless device you are adding to your wireless network within 116 seconds...".

WLAN MAC Filter

On this page you can set access rules for the wireless function. You can choose to allow or deny specific MAC addresses.

Existing SSIDs: Select the SSID to apply the rule to.

Access Rule Status: Select whether the rule is currently **Enabled** or **Disabled**.

Access Rule: Select whether to **Allow** or **Deny** the client.

MAC Address: Enter the MAC address of the client.

Existing Access Rules: Displays a list of the current rules. To remove a rule, select it and click **Remove Selected**.

The screenshot shows the D-Link web interface for configuring WLAN MAC Filter. The top navigation bar includes the D-Link logo and icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. A sidebar on the left lists menu items: Wireless Setup, WLAN MAC Filter (highlighted), and WLAN Performance. The main content area is titled "WLAN Access Rules- Add" and contains the following configuration options:

- WLAN Access Rules**
 - Existing SSIDs: DWR-922
 - Access Rule Status: Disabled Enabled
 - Access Rule: Allow Deny
- Add WLAN Access Rules**
 - MAC Address:
 - Buttons: Apply, Reset
- Existing Access Rules**
 - Table with columns: Network, Remove, Edit
 - Button: Remove Selected

WLAN Performance

On this page you can configure advanced wireless settings. In most cases, it is recommended that you leave these settings at their defaults, unless you intend to increase wireless performance in a specific way.

Beacon Interval: Specify a value for the beacon interval. Beacons are packets sent by an access point to synchronize a wireless network. 100 is the default and recommended setting.

DTIM: A Delivery Traffic Indication Message (DTIM) is a countdown informing clients of the next window for listening to broadcast and multicast messages. The default interval is 1.

Transmitting Power: Set the transmitting power of the antennas.

Threshold for RTS: This value should remain at its default setting of 2346. If inconsistent data flow is a problem, only a minor modification should be made.

Threshold for Fragmentation: The fragmentation threshold determines whether packets will be fragmented. Packets exceeding the specified value will be fragmented before transmission. 2346 is the default setting.

WMM: WMM (Wi-Fi Multimedia) is a QoS (Quality of Service) system for your wireless network. Enable this option to improve the quality of video and voice applications for your wireless clients.

802.11 Mode: Select the desired wireless networking standards to use. The available options will depend on the wireless frequency band, as well as the currently selected security mode.

Channel Width: A higher channel width allows for faster data transmission, at the possible expense of wireless coverage and compatibility with older wireless clients. Select the optimum channel width for your wireless network from the drop-down menu.

The screenshot shows the D-Link WLAN Performance configuration page. The page has a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. The main content area is titled "WLAN Performance" and contains the following settings:

- Beacon Interval:** 100 msec. Range: 1-1000, Standard: 100
- DTIM:** 1. Range: 1-25, Standard: 1
- Transmitting Power:** 100% (dropdown)
- Threshold for RTS:** 2346. Standard: 2346
- Threshold for Fragmentation:** 2346. Standard: 2346
- WMM:** Enable
- 802.11 Mode:** Mixed 802.11n (dropdown)
- Channel Width:** Auto 20/40 MHz (dropdown)

Buttons for "Apply" and "Reset" are located at the bottom of the configuration area.

LAN LAN Setup

On this page you can configure the local network settings of your router.

IP Address: Enter the IP address of the router. The default is **192.168.1.1**. If you change the IP address, you will need to enter the new IP address in your browser to get into the configuration utility.

Subnet Mask: Enter the subnet mask of the router. The default subnet mask is **255.255.255.0**.

IGMP Snooping: Check the box to enable IGMP snooping.

Secondary IP Enable: Check the box to assign a secondary IP address to the router.

Secondary IP Address: If a secondary IP address is enabled, enter the new IP address.

Secondary Subnet Mask: If a secondary IP address is enabled, enter the subnet mask.

Local Domain Name: Enter the local domain name for your network.

The screenshot displays the D-Link web interface for LAN Setup. At the top, there is a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. The LAN Setup page is selected, and the IP Interface Configuration section is visible. The configuration fields are as follows:

Field	Value
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
IGMP Snooping	<input checked="" type="checkbox"/>
Secondary IP Enable	<input type="checkbox"/>
Secondary IP Address	
Secondary Subnet Mask	
Local Domain Name	

Buttons for 'Apply' and 'Reset' are located at the bottom of the configuration section.

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DHCP

On this page you can configure the Dynamic Host Configuration Protocol (DHCP) settings.

DHCP Server Enable: Check the box to enable the DHCP server on your router.

IP Range: Enter the range of IPs for the DHCP server to use to assign IP addresses to devices on your network.

Subnet Mask: Enter the subnet mask for the DHCP server to use

DNS Server: Enter the IP address of the DHCP server (the default is the router's IP address).

Secondary DNS Server: Enter the IP address of a secondary DNS server, if applicable.

Domain Name: Enter the domain name.

IP Router: Enter the IP address of the IP router.

DHCP Lease Time: Enter the lease time for DHCP assignments. The default is 86400.

DHCP Static Address Configuration: Check **Enable** to assign a new static IP address. Enter the MAC address of the client to assign, and the IP address that you want to assign to it.

The screenshot shows the D-Link router's DHCP Server configuration page. The page is titled "DHCP Server" and has a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. The DHCP Server configuration section includes the following fields:

- DHCP Server Enable:**
- IP Range:** 192.168.1.2 - 192.168.1.254
- Subnet Mask:** 255.255.255.0
- DNS Server:** 192.168.1.1
- Secondary DNS Server:** (empty)
- Domain Name:** (empty)
- IP Router:** 192.168.1.1
- DHCP Lease Time:** 86400 (seconds)

There are "Apply" and "Reset" buttons below the configuration fields. Below the configuration fields is a table for Existing DHCP Clients:

Existing DHCP Client	IP Address	MAC Address	Lease Time
07586PCWin7E	192.168.1.2	00:24:7e:02:20:13	86389

Below the table is the DHCP Static Address Configuration section, which includes an "Enable" checkbox (unchecked), and fields for "MAC Address" and "IP Address". There are "Apply" and "Reset" buttons below this section.

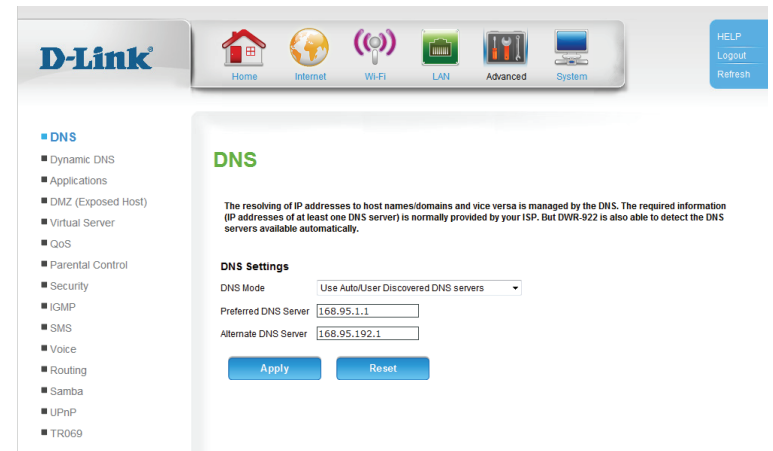
Advanced DNS

On this page you can configure the Domain Name System (DNS) server, which manages the resolution of host/domain names to IP addresses.

DNS Mode: Select **Use Auto/User Discovered DNS servers**, **Use only automatically detected DNS servers**, or **Use only manually specified DNS servers**.

Preferred DNS Server: Enter the primary DNS server address.

Alternate DNS Server: Enter an alternate DNS server address.



Dynamic DNS

On this page you can configure the Dynamic Domain Name System (DDNS) settings. Using a dynamic DNS service provider, people can enter your domain name in their web browser to connect to your server no matter what your IP address is.

Dynamic DNS Settings: Select whether to **Enable** or **Disable** DDNS.

DDNS Server: Select your DDNS server.

Username: Enter your username for the DDNS server.

Password: Enter your password for the DDNS server.

Confirm Password: Re-enter your password for the DDNS server.

Hostname: Enter the hostname that you registered with your dynamic DNS service provider.

The screenshot shows the D-Link Dynamic DNS configuration interface. The left sidebar contains a menu with the following items: DNS, Dynamic DNS (selected), Applications, DMZ (Exposed Host), Virtual Server, QoS, Parental Control, Security, IGMP, SMS, Voice, Routing, Samba, UPnP, and TR069. The main content area is titled 'Dynamic DNS' and includes a sub-header 'Dynamic DNS Settings'. The settings are as follows:

- Dynamic DNS Settings: Disable Enable
- DDNS Server: www.dyndns.org
- Username: wiad-DWR-922C1
- Password: [masked]
- Confirm Password: [masked]
- Hostname: wiad-DWR-922C1.dyndns.org

Buttons for 'Apply' and 'Reset' are located at the bottom of the settings section.

Applications

On this page you can configure Application Layer Gateway (ALG) settings, allowing certain protocols to work through the NAT/firewall. You can also specify special application rules, to open ports on your firewall and allow certain applications access to your network.

Enable PPTP: Check the box to enable PPTP.

Enable L2TP: Check the box to enable L2TP.

Enable IPSec: Check the box to enable IPSec.

Enable Application: Select whether to **Enable** or **Disable** the specified application.

Interface: Select the interface to apply the application rule to.

Name: Enter a name for the application rule.

Trigger Protocol: Select the protocol to use to trigger the rule.

Trigger Port: Enter the port or range of ports to listen to in order to trigger the rule.

Public Protocol: Select the protocol that will be used to access the application.

Public Port: Enter the port or range of ports that will be used to access the application.

The screenshot shows the D-Link web interface for configuring applications. The top navigation bar includes Home, Internet, Wi-Fi, LAN, Advanced, and System. The left sidebar lists various settings: DNS, Dynamic DNS, Applications (selected), DMZ (Exposed Host), Virtual Server, QoS, Parental Control, Security, IGMP, SMS, Voice, Routing, Samba, UPnP, and TR069. The main content area is divided into two sections:

- Application Layer Gateway:** This section has three checkboxes: "Enable PPTP" (checked), "Enable L2TP" (checked), and "Enable IPSec" (checked). Below these are "Apply" and "Reset" buttons.
- Special Application:** This section includes a radio button for "Enable Application" (set to "Disabled") and "Enabled". It has several input fields: "Interface" (set to "Both"), "Name" (empty), "Trigger Protocol" (set to "All Protocol"), "Trigger Port" (empty), "Public Protocol" (set to "All Protocol"), and "Public Port" (empty). Below these are "Apply" and "Reset" buttons.

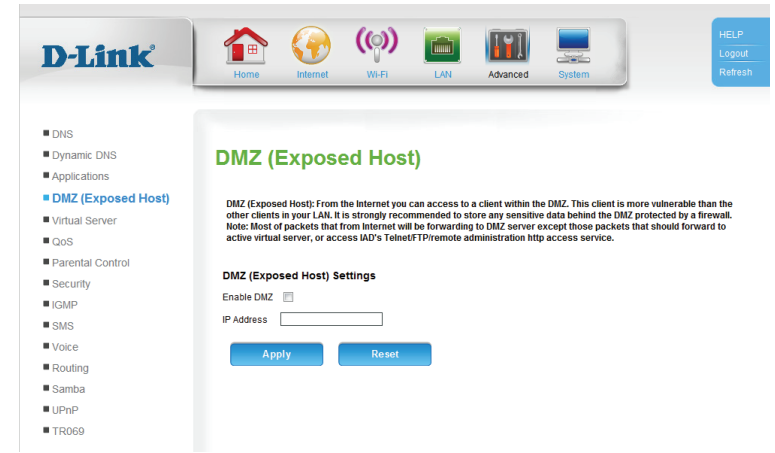
A note under the "Special Application" section states: "The Application is used to open single or multiple ports in your firewall when the router senses data sent to the Internet on a outgoing 'Trigger' port or port range. Applications rules apply to all computers on your internal network."

DMZ (Exposed Host)

On this page you can enable or disable Demilitarized Zone (DMZ). This completely exposes the client to threats over the Internet, and is not recommended in ordinary situations.

Enable DMZ: Check the box to enable DMZ.

IP Address: Enter the IP address of the client you wish to expose.



The screenshot displays the D-Link web interface for configuring DMZ settings. The top navigation bar includes the D-Link logo and icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. A sidebar on the left lists various configuration categories, with 'DMZ (Exposed Host)' selected. The main content area is titled 'DMZ (Exposed Host)' and contains a warning message: 'DMZ (Exposed Host): From the Internet you can access to a client within the DMZ. This client is more vulnerable than the other clients in your LAN. It is strongly recommended to store any sensitive data behind the DMZ protected by a firewall. Note: Most of packets that from Internet will be forwarding to DMZ server except those packets that should forward to active virtual server, or access IAD's Telnet/FTP/remote administration http access service.' Below this, the 'DMZ (Exposed Host) Settings' section includes a checkbox for 'Enable DMZ' (which is currently unchecked) and a text input field for 'IP Address'. At the bottom of the settings section are 'Apply' and 'Reset' buttons.

Virtual Server

The device can be configured as a virtual server so that users can access services such as web or FTP via the public (WAN) IP address of the router.

Enable Virtual Server Rules: Check the box to enable the virtual server.

Name: This identifies the rule.

Interface: Select the interface to apply the rule to.

Internal IP: Enter the local IP address to use as the virtual server.

Internal Start Port: Enter the starting local port you want to forward to.

Internal End Port: Enter the ending local port you want to forward to.

External Start Port: Enter the starting public port you want to open.

External End Port: Enter the ending public port you want to open.

Protocol Type: Select the protocol type, **TCP** or **UDP** for the virtual server rule.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

- DNS
- Dynamic DNS
- Applications
- DMZ (Exposed Host)
- **Virtual Server**
- QoS
- Parental Control
- Security
- IGMP
- SMS
- Voice
- Routing
- Samba
- UPnP
- TR069

Virtual Server

The externally acts as server. It receives the requests of remote users under its public IP address and forwards them automatically to the Virtual Server. So a client in your network behind NAT or firewall can provide services as a Virtual Server. You just have to enable specific ports or port ranges and protocols (UDP/TCP). File sharing or web services for e.g. HTTP, FTP or POP3 are possible. The private IP addresses of the servers in the local network remain safe. If you have a dynamic IP address, you may want to enable DynDNS additionally.

Add Virtual Server Rules

Enable Virtual Server Rules

Name

Interface

Internal IP

Internal Start Port

Internal End Port

External Start Port

External End Port

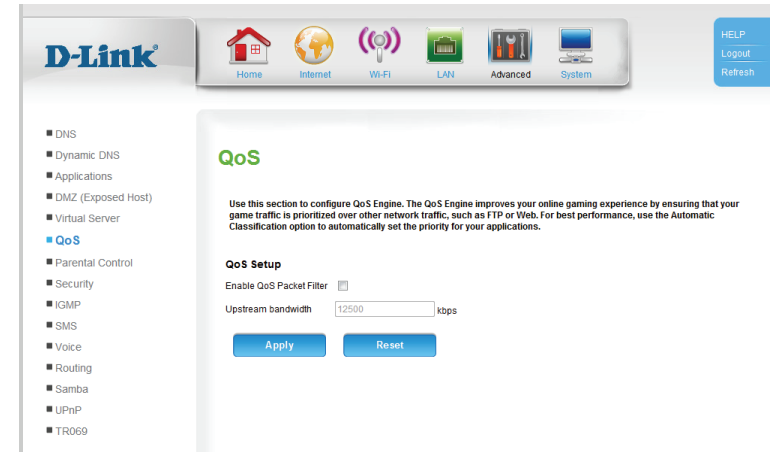
Protocol Type

QoS

On this page you can configure the router's Quality of Service (QoS) engine, which prioritizes important network traffic, such as online gaming, Internet phone calls, and video streaming, over ordinary traffic, such as web browsing and file transferring.

Enable QoS Check the box to enable Quality of Service (QoS).
Packet Filter:

Upstream bandwidth: Set this as closely as possible to your Internet upload bandwidth. If you are not sure, leave it at its default value, for best results.



Parental Control

On this page you can restrict Internet access to particular URLs, or whole domains.

Parental Control: To enable parental control, select either **URL Blocking** or **Domain Blocking**. Next, select **Only deny URL/Domain Blocking listed below to access the network**. Lastly, fill out the details that appear below.

Active: Check the box to enable the rule.

Name: Enter the name of the rule.

URL Keyword / Domain: Enter part of the URL or the domain you want to filter.

Port: Enter the port number of the URL, if required.

The screenshot shows the D-Link web interface. The left sidebar contains a navigation menu with the following items: DNS, Dynamic DNS, Applications, DMZ (Exposed Host), Virtual Server, QoS, **Parental Control** (highlighted), Security, IGMP, SMS, Voice, Routing, Samba, UPnP, and TR069. The main content area is titled "Parental Control" and includes the following text: "Parental Control provides the useful tools for restricting Internet access. Website URL Blocking allows you to quickly create a list of all web sites that you wish to allow or deny users from accessing." Below this, there are two radio buttons for "Parental Control": "URL Blocking" and "Domain Blocking" (selected). Under "Domain Blocking", there are two radio buttons: "Disable" (selected) and "Only deny Domain Blocking listed below to access the network". An "Apply" button is visible. Below the "Apply" button, there is a section for "Domain Blocking" with an "Active" checkbox (unchecked), a "Name" input field, and a "Domain Keyword" input field with a note "(Keyword Format: sex.com)". Another "Apply" button is at the bottom of this section.

The screenshot shows the D-Link web interface. The left sidebar contains a navigation menu with the following items: DNS, Dynamic DNS, Applications, DMZ (Exposed Host), Virtual Server, QoS, **Parental Control** (highlighted), Security, IGMP, SMS, Voice, Routing, Samba, UPnP, and TR069. The main content area is titled "Parental Control" and includes the following text: "Parental Control provides the useful tools for restricting Internet access. Website URL Blocking allows you to quickly create a list of all web sites that you wish to allow or deny users from accessing." Below this, there are two radio buttons for "Parental Control": "URL Blocking" (selected) and "Domain Blocking". Under "URL Blocking", there are two radio buttons: "Disable" (selected) and "Only deny URL Blocking listed below to access the network". An "Apply" button is visible. Below the "Apply" button, there is a section for "URL Blocking" with an "Active" checkbox (unchecked), a "Name" input field, a "URL Keyword" input field, and a "Port" input field. Another "Apply" button is at the bottom of this section.

Security

This page allows you to configure your firewall, DDoS, SPI, and MAC filter settings.

Security: Select either **Firewall**, **DDoS & SPI**, or **MAC Filter** to bring up the relevant settings for that security type

Firewall

The **Firewall** option allows you to configure the DWR-922's firewall, and allow or deny access to your network over specific ports and addresses.

Firewall Interface: To configure a new firewall interface, first enter a **Name**, and specify the **Interface**, **Type**, and the **Default Action**. Click **Apply** to save the new interface.

Firewall Rules: To configure the firewall rules, you must have first configured a firewall interface (see above). Select an interface you have configured from the drop-down menu. You can select whether the rule is **Enabled** or **Disabled**, to temporarily turn it on or off without removing it entirely.

Next, fill out the source and destination IP and port information, and select the **Protocol** and **Action**. Selecting an action will override the default action set in the firewall interface.

Click **Apply** to save the rule.

Security

Firewall DDOS& SPI MAC Filter

Security

Firewall is used to manage outgoing or incoming IP traffic. It is possible to permit or deny the access from/to WAN/LAN for specified IP address and port fields. DDoS prevents the network from DDoS attack, such as ICMP flood, SYN flood, etc. MAC Filter can be used to allow or deny computers with MAC address to the network.

Security

Firewall DDOS& SPI MAC Filter

Firewall

Firewall Interface Firewall Rules

Firewall Interface

Name:

Interface:

Type:

Default Action:

Security

Firewall DDOS& SPI MAC Filter

Firewall

Firewall Interface Firewall Rules

Firewall Rules

This item cannot be set because there is no firewall interface setting.

Interface: Name:

Enable: Disabled Enabled

Protocol:

Action:

Source IP Address:

Source IP Mask:

Destination IP Address:

Destination IP Mask:

Source Ports: (port or port-port)

Destination Ports: (port or port-port)

DDoS & SPI

The **DDoS & SPI** feature protects against Distributed Denial of Service (DDoS) attacks, and helps to prevent cyber attacks by validating that the traffic passing through the session conforms to the protocol.

Interface: Select the network interface.

DDoS & SPI: Check the box to enable DDoS & SPI protection.

Click **Apply** to save your settings.

Mac Filter

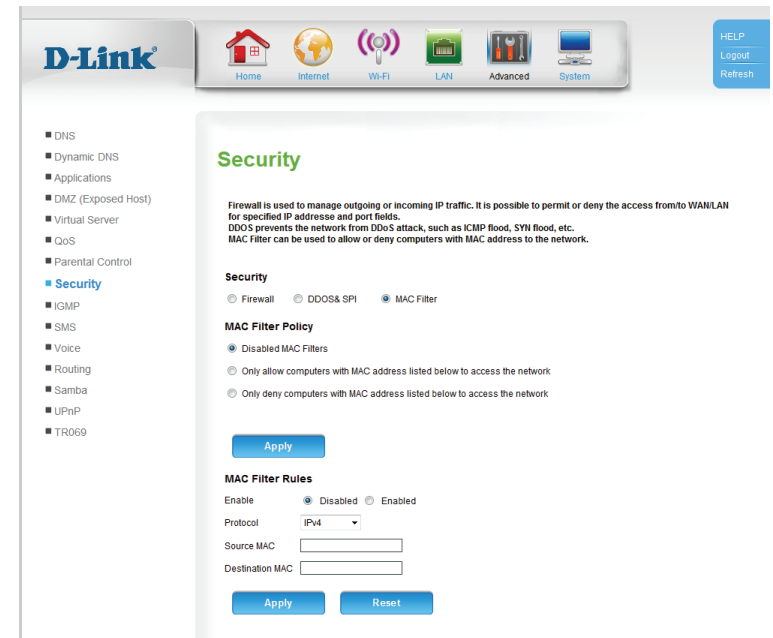
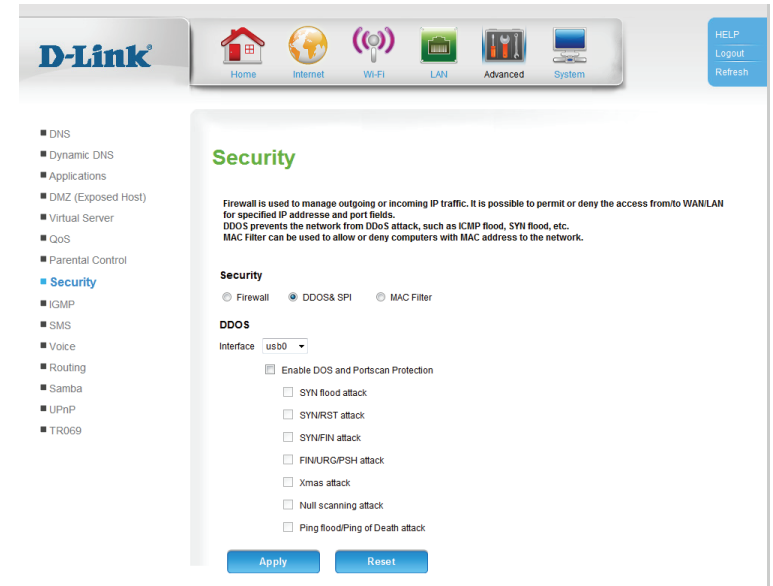
The **MAC Filter** allows you to control which MAC addresses have access to the network.

MAC Filter To enable the MAC filter, select **Only allow computers...** or **Only Policy: deny computers....** If you are only allowing the specified MAC addresses to access the network, then devices will not be able to connect unless you create a rule and enter their MAC address.

Click **Apply** to save your settings.

MAC Filter Rules: Select whether the rule is **Enabled** or **Disabled**, to temporarily turn it on or off without removing it entirely. Select the **Protocol**, and then enter the **Source MAC** and **Destination MAC** addresses.

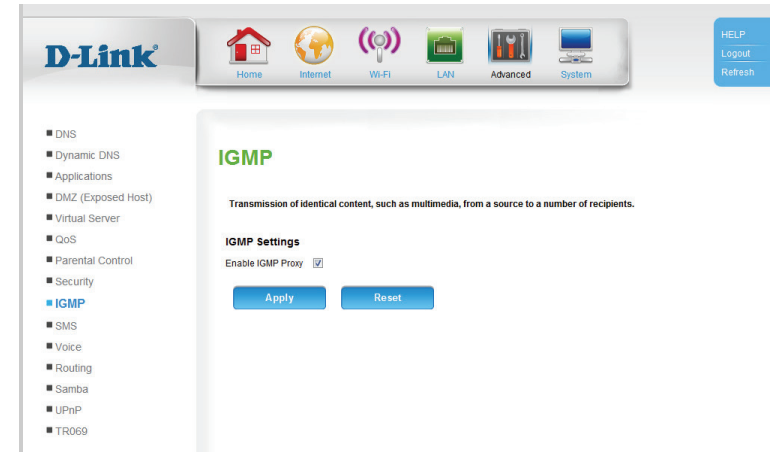
Click **Apply** to save the rule.



IGMP

This page allows you to configure the router's Internet Group Management Protocol (IGMP) settings. IGMP is a method to transmit data to multiple recipients.

Enable IGMP Proxy: Check the box to enable router to act as an IGMP proxy.



SMS

On this page you can send and receive SMS messages.

From/To: Enter the **From** and **To** phone numbers, and type the message below. When you wish to send the message, click **Send**.

SMS Inbox: You will see a list of all received messages. Click on the message to view it, **Delete** to delete the selected message, **Delete All** to delete all messages, and **Refresh** to check for new messages.

The screenshot displays the D-Link web interface for the SMS configuration page. At the top, there is a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System, along with a HELP, Logout, and Refresh button. A left sidebar contains a menu of configuration options, with SMS highlighted in blue. The main content area is titled 'SMS' and includes a sub-header 'Message Service provides the useful tools for message management.' Below this, there are input fields for 'From:' and 'To:', and a large text area for the message content. A 'Send' button is positioned below the text area. Underneath, the 'SMS Inbox' section shows statistics: 'Received SMS: 0', 'New SMS: 0', and 'Total Capacity: 20'. A table with columns for 'From', 'Timestamp', and 'Text' is present, followed by 'Reply', 'Forward', and 'Remove' buttons. At the bottom of the inbox section, there are 'Delete', 'Delete All', and 'Refresh' buttons.

Voice

This page allows you to set up voice features. Each section can be accessed by selecting the appropriate option under **Voice Settings**.

Lines and Accounts

This page allows you to configure up to 5 VoIP profiles, 5 VoIP lines, and 1 analog account. These accounts establish inbound and outbound voice connections.

VoIP Profile

Here you can see a list of existing VoIP profile accounts. To remove an account, click that account's **Remove** button, and to edit the account click its **Edit** button.

To add a new profile account, click **Add**. More options will appear.

For the new profile to be active, make sure **Active** is selected, and give the new profile a **Name**.

Select the **Network Interface** that the profile will use.

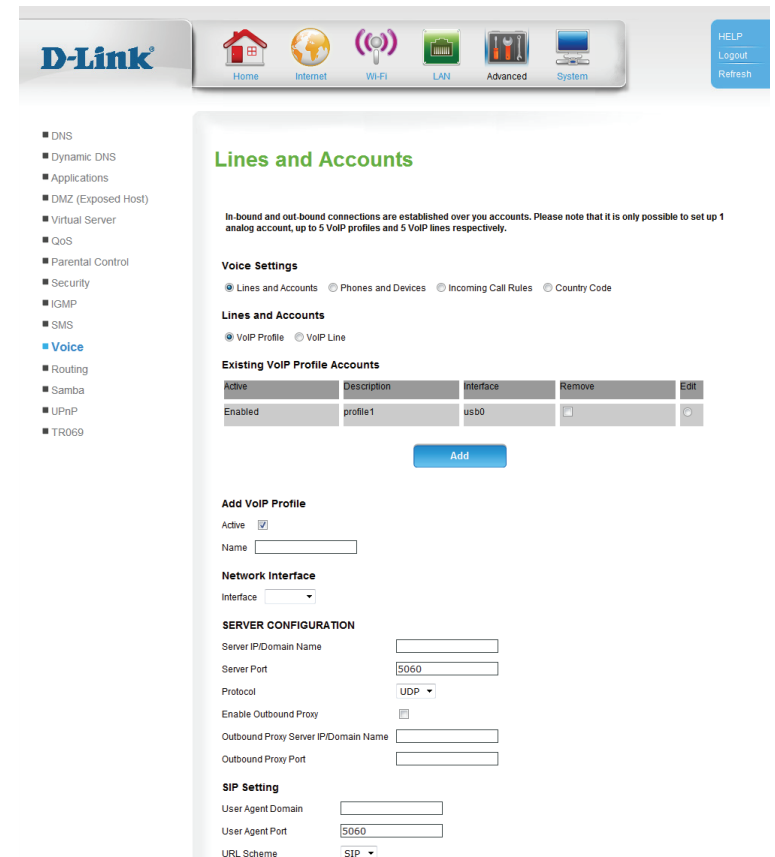
Server IP / Domain Name: Enter the VoIP server IP address or domain name.

Domain Name:

Server Port: Enter the server port number, or leave it at its default.

Protocol: Select the desired protocol to use for VoIP communications.

Enable Outbound Proxy: Check the box to use a network proxy for outbound VoIP communications. Enter the details below.



D-Link

Home Internet Wi-Fi LAN Advanced System

HELP
Logout
Refresh

- DNS
- Dynamic DNS
- Applications
- DMZ (Exposed Host)
- Virtual Server
- QoS
- Parental Control
- Security
- IGMP
- SMS
- **Voice**
- Routing
- Samba
- UPnP
- TR069

Lines and Accounts

In-bound and out-bound connections are established over you accounts. Please note that it is only possible to set up 1 analog account, up to 5 VoIP profiles and 5 VoIP lines respectively.

Voice Settings

Lines and Accounts
 Phones and Devices
 Incoming Call Rules
 Country Code

Lines and Accounts

VoIP Profile
 VoIP Line

Existing VoIP Profile Accounts

Active	Description	Interface	Remove	Edit
Enabled	profile1	usb0	<input type="checkbox"/>	<input type="checkbox"/>

Add

Add VoIP Profile

Active

Name

Network Interface

Interface

SERVER CONFIGURATION

Server IP/Domain Name

Server Port

Protocol

Enable Outbound Proxy

Outbound Proxy Server IP/Domain Name

Outbound Proxy Port

SIP Setting

User Agent Domain

User Agent Port

URL Scheme

Outbound Proxy Server IP / Domain Name: Enter the outbound proxy server IP address or domain name.

Outbound Proxy Port: Enter the port number for the outbound proxy server.

The remaining settings are for advanced users. Please check with your phone provider, or leave the settings at their defaults if you are not sure.

Click **Apply** when you are done.

Add VoIP Profile

Active

Name

Network Interface

Interface

SERVER CONFIGURATION

Server IP/Domain Name

Server Port

Protocol

Enable Outbound Proxy

Outbound Proxy Server IP/Domain Name

Outbound Proxy Port

SIP Setting

User Agent Domain

User Agent Port

URL Scheme

User Parameter

Initial Unregister

Register Expires

Session Expires

SIP DSCP

Min-SE

Session Expires Refresher

DTMF Type

DTMF Payload

Enable RPORT

RTP Features

RTP Port Lower

RTP Port Upper

RTP DSCP

FAX

Mode

Bit Rate

Max Buffer Size

Max Datagram

Use RTP Port

Start Port

VoIP Line

Here you can see a list of existing VoIP lines. To remove a line, click that line's **Remove** button, and to edit the account click its **Edit** button.

To add a new line, click **Add**. More options will appear.

For the new line to be active, make sure **Active** is selected, and give the new line a **Name**.

Please check with your phone provider for the correct settings.

Profile: Select a VoIP profile from the drop-down menu. These can be configured under **VoIP Profile**.

Number: Enter the phone number of the line.

Username: Enter the username.

Password: Enter the password.

Confirm Password: Re-enter the password, for confirmation.

Password:

Codec Priority & Packet Interval: For each codec, you can specify the priority and packet interval from the drop-down menus. Leave at the defaults if you are not sure.

Click **Apply** when you are done.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

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- Virtual Server
- QoS
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- Security
- IGMP
- SMS
- **Voice**
- Routing
- Samba
- UPnP
- TR069

Lines and Accounts

In-bound and out-bound connections are established over you accounts. Please note that it is only possible to set up 1 analog account, up to 5 VoIP profiles and 2 VoIP lines respectively.

Voice Settings

Lines and Accounts
 Phones and Devices
 Incoming Call Rules
 Country Code

Lines and Accounts

VoIP Profile
 VoIP Line

Existing VoIP lines

Active	Description	Number	Remove	Edit
Enabled	voip1			

[Add](#)

Add VoIP Line

Active

Name

VOIP LINE CONFIGURATION

Profile

Number

Username

Password

Confirm Password

Codec Priority & Packet Interval

G.711u-law Enable ms

G.711a-law Enable ms

G.729a Enable ms

[Apply](#) [Reset](#)

Phones and Devices

This page allows you to configure your connected phone devices. Each section can be accessed by selecting the appropriate option under **Phones and Devices**.

Analog Phones

Existing Analog Phones: Displays a list of connected analog phones.

Edit Analog Phone: First, select a device by clicking on the **Edit** radio button in the **Existing Analog Phones** table above. Next, configure the phone settings below. If you are not sure, leave the settings at their defaults, or contact your phone manufacturer.

Incoming Accounts: Check the **Enable for Incoming** box to enable the phone to receive calls from the specified accounts.

Click **Apply** when you are done.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

- DNS
- Dynamic DNS
- Applications
- DMZ (Exposed Host)
- Virtual Server
- QoS
- Parental Control
- Security
- IGMP
- SMS
- **Voice**
- Routing
- Samba
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- TR069

Phones and Devices

Here you can administrate your attached devices. It's possible to connect with 1 analog device, 10 external call diversions (forwarding) respectively.

Voice Settings

Lines and Accounts
 Phones and Devices
 Incoming Call Rules
 Country Code

Phones and Devices

Analog Phones
 External Call Forwarding

Existing Analog Phones

Name	Account	Edit
AnalogPhone1	21	<input checked="" type="radio"/>

Edit Analog Phone

Active

Name

Connect via

TX Gain

RX Gain

Enable EC

Enable VAD

Caller ID Display

Caller ID Delivery

Call Waiting

Call Transfer

Incoming Accounts

Enable for Incoming	Account
<input checked="" type="checkbox"/>	voip1-
<input type="checkbox"/>	voip2-011111111111

Apply Reset

External Call Forwarding

Click **Add** to configure a new call diversion (forwarding). More settings will appear.

Add External Call Forwarding: Check **Active External Call Forwarding** to enable the new rule. Enter a **Name** of your choice, and enter the **Forwarding Number** to forward incoming calls to. Finally, select the VoIP account that the rule should use, under the **Connect via** drop-down menu.

Click **Apply** when you are done.

The screenshot shows the D-Link router's web interface. The top navigation bar includes the D-Link logo and icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. A HELP menu with Logout and Refresh options is in the top right. A left sidebar lists various configuration categories, with 'Voice' highlighted. The main content area is titled 'Phones and Devices' and contains the following elements:

- A header: "Here you can administrate your attached devices.It's possible to connect with 1 analog device, 10 external call diversions (forwarding) respectively."
- Voice Settings**: Radio buttons for Lines and Accounts, **Phones and Devices**, Incoming Call Rules, and Country Code.
- Phones and Devices**: Radio buttons for Analog Phones and **External Call Forwarding**.
- An **Add** button.
- Add External Call Forwarding** section:
 - Active Exdernal Call Forwarding:
 - Name:
 - Forwarding Number:
 - Connect via:
 - Apply** and **Reset** buttons.

Incoming Call Rules

This page allows you to configure the inbound call rules.

Account: Select a previously-configured VoIP account from the drop-down menu.

Click **Edit Rules** to display a list of currently-configured rules.

Analog Phones: Displays a list of analog phone devices and their statuses.

External Call Divisions (forwarding): Click **Add/Apply** to add a new rule.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

- DNS
- Dynamic DNS
- Applications
- DMZ (Exposed Host)
- Virtual Server
- QoS
- Parental Control
- Security
- IGMP
- SMS
- **Voice**
- Routing
- Samba
- UPnP
- TR069

Incoming Call Rules

Incoming Call Rules manage the handling of in-bound calls. For every account you can define which phone is supposed to ring or forward this in-bound to external.

Voice Settings

Lines and Accounts Phones and Devices Incoming Call Rules Country Code

Incoming Call Rules

Please select an account for this Call Rule

Account: voip1

[Edit Rules](#)

Edit Incoming Call Rule--voip1

Analog Phones

Status	Name
<input checked="" type="checkbox"/>	AnalogPhone1

External Call Divisions (forwarding)

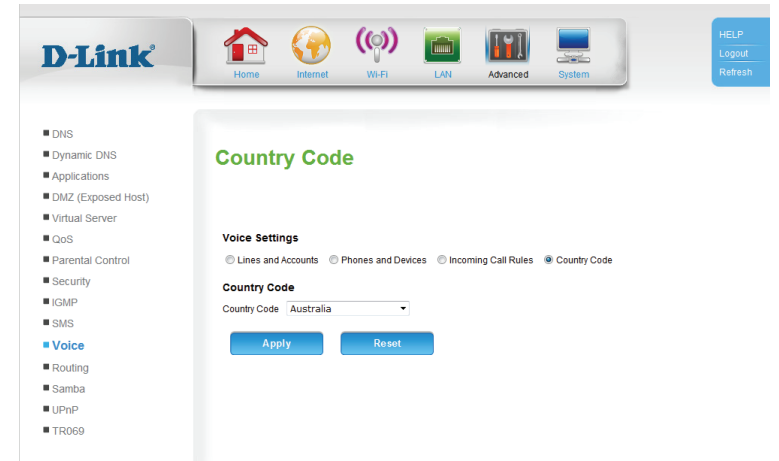
Status	Description	Extension	Connect via	Condition
Add/Apply				

Country Code

This page allows you to specify the default country code of outbound phone calls.

Country Code: Select the country from the drop-down menu. The appropriate country code will be applied to each outgoing call.

Click **Apply** when you are done.



Routing

This page allows you to specify custom routes that determine how data is moved around your network.

Enable Routing Rule: Check the box to enable the rule.

Destination IP Address: Enter the IP of the specified network that you want to access using the static route.

Destination Subnet Mask: Enter the subnet mask to be used for the specified network.

Interface: Select the interface to be used for the rule.

Gateway IP Address: Enter the gateway IP address for the specified network.

Metric: Enter the metric to be used for the rule.

The screenshot shows the D-Link web interface for the Routing configuration page. The navigation menu on the left includes options like DNS, Dynamic DNS, Applications, DMZ, Virtual Server, QoS, Parental Control, Security, IGMP, SMS, Voice, Routing (selected), Samba, UPnP, and TR069. The main content area is titled 'Routing' and contains the following text: 'The routes for the traffic in your network are defined in the routing table. Normally, the entries for IP Address and Gateway are sufficient. You do not need to define any settings.' Below this is the 'Add Routing (Maximum 20 Rules)' section, which includes a checkbox for 'Enable Routing Rule', and input fields for 'Destination IP Address', 'Destination Subnet Mask', 'Interface' (a dropdown menu), 'Gateway IP Address', and 'Metric'. An 'Add/Apply' button is located at the bottom of this section.

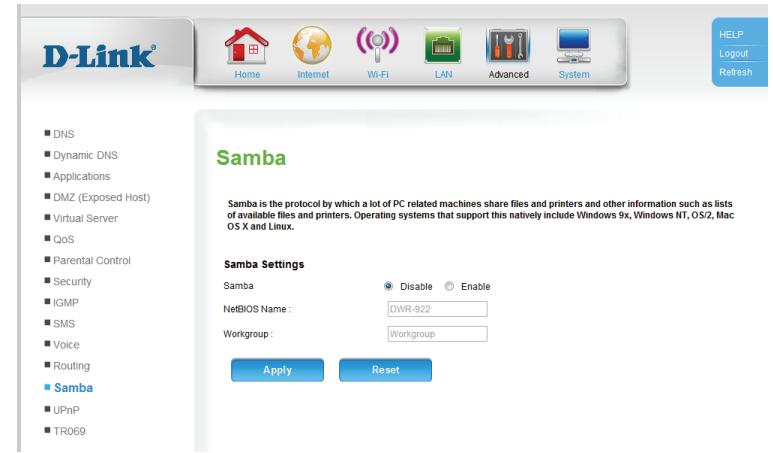
Samba

This page allows you to configure the router's Samba file and printer sharing settings.

Samba: Select **Enable** to enable Samba sharing, or **Disable** to disable it.

NetBIOS Name: Enter a name to identify the device when sharing data.

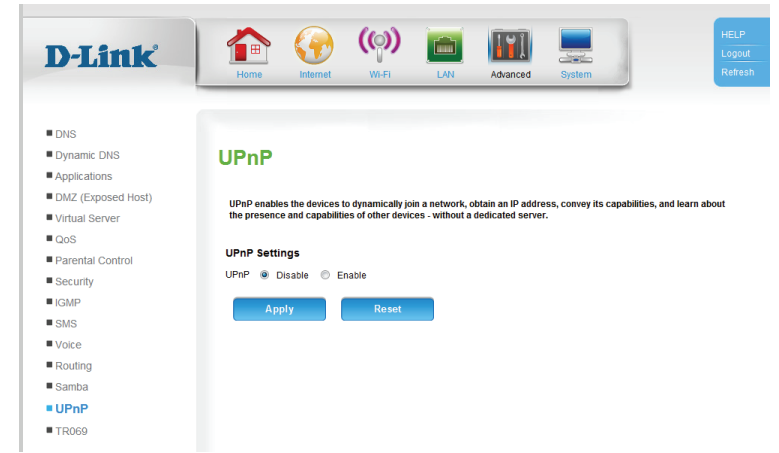
Workgroup: Enter the name of the workgroup to share data with.



UPnP

This page allows you to configure the router's Universal Plug and Play (UPnP) settings. UPnP provides compatibility with various networking equipment, software, and peripherals.

UPnP: Check the box to enable the Universal Plug and Play (UPnP) feature.



TR069

This page allows you to configure the router's TR069 settings. TR-069 provides standardized remote device management for residential gateways, which allows your router to be configured remotely by your ISP (if supported), or any service providing Auto-Configuration Servers (ACS). If you wish to configure TR069 but lack the required settings, contact your Internet Service Provider (ISP).

TR069: Check the box to enable TR069.

Interface: Select the interface to use.

Username: Enter your ACS username.

Password: Enter your ACS password.

ACS URL: Enter the ACS URL.

CPE URI: Enter the CPE URI.

CPE Port: Enter the CPE Port.

Inform Configure: Select either **Disable** or **Periodic**.

Periodic Interval: If you selected **Periodic** above, enter the interval here.

Schedule Time: Select the **Month, Day, Year, Hour, Minute, and Second**.

STUN Enable: Select **Enable** to enable Session Traversal Utilities for NAT (STUN).

STUN Server Address: If you selected **Enable** above, enter the STUN server address.

STUN Server Port: Enter the STUN server port.

The screenshot shows the D-Link router's configuration interface for TR069. The page title is "TR069" and it includes a navigation bar with icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. A sidebar on the left lists various configuration categories, with TR069 selected. The main content area is titled "TR069 Management" and contains the following settings:

- TR069:** (checked)
- Interface:**
- Username:**
- Password:**
- ACS URL:**
- CPE URI:**
- CPE Port:**
- Inform Configure:** Disable Periodic
- Periodic Interval:** Seconds
- Schedule Time:**
 - Month:**
 - Day:**
 - Year:**
 - Hour:**
 - Minute:**
 - Second:**
- STUN Enable:** Disable Enable
- STUN Server Address:**
- STUN Server Port:**
- STUN Username:**
- STUN Password:**
- STUN UDP Listen Port:**

At the bottom of the form are "Apply" and "Reset" buttons.

STUN Username: Enter the STUN username.

STUN Password: Enter the STUN password.

STUN UDP Listen Port: Enter the STUN UDP listen port.

The screenshot shows the D-Link web interface for configuring TR069. The left sidebar lists various configuration categories, with 'TR069' selected. The top navigation bar includes icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. The right sidebar contains 'HELP', 'Logout', and 'Refresh' buttons. The main content area is titled 'TR069' and contains the following configuration options:

- TR069 Management**: A section header.
- TR069**: A checkbox that is checked.
- Interface**: A dropdown menu.
- Username**: A text input field containing 'test'.
- Password**: A password input field containing '*****'.
- ACS URL**: A text input field containing 'http://5.51.33.20:80'.
- CPE URI**: A text input field.
- CPE Port**: A text input field containing '8082'.
- Inform Configure**: Radio buttons for 'Disable' and 'Periodic', with 'Periodic' selected.
- Periodic Interval**: A text input field containing '15' followed by 'Seconds'.
- Schedule Time**: A section with dropdown menus for Month (Sep), Day (5), Year (2006), Hour (14), Minute (10), and Second (10).
- STUN Enable**: Radio buttons for 'Disable' and 'Enable', with 'Disable' selected.
- STUN Server Address**: A text input field.
- STUN Server Port**: A text input field containing '3478'.
- STUN Username**: A text input field.
- STUN Password**: A password input field.
- STUN UDP Listen Port**: A text input field containing '3478'.
- Buttons**: 'Apply' and 'Reset' buttons at the bottom.

System Time Settings

This section will help you set your time zone and specify an NTP (Network Time Protocol) server. Daylight Saving can also be configured to adjust the time when needed.

Time: Displays the router's current time.

Sync with NTP Servers: Check the box to automatically update the time in accordance with the currently configured NTP servers.

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

Daylight Saving Settings: Check the box to enable daylight saving adjustments.

Time Update Interval: Enter the interval in seconds between time updates from the currently configured NTP server.

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

Secondary NTP Server: Enter the address of the secondary (backup) NTP server.

The screenshot shows the D-Link router's web interface for Time Settings. The top navigation bar includes Home, Internet, Wi-Fi, LAN, Advanced, and System. The left sidebar lists various settings categories, with Time Settings highlighted. The main content area displays the current time as 12/31/1999 16:22:48. There are checkboxes for 'Sync with NTP Servers' (checked) and 'Daylight Saving Settings' (unchecked). A dropdown menu for 'Time Zone' is set to '(GMT-08:00) Pacific Time (US & Canada), Tijuana'. The 'Time Update Interval' is set to 3600 seconds. There are input fields for 'Primary NTP Server' (time.nist.gov) and 'Secondary NTP Server'. 'Apply' and 'Reset' buttons are at the bottom.

Administration

On this page you can configure the router's username and password, the remote management address, and the various protocols with which to access the network.

Username: The username is always **admin**, and cannot be changed.

Password: Enter the new password to access the configuration interface of the router.

Confirm Password: Re-enter the new password for verification.

Remote Management IP Address: To enable remote management, enter the IP address that the router will use for remote management.

Access Management: For each protocol, check the **Enable** box under either **LAN Access**, **WAN Access**, or both, and specify a **Port**.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

- Time Settings
- Administration**
- System Settings
- Firmware Update
- System Log
- Device Info
- Log Info
- Statistics
- ARP Table Info
- Routing Table Info

Administrator

Here you can change the password for the administrator.
The username (admin) can not be changed.

Administrator Settings

Username:

Password:

Confirm Password:

Remote Administration

Remote Management IP Address:

Access Management

Access Management	LAN Access		WAN Access	Port
	Enable	Enable	Enable	
HTTP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="1080"/>
Telnet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="2323"/>
TFTP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="6969"/>
ICMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Apply Reset

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System Settings

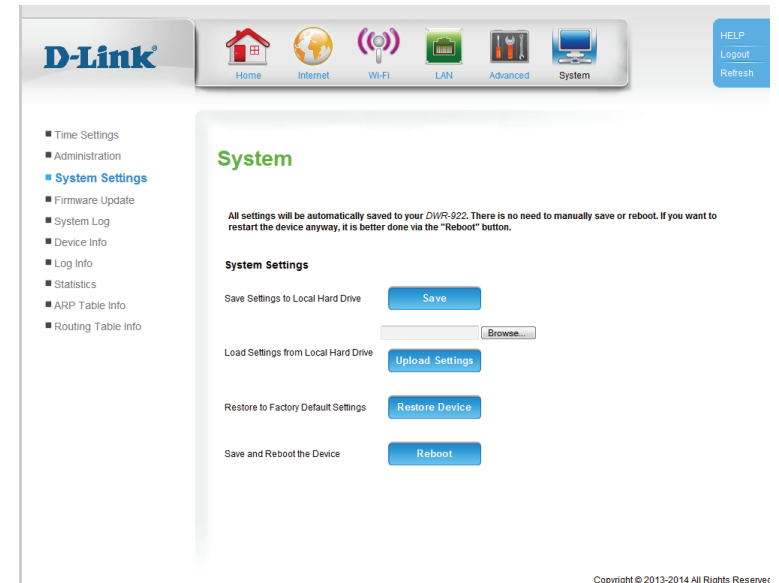
On this page you can save your current configuration settings to a local hard drive for backup and re-use, load previously saved settings, restore the factory default settings, and reboot the device.

Save Settings to Local Hard Drive: To save the current configuration, click **Save**.

Load Settings from Local Hard Drive: To load a previously saved configuration, click **Browse...** and navigate to the saved configuration file. Lastly, click **Upload Settings**.

Restore to Factory Default Settings: To restore the router to its default settings, click **Restore Device**. Note that any unsaved settings will be lost.

Save and Reboot the Device: Click **Reboot** to reboot the router.



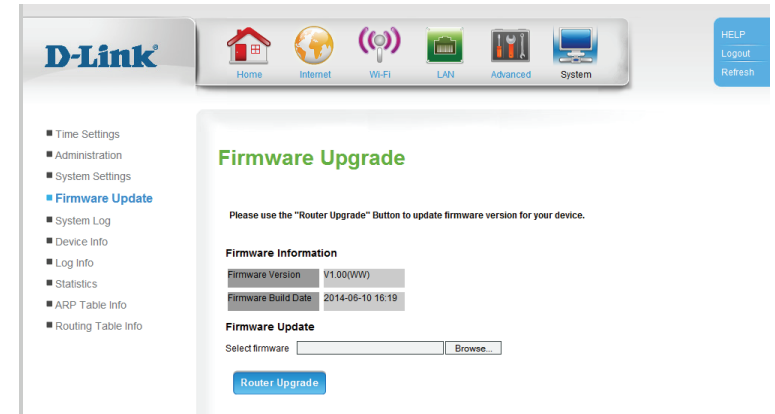
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Firmware Update

This page displays your router's current firmware version, and allows you to upgrade your router's firmware.

Firmware Information: Displays your router's current firmware version and build date.

Firmware Update: To upgrade your router's firmware, click **Browse...** and navigate to the firmware file on your computer's hard drive. Click **Router Upgrade** to start the upgrade process.



System Log

This page allows you to configure your log settings, and save your log to a local hard drive.

Save Log File to Local Hard Drive: To save a copy of the system log to your local hard drive, click **Save**.

Log Type: Check the boxes for each information type you want to include in the system log.

Log Enable: Check the box to enable remote logging.

Remote Log Server IP: If you checked the box to enable remote logging, enter the IP address of the log server.

D-Link Home Internet Wi-Fi LAN Advanced System HELP Logout Refresh

- Time Settings
- Administration
- System Settings
- Firmware Update
- System Log**
- Device Info
- Log Info
- Statistics
- ARP Table Info
- Routing Table Info

System Log

The system Log allows you to configure local, remote and email logging, and to view the logs that have been created.

Save Log File

Save Log File to Local Hard Drive **Save**

Log Type

Log Type System Activity
 Debug Information
 Attacks
 Dropped Packets
 Notice

Remote Log Setting

Log Enable
 Remote Log Server IP

Apply **Reset**

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Device Info

This page provides general information about your router and Internet connection.

The screenshot shows the D-Link web interface. The top navigation bar includes icons for Home, Internet, Wi-Fi, LAN, Advanced, and System, along with a HELP, Logout, and Refresh button. The left sidebar contains a menu with items like Time Settings, Administration, System Settings, Firmware Update, System Log, **Device Info**, Log Info, Statistics, ARP Table Info, and Routing Table Info. The main content area is titled "Device" and contains the following information:

The Device Status page allows you to check the status of your Internet connection, Wireless LAN and LAN.

General

- Firmware Version: V1.00(WW)
- Firmware Build Date: 2014-06-10 16:19
- SIM status: Absent
- PIN status: N/A
- Registration State: Searching
- Operator Name: N/A
- Network Type: N/A
- Roaming Indicator: N/A
- Signal Strength: -108 dBm
- Device Uptime: 0 Hour 23 Minutes 40 Seconds
- Default Route: eth0.2
- Primary DNS Address
- Secondary DNS Address

Internet Status

Name	Connection Type	IP Address	Subnet Mask	Gateway	Status	Uptime
LTE/3G(usd0)	DHCP					0 hour 0 min 0 secs
Ethernet WAN (eth0.2)	DHCP	172.17.5.110	255.255.255.0	172.17.5.254	Connected	0 hour 17 min 53 secs

LAN Interface Status

Name	Status	IP Address	Subnet Mask
LAN IP 1	Enable	192.168.1.1	255.255.255.0

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Log Info

This page allows you to check the status of the system log, and view it.

Log Server: Displays the current log server status, if enabled, and its current address.

LOG FILES: The log is displayed below. Click **Refresh** to update it, **Clear Log** to clear it, and the navigation buttons below to select different pages in the log.

D-Link

Home Internet Wi-Fi LAN Advanced System

HELP
Logout
Refresh

- Time Settings
- Administration
- System Settings
- Firmware Update
- System Log
- Device Info
- Log Info**
- Statistics
- ARP Table Info
- Routing Table Info

System Log

System Log stores internal system informations.

Log Server

Log Server Disable

Log Server Address

LOG FILES

Clear Log Refresh

< First Page << Previous Next >> Last Page >

Page: 1 / 1

Time	Event
Dec 31 16:10:55	.Login Web page
Dec 31 16:05:48	.Remote management is disabled
Dec 31 16:05:48	.DMZ disabled.
Dec 31 16:05:44	.Eth Wan Link Up.
Dec 31 16:05:38	.LAN client connect to device
Dec 31 16:00:27	.Domain blocking disabled.
Dec 31 16:00:27	.URL blocking disabled.
Dec 31 16:00:27	.MAC filter disabled.
Dec 31 16:00:27	.Remote management is disabled
*****	.System started.

Statistics

This page displays the router's WAN and local network traffic statistics.

Status: Select whether to view the **WAN** statistics or the **LAN & Wireless** statistics. The selected information will appear below.

The screenshot shows the D-Link router's web interface. The top navigation bar includes Home, Internet, Wi-Fi, LAN, Advanced, and System. The left sidebar lists various settings categories, with 'Statistics' highlighted. The main content area is titled 'Traffic Statistics' and shows the 'WAN' status selected. Below the status, there is a table of statistics for the WAN interface.

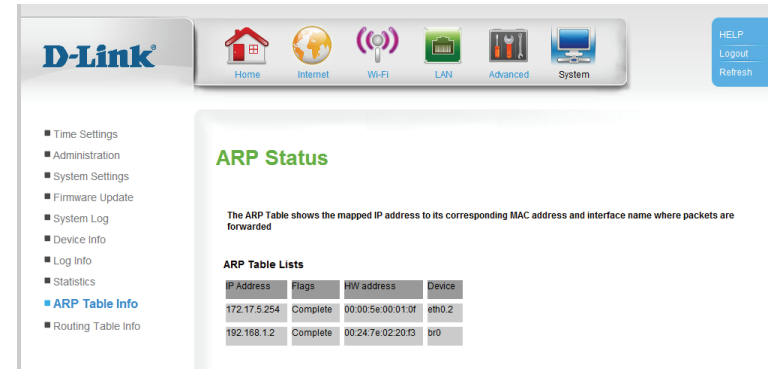
Interface	Name	Transmit				Receive			
		Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
usb0	LTE/3G	0	0	0	0	0	0	0	0
eth0.2	Ethernet WAN	5456585	8103	0	0	5231815	36967	365	0

The screenshot shows the D-Link router's web interface with the 'LAN & Wireless' status selected. The main content area displays a table of statistics for various interfaces, including LAN and WAN ports.

Interface	Status	Transmit				Receive			
		Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
lan	Up	5477641	5883	0	0	727310	9447	0	0
wan1	Up	53137	227	0	402	0	0	0	0
wan2	Disabled	0	0	0	0	0	0	0	0
wan3	Disabled	0	0	0	0	0	0	0	0
wan4	Disabled	0	0	0	0	0	0	0	0

ARP Table Info

This page displays the Address Resolution Protocol (ARP) information. Each IP address is shown with its corresponding MAC address and interface.



D-Link

Home Internet Wi-Fi LAN Advanced System

HELP
Logout
Refresh

- Time Settings
- Administration
- System Settings
- Firmware Update
- System Log
- Device Info
- Log Info
- Statistics
- ARP Table Info**
- Routing Table Info

ARP Status

The ARP Table shows the mapped IP address to its corresponding MAC address and interface name where packets are forwarded

ARP Table Lists

IP Address	Flags	HW address	Device
172.17.5.254	Complete	00:00:5e:00:01:0f	eth0.2
192.168.1.2	Complete	00:24:7e:02:20:f3	br0

Routing Table Info

This page displays the current routing tables.

The screenshot shows the D-Link web interface. The top navigation bar includes icons for Home, Internet, Wi-Fi, LAN, Advanced, and System. A 'HELP' button with 'Logout' and 'Refresh' options is located in the top right corner. The left sidebar contains a menu with the following items: Time Settings, Administration, System Settings, Firmware Update, System Log, Device Info, Log Info, Statistics, ARP Table Info, and Routing Table Info (which is highlighted in blue). The main content area is titled 'Routing Table Status' and contains the text: 'The Page shows displays the current contents of the routing tables'. Below this text is a table titled 'Routing Table Lists' with the following data:

Destination	Gateway	Genmask	Flags	Metric	iface
192.168.1.0	0.0.0.0	255.255.255.0	U	0	br0
172.17.5.0	0.0.0.0	255.255.255.0	U	0	eth0.2
239.0.0.0	0.0.0.0	255.0.0.0	U	0	br0
0.0.0.0	172.17.5.254	0.0.0.0	UG	0	eth0.2

Connect a Wireless Client to your Router

WPS Button

The easiest and most secure way to connect your wireless devices to the router is with WPS (Wi-Fi Protected Setup). Most wireless devices such as wireless adapters, media players, Blu-ray DVD players, wireless printers and cameras will have a WPS button (or a software utility with WPS) that you can press to connect to the DWR-922 router. Please refer to your 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 DWR-922 for about 1 second. The Internet LED on the front will start to blink.



Step 2 - Within 2 minutes, press the WPS button on your wireless client (or launch the software utility and start the WPS process).

Step 3 - Allow up to 1 minute for your connection to be configured. Once the Internet light stops blinking, you will be connected and your wireless connection will be secure with WPA2.

Windows® 8

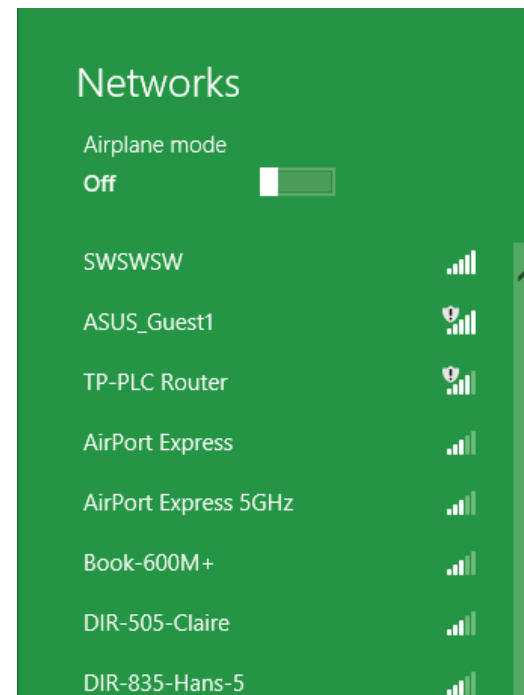
WPA/WPA2

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

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



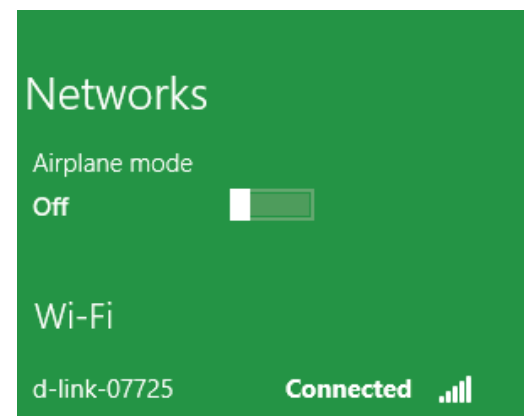
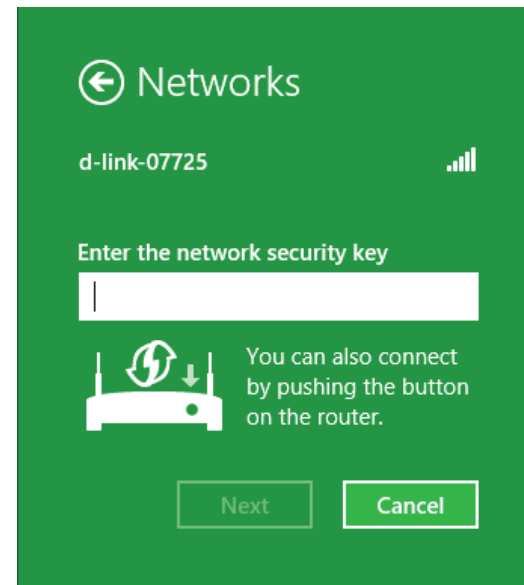
Clicking on this icon will display a list of wireless networks that are within connecting proximity of your computer. Select the desired network by clicking on the network name.



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 during this step to enable the WPS function.

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

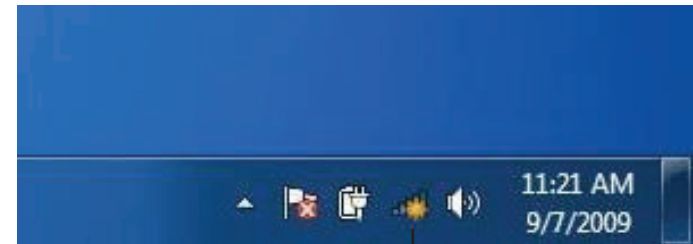


Windows® 7

WPA/WPA2

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

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



Wireless Icon

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

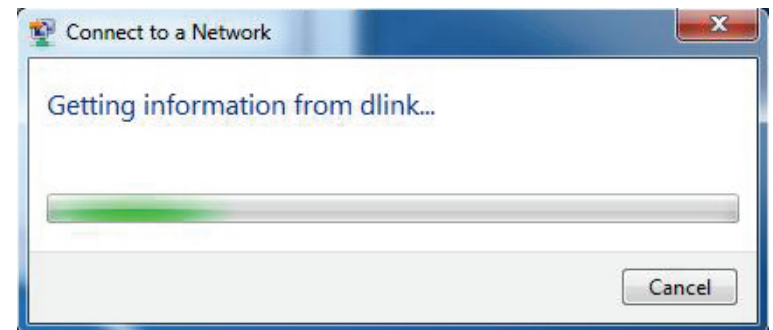


3. Highlight the wireless connection with Wi-Fi name (SSID) you would like to connect to and click the **Connect** button.

If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to **Networking Basics** on page 81 for more information.

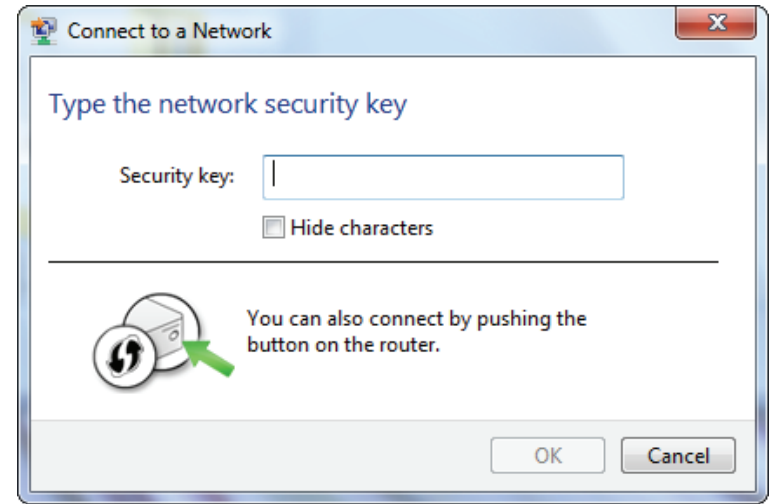


4. The following window appears while your computer tries to connect to the router.

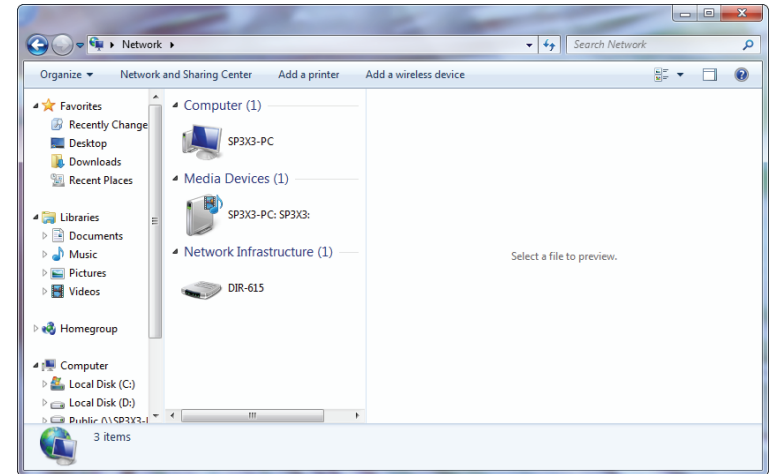


5. Enter the same security key or passphrase (Wi-Fi password) that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

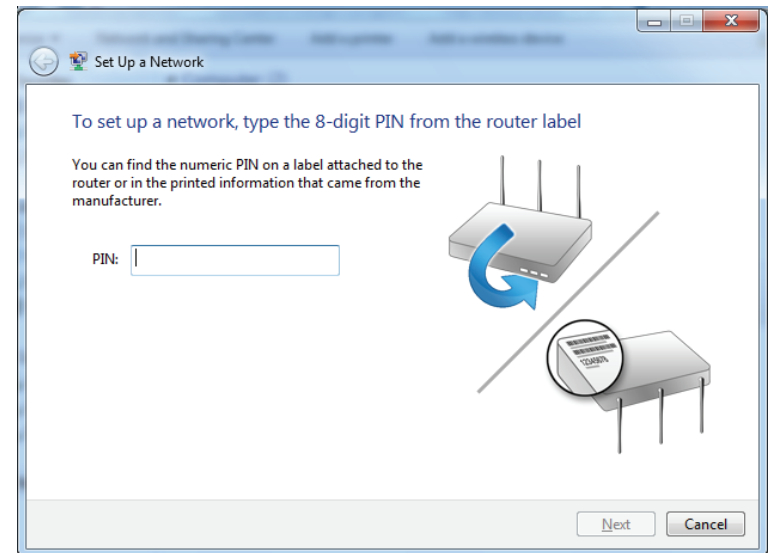
It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as the one on the wireless router.



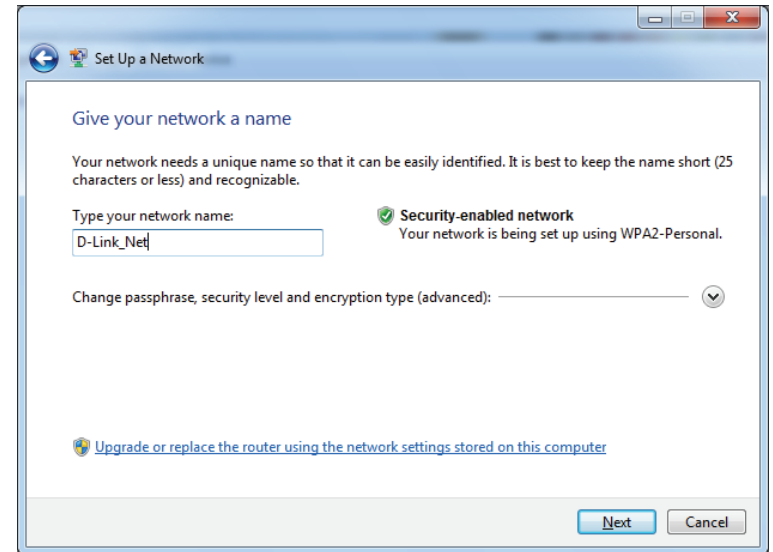
3. Double-click the DWR-922.



4. Input the WPS PIN number (on the router label) in the **Setup > Wireless Setup** menu in the Router's Web UI) and click **Next**.

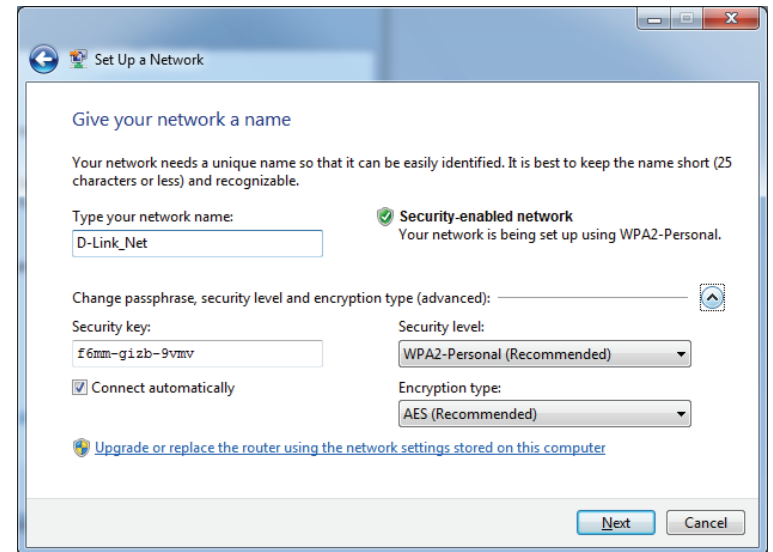


5. Type a name to identify the network.



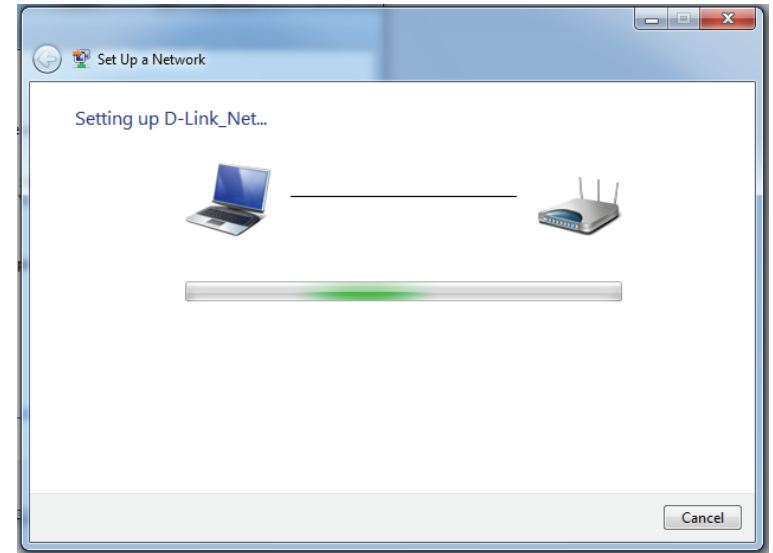
6. To configure advanced settings, click the  icon.

Click **Next** to continue.



7. The following window appears while the router is being configured.

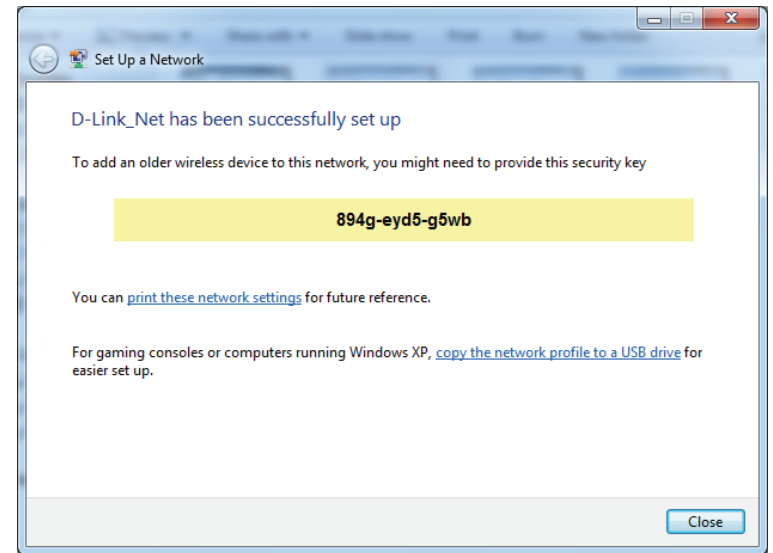
Wait for the configuration to complete.



8. The following window informs you that WPS on the router has been set up successfully.

Make a note of the security key as you may need to provide this security key if adding an older wireless device to the network in the future.

9. Click **Close** to complete WPS setup.



Windows Vista®

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

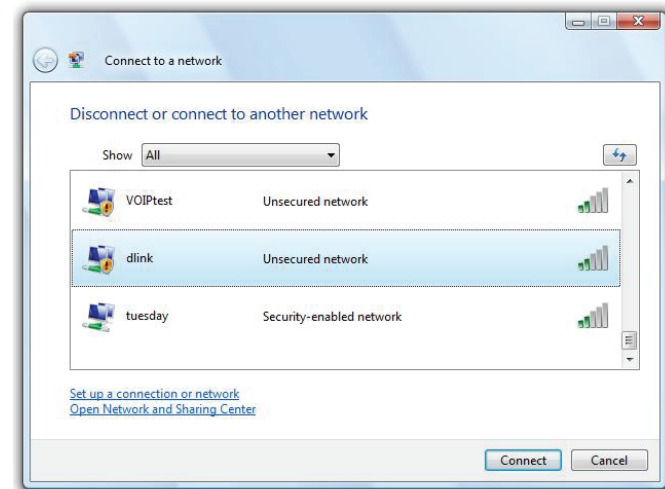
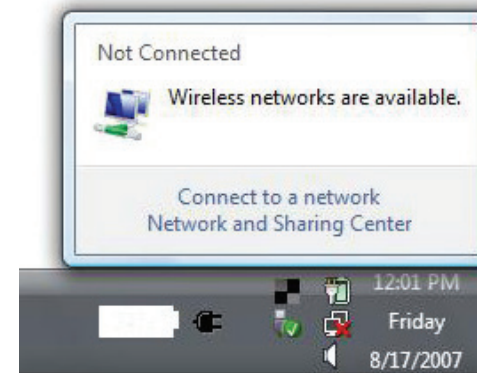
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

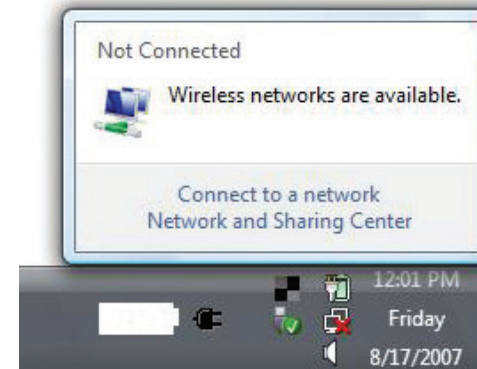
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



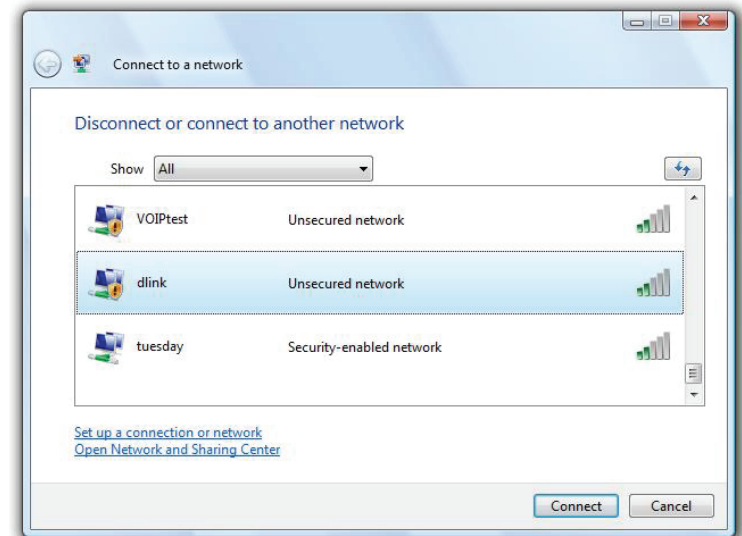
WPA/WPA2

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

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

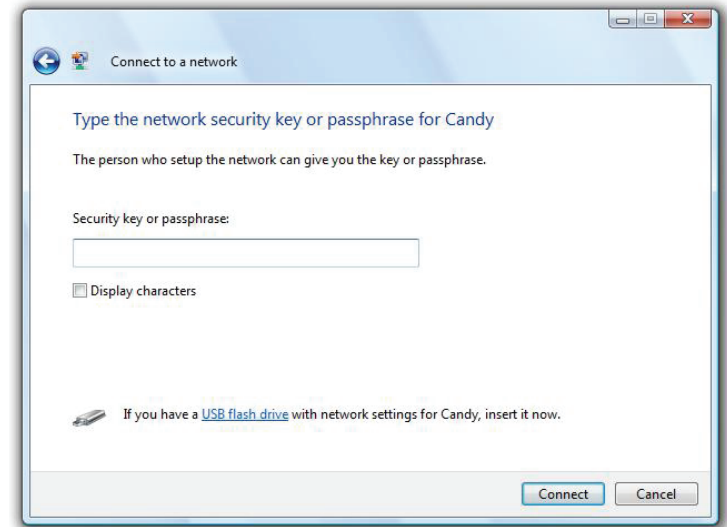


2. Highlight the Wi-Fi name (SSID) you would like to connect to and click **Connect**.



3. Enter the same security key or passphrase (Wi-Fi password) 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 the one on the wireless router.



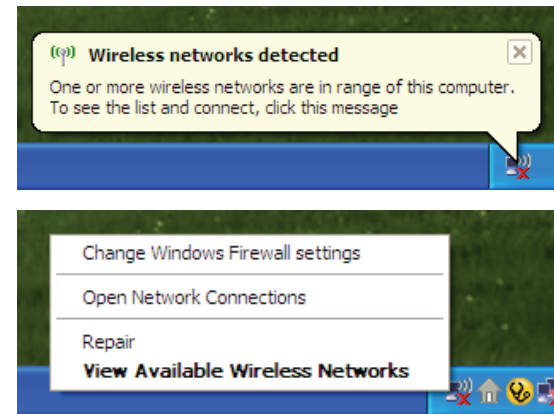
Windows® XP

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.

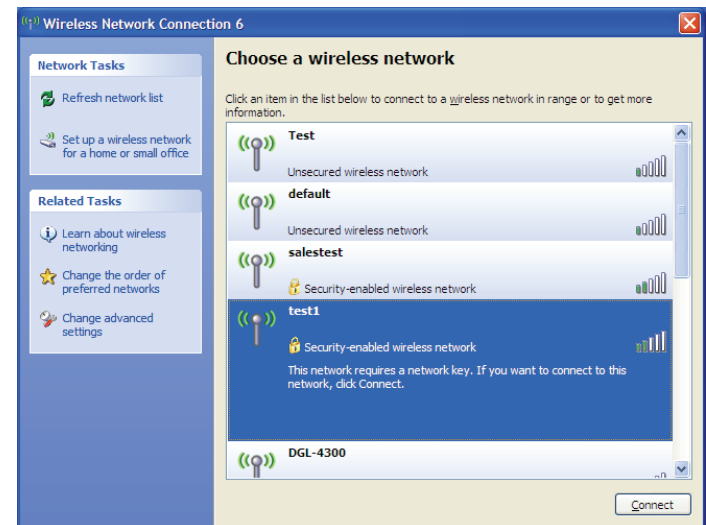
or

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 Wi-Fi network (displayed using the SSID) and click the **Connect** button.

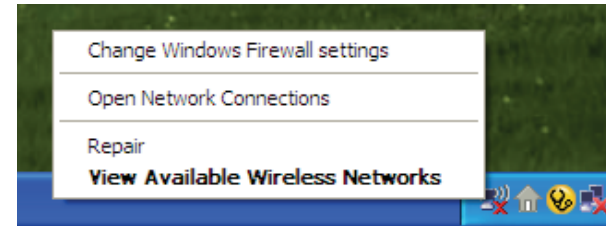
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



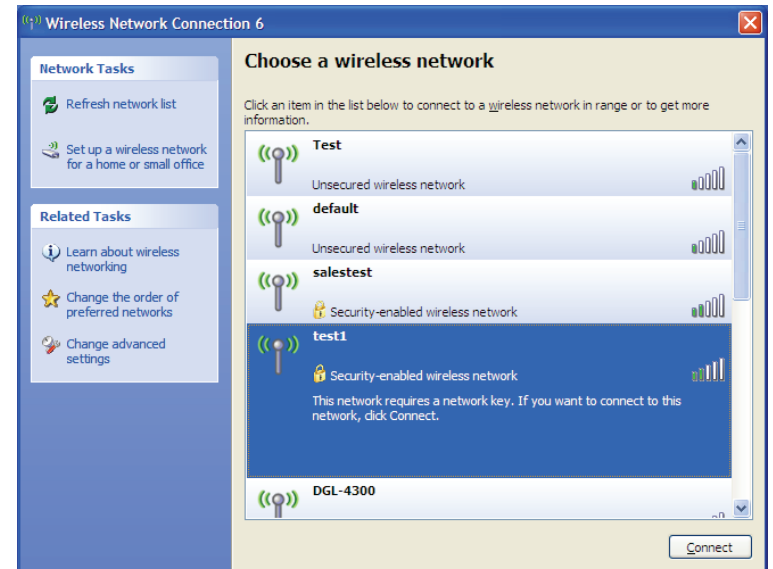
WPA/WPA2

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

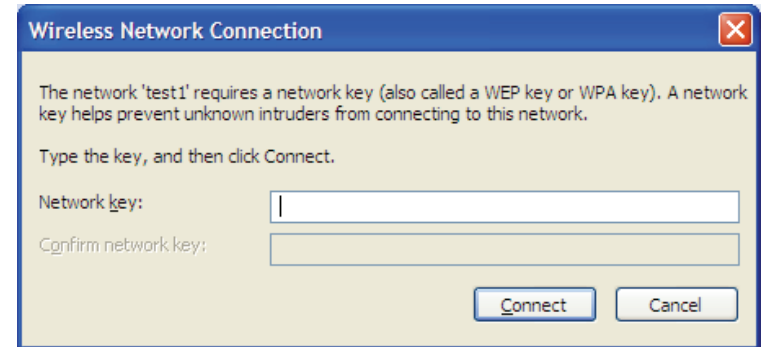


2. Highlight the Wi-Fi network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK Wi-Fi password 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 Wi-Fi password 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 DWR-922. 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 these examples.

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

When entering the IP address of the D-Link router (**192.168.1.1** 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:
 - Microsoft Internet Explorer® 7 or higher
 - Mozilla Firefox 3.5 or higher
 - Google™ Chrome 8 or higher
 - Apple Safari 4 or 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 router in the address bar. This should open the login page for your web management.
- If you still cannot access the configuration, unplug the power to the router 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 router. This process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is **192.168.1.1**. When logging in, leave the password box empty.

3. Why can't I connect to certain sites or send and receive emails when connecting through my router?

If you are having a problem sending or receiving email, or connecting to secure sites such as eBay, banking sites, and Hotmail, we suggest lowering the MTU in increments of ten (Ex. 1492, 1482, 1472, etc).

To find the proper MTU Size, you'll have to do a special ping of the destination you're trying to go to. A destination could be another computer, or a URL.

- Click on **Start** and then click **Run**.
- Windows® 95, 98, and Me users type in **command** (Windows® NT, 2000, XP, Vista®, and 7 users type in **cmd**) and press **Enter** (or click **OK**).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

ping [url] [-f] [-l] [MTU value]

Example: **ping yahoo.com -f -l 1472**

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 203ms, Average = 132ms
C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, let's say that 1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with (1452+28=1480).

Once you find your MTU, you can now configure your router with the proper MTU size.

To change the MTU rate on your router follow the steps below:

- Open your browser, enter the IP address of your router (**192.168.1.1**) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU, enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your email. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

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 work, and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

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

What is Wireless?

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

Why D-Link Wireless?

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

How does wireless work?

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

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, university 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. This 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 Uses/Benefits

- 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 Uses/Benefits

- 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 the 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 router or access point

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

Eliminate Interference

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This 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 router. Refer to the 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 router.
- **Ad hoc** – Directly connecting to another computer for peer-to-peer communication using wireless network adapters on each computer, such as two or more DWR-922 wireless network CardBus adapters.

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

An ad hoc network contains only clients, such as laptops with wireless CardBus adapters. All the adapters must be in ad hoc mode to communicate.

Networking Basics

Check your IP address

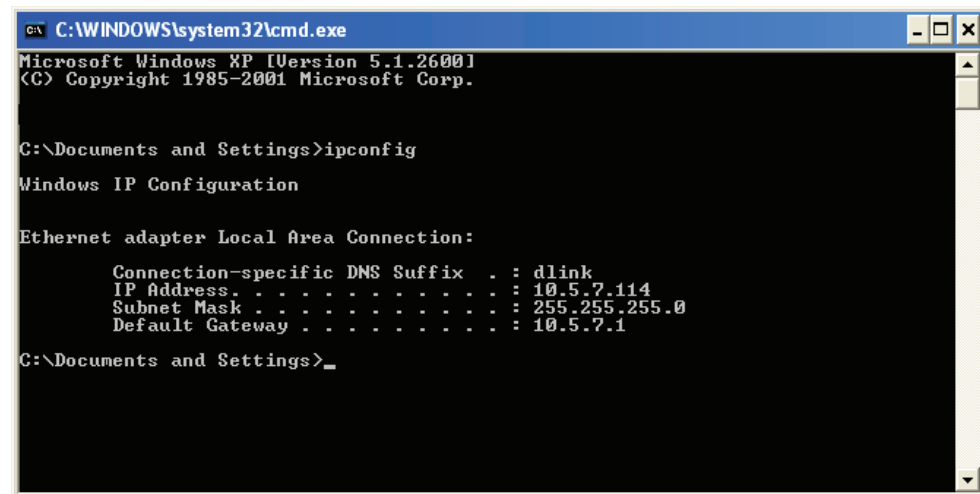
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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 router. Some firewall software programs may block a DHCP request on newly installed adapters.



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

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

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

C:\Documents and Settings>_
```

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 network adapter and select **Properties.**

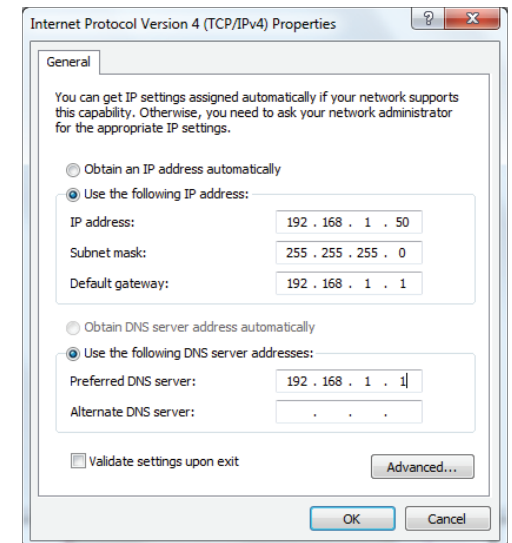
Step 3
Highlight **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties.**

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 192.168.1.1, make your IP address 192.168.1.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 the Default Gateway the same as the LAN IP address of your router (I.E. 192.168.1.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.1.1). The Alternate DNS is not needed or you may enter a DNS server from your ISP.

Step 5
Click **OK** twice to save your settings.



Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DWR-922 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 (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 router or access point.

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

Technical Specifications

LTE Band

- 800 / 900 / 1800 / 2600 MHz

UMTS/HSDPA/HSUPA Band¹

- 900 / 2100 MHz
- Power Class 3

Data Rates²

- Up to 300 Mbps with 802.11n clients
- 6 / 9 / 11 / 12 / 18 / 24 / 36 / 48 / 54 Mbps in 802.11g mode
- 1 / 2 / 5.5 / 11 Mbps in 802.11b mode
- LTE Uplink: Up to 50 Mbps
- LTE Downlink: Up to 100 Mbps

Standards

- 802.11b/g, compatible with 802.11n devices
- 802.3
- 802.3u

Wireless Security

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

Firewall

- Network Address Translation (NAT)
- Stateful Packet Inspection (SPI)

VPN

- L2TP/PPTP/IPSEC/VPN Pass-through

Antenna

- Two detachable 3G/4G antennas

Ports

- Four LAN ports (RJ-45)
- WAN port (RJ-45)
- Phone port (RJ-11)

USIM Slot

- Standard 6-pin SIM card interface

LED Status Indicators

- WAN
- LAN
- WLAN
- 3G
- 4G
- SMS
- VoIP
- Signal Strength

Dimensions

- 190 x 111.5 x 23.5 mm (7.48 x 4.39 x 0.93 inches)

Operating Temperature

- 0 to 40 °C (32 to 104 °F)

Operating Humidity

- 10% to 90% (Non-condensing)

Certifications

- CE
- Wi-Fi Certified

¹ Supported frequency band is dependent upon regional hardware version.

² Maximum wireless signal rate derived from IEEE Standard 802.11g/b/n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.