D-Link®

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User Manual

HSPA+ 3G VPN Router

DWR-755

Preface

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

Manual Revisions

Revision	Date	Description
1.0	February 21, 2014	• Initial release

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The purpose of this product is to create a constant network connection for your devices. As such, it does not have a standby mode or use a power management mode. If you wish to power down this product, please simply unplug it from the power outlet.

Table of Contents

Package Contents

DWR-755 HSPA+ 3G VPN Router

Ethernet Cable

Detachable Antenna

Power Adapter

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

Note: *Using a power supply with a different voltage rating than the one included with the DWR-755 will cause damage and void the warranty for this product.*

System Requirements

Network Requirements	• An Ethernet-based cable or DSL modem • IEEE 802.11n, 802.11g, or 802.11b wireless clients • 10/100 Ethernet • A compatible (U)SIM card with service.* *Subject to services and service terms available from your carrier.
Web-based Configuration Utility Requirements	**Computer with the following:** • Windows®, Macintosh, or Linux-based operating system • An installed Ethernet adapter **Browser Requirements:** • Internet Explorer 6 or higher • Firefox 3.0 or higher • Safari 3.0 or higher • Chrome 2.0 or higher **Windows® Users:** Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.

Introduction

The D-Link DWR-755 is a 802.11n/g/b compliant device that delivers real world performance of up to 14x faster than an 802.11g wireless connection (also faster than a 100 Mbps wired Ethernet connection). Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the DWR-755 router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. In addition, this router includes a Quality of Service (QoS) engine that keeps digital phone calls (VoIP) and online gaming smooth and responsive, providing a better Internet experience.

Features

- **Ultimate Performance -** The D-Link DWR-755 delivers real world performance of up to 14x faster than an 802.11g wireless connection so you can stream photos, music, and videos smoothly throughout your home.

- **Extended Whole Home Coverage** - Powered by Wireless N technology, this high performance router provides superior Whole Home Coverage while reducing dead spots. The router is designed for use in bigger homes and for users who demand higher performance networking. Add a Wireless N notebook or desktop adapter and stay connected to your network from virtually anywhere in your home.

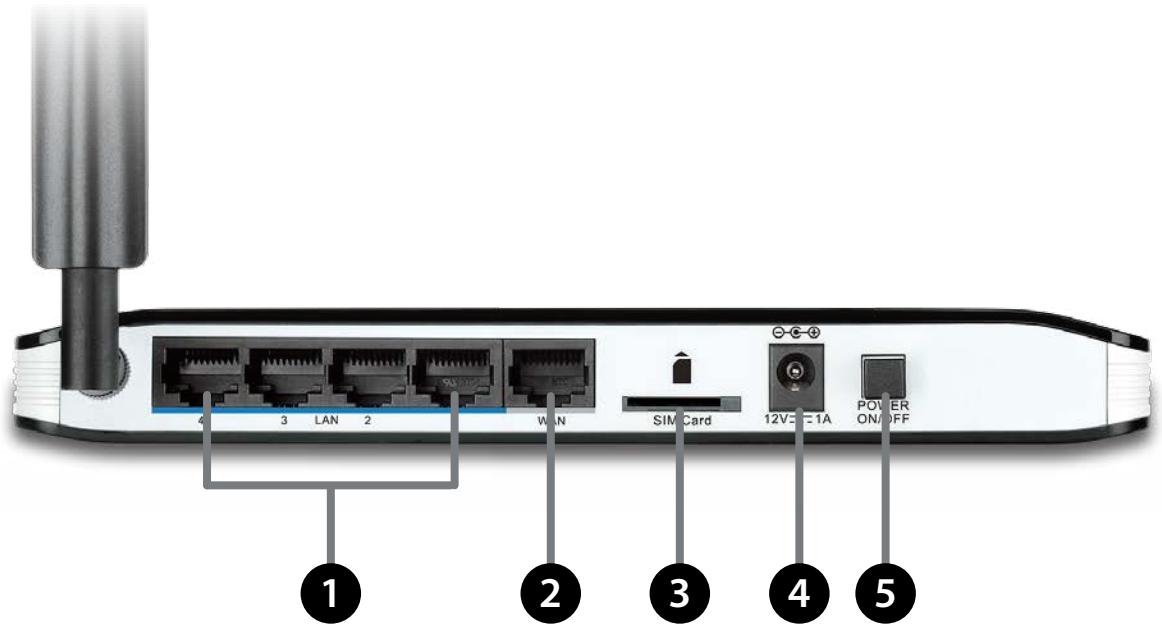
- **Total Network Security -** The Wireless N router supports all of the latest wireless security features to prevent unauthorized access, be it from over the wireless network or from the Internet. Support for WPA/WPA2 standards ensures that you'll be able to use the best possible encryption method, regardless of your client devices. In addition, this router utilizes dual active firewalls (SPI and NAT) to prevent potential attacks from across the Internet.

- **Quality of Service (QoS)** - For smooth, uninterrupted streaming, this router includes a Quality of Service (QoS) engine that prioritizes according to data type so your digital phone calls (VoIP) and online gaming stay smooth and responsive.

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

Hardware Overview

Rear Panel



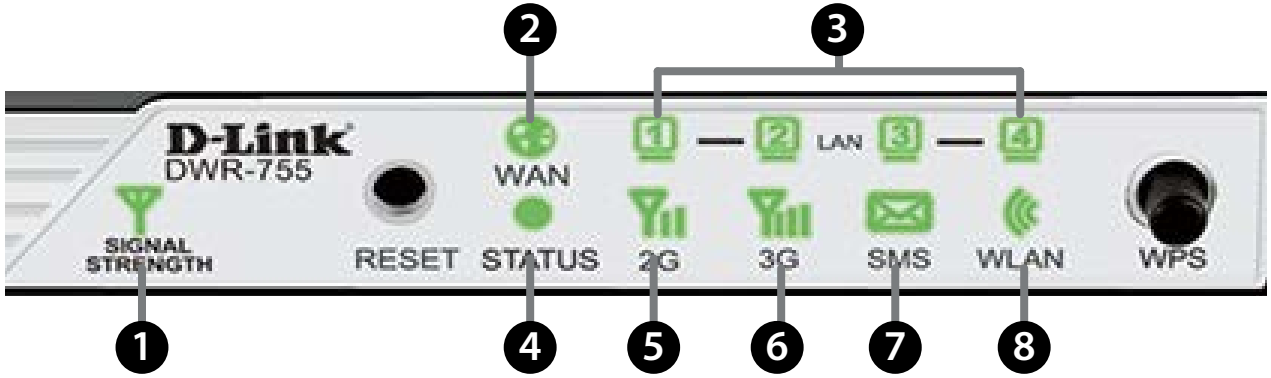
1	LAN Ports (1-4)	Connect Ethernet devices such as computers, switches, and NAS.
2	WAN Port	The auto MDI/MDIX Internet port connects to your cable or DSL modem via an Ethernet cable.
3	SIM	Accepts a standard (U)SIM card for 2G/3G connectivity.
4	Power Receptor	Connects to the included power adapter.
5	Power Switch	Turns the device on or off.

Hardware Overview
Front Panel

1	Reset	Press this button for 10 seconds with an unfolded paperclip to reset the device.
2	WPS	Press this button to initiate a new WPS connection. Refer to "Add Wireless Device with WPS" on page 24 for more details.

Hardware Overview

LEDs



1	Signal Strength	**Blinking Red:** No SIM card / signal or unverified PIN code **Solid Red:** Signal strength is at level one (weak) **Solid Amber:** Signal strength is at level two or three (medium) **Solid Green:** Signal strength is at level four or five (strong)
2	WAN	**Solid Green:** Ethernet connection has been established **Blinking Green:** Data is being transferred
3	LAN (1-4)	**Solid Green:** Ethernet connection has been established **Blinking Green:** Data is being transferred
4	Status	**Blinking Green:** Device is working
5	2G	**Solid Green:** EDGE or GPRS connection has been established **Blinking Green:** Data is being transferred via 2G
6	3G	**Solid Green:** UMTS/HSDPA/HSUPA/HSPA+ connection is established **Blinking:** Data is being transferred via 3G
7	SMS	**Solid Green:** SMS storage is full **Blinking Green:** There is an unread SMS
8	WLAN	**Solid Green:** WLAN is active and available **Blinking Green:** Data is being transferred via WLAN

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-755 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. Connect the power adapter to the socket on the back panel of your DWR-755. 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-755 performs initialization and Internet connection processes.

Wireless Installation Considerations

The D-Link wireless router lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.

2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.

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

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

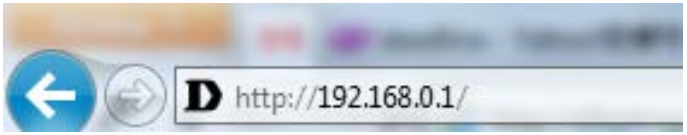
5. If you are using 2.4 GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4 GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone in not in use.

Configuration

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

Web-based Configuration Utility

To access the configuration utility, open a web-browser such as Internet Explorer and enter the IP address of the router (**http://192.168.0.1**).

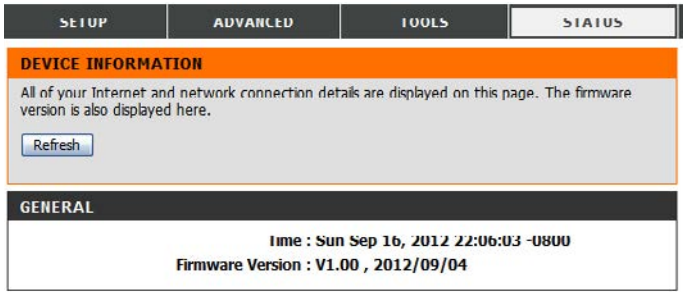


Type **Admin** and then enter the password. By default, the password is blank.

If you get a **Page Cannot be Displayed** error, please refer to "Troubleshooting" on page 56 for assistance.

The configuration utility will open to the **STATUS** > **DEVICE INFO** page. You can view different configuration pages by clicking on the categories at the top of the screen (SETUP/ADVANCED/TOOLS/STATUS/SUPPORT), and then selecting a configuration page from the bar on the left side.

The following pages will describe each section in detail, starting with the **SETUP** pages.

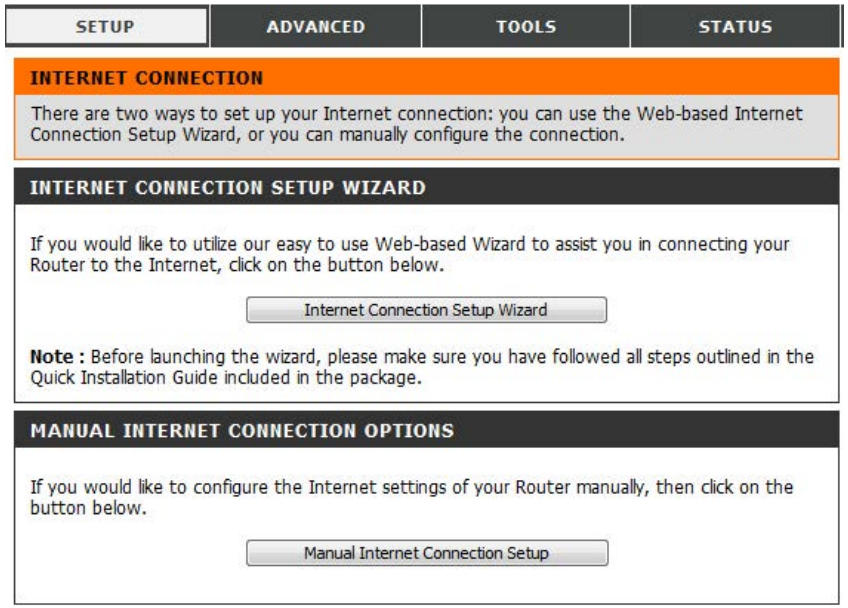


Setup

The setup wizard guides you through the initial setup of your router. There are two ways to setup your Internet connection. You can use the web-based **Internet Connection Setup Wizard** or you can manually configure using the **Manual Internet Connection Setup** wizard.

Click **Internet Connection Setup Wizard** to begin.

If you want to enter your settings without running the wizard, click **Manual Internet Connection Setup** and refer to "Manual Internet Connection Setup" on page 14.

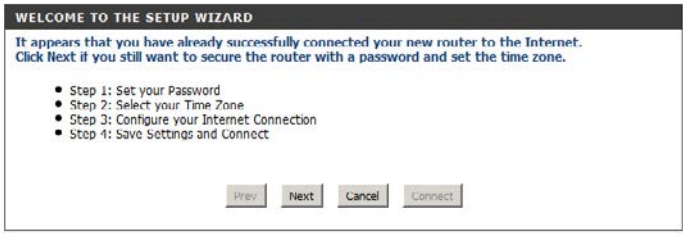


Internet Connection Setup Wizard

This wizard will guide you through a step-by-step process to configure your router to connect to the Internet.

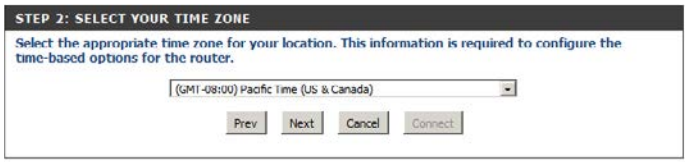
Click **Next** to continue.

Note: While using the wizard, you can click **Prev** to go back to the previous step, or you can click **Cancel** to close the wizard.



Create a new password and then click **Next** to continue.

Select your time zone from the drop-down box and then click **Next** to continue.



Select the Internet connection type you use. The connection types are explained on the following page. If you are unsure which connection type you should use, contact your Internet Service Provider (ISP).

Click **Prev** to go back to the previous page or click **Cancel** to close the wizard.

Note: The DWR-755 has a WAN failover feature that allows the router to switch to a 2G/3G connection if the WAN connection is down or unavailable.

The subsequent configuration pages will differ depending on the selection you make on this page.

DHCP Connection (Dynamic IP Address): Choose this if your Internet connection automatically provides you with an IP address. Most cable modems use this type of connection. See "Dynamic IP (DHCP)" on page 15 for information about how to configure this type of connection.

Username / Password Connection (PPPoE): Choose this option if your Internet connection requires a username and password to connect. Most DSL modems use this style of connection. See "PPPoE" on page 16 for information about how to configure this type of connection.

Username / Password Connection (PPTP): Choose this option if your Internet connection requires Point-to-Point Tunneling Protocol (PPTP). See "PPTP" on page 17 for information about how to configure this type of connection.

Username / Password Connection (L2TP): Choose this option if your Internet connection requires Layer 2 Tunneling Protocol (L2TP). See "L2TP" on page 18 for information about how to configure this type of connection.

3G Connection: Choose this connection if you have installed a SIM card into the DWR-755. See "3G" on page 19 for information about how to configure this type of connection.

Static IP Address Connection: Choose this option if your Internet Service Provider provided you with IP address information that has to be manually configured. See "Static (assigned by ISP)" on page 14 for information about how to configure this type of connection.

After entering the requested information,click **Next** to continue.

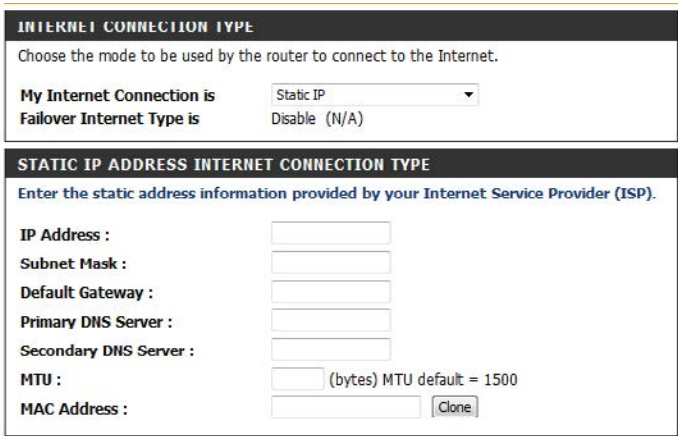
Note: If you are not sure what connection type to use or what settings to enter, check with your Internet Service Provider.

This completes the Internet Connection Setup Wizard. Click **Connect** to save your changes and reboot the router.

Manual Internet Connection Setup

Static (assigned by ISP)

Select Static IP Address if all the Internet port's IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The router will not accept the IP address if it is not in this format. After modifying any settings, click **Save Settings** to save your changes.



Failover Internet Type Is: This will display the failover Internet type, if available.

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

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

Default Gateway: Enter the Gateway assigned by your ISP.

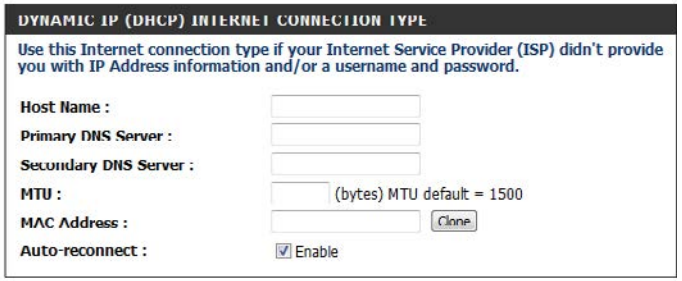
DNS Servers: The DNS server information will be supplied by your ISP (Internet Service Provider.)

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

MAC Address: The default MAC address is set to the Internet port's physical interface MAC address on the broadband router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone** button to replace the Internet port's MAC address with the MAC address of your Ethernet card.

Dynamic IP (DHCP)

This section will help you to obtain IP address information automatically from your ISP. Use this option if your ISP didn't provide you with IP address information and/or a username and password. After modifying any settings, click **Save Settings** to save your changes.



Host Name: (Optional) Fill in the host name of your DNS server.

Primary DNS Server: (Optional) Fill in with IP address of the primary DNS server.

Secondary DNS Server: (Optional) Fill in with IP address of the secondary DNS server.

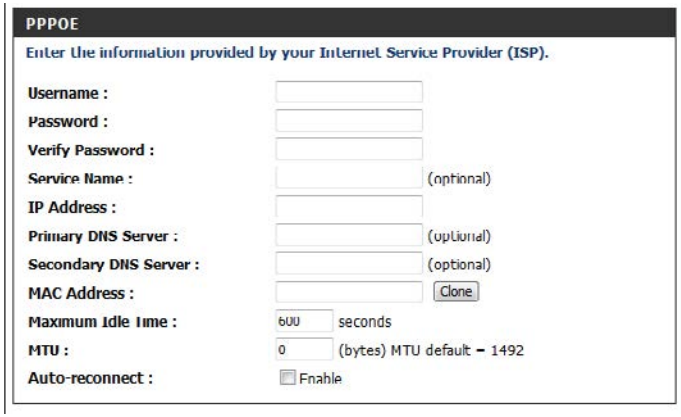
MTU (Maximum Transmission Unit): You may need to change the Maximum Transmission Unit (MTU) for optimal performance. The default value is 1500.

MAC Address: The default MAC address is set to the Internet port's physical interface MAC address on the broadband router. It is not recommended that you change the default MAC address unless required by your ISP. You can use the **Clone** button to replace the Internet port's MAC address with the MAC address of your PC.

Auto-reconnect: This feature enables this product to renew the WAN IP address automatically when the lease time has expired.

PPPoE

Choose this Internet connection if your ISP provides you with a PPPoE account. After modifying any settings, click **Save Settings** to save your changes.



Username: The username/account name that your ISP provides to you for PPPoE dial-up.

Password: Password that your ISP provides to you for PPPoE dial-up.

Verify Password: Re-type your password in this field.

Service Name: Fill in if provided by your ISP. (Optional)

IP Address: Fill in if provided by your ISP. If not, keep the default value.

Primary DNS Server: Fill in if provided by your ISP. If not, keep the default value (optional).

Secondary DNS Server: Fill in if provided by your ISP. If not, keep the default value (optional).

MAC Address: MAC address of WAN interface. You can also copy MAC address of your PC to its WAN interface by clicking the **Clone** button.

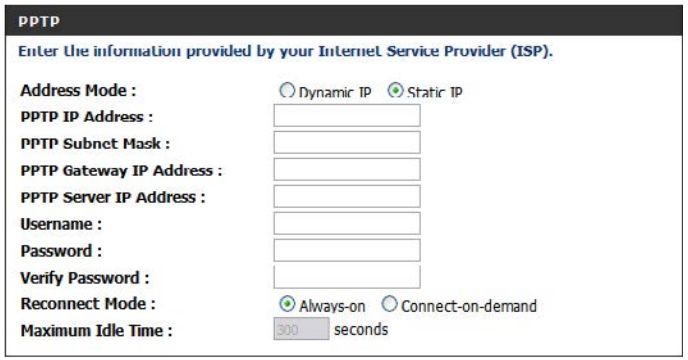
Maximum Idle Time: The amount of time of inactivity before disconnecting an established PPPoE session. Set it to zero or enable auto-reconnect to disable this feature.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1492 is the default MTU.

Auto-reconnect: The device will automatically reconnect to your PPPoE connection automatically.

PPTP

Choose PPTP (Point-to-Point-Tunneling Protocol) if your ISP uses a PPTP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Click **Save Settings** to save your changes.



Address Mode: Choose Static IP only if your ISP assigns you an IP address. Otherwise, please choose Dynamic IP.

PPTP IP Address: Enter the information provided by your ISP (Only applicable for Static IP PPTP).

PPTP Subnet Mask: Enter the information provided by your ISP (Only applicable for Static IP PPTP).

PPTP Gateway IP Address: Enter the information provided by your ISP (Only applicable for Static IP PPTP).

PPTP Server IP Address: IP address of PPTP server.

Username: User/account name that your ISP provides to you for PPTP dial-up.

Password: Password that your ISP provides to you for PPTP dial-up.

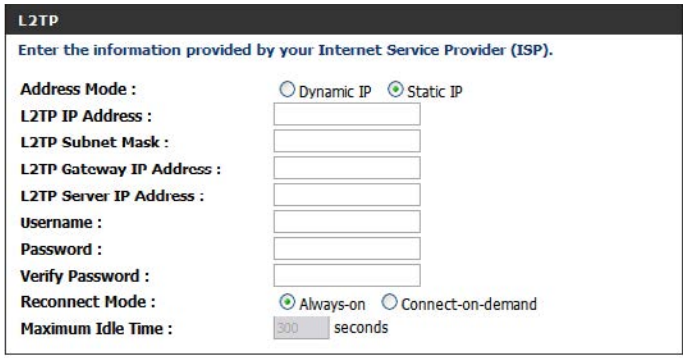
Verify Password: Re-enter your password for verification.

Reconnect Mode: Choose **Always-on** when you want to establish PPTP connection all the time. If you choose **Connect-on-demand**, the device will establish a PPTP connection when local users want to connect to the Internet, and disconnect if there is no traffic after the time period defined by the **Maximum Idle Time** setting.

Maximum Idle Time: The time of no activity to disconnect your PPTP session. Set it to zero or choose **Always-on** to disable this feature.

L2TP

Choose this Internet connection if your ISP provides you with an L2TP account. After modifying any settings, click **Save Settings** to save your changes.



Address Mode: Choose **Static IP** only if your ISP assigns you an IP address. Otherwise, please choose **Dynamic IP**.

L2TP IP Address: Enter the information provided by your ISP (Only applicable for Static IP L2TP).

L2TP Subnet Mask: Enter the information provided by your ISP (Only applicable for Static IP L2TP).

L2TP Gateway IP Address: Enter the information provided by your ISP (Only applicable for Static IP L2TP).

L2TP Server IP Address: IP address of L2TP server.

Username: User/account name that your ISP provides to you for L2TP dial-up.

Password: Password that your ISP provides to you for L2TP dial-up.

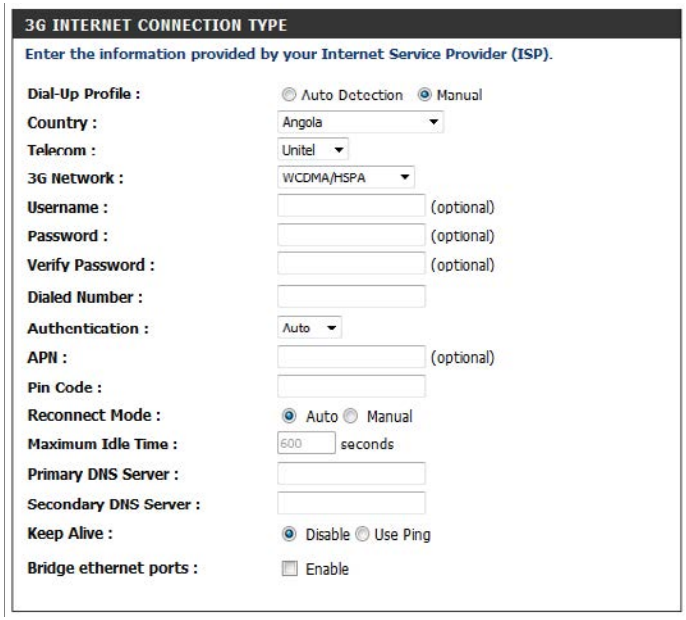
Verify Password: Re-type your password in this field.

Reconnect Mode: Choose **Always-on** when you want to establish L2TP connection all the time. If you choose **Connect-on-demand** the device will establish L2TP connection when local users want to use Internet, and disconnect if no traffic after time period of Maximum Idle Time.

Maximum Idle Time: The time of no activity to disconnect your L2TP session. Set it to 0 or choose **Always-on** to disable this feature.

3G

Choose this Internet connection if you already use a SIM card for 2G/3G Internet service from your mobile Internet service provider. The fields here may not be necessary for your connection. The information on this page should only be used if required by your service provider. After modifying any settings, click **Save Settings** to save your changes.



Dial Up Profile: Select **Auto-Detection** to have the router automatically detect the settings for your connection. Select **Manual** to enter the details of your connection manually.

Country/Telecom: Select your country and service provider to automatically fill in some of the required settings.

3G Network Choose between **WCDMA/HSPA** or **CDMA2000/EV-DO**.

Username: Fill in only if requested by ISP (optional).

Password: Fill in only if requested by ISP (optional).

Verify Password: Re-type your password.

Dialed Number: Enter the number to be dialed.

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

APN: Enter the APN information (optional).

Pin Code: Enter the PIN associated with your SIM card.

Reconnect Mode: Select **Auto** or **Manual** to determine whether the router should reconnect to your 3G/4G network automatically or manually.

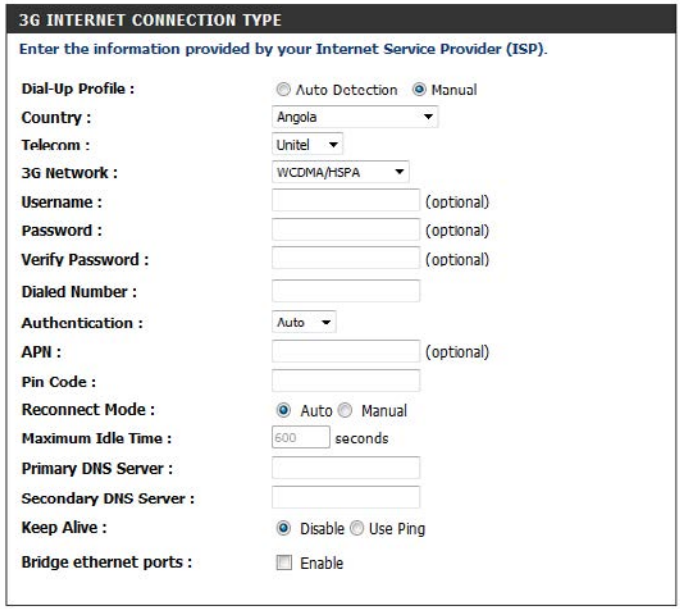
Maximum Idle Time: Set the maximum time your connection can be idle before disconnecting. Set it to 0 or choose Auto in Reconnect Mode to disable this feature.

Primary DNS Server: Fill in if provided by your ISP. If not, keep the default value (optional).

Secondary DNS Server: Fill in if provided by your ISP. If not, keep the default value (optional).

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.

Bridge Ethernet Ports: Activate this feature to use the Ethernet WAN port as an additional LAN port.



GRE Settings

This page allows you to set up GRE Tunnels and view information about the amount of data transmitted and received. Generic Routing Encapsulation (GRE) is an IP packet encapsulation protocol used when IP packets must be sent from one network to another. Click **Save Settings** to apply changes.

Name: Choose a name for the GRE tunnel.

Tunnel IP: Enter the IP address for the tunnel.

Peer IP: Enter a Peer IP for the tunnel.

Key: Define a key.

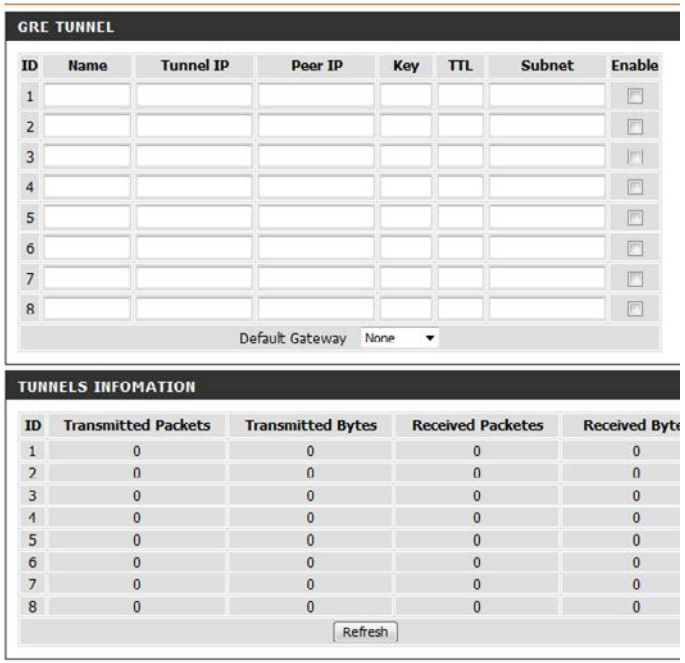
TTL: Set the time to live for the GRE tunnel.

Subnet: Enter the subnet address.

Enable: Check this box to enable the individual GRE tunneling rule.

Default Gateway: Choose a gateway from the drop-down menu (if any).

Refresh: Update the information on current GRE tunnels.



Wireless Settings

Wireless Connection Setup Wizard

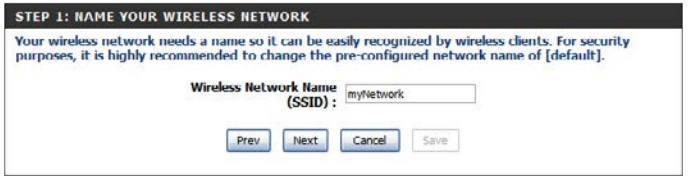
This section will help you to manually configure the wireless settings of your router. Please note that changes made in this section may also need to be duplicated on your wireless devices and clients. The Wireless Settings page allows you to configure how your router connects to the Internet. There are several ways to set up your wireless connection. You can click on the **Wireless Connection Setup Wizard** button to start a wizard that will guide you through setting up your wireless settings. If you want to manually configure your settings, click the **Manual Wireless Connection Setup** button and skip to "Manual Wireless Connection Setup" on page 25. You can also set up a wireless connection to a device automatically, or configure your router automatically through Windows by clicking the **Wi-Fi Protected Setup** button. This is described in "Add Wireless Device with WPS" on page 24.

This wizard will guide you through a step-by-step process to configure your router's wireless settings.

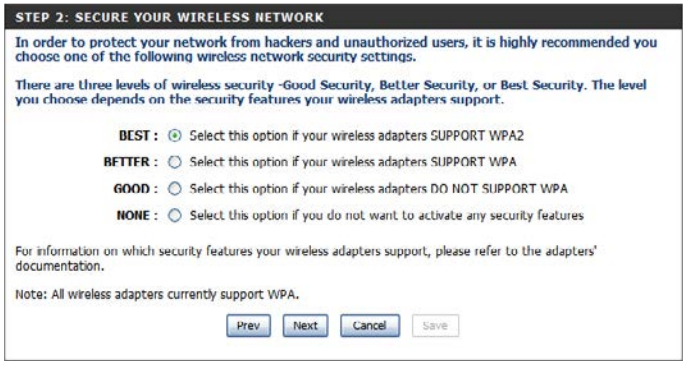
Click **Next** to continue.

Note: While using the wizard, you can click **Prev** to go back to the previous page or you can click **Cancel** to close the wizard.

Enter a name (SSID) for your wireless network, then click **Next** to continue.



Select a level of wireless security to use, then click **Next** to continue.



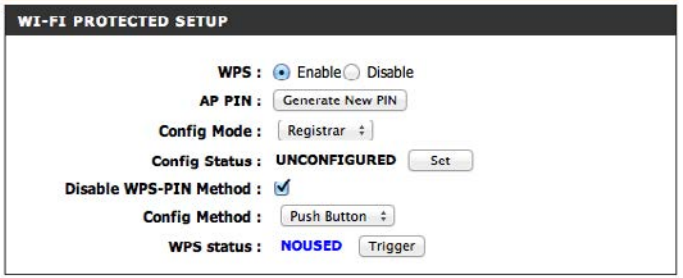
If you chose **BEST** or **BETTER**, select whether to use TKIP or AES encryption, then enter a password to use for your wireless network. It is recommended that you use AES if your wireless computers and devices support it, as it is more secure. Click **Next** to continue.

If you chose **GOOD**, select whether to use a HEX or ASCII password, then enter a password to use for your wireless network. If you choose HEX, you will need to enter a 10 or 26 digit password using only hex characters (0-9, A-F). If you choose ASCII, the password must be 5 or 13 alphanumeric characters. Click **Next** to continue.

This completes the Wireless Connection Setup Wizard. Click **Save** to save your changes and reboot the router.

Add Wireless Device with WPS

Wi-Fi Protected Setup (WPS) System is a simplified method for securing your wireless network during the initial setup as well as the "Add New Device" processes. The Wi-Fi Alliance (WFA) has certified it across different products as well as manufacturers. The process is just as easy as pressing a button for the Push-Button method or correctly entering the 8-digit code for the Pin Code method. The time reduction in setup and ease of use are quite beneficial, while the highest wireless Security setting of WPA2 is automatically used.



WPS: Enable the Wi-Fi Protected Setup feature.

AP PIN: A PIN is a unique number that can be used to add the router to an existing network or to create a new network. Pushing this button will generate a new, random PIN.

Config Mode: Choose either **Enrollee** or **Registrar** from the drop-down menu.

Config Status: Press **Set** to switch between **Configured** and **Unconfigured** states.

Disable WPS-PIN Method: Check this button to use the Push Button method only.

Config Method: Select **Push Button** or **PIN** method from the drop-down menu. For the Push Button method, to add a wireless client simply push the WPS button on the device and click Trigger. In order to use the PIN method you must know the wireless client's 8 digit PIN and click Trigger.

Note: Once you click **Trigger**, you will have a 120 second time limit to apply the settings to your wireless client(s) and successfully establish a connection.

WPS Status: Indicates whether WPS is **In Use** or **Not In Use**. The Trigger button will activate WPS for up to 120 seconds.

Manual Wireless Connection Setup

This page lets you set up your wireless network and choose a wireless security mode. After modifying any settings, click **Save Settings** to save your changes.

Enable Wireless: Check this box to enable wireless access. When you enable this option, the following parameters take effect.

Wireless Network Name: Also known as the SSID (Service Set Identifier), this is the name of your Wireless Local Area Network (WLAN). Enter a name using up to 32 alphanumeric characters. The SSID is case-sensitive.

802.11 Mode: **B/G mixed:** Enable this mode if your network contains a mix of 802.11b and 802.11g devices.
N only: Enable this mode if your network only has 802.11n devices.
B/G/N mixed: Enable this mode if you have a mix of 802.11n, 802.11g, and 802.11b clients.

Auto Channel Scan: Enabling this feature will allow the router to automatically scan for the best wireless channel to use.

Wireless Channel: A wireless network uses specific channels in the wireless spectrum to handle communication between clients. Some channels in your area may experience interference from other electronic devices. Choose the clearest channel to help optimize the performance and coverage of your wireless network, or enable Auto Channel Scan for the router to automatically select the best channel.

Visibility Status: This setting determines whether the SSID will be **Visible** or **Invisible** to wireless clients looking for wireless networks. Setting this to **Invisible** can increase the security of your network by making it undetectable, but clients will need to manually enter the SSID of your network to connect.

Security Mode: You can choose from 4 different security modes.

- **None:** No security will be used. This setting is not recommended.
- **WEP:** WEP encryption will be used. This setting is only recommended if your wireless devices do not support WPA or WPA2.
- **WPA-Personal:** WPA-PSK encryption will be used. This setting is recommended for most users.
- **WPA-Enterprise:** WPA-EAP encryption will be used. This setting is only recommended if you have a RADIUS authentication server. Otherwise, **WPA-Personal** should be used.

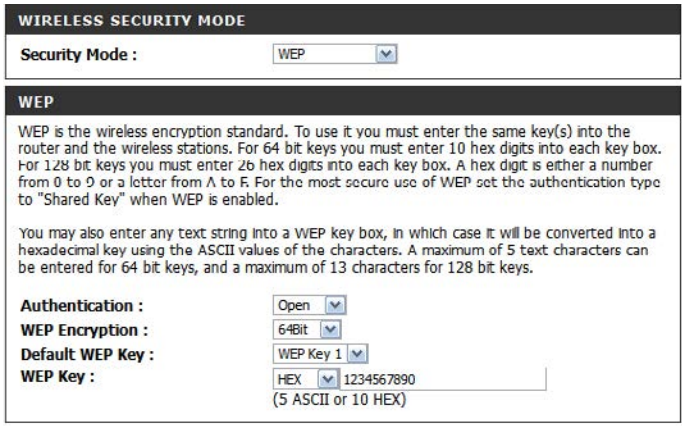
WEP

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

WEP Encryption: Select whether to use **64-bit** or **128-bit** encryption.

Default WEP Key: Select which WEP key (1-4) to use as the default key. This will also change the WEP Key text box to that WEP key for you to configure(1-4).

WEP Key: Set the WEP key/password for your wireless network. Based on whether you are using 64 or 128-bit encryption, and whether you are using a HEX or ASCII key, you will need to enter different numbers of characters for your key, as indicated below the WEP Key text box. ASCII keys may use letters and numbers only, and HEX keys may use numbers 0-9 and letters A-F only.

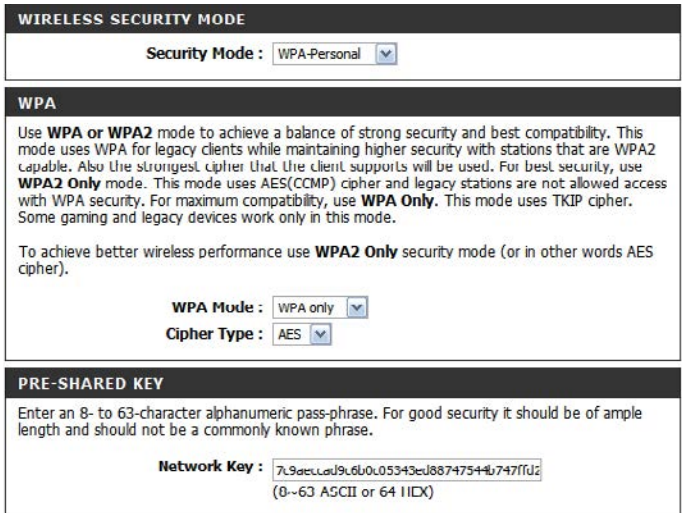


WPA-Personal

WPA Mode: Select whether to use **WPA2 only** or **WPA only**. **WPA2 only** is the most secure, provided that all of your clients can support it.

Cipher Type: Select whether to use the **TKIP** or **AES** cipher. The **AES** cipher is the most secure, provided that all of your clients can support it.

Network Key: Enter the key/password you want to use for your wireless network. The key must be between 8 and 63 characters long, and may only contain letters and numbers.



WPA-Enterprise

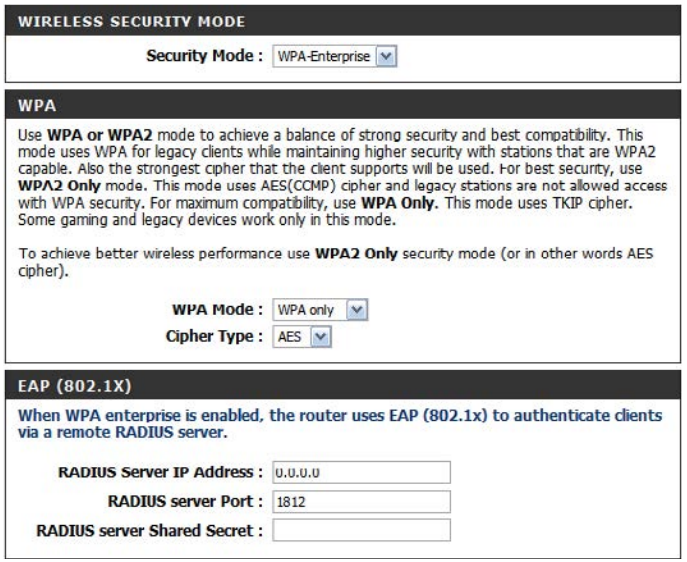
WPA Mode: Select whether to use **WPA2 only** or **WPA only**. **WPA2 only** is the most secure, provided that all of your clients can support this security method.

Cipher Type: Select whether to use the **TKIP** or **AES** cipher. The **AES** cipher is the most secure, provided that all of your clients can support it.

RADIUS Server IP Address: Enter the IP address of your RADIUS server.

RADIUS Server Port: Enter the port used for your RADIUS server.

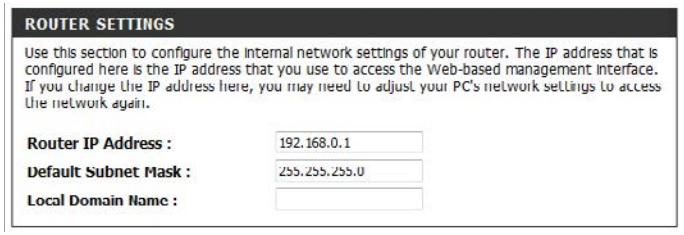
RADIUS Server Shared Secret: Enter the shared secret/password for your RADIUS server.



Network Settings

This section will help you to change the internal network settings of your router and to configure the DHCP Server settings. After modifying any settings, click **Save Settings** to save your changes.

ROUTER SETTINGS



Router IP Address: Enter the IP address of the router. The default IP address is **192.168.0.1**.

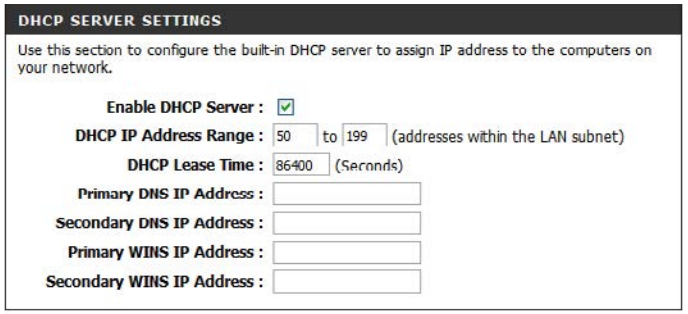
If you change the IP address, once you click **Save Settings**, you will need to enter the new IP address in your browser to get back into the configuration utility.

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

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

DHCP Server Settings

The DWR-755 has a built-in DHCP (Dynamic Host Control Protocol) server. The DHCP server assigns IP addresses to devices on the network that request them. By default, the DHCP Server is enabled on the device. The DHCP address pool contains a range of IP addresses, which are automatically assigned to the clients on the network. After modifying any settings, click **Save Settings** to save your changes.



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

DHCP IP Address Range: Enter the range of IPs for the DHCP server to use to assign IP addresses to devices on your network. These values will represent the last octet of the IP addresses in the pool.

DHCP Lease Time: Enter the lease time for IP address assignments.

Primary DNS IP Address: Enter the primary DNS IP address that will be assigned to DHCP clients.

Secondary DNS IP Address: Enter the secondary DNS IP address that will be assigned to DHCP clients.

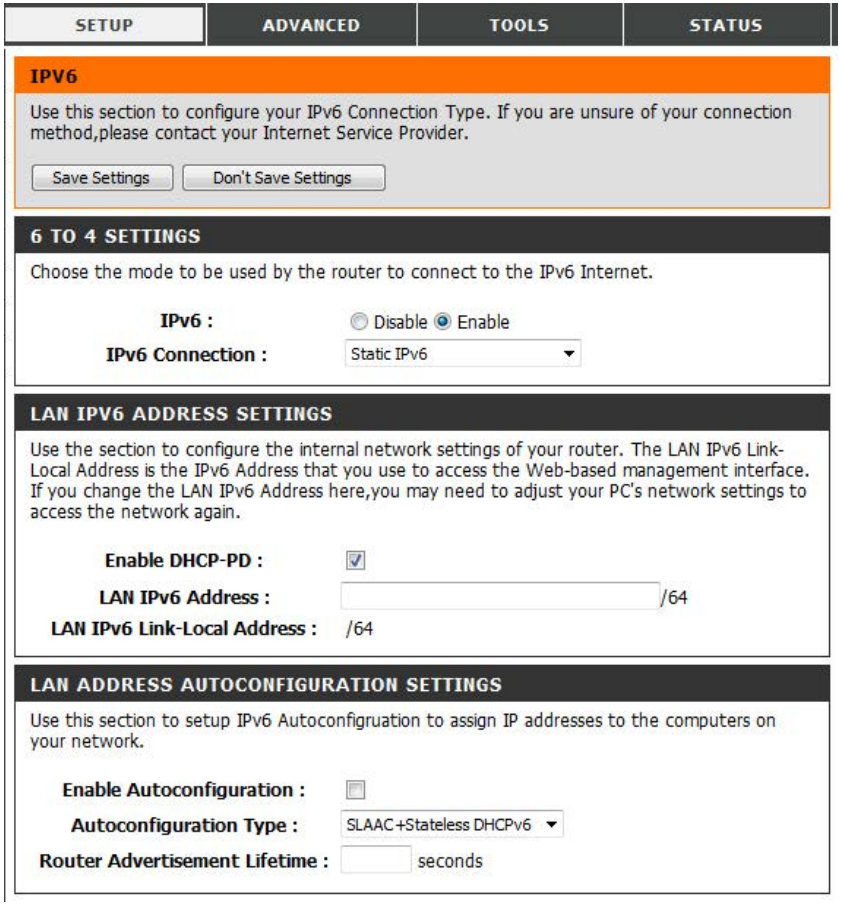
Primary WINS IP Address: Enter the primary WINS IP address that will be assigned to DHCP clients.

Secondary WINS IP Address: Enter the secondary WINS IP address that will be assigned to DHCP clients.

IPv6

There are several connection types to choose from: Static IPv6, LAN IPv6 Address, PPPoE, LAN IPv6 Link-Local, 6 to 4, 6rd, and Autoconfiguration. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider (ISP).

Note: If using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled.



Static IPv6

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **Static IPv6** from the drop-down menu.

Remote IPv4 Address: Enter the remote IPv4 address.

Local IPv4 Address: Enter the local IPv4 address.

Default Gateway: Enter the default gateway.

DNS Addresses: Enter the primary and secondary DNS addresses here.

LAN IPv6 Address: Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address: Displays the LAN IPv6 link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

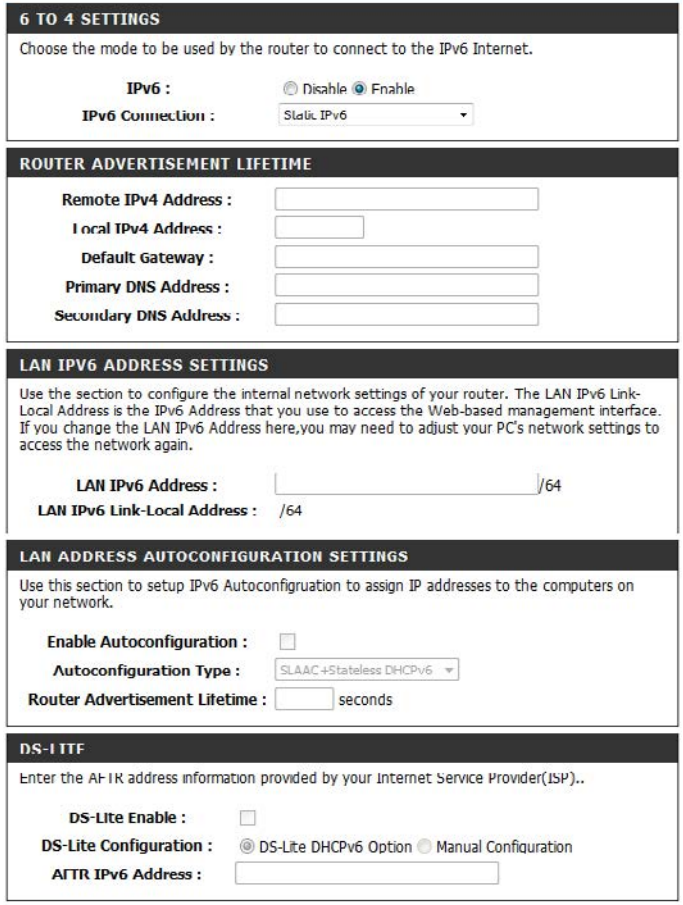
Autoconfiguration Type: Select **SLAAC + Stateless DHCPv6** or **Stateful (DHCPv6)**.

Router Advertisement Lifetime: Enter the IPv6 Address Lifetime (in seconds).

DS-Lite Enable: Tick to enable DS-Lite.

DS-Lite Configuration: Tick **Manual Configuration.**

AFTR IPv6 Address: Enter the AFTR IPv6 address supplied by your service provider.



LAN IPv6 Address Settings

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **LAN IPv6 Address Settings** from the drop-down menu.

DNS Addresses: Enter the primary and secondary DNS addresses here.

Enable DHCP-PD: Tick to enable DHCP-PD.

LAN IPv6 Address: Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address: Displays the LAN IPv6 link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

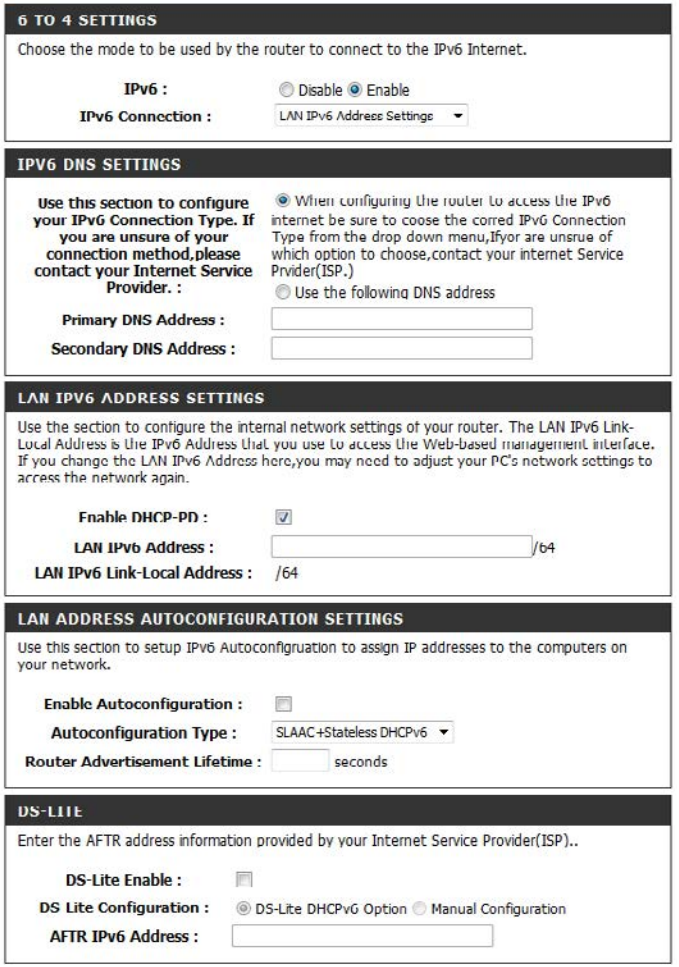
Autoconfiguration Type: Select **SLAAC + Stateless DHCPv6** or **Stateful (DHCPv6)**.

Router Advertisement Lifetime: Enter the IPv6 address lifetime (in seconds).

DS-Lite Enable: Tick to enable DS-Lite.

DS-Lite Configuration: Tick **DS-Lite DHCPv6 Option** or **Manual Configuration.**

AFTR IPv6 Address: Enter the AFTR IPv6 address supplied by your service provider.



PPPoE

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **LAN IPv6 Address Settings** from the drop-down menu.

LAN IPv6 Address: Enter the LAN IPv6 address.

MTU: You may need to change the Maximum Transmission Unit (MTU) for optimal performance.

DNS Addresses: Enter the primary and secondary DNS addresses here.

Enable DHCP-PD: Tick to enable DHCP-PD.

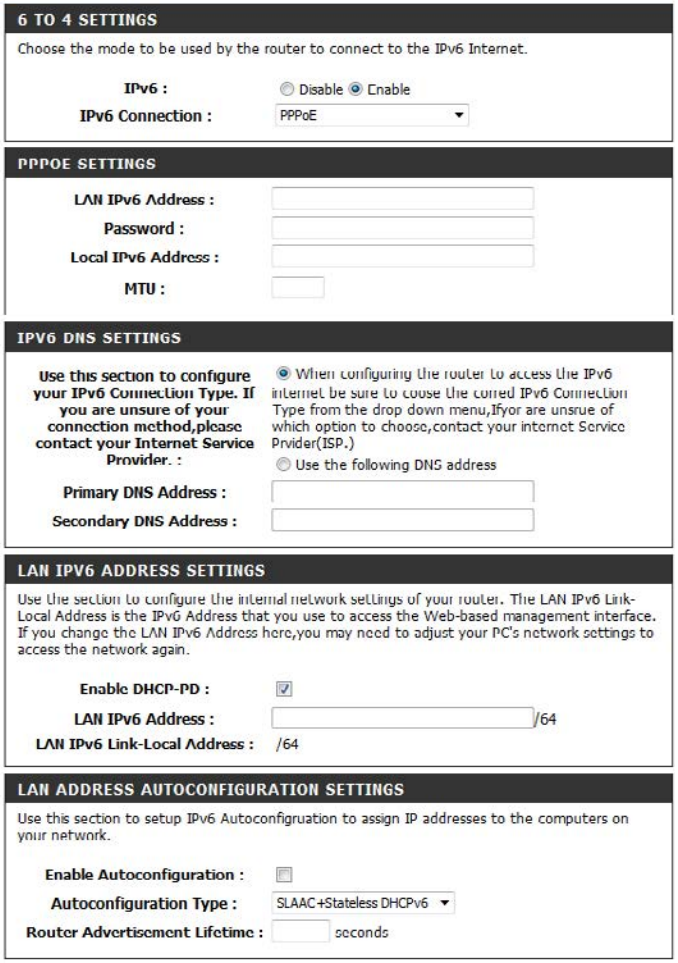
LAN IPv6 Address: Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address: Displays the LAN IPv6 Link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

Autoconfiguration Type: Select **SLAAC + Stateless DHCPv6** or **Stateful (DHCPv6)**.

Router Advertisement Lifetime: Enter the IPv6 address lifetime (in seconds).



LAN IPv6 Link-Local Address

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **LAN IPv6 Link-Local Address** from the drop-down menu.

Remote IPv4 Address: Enter the remote IPv4 address.

Local IPv4 Address: Enter the local IPv4 address.

Local IPv6 Address: Enter the local IPv6 address.

DNS Setting: Choose to automatically obtain the DNS server address or to set manually.

DNS Addresses: Enter the primary and secondary DNS addresses here.

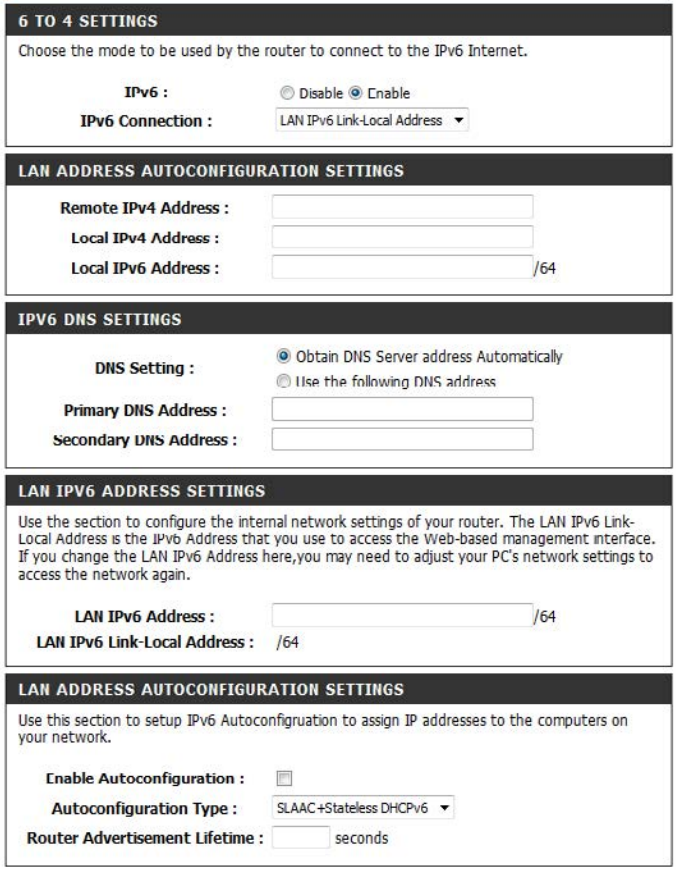
LAN IPv6 Address: Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address: Displays the LAN IPv6 link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

Autoconfiguration Type: Select **SLAAC + Stateless DHCPv6** or **Stateful (DHCPv6)**.

Router Advertisement Lifetime: Enter the IPv6 address lifetime (in seconds).



6 to 4

IPv6: Tick **Enable** to activate IPv6 tunneling.

IPv6 Connection: Select **6 to 4** from the drop-down menu.

6 to 4 Address: Displays the IPv6 settings supplied by your Internet Service Provider (ISP).

Primary/Secondary DNS Address: Enter the primary and secondary DNS server addresses.

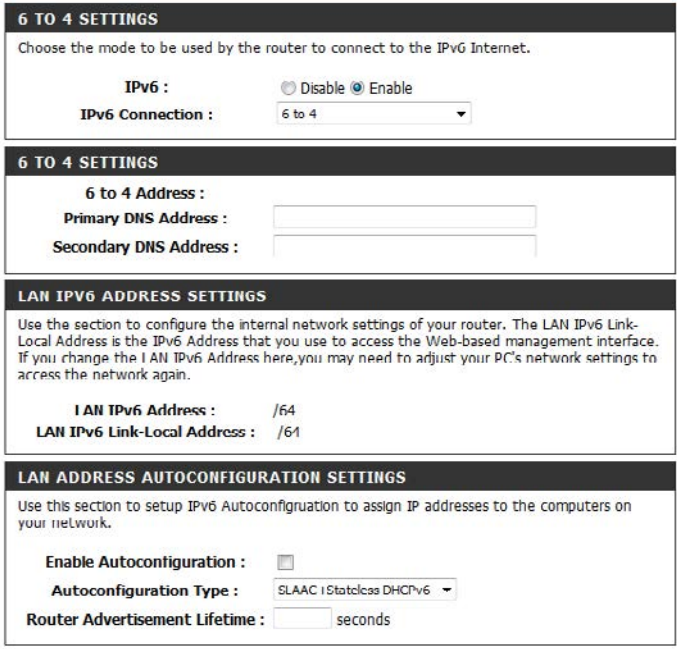
LAN IPv6 Address: Displays the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the router's LAN link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)** or **SLAAC+Stateless DHCPv6** autoconfiguration.

Router Advertisement Lifetime: Enter the IPv6 address lifetime (in seconds).



6rd

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **6rd** from the drop-down menu.

Remote IPv4 Address: Enter the IPv4 (remote) address here.

IPv4 Mask Length: Enter the mask length of the IPv4 address.

Remote Prefix: Enter the remote prefix of the IPv4 address.

Prefix Length: Enter the length of the remote prefix.

Primary/Secondary DNS Addresses: Enter the DNS server addresses.

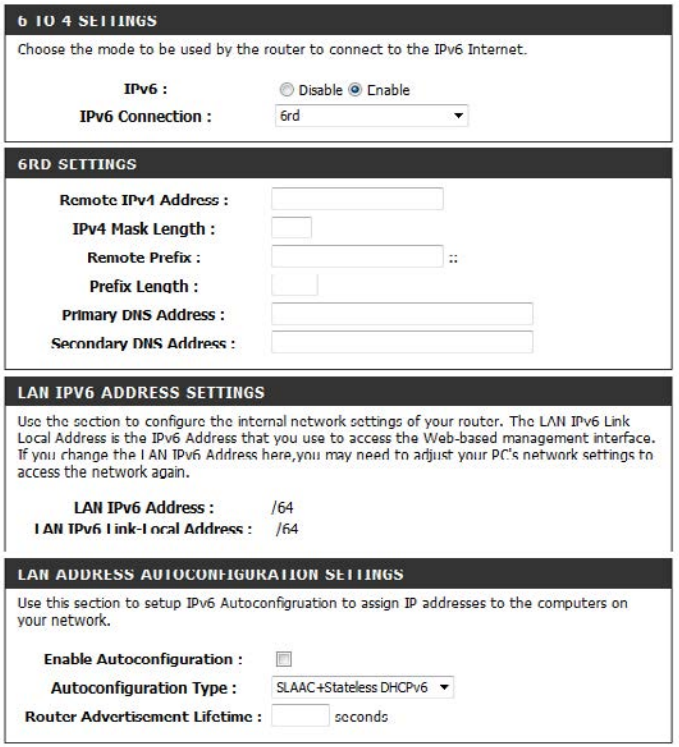
LAN IPv6 Address: Displays the LAN (local) IPv6 address for the router.

LAN Link-Local Address: Displays the router's LAN link-local address.

Enable Autoconfiguration: Check to enable the autoconfiguration feature.

Autoconfiguration Type: Select **Stateful (DHCPv6)** or **SLAAC+Stateless DHCPv6** autoconfiguration.

Router Advertisement Lifetime: Enter the IPv6 address lifetime (in seconds).

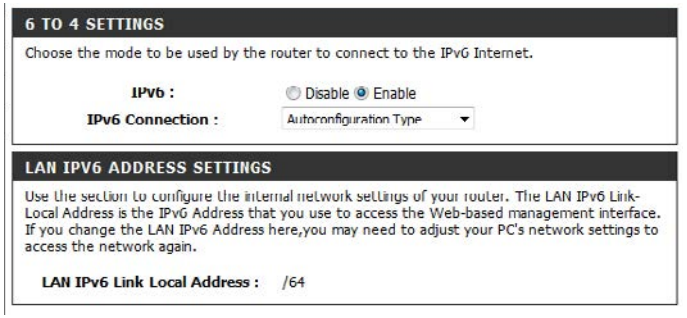


Autoconfiguration

IPv6: Tick to **Enable** IPv6 tunneling.

IPv6 Connection: Select **Autoconfiguration Type** from the drop-down menu.

LAN Link-Local Address: Displays the router's LAN link-local address.

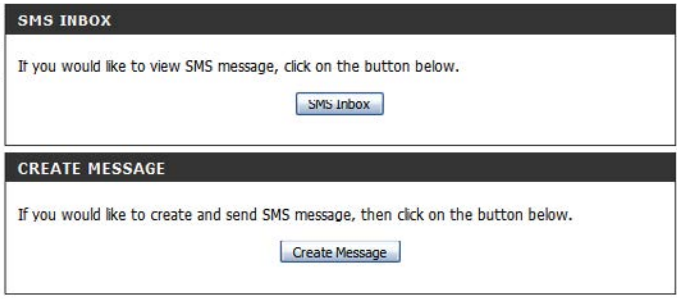


Message Service

If your ISP provides SMS service, you can check and send messages from this page.

SMS Inbox: Click this button to view SMS messages that you have received.

Create Message: Click this button to create a new message to send.



SMS Inbox

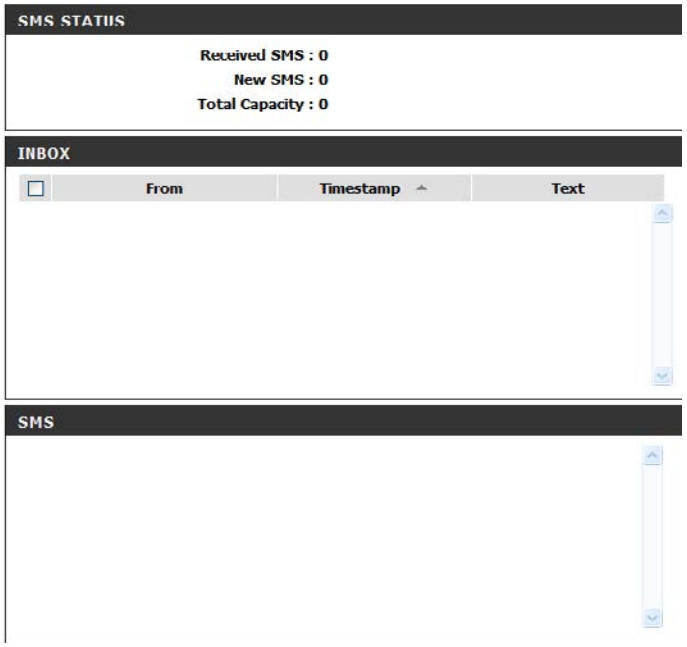
This page shows all messages that are stored on the SIM card. Select a message to display its contents in the SMS window. After you have read a message, you can delete it, or reply to the sender. Click the **Refresh** button to update the list.

Delete: Deletes the selected SMS message.

Reply: Opens a Create Message window to reply to the selected SMS message.

Forward: Opens a Create Message windows to forward the selected SMS message to another recipient.

Refresh: Click this button to check for new messages.



Create Message

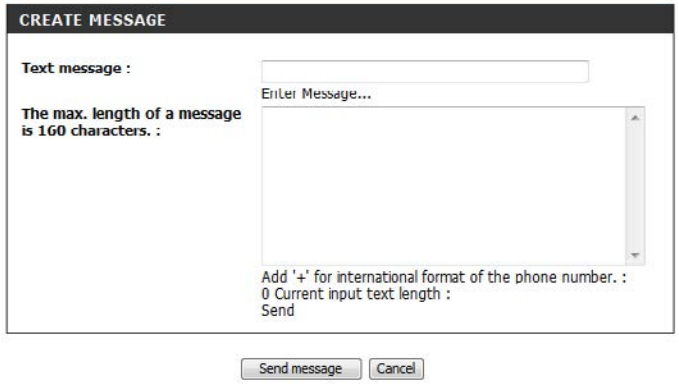
This page allows you to send an SMS to your contacts. Just fill in the phone number of the recipient, and type the content of the message. Then click the **Send Message** button to send out the message. If you would like to add more than one recipient, you must put a semicolon (;) between each of the phone numbers.

Receiver: Type the phone number of the recipient.

Text Message: Type the message that you would like to send.

Send Message: Click this button to send the message.

Cancel: Click this button to clear the message.



USSD

You can use this page to send Unstructured Supplementary Service Data (USSD) codes used by your service provider to activate specific applications with an SMS message.

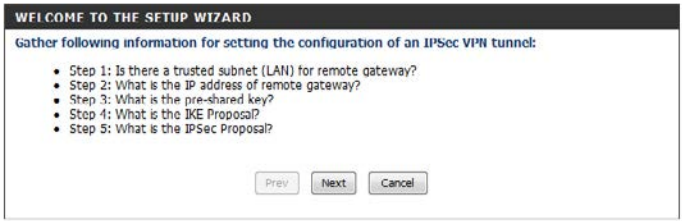
USSD: Enter an application activation code and click the **Send** button. This will allow you to activate applications by sending an SMS to your ISP.

VPN Settings
VPN Setup Wizard

The DWR-755 allows you to set up VPN using the automated **VPN Setup Wizard** or using **Manual VPN Setup**. VPN settings are used to create virtual private tunnels to remote VPN gateways. The tunnel technology supports data confidentiality, data origin authentication, and data integrity of network information by utilizing encapsulation protocols, encryption algorithms, and hashing algorithms.

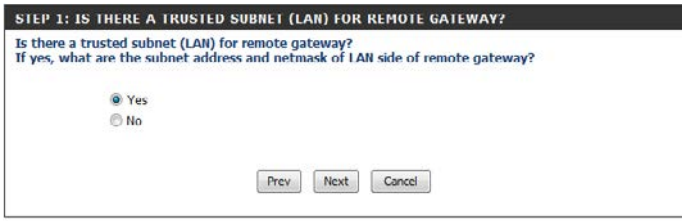
This window explains the steps you will be guided through to set up an IPSec VPN tunnel.

Click **Next** to continue.



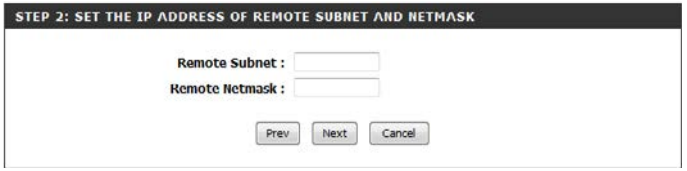
If there is a trusted subnet for remote gateway, select **Yes**, otherwise choose **No**.

Click **Next** to continue.



If you chose "yes" you will now need to enter the **Remote Subnet** and **Remote Netmask**.

Click **Next** to continue.



Enter the **Remote Gateway** address.

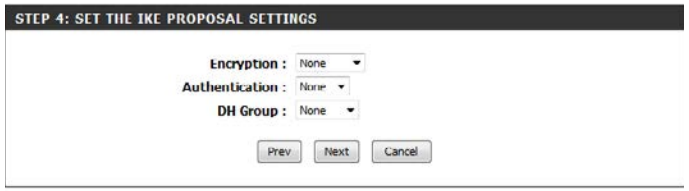
Click **Next** to continue.

Set your **Preshared Key**.

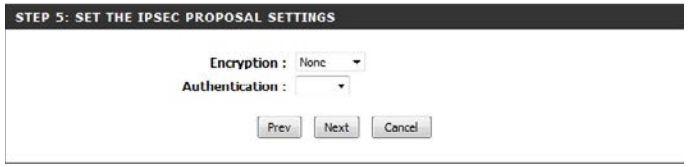
Click **Next** to continue.

Set your IKE Proposal Settings by choosing your **Encryption**, **Authentication**, and **DH Group** settings from the drop-down menus.

Click **Next** to continue.



Set the type of encryption and authentication of your IPsec proposal settings and click **Next.**



When setup is completed the name and security details will be displayed and the router will reboot.

Click **Save** to finish.

Manual VPN Setup

This section will help you create and configure your **VPN** settings. The router supports IPSec as the Server Endpoint. IPSec (Internet Protocol Security) is a set of protocols defined by the IETF (Internet Engineering Task Force) to provide IP security at the network layer.

VPN-IPSEC: Check this box to enable IPSec VPN function.

Netbios over IPSEC: Check this box to receive Netbios from Network Neighborhood.

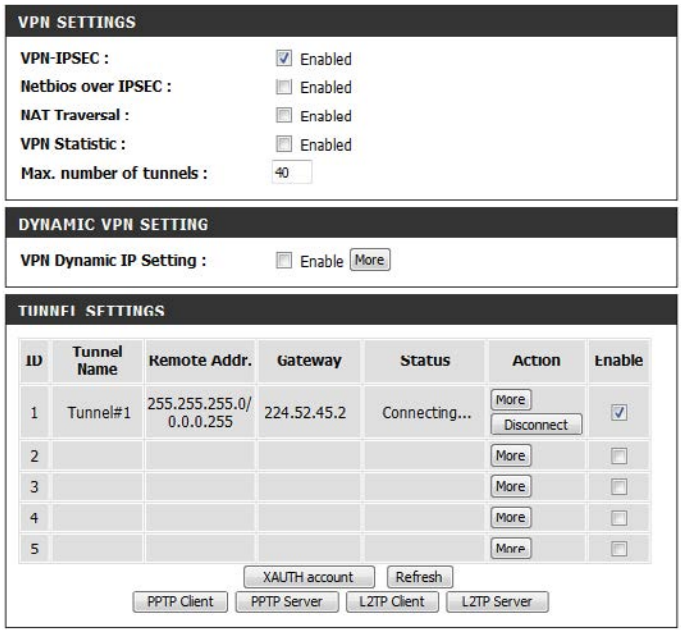
NAT Traversal: Some NAT routers will block IPSec packets if it doesn't support IPSec passthrough. If you connect to another NAT router which doesn't support IPSec passthrough on the WAN side, you need to activate this option.

VPN Statistic: Check this box to enable VPN Statistic options.

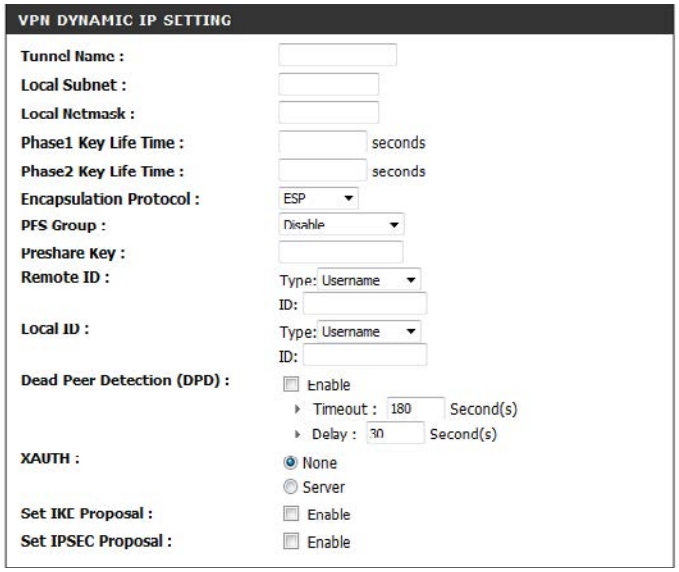
Max Number of Tunnels: The device supports 1~10 tunnels.

VPN Dynamic IP Setting: Check this box to enable this features and click **More** to configure VPN Dynamic IP on a separate page. Please see the next page for more details.

Tunnel Settings: Tunnel details are displayed here. Click **More** to configure a new tunnel or click **Disconnect** to disconnect from an existing tunnel. Select the **Enable** checkbox to activate this rule.
In tunnel settings page, you can click **More** under Action for detail tunnel setting.
XAUTH account: select it to store XAUTH account information such as user name and password.
PPTP client / **PPTP Server**: DWR-755 can act as either client or server under PPTP, click it to configure this setting.
L2TP client / **L2TP Server**: DWR-755 can act as either client or server under L2TP, click it to configure this setting.



VPN Dynamic IP



Tunnel Name: Enter a name for your VPN.

Local Subnet/Netmask: Enter the local (LAN) subnet and mask. (ex. 192.168.0.0/24)

Phase1/2 Key Life Time: Enter the amount of time in seconds that the Phase 1 and Phase 2 keys should last.

Encapsulation Protocol: Choose either **ESP**, **AH** or **ESP + AH** from the drop-down menu.

PFS Group: **Enable** or **Disable** the PFS Group option using the drop-down menu. PFS is an additional security protocol.

Preshare Key: Manually enter an ASCII passphrase in box.

Remote ID: Choose from **Username**, **FQDN**, **User@FQDN**, or **Key ID** using the drop-down menu and then the ID in the box.

Local ID: Choose from **Username**, **FQDN**, **User@FQDN**, or **Key ID** using the drop-down menu and then the ID in the box.

Dead Peer Detection (DPD): Check this box to enable Dead Peer Detection, then enter the time in seconds in which a peer is determined to be no longer active. You may also enter a delay period in seconds.

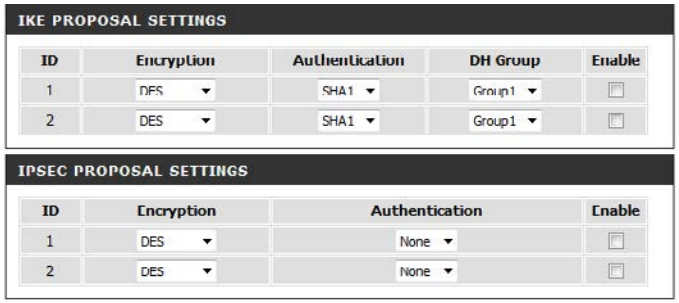
XAUTH: Check this box to include additional username and password authentication requirements for the VPN. Select **Server Mode** or **None**. Then enter the user name and password if required by the remote VPN server endpoint configured in xAuth Server Mode.

Set IKE Proposal: Check this box to enable IKE Proposal.

Set IPSEC Proposal: Check this box to enable IPSec Proposal.

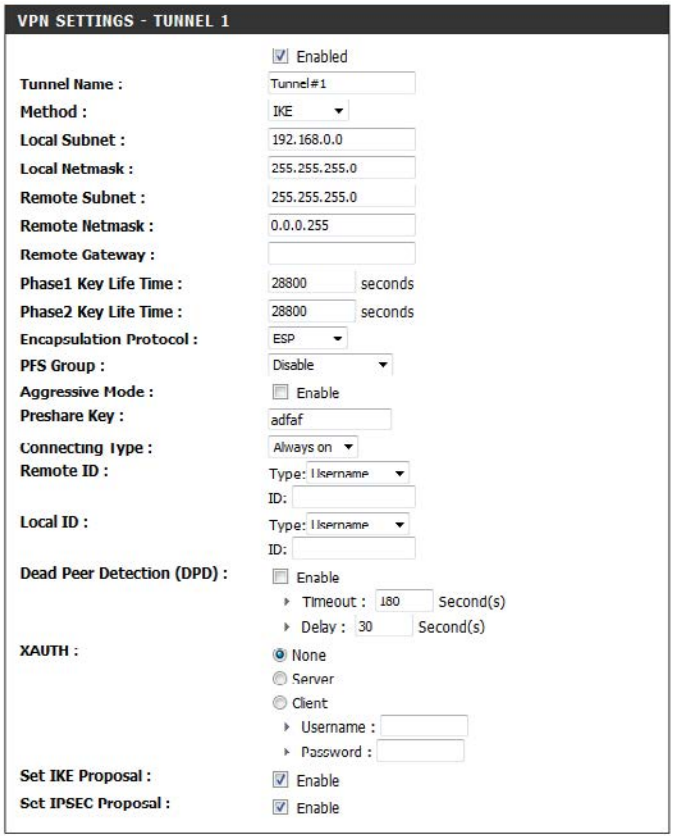
IKE Proposal Settings: Use this area to **Enable** IKE Proposals. Then determine the **Encryption** and **Authentication** types, as well as the **DH Group** from the drop-down menus.

IPSEC Proposal Settings: Use this area to **Enable** IPSec Proposals. Then determine the **Encryption** and **Authentication** types from the drop-down menus.



Tunnel - IKE

Tick **Enabled**, choose **IKE** in the Method field, and configure your settings. When you are done, click **Save Settings** to apply changes.



Tunnel Name: Indicate a tunnel name for this VPN configuration.

Method: Choose either **IKE** from the drop-down menu.

Local Subnet: The subnet of the VPN gateway's local network. It can be a host, a partial subnet or a whole subnet.

Local Netmask: Local netmask combined with local subnet to form a subnet domain.

Remote Subnet: The subnet of the remote VPN gateway's local network. It can be a host, a partial subnet, or a whole subnet.

Remote Netmask: The netmask of the remote VPN gateway's local network.

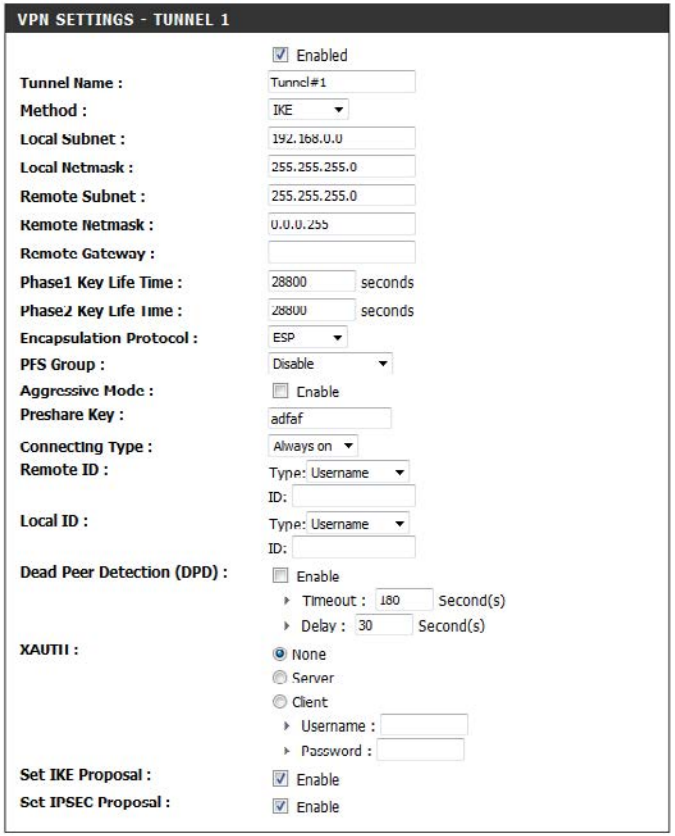
Remote Gateway: The WAN IP address of remote VPN gateway.

Phase 1 Key Life Time: The phase 1 key life time of the dedicated VPN tunnel between both end gateways (in seconds). Its value can range from 300 seconds to 172,800 seconds.

Phase 2 Key Life Time: The phase 2 key life time of the dedicated VPN tunnel between both end gateways (in seconds). Its value can range from 300 seconds to 172,800 seconds.

Encapsulation Protocol: ESP, AH, or ESP+AH.

PFS Group: Three groups can be selected: None, Group 1, Group 2, Group 5.
None: No PFS group
Group 1: 768-bit Diffie-Hellman prime modulus
Group 2: 1024-bit Diffie-Hellman prime modulus
Group 5: 1536-bit Diffie-Hellman prime modulus



Aggressive Mode: Enabling this mode will accelerate the initial tunnel setup, but the device will suffer from less security in the meantime. Hosts at both ends of the tunnel must support this mode so as to establish the tunnel properly.

Preshared Key: The first key that supports IKE mechanism of both VPN gateway and VPN client host for negotiating further security keys. The pre-shared key must be same on both VPN gateways and clients.

Connecting Type: Choose **Always on** or **Manual** from the drop-down menu.

Remote ID: The Type and the Value must be the same as the Type and the Value of the Local ID of the remote VPN gateway.

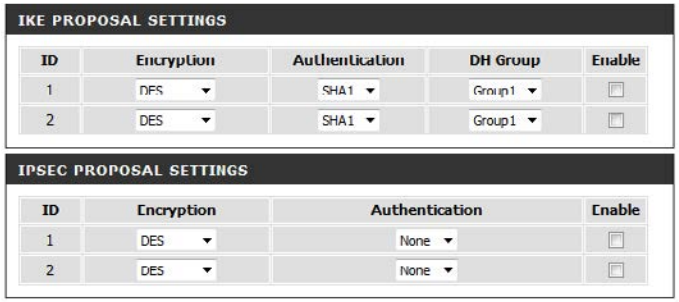
Local ID: The Type and the Value must be the same as the Type and the Value of the Remote ID of the remote VPN gateway.
Input the IP address of remote host that exist in the remote side of the VPN tunnel (Ex. You can input the LAN IP address of remote VPN gateway). The device will start to Ping the remote host when there is no traffic within the VPN tunnel. If the device is no longer receiving an ICMP response from remote host, it will terminate the VPN tunnel automatically.

Dead Peer Detection (DPD): Check this box to enable Dead Peer Detection, then enter the time in seconds in which a peer is determined to be no longer active. You may also enter a delay period in seconds.

XAUTH: Check this box to include additional username and password authentication requirements for the VPN. Select **Server Mode** or **None**. Then enter the user name and password if required by the remote VPN server endpoint configured in xAuth Server Mode.

Set IKE Proposal: Check this box to enable IKE Proposal.

Set IPSEC Proposal: Check this box to enable IPSec Proposal.



Encryption: Five algorithms can be selected: **DES**, **3DES**, **AES-128**, **AES-192**, and **AES-256**.

Authentication: Two algorithms can be selected: **SHA1** and **MD5**.

DH Group: Three groups can be selected: **group 1** (MODP768), **group 2** (MODP1024), and **group 5** (MODP1536).

Enable: Select this checkbox to enable the IKE Proposal with this rule.

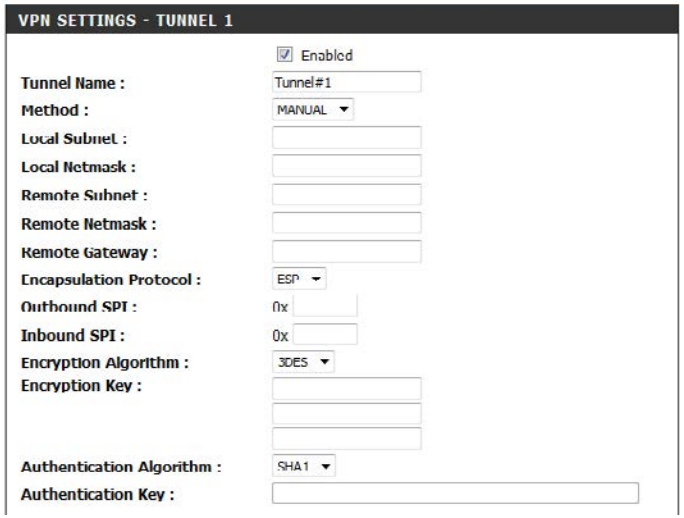
Encryption: Five algorithms can be selected: **DES**, **3DES**, **AES-128**, **AES-192**, and **AES-256**. However, when the encapsulation protocol is set to AH, the encryption algorithm is unnecessary.

Authentication: Two algorithms can be selected: **SHA1** and **MD5**.

Enable: Select this checkbox to enable the IKE Proposal with this rule.

Tunnel - Manual

Tick **Enabled**, choose **MANUAL** in the Method field, and configure your settings. When you are done, click **Save Settings** to apply changes.



Tunnel Name: Indicate a tunnel name for this VPN configuration.

Method: Choose **Manual** from the drop-down menu.

Local Subnet: The subnet of the VPN gateway's local network. It can be a host, a partial subnet or a whole subnet.

Local Netmask: Local netmask combined with local subnet to form a subnet domain.

Remote Subnet: The subnet of the remote VPN gateway's local network. It can be a host, a partial subnet, or a whole subnet.

Remote Netmask: The netmask of the remote VPN gateway's local network.

Remote Gateway: The WAN IP address of remote VPN gateway.

Encapsulation Protocol: Select **ESP** or **AH**.

Outbound SPI: SPI is an important parameter during hashing. Outbound SPI will be included in the outbound packet transmitted from local gateway. The value of outbound SPI should be set in hex formatted.

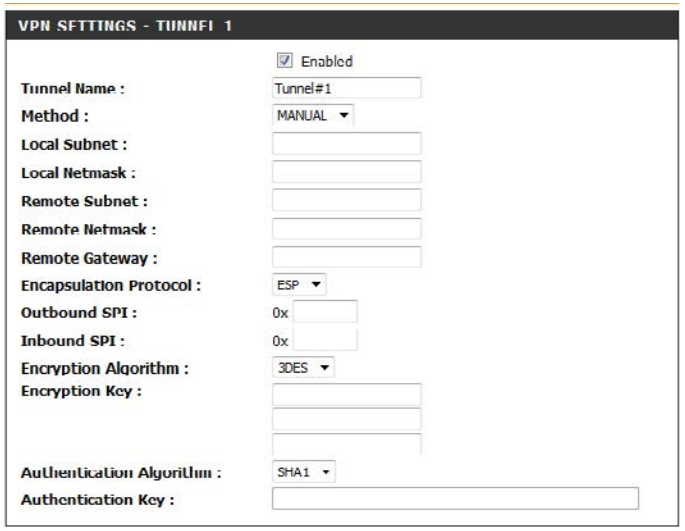
Inbound SPI: Inbound SPI will be included in the inbound packet transmitted from WAN site of remote gateway. It will be used to de-hash the coming packet and check its integrity. The value of outbound SPI should be set in hex formatted.

Encryption Algorithm: Two algorithms can be selected: **3DES** and **DES**. When the encapsulation protocol is set to AH, the encryption algorithm is unnecessary.

Encryption Key: The encryption key is used by the encryption algorithm. Its length is 8 bytes if encryption algorithm is DES or 24 bytes if 3DES. The key value should be set in hex format.

Authentication Algorithm: Two algorithms can be selected: **SHA1** and **MD5**.

Authentication Key: This authentication key is used by the authentication algorithm. Its length is 16 bytes if authentication algorithm is MD5 or 20 bytes if SHA1. Its length will be 0 if no authentication algorithm is chosen. The key value should be set in hex format.



Advanced

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. Click **Save Settings** to save your changes, or click **Don't Save Settings** to discard your changes.

Well-known Services: This contains a list of pre-defined services.

Copy to: Copies the rule to the line of the specified ID.

Use schedule rule: You may select **Always On** or choose the number of a schedule rule that you have defined.

VIRTUAL SERVERS LIST

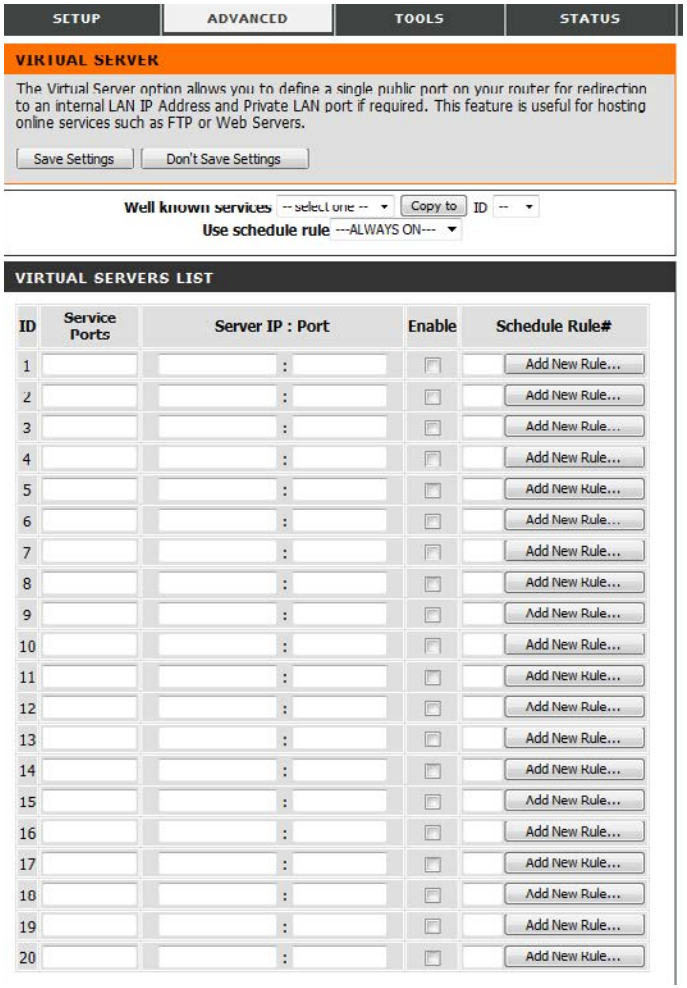
ID: This identifies the rule.

Service Ports: Enter the public port(s) you want to open.

Server IP: Port: Enter the IP address and port of the computer on your local network that you want to forward the Service Ports to.

Enable: Check the box to enable the specified rule.

Schedule Rule #: Specify the schedule rule number. To create schedules, click on the **Add New Rule** button. For further information on schedules, please refer to "Schedules" on page 75.

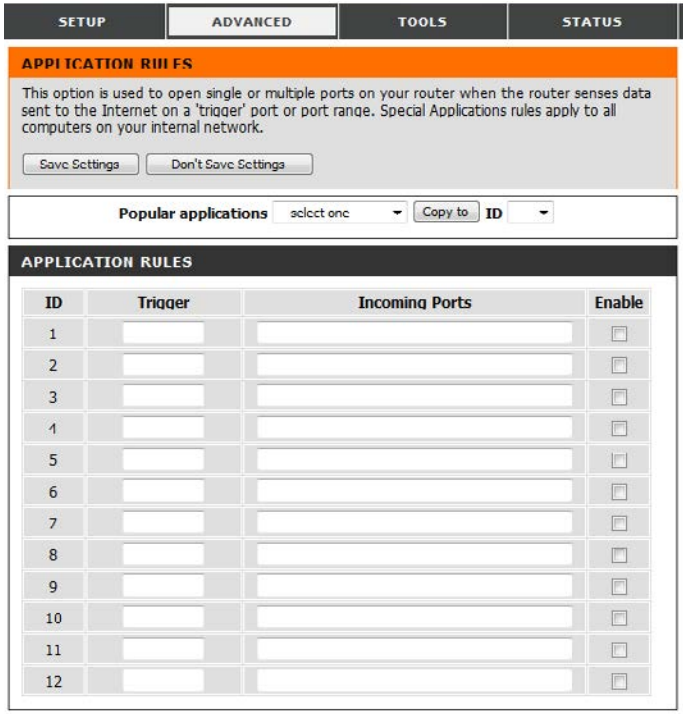


Application Rules

Some applications require multiple connections, such as Internet gaming, video conferencing, and Internet telephony. These applications may have difficulty working through NAT (Network Address Translation). Application Rules allow some of these applications to work with the DWR-755 by opening ports after detecting traffic being sent through a trigger port. After modifying any settings, click **Save Settings** to save your changes.

Popular Applications: Select from a list of popular applications. You can select a service, select a rule ID, then click the **Copy to** button to copy the default settings for that service to the specified rule ID.

ID: Specifies which rule to copy the selected **Popular application** settings to when you click the **Copy to** button.



APPLICATION RULES

ID: This identifies the rule.

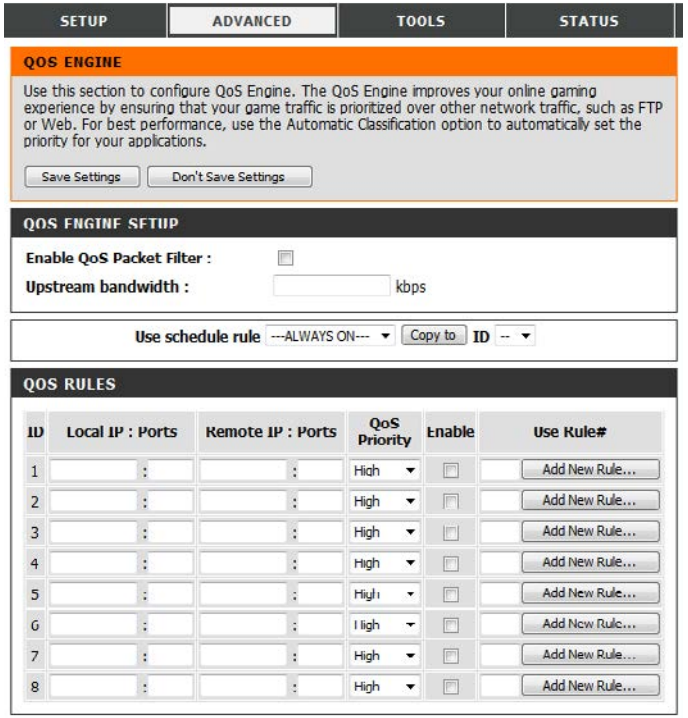
Trigger: Enter the port to listen to in order to trigger the rule.

Incoming Ports: Specify the incoming port(s) to open when traffic comes over the Trigger port.

Enable: Check the box to enable the specified rule.

QoS Engine

The QoS engine improves your online gaming or streaming media experience by ensuring that your game or media traffic is prioritized over other network traffic, such as FTP or web. For best performance, use the Automatic Classification option to automatically set the priority for your applications. After modifying any settings, click **Save Settings** to save your changes.



QOS ENGINE SETUP

Enable QOS Packet Filter: Select this box to enable the QoS feature.

Upstream Bandwidth: Specify the maximum upstream bandwidth here (e.g. 400 Kbps).

Use Schedule Rule: Select a schedule to use and copy to the specified rule ID when you click the **Copy to** button. You may select **Always On** or use a specific schedule that you have defined. To create and edit schedules, please refer to "Schedules" on page 75.

QOS RULES

ID: This identifies the rule.

Local IP : Ports: Specify the local IP address(es) and port(s) for the rule to affect.

Remote IP : Ports: Specify the remote IP address(es) and port(s) for the rule to affect.

QoS Priority: Select what priority level to use for traffic affected by the rule: **Low, Normal, or High**.

Enable: Check the box to enable the specified rule.

Use Rule #: Specify the schedule rule number. To create a new schedule, click on the **Add New Rule** button. For more information about schedules, please refer to "Schedules" on page 75.

MAC Address Filter

The MAC (Media Access Controller) address filter option is used to control network access based on the MAC address of the network adapter. A MAC address is a unique ID assigned by the manufacturer of the network adapter. This feature can be configured to ALLOW or DENY network/Internet access. After modifying any settings, click **Save Settings** to save your changes.

MAC FILTERING SETTINGS

MAC Address Control: Tick this box to enable MAC filtering.

Connection Control: Check the box to allow wireless and wired clients with **C** selected to connect to this device. You can also select to **allow** or **deny** connections from unspecified MAC addresses.

Association Control: Check the box to allow wireless clients with **A** selected can associate to the wireless LAN. You can also select to **allow** or **deny** connections from unspecified MAC addresses.

MAC FILTERING RULES

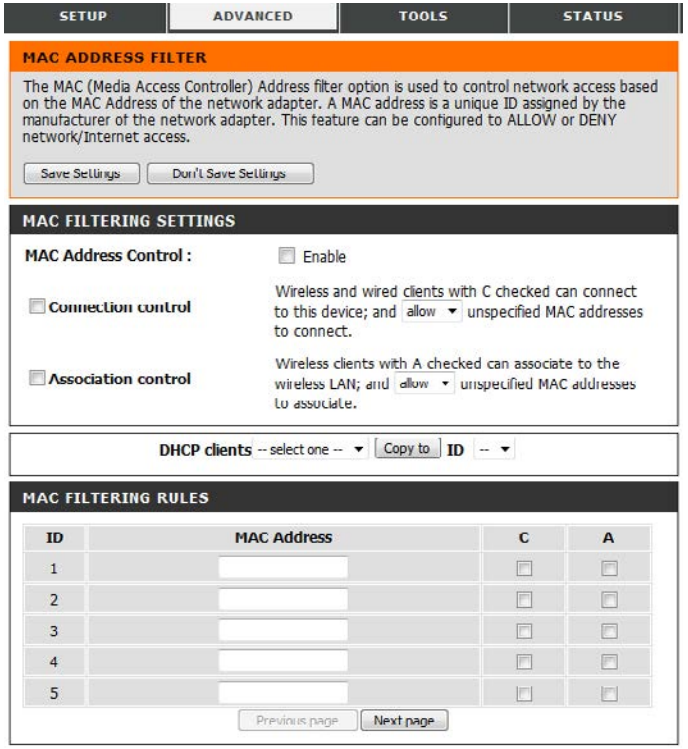
ID: This identifies the rule.

MAC Address: Specify the MAC address of the computer to be filtered.

IP Address: Specify the last section of the IP address.

C: If this box is ticked, the rule will follow the connection control setting specified in MAC filtering settings specified above.

A: If this box is ticked, the rule will follow the association control setting specified in MAC filtering settings specified above.



URL Filter

The URL filter allows you to set up a list of websites that will be blocked from users on your network. After modifying any settings, click **Save Settings** to save your changes.

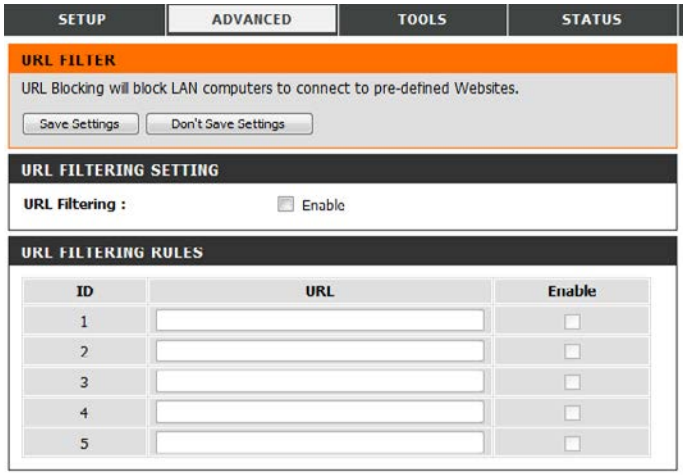
URL Filtering: Check the box to enable URL filtering.

URL FILTERING RULES

ID: This identifies the rule.

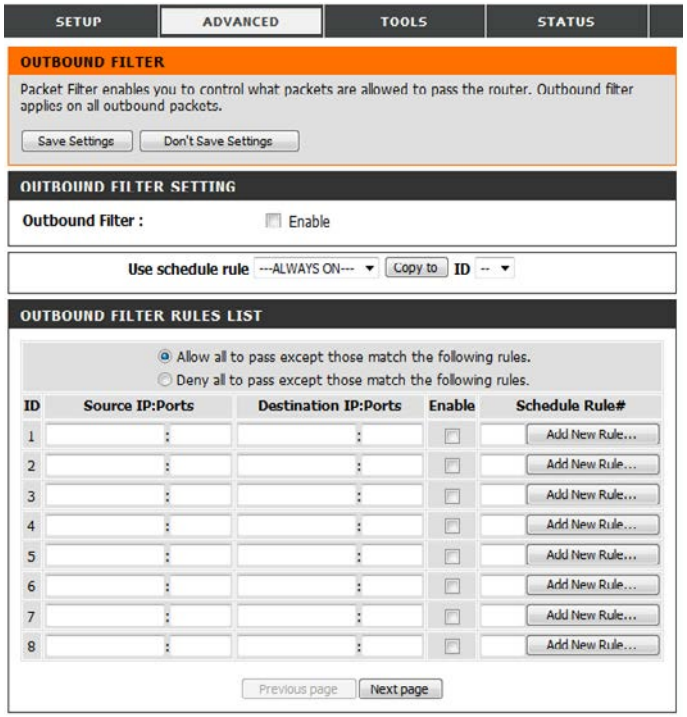
URL: Enter URL that you would like to block. All URLs that begin with this URL will be blocked.

Enable: Check the box to enable the specified rule.



Outbound Filter

The outbound filter enables you to control what packets are allowed to be sent out to the Internet. The outbound filter applies to all outbound packets. After modifying any settings, click **Save Settings** to save your changes.



OUTBOUND FILTER SETTING

Outbound Filter: Select this box to **Enable** outbound filtering.

Use Schedule Rule: Select a schedule to use and copy to the specified rule ID when you click the **Copy to** button. You may select **Always On** or use a specific schedule that you have defined. To create and edit schedules, please refer to "Schedules" on page 75.

OUTBOUND FILTER RULES LIST

Here, you can select whether to **Allow** or **Deny** all outgoing traffic except for traffic that matches the listed rules.

ID: This identifies the rule.

Source IP : Ports: Specify the local IP address and then specify the port after the colon.

Destination IP : Ports: Specify the remote IP address and then the port after the colon.

Enable: Check the box to enable the specified rule.

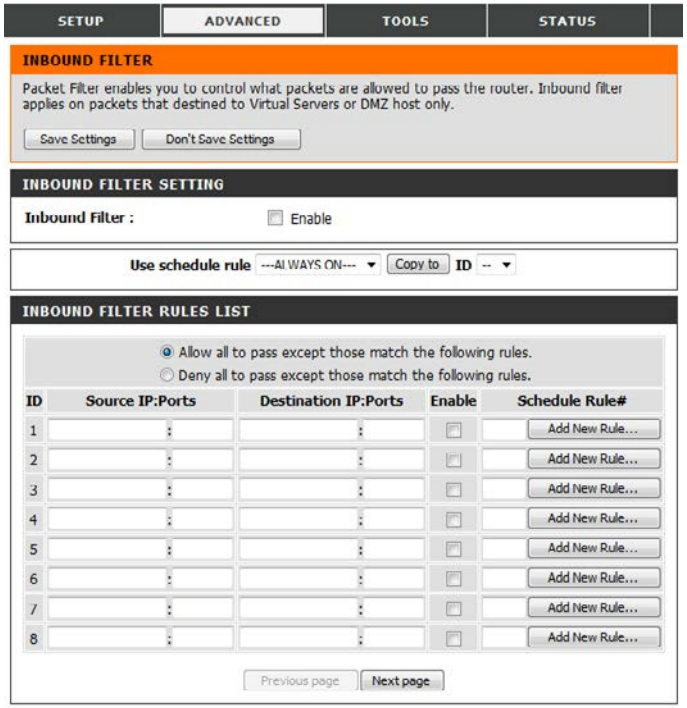
Schedule Rule #: Specify the schedule rule number. Click on the **Add New Rule** button to create a new schedule rule.

Previous Page: Go back to the previous filter page.

Next Page: Advance to the next filter page.

Inbound Filter

The inbound filter enables you to control what packets are allowed to come in to your network from the Internet. The inbound filter only applies to packets that are destined for Virtual Servers or DMZ hosts. After modifying any settings, click **Save Settings** to save your changes.



INBOUND FILTER SETTING

Inbound Filter: Select this box to **Enable** the filter.

Use Schedule Rule: Select a schedule to use and copy to the specified rule ID when you click the **Copy to** button. You may select **Always On** or use a specific schedule that you have defined. To create and edit schedules, please refer to "Schedules" on page 75.

INBOUND FILTER RULES LIST

Here, you can select whether to **Allow** or **Deny** all incoming traffic except for traffic that matches the listed rules.

ID: This identifies the rule.

Source IP : Ports: Specify the local IP address and then specify the port after the colon.

Destination IP : Ports: Specify the remote IP address and then the port after the colon.

Enable: Check the box to enable the specified rule.

Schedule Rule #: Specify the schedule rule number. Click on the **Add New Rule** button to create a new schedule rule.

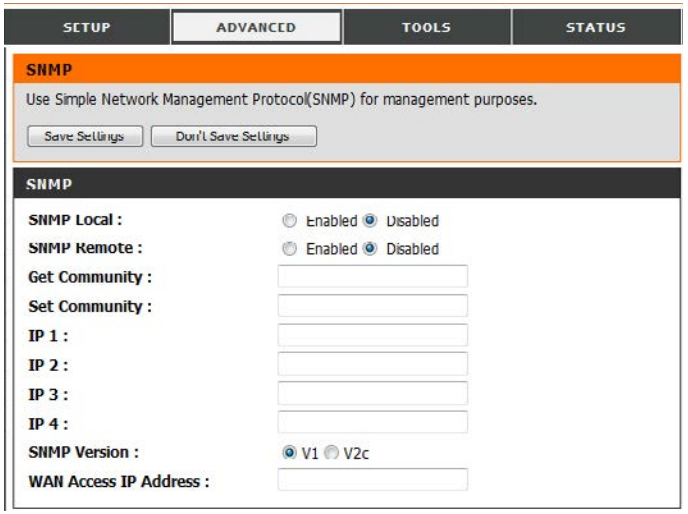
Previous Page: Go back to the previous filter page.

Next Page: Advance to the next filter page.

SNMP

SNMP (Simple Network Management Protocol) is a widely used network monitoring and control protocol that reports activity on each network device to the administrator of the network. SNMP can be used to monitor traffic and statistics of the DWR-755. The DWR-755 supports SNMP v1 and v2c. After modifying any settings, click **Save Settings** to save your changes.

SNMP



SNMP Local: Select whether to **Enable** or **Disable** local SNMP administration.

SNMP Remote: Select whether to **Enable** or **Disable** remote SNMP administration.

Get Community: Enter the password **public** in this field to allow read-only access to network administration using SNMP. You can view the network, but no configuration is possible with this setting.

Set Community: Enter the password **private** in this field to enable read/write access to the network using SNMP.

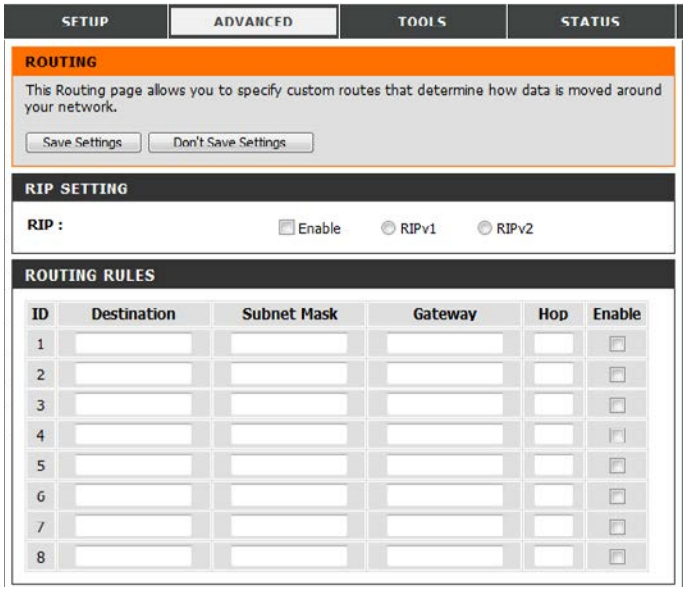
IP 1/2/3/4: Enter up to 4 IP addresses to use as trap targets for your network.

SNMP Version: Select the SNMP version of your system.

WAN Access IP Address: If you want to limit remote access SNMP access, enter the IP address of the remote computer you will use to access this device; all other IP addresses will be denied remote SNMP access.

Routing

The routing page allows you to specify custom routes that determine how data is moved around your network. After modifying any settings, click **Save Settings** to save your changes.



RIP SETTING

RIP: Check the box to enable routing, then select which routing protocol to use:

- **RIPv1:** Protocol in which the IP address is routed through the internet.
- **RIPv2:** Enhanced version of RIPv1 with added features such as authentication, routing domain, next hop forwarding, and subnet-mask exchange.

ROUTING RULES

ID: This identifies the rule.

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

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

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

Hop: Enter in the amount of hops it will take to reach the specified network.

Note: In a transmission path, each link is terminated at a network device such as a router or gateway. The number of hops equals the number of routers or gateways that data must pass through before reaching the destination.

Enable: Select this box to enable the rule.

Advanced Wireless

Advanced wireless contains settings which can negatively affect the performance of your router if configured improperly. Do not change these settings unless you are already familiar with them or have been instructed to make the change by one of our support personnel. After modifying any settings, click **Save Settings** to save your changes.

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 setting and is recommended.

Transmit Power: Set the transmit power of the antennas.

RTS Threshold: This value should remain at its default setting of 2347. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation: The fragmentation threshold, which is specified in bytes, determines whether packets will be fragmented. Packets exceeding the 2346 byte setting will be fragmented before transmission. 2346 is the default setting.

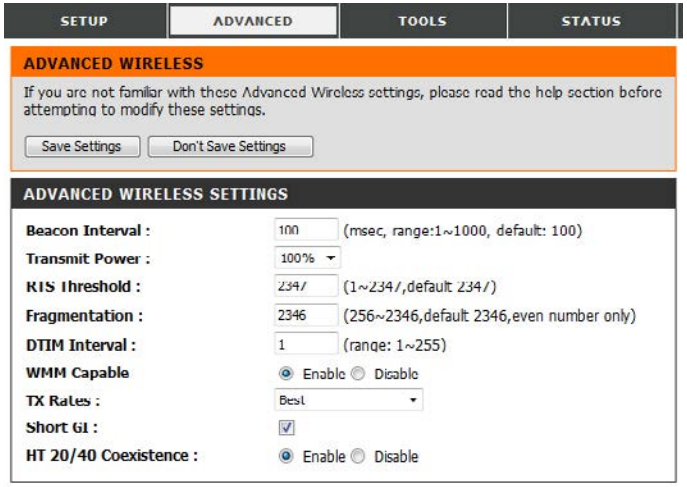
DTIM Interval: Set the interval for DTIM. A Delivery Traffic Indication Message (DTIM) is a countdown informing clients of the next window for listening to broadcast and multicast messages. The default interval is 3.

WMM Capable: 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.

TX Rates: Select the basic transfer rates based on the speed of wireless adapters on your wireless network. It is strongly recommended to keep this setting to **Auto**.

Short GI: Check this box to reduce the guard interval to 400 ns. This can increase the throughput rate provided that the delay spread of the connection is also low. However, it can also increase error rate in some installations, due to increased sensitivity to radio-frequency reflections. Select the option that works best for your installation.

HT 20/40 Coexistence: Enable this option to reduce interference from other wireless networks in your area. If the channel width is operating at 40 MHz and there is another wireless network's channel over-lapping and causing interference, the router will automatically change to 20 MHz.

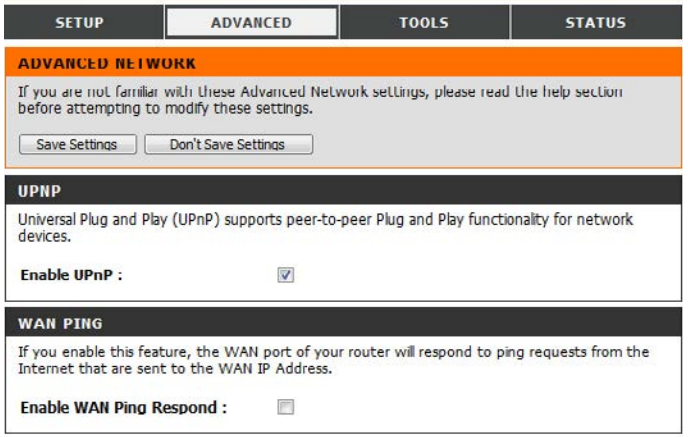


Advanced Network

Advanced network contains settings which can change the way the router handles certain types of traffic. We recommend that you do not change any of these settings unless you are already familiar with them or have been instructed to make the change by one of our support personnel. After modifying any settings, click **Save Settings** to save your changes.

Enable UPnP: Check the box to enable the Universal Plug and Play (UPnP™) feature. UPnP provides compatibility with various networking equipment, software, and peripherals.

Enable WAN Ping Respond: Select the box to allow the WAN port to be "pinged." Blocking WAN pings may provide some extra security from hackers.

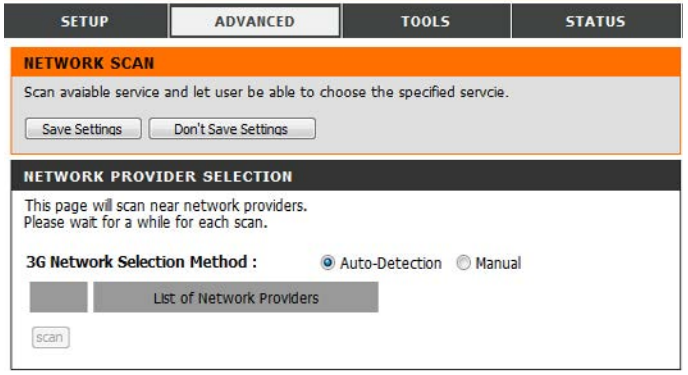


Network Scan

This page lets you set whether to allow the DWR-755 to automatically select a 3G network based on the inserted SIM card, and allows you to manually scan for networks and select one to connect to. After modifying any settings, click **Save Settings** to save your changes.

3G Network Selection Method: Leave this setting on **Auto** to allow the DWR-755 to automatically select a cellular network to connect to. If you need to select a network manually, select **Manual**, click the **Scan** button, then select an available network to connect to.

Note: You will only be able to scan for networks if the DWR-755 is not currently connected to a 3G network.



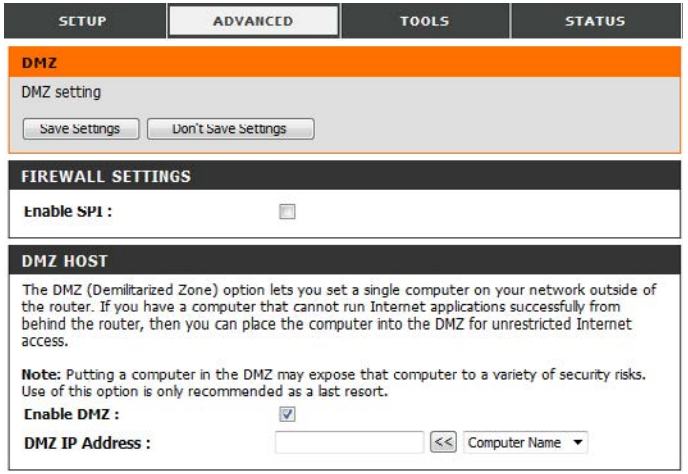
DMZ

The DMZ (Demilitarized Zone) option lets you set a single computer on your network outside of the router. If you have a computer that cannot run Internet applications successfully from behind the router, then you can place the computer into the DMZ for unrestricted Internet access.

Enable SPI: Check this box to enable SPI.

Enable DMZ: Check this box to enable a DMZ area that allows a specific computer unrestricted access. This option is not recommended and should be used with caution.

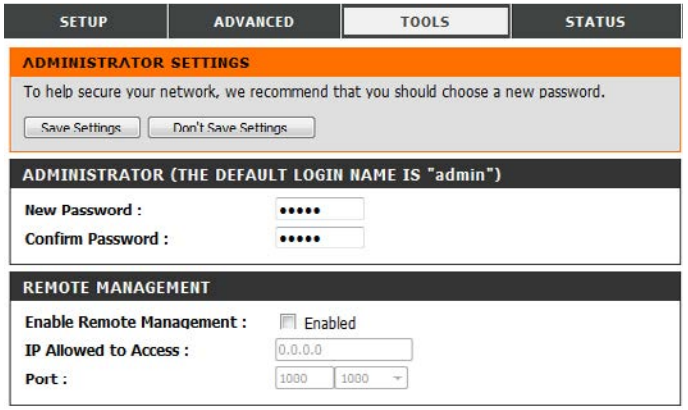
DMZ IP Address: Specify an IP address for the DMZ zone and select the computer to associate it with.



Tools

Admin

The Admin page allows you to change the Administrator password and enable Remote Management. The admin has read/write access while users only have read-only access. Only the admin has the ability to change both admin and user account passwords. After modifying any settings, click **Save Settings** to save your changes.



ADMINISTRATOR

New/Confirm Password: Enter and confirm the password that the admin account will use to access the router's management interface.

REMOTE MANAGEMENT

Enable Remote Management: Tick this check box to enable remote management. Remote management allows the DWR-755 to be configured over the Internet through a web browser. A username and password will still be required to access the web-management interface.

IP Allowed to Access: Enter the Internet IP address of the PC that has access to the broadband router. If you enter an asterisk (*) in this field, then anyone will be able to access the router. Adding an asterisk (*) into this field could present a security risk and is not recommended.

Port: This is the port number used to access the router. 8080 is the port usually used for the web-management interface.

Time

This section will help you set the time zone that you are in and an NTP (Network Time Protocol) server to use. Daylight Saving can also be configured to adjust the time when needed. After modifying any settings, click **Save Settings** to save your changes.

TIME AND DATE CONFIGURATION

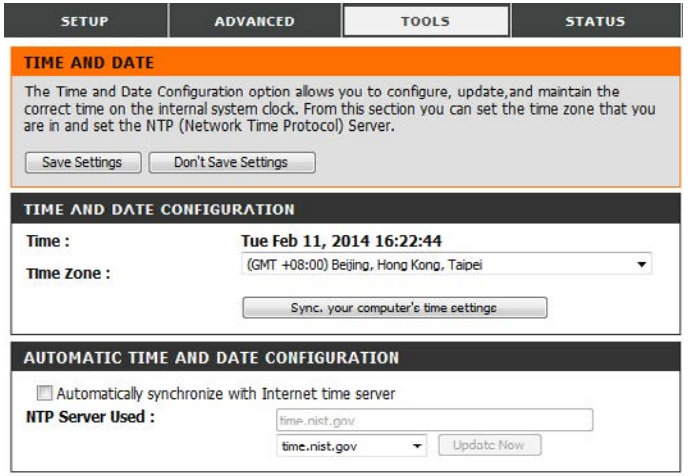
Time Zone: Select the appropriate **Time Zone** from the drop-down box.

Click **Sync your computer's time settings** to sync the router to your computer's clock.

AUTOMATIC TIME AND DATE CONFIGURATION

Check the **Automatically synchronize with Internet time server** box to allow the router to use an NTP server to update the router's internal clock.

NTP Server Used: Enter an NTP server to use for time synchronization, or use the drop-down box to select one. Click the **Update Now** button to synchronize the time with the NTP server.

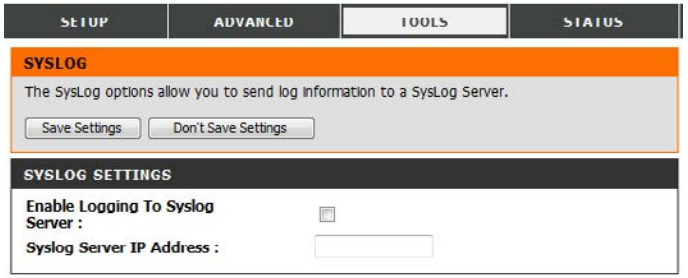


Syslog

The DWR-755 keeps a running log of events and activities occurring on the router. You may send these logs to a Syslog server on your network. After modifying any settings, click **Save Settings** to save your changes.

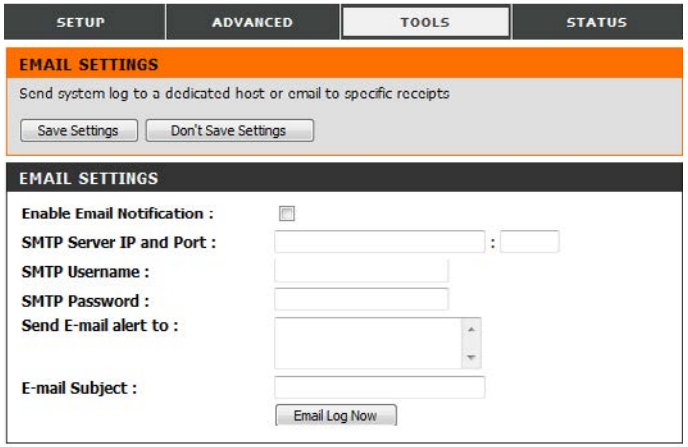
Enable Logging to Syslog Server: Check the box to send the router logs to a Syslog server.

Syslog Server IP Address: Enter the IP address of the Syslog server that the router will send the logs to.



Email Settings

Email settings allow you to send the system log files, router alert messages, and firmware update notifications to an email address. After modifying any settings, click **Save Settings** to save your changes.



Enable Email Notification: When this option is enabled, router activity logs will be emailed to the specified email address.

SMTP Sever IP and Port: Enter the SMTP server IP address the router will use to send emails. Enter the complete IP address followed by a colon(:) and the port number. (e.g. 123.123.123.1:25).

SMTP Username: Enter the username for the SMTP account.

SMTP Password: Enter the password for the SMTP account.

Send Email Alert to: Enter the email address where you would like the router to send emails to.

Email Subject: Enter a subject for the email.

Email Log Now: Click this button to send the current logs to the specified email address.

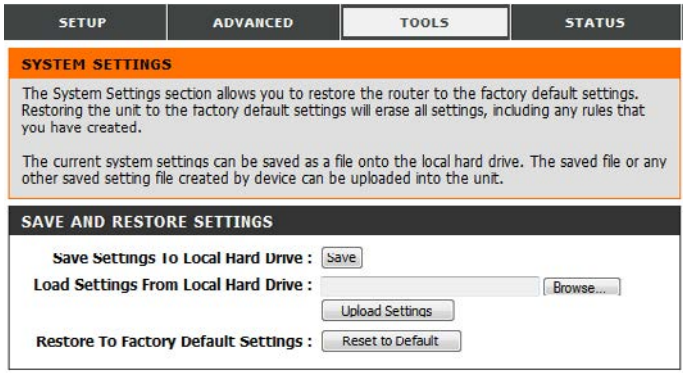
System

Here, you can save the current system settings to a local hard drive. After modifying any settings, click **Save Settings** to save your changes.

Save Settings To Local Hard Drive Use this option to save your current router configuration settings to a file. Click **Save** to open a file dialog, and then select a location and file name for the settings.

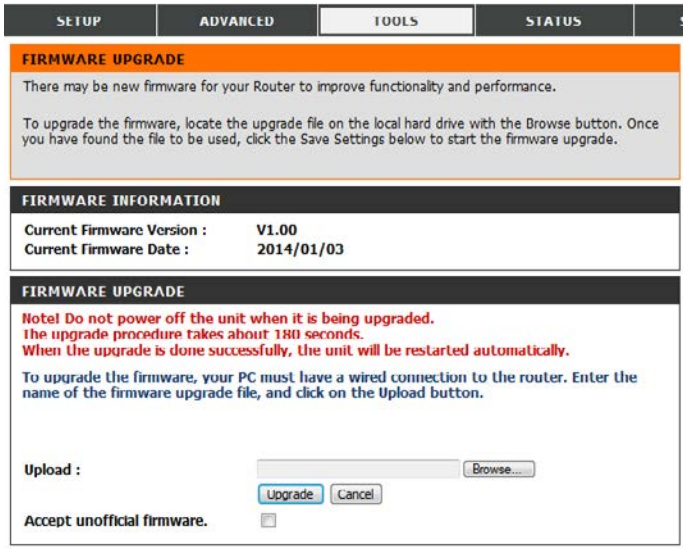
Load Settings From Local Hard Drive: Use this option to load previously saved router configuration settings. Click **Browse...** and select the saved file and then click the **Upload Settings** button to upload the settings to the router.

Restore To Factory Default Settings: This option will restore all settings back to their defaults. Any settings that have not been backed up will be lost, including any rules that you have created.



Firmware

Here, you can upgrade the firmware of your router. Make sure the firmware you want to use is on the local hard drive of the computer and then click **Browse** to upload the file. You can check for and download firmware updates at the D-Link support site at **http://support.dlink.com**. After modifying any settings, click **Save Settings** to save your changes.



Current Firmware Version: Displays your current firmware's version.

Current Firmware Date: Displays your current firmware's release date.

Upload: After you have downloaded a new firmware, click **Browse** to locate the firmware on your computer, then click **Upload** to start the firmware upgrade.

Warning: You must use a wired connection to upload the firmware file; do not use a wireless connection. During the upgrade process, do not power off your computer or router, and do not refresh the browser window until the upgrade is complete.

Accept Unofficial Firmware: If the firmware you want to install is not an official D-Link release, you will need to check this box.

Warning: Unofficial firmware is not supported, and may cause damage to your device. Use of unofficial firmware is at your own risk.

Dynamic DNS

The DDNS feature allows you to host a server (Web, FTP, or Game Server) using a domain name that you have purchased (such as www.exampledomain.com) with your dynamically assigned IP address. You can use one of the listed DDNS service, or you can sign up for D-Link's free DDNS service at **www.dlinkddns.com**. After modifying any settings, click **Save Settings** to save your changes.

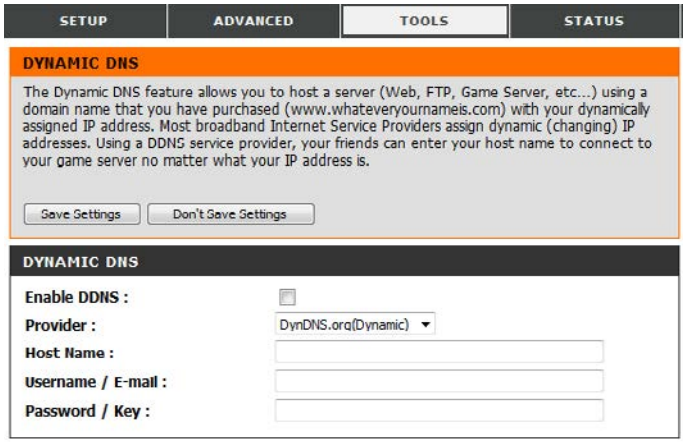
Enable DDNS: Tick this checkbox to enable the DDNS feature.

Provider: Select a DDNS service provider to use.

Host Name: Enter the host name that you registered with your DDNS service provider.

Username / E-mail: Enter the username for your DDNS account.

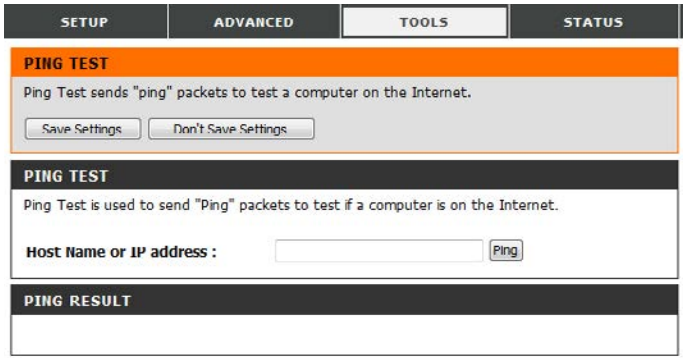
Password / Key: Enter the password for your DDNS account.



System Check

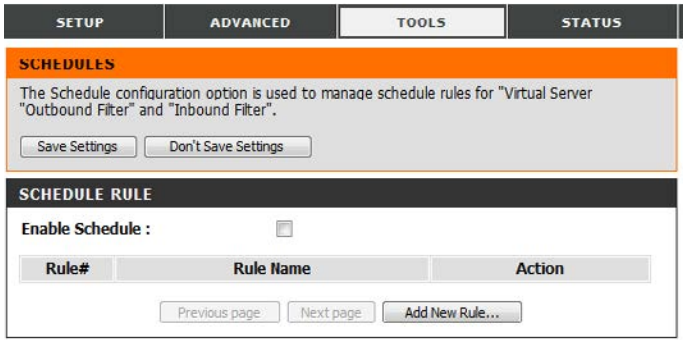
This useful diagnostic utility can be used to check if a computer is connected to the network. It sends ping packets and listens for responses from the specific host. After modifying any settings, click **Save Settings** to save your changes.

Host Name or IP Address: Enter a host name or the IP address that you want to ping and click the **Ping** button. The results of the ping attempt will be displayed in the **PING RESULT** section below.



Schedules

This section allows you to manage schedule rules for various firewall and parental control features. After modifying any settings, click **Save Settings** to save your changes.



Enable Schedule: Check this box to enable schedules.

Edit: Click this icon to edit the selected rule. (see below)

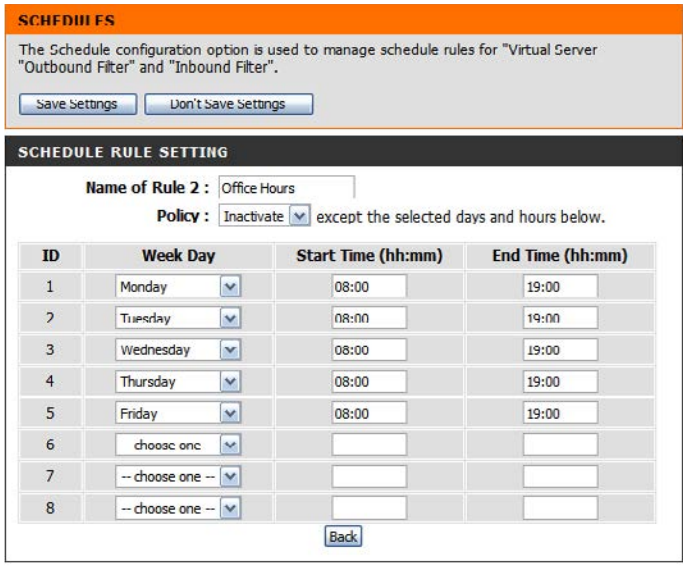
Delete: Click this icon to delete the selected rule.

Previous Page: Click this button to go to the previous page of rules.

Next Page: Click this button to go to the next page of rules.

Click this button to specify the start time, end time, and name of the rule.

Add New Rule..: Click this button to create a new rule. (see below)



Name of Rule #: Enter a name for your new schedule.

Policy: Select **Activate** or **Inactivate** to decide whether features that use the schedule should be active or inactive except during the times specified.

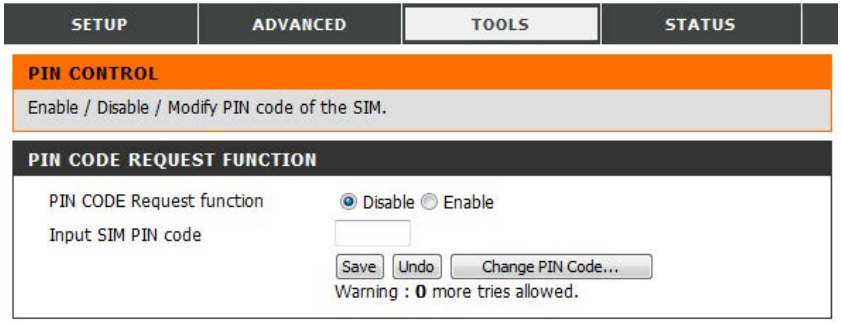
Week Day: Select a day of the week for the start time and end time.

Start Time (hh:mm): Enter the time at which you would like the schedule to become active.

End Time (hh:mm): Select the time at which you would like the schedule to become inactive.

PIN Control

This feature allows you to set up a pin code in order to activate/deactivate or modify an existing pin code. After querying your SIM card for an existing PIN, you can **Enable**, **Disable**, or **Modify** the pin code. Click **Save Settings** to save any changes made.



Status

Device Info

All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here. If your Internet connection is set up for a Dynamic IP address then a Release button and a Renew button will be displayed. Use Release to disconnect from your ISP and use Renew to connect to your ISP.

General: Displays the current time and firmware version.

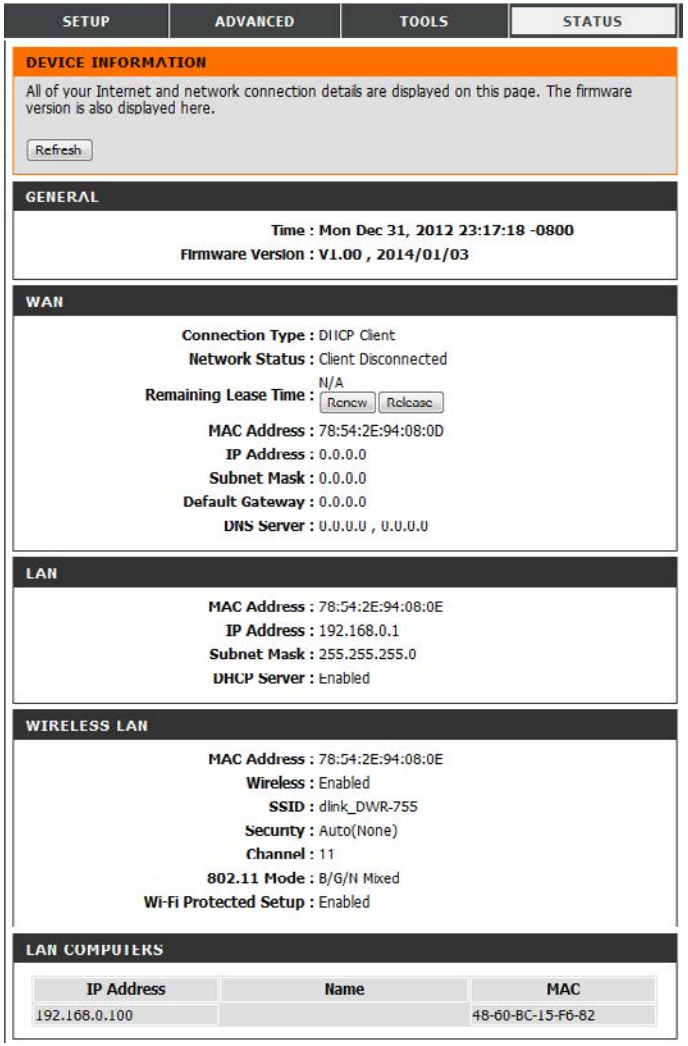
WAN: Displays the WAN connection details of the router.

3G Card: Displays the 3G connection details of the router.

LAN: Displays the LAN connection details of the router.

Wireless LAN: Displays the wireless LAN connection details of the router

LAN Computers: Displays the list of clients connected to the router.



Log

Here, you can view and download the system log.

Previous: Click this button to go to the previous page of the log.

Next: Click this button to go to the next page of the log.

First Page: Click this button to skip to the first page of the log.

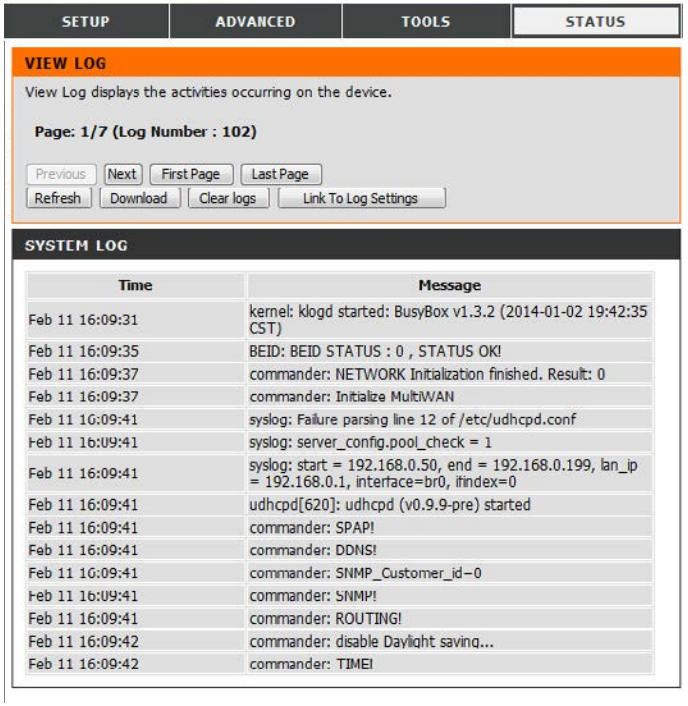
Last Page: Click this button to skip to the last page of the log.

Refresh: Click this button to refresh the system log.

Download: Click this button to download the current system log to your computer.

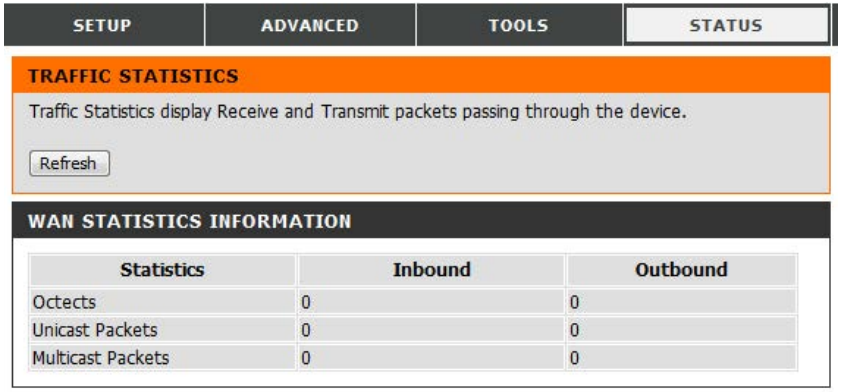
Clear Logs: Click this button to clear the system log.

Link To Log Settings: Click this button for a link that goes to the Log Settings page.



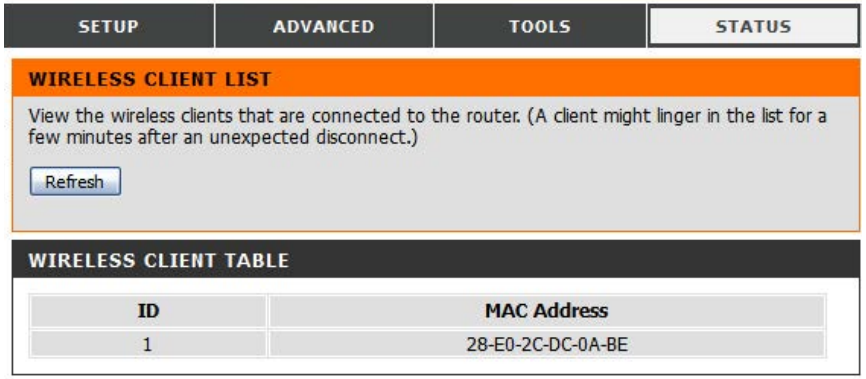
Statistics

Here you can view the packets transmitted and received by your router for both the WAN and LAN ports. The traffic counter will reset if the device is rebooted. Click the **Refresh** button to refresh the WAN statistics.



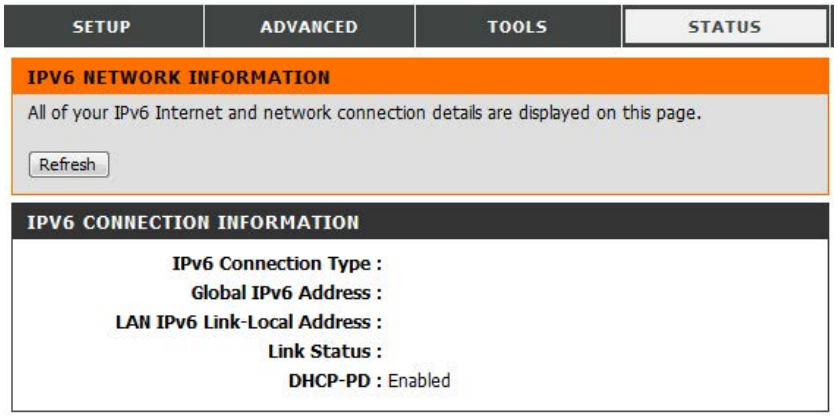
Wireless

This table displays a list of wireless clients that are connected to your wireless router. Click **Refresh** to refresh the list.



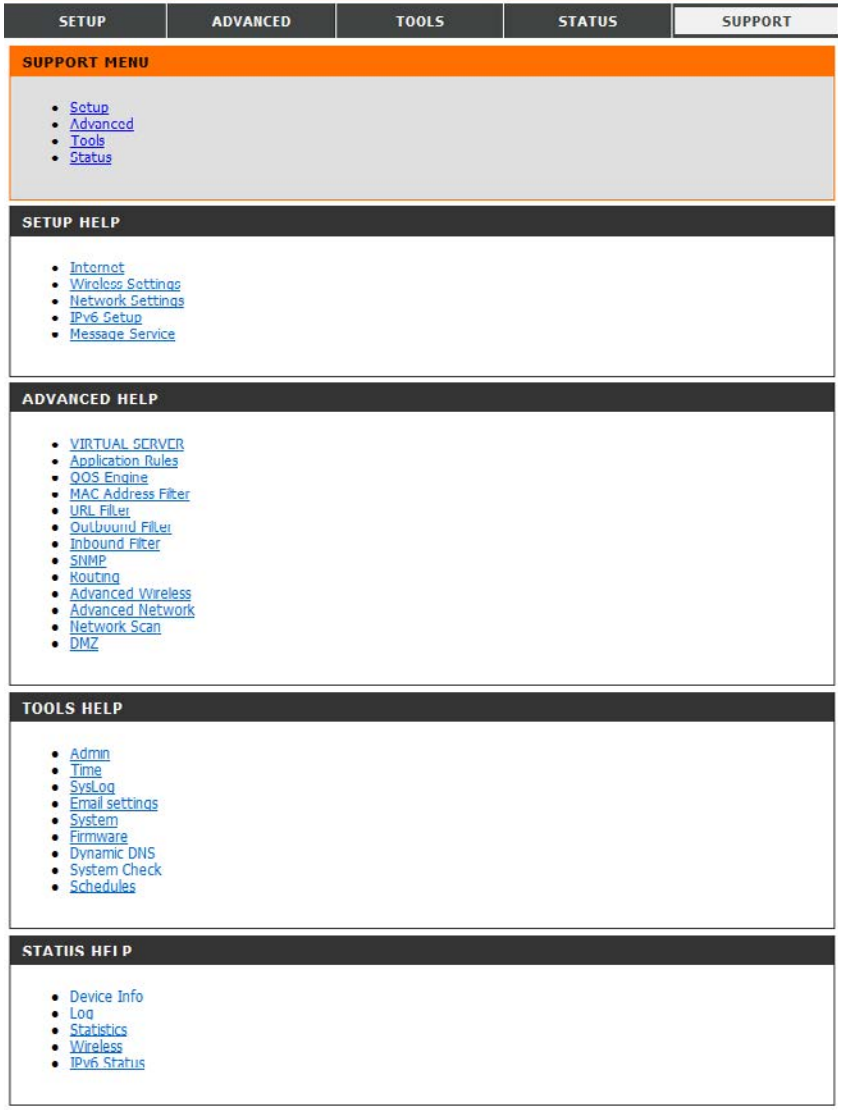
IPv6 Status

This page displays the IPv6 network connection details.



Support

This screen gives you more information about the various parts of the configuration interface. Click on a link to learn more about that topic.



Connecting a Wireless Client

WPS Button

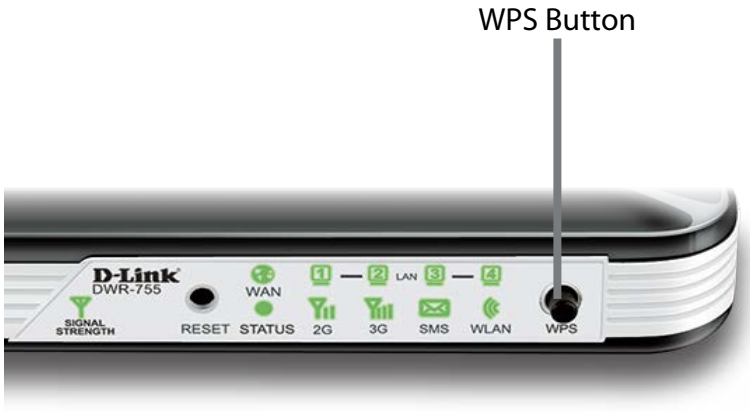
The easiest and most secure way to connect your wireless devices to the router is WPS (Wi-Fi Protected Setup). Most wireless devices such as wireless adapters, media players, Blu-ray DVD players, wireless printers and cameras will have a WPS button (or a software utility with WPS) that you can press to connect to the router. Please refer to your user manual for the wireless device you want to connect to make sure you understand how to enable WPS. To connect a client, follow the steps below:

To connect your wireless devices to the router using WPS:

Step 1 - Press the WPS button on the router for about 1 second. The Power/Status LED 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 2 minutes to configure. Once the Power/Status LED stops blinking, you will be connected and your wireless connection will be secure with WPA2.

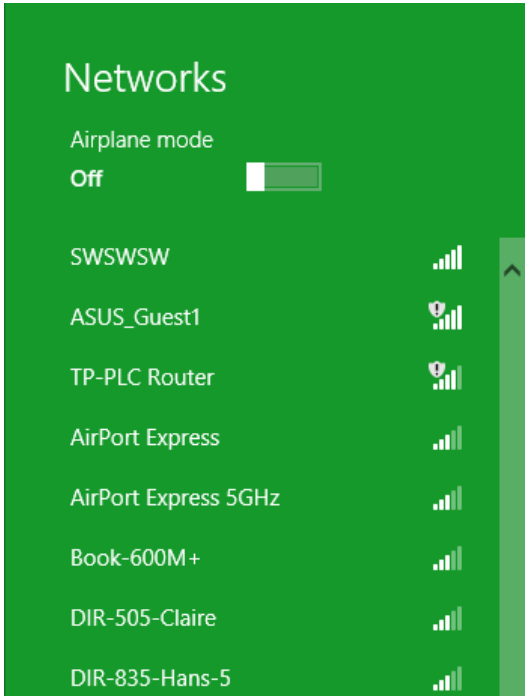


Windows® 8
WPA/WPA2

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

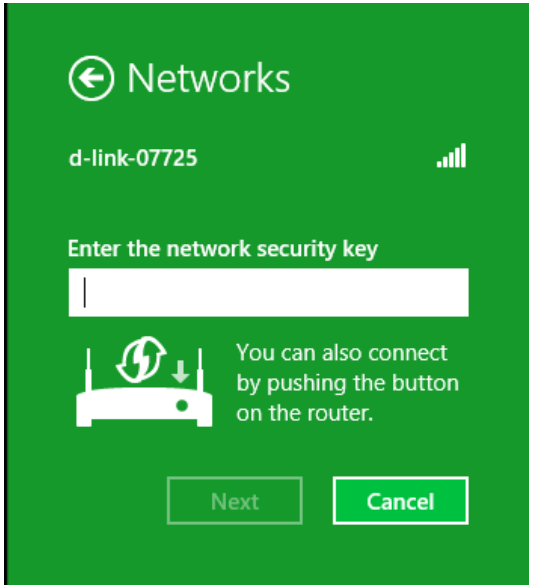
To join an existing network, locate the wireless network icon in the taskbar, next to the time display.

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

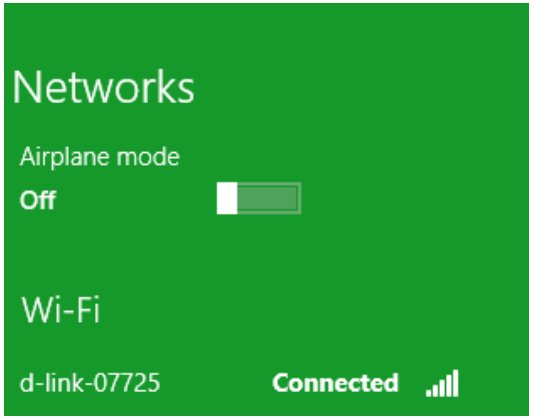


You will then be prompted to enter the network security key (Wi-Fi password) for the wireless network. Enter the password into the box and click **Next**.

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



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



Windows® 7
WPA/WPA2

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

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

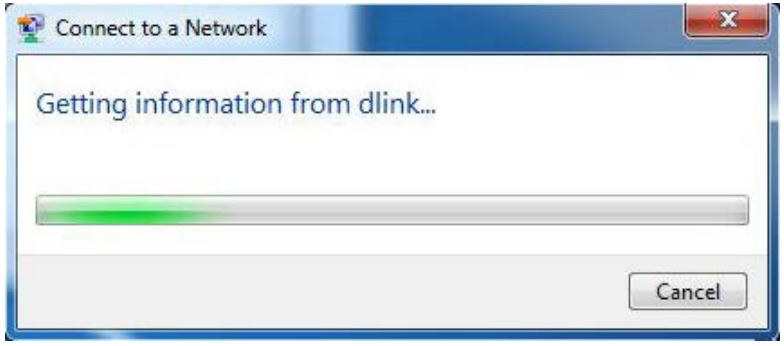
Wireless Icon

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

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

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

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



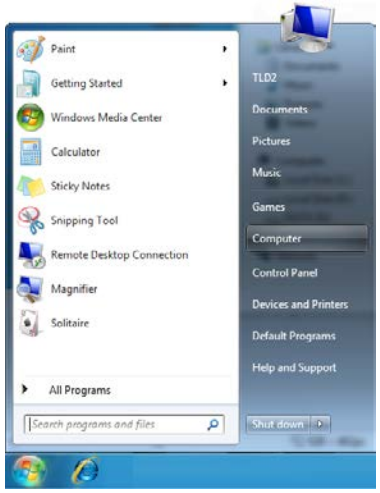
5. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

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

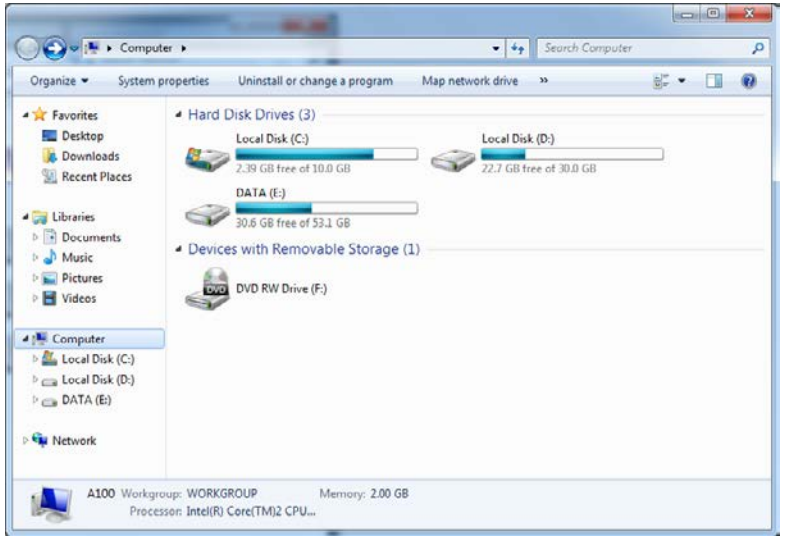
WPS

The WPS feature of the DWR-755 can be configured using Windows® 7. Carry out the following steps to use Windows® 7 to configure the WPS feature:

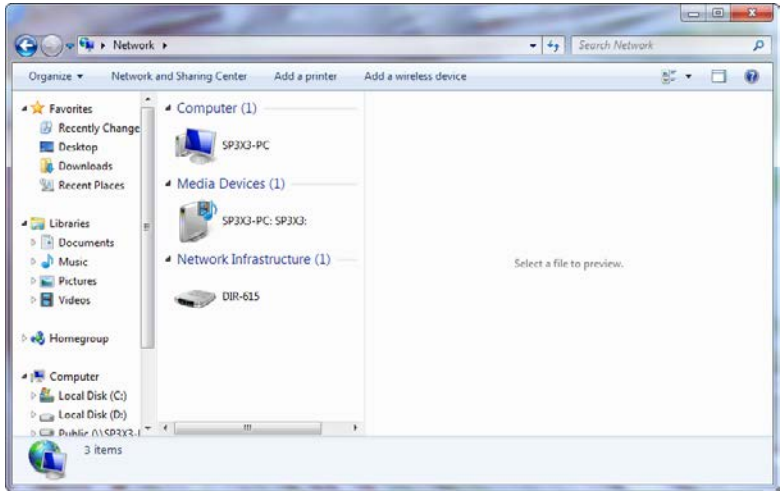
1. Click the **Start** button and select **Computer** from the Start menu.



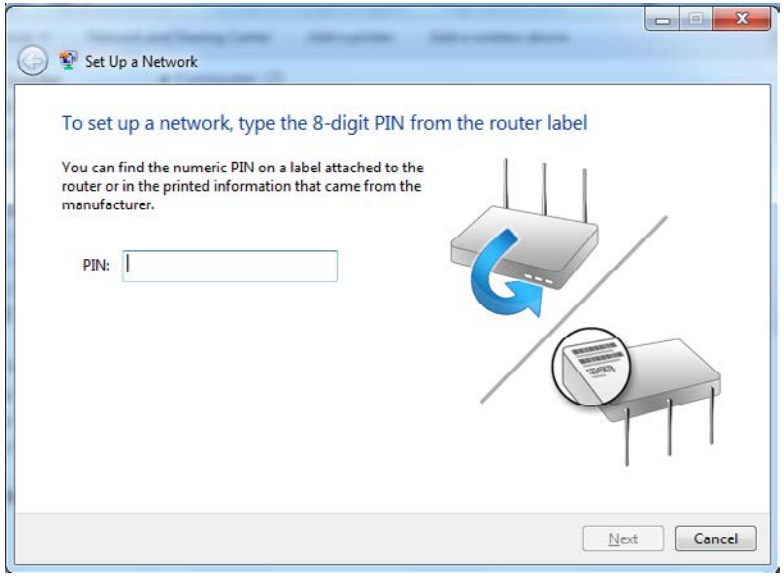
2. Click **Network** on the left side.



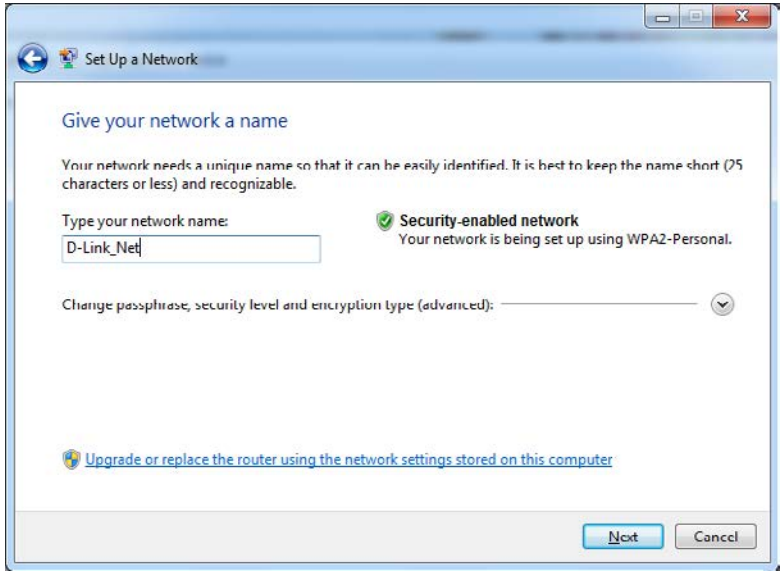
3. Double-click your D-Link router.



4. Input the WPS PIN number (displayed in the WPS window on the router's LCD screen or in the **Setup** > **Wireless Setup** menu in the router's Web UI) and click **Next**.

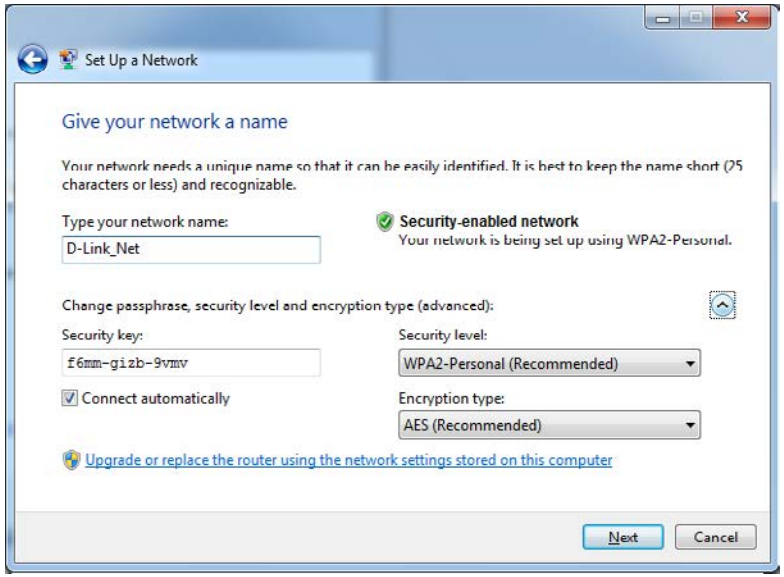


5. Type a name to identify the network.

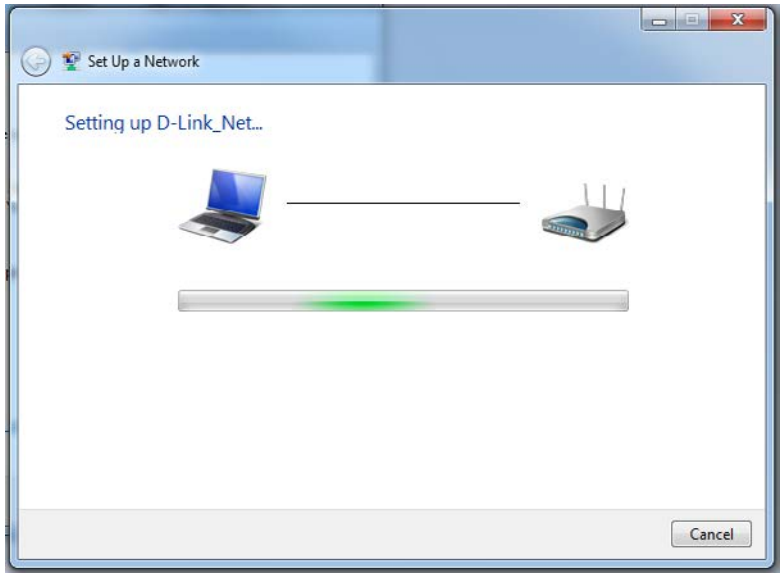


6. To configure advanced settings, click the icon.

Click **Next** to continue.

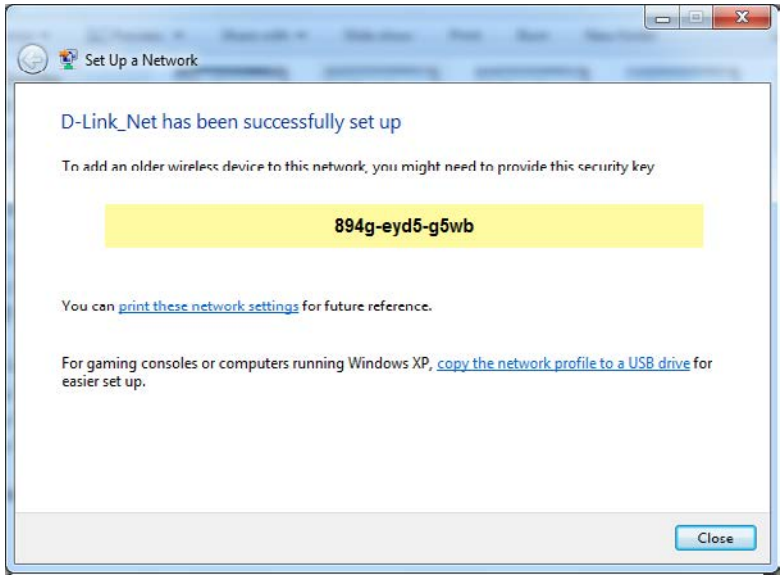


7. The following window appears while the router is being configured. Wait for the configuration to complete.



8. The following window informs you that WPS on the router has been setup 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 utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows Vista® utility as seen below.

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

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

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

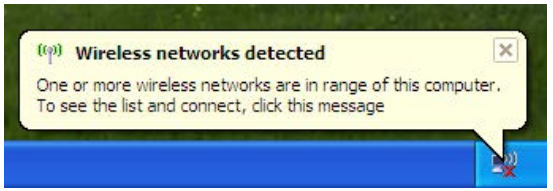
3. Enter the same security key or passphrase that is on your router and click **Connect**.

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

Windows® XP

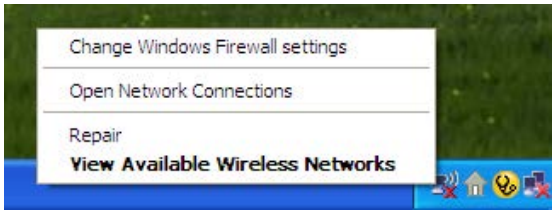
Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities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

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



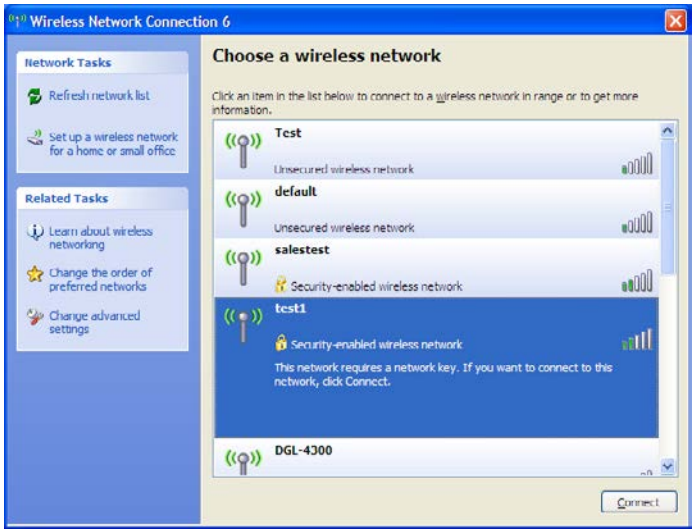
or

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



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

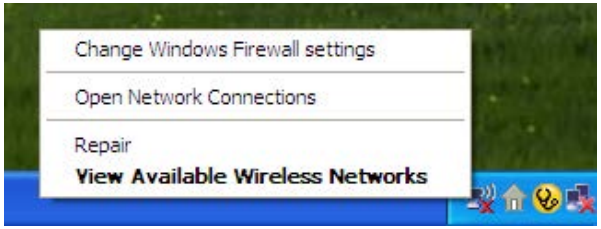
If you get a good signal but cannot access the Internet, check you TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



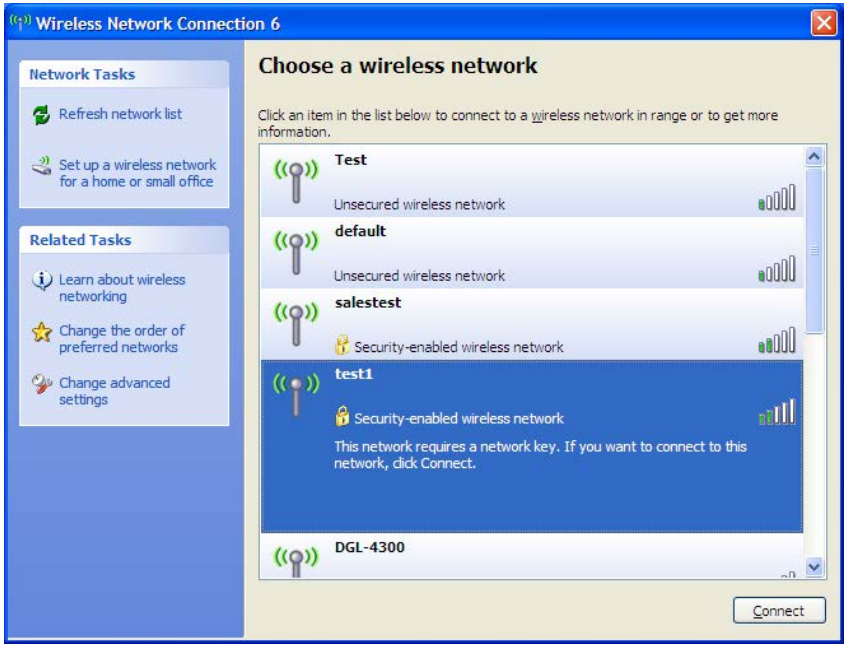
WPA/WPA2

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



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

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

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DWR-755. Read the following descriptions if you are having problems. The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.

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

When entering the IP address of the D-Link router (192.168.0.1 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® 6.0 and higher
  - Mozilla Firefox 3.0 and higher
  - Google™ Chrome 2.0 and higher
  - Apple Safari 3.0 and higher

- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.

- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
    - Go to **Start** > **Settings** > **Control Panel**. Double-click the **Internet Options** Icon. From the **Security** tab, click the button to restore the settings to their defaults.
    - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.
    - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
    - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link 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. Unfortunately 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 192.168.0.1. When logging in, the username is **admin** and 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, lets 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 (**192.168.0.1**) 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**.

Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users. Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

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

What is Wireless?

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

Why D-Link Wireless?

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

How does wireless work?

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

Wireless Local Area Network (WLAN)

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

Wireless Personal Area Network (WPAN)

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

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

Who uses wireless?

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

Home

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

Small Office and Home Office

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

Where is wireless used?

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

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: airports, hotels, coffee shops, libraries, restaurants, and convention centers.

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

Tips

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

Centralize your 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 you 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 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-755 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

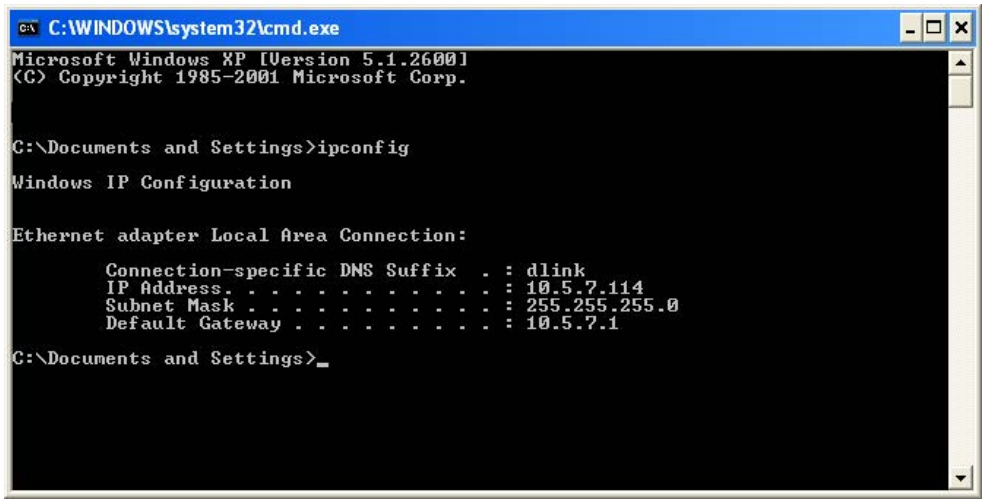
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

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.



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**.

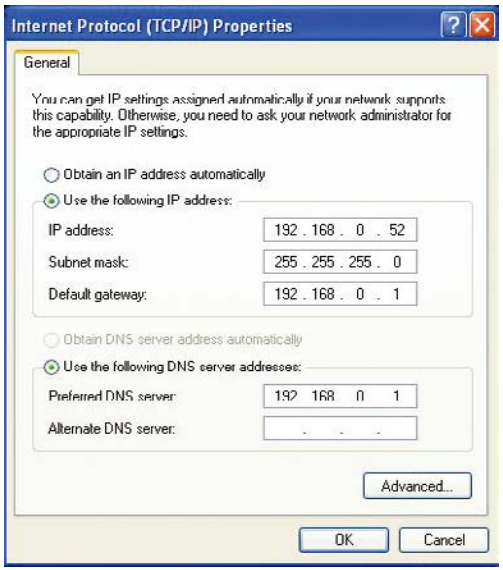
Step 2
Right-click on the **Local Area Connection** which represents your network adapter and select **Properties**.

Step 3
Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

Step 4
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

Example: If the router´s LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set the Default Gateway the same as the LAN IP address of your router (I.E. 192.168.0.1).

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



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

Technical Specifications

GSM Band (GSM/GPRS/EDGE)

- 850 / 900 / 1800 / 1900 MHz
- Power Class 4 (850 / 900 MHz)
- Power Class 1 (1800 / 1900 MHz)

UMTS/HSDPA/HSUPA/HSPA+ Band 1

- 850 / 1900 / 2100 MHz or 900 / 2100 MHz
- Power Class 3

Data Rates [2]

- 1/2/5.5/11 Mbps in 802.11b mode
- 6/9/12/18/24/36/48/54 Mbps in 802.11g mode
- Up to 300 Mbps in 802.11n mode

Standards

- 802.11b
- 802.11g
- 802.11n

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 Passthrough
- 5 Dedicated IPSec tunnels

Antenna

- 1 External antenna

Ports

- 4 x LAN (RJ-45)
- 1 x WAN (RJ-45)

USIM Slot

- Standard 6-pin SIM card interface

LED Status Indicators

- Status
- WPS
- WAN
- LAN
- WLAN
- 2G
- 3G
- SMS
- Signal

Dimensions (L x W x H)

- 190 x 119 x 22 mm (7.48 x 4.69 x 0.87 inches)

Operating Temperature

- 0 to 40 ˚C (32 to 104 ˚F)

Storage Temperature

- -10 to 70 ºC (14 to 158 ºF)

Operating Humidity

- 10% to 90% (Non-condensing)

Storage Humidity

- 0 to 95% non-condensing

Certifications

- CE
- FCC
- RoHS
- Wi-Fi Certified

[1] Supported frequency band is dependent upon regional hardware version.
[2] Maximum wireless signal rate derived from IEEE Standard 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.