

USER MANUAL

DSL-2640R

VERSION 1.0



D-Link[®]

BROADBAND

FCC Notices

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

CAUTION: Change or modification not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

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

CAUTION: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning:

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment. The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

Table of Contents

PACKAGE CONTENTS	1
SYSTEM REQUIREMENTS	1
FEATURES	2
<i>LEDs</i>	4
INSTALLATION	5
<i>Before You Begin</i>	5
INSTALLATION NOTES	5
<i>Information you will need from your ADSL service provider</i>	7
DEVICE INSTALLATION	9
<i>Power on Router</i>	10
<i>Factory Reset Button</i>	10
<i>Network Connections</i>	11
SETUP	12
<i>Web-based Configuration Utility</i>	12
CONFIGURE THE ROUTER	13
ADSL SETUP - SETUP WIZARD	14
<i>Setup Wizard Step 1 : Change Password</i>	15
<i>Setup Wizard Step 2 : Internet Connection Type, Country and ISP</i>	16
<i>Setup Wizard Step 3 : Finish</i>	17
<i>Setup Wizard Step 2 : Internet Connection – Other Connection Types</i>	18
<i>Setup Wizard Step 2 : Internet Connection Type - PPPoE/PPPoA</i>	19
<i>Setup Wizard Step 2 : Internet Connection Type – Dynamic IP Address</i>	20
<i>Setup Wizard Step 2 : Internet Connection Type – Static IP Address</i>	21
<i>Setup Wizard Step 2 : Internet Connection Type – Bridge Mode</i>	22
ADSL SETUP – MANUAL CONFIGURATION	23
<i>Manual ADSL Setup – PPPoE/PPPoA</i>	24
<i>Manual ADSL Setup – Dynamic IP Address</i>	25
<i>Manual ADSL Setup – Static IP Address</i>	26
<i>Manual ADSL Setup – Bridge Mode</i>	27
WIRELESS SETUP	28
<i>Wireless Setup – WEP</i>	29
<i>Wireless Setup - WPA</i>	30
LAN SETUP	31

TIME SETUP	32
ADVANCED SETUP	33
PORT FORWARDING	34
QoS SETUP	35
<i>Advanced LAN QoS Setup</i>	36
<i>Advanced Wireless QoS Setup</i>	37
OUTBOUND FILTER	38
INBOUND FILTER	39
DNS SETUP	40
VLAN SETUP	41
DMZ AND FIREWALL SETUP	42
<i>Advanced ADSL</i>	43
ADVANCED WIRELESS	44
ADVANCED LAN	45
REMOTE MANAGEMENT	46
MAINTENANCE	47
PASSWORD	48
SAVE/RESTORE SETTINGS	49
FIRMWARE UPGRADE	50
DIAGNOSTICS	51
SYSTEM LOG	52
STATUS	54
DEVICE INFO	55
CONNECTED CLIENTS	56
STATISTICS	57
TECHNICAL SPECIFICATIONS	58

Package Contents

- DSL-2640R Wireless ADSL Router
- Power Adapter **This unit to be used with the power supply provided by manufacturer**
- CD-ROM with User Manual
- One twisted-pair telephone cable used for ADSL connection
- One straight-through Ethernet cable
- One Quick Installation Guide

Note: Using a power supply with a different voltage rating than the one included with the DSL-2640R will cause damage and void the warranty for this product.



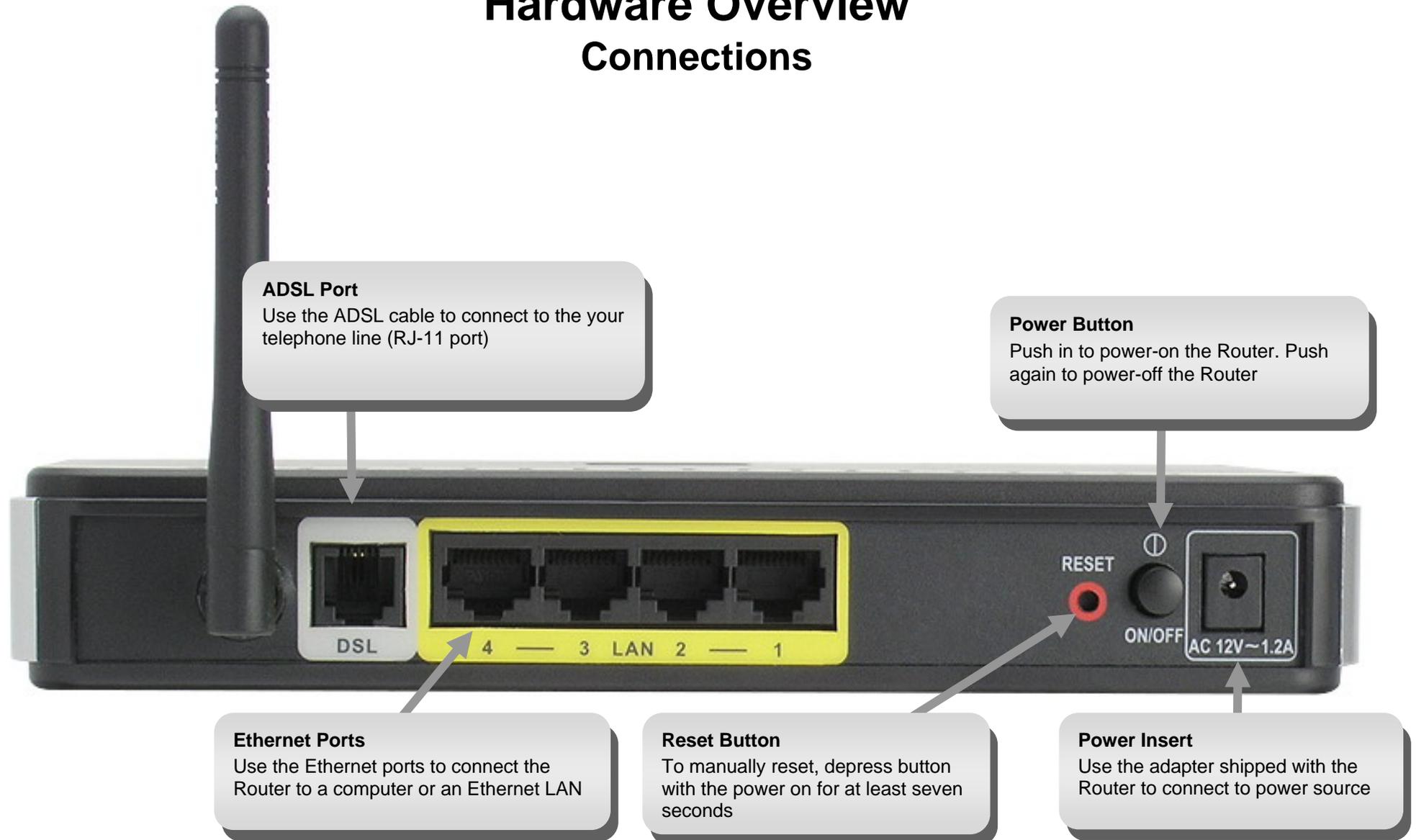
System Requirements

- ADSL Internet service
- Computer with:
 - 200MHz Processor
 - 64MB Memory
 - CD-ROM Drive
 - Ethernet Adapter with TCP/IP Protocol Installed
 - Internet Explorer v6 or later, FireFox v1.5
 - Computer with Windows 2000, Windows XP, or Windows Vista
- D-Link Click n' Connect Utility

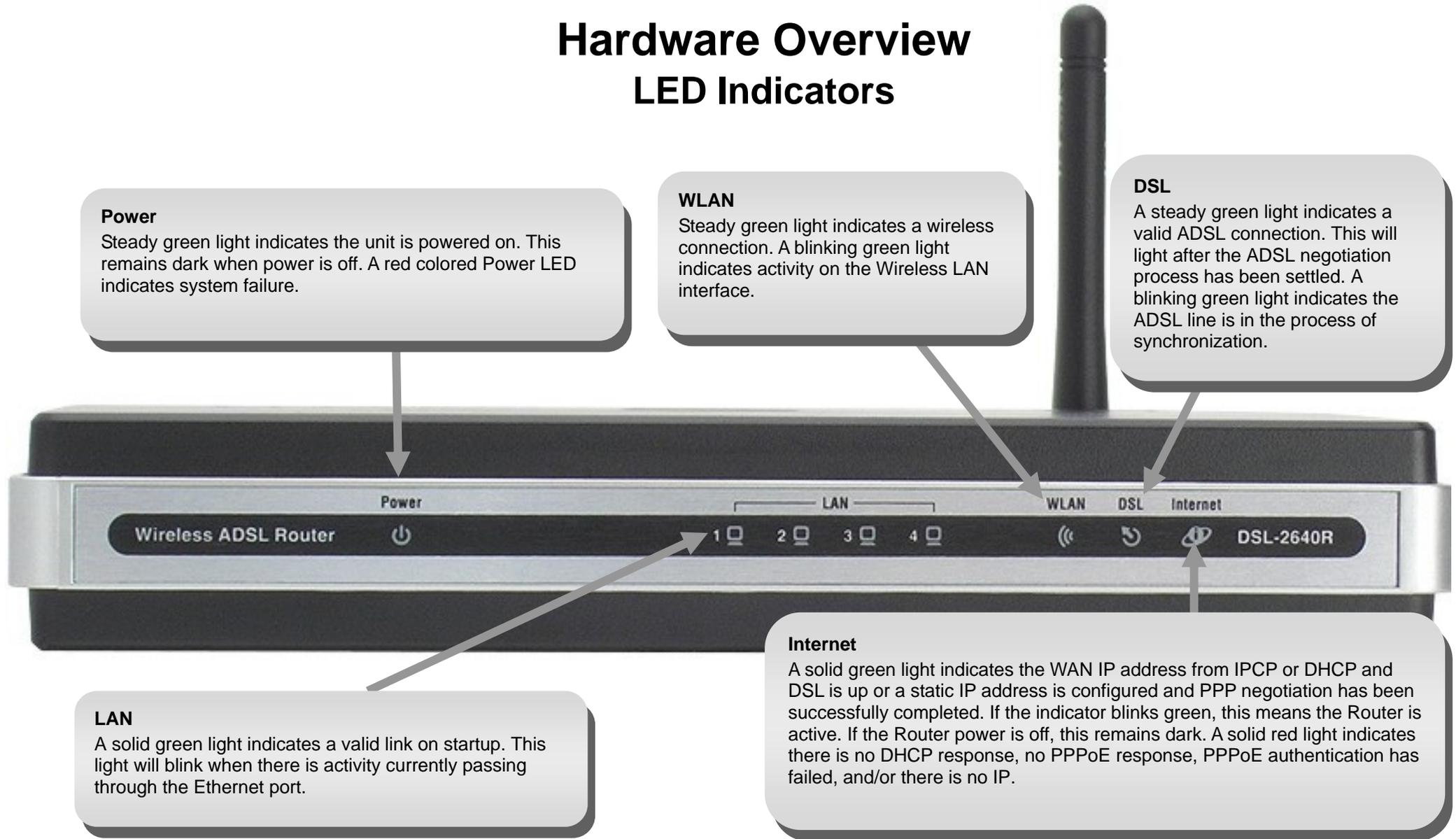
Features

- **PPP (Point-to-Point Protocol) Security** – The DSL-2640R ADSL Router supports PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol) for PPP connections. The Router also supports MSCHAP.
- **DHCP Support** – Dynamic Host Configuration Protocol automatically and dynamically assigns all LAN IP settings to each host on your network. This eliminates the need to reconfigure every host whenever changes in network topology occur.
- **Network Address Translation (NAT)** – For small office environments, the DSL-2640R allows multiple users on the LAN to access the Internet concurrently through a single Internet account. This provides Internet access to everyone in the office for the price of a single user. NAT improves network security in effect by hiding the private network behind one global and visible IP address. NAT address mapping can also be used to link two IP domains via a LAN-to-LAN connection.
- **TCP/IP (Transfer Control Protocol/Internet Protocol)** – The DSL-2640R supports TCP/IP protocol, the language used for the Internet. It is compatible with access servers manufactured by major vendors.
- **RIP-1/RIP-2** – The DSL-2640R supports both RIP-1 and RIP-2 exchanges with other routers. Using both versions lets the Router to communicate with all RIP enabled devices.
- **Static Routing** – This allows you to select a data path to a particular network destination that will remain in the routing table and never “age out”. If you wish to define a specific route that will always be used for data traffic from your LAN to a specific destination within your LAN (for example to another router or a server) or outside your network (to an ISP defined default gateway for instance).
- **Default Routing** – This allows you to choose a default path for incoming data packets for which the destination address is unknown. This is particularly useful when/if the Router functions as the sole connection to the Internet.
- **Precise ATM Traffic Shaping** – Traffic shaping is a method of controlling the flow rate of ATM data cells. This function helps to establish the Quality of Service for ATM data transfer.
- **Full Network Management** – The DSL-2640R incorporates SNMP (Simple Network Management Protocol) support for web-based management and text-based network management.
- **Easy Installation** – The DSL-2640R uses a web-based graphical user interface program for convenient management access and easy set up. Any common web browser software can be used to manage the Router.

Hardware Overview Connections



Hardware Overview LED Indicators



Installation

This section will walk you through the installation process. Placement of the Wireless ADSL Router is very important. Do not place the Router in an enclosed area such as a closet, cabinet, or in the attic or garage. Place the Wireless ADSL Router in a location where it can be easily connected to Ethernet devices, the telephone line as well as to a power source.

Before You Begin

Please read and make sure you understand all the prerequisites for proper installation of your new Router. Have all the necessary information and equipment on hand before beginning the installation.

Installation Notes

In order to establish a connection to the Internet it will be necessary to provide information to the Router that will be stored in its memory. For some users, only their account information (Username and Password) is required. For others, various parameters that control and define the Internet connection will be required. You can print out the two pages below and use the tables to list this information. This way you have a hard copy of all the information needed to setup the Router. If it is necessary to reconfigure the device, all the necessary information can be easily accessed. Be sure to keep this information safe and private.

Low Pass Filters

Since ADSL and telephone services share the same copper wiring to carry their respective signals, a filtering mechanism may be necessary to avoid mutual interference. A low pass filter device can be installed for each telephone that shares the line with the ADSL line. These filters are easy to install passive devices that connect to the ADSL device and/or telephone using standard telephone cable. Ask your service provider for more information about the use of low pass filters with your installation.

Operating Systems

The DSL-2640R uses an HTML-based web interface for setup and management. The web configuration manager may be accessed using any operating system capable of running web browser software, including Windows 98 SE, Windows ME, Windows 2000, Windows XP, and Windows Vista.

Web Browser

Any common web browser can be used to configure the Router using the web configuration management software. The program is designed to work best with more recently released browsers such as Opera, Microsoft Internet Explorer® version 6.0, Netscape Navigator® version 6.2.3, or later versions. The web browser must have JavaScript

Installation Overview

enabled. JavaScript is enabled by default on many browsers. Make sure JavaScript has not been disabled by other software (such as virus protection or web user security packages) that may be running on your computer.

Ethernet Port (NIC Adapter)

Any computer that uses the Router must be able to connect to it through the Ethernet port on the Router. This connection is an Ethernet connection and therefore requires that your computer be equipped with an Ethernet port as well. Most notebook computers are now sold with an Ethernet port already installed. Likewise, most fully assembled desktop computers come with an Ethernet NIC adapter as standard equipment. If your computer does not have an Ethernet port, you must install an Ethernet NIC adapter before you can use the Router. If you must install an adapter, follow the installation instructions that come with the Ethernet NIC adapter.

Additional Software

It may be necessary to install software on your computer that enables the computer to access the Internet. Additional software must be installed if you are using the device a simple bridge. For a bridged connection, the information needed to make and maintain the Internet connection is stored on another computer or gateway device, not in the Router itself.

If your ADSL service is delivered through a PPPoE or PPPoA connection, the information needed to establish and maintain the Internet connection can be stored in the Router. In this case, it is not necessary to install software on your computer. It may however be necessary to change some settings in the device, including account information used to identify and verify the connection.

All connections to the Internet require a unique global IP address. For bridged connections, the global IP settings must reside in a TCP/IP enabled device on the LAN side of the bridge, such as a PC, a server, a gateway device such as a router or similar firewall hardware. The IP address can be assigned in a number of ways. Your network service provider will give you instructions about any additional connection software or NIC configuration that may be required.

Wireless LAN

Computers using the Wireless network can access the Internet or use the embedded 802.1g wireless access point. Wireless workstations must have an 802.1g or 802.1b wireless network card installed to use the Wireless ADSL Router. In addition the workstations must be configured to operate on the same channel and SSID as the Wireless ADSL Router. If wireless security is used, the wireless workstations must be properly configured for the security settings used.

Information you will need from your ADSL service provider

Username

This is the Username used to log on to your ADSL service provider's network. Your ADSL service provider uses this to identify your account.

Password

This is the Password used, in conjunction with the Username above, to log on to your ADSL service provider's network. This is used to verify the identity of your account.

WAN Setting / Connection Type

These settings describe the method your ADSL service provider uses to transport data between the Internet and your computer. Most users will use the default settings. You may need to specify one of the following WAN Setting and Connection Type configurations (Connection Type settings listed in parenthesis):

- PPPoE/PPPoA (PPPoE LLC, PPPoE VC-Mux, PPPoA LLC or PPPoA VC-Mux)
- Dynamic IP Address (1483 Bridged IP LLC, 1483 Bridged IP VC-Mux)
- Static IP Address (1483 Bridged IP LLC, 1483 Bridged IP VC-Mux, 1483 Routed IP LLC(IPoA) or 1483 Routed IP VC-Mux)
- Bridge Mode (1483 Bridged IP LLC or 1483 Bridged IP VC Mux)

Modulation Type

ADSL uses various standardized modulation techniques to transmit data over the allotted signal frequencies. Some users may need to change the type of modulation used for their service. The default DSL modulation (Auto Synch-Up) used for the Router automatically detects all types of ADSL, ADSL2, and ADSL2+ modulation.

Security Protocol

This is the method your ADSL service provider will use to verify your Username and Password when you log on to their network. Your Router supports the PAP and CHAP protocols.

VPI

Most users will not be required to change this setting. The Virtual Path Identifier (VPI) is used in conjunction with the Virtual Channel Identifier (VCI) to identify the data path between your ADSL service provider's network and your computer. If you are setting up the Router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your ADSL service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.

VCI

Most users will not be required to change this setting. The Virtual Channel Identifier (VCI) used in conjunction with the VPI to identify the data path between your ADSL service provider's network and your computer. If you are setting up the Router for multiple virtual connections, you will need to configure the VPI and VCI as instructed by your ADSL service provider for the additional connections. This setting can be changed in the WAN Settings window of the web management interface.

Information you will need about DSL-2640R

Username

This is the Username needed access the Router's management interface. When you attempt to connect to the device through a web browser you will be prompted to enter this Username. The default Username for the Router is "**admin**." The user cannot change this.

Password

This is the Password you will be prompted to enter when you access the Router's management interface. The default Password is "**admin**." The user may change this.

LAN IP addresses for the DSL-2640R

This is the IP address you will enter into the Address field of your web browser to access the Router's configuration graphical user interface (GUI) using a web browser. The default IP address is 192.168.1.1. This may be changed to suit any IP address scheme the user desires. This address will be the base IP address used for DHCP service on the LAN when DHCP is enabled.

LAN Subnet Mask for the DSL-2640R

This is the subnet mask used by the DSL-2640R, and will be used throughout your LAN. The default subnet mask is 255.255.255.0. This can be changed later.

Information you will need about your LAN or computer:

Ethernet NIC

If your computer has an Ethernet NIC, you can connect the DSL-2640R to this Ethernet port using an Ethernet cable. You can also use the Ethernet ports on the DSL-2640R to connect to other computer or Ethernet devices.

DHCP Client status

Your DSL-2640R ADSL Router is configured, by default, to be a DHCP server. This means that it can assign an IP address, subnet mask, and a default gateway address to computers on your LAN. The default range of IP addresses the DSL-2640R will assign are from 192.168.1.5 to 192.168.1.32. Your computer (or computers) needs to be configured to obtain an IP address automatically (that is, they need to be configured as DHCP clients.)

It is recommended that you collect and record this information here, or in some other secure place, in case you have to re-configure your ADSL connection in the future.

Once you have the above information, you are ready to setup and configure your DSL-2640R ADSL Router.

Device Installation

The Wireless ADSL Router maintains three separate interfaces, an ADSL, an Ethernet, and a Wireless LAN interface. Place the Wireless ADSL Router in a location where it can be easily connected to Ethernet devices, the telephone line as well as to a power source.

The Router can be placed on a shelf or desktop, ideally you should be able to see the LED indicators on the front if you need to view them for troubleshooting.

Power on Router

The Router must be used with the power adapter included with the device.

1. Connect the power adapter to the **Power Input** (12V AC 1.2A) on the back panel of the Wireless ADSL Router and plug the other end of the power adapter to a wall outlet or power strip.
2. Push the **Power Button** toggle the power on.
3. The **Power** LED on the front panel will shine bright green to indicate the device is powered on.
4. If the Ethernet port is connected to a working device, check the **LAN** LED indicator to make sure the connection is valid. The Wireless ADSL Router will attempt to establish the ADSL connection, if the ADSL line is connected and the Wireless ADSL Router is properly configured the **ADSL** LED will light up after several seconds. If this is the first time installing the device, some settings may need to be changed before the Wireless ADSL Router can establish a connection.

Factory Reset Button

The Router may be reset to the original factory default settings by using a ballpoint or paperclip to gently push down the reset button in the following sequence:

1. Press and hold the reset button while the device is powered off.
2. Turn on the power.
3. Wait for 6~8 seconds and then release the reset button.

Remember that this will wipe out any settings stored in flash memory including user account information and LAN IP settings. The device settings will be restored to the factory default IP address **192.168.1.1** and the subnet mask is **255.255.255.0**, the default management Username is "admin" and the default Password is "admin."

Network Connections

Connect ADSL Line

Use the ADSL cable included with the Router to connect it to a telephone wall socket or receptacle. Plug one end of the cable into the ADSL port (RJ-11 receptacle) on the rear panel of the Router and insert the other end into the RJ-11 wall socket. If you are using a low pass filter device, follow the instructions included with the device or given to you by your service provider. The ADSL connection represents the WAN interface, the connection to the Internet. It is the physical link to the service provider's network backbone and ultimately to the Internet.

Connect Router to Ethernet

The Router may be connected to a single computer or Ethernet device through the 10/100BASE-TX Ethernet port on the rear panel. Any connection to an Ethernet concentrating device such as a switch or hub must operate at a speed of 10/100 Mbps only. When connecting the Router to any Ethernet device that is capable of operating at speeds higher than 10Mbps, be sure that the device has auto-negotiation (NWay) enabled for the connecting port. Use standard twisted-pair cable with RJ-45 connectors. The RJ-45 port on the Router is a crossed port (MDI-X). Follow standard Ethernet guidelines when deciding what type of cable to use to make this connection. When connecting the Router directly to a PC or server use a normal straight-through cable. You should use a crossed cable when connecting the Router to a normal (MDI-X) port on a switch or hub. Use a normal straight-through cable when connecting it to an uplink (MDI-II) port on a hub or switch. The rules governing Ethernet cable lengths apply to the LAN to Router connection. Be sure that the cable connecting the LAN to the Router does not exceed 100 meters.

Hub or Switch to Router Connection

Connect the Router to an uplink port (MDI-II) on an Ethernet hub or switch with a straight-through cable. If you wish to reserve the uplink port on the switch or hub for another device, connect to any on the other MDI-X ports (1x, 2x, etc.) with a crossed cable.

Computer to Router Connection

You can connect the Router directly to a 10/100BASE-TX Ethernet adapter card (NIC) installed on a PC using the Ethernet cable provided.

Wireless Connection to Router

The Router's embedded 802.11g wireless access point should be configured to suit the local wireless network. All 802.11g or 802.11b devices that associate with the Router's wireless access point must have the same SSID and channel. If wireless security is used, the wireless clients must be configured with the correct security information to use the Router. More information on configuring the wireless settings is found later in this manual.

Setup

This section will show you how to set up and configure your new D-Link Router using the Web-based configuration utility.

Web-based Configuration Utility

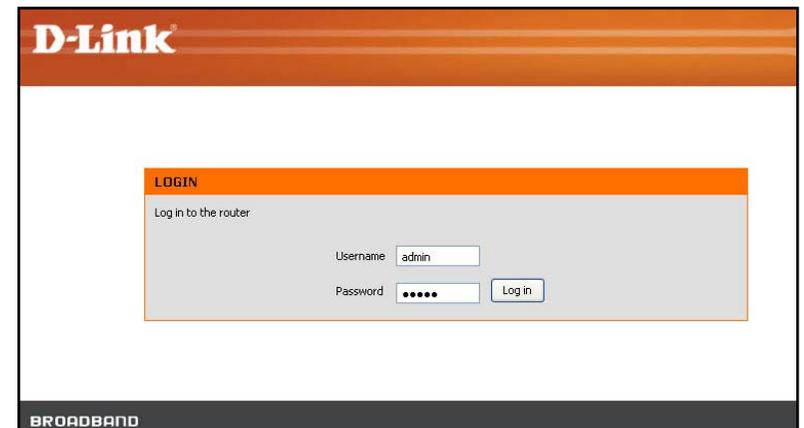
Connect to the Router

To configure the WAN connection used by the Router it is first necessary to communicate with the Router through its management interface, which is HTML-based and can be accessed using a web browser. The easiest way to make sure your computer has the correct IP settings is to configure it to use the DHCP server in the Router. The next section describes how to change the IP configuration for a computer running a Windows operating system to be a DHCP client.

To access the configuration utility, open a web-browser such as Internet Explorer and enter the IP address of the router (192.168.1.1).



Type “admin” for the User Name and “admin” in the Password field. If you get a **Page Cannot be Displayed** error, please refer to the **Troubleshooting** section for assistance.-

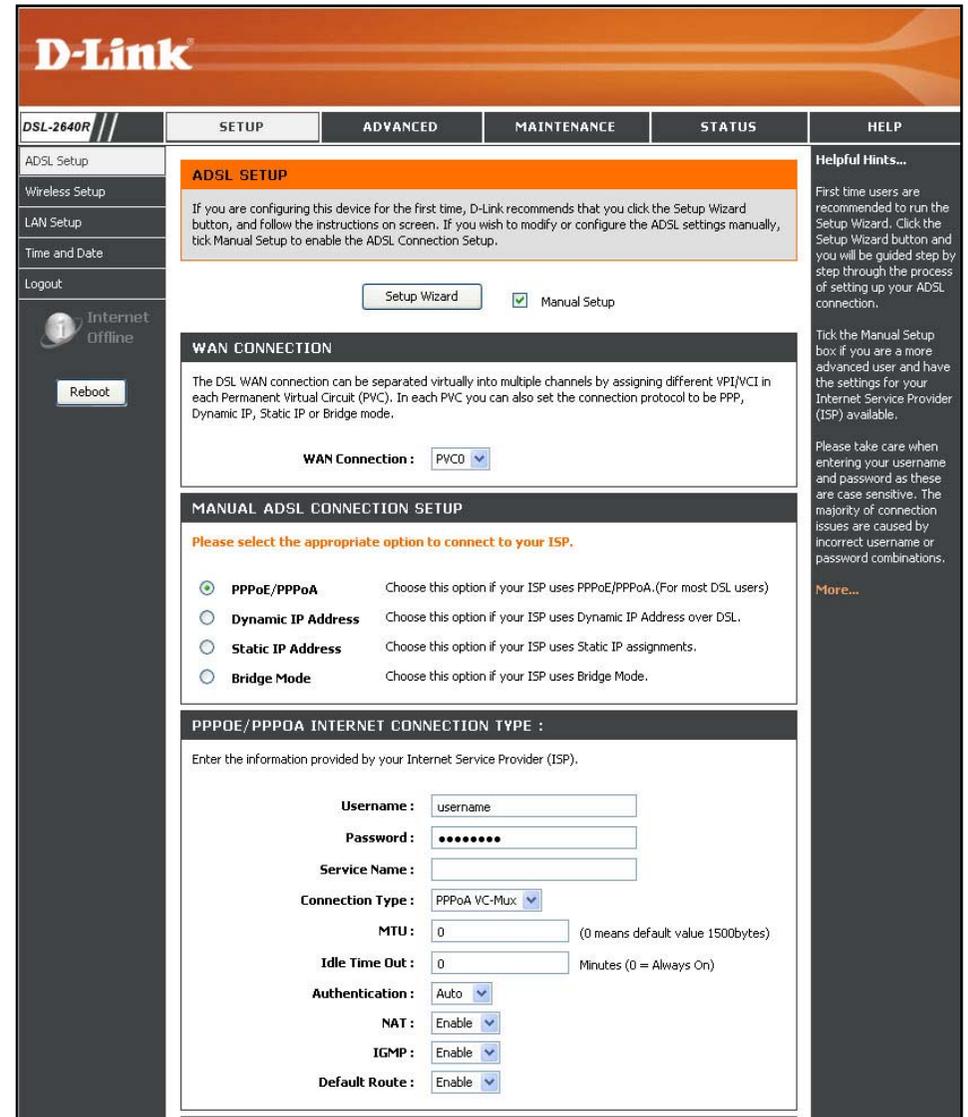


Configure the Router

When you successfully connect to the web manager, the main **ADSL Setup** menu is displayed. Use this menu to configure the WAN settings for Internet connection.

All configuration and management of the Router is done using the web-based management interface pictured in the example.

The **Setup Wizard** allows you to configure the basic settings for the WAN (Internet) and Ethernet LAN (including DHCP) settings. To launch the Setup Wizard click on the Setup Wizard button.



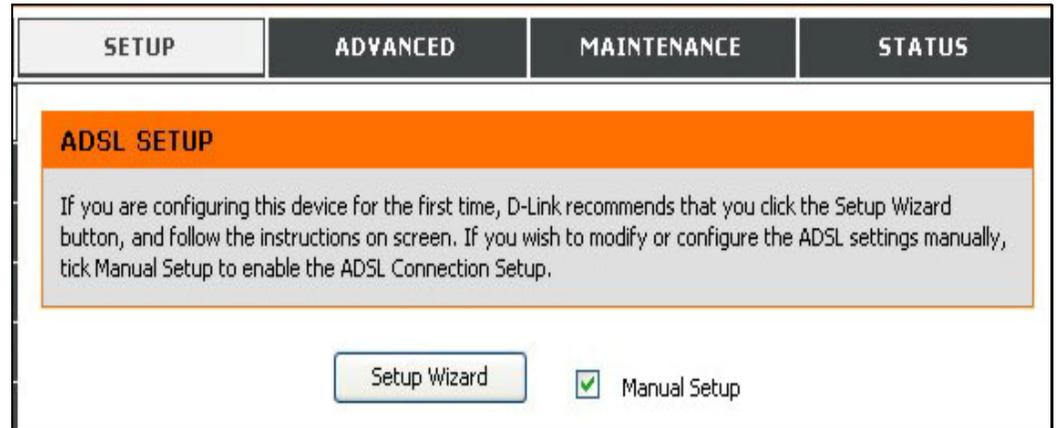
ADSL Setup - Setup Wizard

The quickest way for most users to establish the Internet connection is to use the **Setup Wizard** accessed from the ADSL Setup menu. Alternatively the WAN connection can be configured manually by selecting the **Manual Setup** option and configuring the **ADSL Setup** menu as described in **ADSL Setup – Manual Configuration** below.

Go to the **Setup** directory to view the **ADSL Setup** menu.

To use the Setup Wizard, click the **Setup Wizard** button in the first browser menu and follow the instructions in the menus that appear.

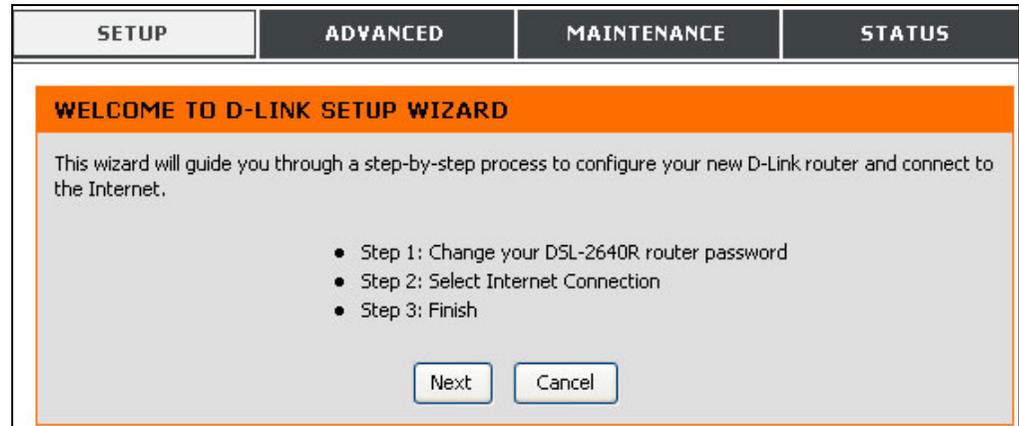
The initial menu summarizes the setup process. Click the **Next** button to proceed. You may stop using the Setup Wizard at any time by clicking the **Cancel** button. If you exit the wizard you will return to the **ADSL Setup** menu without saving any of the settings changed during the process.



The first menu of the Setup Wizard lists the basic steps in the process. These steps are as follows:

1. Change the router password.
2. Configure the connection to the Internet.
3. Finish.

Click **Next** to continue.



Setup Wizard Step 1 : Change Password

The password used for management access of the Router can be changed now if desired. If you prefer to keep the existing password, click on the **Skip** button to go to the next step without changing the password. Change the password and click **Next** to set the new password and continue or click **Skip** to keep the existing password.

SETUP	ADVANCED	MAINTENANCE	STATUS
STEP 1: CHANGE YOUR PASSWORD			
<p>The factory default password of this router is 'admin'. To help secure your network, D-Link recommends that you should choose a new password between 1 and 16 characters. If you do not wish to choose a new password now, just click Skip to continue. Click Next to proceed to next step.</p>			
<p>Current Password : <input type="text"/></p> <p>New Password : <input type="text"/></p> <p>Confirm Password : <input type="text"/></p>			
<input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Skip"/> <input type="button" value="Cancel"/>			

The new menu that appears is used to select the Internet connection type. Choose your **Country** from the pull-down menu. If you see your country listed, follow the instructions beginning on the next page. If you do not see your country listed, choose *Others* and click **Next**, skip ahead to **Setup Wizard Step 2 : Internet Connection – Other Connection Types**.

SETUP	ADVANCED	MAINTENANCE	STATUS
STEP 2: SELECT INTERNET CONNECTION TYPE			
<p>Please select your Country and ISP (Internet Service Provider) from the list below. If your Country or ISP is not in the list, please select "Other".</p>			
<p>Country : <input type="text" value="Click to select"/></p> <p>ISP Provider : <input type="text" value="Click to select"/></p> <p>VPI : <input type="text"/></p> <p>VCI : <input type="text"/></p> <p>Connection Type : <input type="text" value="PPPoE LLC"/></p>			
<input type="button" value="Back"/> <input type="button" value="Next"/> <input type="button" value="Cancel"/>			

Setup Wizard Step 2 : Internet Connection Type, Country and ISP

If your country appears listed in the **Country** menu options, select it and wait a few seconds for the menu display to adjust. When the menu options reappear, there will be options available to choose in the **ISP Provider** pull-down menu. Find your ISP in the list, again the menu will be inoperable for a few seconds while it adjusts. Some users will be required to select the **Connection Type** as well. If necessary, choose the Connection Type and click the **Next** button and continue to configure the connection as instructed by your ISP. If you are configuring a Bridged connection, the Wizard will go to the Finish menu.

Many users will use a form of PPP connection. PPP connections require a **Username** and **Password** to establish the Internet connection.

STEP 2: SELECT INTERNET CONNECTION TYPE

Please select your Country and ISP (Internet Service Provider) from the list below. If your Country or ISP is not in the list, please select "Other".

Country : Czech Republic ▾

ISP Provider : Telefonica O2 ▾

VPI : 8

VCI : 48

Connection Type : PPPoE LLC ▾

Back Next Cancel

STEP 2: SELECT INTERNET CONNECTION TYPE

Please enter your Username and Password as provided by your ISP (Internet Service Provider). Please enter the information exactly as shown taking note of upper and lower cases. Click Next to continue.

Username : username

Password : ●●●●●●

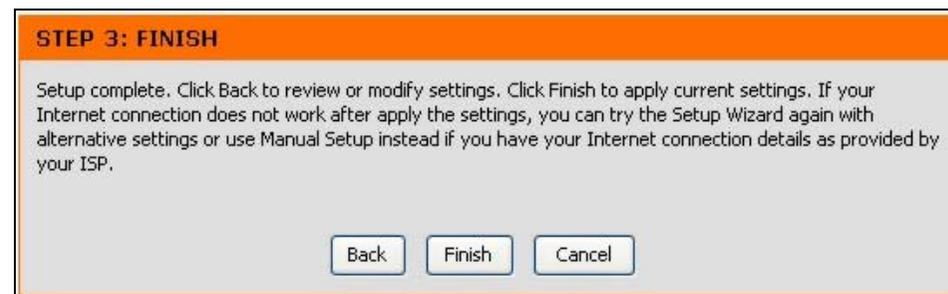
Confirm Password : ●●●●●●

Back Next Cancel

Setup Wizard Step 3 : Finish

After configuring the connection as instructed by your ISP, the Router will need to be restarted.

Click the **Finish** button to save the configuration and restart the Router.



Setup Wizard Step 2 : Internet Connection – Other Connection Types

For ADSL clients whose country is not listed as an option in the Country menu should choose *Others*, click the **Next** button and proceed to configure the Router as instructed by your ISP.

Choosing the Others options will disable the VPI/VCI and Connection Type menus. Click **Next** to choose the type of connection used for your account.

STEP 2: SELECT INTERNET CONNECTION TYPE

Please select your Country and ISP (Internet Service Provider) from the list below. If your Country or ISP is not in the list, please select "Other".

Country : Others

ISP Provider : Others

VPI :

VCI :

Connection Type : 1483 Bridged IP LLC

Back Next Cancel

Select the connection type used by your ISP and click the **Next** button.

STEP 2: SELECT INTERNET CONNECTION TYPE

Select the connection type to connect to your ISP. Click Next to continue

- PPPoE/PPPoA** Choose this option if your ISP uses PPPoE/PPPoA. (For most DSL users)
- Dynamic IP Address** Choose this option if your ISP uses Dynamic IP Address over DSL.
- Static IP Address** Choose this option if your ISP uses Static IP assignments.
- Bridge Mode** Choose this option if your ISP uses Bridge Mode.

Back Next Cancel

Setup Wizard Step 2 : Internet Connection Type - PPPoE/PPPoA

Type in the **User Name** and **Password** used to identify and verify your account to the ISP.

If you are instructed to change the **VPI** or **VCI** number, type in the correct setting in the available entry fields. Most users will not need to change these settings. The Internet connection cannot function if these values are incorrect.

Some users may have to adjust the **Connection Type** from the drop-down menu.

Click **Next** to go to the last Setup Wizard menu.

STEP 2: SELECT INTERNET CONNECTION TYPE

You have selected PPPoE/PPPoA Internet connection. Please enter the appropriate information below as provided by your ISP (Internet Service Provider).

Please enter the information exactly as shown taking note of upper and lower cases.

Click Next to continue.

Username :

Password :

VPI :

VCI :

Connection Type : ▾

Click the **Finish** button to save the configuration and restart the Router.

STEP 3: FINISH

Setup complete. Click Back to review or modify settings. Click Finish to apply current settings. If your Internet connection does not work after apply the settings, you can try the Setup Wizard again with alternative settings or use Manual Setup instead if you have your Internet connection details as provided by your ISP.

Setup Wizard Step 2 : Internet Connection Type – Dynamic IP Address

If you are instructed to change the **VPI** or **VCI** numbers, type in the correct setting in the available entry fields. Most users will not need to change these settings. The Internet connection cannot function if these values are incorrect.

Select the specific **Connection Type** from the drop-down menu.

You may want to copy the MAC address of your Ethernet adapter to the Router. Some ISPs record the unique MAC address of your computer's Ethernet adapter when you first access their network. This can prevent the Router (which has a different MAC address) from being allowed access to the ISP's network (and the Internet). To clone the MAC address of your computer's Ethernet adapter, type in the MAC address in the **Cloned MAC Address** field and click the **Clone MAC Address** button. This will copy the information to a file used by the Router to present to the ISP's server used for DHCP. Click **Next** to go to the last Setup Wizard menu.

Click the **Finish** button to save the configuration and restart the Router.

STEP 2: SELECT INTERNET CONNECTION TYPE

You have selected Dynamic IP Internet connection. Please enter the appropriate information below as provided by your ISP.

Some ISPs require that you clone your PC MAC address to the DSL router, simply Click on the button provided.

Click Next to continue.

VPI :

VCI :

Connection Type : 1483 Bridged IP LLC

Cloned MAC Address :

STEP 3: FINISH

Setup complete. Click Back to review or modify settings. Click Finish to apply current settings. If your Internet connection does not work after apply the settings, you can try the Setup Wizard again with alternative settings or use Manual Setup instead if you have your Internet connection details as provided by your ISP.

Setup Wizard Step 2 : Internet Connection Type – Static IP Address

Change the **IP Address**, **Subnet Mask**, **Default Gateway Address** as instructed by your ISP. Select the specific **Connection Type** from the drop-down menu.

If you are instructed to change the **VPI** or **VCI** numbers, type in the correct setting in the available entry fields. Most users will not need to change these settings. The Internet connection cannot function if these values are incorrect.

Click **Next** to go to the last Setup Wizard menu.

STEP 2: SELECT INTERNET CONNECTION TYPE

You have selected Static IP Internet connection. Please enter the appropriate information below as provided by your ISP. Click Next to continue.

VPI :

VCI :

IP Address :

Subnet Mask :

Connection Type : ▾

Default Gateway :

Click the **Finish** button to save the configuration and restart the Router.

STEP 3: FINISH

Setup complete. Click Back to review or modify settings. Click Finish to apply current settings. If your Internet connection does not work after apply the settings, you can try the Setup Wizard again with alternative settings or use Manual Setup instead if you have your Internet connection details as provided by your ISP.

Setup Wizard Step 2 : Internet Connection Type – Bridge Mode

Select the specific **Connection Type** from the drop-down menu.

If you are instructed to change the **VPI** or **VCI** numbers, type in the correct setting in the available entry fields—in this example no changes are needed so this setting is grayed out. Most users will not need to change these settings. The Internet connection cannot function if these values are incorrect.

Click **Next** to go to the last Setup Wizard menu.

STEP 2: SELECT INTERNET CONNECTION TYPE

Enter the bridge information provided to you by your ISP. Click Next to continue.

VPI :

VCI :

Connection Type : ▾

Click the **Finish** button to save the configuration and restart the Router.

STEP 3: FINISH

Setup complete. Click Back to review or modify settings. Click Finish to apply current settings. If your Internet connection does not work after apply the settings, you can try the Setup Wizard again with alternative settings or use Manual Setup instead if you have your Internet connection details as provided by your ISP.

ADSL Setup – Manual Configuration

To configure the Router’s basic configuration settings without running the Setup Wizard, you can access the menus used to configure ADSL Setup, LAN Setup, Time and Date, and Parental Control settings directly from the **Setup** directory. To access the **ADSL Setup** menus for PPPoE/PPPoA, Dynamic IP Address and Static IP Address connections, click on the **ADSL Setup** link button on the left side of the first menu that appears when you successfully access the web manager.

WAN CONNECTION

The DSL WAN connection can be separated virtually into multiple channels by assigning different VPI/VCI in each Permanent Virtual Circuit (PVC). In each PVC, you can also set the connection protocol to be PPP, Dynamic IP, Static IP or Bridge mode.

WAN Connection :

MANUAL ADSL CONNECTION SETUP

Please select the appropriate option to connect to your ISP.

- PPPoE/PPPoA** Choose this option if your ISP uses PPPoE/PPPoA. (For most DSL users)
- Dynamic IP Address** Choose this option if your ISP uses Dynamic IP Address over DSL.
- Static IP Address** Choose this option if your ISP uses Static IP assignments.
- Bridge Mode** Choose this option if your ISP uses Bridge Mode.

PPPOE/PPPOA INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Username :

Password :

Service Name :

Connection Type :

MTU :

Idle Time Out : Minutes (0 = Always On)

Authentication :

NAT :

IGMP :

Default Route :

VPI :

VCI :

Virtual Circuit :

Service Category :

PCR : cells/second

SCR : cells/second

MBS : cells

Manual ADSL Setup – PPPoE/PPPoA

Follow the instructions below to configure the Router to use a PPPoE or PPPoA for the Internet connection.

Most users will only need to change some or all of the settings listed under **WAN Connection Setting** and **PPPoE/PPPoA**.

To configure a PPPoE or PPPoA type WAN connection, follow these steps:

1. Under the **PPPoE/PPPoA** heading, type the **User Name** and **Password** used for your ADSL account. A typical User Name will be in the form user1234@isp.co.uk. The Password may be assigned to you by your ISP or you may have selected it when you set up the account with your ISP.
2. Choose the **Connection Type** from the pull-down menu located under the User Name and Password entry fields. This defines both the connection protocol and encapsulation method used for your ADSL service. The available options are *PPPoA VC-Mux*, *PPPoA LLC*, *PPPoE VC-Mux* and *PPPoE LLC*. If you have not been provided specific information for the Connection Type setting, leave the default setting.
3. Leave the **MTU** value at the default setting (default = 1500) unless you have specific reasons to change this (see table below for more information).
4. For time-based accounts, type an **Idle Time Out** in minutes. Accounts that are not time-based will want to choose the default connection setting 0=Always ON.
5. **NAT** should remain *Enable*. If you disable NAT, you will not be able to use more than one computer for Internet connections. NAT is enabled and disabled system-wide, therefore if you are using multiple virtual connections, NAT will be disabled on all connections.
6. Leave the **Default Route** enabled if you want to use the Router as the default route to the Internet for your LAN. Whenever a computer on the LAN attempts to access the Internet, the Router becomes the Internet gateway to the computer. If you have an alternative route for Internet traffic you may disable this without effecting the Router's connection.

PPPOE/PPPOA INTERNET CONNECTION TYPE :

Enter the information provided by your Internet Service Provider (ISP).

Username :

Password :

Service Name :

Connection Type : ▼

MTU :

Idle Time Out : Minutes (0 = Always On)

Authentication : ▼

NAT : ▼

IGMP : ▼

Default Route : ▼

Manual ADSL Setup – Dynamic IP Address

Follow the instructions below to configure the Router to use a Dynamic IP Address for the Internet connection.

To configure a Dynamic IP Address connection for the WAN, follow these steps:

1. Choose the **Connection Type** from the pull-down menu. This defines both the connection type and encapsulation method used for your ADSL service. The available options are *1483 Bridged IP LLC* and *1483 Bridged IP VC-Mux*. If you have not been provided specific information for the Connection Type setting, leave the default setting.
2. Some ISPs record the unique MAC address of your computer's Ethernet adapter when you first access their network. This can prevent the Router (which has a different MAC address) from being allowed access to the ISPs network (and the Internet). To clone the MAC address of your computer's Ethernet adapter, type in the MAC address in the **MAC Address** field and click the **Clone MAC Address** button.
3. **NAT** should remain *Enabled*. If you disable NAT, you will not be able to use more than one computer for Internet connections. If you are using multiple virtual connections, NAT functions system-wide, therefore if it is disabled, NAT will be disabled on all connections.
4. Leave the **Default Route** enabled if you want to use the Router as the default route to the Internet for your LAN. Whenever a computer on the LAN attempts to access the Internet, the Router becomes the Internet gateway to the computer. If you have an alternative route for Internet traffic you may disable this without effecting the Router's connection.

DYNAMIC IP ADDRESS INTERNET CONNECTION TYPE :

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Connection Type : 1483 Bridged IP LLC ▾

MAC Address : 00 : 00 : 00 : 00 : 00 : 00

Clone MAC Address

NAT : Enable ▾

IGMP : Enable ▾

Default Route : Enable ▾

Manual ADSL Setup – Static IP Address

Follow the instructions below to configure the Router to use a Static IP Address for the Internet connection.

To configure a Static IP type connection for the WAN, follow these steps:

1. Choose the **Connection Type** from the pull-down menu. This defines both the connection type and encapsulation method used for your ADSL service. The available options are *1483 Bridged IP LLC*, *1483 Bridged IP VC-Mux*, *1483 Routed IP LLC*, *1483 Routed IP VC-Mux* or *IpoA*. If you have not been provided specific information for the Connection Type setting, leave the default setting.
2. Change the **IP Address**, **Subnet Mask**, and **Default Gateway** address as instructed by your ISP. These are the global IP settings for the WAN interface. This is the “visible” IP address of your account.
3. **NAT** should remain *Enable*. If you disable NAT, you will not be able to use more than one computer for Internet connections. NAT is enabled and disabled system-wide, therefore if you are using multiple virtual connections, NAT will be disabled on all connections.
4. Leave the **Default Route** enabled if you want to use the Router as the default route to the Internet for your LAN. Whenever a computer on the LAN attempts to access the Internet, the Router becomes the Internet gateway to the computer. If you have an alternative route for Internet traffic you may disable this without effecting the Router’s connection.

STATIC IP ADDRESS INTERNET CONNECTION TYPE :

Enter the static address information provided by your Internet Service Provider (ISP).

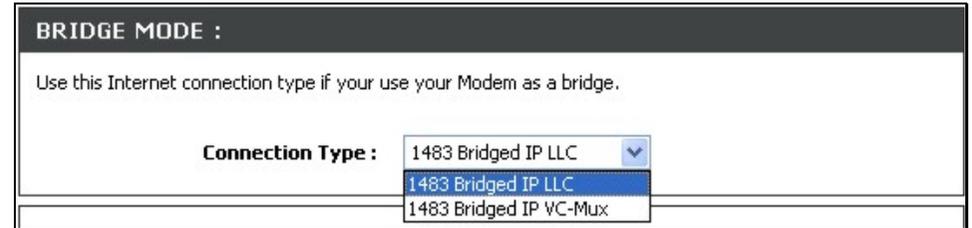
IP Address :	<input type="text" value="0.0.0.0"/>
Subnet Mask :	<input type="text" value="0.0.0.0"/>
Connection Type :	<input type="text" value="1483 Bridged IP LLC"/> ▼
NAT :	<input type="text" value="Enable"/> ▼
IGMP :	<input type="text" value="Enable"/> ▼
Default Route :	<input type="text" value="Enable"/> ▼
Default Gateway :	<input type="text" value="0.0.0.0"/>

(The Default Gateway will apply to all WAN connections.)

Manual ADSL Setup – Bridge Mode

Follow the instructions below to configure the Router to use Bridge Mode for the Internet connection.

Choose the **Connection Type** from the pull-down menu. This defines both the connection type and encapsulation method used for your ADSL service. The available options are *1483 Bridged IP LLC* or *1483 Bridged IP VC-Mux*. If you have not been provided specific information for the Connection Type setting, leave the default setting.



The screenshot shows a configuration window titled "BRIDGE MODE :". Below the title, there is a text instruction: "Use this Internet connection type if your use your Modem as a bridge." Below this instruction is a "Connection Type" label followed by a dropdown menu. The dropdown menu is open, showing three options: "1483 Bridged IP LLC" (which is highlighted in blue), "1483 Bridged IP LLC", and "1483 Bridged IP VC-Mux".

Wireless Setup

The Router's basic wireless and wireless network security settings are configured in the **Wireless** configuration menu. To access this menu, click on the **Wireless Setup** link in the left panel of the **Setup** menu directory, the first page that appears when you successfully access the web manager. Choose the **Wireless Security Mode** from the pull-down menu to select the type of security used on your wireless network. The security settings to be configured depend on the method used. Read the descriptions below for the type of wireless security used.

For **basic wireless access point** configuration with no security settings, follow the steps:

1. Click the **Enable Wireless** box to allow the router to operate in the wireless environment. The Router's embedded access point is enabled by default.
2. The **Wireless Network Name** or **SSID** identifies members of the Service Set. Type the name of the SSID used for your wireless network. Wireless devices that use the Router must have this SSID. The DSL-2640R also supports use of one additional SSID. For information on using and configuring a second SSID or Guest SSID, please see the Advanced Wireless section.
3. Use the drop-down menu to select the **Channel** used for your 802.11g wireless LAN. What channels are available for use by the access point depends on the local regulatory environment. Remember that all devices communicating with the device must use the same channel (and use the same SSID).
4. Click **Apply Settings**.

Additional Wireless Options

Enable Auto Channel Scan – Enable this to allow the access point to automatically detect the channel used for local 802.11 wireless operation.

802.11 Mode – The default setting allow 802.11g and 802.11b operation. The access point can be forced to operate as an *802.11b only* or *802.11g only* access point.

Transmission Rate – The default setting lets the access point determine the optimal transmission rate for the circumstances and environment in which it operates. Use this option to set a minimum acceptable transmission rate below which

802.11 Mode – The default setting allow 802.11g and 802.11b operation. The access point can be forced to operate as an 802.11b only or 802.11g only access point using this pull-down menu.

Hide Wireless Network – When enabled, this stops broadcasts from the access point of the SSID (Wireless Network Name) for roaming wireless stations. This is disabled by default.

WIRELESS

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

WIRELESS NETWORK SETTINGS

Enable Wireless :

Wireless Network Name (SSID) :

Enable Auto Channel Scan :

Wireless Channel :

802.11 Mode :

Transmission Rate : (Mbit/s)

Hide Wireless Network :

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and Auto. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server.

Security Mode :

Please take note of your SSID and security Key as you will need to duplicate the same settings to your wireless devices and PC.

Wireless Setup – WEP

WEP (Wireless Encryption Protocol) encryption can be enabled for basic security and privacy. WEP encrypts the data portion of each frame transmitted from the wireless adapter using one of the predefined keys. The router offers 64-bit, or 128-bit encryption with four keys available.

To configure WEP settings:

1. Select a **WEP Key Length** encryption level from the drop-down menu, and enter the proper-length hexadecimal key in the available entry fields. Up to 4 keys can be configured for use.
2. Choose the **Default WEP Key** of from those just entered, used as the active key.
3. Select an **Authentication** type, from the drop-down menu: *Open or Shared Key*
4. Click **Apply Settings** to use the new WEP settings and restart the access point.

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and Auto. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server.

Security Mode : WEP ▼

WEP

WEP is the wireless encryption standard. To use it you must enter the same key(s) into the router and the wireless stations. For 64 bit keys you must enter 10 hex digits into each key box. For 128 bit keys you must enter 26 hex digits into each key box. A hex digit is either a number from 0 to 9 or a letter from A to F. For the most secure use of WEP set the authentication type to "Shared Key" when WEP is enabled.

You may also enter any text string into a WEP key box, in which case it will be converted into a hexadecimal key using the ASCII values of the characters. A maximum of 5 text characters can be entered for 64 bit keys, and a maximum of 13 characters for 128 bit keys.

WEP Key Length : 128 bit(26 hex digits) ▼ (length applies to all keys)

WEP Key 1 :

WEP Key 2 :

WEP Key 3 :

WEP Key 4 :

Default WEP Key : WEP Key 1 ▼

Authentication : Open or Shared Key ▼

Please take note of your SSID and security Key as you will need to duplicate the same settings to your wireless devices and PC.

Apply Settings
Cancel

Wireless Setup - WPA

Wi-Fi Protected Access was designed to provide improved data encryption, perceived as weak in WEP, and to provide user authentication, largely nonexistent in WEP. There are two versions of WPA, both are supported by the access point. WPA-Personal encryption uses a pre-shared key for authentication and requires periodic re-authentication from associating wireless stations.

To configure WPA settings:

1. Use the default **WEP Mode** to use WPA or WPA2 as needed, or choose *WPA Only* or *WPA2 Only* operation.
2. Choose the **Default WEP Key** of from those just entered, used as the active key.
3. Type a **Group Key Update Interval** to configure the interval time between re-authorization in seconds.
4. Click **Apply Settings** to use the new WPA security settings and restart the access point.

WIRELESS SECURITY MODE

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA-Personal, and Auto. WEP is the original wireless encryption standard. WPA provides a higher level of security. WPA-Personal does not require an authentication server.

Security Mode :

WPA

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

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

WPA Mode :

Group Key Update Interval : (seconds)

PRE-SHARED KEY

Pre-Shared Key :

Please take note of your SSID and security Key as you will need to duplicate the same settings to your wireless devices and PC.