

D-Link[®]

Building Networks For People

DIR-100

Ethernet Broadband Router

User Manual

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About This User's Guide

This user's guide provides instructions on how to install the DIR-100 Ethernet Broadband Router and use it to connect a computer or Ethernet LAN to the Internet.

Before You Start

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.

Overview

The procedure to install the Router can be described in general terms in the following steps:

1. Gather information and equipment needed to install the device. Before you begin the actual installation make sure you have all the necessary information and equipment.
2. Install the hardware, that is, connect the cables to the device and connect the power adapter.
3. Check the IP settings on your computer and change them if necessary so the computer can access the web-based software built into the Router.
4. Use the web-based management software to configure the device to suit the requirements of your ISP account.

Packing List

Open the shipping carton and carefully remove all items. In addition to this Manual, ascertain that you have:

- DIR-100 Ethernet Broadband Router
- Power Adapter
- Ethernet Cable
- Quick Installation Guide
- Manual on CD

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



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

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 (User Name and Password) is required. For others, various parameters that control and define the Internet connection will be required.

Internet Connection

The DIR-100 is intended for use with a broadband device such as an ADSL, DSL or cable (CATV) modem. The physical connection to the Internet must first be established through a broadband device, typically this should be set up as an invisible bridge.

Operating Systems

The DIR-100 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, and Windows XP.

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 5.0, Netscape Navigator® version 4.7, or later versions. The web browser must have JavaScript 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.

Installation Information

Print this page and record the listed information here in case you have to re-configure your WAN connection in the future or reset the device configuration settings.

Information you will need from your Internet service provider:		
Username (PPPoE connections)	This is the Username that is used to log on to your Internet service provider's network. It is commonly in the form – user@isp.com.	Record your info here.
Password (PPPoE connections)	This is the Password that is used, in conjunction with the Username above, to log on to your Internet provider's network.	
Internet Connection Type	This is the method that your ISP uses to send and receive data between the Internet and your computer.	
Information you will need about your DIR-100 Ethernet Broadband Router:		
Username	This is the Username you will be prompted to enter when you access the DIR-100 configuration screens using a Web browser. The default Username is admin.	Record your info here.
Password	This is the Password you will be prompted to enter when you access the DIR-100's configuration windows using a Web browser. There is no initial Password.	
LAN IP address of the DIR-100	This is the IP address you will enter into the Address field of your Web browser to access the DIR-100's configuration windows using a Web Browser. The default IP address is 192.168.0.1.	
LAN Subnet Mask of the DIR-100	This is the subnet mask used by the DIR-100, and will be used throughout your LAN. The default subnet mask is 255.255.255.0.	
Information you will need about your LAN or computer:		
DHCP Client status	Your DIR-100 Broadband 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 range of IP addresses the DIR-100 will assign are from 192.168.0.100 to 192.168.0.199. Your computer (or computers) needs to be configured to Obtain an IP address automatically (that is, they need to be configured as DHCP clients.)	Record your info here.

Introduction

This section provides a brief description of the Router, its associated technologies and a list of Router features.

Router Description and Operation

The D-Link DIR-100 Ethernet Broadband Router is designed to provide connectivity for your private Ethernet LAN plus one USB connected printer, to share an Internet connection via a broadband technology. The broadband connection may be in any common form including DSL or cable modems.

The Router is easy to install and use and take just a few minutes to set up. . The D-Link DIR-100 also incorporates many advanced features, typically found in more expensive routers. After completing the steps outlined in the **Quick Installation Guide** (included in your package) you will have the ability to share a single Internet connection as well as sharing information and resources such as files and printers.

The DIR-100 is compatible with most popular operating systems, including Macintosh, Linux and Windows, and can be integrated into an existing network.

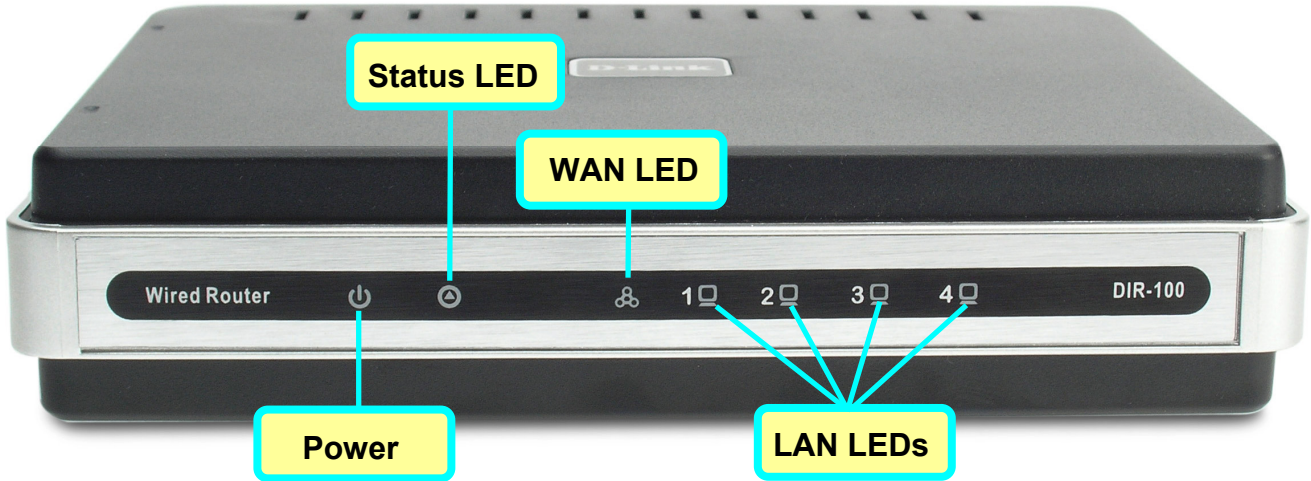
Router Features

The D-Link DIR-100 Broadband Router provides the following features:

- **Broadband Modem and IP Sharing** - Connects multiple computers to a Broadband (Cable or DSL) modem to share the Internet connection.
- **Ethernet Switch** - Allows you to quickly and easily share an Internet connection with multiple computers and devices.
- **Advanced Firewall, MAC Filtering, and WebSite Filtering Features** - The Web-based user interface displays a number of advanced network management features including:
- **Web-Based Management** - DIR-100 is configurable through any network computer's web browser using Netscape or Internet Explorer.
- **Port Forwarding Supported** - Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.
- **Special Application Supported** - Special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on. The DIR-100 can sense the application type and open a multi-port tunnel for it.
- **DMZ Host Supported** - Allows a networked computer to be fully exposed to the Internet. This function is used when the Special Application feature is insufficient to allow an application to function correctly.

Front Panel

Place the Router in a location that permits an easy view of the LED indicators on the front panel.

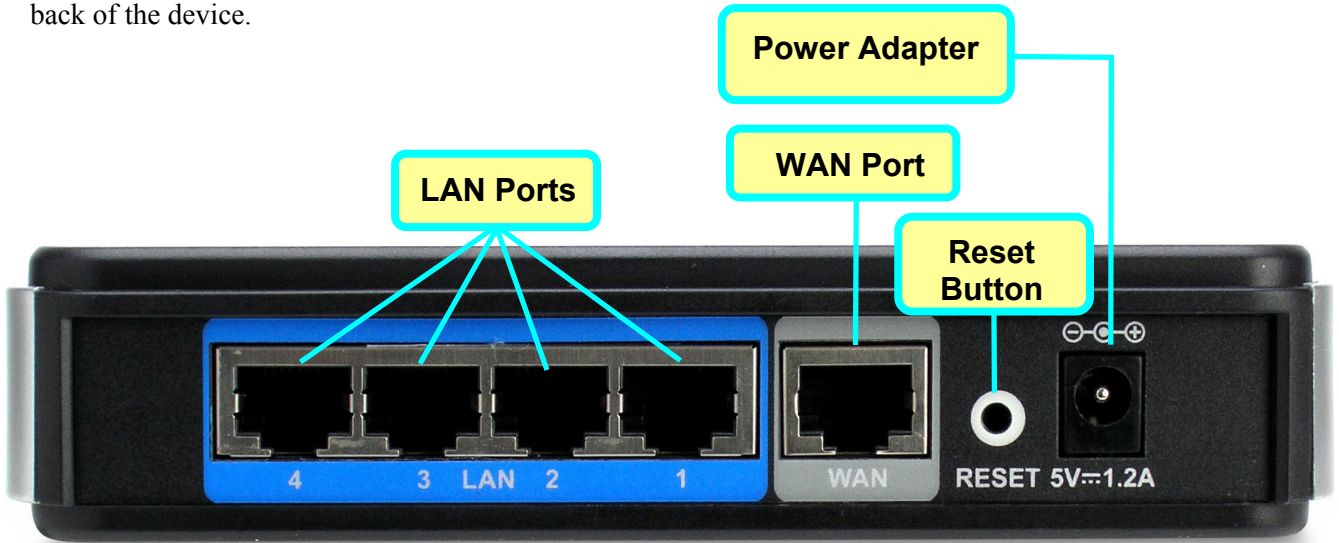


The LED indicators on the front panel include the **Power**, **Status**, **WAN**, and **LAN** for the Ethernet ports.

Power	Steady green light indicates the unit is powered on.
Status	This lights steady green when the device is first powered on, then blinks green when the system status is normal, that is, when the device is functioning properly. A prolonged steady green light indicates a problem.
WAN	Lights steady green when the WAN (Internet) connection is established and blinks green when there is activity on the WAN port.
LAN	Lights steady green when the LAN (Ethernet) connection is established and blinks green when there is activity on the corresponding LAN port.

Rear Panel

Connect the power adapter cord and network cables on the rear panel. The reset button is also located on the back of the device.



LAN Ports (1 – 4)	Connect to Ethernet devices or computers.
	Connect to broadband device such as an ADSL or cable modem.
Power Adapter	Insert power adapter into receptacle and plug into a suitable power source.
Reset Button	Use this to reset the device to default settings including IP settings and administrator access information.



Note: All ports (LAN and WAN) are Auto-MDIX. All ports also automatically connect with straight-through or crossover CAT5 or better Ethernet cable.

Connecting the Router

The Router provides the connection between two networks, a private Ethernet LAN and the public Internet (WAN). Choose a location for the Router where Ethernet devices can be connected to the LAN ports and the WAN port can be connected to the cable modem or DSL modem that provides the broadband Internet connection.

The Router, and all electrical devices should be protected from dust, water, moisture and heat. Make sure network cables, power adapters and power cords are placed safely out of the way so they do not create a tripping hazard. As with any electrical appliance, observe common sense safety procedures.

Place the Router on a shelf, desktop, or other stable platform. Ideally you should be able to view the LED indicators on the front panel.

Connect Router to Ethernet LAN

The Router can be connected to computers or other Ethernet devices using the four Ethernet LAN ports 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 capable of operating at speeds between 10~100Mbps, be sure that the device has auto-negotiation (NWay) enabled for the connecting port. Use standard CAT5 or better Ethernet cable with RJ-45 connectors. The Ethernet LAN ports are auto MDI-II/MDI-X so you can use straight-through or crossover Ethernet cabling.

The rules governing Ethernet cable lengths apply to the LAN to Router connection. Be sure the Ethernet cables connected to the LAN ports do not exceed 100 meters in length.

Power On Router

To power on the Router:

1. Insert the AC Power Adapter cord into the power receptacle located on the rear panel of the Router and plug the adapter into a suitable nearby power source. See the back panel illustration above to view the power receptacle.
2. The Power LED indicator will immediately light green and remain lit. The Status LED should light steady green initially and begin to blink after a few seconds.
3. If you have the Router connected to your network you can look at the Ethernet Link/Act LED indicators to make sure they have valid connections. The Router will attempt to establish the WAN connection, if the WAN line is connected and the connection is properly configured this should light up after several seconds.



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

Reset

To reset the system settings to factory defaults, please follow these steps:

1. Leave the device powered on, do not disconnect the power.
2. Press the reset button and hold (use a paper-clip). See the back panel illustration above to view the location of the reset button.
3. Keep the button pressed about 4 seconds.
4. Release the button.

The DIR-100 will then automatically reboot itself. Upon restarting the Router will load the factory default configuration settings including the default IP address 192.168.0.1 a subnet mask 255.255.255.0 and the DHCP server active.

Basic Router Configuration

The first time you setup the Router it is recommended that you configure the WAN connection using a single computer making sure that both the computer and the Router are not connected to the LAN. Once the WAN connection is functioning properly, you may continue to make changes to Router configuration including IP settings and DHCP setup. This chapter is concerned mainly with using your computer to configure the WAN connection. Instructions are also provided for basic LAN configuration. The following chapter describes how to set up the advanced features of the Router.

Configuration Summary

1. **Connect to the Router** To configure various settings used by the Router for Internet and Wireless LAN access it is first necessary to access the Router's management HTML-based interface. This is done using an ordinary web browser. Your computer must be able to "see" the Router before it can manage it using a browser. If the Router is in the same "neighborhood" or subnet as the Router, you should be able to access the management software. Therefore, you must first make sure your computer has IP settings that place it in the same subnet as the Router. 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 DHCP server will automatically enable your computer to use a browser to manage the Router. Appendix B, *Configuring IP Settings on Your Computer*, describes how to change the IP configuration for a computer running a Windows operating system to be a DHCP client. If you are running another operating system, make sure your computer is configured as a DHCP client so it can automatically obtain IP settings from the Router. Some operating systems will automatically select the best IP settings. Consult the user manual for the operating system (OS) if you are unsure.
2. **Configure the Internet (WAN) Connection** Most users will be able to complete this process using the **Setup Wizard**. The Setup Wizard can be launched once you have successfully connected with the Router's management software. There are different methods used to establish the WAN connection to the ISP's network and ultimately to the Internet. Your service provider should provide all the information needed to configure the WAN connection for Internet access.

Configuring IP Settings on Your Computer

In order to configure your system to receive IP settings from the Router it must first have the TCP/IP protocol installed. If you have an Ethernet port on your computer, it probably already has TCP/IP protocol installed. See Appendix B for instruction on how to configure Windows computers to be DHCP clients.

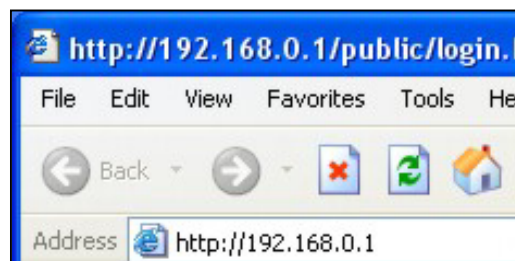
For computers running non-Windows operating systems, follow the instructions for your OS that configure the system to receive an IP address from the Router, that is, configure the system to be a DHCP client.

For computers using manually configured IP settings, make sure the IP address is on the same subnet as the Router. The computer should use an IP address in the range 192.168.0.2 to 192.168.0.254 with a subnet mask of 255.255.255.0.

Accessing the Configuration Manager

Now that your computer's IP settings allow it to communicate with the Router, you can access the configuration software.

To use the web-based management software, launch a suitable web browser and direct it to the IP address of the Router. Type in **http://** followed by the default IP address, **192.168.0.1** in the address bar of the browser. The URL in the address bar should read: **http://192.168.0.1**. Once entered, the user will be prompted to enter the username and password to access the Configuration Manager, as show below. A new window will appear and you will be prompted for a user name and password to access the web-based manager.



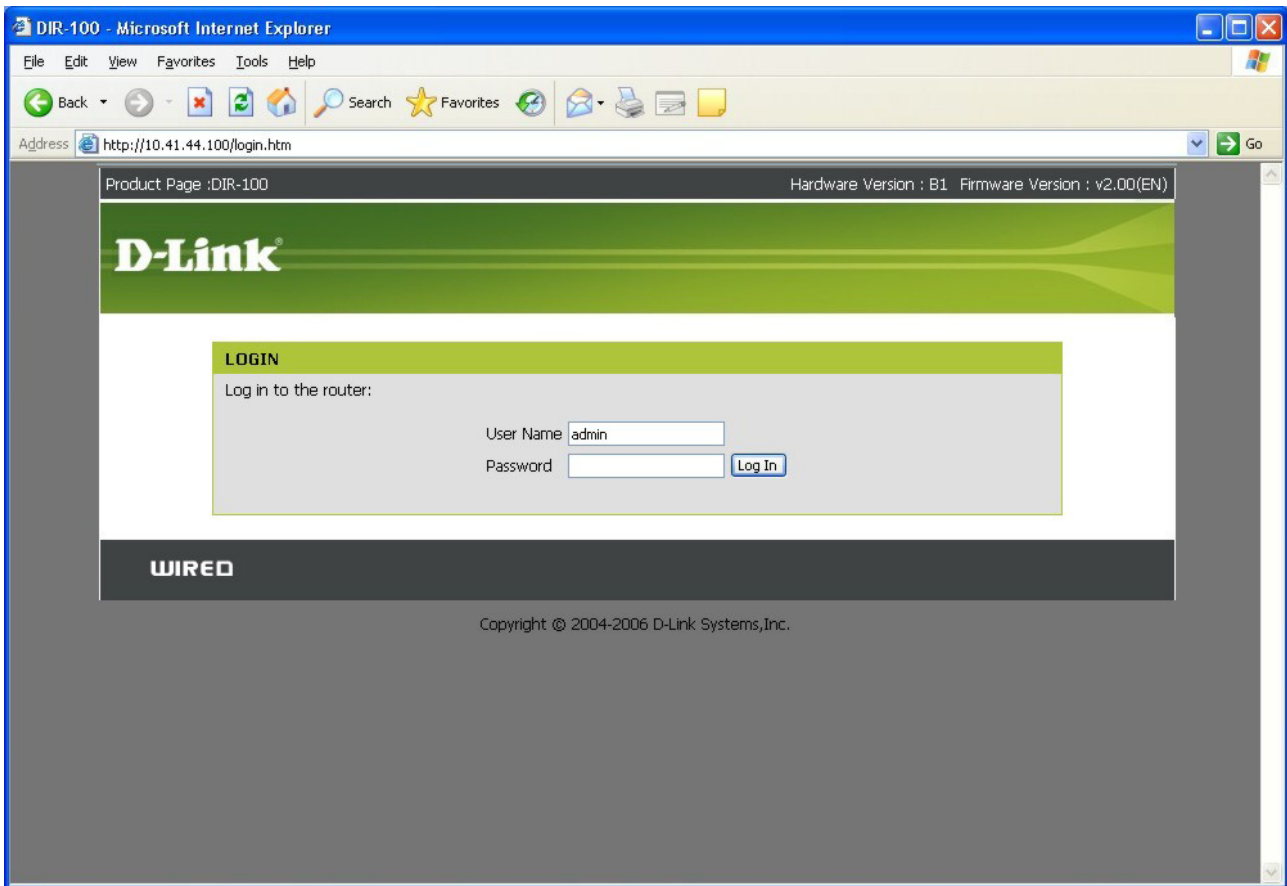
NOTE: The wrong proxy server settings on your browser can prevent connection to the web manager. If you are having trouble connecting to the web interface of the Router, configure the proxy settings to bypass the proxy server or disable use of proxy servers and try to connect again.

To check proxy setting for Windows Internet Explorer:

1. In Windows, click on the **Start** button, go to **Settings** and choose **Control Panel**.
2. In the **Control Panel** window, double-click on the **Internet Options** icon. (Alternatively you can access this **Internet Options** menu using the **Tools** pull-down menu in Internet Explorer.)
3. Click the **Connections** tab and click on the **LAN Settings** button.
4. Verify that the "Use proxy server" option is NOT checked. If it is checked, click in the checked box to deselect the option and click OK.

Login

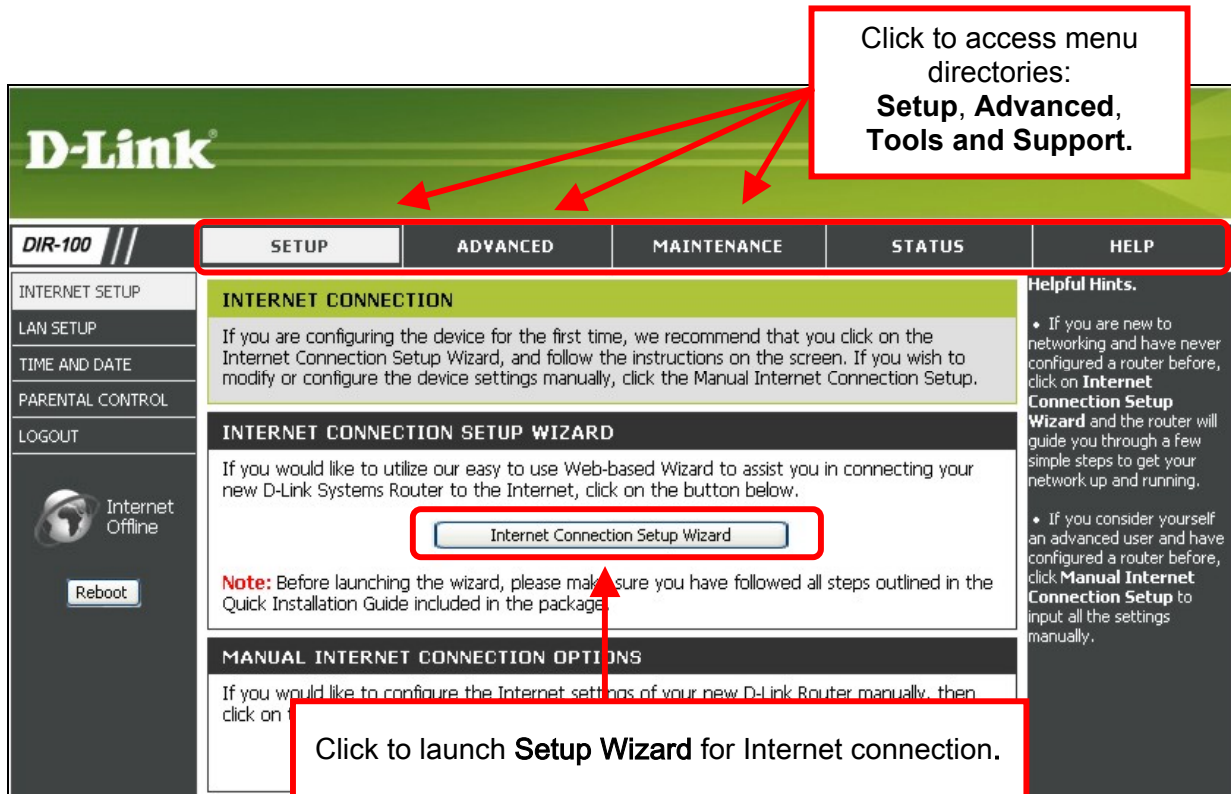
Use the default user name “admin” and no password for first time setup. You should change the web-based manager access user name and password once you have verified that a connection can be established. The user name and password allows any PC within the same subnet as the Router to access the web-based manger.



Login menu

Web Manager

The Web Manager used for configuration uses directories to organize the various menus used to configure and monitor the Router. The first page that appears after logging in presents the Internet menu in the Setup menu directory.



Internet Connection menu

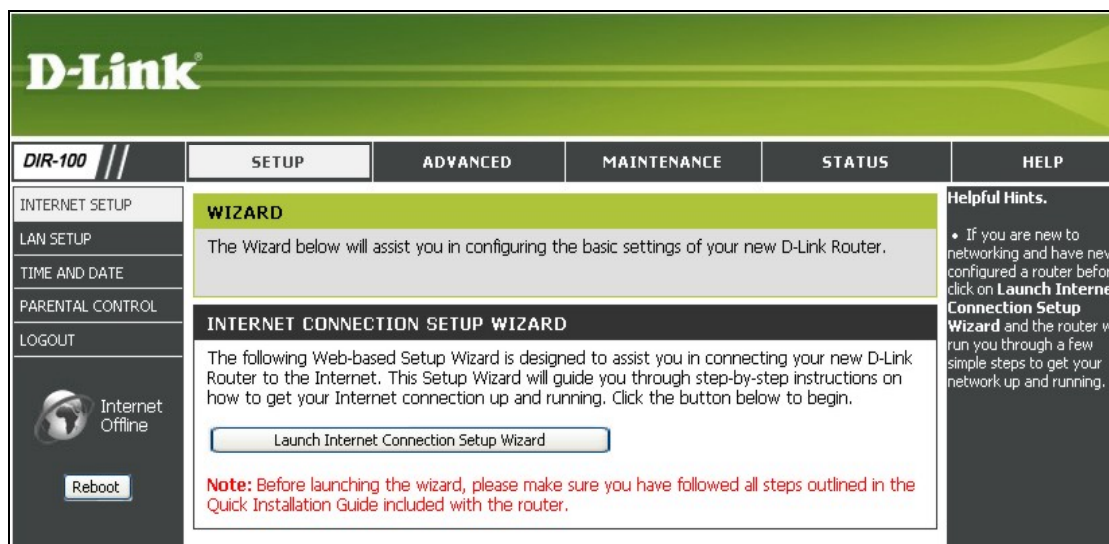
Most users will be able to configure their Internet connection using the Setup Wizard. Click the **Internet Connection Setup Wizard** button on the first menu that appears after logging in to access the Setup Wizard.

Internet Setup

The Internet Setup menu is the first menu to appear when you have successfully logged in. Two options are available for Internet connection settings configuration, automatic using the Setup Wizard or manual setting. Most users can launch the Setup Wizard and quickly configure the Internet connection. Some users might prefer the manual method or may have special connection settings requirements that can only be configured using the manual settings.

Internet Connection Setup Wizard

To use the **Setup Wizard**, open the **Setup** menu directory (the first page you see after logging in), and click the **Setup Wizard** button to go to the Wizard menu.

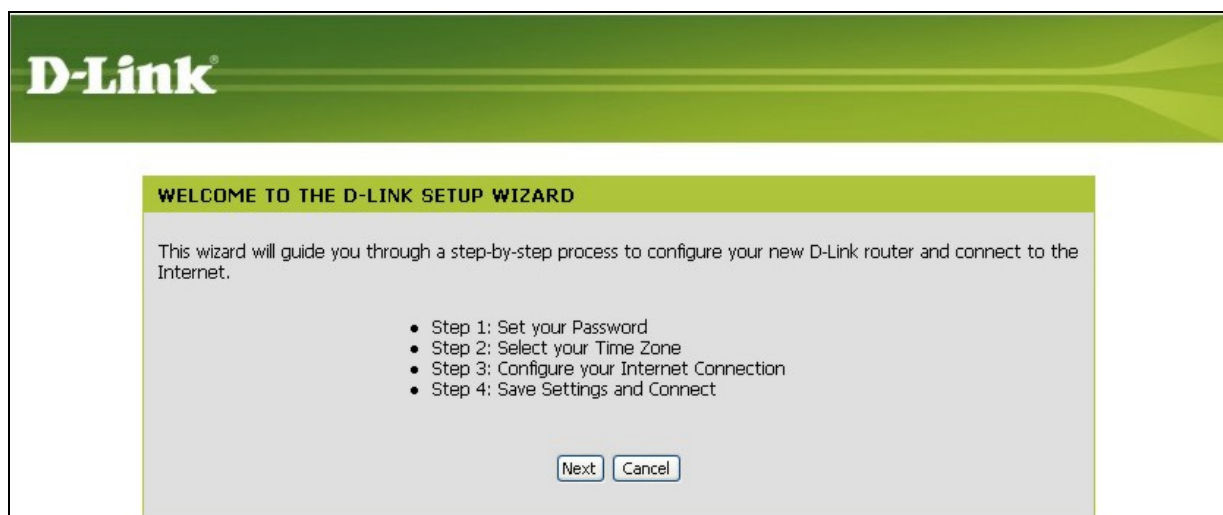


Wizard menu

Click the **Launch Internet Connection Setup Wizard** button to begin configuration on the Internet connection.

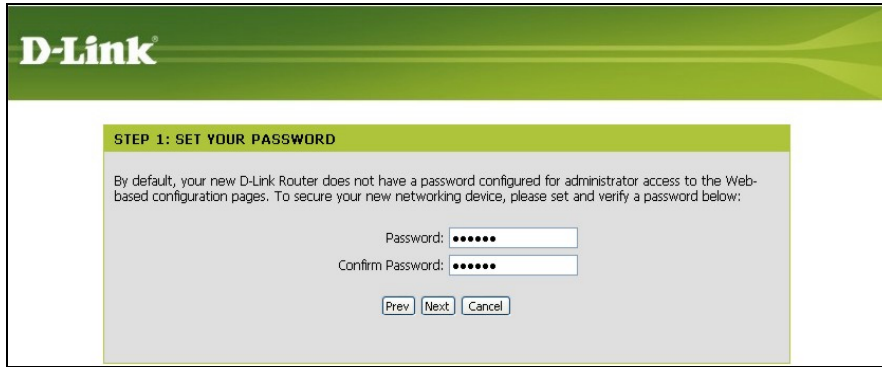
Setup Wizard – Welcome

The initial dialog box 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 Internet Connection menu page without saving any of the settings changed during the process.



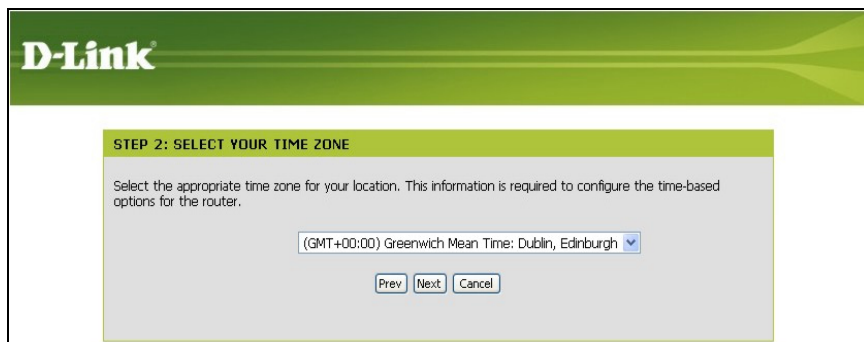
Setup Wizard – Step 1

Type a new **Password** used for system administration in the space provided and the same password again in the **Confirm Password** space. This will be the new system password used to login. Remember that this password is case sensitive so it must be typed exactly as you are typing it here when you want to access the web manager. The user cannot change the system User Name used for login, **admin**. Click the **Next** button to proceed, click the **Prev** button to see the previous wizard menu.



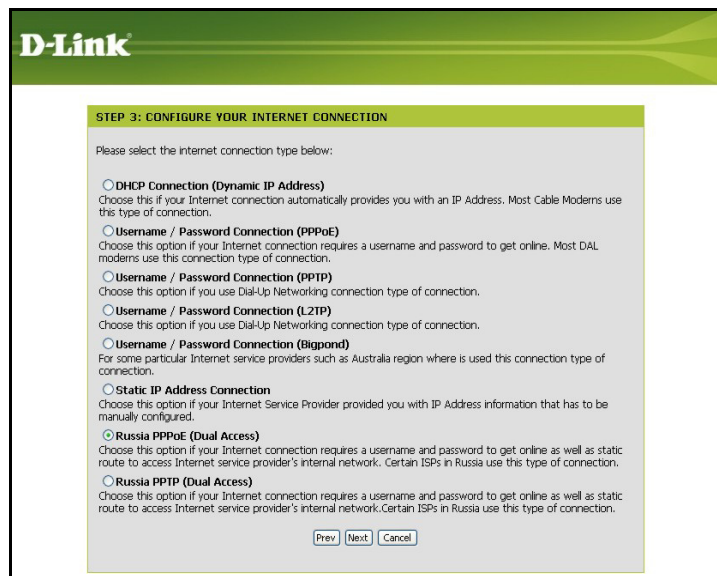
Setup Wizard – Step 2

Choose the time zone you are in from the pull-down menu and click **Next**. This sets the system time used for the Router. If you wish to return to the previous menu during the setup process, click the **Prev** button.



Setup Wizard – Step 3

Choose the Internet connection type from the list of options presented in the Setup Wizard. Select the connection type appropriate for your service and click the **Next** button.



Setup Wizard – Configure PPPoE Connection

For PPPoE connections, select the **Address Mode** Dynamic IP or Static IP, type in the **Username** and **Password** used to identify and verify your account to the ISP. Retype the password again and if necessary, type a **Service Name** or domain name. For Static IP address mode, type the IP Address assigned to your account. Your ISP should provide this IP address along with other account information. Click **Next** to continue.

PPPoE Setting	Description
User Name	The PPPoE user name used to establish the identity of your ISP account. Typically this is in the form user1234@isp.com - some users may be allowed to select a personalized user name for their account.
Password	Enter the password used to verify the identity of your account. Your ISP may have provided this to you or you might have chosen a personalized password that is easy to remember. The password is case-sensitive, so type the characters exactly as given to you.
Retype Password	Retype the password exactly as entered in the previous field.
Service Name	Enter the Service Name provided by your ISP if necessary (optional).

Setup Wizard – Configure Russia PPPoE Connection

For PPPoE connections, select the **Address Mode** Dynamic IP or Static IP, type in the **Username** and **Password** used to identify and verify your account to the ISP. Retype the password again and if necessary, type a **Service Name** or domain name. For Static IP address mode, type the IP Address assigned to your account. Your ISP should provide this IP address along with other account information. An additional set of IP settings might be required to create a static route to the ISP. Enter the WAN IP settings used to create this route (as given by the ISP) and click **Next** to continue.

D-Link

SET USERNAME AND PASSWORD CONNECTION (RUSSIA PPPoE DUAL ACCESS)

To set up this connection you will need to have a Username and Password from your Internet Service Provider. If you do not have this information, please contact your ISP.

Address Mode: Dynamic PPPoE Static PPPoE

IP Address:

User Name:

Password:

Retype Password:

Service Name: (optional)

Note: You may also need to provide a Service Name. If you do not have or know this information, please contact your ISP.

WAN Physical Setting:

DHCP Mode Static IP

IP Address:

Subnet Mask:

Gateway:

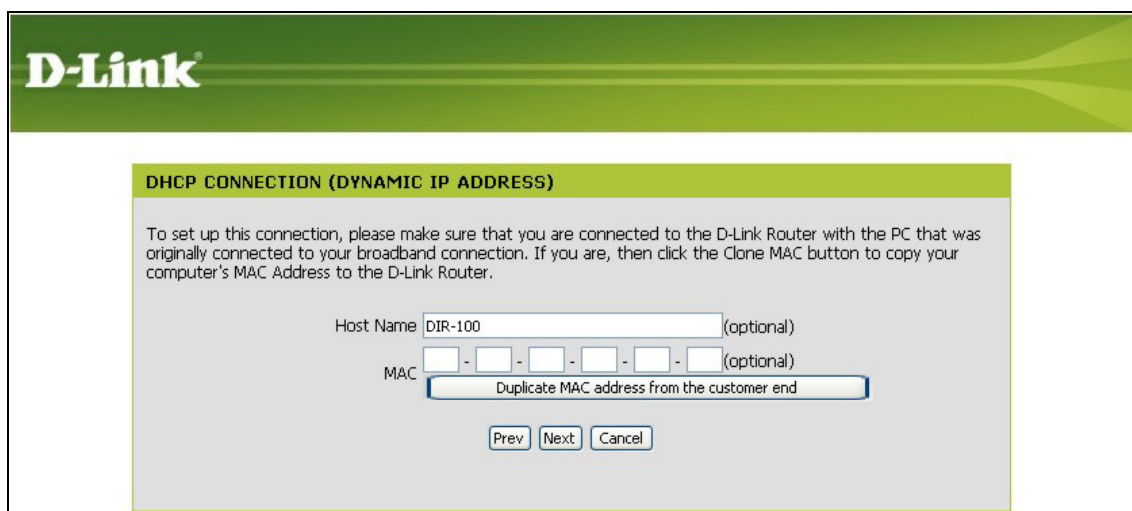
Primary DNS Address:

Second DNS Address: (optional)

PPPoE Setting	Description
User Name	The PPPoE user name used to establish the identity of your ISP account. Typically this is in the form user1234@isp.com.ru - some users may be allowed to select a personalized user name for their account.
Password	Enter the password used to verify the identity of your account. Your ISP may have provided this to you or you might have chosen a personalized password that is easy to remember. The password is case-sensitive, so type the characters exactly as given to you.
Retype Password	Retype the password exactly as entered in the previous field.
Service Name	Enter the Service Name provided by your ISP if necessary (optional).
WAN Physical Settings	Some PPPoE connections use a static route to the ISP. This requires that an additional set of IP settings be defined for the WAN port. Configure these settings as instructed by the ISP.

Setup Wizard – Configure Dynamic IP Address Connection

For Dynamic IP Address connections, you may want to copy the MAC address of your Ethernet adapter to the Router. Some ISPs use the unique MAC address of your computer’s Ethernet adapter for identification and for IP address assignment (DHCP) 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, click the **Clone MAC Address** button. Click **Next** to continue.



DHCP Connection Setting	Description
Host Name	The Host Name is optional but may be required by some ISPs.
MAC	If you clone the MAC address of your computer to the Router, the MAC address will appear here. This will be the MAC address recorded by the ISP’s server when the connection is initiated.
Clone MAC Address	The default MAC address is set to the Internet’s physical interface MAC address on the Broadband Router. You can use the “Clone Your PC’s MAC Address” button to copy the MAC address your computer’s Ethernet Card to the Router.

Setup Wizard – Configure Static IP Address Connection

For Static IP Address connection types, you must type in the **IP Address**, **Subnet Mask**, **Gateway Address**, **Primary DNS Address** and **Secondary DNS Address** (optional). Your ISP should provide this information to you. Click **Next** to continue.

Static IP Connection Setting	Description
WAN IP Address	The public or global IP address provided by your ISP.
WAN Subnet Mask	The Subnet Mask used for the Internet. This should also be provided by your ISP
WAN Gateway Address	The IP address of the gateway router owned by your ISP. Your ISP should provide this IP address.
Primary DNS Address	The primary DNS (Domain Name Server) IP address provided by your ISP
Secondary DNS Address	This is an optional DNS Address entry to be used if the primary DNS Fails.

Setup Wizard – Configure PPTP Client Connection



NOTE: The broadband device used for your Cable or ADSL network connection must support PPTP pass-through so the VPN session can be established.

The Router supports Point-to-Point Tunneling Protocol (PPTP) for the Internet connection. PPTP is also used for Virtual Private Networks (VPN). Some ISPs use PPTP to establish a client-to-server connection to their network, and ultimately to the Internet. If your Internet connection comes through a PPTP client connection to a server owned by your ISP, the IP settings and user account information must be pre-configured on the remote server before network access is granted.

To configure the PPTP client connection, enter the IP and account information for the Router. Your ISP will give this information to you if you are establishing a PPTP connection to the ISP. Click **Next** to continue.

PPTP Connection Setting	Description
My IP Address	Enter the IP address for your DIR-100 based on the information provided to you by your ISP.
Subnet Mask	Enter the Subnet Mask for your DIR-100 based on the information provided to you by your ISP.
Gateway IP Address	Enter the Gateway IP address based on the information provided to you by your ISP.
Server IP Address	Enter the IP address of the ISP server with which your router will be conveying encrypted information. This field is based on information provided to you by your ISP.
PPTP Account	Enter the name of the PPTP account as provided to you by your ISP.
PPTP Password	Enter the PPTP password as provided to you by your ISP.
Retype Password	Retype the password entered in the Password field.

Setup Wizard – Configure L2TP Client Connection



NOTE: The broadband device used for your Cable or ADSL network connection must support L2TP pass-through so the VPN session can be established.

The Router supports Layer 2 Tunneling Protocol (L2TP) for the Internet connection. L2TP is also used for Virtual Private Networks (VPN). Some ISPs use L2TP to establish a client-to-server connection to their network, and ultimately to the Internet. If your Internet connection comes through a L2TP client connection to a server owned by your ISP, the IP settings and user account information must be pre-configured on the remote server before network access is granted.

To configure the L2TP client connection, enter the IP and account information for the Router. Your ISP will give this information to you if you are establishing a L2TP connection to the ISP. Click **Next** to continue.

L2TP Connection Setting	Description
My IP Address	Enter the IP address for your DIR-100 based on the information provided to you by your ISP.
Subnet Mask	Enter the Subnet Mask for your DIR-100 based on the information provided to you by your ISP.
Gateway IP Address	Enter the Gateway IP address based on the information provided to you by your ISP.
Server IP Address	Enter the IP address of the ISP server with which your router will be conveying encrypted information. This field is based on information provided to you by your ISP.
L2TP Account	Enter the name of the L2TP account as provided to you by your ISP.
L2TP Password	Enter the L2TP password as provided to you by your ISP.
Retype Password	Retype the password entered in the Password field.

Setup Wizard – Configure BigPond Connection

BigPond Cable connections use this menu to configure account and connection information. Enter the account information, as provided to you by BigPond. Click **Next** to continue.

BigPond Connection Setting	Description
Auth Server	Enter the name of the Authentication Server as provided to you by BigPond.
User Name	The account name of the account that has been assigned to you by BigPond.
Password	The password of the account that was supplied to you by BigPond.
Confirm Password	Retype the password that was entered in the BigPond Password field. Ensure that these two passwords are identical or an error will occur.

Manual Internet Connection

The Internet connection can be configured manually without using the Setup Wizard. To configure Internet connection settings manually click on the **Manual Internet Connection Setup** button in the Internet Connection menu.

The screenshot displays the D-Link web interface for the DIR-100 router. The top navigation bar includes 'DIR-100', 'SETUP', 'ADVANCED', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar contains menu items: 'INTERNET SETUP', 'LAN SETUP', 'TIME AND DATE', 'PARENTAL CONTROL', and 'LOGOUT'. Below these is a status indicator for 'Internet Offline' and a 'Reboot' button. The main content area is titled 'INTERNET CONNECTION' and contains three sections:

- INTERNET CONNECTION:** A general introduction stating that users should use the Internet Connection Setup Wizard for first-time configuration or manual settings for subsequent changes.
- INTERNET CONNECTION SETUP WIZARD:** A section with a button labeled 'Internet Connection Setup Wizard'. A note below the button reads: 'Note: Before launching the wizard, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.'
- MANUAL INTERNET CONNECTION OPTIONS:** A section with a button labeled 'Manual Internet Connection Setup', intended for users who prefer manual configuration.

 On the right side of the interface, there is a 'Helpful Hints' section with two bullet points:

- If you are new to networking and have never configured a router before, click on **Internet Connection Setup Wizard** and the router will guide you through a few simple steps to get your network up and running.
- If you consider yourself an advanced user and have configured a router before, click **Manual Internet Connection Setup** to input all the settings manually.

In the new menu select the Internet connection type used for your service from the **My Internet Connection** is: pull-down menu. Follow the instructions in the next sections according to the type of Internet connection you want to configure.

Dynamic IP Address

A Dynamic IP Address connection configures the Router to automatically obtain its global IP address from a DHCP server on the ISP's network.

To configure a Dynamic IP Address connection, perform the steps listed below.

SETUP	ADVANCED	MAINTENANCE	STATUS
<p>INTERNET CONNECTION</p> <p>Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider.</p> <p>Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.</p> <p>Save Settings Don't Save Settings</p>			
<p>INTERNET CONNECTION TYPE</p> <p>Choose the mode to be used by the router to connect to the Internet.</p> <p>My Internet Connection is: <input type="text" value="Dynamic IP (DHCP)"/></p>			
<p>DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE</p> <p>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.</p> <p>Host Name: <input type="text" value="DIR-100"/></p> <p>MAC Address: <input type="text" value=" - - - - - (optional)"/> <input type="button" value="Duplicate MAC address from the customer end"/></p> <p>Primary DNS Address: <input type="text" value="0.0.0.0"/></p> <p>Secondary DNS Address: <input type="text" value="0.0.0.0"/> (optional)</p> <p>MTU: <input type="text" value="1500"/></p> <p>Save Settings Don't Save Settings</p>			

Dynamic IP Address connection setup menu

To configure a Dynamic IP Address Internet connection, follow these steps:

1. Select the *Dynamic IP (DHCP)* option from the **My Internet Connection is:** pull-down menu.
2. Under the **Dynamic IP** heading, type a Host Name if needed, and DNS IP address information. The **Primary DNS Address** will be normally be required, the **Secondary DNS Address** is used for a back up DNS server.
3. 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.
4. Leave the **MTU** value at the default setting (default = 1500) unless you have specific reasons to change this (see table below for more information).
5. Click on the Save Settings button to save and apply the new Internet connection settings.

Settings for Dynamic IP Address connections:

Dynamic IP	Description
IP Address	Enter the IP address based on the information provided to you by your ISP.
Subnet Mask	Enter the Subnet Mask based on the information provided to you by your ISP.
ISP Gateway Address	Enter the Default Gateway based on the information provided to you by your ISP.
MAC Address	This field will instruct the user to enter the Media Access Control (MAC) address of the Ethernet Card of your computer, if instructed to do so by your ISP. To quickly accomplish this, click the Duplicate MAC address from the customer end button, which will automatically copy the MAC address of your Ethernet card and enter it into the space provided, which will replace the MAC address of the router.
Primary DNS Address	This entry is for the IP address of your primary domain name server, which should also be provided to you by your ISP. The router will first try the Primary DNS Address to resolve a website's URL IP address. If this IP address fails, the router will then try the Secondary DNS Address .
Secondary DNS Address	The IP address of the secondary domain name server will be used to resolve a website's URL IP address if the Primary DNS Address fails. The information in this field should also be provided by your ISP.
MTU	This field refers to the Maximum Transfer Unit, which is the maximum size of a packet, in bytes, that will be accepted by the router. The default setting is 1500 bytes. This field should not be altered unless instructed by your ISP.

Static IP Address

When the Router is configured to use Static IP Address assignment for the Internet connection, you must manually assign a global IP Address, Subnet Mask, and ISP Default Gateway IP address. Most users will also need to configure DNS server IP settings. Follow the instruction below to configure the Router to use Static IP Address assignment for the Internet connection.

SETUP	ADVANCED	MAINTENANCE	STATUS
INTERNET CONNECTION Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider. Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers. <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			
INTERNET CONNECTION TYPE Choose the mode to be used by the router to connect to the Internet. My Internet Connection is: <input type="text" value="Static IP"/>			
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"/> (assigned by your ISP) Subnet Mask: <input type="text" value="0.0.0.0"/> ISP Gateway Address: <input type="text" value="0.0.0.0"/> MAC Address: <input type="text" value=""/> - <input type="text" value=""/> - <input type="text" value=""/> - <input type="text" value=""/> - <input type="text" value=""/> - <input type="text" value=""/> (optional) <input type="button" value="Duplicate MAC address from the customer end"/> Primary DNS Address: <input type="text" value="0.0.0.0"/> Secondary DNS Address: <input type="text" value="0.0.0.0"/> (optional) MTU: <input type="text" value="1500"/> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			

Static IP Address connection setup menu

To configure a Static IP type Internet connection, follow these steps:

1. Select the *Static IP* option from the **My Internet Connection is:** pull-down menu.
2. Under the **Static IP** heading, type IP address information provided by your ISP, type an **IP Address**, **Subnet Mask** and **ISP Gateway Address**. The **Primary DNS Address** will be normally be required, the **Secondary DNS Address** is used for a back up DNS server.
3. 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.
4. Leave the **MTU** value at the default setting (default = 1500) unless you have specific reasons to change this (see table below for more information).
5. Click on the Save Settings button to save and apply the new Internet connection settings.

Settings for Static IP Address connections:

Static IP	Description
Host Name	This field will require the user to enter the host name of the connection, if instructed by your ISP. If not instructed, the user may leave this field blank or leave the default name of <i>DIR-100</i> as the host name.
MAC Address	This field will instruct the user to enter the Media Access Control (MAC) address of the Ethernet Card of your computer, if instructed to do so by your ISP. To quickly accomplish this, click the Duplicate MAC address from the customer end button, which will automatically copy the MAC address of your Ethernet card and enter it into the space provided, which will replace the MAC address of the router.
Primary DNS Address	This entry is for the IP address of your primary domain name server, which should also be provided to you by your ISP. The router will first try the Primary DNS Address to resolve a website's URL IP address. If this IP address fails, the router will then try the Secondary DNS Address.
Secondary DNS Address	The IP address of the secondary domain name server will be used to resolve a website's URL IP address if the Primary DNS Address fails. The information in this field should also be provided by your ISP.
MTU	This field refers to the Maximum Transfer Unit, which is the maximum size of a packet, in bytes, that will be accepted by the router. The default setting is 1500 bytes. This field should not be altered unless instructed by your ISP.

PPPoE

PPP or Point-to-Point protocol is a standard method of establishing a network connection/session between networked devices. Different forms of PPP include PPPoA and PPPoE (discussed below) involve an authentication process that requires a username and password to gain access to the network. PPPoE (PPP over Ethernet), as described in RFC 2516, is a method of using PPP through the Ethernet network.

To configure the connection for PPPoE, perform the steps listed below. Some of the settings do not need to be changed the first time the device is set up, but can be changed later if you choose. The information that is to be provided in this window must be given to you by your ISP and must be carefully configured. Any small discrepancy will send the wrong message to your ISP's server and inhibit your connection.

There are two ways to configure the PPOE connection on the router, one is for a **Dynamic PPPoE** configuration, which means the router will implement some settings automatically through DHCP, such as the router's IP address and the default gateway. The other is through a **Static PPPoE** connection, in which the user must configure the IP address and the DNS addresses automatically.

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

SETUP	ADVANCED	MAINTENANCE	STATUS
<p>INTERNET CONNECTION</p> <p>Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider.</p> <p>Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.</p> <p>Save Settings Don't Save Settings</p>			
<p>INTERNET CONNECTION TYPE</p> <p>Choose the mode to be used by the router to connect to the Internet.</p> <p>My Internet Connection is: <input type="text" value="PPPoE (Username / Password)"/> ▼</p>			
<p>PPPOE</p> <p>Enter the information provided by your Internet Service Provider (ISP).</p> <p> <input checked="" type="radio"/> Dynamic PPPoE <input type="radio"/> Static PPPoE </p> <p>User Name: <input type="text"/></p> <p>Password: <input type="password" value="•••••"/></p> <p>Confirm Password: <input type="password" value="•••••"/></p> <p>Service Name: <input type="text"/> (optional)</p> <p>IP Address: <input type="text" value="0.0.0.0"/></p> <p>MAC Address: <input type="text" value=" - - - - -"/> (optional)</p> <p style="text-align: center;"><input type="button" value="Duplicate MAC address from the customer end"/></p> <p>Primary DNS Address: <input type="text" value="0.0.0.0"/></p> <p>Secondary DNS Address: <input type="text" value="0.0.0.0"/> (optional)</p> <p>Maximum Idle Time: <input type="text" value="5"/> Minutes</p> <p>MTU: <input type="text" value="1492"/></p> <p>Connect mode select: <input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on demand</p> <p>Save Settings Don't Save Settings</p>			

PPPoE connection setup menu

To configure a PPPoE Internet connection, follow these steps:

1. Select the *PPPoE (Username / Password)* option from the **My Internet Connection is:** pull-down menu.
2. Choose the IP address assignment option (Dynamic PpoE or Static PPPoE). Static IP address assignment requires manual entry of IP settings information.
3. Under the **PPPoE** heading, type the **User Name** and **Password** used for your account. A typical User Name will be in the form user1234@isp.co.ru. 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. Type the password again in **Confirm Password**.
4. For Static PPPoE connections, enter IP settings provided by the ISP and, if necessary enter MAC address (see table below)
5. Leave the **MTU** value at the default setting (default = 1492) unless you have specific reasons to change this (see table below for more information).
6. Choose the desired **Connection Setting**. Select from: Always ON, Connection On Demand, or Manual. Most users will want to choose the default connection setting, Always ON.

Settings for PPPoE connections:

PPPoE	Description
User Name	The user name supplied to you by your ISP.
Password	The password supplied to you by your ISP.
Retype Password	Retype the password entered in the Password field.
Service Name	Enter the service name supplied to you by your ISP, if required.
IP Address	Enter the IP address given to you by your ISP. This field is only to be completed if the Static PPPoE button is selected.
MAC Address	This field will instruct the user to enter the Media Access Control (MAC) address of the Ethernet Card of your computer, if instructed to do so by your ISP. To quickly accomplish this, click the Duplicate MAC address from the customer end button, which will automatically copy the MAC address of your Ethernet card and enter it into the space provided, which will replace the MAC address of the router.
Primary DNS Address	This entry is for the IP address of your primary domain name server, which should also be provided to you by your ISP. The router will first try the Primary DNS Address to resolve a website's URL IP address. If this IP address fails, the router will then try the Secondary DNS Address. This field is only to be completed if the Static PPPoE button is selected.
Secondary DNS Address	The IP address of the secondary domain name server will be used to resolve a website's URL IP address if the Primary DNS Address fails. The information in this field should also be provided by your ISP and is only to be completed if the Static PPPoE button is selected.
Maximum Idle Time	A value of 0 means that the PPP connection will remain connected. If your network account is billed according to the amount of time the Router is actually connected to the Internet, enter an appropriate Idle Time value (in seconds). This will disconnect the Router after the WAN connection has been idle for the amount of time specified. The default value = 5.
MTU	This field refers to the Maximum Transfer Unit, which is the maximum size of a packet, in bytes, that will be accepted by the router. The default setting is 1492 bytes. This field should not be altered unless instructed by your ISP.
Connect Mode Select	This function, with Connect-on-demand selected, will allow the router to connect any workstation on your LAN to the Internet upon request. If this function is set at Always-on , no request from the workstation will be needed to connect to the Internet. If Manual is selected, it will be necessary for the workstation on the LAN to manually connect to the Internet through this router.

PPPoE (Russia)

Some PPPoE connections use a static IP route to the ISP in addition to the global IP settings for the connection. This requires an added step to define IP settings for the physical WAN port.

SETUP	ADVANCED	MAINTENANCE	STATUS
<p>INTERNET CONNECTION</p> <p>Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider.</p> <p>Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.</p> <p>Save Settings Don't Save Settings</p>			
<p>INTERNET CONNECTION TYPE</p> <p>Choose the mode to be used by the router to connect to the Internet.</p> <p>My Internet Connection is: <input type="text" value="Russia PPPoE(Dual Access)"/> ▼</p>			
<p>RUSSIA PPPOE(DUAL ACCESS)</p> <p>Enter the information provided by your Internet Service Provider (ISP).</p> <p> <input checked="" type="radio"/> Dynamic PPPoE <input type="radio"/> Static PPPoE </p> <p>User Name: <input type="text"/></p> <p>Password: <input type="password" value="••••••"/></p> <p>Confirm Password: <input type="password" value="••••••"/></p> <p>Service Name: <input type="text"/> (optional)</p> <p>IP Address: <input type="text" value="0.0.0.0"/></p> <p>MAC Address: <input type="text" value=" - - - - -"/> (optional)</p> <p style="text-align: center;"><input type="button" value="Duplicate MAC address from the customer end"/></p> <p>Primary DNS Address: <input type="text" value="0.0.0.0"/></p> <p>Secondary DNS Address: <input type="text" value="0.0.0.0"/> (optional)</p> <p>Maximum Idle Time: <input type="text" value="5"/> Minutes</p> <p>MTU: <input type="text" value="1492"/></p> <p>Connect mode select: <input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on demand</p>			
<p>WAN PHYSICAL SETTING</p> <p> <input type="radio"/> Dynamic IP <input type="radio"/> Static IP </p> <p>IP Address: <input type="text"/></p> <p>Subnet Mask: <input type="text"/></p> <p>Gateway: <input type="text"/></p> <p>Primary DNS Address: <input type="text"/></p> <p>Second DNS Address: <input type="text"/> (optional)</p> <p>Save Settings Don't Save Settings</p>			

PPPoE (Russia) connection setup

To configure a PPPoE Russia Internet connection, configure as previously described for PPPoE connections and add the physical WAN IP settings as instructed from the ISP.

PPTP

The **Point to Point Tunneling Protocol** is used to transfer information securely between VPNs (Virtual Private Routers). Encryption methods are employed in the transfer of information between you and your ISP using a key encryption. This option is specific for European users whose ISPs support the PPTP protocol for the uplink connection. To connect to your ISP's server using this protocol, the information in this window must be provided to you by your ISP and then properly implemented.

SETUP	ADVANCED	MAINTENANCE	STATUS
INTERNET CONNECTION Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider. Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers. <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			
INTERNET CONNECTION TYPE Choose the mode to be used by the router to connect to the Internet. My Internet Connection is: <input type="text" value="PPTP (Username / Password)"/>			
PPTP Enter the information provided by your Internet Service Provider (ISP). <input checked="" type="radio"/> Dynamic IP <input type="radio"/> Static IP IP Address: <input type="text" value="0.0.0.0"/> (assigned by your ISP) Subnet Mask: <input type="text" value="255.255.255.0"/> Gateway: <input type="text" value="0.0.0.0"/> Server IP/Name: <input type="text" value="0.0.0.0"/> PPTP Account: <input type="text"/> PPTP Password: <input type="password" value="•••••"/> PPTP Confirm Password: <input type="password" value="•••••"/> Maximum Idle Time: <input type="text" value="5"/> Minutes MTU: <input type="text" value="1460"/> Connect mode select: <input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on demand <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			

PPTP connection setup menu

There are two ways to enable the router to become a PPTP client, one is through assigning the router an IP address dynamically, which means that the DHCP protocol will be implemented by the Router to automatically configure the IP settings. The user may input the IP settings manually by choosing the Static IP option above the configuring area. To configure the router to be a PPTP client, complete the following fields and click the **Save Settings** button.

Settings for PPTP connections:

PPTP	Description
IP Address	Enter the IP address of the router into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Subnet Mask	Enter the IP address of the Subnet Mask into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Gateway	Enter the IP address of the gateway into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
DNS	Enter the IP address of the DNS. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Server IP/Name	Enter the Server IP address for this protocol into this field. This is the IP address of the server computer that will be used, along with your computer, to create the Virtual Private Network. This field must be completed for both the Dynamic IP and Static IP options
PPTP Account	Enter the PPTP account name, provided to you by your ISP, here.
PPTP Password	Enter your password for this PPTP account here, as stated to you by your ISP.
PPTP Retype Password	Retype the password entered in the PPTP Password field.
Maximum Idle Time	A value of 0 in this field means that the PPTP connection will remain connected. If your network account is billed according to the amount of time the Router is actually connected to the Internet, enter an appropriate Idle Time value (in seconds). This will disconnect the Router after the WAN connection has been idle for the amount of time specified. The default value = 5.
MTU	This field refers to the Maximum Transfer Unit, which is the maximum size of a packet, in bytes, that will be accepted by the router. The default setting is 1460 bytes. This field should not be altered unless instructed by your ISP.
Connect Mode Select	This function, with Connect-on-demand selected, will allow the router to connect any workstation on your LAN to the Internet upon request. If this function is set at Always-on , no request from the workstation will be needed to connect to the Internet. If Manual is selected, it will be necessary for the workstation on the LAN to manually connect to the Internet through this router.

PPTP (Russia)

The PPTP Russia setup is identical to the previously described PPTP setup except an option to use a MAC address that will always be associated with the connection. The MAC address is entered manually or copied from the computer.

SETUP	ADVANCED	MAINTENANCE	STATUS
<p>INTERNET CONNECTION</p> <p>Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider.</p> <p>Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.</p> <p>Save Settings Don't Save Settings</p>			
<p>INTERNET CONNECTION TYPE</p> <p>Choose the mode to be used by the router to connect to the Internet.</p> <p>My Internet Connection is: <input type="text" value="Russia PPTP(Dual Access)"/></p>			
<p>RUSSIA PPTP (DUAL ACCESS)</p> <p>Enter the information provided by your Internet Service Provider (ISP).</p> <p> <input checked="" type="radio"/> Dynamic IP <input type="radio"/> Static IP </p> <p>IP Address: <input type="text" value="0.0.0.0"/> (assigned by your ISP)</p> <p>Subnet Mask: <input type="text" value="255.255.255.0"/></p> <p>Gateway: <input type="text" value="0.0.0.0"/></p> <p>DNS: <input type="text"/></p> <p>MAC Address: <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> - <input type="text"/> (optional)</p> <p style="text-align: center;"><input type="button" value="Duplicate MAC address from the customer end"/></p> <p>Server IP/Name: <input type="text" value="0.0.0.0"/></p> <p>PPTP Account: <input type="text"/></p> <p>PPTP Password: <input type="password" value="•••••"/></p> <p>PPTP Confirm Password: <input type="password" value="•••••"/></p> <p>Maximum Idle Time: <input type="text" value="5"/> Minutes</p> <p>MTU: <input type="text" value="1460"/></p> <p>Connect mode select: <input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on demand</p> <p>Save Settings Don't Save Settings</p>			

PPTP (Russia) connection setup menu

To configure a PPTP Russia Internet connection, configure as previously described for PPTP connections and type in the MAC address that will be used or clone the computer's MAC address by clicking on the **Duplicate MAC address from the customer end** button.

L2TP

L2PT, or **Layer 2 Tunneling Protocol** is a VPN protocol that will ensure a direct connection to the server using an authentication process that guarantees the data originated from the claimed sender and was not damaged or altered in transit. Once connected to the VPN tunnel, it seems to the user that the client computer is directly connected to the internal network. To set up your L2PT connection, enter the following data that was provided to you by your ISP.

SETUP	ADVANCED	MAINTENANCE	STATUS
<p>INTERNET CONNECTION</p> <p>Use this section to configure your Internet Connection type. There are several connection types to choose from: Static IP, DHCP, PPPoE, PPTP, L2TP, and BigPond. If you are unsure of your connection method, please contact your Internet Service Provider.</p> <p>Note: If using the PPPoE option, you will need to remove or disable any PPPoE client software on your computers.</p> <p>Save Settings Don't Save Settings</p>			
<p>INTERNET CONNECTION TYPE</p> <p>Choose the mode to be used by the router to connect to the Internet.</p> <p>My Internet Connection is: <input type="text" value="L2TP (Username / Password)"/> ▼</p>			
<p>L2TP</p> <p>Enter the information provided by your Internet Service Provider (ISP).</p> <p> <input checked="" type="radio"/> Dynamic IP <input type="radio"/> Static IP </p> <p>IP Address: <input type="text" value="0.0.0.0"/> (assigned by your ISP)</p> <p>Subnet Mask: <input type="text" value="255.255.255.0"/></p> <p>Gateway: <input type="text" value="0.0.0.0"/></p> <p>Server IP/Name: <input type="text" value="0.0.0.0"/></p> <p>L2TP Account: <input type="text"/></p> <p>L2TP Password: <input type="password" value="•••••"/></p> <p>L2TP Confirm Password: <input type="password" value="•••••"/></p> <p>Maximum Idle Time: <input type="text" value="5"/> Minutes</p> <p>MTU: <input type="text" value="1460"/></p> <p>Connect mode select: <input checked="" type="radio"/> Always-on <input type="radio"/> Manual <input type="radio"/> Connect-on demand</p> <p>Save Settings Don't Save Settings</p>			

L2TP connection setup menu

There are two ways to enable the router to become a L2TP client, one is through assigning the router an IP address dynamically, which means that the DHCP protocol will be implemented by the Router to automatically configure the IP settings. The user may input the IP settings manually by choosing the Static IP option above the configuring area. To configure the router to be a L2TP client, complete the following fields and click the **Save Settings** button.

Settings for L2TP connections:

L2TP	Description
IP Address	Enter the IP address of the router into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Subnet Mask	Enter the IP address of the Subnet Mask into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Gateway	Enter the IP address of the gateway into this field. This address must be supplied to you by your ISP. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
DNS	Enter the IP address of the DNS. This field will not be necessary to configure if the Dynamic IP option is chosen above the configuring field.
Server IP/Name	Enter the Server IP address for this protocol into this field. This is the IP address of the server computer that will be used, along with your computer, to create the Virtual Private Network. This field must be completed for both the Dynamic IP and Static IP options
L2TP Account	Enter the L2TP account name, provided to you by your ISP, here.
L2TP Password	Enter your password for this L2TP account here, as stated to you by your ISP.
L2TP Retype Password	Retype the password entered in the L2TP Password field.
Maximum Idle Time	A value of 0 in this field means that the L2TP connection will remain connected. If your network account is billed according to the amount of time the Router is actually connected to the Internet, enter an appropriate Idle Time value (in seconds). This will disconnect the Router after the WAN connection has been idle for the amount of time specified. The default value = 5.
MTU	This field refers to the Maximum Transfer Unit, which is the maximum size of a packet, in bytes, that will be accepted by the router. The default setting is 1460 bytes. This field should not be altered unless instructed by your ISP.
Connect Mode Select	This function, with Connect-on-demand selected, will allow the router to connect any workstation on your LAN to the Internet upon request. If this function is set at Always-on , no request from the workstation will be needed to connect to the Internet. If Manual is selected, it will be necessary for the workstation on the LAN to manually connect to the Internet through this router.

BigPond (Australia)

This selection is for users having BigPond Cable as their ISP. Enter the following information, as provided to you by your ISP.

The screenshot shows the 'INTERNET CONNECTION' configuration window. At the top, there are tabs for 'SETUP', 'ADVANCED', 'MAINTENANCE', and 'STATUS'. The 'INTERNET CONNECTION' section is highlighted in green. Below this, there is a text box explaining the connection types and a note about PPPoE. Two buttons, 'Save Settings' and 'Don't Save Settings', are present. The 'INTERNET CONNECTION TYPE' section has a dropdown menu set to 'BigPond(Australia)'. The 'BIGPOND' section contains several input fields: 'User Name', 'Password', 'Confirm Password', 'Auth Server' (set to 'sm-server'), 'Login Server IP/Name' (set to 'DIR-100'), and 'MAC Address'. A button labeled 'Duplicate MAC address from the customer end' is located below the MAC Address field. At the bottom, there are 'Save Settings' and 'Don't Save Settings' buttons.

Internet Connection window for BigPond (Australia)

L2TP	Description
User Name	The user name supplied to you by your ISP.
Password	The password supplied to you by your ISP.
Retype Password	Retype the password entered in the Password field.
Auth Server	Toggle the Authentication Server between <i>sm-server</i> and <i>dce-server</i> .
Login Server IP/Name	Enter the IP address given to you by your ISP. This field is optional.
MAC Address	This field requires the user to enter the Media Access Control (MAC) address of the Ethernet Card of your computer, if instructed to do so by your ISP. To quickly accomplish this, click the Duplicate MAC address from the customer end button, which will automatically copy the MAC address of your Ethernet card and enter it into the space provided, which will replace the MAC address of the router.

LAN Setup

Use this window to configure Router LAN IP Settings and DHCP Server Settings. When you are finished, click the **Save Settings** button at the top of the window.

SETUP	ADVANCED	MAINTENANCE	STATUS																				
<p>NETWORK SETTING</p> <p>Use this section to configure the internal network settings of your router and also to configure the built-in DHCP server to assign IP address to the computers on your network. The IP address that is configured here is the IP address that you use to access the Web-based management interface. If you change the IP address here, you may need to adjust your PC's network settings to access the network again.</p> <p>Please Note that this section is optional and you do not need to change any of the settings here to get your network up and running.</p> <p>Save Settings Don't Save Settings</p>																							
<p>ROUTER SETTINGS</p> <p>Use this section to configure the internal network settings of your router. The IP address that is configured here is the IP address that you use to access the Web-based management interface. If you change the IP address here, you may need to adjust your PC's network settings to access the network again.</p> <p>Router IP Address: <input type="text" value="192.168.0.1"/></p> <p>Default Subnet Mask: <input type="text" value="255.255.255.0"/></p> <p>Local Domain Name: <input type="text"/></p> <p>Enable DNS Relay: <input checked="" type="checkbox"/></p>																							
<p>DHCP SERVER SETTINGS</p> <p>Use this section to configure the built-in DHCP server to assign IP address to the computers on your network.</p> <p>Enable DHCP Server: <input checked="" type="checkbox"/></p> <p>DHCP IP Address Range: <input type="text" value="100"/> to <input type="text" value="199"/> (addresses within the LAN subnet)</p> <p>DHCP Lease Time: <input type="text" value="10080"/> (minutes)</p>																							
<p>DHCP CLIENT LIST</p> <table border="1"> <thead> <tr> <th>Host Name</th> <th>IP Address</th> <th>MAC Address</th> <th>Expired Time</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Host Name	IP Address	MAC Address	Expired Time																
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<p>25 - DHCP RESERVATION</p> <p>Remaining number of clients stat can be configured : 25</p> <table border="1"> <thead> <tr> <th></th> <th>Host Name</th> <th>IP Address</th> <th>MAC Address</th> <th></th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><< Computer Name <input type="text"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><< Computer Name <input type="text"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> <td><< Computer Name <input type="text"/></td> </tr> </tbody> </table>					Host Name	IP Address	MAC Address		<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<< Computer Name <input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<< Computer Name <input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<< Computer Name <input type="text"/>
	Host Name	IP Address	MAC Address																				
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<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<< Computer Name <input type="text"/>																			

Network IP Settings menu

Router Settings

This section is used to configure the internal network settings of the Router. This IP address is private to your internal network and cannot be seen on the Internet. The default **Router IP Address** is 192.168.0.1 and the **Default Subnet Mask** is 255.255.255.0. The **Local Domain Name** is for the local Domain set on your network, if you have given it a name previously. This field is for your personal use and unnecessary for proper configuration of this window.

In addition, the Router can be configured to relay DNS from your ISP or another available service to workstations on your LAN. When **Enable DNS Relay** is checked, the Router will accept DNS requests from hosts on the LAN and forward them to the ISP (or alternative) DNS servers. Alternatively, you may also disable the DNS relay and configure hosts on your LAN to use DNS servers directly. Most users who are using the Router for DHCP service on the LAN and are using DNS servers on the ISP's network, will leave DNS relay enabled.

DHCP Server Settings

Dynamic Host Configuration Protocol (DHCP) allows the gateway to automatically obtain the IP address from a DHCP server on the service provider's network. The service provider assigns a global IP address from a pool of addresses available to the service provider. Typically the IP address assigned has a long lease time, so it will likely be the same address each time the Router requests an IP address. If DHCP is not enabled on the Router, it is necessary for the user to assign a static IP address to each computer on your LAN.

To set up DHCP for your LAN, first enable the Router as a DHCP server by clicking the **Enable DHCP Server** radio button in the window above. The next step is to set a range of IP addresses that you wish to allot to the devices on your LAN by entering a starting and ending number of addresses within the LAN subnet in the **DHCP IP Address Range**. This may be in a range from 2 to 254 (192.168.0.2 – 192.168.0.254). Computers on your LAN will have an IP address within this range then automatically assigned to them. Finally, choose the **DHCP Lease Time**, which is the time the Server will set for devices using DHCP to re-request an IP Address. Clients authorized for DHCP will be listed in the Dynamic DHCP Client List near the bottom of the window. Click **Save Settings** to implement information set in this table. The DHCP Server is enabled by default.

DHCP may also be statically configured as well. This method allows the router to assign the same IP address information to a specific computer on the network, defined by its MAC address. This computer will get the same DHCP implemented IP address information every time the computer is turned on and this IP address will be specific to that computer's IP address on the local network. No other computer can be assigned this address. This is useful for computers on the LAN that are hosting applications such as HTTP or FTP. First, the user must enter the **Host Name** and the **IP Address** for that computer in the spaces provided. Next, the user must enter the **MAC Address** of the computer in the space provided. Click **Save Settings** to implement these static settings.

Time and Date

The system time is the time used by the DIR-100 for scheduling services. You can configure, update, and maintain the time on the internal system clock.

SETUP	ADVANCED	MAINTENANCE	STATUS
TIME AND DATE The Time and Date Configuration option allows you to configure, update, and maintain the correct time on the internal system clock. From this section you can set the time zone that you are in and set the NTP (Network Time Protocol) Server. Daylight Saving can also be configured to adjust the time when needed. <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			
TIME AND DATE CONFIGURATION Time: 2007/7/24 14:31:12 Time Zone: (GMT+03:00) Moscow, St. Petersburg <input type="button" value="v"/> Enable Daylight Saving: <input type="checkbox"/> <input type="button" value="Sync your computer's time settings"/>			
AUTOMATIC TIME AND DATE CONFIGURATION <input checked="" type="checkbox"/> Automatically synchronize with D-Link's Internet time server NTP Server Used: <input type="text" value="ntp1.dlink.com"/> <input type="button" value="Update Now"/>			
SET THE TIME AND DATE MANUALLY Year: <input type="text" value="2007"/> <input type="button" value="v"/> Month: <input type="text" value="July"/> <input type="button" value="v"/> Day: <input type="text" value="24"/> <input type="button" value="v"/> Hour: <input type="text" value="14"/> <input type="button" value="v"/> Minute: <input type="text" value="30"/> <input type="button" value="v"/> Second: <input type="text" value="59"/> <input type="button" value="v"/>			
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			

Time and Date settings menu

To configure system time on the Router, select the method used to maintain time. The options available include the default **Automatically synchronize with D-Link's Internet time server using** Simple Network Time Protocol (SNTP), to use your computer's system clock, deselect the Automatic option and click the **Sync. your computer's time settings** button. Time can be set manually using the manual pull-down menus at the bottom of the menu. Click on the **Save Settings** button to save and apply the new time configuration.

Parental Control

Use this menu to deny access to specified websites and to set Internet access time periods.

SETUP	ADVANCED	MAINTENANCE	STATUS																								
PARENTAL CONTROL RULES																											
<p>Parental Control provides the useful tools for restricting Internet access. Website URL allows you to quickly create a list of all web sites that you wish to allow or deny users from accessing. Schedule allows you to control when clients or PCs connected to Router are allowed to access the Internet.</p> <p> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p>																											
25 - PARENTAL CONTROL RULES																											
<p>Configure Parental Control below:</p> <p>Turn Parental Control OFF <input type="button" value="v"/></p> <p>Remaining number of rules that can be created : 25</p> <table border="1"> <thead> <tr> <th>Website URL</th> <th>Schedule</th> </tr> </thead> <tbody> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> <tr> <td><input type="text"/></td> <td>Always On <input type="button" value="v"/> <input type="button" value="Add New"/></td> </tr> </tbody> </table>				Website URL	Schedule	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>	<input type="text"/>	Always On <input type="button" value="v"/> <input type="button" value="Add New"/>
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Parental Control rules setting menu

URL or Uniform Resource Locator is a specially formatted text string that uniquely defines an Internet website. This menu will allow users to block computers on the LAN from accessing certain URLs.

To configure this menu for URL blocking, enter the website's address into the **Website URL** field, select the desired **Schedule** and click the **Add New** button for that entry. Schedules can be created using the Schedules menu in the Maintenance directory. Click on the **Save Settings** button to save and apply the new web access control configuration.

Advanced

The **Advanced** directory tab offers seven configuration menus, **Port Forwarding**, **Application Rules**, **Access Control**, **Firewall & DMZ**, **Advanced Network**, and **Routing**. Click the corresponding link in the left panel of the window. Port Forwarding is the first menu listed and the first to appear when accessing the Advanced directory.

The screenshot shows the D-Link DIR-100 Advanced Port Forwarding Rules configuration page. The navigation menu on the left includes: PORT FORWARDING, APPLICATION RULES, ACCESS CONTROL, FIREWALL & DMZ, ADVANCED NETWORK, ROUTING, and LOGOUT. The main content area is titled 'ADVANCED PORT FORWARDING RULES' and contains a table for adding rules. The table has columns for Name, IP Address, Application Name, Computer Name, Public Port, Private Port, and Traffic Type. There are four rows of rule configuration forms. A 'Reboot' button is visible in the left sidebar. A 'Helpful Hints' section on the right provides instructions on using the Application Name and Computer Name dropdown menus.

Advanced menu links – Port Forwarding menu

Click on the menu link in the Advanced directory to view the configuration menu. The table below summarizes the function of the menus located in the Advanced directory.

Menu	Function
Port Forwarding	Configuration of single port forwarding rules to the LAN.
Application Rules	Configuration of multiple port and outgoing “trigger” port forwarding rules for the LAN.
Access Control	Allow or deny access to specific MAC addresses.
Firewall & DMZ	Firewall rules are used to block specific ports, DMZ is used to assign an IP address that is not protected by the firewall and thus visible on the outside public network.
Advanced Network	Enable or disable UpnP and incoming Ping requests on the WAN port, configure WAN port line speed.
Routing	Setup static routing.

Port Forwarding

The Advanced Port Forwarding menu allows configuration for remote users access to various services outside of their LAN through a public IP address, such as FTP (File Transfer Protocol) or HTTPS (Secure Web). After configuring the Router for these features, the Router will redirect these external services to an appropriate server on the users LAN. The Router has 13 pre-configured external services already set, or manually set the port or prt range used for the rules.

ADVANCED PORT FORWARDING RULES

The Advanced Port Forwarding option allow you to define a single public port on your router for redirection to an internal LAN IP Address and Private LAN port if required. This feature is useful for hosting online service such as FTP or Web Servers.

Save Settings Don't Save Settings

25 - ADVANCED PORT FORWARDING RULES

Remaining number of rules that can be created : 25

	Name	Application Name	Port	Traffic Type
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public Port <input type="text"/> ~ <input type="text"/>	TCP
	IP Address <input type="text"/>	<< Computer Name	Private Port <input type="text"/> ~ <input type="text"/>	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public Port <input type="text"/> ~ <input type="text"/>	
	IP Address <input type="text"/>	<< Computer Name	Private Port <input type="text"/> ~ <input type="text"/>	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public Port <input type="text"/> ~ <input type="text"/>	
	IP Address <input type="text"/>	<< Computer Name	Private Port <input type="text"/> ~ <input type="text"/>	
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Public Port <input type="text"/> ~ <input type="text"/>	

Advanced Port Forwarding menu

To enable an already existing Port Forwarding Rule, click on its corresponding checkbox and configure the appropriate fields listed below. To configure other Port Forwarding Rules for the Router, use the pull-down menus to select the computer or specify an IP address, type the port or port range or select an application from the pull-down menu, select the traffic type and click the **Save Settings** button at the top of the window.

The preset Port Forwarding Rules listed in the Application pull-down menu are:

- FTP – File Transfer Protocol, used to transfer large files over the Internet
- HTTP – HyperText Transfer Protocol, the basic protocol of the World Wide Web
- HTTPS – HyperText Transfer Protocol Secure, the basic protocol of the World Wide Web with added security provided by the Secure Shell feature (SSH)
- DNS – Domain Name Server, a server that translates website addresses into IP addresses
- SMTP – Simple Mail Transfer Protocol, used to transmit e-mail messages between parties
- POP3 – Post Office Protocol version 3, used to retrieve e-mail from a mail server
- Telnet – A terminal emulation program used for remote configuration
- IP Sec – IP Security, used for a secure transfer of information over the network. If one end of the transmission is using IPSec, so must the other end
- PPTP – Point to Point Tunneling Protocol, used to transfer information securely between VPNs (Virtual Private Routers)
- NetMeeting – An application that allows teleconferences over the Internet
- DCS-1000 – A D-Link internet camera used for security monitoring
- DCS-2000/DCS-5300 – A D-Link internet camera used for security monitoring
- 2eye – A D-Link Broadband VideoPhone used for video conferencing

These external services may be modified by clicking the corresponding checkbox. Though there are seven fields available to configure the Port Forwarding Rules, in most cases, only the IP address will be needed for implementation. For more information on configuring Port Forwarding Rules, also known as Virtual Servers, see the window below, along with a brief explanation of the fields to be configured.

Application Rules

Use the Application Rules menu to configure applications that require multiple connections, such as Internet Telephony, video conferencing, and Internet gaming. The following window lists six Special Applications that commonly use more than one connection. To configure one of these applications, tick its corresponding checkbox and then modify the fields listed below the following figure. The user may add a new application by modifying the fields listed and then clicking the **Save Settings** button at the top of the window.

	Application Rules	Special Application Lists	Port	Traffic Type
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Trigger <input type="text"/> Firewall <input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Trigger <input type="text"/> Firewall <input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Trigger <input type="text"/> Firewall <input type="text"/>	<input type="text"/>
<input type="checkbox"/>	<input type="text"/>	<< Application Name	Trigger <input type="text"/> Firewall <input type="text"/>	<input type="text"/>

Application Rules menu

To enable an already existing Application Rule, click on its corresponding checkbox. To configure other Application Rules for the Router, type the port or port range or select an application from the pull-down menu, type a name for the rule and select the traffic type and click the **Save Settings** button at the top of the window.

The Application Rules listed in the Application pull-down menu are:

- Battle.net
- Dialpad
- ICU II
- MSN Gaming Zone
- PC-to-Phone
- Quick Time 4

Access Control

Access Control, or MAC filtering, is a basic security measure that should be used on any network that is exposed to a security risk. A packet filter system examines data packets and scrutinizes them in order to control network access. Filtering rules determine whether packets are passed through the Router from either side of the gateway. The rules are created and controlled by the network administrator and can be precisely defined. These rules are used to block access to the LAN from outside the network and/or to deny access to the WAN from within the network.

MAC FILTERING

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

Save Settings Don't Save Settings

25 - MAC FILTERING RULES

Configure MAC Filtering below:

Turn MAC Filtering OFF

Remaining number of rules that can be created : 25

MAC Address		DHCP Client List	Schedule		
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear
<input type="text"/>	<<	Computer Name	Always On	Add New	Clear

MAC Filtering menu

MAC Filters

All computers are uniquely identified by their MAC (Media Access Control) address. The following window will allow users to deny computers access to the Internet or only allow certain computers access to the Internet, based on their MAC address. To access this window, click the **Advanced** tab along the top of the configuration window, then the **Access Control** tab to the left hand side.

To configure MAC filters, manually enter a MAC address to be filtered by ticking its corresponding checkbox and then configuring the desired fields on the window above. Select *Turn MAC Filtering OFF*, *Turn MAC Filtering ON and ALLOW computers listed to access the network*, and *Turn MAC Filtering ON and DENY computers listed to access the network* from the drop-down menu. When you are finished, click the **Save Settings** button at the top of the window.

Firewall & DMZ

The Firewall & DMZ menu is used to define enforce specific predefined policies intended to protect against certain common types of attacks.

A DoS "denial-of-service" attack is characterized by an explicit attempt by attackers to prevent legitimate users of a service from using that service. Examples include: attempts to "flood" a network, thereby preventing legitimate network traffic, attempts to disrupt connections between two machines, thereby preventing access to a service, attempts to prevent a particular individual from accessing a service, or, attempts to disrupt service to a specific system or person. To enable this function, tick the **Enable DoS Prevention** checkbox.

Firewall Rules

To configure rules for the firewall, modify the following fields and click the **Save Settings** button at the top of the window to set the rule in the Routers memory. Newly configured firewall rules will be displayed in the **Firewall Rules List** at the bottom of the window.

SETUP	ADVANCED	MAINTENANCE	STATUS
FIREWALL & DMZ SETTINGS			
<p>Firewall rules can be used to allow or deny traffic passing through the router. You can specify a single port by utilizing the input box on the top or a range of ports by utilizing both input boxes.</p> <p>DMZ means "Demilitarized Zone". DMZ allows computers behind the router firewall to be accessible to Internet traffic. Typically, your DMZ would contains Web servers, FTP servers and others.</p> <p style="text-align: center;"> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </p>			
FIREWALL SETTING			
Enable DoS Prevention : <input checked="" type="checkbox"/>			
DMZ HOST			
<p>The DMZ (Demilitarized Zone) option provides you with an option to 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.</p> <p>Note: Putting a computer in the DMZ may expose that computer to a variety of security risks. Use of this option is only recommended as a last resort.</p> <p>Enable DMZ Host : <input type="checkbox"/></p> <p>DMZ IP Address : <input type="text"/> << <input type="button" value="Computer Name"/> <></p>			
FIREWALL RULES			
Remaining number of rules that can be created : 50			
	Interface	IP Address	Schedule
<input type="checkbox"/>	Name <input type="text"/>	Source <input type="text"/>	Protocol All
	Dest <input type="text"/>	Port Range <input type="text"/>	Always On <input type="button" value="Add New Schedule"/>
<input type="checkbox"/>	Name <input type="text"/>	Source <input type="text"/>	Protocol All
	Dest <input type="text"/>	Port Range <input type="text"/>	Always On <input type="button" value="Add New Schedule"/>

Firewall & DMZ menu

DMZ Host

Firewalls may conflict with certain interactive applications such as video conferencing or playing Internet video games. For these applications, a firewall bypass can be set up using a DMZ IP address. The DMZ IP address is a “visible” address and does not benefit from the full protection of the firewall function. Therefore it is advisable that other security precautions be enabled to protect the other computers and devices on the LAN. It may be wise to use isolate the device with the DMZ IP address from the rest of the LAN.

For example, if you want to use video conferencing and still use a firewall, you can use the DMZ IP address function. In this case, you must have a PC or server through which video conferencing will take place. The IP address of this PC or server will then be the DMZ IP address. You can designate the server’s IP address as the DMZ by typing in the IP address in the **DMZ IP Address** space provided and then enabling its status by ticking the **Enable DMZ Host** checkbox. Click the **Save Settings** button at the top of the window when you are finished.

Advanced Network

The Advanced Network Settings menu is used to disable or enable UpnP, disable Ping responses on the WAN port and change WAN port speed.

SETUP	ADVANCED	MAINTENANCE	STATUS
ADVANCED NETWORK SETTINGS :			
These options are for users that wish to change the LAN settings. We do not recommend changing these settings from factory default. Changing these settings may affect the behavior of your network.			
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			
UPNP			
Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.			
Enable UPnP: <input checked="" type="checkbox"/>			
WAN PING			
If you enable this feature, the WAN port of your router will respond to ping requests from the Internet that are sent to the WAN IP Address.			
Enable WAN Ping Respond: <input checked="" type="checkbox"/>			
NAT			
If you enable this feature, all Internet traffic will go through NAT functions.			
Enable NAT: <input checked="" type="checkbox"/>			
WAN PORT SPEED			
10/100Mbps Auto <input type="button" value="v"/>			

Advanced Network Settings menu

UPnP

UPnP supports zero-configuration networking and automatic discovery for many types of networked devices. When enabled, it allows other devices that support UPnP to dynamically join a network, obtain an IP address, convey its capabilities, and learn about the presence and capabilities of other devices. DHCP and DNS service can also be used if available on the network. UPnP also allows supported devices to leave a network automatically without adverse effects to the device or other devices on the network.

Diverse networking media including Ethernet, 802.11b/g Wireless, Firmware, phone line and power line networking can support UPnP. To enable UPnP, tick the **Enable UPnP** checkbox.

WAN Ping

This feature allow users to either allow or block a Ping test from outside computers looking to check the connectivity of your device. This is usually attempted by hackers trying to access your router or computer from a remote device on the WAN side of the connection. Tick the **Enable WAN Ping Respond** checkbox to allow WAN pinging of your device.

WAN Port Speed

This section allows the user to set the wire speed over which the router will transmit packets. The user has three options:

- *10Mbps* – Selecting this option from the drop-down menu will set the wire speed at 10 megabytes per second.
- *100Mbps* – Selecting this option from the drop-down menu will set the wire speed at 100 megabytes per second.
- *10/100 Mbps Auto* – Selecting this option from the drop-down menu will allow the wire speed to be automatically set by the Router depending on the wire speed available at any given time.

NAT

Network Address Translation (NAT) can be disabled on the Router. For normal use as a router it is recommended that NAT be left at the default setting, enabled. Some applications might not function well with NAT. Usually this problem can be overcome using port forwarding or DMZ. If NAT is disabled, the Router will only allow a single computer or server to use the Router for Internet access. Without NAT the DIR-100 functions as a simple bridge device.

Routing

Use Static Routing to specify a route used for data traffic within your Ethernet LAN or to route data on the WAN. This is used to specify that all packets destined for a particular network or subnet use a predetermined gateway. Static routing on the WAN is only supported if your WAN connection protocol is not using PPPoE.

SETUP	ADVANCED	MAINTENANCE	STATUS	
ROUTING:				
The Routing option allows you to define fixed routes to defined destinations.				
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>				
50 - STATIC ROUTING				
Remaining number of rules that can be created : 50				
	Interface	Destination	Subnet Mask	Gateway
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			
<input type="checkbox"/>	WAN			

Static Routing menu

To add a static route to a specific destination IP address, choose the **Interface**, enter a **Destination IP** address, select a suitable **Subnet Mask**, and type in the **Gateway IP** address. Click the **Save Settings** button at the top of the menu when you are finished.

Maintenance

The menus of the Maintenance directory include **Device Administration**, **Save and Restore**, **Firmware Update**, **DDNS Setting**, **System Clock**, **Schedules** and **Log Setting**.

The screenshot displays the D-Link DIR-100 web interface. The top navigation bar includes 'DIR-100', 'SETUP', 'ADVANCED', 'MAINTENANCE' (selected), 'STATUS', and 'HELP'. The left sidebar lists menu items: 'DEVICE ADMINISTRATION', 'SAVE AND RESTORE', 'FIRMWARE UPDATE', 'DDNS SETTING', 'SYSTEM CHECK', 'SCHEDULES', 'LOG SETTING', and 'LOGOUT'. Below these is an 'Internet Offline' status indicator and a 'Reboot' button. The main content area is titled 'ADMINISTRATOR SETTINGS' and contains the following text: 'There is no password for this router by default. To help secure your network, we recommend that you should choose a new password.' Below this text are two buttons: 'Save Settings' and 'Don't Save Settings'. The next section is titled 'ADMINISTRATOR (THE DEFAULT LOGIN NAME IS "ADMIN")' and contains three input fields: 'Login Name' (with 'admin' entered), 'New Password' (with six dots), and 'Confirm Password' (with six dots). The final section is 'REMOTE MANAGEMENT', which includes an 'Enable Remote Management' checkbox (unchecked), an 'IP Address' input field (with '0.0.0.0' entered), and a 'Port' dropdown menu (with '8080' selected). On the right side, a 'Helpful Hints' sidebar contains two bullet points: 'For security reasons, it is recommended that you change the Login Name and Password for the Administrator and User accounts. Be sure to write down the new Login Names and Passwords to avoid having to reset the router in the event that they are forgotten.' and 'When enabling Remote Management, you can specify the IP address of the computer on the Internet that you want to have access to your router, or leave it blank to allow access to any computer on the Internet.'

Maintenance menu directory – Administrator Settings menu

Device Administration

The Device Administrator menu is used to change the administrator's login name and password as well as remote management set up. To change the login name or password, enter the new **Login Name** and password into the **New Password** field and repeat the password in the **Confirm Password** field. Click **Save Settings** to set your new password.

This window will also allow the user to enable remote management of the device from a remote computer. To configure this function, click **Enable Remote Management** under the **Remote Management** heading and type IP address of the system used for remote management. Click **Save Settings** to set these configurations into the memory of the Router.

Save And Restore

Current system settings can be saved as a file onto the local hard drive by clicking the **Save** button. The saved file or any other saved setting file can be loaded back on the Router. To reload a system settings file, click on **Browse** to browse the local hard drive and locate the system file to be used. You may also reset the Router back to factory settings by clicking on **Restore Device**.

SETUP	ADVANCED	MAINTENANCE	STATUS
SAVE AND RESTORE SETTINGS			
Once the router is configured you can save the configuration settings to a configuration file on your hard drive. You also have the option to load configuration settings, or restore the factory default settings.			
SAVE AND RESTORE SETTINGS			
Save Settings To Local Hard Drive: <input type="button" value="Save"/>			
Load Settings From Local Hard Drive: <input type="text"/> <input type="button" value="Browse..."/>			
<input type="button" value="Upload Settings"/>			
Restore To Factory Default Settings: <input type="button" value="Restore Device"/>			

Save and Restore menu

Firmware Update

View the version of the currently loaded firmware and update the system firmware with the Firmware Update menu. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to browse the local hard driver and locate the firmware to be used for the update. Please check the D-Link support site for firmware updates at D-Link Technical support website of your country.

SETUP	ADVANCED	MAINTENANCE	STATUS
FIRMWARE UPDATE			
There may be new firmware for your DIR-100 to improve functionality and performance. Click here to check for an upgrade on our support site.			
To upgrade the firmware, locate the upgrade file on the local hard drive with the Browse button. Once you have found the file to be used, click the Save Settings below to start the firmware upgrade.			
CURRENT FIRMWARE INFO			
Current Firmware Version: v2.00B4(EN) Firmware Date: build:1 @ Mon Jul 16 20:02:16 2007			
Check Online Now for Latest Firmware Version <input type="button" value="Check Now"/>			
UPDATE SETTING			
Update: <input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Apply"/>			

Firmware Update

In order to keep pace with changes in standards and technology, the DIR-100 allows you to easily update the embedded firmware. You may obtain the latest version of the DIR-100 firmware by logging onto the D-Link web site at www.dlink.com. If you are connected to the Internet, you can access the D-Link web site by clicking on **Check Now**. The **Firmware Upgrade** window lists the version of the firmware the Router is currently using. If you would like to update, follow the instructions given on the D-Link web site firmware update page to download the new firmware. You can then use the DIR-100 Firmware Upgrade Utility included with the Router to transfer the new firmware to the Router. Once you have downloaded the new firmware to your computer, use the **Browse** button to find where it is located on your computer, or if you know the path of the file, enter it into the space provided. Click **Apply** to begin the download. After the new firmware has been successfully downloaded into your Router, restart the device to let the changes take effect.

Dynamic DNS

The DIR-100 supports DDNS or Dynamic Domain Name Service. Dynamic DNS allows a dynamic public IP address to be associated with a static host name in any of the many domains, allowing access to a specific host from various locations on the Internet. With this function enabled, remote access to a host will be allowed by clicking a URL hyperlink in the following form: *hostname.dydns.org*. Because many ISPs assign public IP addresses using DHCP, it can be difficult to locate a specific host on the LAN using the standard DNS. For example, if you are running a public web server or VPN server on your LAN, DDNS ensures that the host can be located from the Internet if the public IP address changes. DDNS requires that an account be set up with one of the supported DDNS servers.

D-Link offers a free DDNS service. If you are interested in using D-Link's DDNS service, click the hyperlink to www.DlinkDDNS.com to sign up.

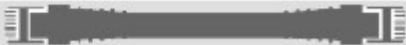
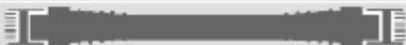



The screenshot shows the 'DYNAMIC DNS' configuration page. At the top, there are four tabs: 'SETUP', 'ADVANCED', 'MAINTENANCE', and 'STATUS'. The 'DYNAMIC DNS' section has a green header and contains the following text: 'The Dynamic DNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter your host name to connect to your game server no matter what your IP address is.' Below this text is a blue hyperlink: 'Sign up for D-Link's Free DDNS service at www.DlinkDDNS.com.' At the bottom of this section are two buttons: 'Save Settings' and 'Don't Save Settings'. The 'DDNS SETTINGS' section has a black header and contains the following fields: 'Enable DDNS:' with an unchecked checkbox; 'Server Address:' with a pull-down menu showing 'DynDns.org'; 'Host Name:', 'Username:', and 'Password:' each with an empty text input field; and a 'DDNS Account Testing' button at the bottom.

Dynamic DNS menu

To implement Dynamic DNS, first tick the **Enable DDNS** checkbox in the window above, then choose the **Server Address** from the list in the pull-down menu. Next, enter the **Host Name** of the LAN to be accessed, and the **Username** and **Password** for the DDNS account. Click the **Save Settings** button to save changes made. Use the **DDNS Account Testing** button to make sure the DDNS service is functioning.

System Check

This menu is used to monitor port performance and connectivity, the menus displayed are **VCT Info** and **Ping Test**.

SETUP	ADVANCED	MAINTENANCE	STATUS
SYSTEM CHECK			
The System Check tool can be used to verify the physical connectivity on both the LAN and WAN interfaces. The Ping Test tool can be used to verify the status of the Internet.			
VCT INFO			
Ports	Link Status		
WAN			Disconnected
LAN1			100Mbps FULL Duplex
LAN2			Disconnected
LAN3			Disconnected
LAN4			Disconnected
PING TEST			
Ping Test is used to send "Ping" packets to test if a computer is on the Internet.			
Host Name or IP Address: <input type="text"/> <input type="button" value="Ping"/>			
PING RESULT			

System Check menu

VCT Info

The Virtual Cable Tester displays the current status of all ports.

Ping Test

The Ping Test section allows you to ping any IP address from the Router to test connectivity to the address. To Ping a device, enter the IP address of the device that you wish to ping into the **Host Name or IP Address** field and click **Ping** to start the Ping mechanism. The results of the Ping will be shown under the **Ping Result** heading.

Schedules

This window is used to create implementation schedules for **Firewall Settings** rules. This is the same menu accessed using the **Make New Schedule** button in the Rules menu of the Firewall Settings page.

SETUP	ADVANCED	MAINTENANCE	STATUS						
SCHEDULES									
The Schedule configuration option is used to manage schedule rules for "Access Control", "Firewall Rules" and "Parental Control".									
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>									
ADD SCHEDULE RULE									
Name: <input type="text"/> Day(s): <input type="checkbox"/> All Week Sun. <input type="button" value="v"/> to Sun. <input type="button" value="v"/> All Day - 24 hrs: <input type="checkbox"/> Start Time: 00 <input type="button" value="v"/> : 00 <input type="button" value="v"/> AM <input type="button" value="v"/> End Time: 00 <input type="button" value="v"/> : 00 <input type="button" value="v"/> AM <input type="button" value="v"/>									
SCHEDULE RULES LIST									
<table border="1"> <thead> <tr> <th>Name</th> <th>Day(s)</th> <th>Time Frame</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Name	Day(s)	Time Frame			
Name	Day(s)	Time Frame							

Schedule rule setup menu

Complete the **Add Schedule Rule** settings on the window above and then click the **Save Settings** button at the top of the window.

Log Setting

The system log displays chronological event log data, including System Activity, Debug Information, Attacks, Dropped Packets, and Notice. Check the desired category of Log Type in the bottom half of the window above and then click the **Save** button and follow the prompts to save the file.

SETUP	ADVANCED	MAINTENANCE	STATUS
LOG SETTINGS			
Logs can be saved by sending it to an admin email address.			
<input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>			
SAVE LOG FILE			
Save Log File To Local Hard Drive <input type="button" value="Save"/>			
LOG TYPE			
Log Type	<input checked="" type="checkbox"/>	System Activity	
	<input type="checkbox"/>	Debug Information	
	<input checked="" type="checkbox"/>	Attacks	
	<input type="checkbox"/>	Dropped Packets	
	<input type="checkbox"/>	Notice	

Log Settings menu

Alerts can be sent to an email account. Use the Send By Mail settings to configure Email account information. Click the **Send Me Now** button to email alerts to a previously configured email account.

Status

The **Status** directory menus are used to check information about the Router, including **Device Information**, **Log**, **Statistics**, and **Active Session**.

DEVICE INFORMATION

All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.

Firmware Version : v2.00(EN) , build:1 @ Wed Aug 22 13:52:03 2007

LAN

MAC Address: 00:19:5B:D3:C6:ED
IP Address: 192.168.0.1
Subnet Mask: 255.255.255.0
DHCP Server: Enabled

WAN

MAC Address: 00:19:5B:D3:C6:EE
Connection: Dynamic IP Disconnected

IP Address: 0.0.0.0
Subnet Mask: 0.0.0.0
Default Gateway: 0.0.0.0
DNS: 168.95.1.1 0.0.0.0

Status menu directory – Device Information display

Device Information

The Diver Information display is used to view information regarding the settings of the Router, both on the LAN side and WAN side of the connection. The firmware version is also displayed here as well as in the firmware upgrade menu.

Log

The Log displays events occurring within the router by time and date, and also view the source and destination of the event. The user may use the **First Page**, **Last Page**, **Previous** and **Next** buttons to scroll through the log events listed in the window. To clear the log events, click **Clear**.

SETUP	ADVANCED	MAINTENANCE	STATUS																																										
VIEW LOG																																													
View Log displays the activities occurring on the DIR-100.																																													
LOG FILES																																													
<input type="button" value="First Page"/> <input type="button" value="Last Page"/> <input type="button" value="Previous"/> <input type="button" value="Next"/> <input type="button" value="Clear"/> <input type="button" value="Refresh"/> <input type="button" value="Link To Log Settings"/>																																													
page 1 of 20																																													
<table border="1"> <thead> <tr> <th>Time</th> <th>Message</th> </tr> </thead> <tbody> <tr> <td>Jan/1/1970 04:07:05</td> <td>[DHCPD] broadcasting packet to client (NAK)</td> </tr> <tr> <td>Jan/1/1970 04:07:05</td> <td>[DHCPD] sending NAK</td> </tr> <tr> <td>Jan/1/1970 04:07:05</td> <td>[DHCPD] no leases, packet->ciaddr:a190770</td> </tr> <tr> <td>Jan/1/1970 04:07:05</td> <td>[DHCPD] received REQUEST</td> </tr> <tr> <td>Jan/1/1970 04:07:04</td> <td>[DHCPD] Not my server ID</td> </tr> <tr> <td>Jan/1/1970 04:07:04</td> <td>[DHCPD] received REQUEST</td> </tr> <tr> <td>Jan/1/1970 04:07:04</td> <td>[DHCPD] broadcasting packet to client</td> </tr> <tr> <td>Jan/1/1970 04:07:04</td> <td>[DHCPD] sending OFFER of 10.41.44.104</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] mac has been exist!</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] received DISCOVER</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] received RELEASE</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] broadcasting packet to client (NAK)</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] sending NAK</td> </tr> <tr> <td>Jan/1/1970 04:07:03</td> <td>[DHCPD] received REQUEST</td> </tr> <tr> <td>Jan/1/1970 04:06:56</td> <td>[DHCPD] broadcasting packet to client (NAK)</td> </tr> <tr> <td>Jan/1/1970 04:06:56</td> <td>[DHCPD] sending NAK</td> </tr> <tr> <td>Jan/1/1970 04:06:56</td> <td>[DHCPD] no leases, packet->ciaddr:a190770</td> </tr> <tr> <td>Jan/1/1970 04:06:56</td> <td>[DHCPD] received REQUEST</td> </tr> <tr> <td>Jan/1/1970 04:06:52</td> <td>[DHCPD] error on dhcpd_rcv</td> </tr> <tr> <td>Jan/1/1970 04:06:52</td> <td>[DHCPD] broadcasting packet to client</td> </tr> </tbody> </table>				Time	Message	Jan/1/1970 04:07:05	[DHCPD] broadcasting packet to client (NAK)	Jan/1/1970 04:07:05	[DHCPD] sending NAK	Jan/1/1970 04:07:05	[DHCPD] no leases, packet->ciaddr:a190770	Jan/1/1970 04:07:05	[DHCPD] received REQUEST	Jan/1/1970 04:07:04	[DHCPD] Not my server ID	Jan/1/1970 04:07:04	[DHCPD] received REQUEST	Jan/1/1970 04:07:04	[DHCPD] broadcasting packet to client	Jan/1/1970 04:07:04	[DHCPD] sending OFFER of 10.41.44.104	Jan/1/1970 04:07:03	[DHCPD] mac has been exist!	Jan/1/1970 04:07:03	[DHCPD] received DISCOVER	Jan/1/1970 04:07:03	[DHCPD] received RELEASE	Jan/1/1970 04:07:03	[DHCPD] broadcasting packet to client (NAK)	Jan/1/1970 04:07:03	[DHCPD] sending NAK	Jan/1/1970 04:07:03	[DHCPD] received REQUEST	Jan/1/1970 04:06:56	[DHCPD] broadcasting packet to client (NAK)	Jan/1/1970 04:06:56	[DHCPD] sending NAK	Jan/1/1970 04:06:56	[DHCPD] no leases, packet->ciaddr:a190770	Jan/1/1970 04:06:56	[DHCPD] received REQUEST	Jan/1/1970 04:06:52	[DHCPD] error on dhcpd_rcv	Jan/1/1970 04:06:52	[DHCPD] broadcasting packet to client
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View System Log

Click the **Link to Log Settings** button to change what events are displayed in the log.

Statistics

The Statistics displays shows transmitted and received packets occurring on the Router. To refresh the window, click **Refresh**. To restart the packet count, click **Reset**.

SETUP	ADVANCED	MAINTENANCE	STATUS
TRAFFIC STATISTICS :			
Traffic Statistics display Receive and Transmit packets passing through the DIR-100.			
<input type="button" value="Renew"/> <input type="button" value="Reset"/>			
	Receive	Transmit	
WAN	651878 Packets	31451 Packets	
LAN	649447 Packets	29963 Packets	

Traffic Statistics

Active Session

Source and Destination packets passing through the Router are displayed listed by TCP/UDP type in the Active Session display. To refresh the window, click the **Refresh** button.

SETUP	ADVANCED	MAINTENANCE	STATUS
ACTIVE SESSION			
Active Session display Source and Destination packets passing through the DIR-100.			
<input type="button" value="Refresh"/>			
NAPT SESSION			
TCP Session: 0 UDP Session: 0 Total: 0			
NAPT ACTIVE SESSION			
IP Address	TCP Session	UDP Session	

Active Session display



Technical Specifications

Standards

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX Fast Ethernet
- IEEE 802.3 Nway Auto-Negotiation

Device Management

Web-Based – requires at least Microsoft Internet Explorer v5 or later, Netscape Navigator v4 or later, or other Java-enabled browsers.

Media Access Control

CSMA/CD

LEDS

- Power
- Status
- WAN
- Local Network – 10/100

Operating Temperature

32°F to 104°F (0°C to 40°C)

Humidity

95% maximum (non-condensing)

Power Input

External power Supply

DC 5V, 1.2A

Dimensions

- L = 5.83in (148mm)
- W = 4.5in (114mm)
- H = 1.26in (32mm)

Weight

0.51 lbs (230g)

Configuring IP Settings on Your Computer

In order to configure your system to receive IP settings from the Router it must first have the TCP/IP protocol installed. If you have an Ethernet port on your computer, it probably already has TCP/IP protocol installed. If you are using Windows XP the TCP/IP is enabled by default for standard installations. Below is an illustrated example of how to configure a Windows XP system to automatically obtain IP settings from the Router. Following this example is a step-by-step description of the procedures used on the other Windows operating systems to first check if the TCP/IP protocol has been installed; if it is not, instructions are provided for installing it. Once the protocol has been installed you can configure the system to receive IP settings from the Router.

For computers running non-Windows operating systems, follow the instructions for your OS that configure the system to receive an IP address from the Router, that is, configure the system to be a DHCP client.



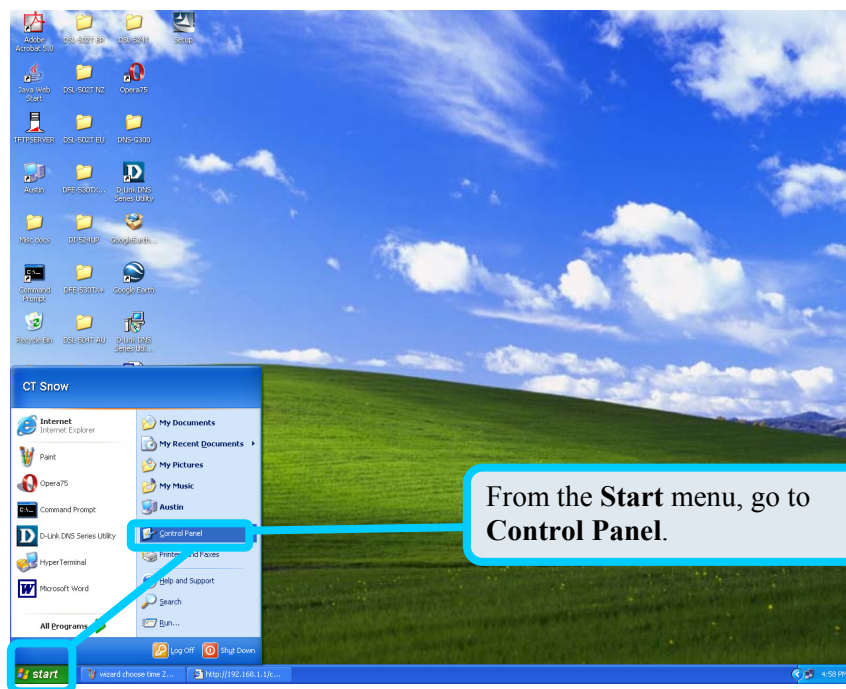
Note

If you are using this Router to provide Internet access for more than one computer, you can use these instructions later to change the IP settings for the other computers. However, you cannot use the same IP address since every computer must have its own IP address that is unique on the local network.

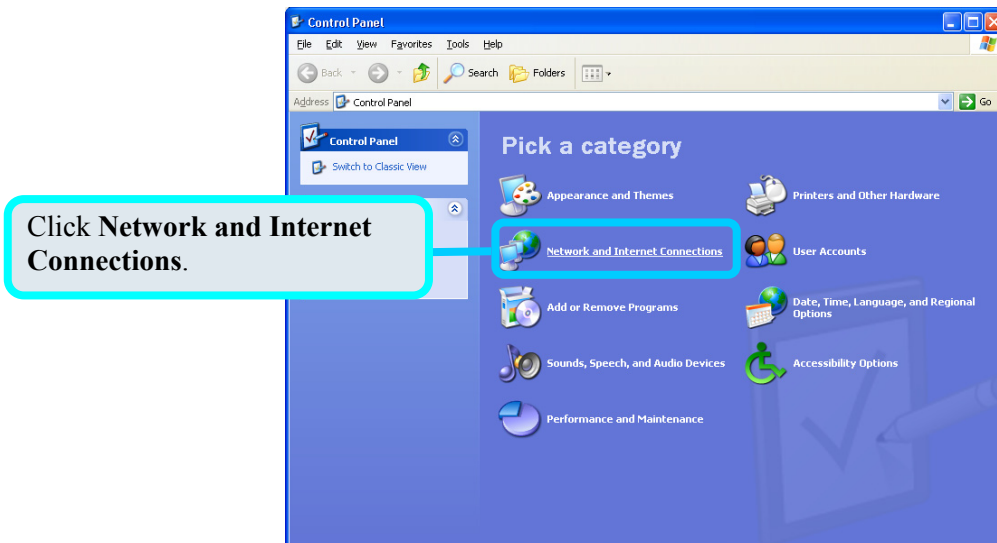
Configure Windows XP for DHCP

Use the following steps to configure a computer running Windows XP to be a DHCP client.

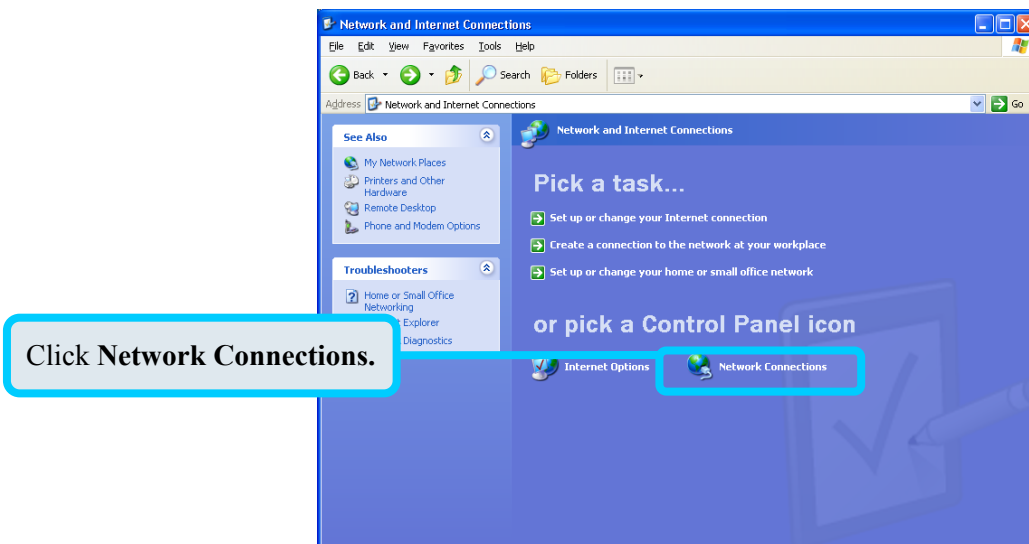
1. From the **Start** menu on your desktop, go to **Control Panel**.



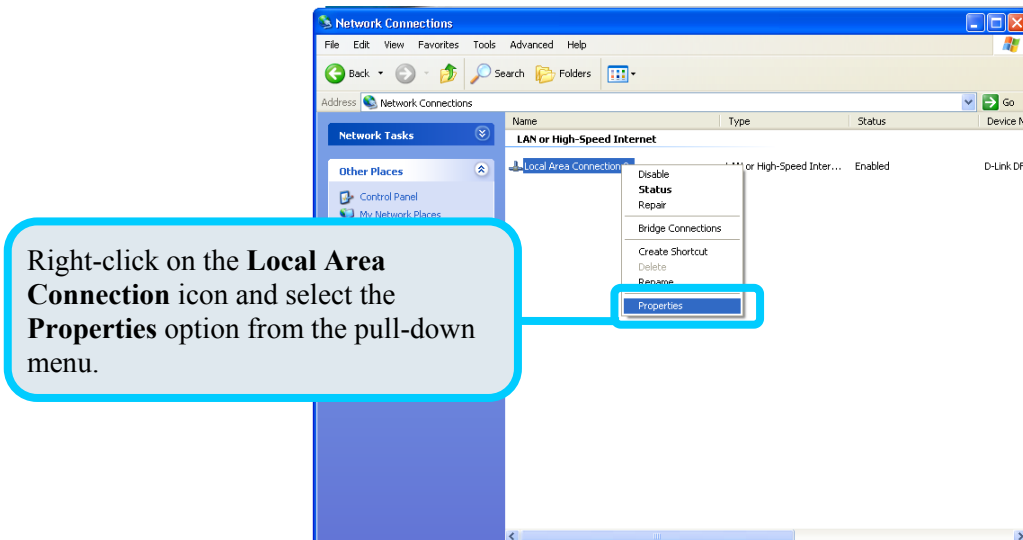
2. In the Control Panel menu, click Network and Internet Connections.



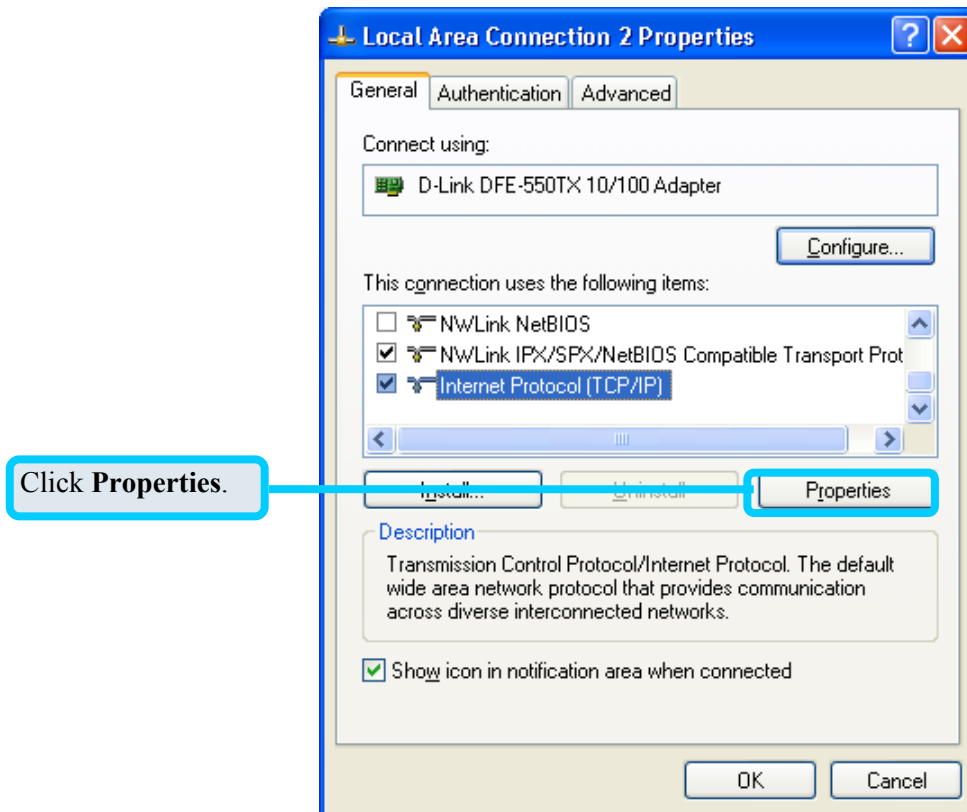
3. In the Network and Internet Connections menu, click Network Connections.



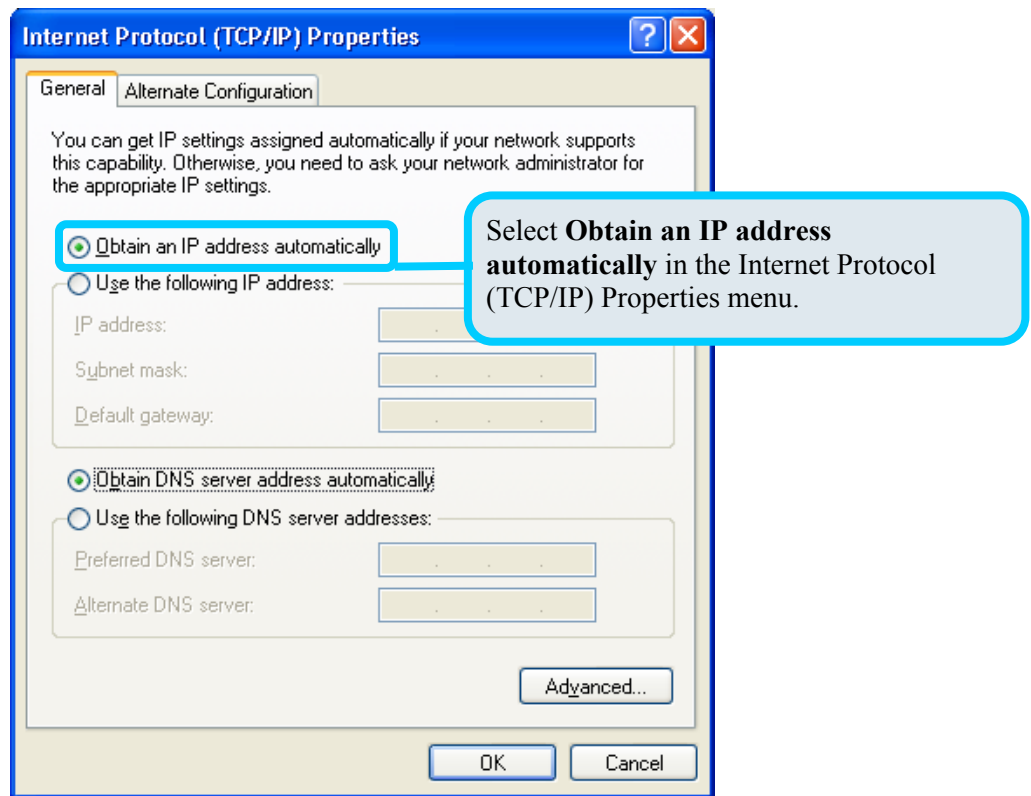
4. In the Network Connections menu, right-click on Local Area Connection, then click Properties.



5. In the **General** tab of the **Local Area Connection Properties** menu, highlight **Internet Protocol (TCP/IP)** under “This connection uses the following items:” by clicking on it once. Click on the **Properties** button.



Select “Obtain an IP address automatically” by clicking once in the circle. Click the **OK** button



Your computer is now ready to use the Router's DHCP server.

Windows 2000

First, check for the IP protocol and, if necessary, install it:

1. In the **Windows** task bar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the Network and Dial-up Connections icon.
3. In the Network and Dial-up Connections menu, right-click the Local Area Connection icon, and then select Properties.
4. The **Local Area Connection Properties** dialog box displays with a list of currently installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled, skip ahead to *Configure Windows 2000 for DHCP*.
5. If Internet Protocol (TCP/IP) does not display as an installed component, click **Install**.
6. In the **Select Network Component Type** dialog box, select **Protocol**, and then click **Add**.
7. Select **Internet Protocol (TCP/IP)** in the Network Protocols list, and then click **OK**.
8. You may be prompted to install files from your Windows 2000 installation CD or other media. Follow the instructions to install the files.
9. If prompted, click **OK** to restart your computer with the new settings.

Configure Windows 2000 for DHCP

In the Control Panel, double-click the **Network and Dial-up Connections** icon.

1. In Network and Dial-up Connections menu, right-click the Local Area Connection icon, and then select Properties.
2. In the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP), and then click Properties.
3. In the Internet Protocol (TCP/IP) Properties dialog box, click the button labeled Obtain an IP address automatically.
4. Double-click **OK** to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Router's DHCP server.

Windows 95 and Windows 98

First, check for the IP protocol and, if necessary, install it:

1. In the **Menus** task bar, click the **Start** button, point to **Settings**, and then click **Control Panel**. Double-click the **Network** icon.
2. The **Network** dialog box displays with a list of currently installed network components. If the list includes TCP/IP, and then the protocol has already been enabled, skip to *Configure IP Information Windows 95, 98*.
3. If TCP/IP does not display as an installed component, click **Add**. The **Select Network Component Type** dialog box displays.
4. Select **Protocol**, and then click **Add**. The **Select Network Protocol** dialog box displays.
5. Click on **Microsoft** in the Manufacturers list box, and then click **TCP/IP** in the Network Protocols list box.
6. Click **OK** to return to the Network dialog box, and then click **OK** again. You may be prompted to install files from your Windows 95/98 installation CD. Follow the instructions to install the files.
7. Click **OK** to restart the PC and complete the TCP/IP installation.

Configure Windows 95 and Windows 98 for DHCP

1. Open the **Control Panel** menu, and then click the **Network** icon.
2. Select the network component labeled TCP/IP, and then click **Properties**.
3. If you have multiple TCP/IP listings, select the listing associated with your network card or adapter.
4. In the **TCP/IP Properties** dialog box, click the **IP Address** tab.
5. Click the Obtain an IP address automatically option.
6. Double-click **OK** to confirm and save your changes. You will be prompted to restart Windows.
7. Click **Yes**.

When it has restarted, your computer is ready to use the Router's DHCP server.

Windows ME

First, check for the IP protocol and, if necessary, install it:

1. In the **Windows** task bar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. Double-click the Network and Dial-up Connections icon.
3. In the **Network and Dial-up Connections** menu, right-click the **Network** icon, and then select **Properties**.
4. The **Network Properties** dialog box displays with a list of currently installed network components. If the list includes Internet Protocol (TCP/IP), then the protocol has already been enabled. Skip ahead to *Configure Windows ME for DHCP*.
5. If Internet Protocol (TCP/IP) does not display as an installed component, click **Add**.
6. In the **Select Network Component Type** dialog box, select **Protocol**, and then click **Add**.
7. Select **Microsoft** in the Manufacturers box.
8. Select **Internet Protocol (TCP/IP)** in the Network Protocols list, and then click **OK**.
9. You may be prompted to install files from your Windows Me installation CD or other media. Follow the instructions to install the files.
10. If prompted, click **OK** to restart your computer with the new settings.

Configure Windows ME for DHCP

1. In the Control Panel menu, double-click the Network and Dial-up Connections icon.
2. In the **Network and Dial-up Connections** menu, right-click the **Network** icon, and then select **Properties**.
3. In the **Network Properties** dialog box, select **TCP/IP**, and then click **Properties**.
4. In the TCP/IP Settings dialog box, click the Obtain and IP address automatically option.
5. Double-click **OK** twice to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Router's DHCP server.

Windows NT 4.0 Workstations

First, check for the IP protocol and, if necessary, install it:

1. In the **Windows NT** task bar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
2. In the **Control Panel** menu, double-click the **Network** icon.
3. In the **Network** dialog box, click the **Protocols** tab.
4. The **Protocols** tab displays a list of currently installed network protocols. If the list includes TCP/IP, then the protocol has already been enabled. Skip to "Configure IP Information"
5. If TCP/IP does not display as an installed component, click **Add**.
6. In the **Select Network Protocol** dialog box, select **TCP/IP**, and then click **OK**. You may be prompted to install files from your Windows NT installation CD or other media. Follow the instructions to install the files.
7. After all files are installed, a menu displays to inform you that a TCP/IP service called DHCP can be set up to dynamically assign IP information.
8. Click **Yes** to continue, and then click **OK** if prompted to restart your computer.

Configure Windows NT 4.0 for DHCP

1. Open the **Control Panel** menu, and then double-click the **Network** icon.
2. In the **Network** dialog box, click the **Protocols** tab.
3. In the **Protocols** tab, select **TCP/IP**, and then click **Properties**.
4. In the Microsoft TCP/IP Properties dialog box, click the Obtain an IP address automatically option.
5. Click **OK** twice to confirm and save your changes, and then close the Control Panel.

Your computer is now ready to use the Router's DHCP server.

D-Link International Offices

U.S.A

17595 Mt. Herrmann Street
Fountain Valley, CA 92708
TEL: 1-800-326-1688
URL: www.dlink.com

Canada

2180 Winston Park Drive
Oakville, Ontario, L6H 5W1
Canada

TEL: 1-905-8295033
FAX: 1-905-8295223
URL: www.dlink.ca

Europe (U. K.)

4th Floor, Merit House
Edgware Road, Colindale
London NW9 5AB
U.K.

TEL: 44-20-8731-5555
FAX: 44-20-8731-5511
URL: www.dlink.co.uk

Germany

Schwalbacher Strasse 74
D-65760 Eschborn
Germany
TEL: 49-6196-77990
FAX: 49-6196-7799300
URL: www.dlink.de

France

No.2 all'ee de la Fresnerie
78330 Fontenay le Fleury
France

TEL: 33-1-30238688
FAX: 33-1-30238689
URL: www.dlink.fr

Netherlands

Weena 290
3012 NJ, Rotterdam
Netherlands
Tel: +31-10-282-1445
Fax: +31-10-282-1331
URL: www.dlink.nl

Belgium

Rue des Colonies 11
B-1000 Brussels
Belgium
Tel: +32(0)2 517 7111
Fax: +32(0)2 517 6500
URL: www.dlink.be

Italy

Via Nino Bonnet n. 6/b
20154 - Milano
Italy
TEL: 39-02-2900-0676
FAX: 39-02-2900-1723
URL: www.dlink.it

Sweden

P.O. Box 15036, S-167 15 Bromma
Sweden
TEL: 46-(0)8564-61900
FAX: 46-(0)8564-61901
URL: www.dlink.se

Denmark

Naverland 2, DK-2600
Glostrup, Copenhagen
Denmark
TEL: 45-43-969040
FAX: 45-43-424347
URL: www.dlink.dk

Norway

Karihaugveien 89
N-1086 Oslo
Norway
TEL: +47 99 300 100
FAX: +47 22 30 95 80
URL: www.dlink.no

Finland

Pakkalankuja 7A, 3rd floor
FIN-0150 10, Vantaa
Finland
TEL: +358-9-2707 5080
FAX: +358-9-2707 5081
URL: www.dlink.fi

Spain

C/Sabino De Arana
56 Bajos
08028 Barcelona
Spain
TEL: 34 93 4090770
FAX: 34 93 4910795
URL: www.dlink.es

Portugal

Rua Fernando Pahlha
50 Edificio Simol
1900 Lisbon Portugal
TEL: +351 21 8688493
URL: www.dlink.es

Czech Republic

Vaclavske namesti 36, Praha 1
Czech Republic
TEL: +420 (603) 276 589
URL: www.dlink.cz

Switzerland

Glatt Tower, 2.OG CH-8301
Glattzentrum Postfach 2.OG
Switzerland
TEL: +41 (0) 1 832 11 00
FAX: +41 (0) 1 832 11 01
URL: www.dlink.ch

Greece

101, Panagoulis Str. 163-43
Heliopolis Athens, Greece
TEL: +30 210 9914 512
FAX: +30 210 9916902
URL: www.dlink.gr

Luxemburg

Rue des Colonies 11,
B-1000 Brussels,
Belgium
TEL: +32 (0)2 517 7111
FAX: +32 (0)2 517 6500
URL: www.dlink.be

Poland

Budynek Aurum ul. Walic-w 11
PL-00-851
Warszawa
Poland
TEL: +48 (0) 22 583 92 75
FAX: +48 (0) 22 583 92 76
URL: www.dlink.pl

Hungary

R-k-czi-t 70-72
HU-1074
Budapest
Hungary
TEL: +36 (0) 1 461 30 00
FAX: +36 (0) 1 461 30 09
URL: www.dlink.hu

Singapore

1 International Business Park
#03-12 The Synergy
Singapore 609917
TEL: 65-6774-6233
FAX: 65-6774-6322
URL: www.dlink-intl.com

Australia

1 Giffnock Avenue
North Ryde, NSW 2113
Australia
TEL: 61-2-8899-1800
FAX: 61-2-8899-1868
URL: www.dlink.com.au

India

D-Link House, Kurla Bandra Complex Road
Off CST Road, Santacruz (East)
Mumbai - 400098
India
TEL: 91-022-26526696/56902210
FAX: 91-022-26528914
URL: www.dlink.co.in

Middle East (Dubai)

P.O.Box: 500376
Office: 103, Building:3
Dubai Internet City
Dubai, United Arab Emirates
Tel: +971-4-3916480
Fax: +971-4-3908881
URL: www.dlink-me.com

Turkey

Ayazaga Maslak Yolu
Erdebil Cevahir Is Merkezi
5/A Ayazaga - Istanbul
Turkiye
TEL: +90 212 289 56 59
FAX: +90 212 289 76 06
URL: www.dlink.com.tr

Egypt

19 El-Shahed Helmy, El Masri
Al-Maza, Heliopolis
Cairo, Egypt
TEL: +202 414 4295
FAX: +202 415 6704
URL: www.dlink-me.com

Israel

11 Hamanofim Street
Ackerstein Towers, Regus Business Center
P.O.B 2148, Hertzelia-Pituach 46120
Israel
TEL: +972-9-9715700
FAX: +972-9-9715601
URL: www.dlink.co.il

LatinAmerica

Isidora Goyechea 2934
Ofcina 702
Las Condes
Santiago - Chile
TEL: 56-2-232-3185
FAX: 56-2-232-0923
URL: www.dlink.cl

Brazil

Av das Nacoes Unidas
11857 - 14- andar - cj 141/142
Brooklin Novo
Sao Paulo - SP - Brazil
CEP 04578-000 (Zip Code)
TEL: (55 11) 21859300
FAX: (55 11) 21859322
URL: www.dlinkbrasil.com.br

South Africa

Einstein Park II
Block B
102-106 Witch-Hazel Avenue
Highveld Technopark
Centurion
Gauteng
Republic of South Africa
TEL: 27-12-665-2165
FAX: 27-12-665-2186
URL: www.d-link.co.za

Russia

Grafsky per., 14, floor 6
Moscow
129626 Russia
TEL: 7-095-744-0099
FAX: 7-095-744-0099 #350
URL: www.dlink.ru

China

No.202,C1 Building, Huitong Office Park, No. 71,
Jianguo Road, Chaoyang District, Beijing
100025, China.
TEL +86-10-58635800
FAX: +86-10-58635799
URL: www.dlink.com.cn

Taiwan

2F, No. 119, Pao-Chung Rd.
Hsin-Tien, Taipei
Taiwan
TEL: 886-2-2910-2626
FAX: 886-2-2910-1515
URL: www.dlinktw.com.tw

Headquarters

2F, No. 233-2, Pao-Chiao Rd.
Hsin-Tien, Taipei
Taiwan
TEL: 886-2-2916-1600
FAX: 886-2-2914-6299
URL: www.dlink.com.tw