

Xtreme N Storage Router User Manual



Preface

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

Manual Revisions

Revision	Date	Description
1.0	January 26, 2009	DIR-685 Revision A1 with firmware version 1.00

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Package Contents

D-Link DIR-685 Xtreme N™ Storage Router	
Power Adapter	
Ethernet Cable	
CD-ROM	
Stand	

Note: Using a power supply with a different voltage rating than the one included with the DIR-685 will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none"> • An Ethernet-based Cable or DSL modem • IEEE 802.11n-draft or 802.11g wireless clients • 10/100/1000 Ethernet
Web-based Configuration Utility Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none"> • Windows®, Macintosh®, or Linux-based operating system • An installed Ethernet adapter <p>Browser Requirements:</p> <ul style="list-style-type: none"> • Internet Explorer 6.0 or higher • Mozilla 1.7.12 or higher • Firefox 2.0 or higher • Safari 1.0 or higher (with Java 1.3.1 or higher) • Chrome 1.0 or higher • Opera 6.0 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>
CD Installation Wizard Requirements	<p>Computer with the following:</p> <ul style="list-style-type: none"> • Windows® XP with Service Pack 2 or Vista • An installed Ethernet adapter • CD-ROM drive

Introduction

TOTAL PERFORMANCE

Combines award-winning router features and Draft 802.11n wireless technology to provide the best wireless performance.

TOTAL SECURITY

The most complete set of security features including Active Firewall and WPA2™ to protect your network against outside intruders.

TOTAL COVERAGE

Provides greater wireless signal rates even at farther distances for best-in-class Whole Home Coverage.

ULTIMATE PERFORMANCE

The D-Link Xtreme N Storage Router is a draft 802.11n compliant device that delivers real world performance of up to 650% faster than an 802.11g wireless connection (also faster than a 100Mbps wired Ethernet connection). Create a secure wireless network to share photos, files, music, video, printers, and network storage throughout your home. Connect the Xtreme N Storage Router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. In addition, this router includes a Quality of Service (QoS) engine that keeps digital phone calls (VoIP) and online gaming smooth and responsive, providing a better Internet experience.

EXTENDED WHOLE HOME COVERAGE

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

TOTAL NETWORK SECURITY

The Xtreme N™ Storage Router supports all of the latest wireless security features to prevent unauthorized access, be it from over the wireless network or from the Internet. Support for WPA™ and WEP standards ensure that you will be able to use the best possible encryption method, regardless of your client devices. In addition, this Xtreme N Storage Router utilizes dual active firewalls (SPI and NAT) to prevent potential attacks from across the Internet.

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

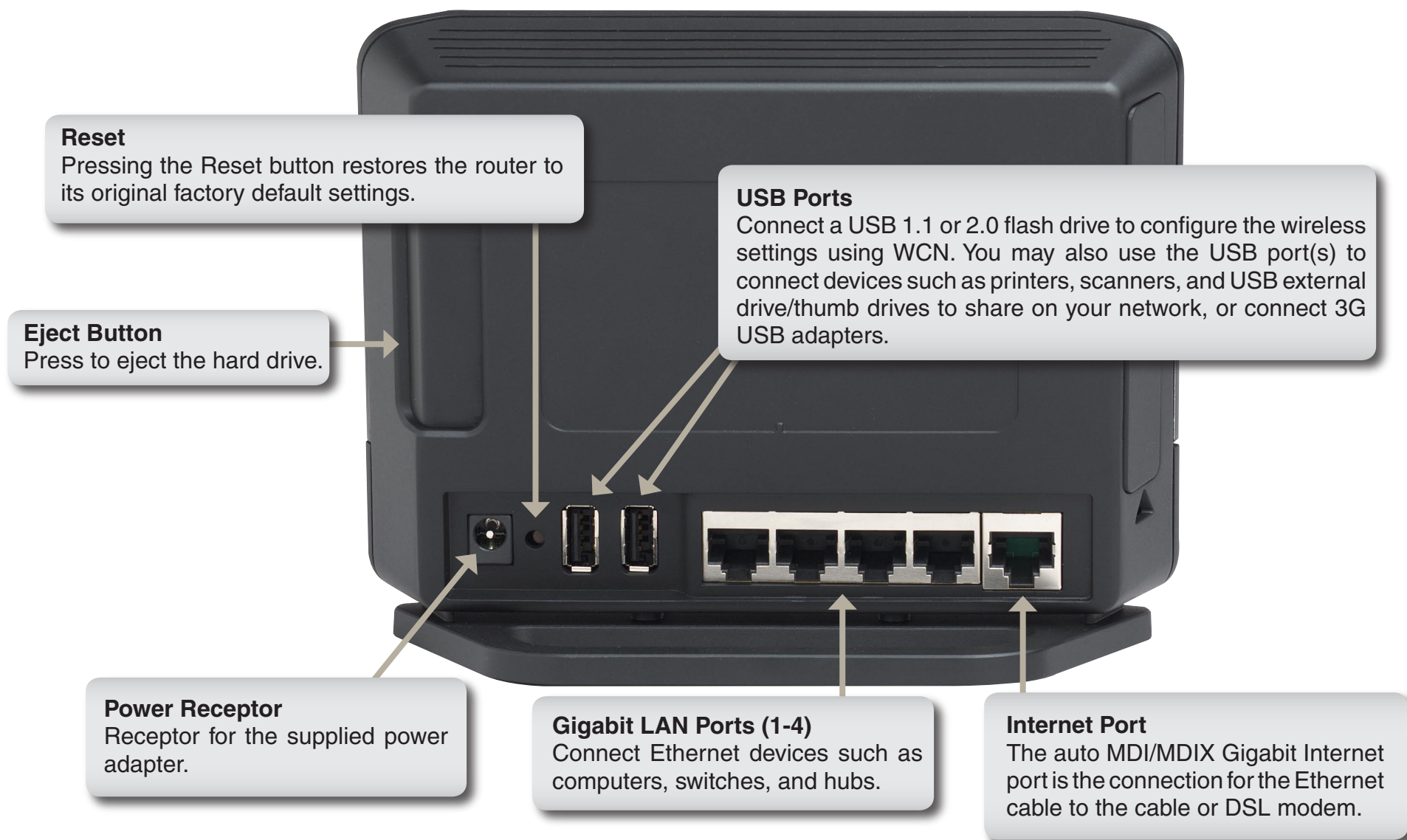
Features

- **Faster Wireless Networking** - The DIR-685 provides up to 300Mbps* wireless connection with other 802.11n wireless clients. This capability allows users to participate in real-time activities online, such as video streaming, online gaming, and real-time audio. The performance of this 802.11n wireless router gives you the freedom of wireless networking at speeds 650% faster than 802.11g.
- **Compatible with 802.11g Devices** - The DIR-685 is still fully compatible with the IEEE 802.11g standard, so it can connect with existing 802.11g wireless adapters.
- **Advanced Firewall Features** - The Web-based user interface displays a number of advanced network management features including:
 - **Content Filtering** - Easily applied content filtering based on MAC Address, URL, and/or Domain Name.
 - **Filter Scheduling** - These filters can be scheduled to be active on certain days or for a duration of hours or minutes.
 - **Secure Multiple/Concurrent Sessions** - The DIR-685 can pass through VPN sessions. It supports multiple and concurrent IPSec and PPTP sessions, so users behind the DIR-685 can securely access corporate networks.
- **User-friendly Setup Wizard** - Through its easy-to-use web-based user interface, the DIR-685 lets you control what information is accessible to those on the wireless network, whether from the Internet or from your company's server. Configure your router to your specific settings within minutes.

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

Hardware Overview

Connections



Hardware Overview

Front View



Hardware Overview

Side View



Installation

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

Before you Begin

- Please configure the router with the computer that was last connected directly to your modem.
- You can only use the Ethernet port on your modem. If you were using the USB connection before using the router, then you must turn off your modem, disconnect the USB cable and connect an Ethernet cable to the Internet port on the router, and then turn the modem back on. In some cases, you may need to call your ISP to change connection types (USB to Ethernet).
- If you have DSL and are connecting via PPPoE, make sure you disable or uninstall any PPPoE software such as WinPoet, Broadjump, or Enternet 300 from your computer or you will not be able to connect to the Internet.
- When running the Setup Wizard from the D-Link CD, make sure the computer you are running the CD from is connected to the Internet and online or the wizard will not work. If you have disconnected any hardware, re-connect your computer back to the modem and make sure you are online.

Install/Remove Hard Drive



To install a hard drive:

1. Open the hard drive bay. The router can be powered on during installation.
2. Insert your hard drive into the bay with the label facing towards the back of the router.
3. Push hard drive firmly in the bay.
4. Close the hard drive bay door.
5. The **Detect Hard Drive Success** message will appear. Press the center button to continue.

To remove a hard drive:

Warning: Do NOT eject the hard drive without pressing the unmount button below the hard drive bay.

1. Open the hard drive bay door.
2. Press the unmount button.
3. Once the unmount button is amber/orange, press the eject button located on the opposite side.

Caution: Hard drive may be hot. Use caution when handling.

4. Pull the hard drive out.

Wireless Installation Considerations

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

1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle, it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

Connect to Cable/DSL/Satellite Modem

If you are connecting the router to a cable/DSL/satellite modem, please follow the steps below:

1. Place the router in an open and central location. Do not plug the power adapter into the router.
2. Turn the power off on your modem. If there is no on/off switch, then unplug the modem's power adapter. Shut down your computer.
3. Unplug the Ethernet cable (that connects your computer to your modem) from your computer and place it into the Internet port on the router.
4. Plug an Ethernet cable into one of the four LAN ports on the router. Plug the other end into the Ethernet port on your computer.
5. Turn on or plug in your modem. Wait for the modem to boot (about 30 seconds).
6. Plug the power adapter to the router and connect to an outlet or power strip. Wait about 30 seconds for the router to boot.
7. Turn on your computer.
8. Skip to page 14 to configure your router.

Connect to Another Router

If you are connecting the D-Link router to another router to use as a wireless access point and/or switch, you will have to do the following before connecting the router to your network:

- Disable UPnP™
- Disable DHCP
- Change the LAN IP address to an available address on your network. The LAN ports on the router cannot accept a DHCP address from your other router.

To connect to another router, please follow the steps below:

1. Plug the power into the router. Connect one of your computers to the router (LAN port) using an Ethernet cable. Make sure your IP address on the computer is 192.168.0.xxx (where xxx is between 2 and 254). (Please see the **Networking Basics** section for more information). If you need to change the settings, write down your existing settings before making any changes. In most cases, your computer should be set to receive an IP address automatically in which case you will not have to do anything to your computer.
2. Open a web browser and enter **http://192.168.0.1** and press **Enter**. When the login window appears, set the user name to **Admin** and leave the password box empty. Type in the Captcha phrase and click **Log In** to continue.
3. Click on **Advanced** and then click **Advanced Network**. Uncheck the Enable UPnP checkbox. Click **Save Settings** to continue.
4. Click **Setup** and then click **Network Settings**. Uncheck the Enable DHCP Server checkbox. Click **Save Settings** to continue.
5. Under Router Settings, enter an available IP address and the subnet mask of your network. Click **Save Settings** to save your settings. Use this new IP address to access the configuration utility of the router in the future. Close the browser and change your computer's IP settings back to the original values as in Step 1.

6. Disconnect the Ethernet cable from the router and reconnect your computer to your network.
7. Connect an Ethernet cable in one of the LAN ports of the router and connect it to your other router. Do not plug anything into the Internet port of the D-Link router.
8. You may now use the other three LAN ports to connect other Ethernet devices and computers. To configure your wireless network, open a web browser and enter the IP address you assigned to the router. Refer to the **Configuration** and **Wireless Security** sections for more information on setting up your wireless network.

Getting Started

The DIR-685 includes a Quick Router Setup Wizard CD. Follow the simple steps below to run the Setup Wizard to guide you quickly through the installation process.

Insert the **Quick Router Setup Wizard CD** in the CD-ROM drive. The step-by-step instructions that follow are shown in Windows® XP. The steps and screens are similar to those found in other Windows operating systems.

If the CD Autorun function does not automatically start on your computer, go to **Start > Run**. In the run box, type “**D:\DIR685.exe**” (where **D:** represents the drive letter of your CD-ROM drive).

When the autorun screen appears, click **BEGIN INSTALL**.



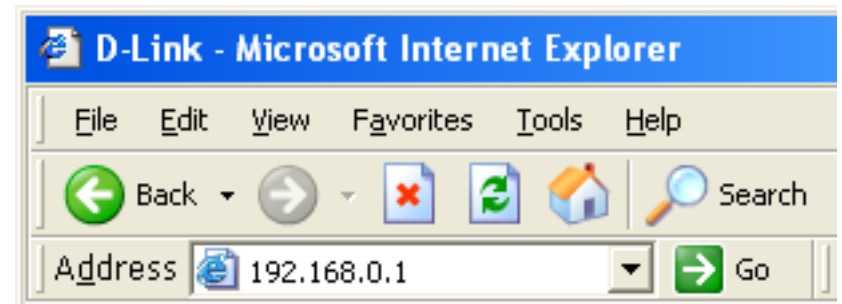
Note: It is recommended to write down the login password on the provided CD holder.

Configuration

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

Web-based Configuration Utility

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



Select **Admin** from the drop-down menu and then enter your password. Leave the password blank by default.

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



Setup Wizard

You may click **Internet Connection Setup Wizard** to quickly configure your router. Refer to the next page.

If you want to enter your settings without running the wizard, click **Manual Internet Connection Wizard** and skip to page 20.

The screenshot displays the D-Link DIR-685 web interface. At the top is the D-Link logo. Below it is a navigation bar with tabs: SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar shows a menu with options: Internet Setup, Wireless Setup, Network Setup, and LCD Setup. The main content area is titled "INTERNET SETUP" and contains the following sections:

- INTERNET CONNECTION SETUP WIZARD**: A section with a paragraph explaining the wizard's purpose and a button labeled "Internet Connection Setup Wizard". Below this is a **Note** about following the Quick Installation Guide.
- MANUAL INTERNET CONNECTION OPTIONS**: A section with a paragraph explaining manual configuration and a button labeled "Manual Internet Connection Setup".

On the right side of the main content area, 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.

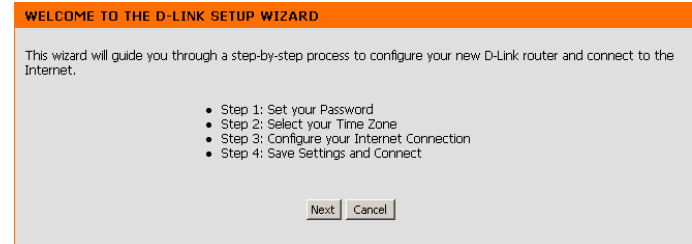
 Below the hints is a "More..." link.

Click **Next** to continue.

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

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

Select the type of Internet connection you use and then click **Next** to continue.



WELCOME TO THE D-LINK SETUP WIZARD

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

- Step 1: Set your Password
- Step 2: Select your Time Zone
- Step 3: Configure your Internet Connection
- Step 4: Save Settings and Connect

Next Cancel



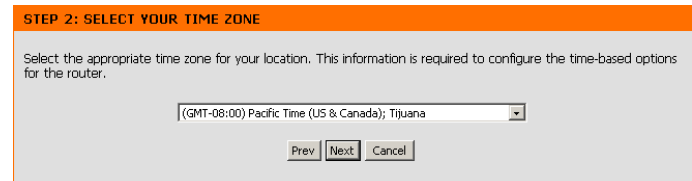
STEP 1: SET YOUR PASSWORD

By default, your new D-Link Router does not have a password configured for administrator access to the Web-based configuration pages. To secure your new networking device, please set and verify a password below:

Password :

Confirm Password :

Prev Next Cancel

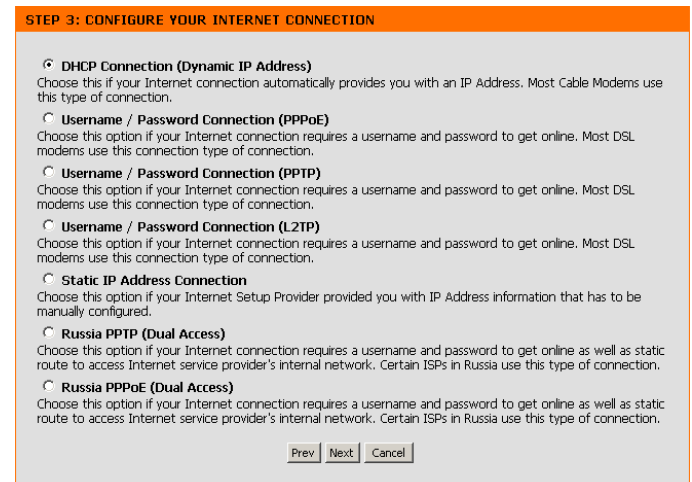


STEP 2: SELECT YOUR TIME ZONE

Select the appropriate time zone for your location. This information is required to configure the time-based options for the router.

(GMT-08:00) Pacific Time (US & Canada); Tijuana

Prev Next Cancel



STEP 3: CONFIGURE YOUR INTERNET CONNECTION

☒ **DHCP Connection (Dynamic IP Address)**
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.

☐ **Username / Password Connection (PPPoE)**
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this connection type of connection.

☐ **Username / Password Connection (PPTP)**
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this connection type of connection.

☐ **Username / Password Connection (L2TP)**
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this connection type of connection.

☐ **Static IP Address Connection**
Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.

☐ **Russia PPTP (Dual Access)**
Choose this option if your Internet connection requires a username and password to get online as well as static route to access Internet service provider's internal network. Certain ISPs in Russia use this type of connection.

☐ **Russia PPPoE (Dual Access)**
Choose this option if your Internet connection requires a username and password to get online as well as static route to access Internet service provider's internal network. Certain ISPs in Russia use this type of connection.

Prev Next Cancel

If you selected **Dynamic**, you may need to enter the MAC address of the computer that was last connected directly to your modem. If you are currently using that computer, click **Clone Your PC's MAC Address** and then click **Next** to continue.

The Host Name is optional but may be required by some ISPs. The default host name is the device name of the Router and may be changed.

If you selected **PPPoE** or **Russian PPPoE**, enter your PPPoE username and password. Click **Next** to continue.

Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses.

Note: Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.

If you selected **PPTP** or **Russian PPTP**, enter your PPTP username and password. Click **Next** to continue.

DHCP CONNECTION (DYNAMIC IP ADDRESS)

To set up this connection, please make sure that you are connected to the D-Link Router with the PC that was originally connected to your broadband connection. If you are, then click the Clone MAC Address button to copy your computer's MAC Address to the D-Link Router.

MAC Address : - - - - - (Optional)

Host Name : DIR-685

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

SET USERNAME AND PASSWORD CONNECTION (PPPoE)

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 IP ☐ Static IP

IP Address :

User Name :

Password :

Verify 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.

SET USERNAME AND PASSWORD CONNECTION (PPTP)

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

Address Mode : ☒ Dynamic IP ☐ Static IP

PPTP IP Address :

PPTP Subnet Mask :

PPTP Gateway IP Address :

PPTP Server IP Address (may be same as gateway) :

User Name :

Password :

Verify Password :

If you selected **L2TP**, enter your L2TP username and password. Click **Next** to continue.

SET USERNAME AND PASSWORD CONNECTION (L2TP)

To set up this connection you will need to have a Username and Password from your Internet Service Provider. You also need L2TP IP address. If you do not have this information, please contact your ISP.

Address Mode : ☒ Dynamic IP ☐ Static IP

L2TP IP Address :

L2TP Subnet Mask :

L2TP Gateway IP Address :

L2TP Server IP Address (may be same as gateway) :

User Name :

Password :

Verify Password :

If you selected **Static**, enter your network settings supplied by your Internet provider. Click **Next** to continue.

SET STATIC IP ADDRESS CONNECTION

To set up this connection you will need to have a complete list of IP information provided by your Internet Service Provider. If you have a Static IP connection and do not have this information, please contact your ISP.

IP Address :

Subnet Mask :

Gateway Address :

Primary DNS Address :

Secondary DNS Address : (Optional)

Click **Connect** to save your settings. Once the router is finished rebooting, click **Continue**. Please allow 1-2 minutes to connect.

Close your browser window and reopen it to test your Internet connection. It may take a few tries to initially connect to the Internet.

Manual Configuration

Dynamic (Cable)

My Internet Connection: Select **Dynamic IP (DHCP)** to obtain IP Address information automatically from your ISP. Select this option if your ISP does not give you any IP numbers to use. This option is commonly used for Cable modem services.

Host Name: The Host Name is optional but may be required by some ISPs.

DNS Addresses: Enter the Primary DNS server IP address assigned by your ISP.

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

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is :

DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE

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

Host Name :

MAC Address : - - - - - (optional)

Primary DNS Address :

Secondary DNS Address : (optional)

MTU :

Internet Setup

PPPoE (DSL)

Choose PPPoE (Point to Point Protocol over Ethernet) if your ISP uses a PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Make sure to remove your PPPoE software from your computer. The software is no longer needed and will not work through a router.

My Internet Connection: Select **PPPoE (Username/Password)** from the drop-down menu.

Address Mode: Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select **Dynamic**.

IP Address: Enter the IP address (Static PPPoE only).

Username: Enter your PPPoE username.

Password: Enter your PPPoE password and then retype the password in the next box.

Service Name: Enter the ISP Service Name (optional).

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

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

DNS Addresses: Enter the Primary and Secondary DNS Server Addresses (Static PPPoE only).

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

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPPoE (Username / Password)

PPPOE INTERNET CONNECTION TYPE :

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

Address Mode : ☒ Dynamic IP ☐ Static IP

IP Address :

Username :

Password :

Verify Password :

Service Name : (optional)

Reconnect Mode : ☐ Always on ☒ On demand ☐ Manual

Maximum Idle Time : (minutes, 0=infinite)

Primary DNS Server : (optional)

Secondary DNS Server : (optional)

MTU : (bytes) MTU default = 1492

MAC Address :

Clone Your PC's MAC Address

Internet Setup

PPTP

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

Address Mode: Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select **Dynamic**.

PPTP IP Address: Enter the IP address (Static PPTP only).

PPTP Subnet Mask: Enter the Primary and Secondary DNS Server Addresses (Static PPTP only).

PPTP Gateway: Enter the Gateway IP Address provided by your ISP.

PPTP Server IP: Enter the Server IP provided by your ISP (optional).

Username: Enter your PPTP username.

Password: Enter your PPTP password and then retype the password in the next box.

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

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : PPTP (Username / Password)

PPTP INTERNET CONNECTION TYPE :

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

Address Mode : ☐ Dynamic IP ☒ Static IP

PPTP IP Address : 0.0.0.0

PPTP Subnet Mask : 255.255.255.0

PPTP Gateway IP Address : 0.0.0.0

PPTP Server IP Address : 0.0.0.0

Username :

Password : *****

Verify Password : *****

Reconnect Mode : ☐ Always on ☒ On demand ☐ Manual

Maximum Idle Time : 5 (minutes, 0=infinite)

Primary DNS Server : 0.0.0.0

Secondary DNS Server : 0.0.0.0

MTU : 1400 (bytes) MTU default = 1400

MAC Address : 00:16:17:45:11:af

Clone Your PC's MAC Address

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. The default MTU is 1400.

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

Internet Setup

L2TP

Choose L2TP (Layer 2 Tunneling Protocol) if your ISP uses an L2TP connection. Your ISP will provide you with a username and password. This option is typically used for DSL services.

Address Mode: Select **Static** if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select **Dynamic**.

L2TP IP Address: Enter the L2TP IP address supplied by your ISP (Static only).

L2TP Subnet Mask: Enter the Subnet Mask supplied by your ISP (Static only).

L2TP Gateway: Enter the Gateway IP Address provided by your ISP.

L2TP Server IP: Enter the Server IP provided by your ISP (optional).

Username: Enter your L2TP username.

Password: Enter your L2TP password and then retype the password in the next box.

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

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

DNS Servers: Enter the Primary and Secondary DNS Server Addresses (Static L2TP only).

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : L2TP (Username / Password)

L2TP

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

☒ Dynamic IP ☐ Static IP

IP Address : (assigned by your ISP)

Subnet Mask :

Gateway :

DNS :

MAC Address : - - - - - (optional)

Clone MAC Address

Server IP/Name :

L2TP Account :

L2TP Password :

L2TP Confirm Password :

Maximum Idle Time : Minutes

MTU :

Connect mode select : ☐ Always ☐ Manual ☒ Connect-on demand

New Schedule

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. The default MTU is 1400.

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

Internet Setup

Static (assigned by ISP)

Select Static IP Address if all the connection information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The Router will not accept the IP address if it is not in this format.

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

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

Default Gateway: Enter the Gateway assigned by your ISP.

DNS Servers: The DNS server information will be supplied by your ISP.

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

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : Static IP

STATIC IP ADDRESS INTERNET CONNECTION TYPE

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

IP Address : (assigned by your ISP)

Subnet Mask :

ISP Gateway Address :

MAC Address : - - - - - (optional)

Clone MAC Address

Primary DNS Address :

Secondary DNS Address : (optional)

MTU : 1500

Internet Setup

3G USB Adapter

Select 3G USB Adapter if you are using a 3G USB adapter to connect to the Internet.

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

ISP: Select your Internet Service Provider (ISP) from the drop-down menu.

Username: Enter your username.

Password: Enter your password.

Dial Number: The default is *99***1#. This field should not be altered except when required by your service provider.

Authentication Protocol: Select the authentication protocol from the drop-down menu.

APN: Enter the access point name (APN).

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

Maximum Idle Time: Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

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

INTERNET CONNECTION TYPE

Choose the mode to be used by the router to connect to the Internet.

My Internet Connection is : 3G USB Adapter

WWAN INTERNET CONNECTION TYPE :

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

Country : choose your country

ISP : choose your isp

User Name : (optional)

Password : (optional)

Dial Number :

Authentication Protocol : Auto (PAP + CHAP)

APN : (optional)

Reconnect Mode : ☐ Always-on ☐ Connect-on demand ☒ Manual

Maximum Idle Time : (minutes, 0=infinite)

MTU : (bytes)(128-1492)

Save Settings

Don't Save Settings

Wireless Settings

If you want to configure the wireless settings on your router using the wizard, click **Wireless Connection Setup Wizard** and refer to page 73.

If you want to manually configure the wireless settings on your router, click **Manual Wireless Connection Setup** and refer to the next page.

The screenshot displays the D-Link DIR-685 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists configuration options: Internet Setup, Wireless Setup (highlighted), Network Setup, and LCD Setup. The main content area is titled 'WIRELESS SETUP' and contains the following sections:

- WIRELESS SETUP**: A text box stating, 'There are 2 ways to setup your wireless connection. You can use the Wireless Connection Setup wizard or you can manually configure the connection.' Below this is a note: 'Please note that changes made on this section will also need to be duplicated to your wireless clients and PC.'
- WIRELESS CONNECTION SETUP WIZARD**: A section with the text, 'If you would like to utilize our easy to use Web-based Wizard to assist you in connecting your new D-Link Systems Wireless Router to the Internet, click on the button below.' A button labeled 'Wireless Connection Setup Wizard' is provided. Below the button is a note: 'Note: Before launching the wizard, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.'
- MANUAL WIRELESS CONNECTION OPTIONS**: A section with the text, 'If you would like to configure the Internet settings of your new D-Link Router manually, then click on the button below.' A button labeled 'Manual Wireless Connection Setup' is provided.

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

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

 A 'More...' link is located below the hints.

Manual Wireless Settings

WPS: Click **Add Wireless Device with WPS** if you want to add a wireless device using Wi-Fi Protected Setup™.

Enable Wireless: Check the box to enable the wireless function. If you do not want to use wireless, uncheck the box to disable all the wireless functions. Click **Add New** to create your own time schedule to enable the wireless function.

Wireless Network Name: Service Set Identifier (SSID) is the name of your wireless network. Create a name using up to 32 characters. The SSID is case-sensitive.

802.11 Band: **2.4GHz** is displayed.

802.11 Mode: Select one of the following:

802.11g Only - Select if all of your wireless clients are 802.11g.

Mixed 802.11g and 802.11b - Select if you are using both 802.11b and 802.11g wireless clients.

802.11b Only - Select if all of your wireless clients are 802.11b.

802.11n Only - Select only if all of your wireless clients are 802.11n.

Mixed 802.11n, 802.11b, and 802.11g - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

Mixed 802.11n and 802.11g - Select if you are using a mix of 802.11n and 802.11g wireless clients.

Internet Setup
Wireless Setup
Network Setup
LCD Setup

WIRELESS NETWORK

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

To protect your privacy you can configure wireless security features. This device supports three wireless security modes including: WEP, WPA and WPA2.

Save Settings Don't Save Settings

WI-FI PROTECTED SETUP (ALSO CALLED WCN 2.0 IN WINDOWS VISTA)

Enable: ☒

Current PIN: 20622336

Generate New PIN Reset PIN to Default

Wi-Fi Protected Status: Enabled / Not Configured

Reset to Unconfigured

Add Wireless Device with WPS

WIRELESS NETWORK SETTINGS

Enable Wireless: ☒

Wireless Network Name: dlink (Also called the SSID)

802.11 Mode: 802.11 Mixed(g/b)

Enable Auto Channel Selection: ☒

Wireless Channel: 6

Transmission Rate: Best (automatic) (Mbit/s)

Channel Width: 20 MHz

Short Guard Interval: ☐

WMM Enable: ☐ (Wireless QoS)

Enable Hidden Wireless: ☐ (Also called "Disable SSID Broadcast")

WIRELESS SECURITY MODE

Security Mode: Disable Wireless Security (not recommended)

Save Settings Don't Save Settings

Helpful Hints...

- Wi-Fi Protected Setup provides a more intuitive way of setting up wireless security between the router and the wireless client. Make sure the wireless card supports such feature or uses a certified Windows Vista driver in order to take advantage of this feature.
- Changing your Wireless Network Name is the first step in securing your wireless network. We recommend that you change it to a familiar name that does not contain any personal information.
- Enabling Hidden Mode is another way to secure your network. With this option enabled, no wireless clients will be able to see your wireless network when they perform scan to see what's available. In order for your wireless devices to connect to your router, you will need to manually enter the Wireless Network Name on each device.
- If you have enabled Wireless Security, make sure you write down WEP Key or Passphrase that you have configured. You will need to enter this information on any wireless device that you connect to your wireless network.

Enable Auto Channel Scan: The **Auto Channel Scan** setting can be selected to allow the DIR-685 to choose the channel with the least amount of interference.

Wireless Channel: Indicates the channel setting for the DIR-685. By default the channel is set to 6. The Channel can be changed to fit the channel setting for an existing wireless network or to customize the wireless network. If you enable **Auto Channel Scan**, this option will be greyed out.

Transmission Rate: Select the transmit rate. It is strongly suggested to select **Best (Auto)** for best performance.

Channel Width: Select the Channel Width:

Auto 20/40 - Select if you are using both 802.11n and non-802.11n wireless devices.

20MHz - Select if you are not using any 802.11n wireless clients. This is the default setting.

40MHz - Select if you are only using any 802.11n wireless clients.

Visibility Status: Select **Invisible** if you do not want the SSID of your wireless network to be broadcasted by the DIR-685. If Invisible is selected, the SSID of the DIR-685 will not be seen by Site Survey utilities so your wireless clients will have to know the SSID of your DIR-685 in order to connect to it.

Wireless Security: Refer to page 72 for more information regarding wireless security.

Network Settings

This section will allow you to change the local network settings of the router and to configure the DHCP settings.

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

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

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

Device Name: Enter a name for the router.

Local Domain: Enter the Domain name (optional).

Enable DNS Relay: Uncheck the box to transfer the DNS server information from your ISP to your computers. If checked, your computers will use the router for a DNS server.

NETWORK SETTING

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.

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.

Save Settings

Don't Save Settings

ROUTER SETTINGS

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.

Router IP Address :

192.168.0.1

Default Subnet Mask :

255.255.255.0

Local Domain Name :

Enable DNS Relay :

☒

DHCP SERVER SETTINGS

Use this section to configure the built-in DHCP server to assign IP address to the computers on your network.

Enable DHCP Server :

☒

DHCP IP Address Range :

100

to

199

(addresses within the LAN subnet)

DHCP Lease Time :

1440

(minutes)

DHCP CLIENT LIST

Host Name	IP Address	MAC Address	Expired Time
171-mbarberi	192.168.0.199	00:04:23:2C:51:A3	40 sec(s)

DHCP Server Settings

DHCP stands for Dynamic Host Control Protocol. The DIR-685 has a built-in DHCP server. The DHCP Server will automatically assign an IP address to the computers on the LAN/private network. Be sure to set your computers to be DHCP clients by setting their TCP/IP settings to “Obtain an IP Address Automatically.” When you turn your computers on, they will automatically load the proper TCP/IP settings provided by the DIR-685. The DHCP Server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.

Enable DHCP Server: Check this box to enable the DHCP server on your router. Uncheck to disable this function.

DHCP IP Address Range: Enter the starting and ending IP addresses for the DHCP server’s IP assignment.

Note: If you statically (manually) assign IP addresses to your computers or devices, make sure the IP addresses are outside of this range or you may have an IP conflict.

DHCP Lease Time: The length of time for the IP address lease. Enter the Lease Time in minutes.

DHCP SERVER SETTINGS	
Use this section to configure the built-in DHCP server to assign IP address to the computers on your network.	
Enable DHCP Server :	<input checked="" type="checkbox"/>
DHCP IP Address Range :	<input type="text" value="100"/> to <input type="text" value="199"/> (addresses within the LAN subnet)
DHCP Lease Time :	<input type="text" value="1440"/> (minutes)

DHCP Reservation

If you want a computer or device to always have the same IP address assigned, you can create a DHCP reservation. The router will assign the IP address only to that computer or device.

Note: This IP address must be within the DHCP IP Address Range.

Enable: Check this box to enable the reservation.

Computer Name: Enter the computer name or select from the drop-down menu and click <<.

IP Address: Enter the IP address you want to assign to the computer or device. This IP address must be within the DHCP IP Address Range.

MAC Address: Enter the MAC address of the computer or device.

Save: Click **Save** to save your entry. You must click **Save Settings** at the top to activate your reservations.

DHCP CLIENT LIST			
Host Name	IP Address	MAC Address	Expired Time
iPhone-3	192.168.0.199	00:04:23:2C:51:A3	Never
Johann-PC	192.168.0.100	00:13:E8:98:E8:45	40 sec(s)
Gregs-iPhone	192.168.0.101	00:1F:5B:69:14:FB	30 sec(s)

25 - DHCP RESERVATION				
Remaining number of clients that can be configured : 24				
	Computer Name	IP Address	MAC Address	
<input checked="" type="checkbox"/>	iPhone-3	192.168.0.199	00:04:23:2C:51:A3	<< Computer Name ▾
<input type="checkbox"/>				<< Computer Name ▾
<input type="checkbox"/>				<< Computer Name ▾
<input type="checkbox"/>				<< Computer Name ▾
<input type="checkbox"/>				<< Computer Name ▾

LCD Setup

Screen Saver Setting: Check the Enable box to activate the screen saver on the LCD screen of the router. Enter the time of inactivity before the screen saver turns on (in minutes).

Display Setting: Check the Enable box and enter the time of inactivity before the screen turns off (in minutes).

The screenshot shows the D-Link DIR-685 web interface for LCD Setup. The interface has a top navigation bar with the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. On the left, there is a sidebar with links to Internet Setup, Wireless Setup, Network Setup, and LCD Setup (which is highlighted). The main content area is titled 'LCD SETUP' and contains the following sections:

- LCD SETUP**: A section with the instruction 'Use this section to configure the LCD settings of your router.' and two buttons: 'Save Settings' and 'Don't Save Settings'.
- SCREEN SAVER SETTING**: A section with an 'Enable' checkbox checked and a 'Timeout' field set to '1' (minute).
- DISPLAY SETTING**: A section with the instruction 'Put the display to sleep when it is inactive.', an 'Enable' checkbox checked, and a 'Timeout' field set to '10' (minute).

At the bottom of the main content area, there are two buttons: 'Save Settings' and 'Don't Save Settings'.

Port Forwarding

The DIR-685 can be configured as a virtual server so that remote users accessing Web or FTP services via the public IP address can be automatically redirected to local servers in the LAN (Local Area Network).

The DIR-685 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DIR-685 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling Port Forwarding. Depending on the requested service, the DIR-685 redirects the external service request to the appropriate server within the LAN network.

The DIR-685 is also capable of port-redirection meaning incoming traffic to a particular port may be redirected to a different port on the server computer.

Each virtual service that is created will be listed at the bottom of the screen in the Port Forwarding List. There are pre-defined virtual services already in the table. You may use them by enabling them and assigning the server IP to use that particular virtual service.

For a list of ports for common applications, please visit http://support.dlink.com/faq/view.asp?prod_id=1191.

This will allow you to open a single port or a range of ports.

Name: Enter a name for the rule or select an application from the drop-down menu. Select an application and click << to populate the fields.

IP Address: Enter the IP address of the computer on your local network that you want to allow the incoming service to. If your computer is receiving an IP address automatically from the router (DHCP), your computer will be listed in the “Computer Name” drop-down menu. Select your computer and click <<.

Private Port/Public Port: Enter the port that you want to open next to Private Port and Public Port. The private and public ports are usually the same. The public port is the port seen from the Internet side, and the private port is the port being used by the application on the computer within your local network.

Protocol Type: Select **TCP**, **UDP**, or **Both** from the drop-down menu.

Inbound Filter: Select **Allow All** (most common) or a created Inbound filter. You may create your own inbound filters in the **Advanced > Inbound Filter** page.

Schedule: The schedule of time when the Virtual Server Rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools > Schedules** section.

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DIR-685

SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Port Forwarding

ADVANCED PORT FORWARDING RULES

The Advanced Port Forwarding option allows 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	IP Address	Port	Traffic Type
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any
<input type="checkbox"/>	<< Application Name	<< Computer Name	Public Port ~ Private Port	Any

Helpful Hints..

- Check the **Application Name** drop down menu for a list of pre-defined applications that you can select from. If you select one of the pre-defined applications, click the arrow button next to the drop down menu to fill out the appropriate fields.
- You can select your computer from the list of DHCP clients in the **Computer Name** drop down menu, or enter the IP address manually of the computer you would like to open the specified port to.
- This feature allows you to open a range of ports to a computer on your network. To do so, enter the first port in the range you would like to open on the router in the first box under **Public Port** and last port of the range in the second one. After that you enter the first port in the range that the internal server uses in the first box under **Private Port** and the last port of the range in the second.
- To open a single port using this feature, simply enter the same number in both boxes.

Application Rules

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications have difficulties working through NAT (Network Address Translation). Special Applications makes some of these applications work with the DIR-685. If you need to run applications that require multiple connections, specify the port normally associated with an application in the “Trigger Port” field, select the protocol type as TCP or UDP, then enter the firewall (public) ports associated with the trigger port to open them for inbound traffic.

The DIR-685 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it.

Name: Enter a name for the rule. You may select a pre-defined application from the drop-down menu and click <<.

Trigger: This is the port used to trigger the application. It can be either a single port or a range of ports.

Traffic Type: Select the protocol of the trigger port (TCP, UDP, or Both).

Firewall: This is the port number on the Internet side that will be used to access the application. You may define a single port or a range of ports. You can use a comma to add multiple ports or port ranges.

Traffic Type: Select the protocol of the firewall port (TCP, UDP, or Both).

Schedule: The schedule of time when the Application Rule will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools > Schedules** section.

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APPLICATION RULE

The Application Rules option is used to open single or multiple ports in your firewall when the router senses data sent to the Internet on an outgoing "Trigger" port or port range. Special Applications rules apply to all computers on your internal network.

Save Settings Don't Save Settings

25 - APPLICATION RULES

Remaining number of rules that can be created: 25

			Port	Traffic Type
<input type="checkbox"/>		<< Application Name	Trigger []	Any
			Firewall []	Any
<input type="checkbox"/>		<< Application Name	Trigger []	Any
			Firewall []	Any
<input type="checkbox"/>		<< Application Name	Trigger []	Any
			Firewall []	Any
<input type="checkbox"/>		<< Application Name	Trigger []	Any
			Firewall []	Any

Helpful Hints..

- Check the **Application Name** drop down menu for a list of pre-defined applications that you can select from. If you select one of the pre-defined applications, click the arrow button next to the drop down menu to fill out the appropriate fields.

More...

QoS Engine

The QoS Engine option helps improve your network gaming performance by prioritizing applications. By default the QoS Engine settings are disabled and application priority is not classified automatically.

Uplink Speed: The speed at which data can be transferred from the router to your ISP. This is determined by your ISP.

Downlink Speed: The speed at which data can be transferred from the Internet to your router. This is determined by your ISP.

Lag Eliminated: Check this box to automatically set the priority for your applications.

The screenshot shows the D-Link DIR-685 Advanced Setup page. The left sidebar contains a menu with options: Port Forwarding, Application Rules, QoS Engine (selected), Network Filter, Website Filter, Firewall Settings, Routing, Advanced Wireless, Advanced Network, Guest Zone, and Wake on LAN. The main content area is titled 'QOS (QUALITY OF SERVICE)' and includes the following sections:

- QOS (QUALITY OF SERVICE)**: A section with a description: 'Use this section to configure D-Link's Smart QoS. This Smart QoS improves your VoIP voice quality or streaming by ensuring that your VoIP or streaming traffic is prioritized over other network traffic, such as FTP or Web. For best performance, please tick the "lag eliminated" option to automatically set the priority for your applications.' Below the description are two buttons: 'Save Settings' and 'Don't Save Settings'.
- BANDWIDTH**: A section with two dropdown menus: 'Uplink Speed : 1 Mbps' and 'Downlink Speed : 1 Mbps'. Below these is a note: 'Please contact with your Internet Service Provider to make sure your xDSL or cable uplink bandwidth, the accurately uplink bandwidth setting is allowed QoS engine operates smoothly and efficiency.'
- QOS**: A section with a checkbox labeled 'Lag eliminated (VoIP, Streaming)' which is currently unchecked. Below this are two buttons: 'Save Settings' and 'Don't Save Settings'.

On the right side of the page, there is a 'Helpful Hints.' section with a bullet point: '• The Smart QoS feature helps improve your network VoIP and streaming performance by prioritizing the data flows of network applications.'

Network Filter

Use MAC (Media Access Control) Filters to allow or deny LAN (Local Area Network) computers by their MAC addresses from accessing the Network. You can either manually add a MAC address or select the MAC address from the list of clients that are currently connected to the router.

Configure MAC Filtering: Select **Turn MAC Filtering Off, allow MAC addresses listed below**, or **deny MAC addresses listed below** from the drop-down menu.

MAC Address: Enter the MAC address you would like to filter.

To find the MAC address on a computer, please refer to the **Networking Basics** section in this manual.

DHCP Client: Select a DHCP client from the drop-down menu and click << to copy that MAC Address.

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DIR-685 ///

SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Port Forwarding
Application Rules
QoS Engine
Network Filter
Website Filter
Firewall Settings
Routing
Advanced Wireless
Advanced Network
Guest Zone
Wake on LAN

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="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule
<input type="checkbox"/>	<input type="text"/>	<<	Computer Name	Always	New Schedule

Helpful Hints..

- Create a list of MAC addresses that you would either like to allow or deny access to your network.
- Computers that have obtained an IP address from the router's DHCP server will be in the DHCP Client List. Select a device from the drop down menu and click the arrow to add that device's MAC to the list.
- Use the check box on the left to either enable or disable a particular entry.
- Use the **Always** drop down menu if you have previously defined a schedule in the router. If not, click on the **Add New** button to add one.

More...

Website Filters

Website Filters are used to allow you to set up a list of allowed websites that can be used by multiple users through the network. To use this feature, select **Allow** or **Deny**. Enter the domain or website and click **Save Settings**.

Add Website Select **Allow** or **Deny**.
Filtering Rule:

Website URL/ Enter the keywords or URLs that you want to
Domain: allow or block. Click **Save Settings**.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options, with 'Website Filter' highlighted. The main content area is titled 'PARENTAL CONTROL RULES' and contains a description of the feature, 'Save Settings' and 'Don't Save Settings' buttons, and a section for configuring rules. The 'Configure Parental Control below:' dropdown is set to 'Turn Parental Control OFF'. Below this, it states 'Remaining number of rules that can be created: 25'. A table with 10 rows allows for adding rules, each with a checkbox, a 'Website URL' input field, a 'Schedule' dropdown (all set to 'Always'), and a 'New Schedule' button. A 'Helpful Hints..' sidebar on the right provides additional guidance.

	Website URL	Schedule
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>
<input type="checkbox"/>		Always <input type="button" value="New Schedule"/>

Firewall Settings

A firewall protects your network from the outside world. The D-Link DIR-685 offers a firewall type functionality. The SPI feature helps prevent cyber attacks. Sometimes you may want a computer exposed to the outside world for certain types of applications. If you choose to expose a computer, you can enable DMZ. DMZ is short for Demilitarized Zone. This option will expose the chosen computer completely to the outside world.

Enable SPI: SPI (Stateful Packet Inspection, also known as dynamic packet filtering) helps to prevent cyber attacks by tracking more state per session. It validates that the traffic passing through the session conforms to the protocol.

Enable DMZ: If an application has trouble working from behind the router, you can expose one computer to the Internet and run the application on that computer.

Note: Placing 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.

DMZ IP Address: Specify the IP address of the computer on the LAN that you want to have unrestricted Internet communication. If this computer obtains its IP address automatically using DHCP, be sure to make a static reservation on the **Setup > Network Settings** page so that the IP address of the DMZ machine does not change.

D-Link

DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

FIREWALL SETTINGS

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.

DMZ means "Demilitarized Zone". DMZ allows computers behind the router firewall to be accessible to Internet traffic. Typically, your DMZ would contain Web servers, FTP servers and others.

Save Settings Don't Save Settings

FIREWALL SETTING

Enable SPI : ☒

DMZ HOST

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.

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.

Enable DMZ Host : ☐

DMZ IP Address : Computer Name :

Helpful Hints...

- **DMZ:** Only enable the DMZ option as a last resort. If you are having trouble using an application from a computer behind the router, first try opening ports associated with the application in the Advanced Port Forwarding section.
- **Firewall:** Firewall Rules is an advance feature used to deny or allow traffic from passing through the device. You can create detailed rules for the device. Please refer to the manual for more details and examples.

More...

Firewall Rules

Firewall Rules: The firewall rules is used to allow or deny traffic coming in or going out to the router based on the source and destination IP addresses as well as the traffic type and the specific port the data runs on.

Name: Users can specify a name for a firewall rule.

Action: Users can choose to allow or deny traffic.

Interface: Source - Select Source from the drop-down menu to select the starting point of the traffic that's to be allowed or denied is from LAN or WAN interface.

Dest - Select Dest to select the ending point of the traffic that's to be allowed or denied is arriving at LAN or WAN interface.

IP Address: Specify a single source or dest IP by entering the IP in the top box or enter a range of IPs by entering the first IP of the range in the top box and the last IP of the range in the bottom one.

Protocol: Select the traffic type.

Port Range: Enter the same port number in both boxes to specify a single port or enter the first port of the range in the top box and last port of the range in the bottom one to specify a range of ports.

Schedule: Use the Always drop-down menu to select a previously defined schedule or click on the **New Schedule** button to add a new schedule.

50 - 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="button" value="v"/>	<input type="text"/> <input type="text"/>	Protocol TCP <input type="button" value="v"/>	Always <input type="button" value="v"/> <input type="button" value="New Schedule"/>
	Action Allow <input type="button" value="v"/>	Dest <input type="button" value="v"/>	<input type="text"/> <input type="text"/>	Port Range <input type="text"/> <input type="text"/>	
<input type="checkbox"/>	Name <input type="text"/>	Source <input type="button" value="v"/>	<input type="text"/> <input type="text"/>	Protocol TCP <input type="button" value="v"/>	Always <input type="button" value="v"/> <input type="button" value="New Schedule"/>
	Action Allow <input type="button" value="v"/>	Dest <input type="button" value="v"/>	<input type="text"/> <input type="text"/>	Port Range <input type="text"/> <input type="text"/>	
<input type="checkbox"/>	Name <input type="text"/>	Source <input type="button" value="v"/>	<input type="text"/> <input type="text"/>	Protocol TCP <input type="button" value="v"/>	Always <input type="button" value="v"/> <input type="button" value="New Schedule"/>
	Action Allow <input type="button" value="v"/>	Dest <input type="button" value="v"/>	<input type="text"/> <input type="text"/>	Port Range <input type="text"/> <input type="text"/>	

Routing

The Routing option is an advanced method of customizing specific routes of data through your network.

Destination IP: Enter the IP address of packets that will take this route.

Netmask: Enter the netmask of the route. Please note that the octets must match your destination IP address.

Gateway: Enter your next hop gateway to be taken if this route is used.

Metric: The route metric is a value from 1 to 16 that indicates the cost of using this route. A value 1 is the lowest cost and 16 is the highest cost.

Interface: Select the interface that the IP packet must use to transit out of the router when this route is used.

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DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Port Forwarding
Application Rules
QoS Engine
Network Filter
Website Filter
Firewall Settings
Routing
Advanced Wireless
Advanced Network
Guest Zone
Wake on LAN

ROUTING

The Routing option allows you to define fixed routes to defined destinations.

Save Settings Don't Save Settings

32 - STATIC ROUTING

Remaining number of rules that can be created: 32

	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			

Helpful Hints..

- **Enable:** Specifies whether the entry will be enabled or disabled.
- **Interface:** Specifies the interface - WAN or WAN Physical -- that the IP packet must use to transit out of the router, when this route is used.
- **Destination IP:** The IP address of packets that will take this route.
- **Subnet Mask:** One bits in the mask specify which bits of the IP address must match.
- **Gateway:**

Advanced Wireless Settings

Transmit Power: Set the transmit power of the antennas.

Beacon Interval: Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a value. The default and recommended setting is 100.

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

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

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

Preamble Type: Select **Short** or **Long** Preamble.

CTS Mode: Select **None** to disable this feature. Select **Always** to force the router to require each wireless device on the network to perform an RTS/CTS handshake before they are allowed to transmit data. Select **Auto** to allow the router to decide when RTS/CTS handshakes are necessary.

D-Link

DIR-685

SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

ADVANCED WIRELESS SETTINGS

These options are for users that wish to change the behavior of their 802.11n wireless radio from the standard setting. We do not recommend changing these settings from the factory default. Incorrect settings may impact the performance of your wireless radio. The default settings should provide the best wireless radio performance in most environments.

Save Settings Don't Save Settings

ADVANCED WIRELESS SETTINGS

Transmit Power : 100%

Beacon interval : 100 (msec, range:20~1000, default:100)

RTS Threshold : 2346 (range: 256~2346, default:2346)

Fragmentation : 2346 (range: 1500~2346, default:2346, even number only)

DTIM interval : 1 (range: 1~255, default:1)

Preamble Type : ☐ Short Preamble ☒ Long Preamble

CTS Mode : ☒ None ☐ Always ☐ Auto

Helpful Hints..

- It is recommended that you leave these parameters at their default values. Adjusting them could limit the performance of your wireless network.
- Use 802.11g only for countries where it is required.

[More...](#)

Advanced Network Settings

UPnP: To use the Universal Plug and Play (UPnP™) feature, check the **Enable UPnP** box. UPNP provides compatibility with networking equipment, software and peripherals.

WAN Ping: Unchecking the box will not allow the DIR-685 to respond to pings. Blocking the Ping may provide some extra security from hackers. Check the box to allow the WAN port to be “pinged”.

WAN Port Speed: You may set the port speed of the Internet port to 10Mbps, 100Mbps, or auto. Some older cable or DSL modems may require you to set the port speed to 10Mbps.

Multicast streams: Check the box to allow multicast traffic to pass through the router from the Internet.

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DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

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.

Save Settings Don't Save Settings

UPNP

Universal Plug and Play (UPnP) supports peer-to-peer Plug and Play functionality for network devices.

Enable UPnP : ☒

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 : ☐

WAN PORT SPEED

10/100/1000Mbps Auto

MULTICAST STREAMS

Enable Multicast Streams : ☐

Helpful Hints...

- For added security, it is recommended that you disable the **WAN Ping Respond** option. Ping is often used by malicious Internet users to locate active networks or PCs.
- Gaming Mode should be used when you are playing games on the Internet from behind the router.

[More...](#)

Guest Zone

The Guest Zone feature will allow you to create temporary zones that can be used by guests to access the Internet. These zones will be separate from your main wireless network.

Enable Guest Zone: Check to enable the Guest Zone feature.

Schedule: The schedule of time when the Guest Zone will be active. The schedule may be set to Always, which will allow the particular service to always be enabled. You can create your own times in the **Tools > Schedules** section.

Wireless Network Name: Enter a wireless network name (SSID) that is different from your main wireless network.

Enable Routing Between Zones: Check to allow network connectivity between the different zones created.

Security Mode: Select the type of security or encryption you would like to enable for the guest zone.

D-Link		SETUP	ADVANCED	STORAGE	TOOLS	STATUS	SUPPORT								
DIR-685 // Port Forwarding Application Rules QoS Engine Network Filter Website Filter Firewall Settings Routing Advanced Wireless Advanced Network Guest Zone Wake on LAN	GUEST ZONE Use this section to configure the guest zone settings of your router. The guest zone provide a separate network zone for guest to access Internet. <div> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </div>						Helpful Hints... • Use this section to configure the guest zone settings of your router. The guest zone provide a separate network zone for guest to access Internet.								
	GUEST ZONE SELECTION Enable Guest Zone : <input type="checkbox"/> Always <input type="button" value="New Schedule"/> Wireless Network Name : <input type="text"/> (Also called the SSID) Security Mode : <input type="text"/> Disable Wireless Security (not recommended)														
	ROUTER SETTING FOR GUEST ZONE Use this section to configure the guest zone settings of your router. The guest zone provide a separate network zone for guest to access Internet. Router IP Address : <input type="text"/> 192.168.1.1 Default Subnet Mask : <input type="text"/> 255.255.255.0														
	GUEST ZONE CLIENT ISOLATION Enable the function to prevent one guest client to access other clients in the Guest Zone. The guest client can access to the Internet only. Enable Guest Zone Client Isolation : <input type="checkbox"/>														
	ROUTING BETWEEN HOST ZONE AND GUEST ZONE Use this section to enable routing between Host Zone and Guest Zone, Guest clients can not access Host clients' data without enable the function. Enable Routing Between Zones : <input type="checkbox"/>														
	DHCP SERVER SETTINGS FOR GUEST ZONE Use this section to configure the built-in DHCP server to assign IP address to the computers on your network. Enable DHCP Server : <input checked="" type="checkbox"/> DHCP IP Address Range : <input type="text"/> 100 <input type="text"/> to <input type="text"/> 199 (addresses within the LAN subnet) DHCP Lease Time : <input type="text"/> 10080 (minutes)														
	DHCP CLIENT LIST FOR GUEST ZONE <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 colspan="4"> </td> </tr> </tbody> </table>							Host Name	IP Address	MAC Address	Expired Time				
	Host Name	IP Address	MAC Address	Expired Time											
	LOCK CLIENT LIST FOR GUEST ZONE The function is used to lock all PC clients which are on the Guest Zone to an IP/MAC address bundle list; only PCs on the list can access the network after enabling the function. It makes sure that no additional client can access the Guest Zone regardless it is a wired or wireless connection. Enable LOCK CLIENT LIST : <input type="checkbox"/>														
<div> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </div>															

WIRELESS

Wake on LAN

The Wake on LAN feature allows you to define a UDP port on your router to receive Magic Packet from the Internet to turn on a computer connected to the router remotely.

Enable Wake on LAN: Check to enable the Wake on LAN feature.

UDP Port: Enter a UDP port.

Interface: LAN will be selected.

The screenshot shows the D-Link DIR-685 router's web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options, with 'Wake on LAN' selected at the bottom. The main content area is titled 'WAKE ON LAN SETTINGS' and contains a description of the feature. Below the description are 'Save Settings' and 'Don't Save Settings' buttons. A second section, 'WAKE ON LAN', contains the configuration options: 'Enable Wake on LAN' (unchecked checkbox), 'UDP Port' (text input field), and 'Interface' (dropdown menu set to 'LAN').

D-Link®	
DIR-685 //	SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT
Port Forwarding	<div>WAKE ON LAN SETTINGS</div> <p>The Wake on LAN option allows you to define UDP port on your router for received Magic Packet from Internet. The Wake on LAN allows a computer to be turned on or woken up remotely by Magic Packet.</p> <p><input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/></p> <div>WAKE ON LAN</div> <p>Enable Wake on LAN : <input type="checkbox"/></p> <p>UDP Port : <input type="text"/></p> <p>Interface : <input type="text" value="LAN"/></p>
Application Rules	
QoS Engine	
Network Filter	
Website Filter	
Firewall Settings	
Routing	
Advanced Wireless	
Advanced Network	
Guest Zone	
Wake on LAN	

Disk Management

Hard Disk Drive Information: The hard drive information such as size, available space, used space, and format.

Format Setting: Click the **Format Hard Drive** button to format the hard drive.

Warning: When formatting your hard drive, all data will be lost.

D-Link	
DIR-685	SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT
Disk Management	DISK INFORMATION The disk information will show here.
User/Group	HARD DISK DRIVE INFORMATION Name : ST9200420AS Format : EXT3 Capacity : 200 GB Used : 196 MB Available : 185 GB Disk Health : Very good Disk Temperature : 45°C / 113°F
Network Access	FORMAT SETTING If you would like to format hard drive on third extended file system(EXT3), click on the button below. <div>Format Hard Drive</div>
Ftp Server	
UPnP AV Server	
iTunes Server	
BT Download Manager	

User / Groups

The DIR-685 supports up to 64 unique users. The users can be added to a group, or individually. The users and groups are created to allow access to specific folders on the DIR-685, via FTP or your local network.

User and Group Creation: This section contains required attributes for a new user or group, including User Name and Password or Group name.

If creating a new user, carry out the following steps:

- Click the **User** radio button.
- Type in a **User Name**, **Password** and **Confirm Password** in the relevant fields.

If creating a new group, carry out the following steps:

- Click the **Group** Radio button.
- Type in a **Group name** in the Add New Group text box.
- Click the **Add** button to finish creating the group

List of All Users: Displays the list of users that you may assign to the selected group.

Users in Group List: Displays the current status of the quota feature.

To add a new user to the selected group, click the user then click the **Add>>** button.

To remove a user from the group, click the user and then click the **<<Remove** button.

The screenshot displays the D-Link DIR-685 Web Management Interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various services: Disk Management, User/Group, Network Access, Ptp Server, UPnP AV Server, iTunes Server, and BT Download Manager. The main content area is titled "USERS / GROUPS" and contains the following sections:

- USER AND GROUP CREATION:** This section allows creating new users or groups. It features radio buttons for "User" (selected) and "Group". For users, fields for "User Name", "Password", and "Confirm Password" are provided, along with an "Add" button. For groups, a "Select Group" dropdown menu and an "Apply" button are shown.
- GROUP SETTINGS:** This section displays two lists: "List of all users" and "Users in group". Between these lists are buttons for "Add >>" and "<< Remove". A checkbox labeled "All accounts" is also present.
- USER LIST:** A table showing a list of users with columns for "No.", "User Name", and "Group Name". Action icons for "Change Password" and "Delete" are visible.
- GROUP LIST:** A table showing a list of groups with columns for "No.", "Group Name", and "User Name".

The bottom of the interface features a "WIRELESS" section.

Network Access

The Network Access settings allow you to assign users and groups to specific folders or volumes. By default, all volumes are open to anyone on the local network with read/write access. Before specific user or group rules can be created, the default rules must be deleted.

Network Access Settings: Assign permissions for users and groups on the local network.

Category: Determines whether the access rule will apply to a group or individual user.

User/Group: Select the user or group for the access rule or you can select **All Accounts**.

Folder: Browse to open and select the folder or directory you are controlling access to.

Permission: Set the user or group permission to **Read Only** or to **R/W: Read/Write**.

Oplock: Opportunistic locks (oplocks) are a characteristic of the LAN Manager networking protocol implemented in the 32-Bit Windows family. Oplocks are guarantees made by a server for a shared logical volume to its clients. These guarantees inform the client that a file's content will not be allowed to be changed by the server, or if some change is imminent, the client will be notified before the change is allowed to proceed.

Oplocks are designed to increase network performance when it comes to network file sharing; however, when using file-based database applications, it is recommended to set the share oplocks to **No (off)**.

By default, Windows Vista® has Oplocks enabled and cannot be disabled. If you are having network performance issues with applications sharing files from the DIR-685, you may try to improve performance by setting Oplocks to **No (off)**.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes links for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various management options: Disk Management, User/Group, Network Access (selected), Ftp Server, UPnP AV Server, iTunes Server, and BT Download Manager. The main content area is titled 'NETWORK ACCESS SETTINGS' and contains the following sections:

- Assign permissions for users and groups on the local network.** Includes 'Save Settings' and 'Don't Save Settings' buttons.
- NETWORK ACCESS MODE**
 - ☐ Open Mode (Root Directory will open access for all users.)
 - ☒ Security Mode
- NETWORK ACCESS SETTINGS**
 - Category: ☒ User ☐ Group
 - User: Please Select user... ☐ All accounts
 - Folder: [Text Field] [Browse]
 - Permission: [R/W : Read/Write]
 - Oplocks: [Dropdown Menu]
 - Map archive: [Dropdown Menu]
 - Comment: [Text Field]
- NETWORK ACCESS LISTS**
 - Legend: ☒ Read/Write, ☐ Read Only, Modify Setting, Delete
 - Table with columns: Share, Path, User/Group, Comment, Oplocks, Map, R/W

Map Archive: When enabled, the file attribute "Archive" will be copied as the file is being stored on the DIR-685. Certain backup software attach this attribute to files that are being stored as backups.

Comment: Enter a comment for reference or description of the rule.

Network Access List: Lists all defined access rules.

FTP Server

The DIR-685 is equipped with a built-in FTP Server, which is easy to configure. It allows users access to important data whether they are on the local network or at a remote location. The FTP server can be configured to allow user access to specific directories, and will allow up to ten users to access the DIR-685 at a time. For improved security, the DIR-685 supports use of an FTPS client, such as SSL/TLS, to encrypt both the password and the data. The DIR-685 supports FireFTP, a cross-platform FTP client for Mozilla Firefox™ users.

FTP Server Settings: This section contains the user and group configuration settings for access to the FTP folder to the DIR-685.

Category: Determines whether the FTP server rule will apply to an individual user or a group.

User/Group: Select the user or group the FTP server rule will apply to.

Folder: Browse to open and select the folder or directory you are granting FTP access to. Select **root** to grant access to all volumes.

Permission: Set the user or group permission to **Read Only** or **RW: Read/Write**.

Enable FTP: Select **Enable** to enable the FTP server.

Mode: Select **LAN**, **WAN**, or **LAN+WAN**.

Max User: Sets the maximum amount of users that can connect to the FTP server.

Idle Time: Sets the amount of time a user can remain idle before being disconnected.

FTP SERVER SETTINGS	
Category	<input checked="" type="radio"/> User <input type="radio"/> Group
User	Please Select user... <input type="checkbox"/> All accounts
Folder	<input type="checkbox"/> root <input type="text"/> <input type="button" value="Browse"/>
Permission	<input type="text"/> <input type="button" value="Read Only"/>
Enable Ftp	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Mode	<input checked="" type="radio"/> Lan <input type="radio"/> Wan <input type="radio"/> Lan + Wan
Max User	<input type="text"/> 10
Idle Time	<input type="text"/> 5 (1~10 Minutes)
Port	<input type="text"/> 21 (1~65535, Default: 21)
Flow Control	<input checked="" type="radio"/> Unlimited <input type="radio"/> 1 x 10 KBs
Client Language	<input type="text"/> Western European
FTP ACCESS LIST	
<input checked="" type="checkbox"/> R/W : Read/Write <input type="checkbox"/> Read Only <input type="button" value="Modify settings"/> <input type="button" value="Delete"/>	
Path	User/Group R/W
FTP SERVER STATUS	
Status	Stopped
Mode	Lan + Wan
Port	21
Max. User	10
Flow Control	Unlimited
Idle Time	5
Client Language	Unknown language

FTP Server Settings

Port: Sets the FTP port. Default is 21.

Flow Control: Allows you to limit the amount of bandwidth available for each user.

Client Language: Most standard FTP clients like Windows FTP, only support Western European codepage when transferring files. Support has been added for non standard FTP clients that are capable of supporting these character sets.

FTP Access List: The FTP access for users and groups can be added and edited here.

Server Status: Displays the current status of the FTP Server.

FTP SERVER SETTINGS

Category
☒ User
☐ Group

User
Please Select user...
☐ All accounts

Folder
☐ root
Browse

Permission
Read Only

Enable Ftp
☒ Enable
☐ Disable

Mode
☒ Lan
☐ Wan
☐ Lan + Wan

Max User
10

Idle Time
5 (1~10 Minutes)

Port
21 (1~65535,Default:21)

Flow Control
☒ Unlimited
☐ 1 x 10 KBs

Client Language
Western European

FTP ACCESS LIST

☒ R/W : Read/Write
☐ Read Only
☐ Modify settings
☐ Delete

Path	User/Group	R/W
------	------------	-----

FTP SERVER STATUS

Status	Stopped
Mode	Lan + Wan
Port	21
Max. User	10
Flow Control	Unlimited
Idle Time	5
Client Language	Unknown language

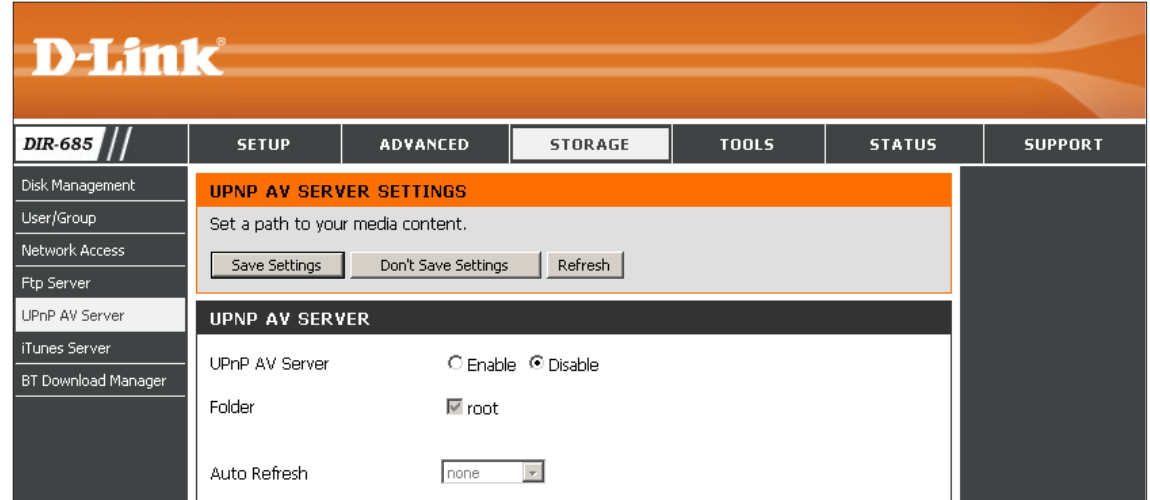
UPnP AV Server

The DIR-685 features a UPnP AV Server. This server provides the ability to stream photos, music and videos to UPnP AV compatible network media players. If the server is enabled, the DIR-685 will automatically be detected by UPnP AV compatible media players on your local network.

UPnP AV Server: Select **Enable** or **Disable** to enable or disable the DIR-685 UPnP AV server.

Folder: Specifies the folder or directory that will be shared by the UPnP AV server. Select **root** to share all files on all volumes, or click **Browse** to select a specific folder.

Auto Refresh: Select the auto refresh interval from the drop-down menu.



The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various settings categories: Disk Management, User/Group, Network Access, Ftp Server, UPnP AV Server (selected), iTunes Server, and BT Download Manager. The main content area is titled "UPNP AV SERVER SETTINGS" and contains a section for "UPNP AV SERVER SETTINGS" with a text input field for "Set a path to your media content." and buttons for "Save Settings", "Don't Save Settings", and "Refresh". Below this is the "UPNP AV SERVER" section, which includes a toggle for "UPnP AV Server" (set to "Disable"), a "Folder" dropdown menu (set to "root"), and an "Auto Refresh" dropdown menu (set to "none").

iTunes® Server

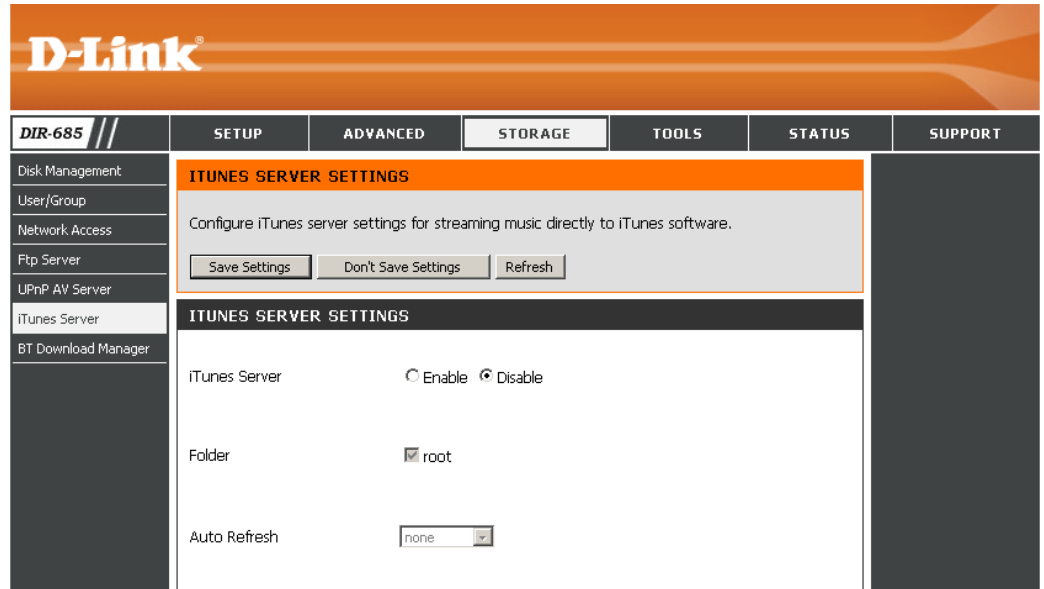
The DIR-685 features an iTunes® Server. This server provides the ability to share music and videos to computers on the local network running iTunes. If the server is enabled, the DIR-685 will be automatically detected by the iTunes program and the music and videos contained in the specified directory will be available to stream over the network.

iTunes Server: Select **Enable** or **Disable** to enable or disable the DIR-685 iTunes server.

Folder: Specifies the folder or directory that will be shared by the iTunes server. Select **root** to share all files on all volumes, or click **Browse** to select a specific folder.

Password: Sets password for the iTunes server. (Optional)

Auto Refresh: Select the auto refresh interval from the drop-down menu.



The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various settings: Disk Management, User/Group, Network Access, Ftp Server, UPnP AV Server, iTunes Server (selected), and BT Download Manager. The main content area is titled "iTunes Server Settings" and contains the following configuration options:

- iTunes Server:** Radio buttons for ☐ Enable and ☒ Disable.
- Folder:** A text field containing "root" with a checkmark icon to its right.
- Auto Refresh:** A drop-down menu currently set to "none".

At the top of the settings area, there is a description: "Configure iTunes server settings for streaming music directly to iTunes software." Below this are three buttons: "Save Settings", "Don't Save Settings", and "Refresh".

BitTorrent Download Manager

Enable BT: Check to enable the BitTorrent download manager.

Share Path: Enter the path to the folder on your hard drive in the router to allow BitTorrent downloading. Click **Browse** to select the folder.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options: Disk Management, Users/Groups, Storage Access, Ftp Server, UPnP AV Server, iTunes Server, and BT Download Manager. The main content area is titled "BT DOWNLOAD MANAGER" and contains the instruction "Use this section to configure BT manager." Below this is the "BT SETTING" section, which includes a checkbox for "Enable BT" (checked), a text field for "Share Path" with a "Browse" button, and a "Save Settings" button.

DIR-685	SETUP	ADVANCED	STORAGE	TOOLS	STATUS	SUPPORT
Disk Management	BT DOWNLOAD MANAGER					
Users/Groups	Use this section to configure BT manager.					
Storage Access	BT SETTING					
Ftp Server	Enable BT : <input checked="" type="checkbox"/>					
UPnP AV Server	Share Path : <input type="text"/> <input type="button" value="Browse"/>					
iTunes Server	<input type="button" value="Save Settings"/>					
BT Download Manager						

Administrator Settings

This page will allow you to change the Administrator and User passwords. You can also enable Remote Management. There are two accounts that can access the management interface through the web browser. The accounts are admin and user. Admin has read/write access while user has read-only access. User can only view the settings but cannot make any changes. Only the admin account has the ability to change both admin and user account passwords.

Admin Password: Enter a new password for the Administrator Login Name. The administrator can make changes to the settings.

User Password: Enter the new password for the User login. If you log in as the User, you can see the settings but cannot change them.

Remote Management: Remote management allows the DIR-685 to be configured from the Internet by a web browser. A username and password is still required to access the Web-Management interface. In general, only a member of your network can browse the built-in web pages to perform Administrator tasks. This feature enables you to perform Administrator tasks from the remote (Internet) host.

Remote Admin The port number used to access the DIR-685.

Port: Example: `http://x.x.x.x:8080` where x.x.x.x is the Internet IP address of the DIR-685 and 8080 is the port used for the Web-Management interface.

The screenshot shows the D-Link DIR-685 web management interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various settings categories: Admin, Time, Log Settings, Email Settings, System, Firmware, Dynamic DNS, System Check, and Schedules. The main content area is titled 'ADMINISTRATOR SETTINGS' and contains the following sections:

- ADMINISTRATOR SETTINGS:** A message states, '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 are 'Save Settings' and 'Don't Save Settings' buttons.
- ADMINISTRATOR (THE DEFAULT LOGIN NAME IS "Admin"):** This section contains two password fields: 'New Password:' and 'Confirm Password:', both masked with asterisks.
- REMOTE MANAGEMENT:** This section includes an 'Enable Remote Management:' checkbox, an 'IP Allowed to Access:' text field with the value '0.0.0.0', and a 'Port:' dropdown menu currently set to '8080'.

On the right side of the interface, there is a 'Helpful Hints...' section with the following text:

- For security reasons, it is recommended that you change the Login Name and Password for the Administrator 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.
- 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.

A 'More...' link is located at the bottom of the hints section.

Time Settings

The Time 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 time server. Daylight saving can also be configured to automatically adjust the time when needed.

Time Zone: Select the Time Zone from the drop-down menu.

Daylight Saving: To select Daylight Saving time manually, select enabled or disabled, and enter a start date and an end date for daylight saving time.

Enable NTP Server: NTP is short for Network Time Protocol. NTP synchronizes computer clock times in a network of computers. Check this box to use an NTP server. This will only connect to a server on the Internet, not a local server.

NTP Server Used: Select an NTP server from the drop-down menu.

Manual: To manually input the time, make sure the *Automatically synchronize with D-Link's Internet time server* box is unchecked. Select the Year, Month, Day, Hour, Minute, and Second from the drop-down menus. Click **Save Settings** to save and activate your settings.

The screenshot shows the D-Link DIR-685 web interface for Time Settings. The interface has a top navigation bar with the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar contains a menu with options: Admin, Time (selected), Log Settings, Email Settings, System, Firmware, Dynamic DNS, System Check, and Schedules. The main content area is titled 'TIME AND DATE' and includes a description of the configuration options. Below the description are two buttons: 'Save Settings' and 'Don't Save Settings'. The 'TIME AND DATE CONFIGURATION' section shows the current time as 01/01/1970 00:31:39 and a dropdown menu for Time Zone set to (GMT-08:00) Pacific Time (US & Canada); Tijuana. There is a checkbox for 'Enable Daylight Saving' which is unchecked, and a button labeled 'Sync. your computer's time settings'. The 'AUTOMATIC TIME AND DATE CONFIGURATION' section has a checked checkbox for 'Automatically synchronize with D-Link's Internet time server' and a dropdown menu for 'NTP Server Used' set to ntp1.dlink.com, with an 'Update Now' button. Below this is a 'SET THE TIME AND DATE MANUALLY' section with dropdown menus for Year (2008), Month (Dec), Day (5), Hour (16), Minute (53), and Second (17). At the bottom are 'Save Settings' and 'Don't Save Settings' buttons. On the right side, there is a 'Helpful Hints..' section with a bullet point about manually setting time and a 'More...' link.

Log Settings

The DIR-685 keeps a running log of events and activities occurring on the router.

Save: Click to save the log results to your hard drive.

Log Types: Select the type of information displayed in the router log.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes the D-Link logo and tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options: Admin, Time, Log Settings (highlighted), Email Settings, System, Firmware, Dynamic DNS, System Check, and Schedules. The main content area is titled 'LOG SETTINGS' and contains the following sections:

- LOG SETTINGS:** A message states 'Logs can be saved by sending it to an admin email address.' Below this are two buttons: 'Save Settings' and 'Don't Save Settings'.
- SAVE LOG FILE:** A section with a text input field labeled 'Save Log File To Local Hard Drive' and a 'Save' button.
- LOG TYPE:** A table with two columns: 'Log Type' and a checkbox column. The checked options are 'System Activity', 'Attacks', and 'Notice'. The unchecked options are 'Debug Information' and 'Dropped Packets'.

On the right side of the interface, there is a 'Helpful Hints..' section with a bullet point: 'Click on the **Save** button to save log file to local hard drive which can later tp send to the network administrator for troubleshooting. You can also select what type of event you would like to be logged from **Log Type**.' Below this is a 'More...' link.

Email Settings

The Email feature can be used to send the system log files, router alert messages, and firmware update notification to your email address.

Enable Email Notification: When this option is enabled, router activity logs are e-mailed to a designated email address.

From Email Address: This email address will appear as the sender when you receive a log file or firmware upgrade notification via email.

To Email Address: Enter the email address where you want the email sent.

SMTP Server Address: Enter the SMTP server address for sending email. If your SMTP server requires authentication, select this option.

Enable Authentication: Check this box if your SMTP server requires authentication.

Account Name: Enter your account for sending email.

Password: Enter the password associated with the account. Re-type the password associated with the account.

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DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

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EMAIL SETTINGS

The Email feature can be used to send the system log files, router alert messages, and firmware update notification to your email address.

Save Settings Don't Save Settings

ENABLE

Enable Email Notification ☐

EMAIL SETTINGS

From Email Address
To Email Address
Email Subject
SMTP Server Address
Enable Authentication ☐
Account Name
Password
Verify Password Send Mail Now

Helpful Hints..

- You may want to make the email settings similar to those of your email client program.

More...

System Settings

Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save** button. You will then see a file dialog, where you can select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, use the **Browse** control to find a previously saved file of configuration settings. Then, click the **Load** button to transfer those settings to the router.

Restore to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. If you want to save the current router configuration settings, use the Save button above.

Reboot Device: Click to reboot the router.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various settings categories: Admin, Time, Log Settings, Email Settings, System, Firmware, Dynamic DNS, System Check, and Schedules. The main content area is titled 'SAVE AND RESTORE SETTINGS' and contains the following text: '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.'

Below this text, there are three sections of controls:

- Save Settings To Local Hard Drive :** A 'Save' button.
- Load Settings From Local Hard Drive :** A text input field, a 'Browse...' button, and an 'Upload Settings' button.
- Restore To Factory Default Settings :** A 'Restore Device' button.

At the bottom of the main content area, there is a 'Reboot : Reboot' button.

On the right side of the interface, there is a 'Helpful Hints..' section with a bullet point: 'Once your router is configured the way you want it, you can save these settings to a configuration file that can later be loaded in the event that the router's default settings are restored. To do this, click the **Save** button next to where it says Save Settings to Local Hard Drive.' Below this is a 'More...' link.

Update Firmware

You can upgrade the firmware of the DIR-685 here. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to locate the firmware file to be used for the update. Please check the D-Link support site for firmware updates at <http://support.dlink.com>. You can download firmware upgrades to your hard drive from the D-Link support site.

Firmware Upgrade: Click on **Check Now** to find out if there is an updated firmware; if so, download the new firmware to your hard drive.

Browse: After you have downloaded the new firmware, click **Browse** to locate the firmware update on your hard drive. Click **Upload** to complete the firmware upgrade.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options: Admin, Time, Log Settings, Email Settings, System, Firmware (selected), Dynamic DNS, System Check, and Schedules. The main content area is titled 'FIRMWARE UPDATE' and contains the following text:

There may be new firmware for your DIR-685 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 Upload button to start the firmware upgrade.

The language pack allows you to change the language of the user interface on the DIR-685. We suggest that you upgrade your current language pack if you upgrade the firmware. This ensures that any changes in the firmware are displayed correctly.

To upgrade the language pack, locate the upgrade file on the local hard drive with the Browse button. Once you have found the file to be used, click the Upload button to start the language pack upgrade.

FIRMWARE INFORMATION

Current Firmware Version : 1.00
Current Firmware Date : Fri 28 Nov 2008

Check Online Now for Latest Firmware Version :

FIRMWARE UPGRADE

Note: Some firmware upgrades reset the configuration options to the factory defaults. Before performing an upgrade, be sure to save the current configuration.

To upgrade the firmware, your PC must have a wired connection to the router. Enter the name of the firmware upgrade file, and click on the Upload button.

Upload :

Helpful Hints..

- **Firmware Update** are released periodically to improve the functionality of your router and also to add features. If you run into a problem with a specific feature of the router, check our support site by clicking on the [Click here to check for an upgrade on our support site](#) link and see if an updated firmware is available for your router.

[More...](#)

Dynamic DNS

The DDNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have (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 in your domain name to connect to your server no matter what your IP address is.

DDNS: Dynamic Domain Name System is a method of keeping a domain name linked to a changing IP Address. Check the box to enable DDNS.

Server Address: Choose your DDNS provider from the drop-down menu.

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

Password: Enter the Password for your DDNS account.

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DYNAMIC DNS

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.

[Sign up for D-Link's Free DDNS service at www.DLinkDDNS.com.](http://www.DLinkDDNS.com)

Save Settings Don't Save Settings

DYNAMIC DNS SETTINGS

Enable DDNS : ☐

Server Address :

Host Name :

Username :

Password :

DDNS Account Testing

Helpful Hints..

- To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu.

[More...](#)

System Check

VCT Info: Displays the connection status of the Ethernet cables connected to your router.

Ping Test: The Ping Test is used to send Ping packets to test if a computer is on the Internet. Enter the IP address that you wish to Ping, and click **Ping**.

Ping Results: The results of your ping attempts will be displayed here.

The screenshot displays the D-Link DIR-685 web interface. The top navigation bar includes tabs for SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar lists various configuration options: Admin, Time, Log Settings, Email Settings, System, Firmware, Dynamic DNS, System Check (highlighted), and Schedules. The main content area is titled 'SYSTEM CHECK' and contains the following sections:

- SYSTEM CHECK**: A description stating that the tool can be used to verify physical connectivity on both LAN and Internet interfaces.
- VCT INFO**: A table showing the status of various ports.

Ports	Link Status	
Internet		Disconnected More Info
LAN4		Disconnected More Info
LAN3		Disconnected More Info
LAN2		Disconnected More Info
LAN1		100Mbps FULL Duplex More Info
- PING TEST**: A section explaining that the Ping Test is used to send 'Ping' packets to test if a computer is on the Internet. It includes a text input field for 'Host Name or IP Address' and a 'Ping' button.
- PING RESULT**: A section for displaying the results of the ping test.

On the right side of the interface, there is a 'Helpful Hints..' section with a bullet point explaining that the 'Ping' function checks if a computer on the Internet is running and responding, and provides instructions on how to enter the target IP address or domain name. A 'More...' link is also present.

Schedules

Name: Enter a name for your new schedule.

Days: Select a day, a range of days, or All Week to include every day.

Time: Check **All Day - 24hrs** or enter a start and end time for your schedule.

Save: Click **Save** to save your schedule. You must click Save Settings at the top for your schedules to go into effect.

Schedule Rules List: The list of schedules will be listed here. Click the **Edit** icon to make changes or click the **Delete** icon to remove the schedule.

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DIR-685

SETUP ADVANCED STORAGE **TOOLS** STATUS SUPPORT

Admin
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SCHEDULES

The Schedule configuration option is used to manage schedule rules for "Access Control", "Firewall Rules" and "Parental Control".

Save Settings Don't Save Settings

10 - ADD SCHEDULE RULE

Name :

Day(s) : ☐ All Week ☒ Select Day(s)

☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

All Day - 24 hrs : ☐

Start Time : : : AM (hour:minute, 12 hour time)

End Time : : : AM (hour:minute, 12 hour time)

SCHEDULE RULES LIST

Name	Day(s)	Time Frame
------	--------	------------

Helpful Hints..

- Schedules are used with a number of other features to define when those features are in effect.
- Give each schedule a name that is meaningful to you. For example, a schedule for Monday through Friday from 3:00pm to 9:00pm, might be called "After School".
- Click **Save** to add a completed schedule to the list below.
- Click **Edit** icon to change an existing schedule.
- Click **Delete** icon to permanently delete a schedule.

[More...](#)

Device Information

This page displays the current information for the DIR-685. It will display the LAN, WAN (Internet), and Wireless information.

If your Internet connection is set up for a Dynamic IP address, then a **Release** button and a **Renew** button will be displayed. Use **Release** to disconnect from your ISP and use **Renew** to connect to your ISP.

If your Internet connection is set up for PPPoE, a **Connect** button and a **Disconnect** button will be displayed. Use **Disconnect** to drop the PPPoE connection and use **Connect** to establish the PPPoE connection.

General: Displays the router's time and firmware version.

WAN: Displays the MAC address and the public IP settings for the router.

LAN: Displays the MAC address and the private (local) IP settings for the router.

Wireless LAN: Displays the wireless MAC address and your wireless settings such as SSID and Channel.

LAN Computers: Displays computers and devices that are connected to the router via Ethernet and that are receiving an IP address assigned by the router (DHCP).

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DIR-685

SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Device Info Log Statistics Internet Session Wireless

DEVICE INFORMATION

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

GENERAL

Time :
Firmware Version : 1.00 , Fri 28 Nov 2008

WAN

Connection Type : DHCP client
Cable Status : Disconnected
Network Status : connecting
Connection Up Time :
DHCP Renew DHCP Release
MAC Address : 00:21:91:5a:87:8e
IP Address : 0.0.0.0
Subnet Mask : 0.0.0.0
Default Gateway : 0.0.0.0
DNS : 0.0.0.0

LAN

MAC Address : 00:21:91:5a:87:8d
IP Address : 192.168.0.1
Subnet Mask : 255.255.255.0
DHCP Server : Enabled

WIRELESS LAN

Wireless Radio : Enable
MAC Address : 00:21:91:5a:87:8d
Wireless Band : 2.4GHz
SSID : dlink
Channel : 10
Security Mode : CIPHER_AUTO

LAN COMPUTER

IP Address	Name (if any)	MAC
192.168.0.199	171-mbarber1	00:04:23:2C:51:A3
192.168.0.100	Gregs-Phone	00:1F:5B:69:14:FB

IGMP MULTICAST MEMBERSHIPS

Multicast Group IP	Membership IP
--------------------	---------------

WIRELESS

Helpful Hints...
• All of your LAN, Internet and WIRELESS 802.11 N connection details are displayed here.
More...

Log

The router automatically logs (records) events of possible interest in its internal memory. If there is not enough internal memory for all events, logs of older events are deleted but logs of the latest events are retained. The Log option allows you to view the router logs. You can define what types of events you want to view and the level of the events to view.

First Page: Click to view the first page of the log.

Last Page: Click to view the last page of the log.

Previous: Click to view the previous page.

Next: Click to view the next page.

Clear: Clears all of the log contents.

Link to Log Settings: Click to navigate to the Log Settings page. You can select the type of information displayed in the log.

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DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Device Info
Log
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Internet Session
Wireless

VIEW LOG
View Log displays the activities occurring on the DIR-685.

LOG FILES
First Page Last Page Previous Next Clear Link To Log Settings
Page 1 of 40

Time	Message
Jan 6 19:06:02	DHCP: Server sending NAK to 00:04:23:2c:51:a3.
Jan 6 19:06:01	DHCP: Server sending ACK to 192.168.0.199. (Lease time = -1)
Jan 6 19:06:01	DHCP: Server receive REQUEST from 00:04:23:2c:51:a3.
Jan 6 19:06:01	DHCP: Server sending OFFER of 192.168.0.199 for static DHCP client.
Jan 6 19:06:01	DHCP: Server receive DISCOVER from 00:04:23:2c:51:a3.
Jan 6 19:05:28	DHCP: Client send DISCOVER.
Jan 6 19:05:12	DHCP: Client send DISCOVER.
Jan 6 19:05:04	DHCP: Client send DISCOVER.
Jan 6 19:05:00	DHCP: Client send DISCOVER.
Jan 6 19:04:59	DHCP: Client send DISCOVER.

Helpful Hints..
• Check the log frequently to detect unauthorized network usage.
[More...](#)

Statistics

The screen below displays the Traffic Statistics. Here you can view the amount of packets that pass through the DIR-685 on both the WAN and the LAN ports. The traffic counter will reset if the device is rebooted.

The screenshot shows the D-Link DIR-685 web interface. The top navigation bar includes the D-Link logo and tabs for DIR-685, SETUP, ADVANCED, STORAGE, TOOLS, STATUS, and SUPPORT. The left sidebar contains links for Device Info, Log, Statistics (highlighted), Internet Session, and Wireless. The main content area is titled 'TRAFFIC STATISTICS' and contains a description: 'Traffic Statistics display Receive and Transmit packets passing through the DIR-685.' Below this is a table with columns for 'Receive' and 'Transmit' packets, with rows for Internet, LAN, and WIRELESS 11n. There are 'Refresh' and 'Reset' buttons above the table. On the right, a 'Helpful Hints..' section provides a summary of the statistics and a 'More...' link.

	Receive	Transmit
Internet	0 Packets	0 Packets
LAN	2371 Packets	3986 Packets
WIRELESS 11n	15 Packets	1119 Packets

Internet Sessions

The Internet Sessions page displays full details of active Internet sessions through your router. An Internet session is a conversation between a program or application on a LAN-side computer and a program or application on a WAN-side computer.

Local: The IP address and, where appropriate, port number of the local application.

NAT: The port number of the LAN-side application as viewed by the WAN-side application.

Internet: The IP address and, where appropriate, port number of the application on the Internet.

Protocol: The communications protocol used for the conversation.

State: State for sessions that use the TCP protocol:

NO: None -- This entry is used as a placeholder for a future connection that may occur.

SS: SYN Sent -- One of the systems is attempting to start a connection.

EST: Established -- the connection is passing data.

FW: FIN Wait -- The client system has requested that the connection be stopped.

CW: Close Wait -- The server system has requested that the connection be stopped.

TW: Time Wait -- Waiting for a short time while a connection that was in FIN Wait is fully closed.

LA: Last ACK -- Waiting for a short time while a connection that was in Close Wait is fully closed.

CL: Closed -- The connection is no longer active but the session is being tracked in case there are any retransmitted packets still pending.

D-Link

DIR-685 // SETUP ADVANCED STORAGE TOOLS STATUS SUPPORT

Device Info
Log
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Wireless

ACTIVE SESSION
Active Session display Source and Destination packets passing through the DIR-685.
Refresh

NAPT SESSION
TCP Session : 1
UDP Session : 1
Total : 2

NAPT ACTIVE SESSION

IP Address	TCP Session	UDP Session	
192.168.0.199	1	1	detail

Helpful Hints..
• This is a list of all active conversations between WAN computers and LAN computers.
More...

Dir: The direction of initiation of the conversation:

Out - Initiated from LAN to WAN.

In - Initiated from WAN to LAN.

Priority: The preference given to outbound packets of this conversation by the QoS Engine logic. Smaller numbers represent higher priority.

Time Out: The number of seconds of idle time until the router considers the session terminated. The initial value of Time Out depends on the type and state of the connection.


300 seconds - UDP connections.

240 seconds - Reset or closed TCP connections. The connection does not close instantly so that lingering packets can pass or the connection can be re-established.

7800 seconds - Established or closing TCP connections.

Wireless

The wireless client table displays a list of current connected wireless clients. This table also displays the connection time and MAC address of the connected wireless clients.



DIR-685 ///

SETUPADVANCEDSTORAGETOOLSSTATUSSUPPORT

Device InfoLogStatisticsInternet SessionWireless

CONNECTED WIRELESS CLIENT LIST

The Wireless Client table below displays Wireless clients Connected to the AP (Access Point).


Connect Time	MAC Address	Mode
4 minutes 26 seconds	00:1F:5B:69:14:FB	11g

Helpful Hints..

- This is a list of all wireless clients that are currently connected to your wireless router.

[More...](#)

Support



DIR-685

Menu

Setup

Advanced

Storage

Tools

Status

SETUP

ADVANCED

STORAGE

TOOLS

STATUS

SUPPORT

SUPPORT MENU

- Setup
- Advanced
- Storage
- Tools
- Status

SETUP

- Internet Setup
- Wireless Setup
- LAN Setup

ADVANCED

- Port Forwarding
- Application Rules
- QoS Engine
- Access Control
- Parental Control
- Firewall & DMZ
- Routing
- Advanced Wireless
- Advanced Network
- Guest Zone

STORAGE

- Disk Management
- User/Group
- Network Access
- Ftp Server
- UPnP AV Server
- iTunes Server
- LCD Setup
- BT DOWNLOAD MANAGER

TOOLS

- Admin
- Time
- Log Settings
- System
- Firmware
- Dynamic DNS
- System Check
- Schedules

STATUS

- Device Info
- Log
- Statistics
- Internet Session
- Wireless

WIRELESS

Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders. The DIR-655 offers the following types of security:

- WPA2 (Wi-Fi Protected Access 2)
- WPA (Wi-Fi Protected Access)
- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)

What is WPA?

WPA, or Wi-Fi Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The two major improvements over WEP:

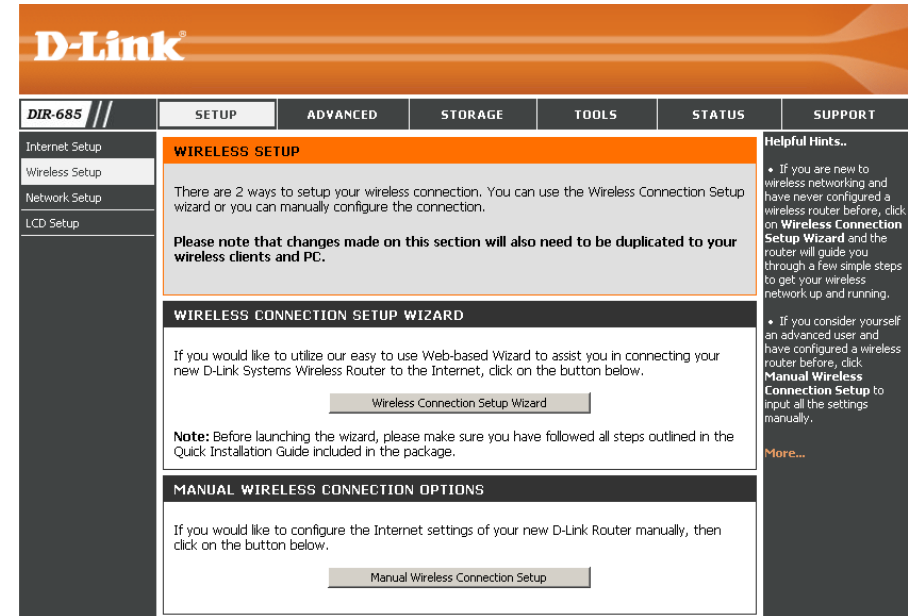
- Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys have not been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP.
- User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?*&_) and spaces. This key must be the exact same key entered on your wireless router or access point.

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

Wireless Connection Setup Wizard

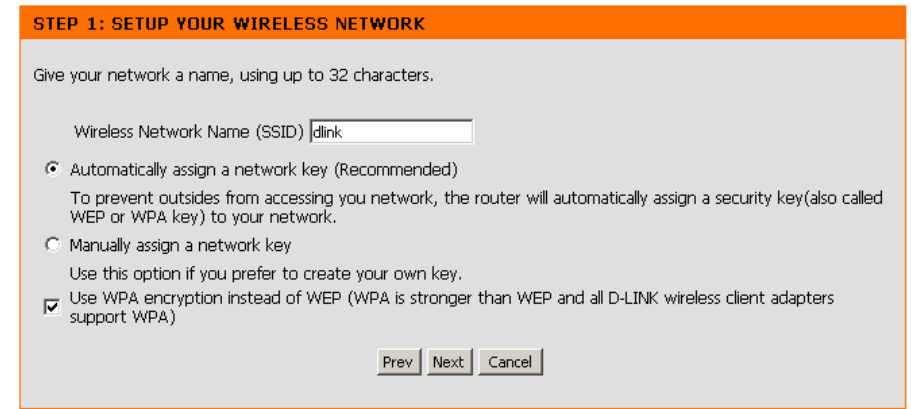
To run the security wizard, click on **Setup** at the top and then click **Wireless Connection Setup Wizard**.



Type your desired wireless network name (SSID).

Automatically: Select this option to automatically generate the router's network key and click **Next**.

Manually: Select this option to manually enter your network key and click **Next**.



If you selected **Automatically**, the summary window will display your settings. Write down the security key and enter this on your wireless clients. Click **Save** to save your settings.



SETUP COMPLETE!

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

Wireless Network Name (SSID) : dlink

Security Mode : Auto (WPA or WPA2) - Personal

Cipher Type : TKIP or AES

Network Key : SkWxnnaFJf

Note: In some smart wireless utilities (e.g. D-LINK wireless utility or wireless zero configuration), you only select Wireless Network Name and enter Network Key to access Internet.

If you selected **Manually**, the following screen will appear.



STEP 2: SET YOUR WIRELESS SECURITY PASSWORD

You have selected your security level - you will need set a wireless security password. The WPA (Wi-Fi Protected Access) key must meet one of following guidelines:

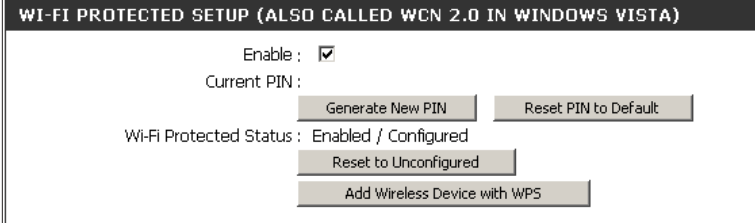
- Between 8 to 63 characters (A longer WPA key is more secure than a short one)
- Exactly 64 characters using 0-9 and A-F

Network Key :

Note: You will need enter the same password as keys in this step into your wireless client in order to enable proper wireless communication.

Add Wireless Device with WPS Wizard

From the **Setup > Wireless Setup > Manual Wireless Connection Setup** screen, click **Add Wireless Device with WPS**.



WI-FI PROTECTED SETUP (ALSO CALLED WCN 2.0 IN WINDOWS VISTA)

Enable : ☒

Current PIN :

Generate New PIN Reset PIN to Default

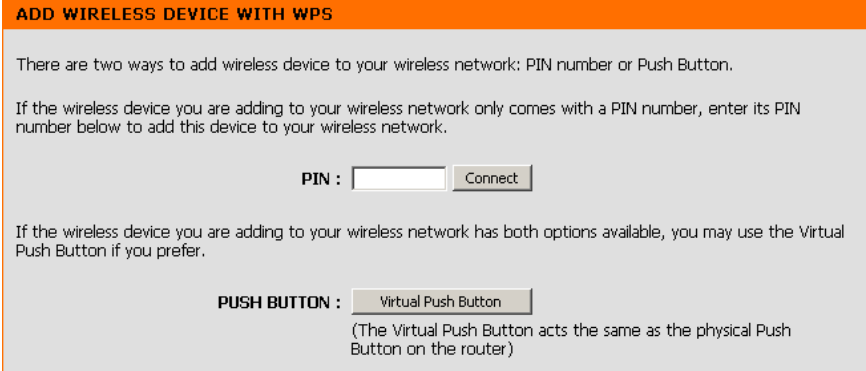
Wi-Fi Protected Status : Enabled / Configured

Reset to Unconfigured

Add Wireless Device with WPS

PIN: Select this option to use PIN method. In order to use this method, you must know the wireless client's eight digit PIN and click **Connect**.

Push Button: Select this option to use PBC (Push Button) method to add a wireless client. Click **Connect**.



ADD WIRELESS DEVICE WITH WPS

There are two ways to add wireless device to your wireless network: PIN number or Push Button.

If the wireless device you are adding to your wireless network only comes with a PIN number, enter its PIN number below to add this device to your wireless network.

PIN :

If the wireless device you are adding to your wireless network has both options available, you may use the Virtual Push Button if you prefer.

PUSH BUTTON :

(The Virtual Push Button acts the same as the physical Push Button on the router)

Configure WPA-Personal (PSK)

It is recommended to enable encryption on your wireless router before your wireless network adapters. Please establish wireless connectivity before enabling encryption. Your wireless signal may degrade when enabling encryption due to the added overhead.

1. Log into the web-based configuration by opening a web browser and entering the IP address of the router (192.168.0.1). Click on **Setup** and then click **Wireless Settings** on the left side.
2. Next to *Security Mode*, select **Enable WPA/WPA2 Wireless Security (enhanced)**.
3. Next to *Cipher Type*, select **TKIP and AES, TKIP**, or **AES**.
4. Next to *Group Key Update Interval*, enter the amount of time before the group key used for broadcast and multicast data is changed (3600 is default).
5. Next to *Pre-Shared Key*, enter a key (passphrase). The key is entered as a pass-phrase in ASCII format at both ends of the wireless connection. The pass-phrase must be between 8-63 characters.
6. Click **Save Settings** to save your settings. If you are configuring the router with a wireless adapter, you will lose connectivity until you enable WPA-PSK on your adapter and enter the same passphrase as you did on the router.

WIRELESS NETWORK SETTINGS	
Enable Wireless :	<input checked="" type="checkbox"/>
Wireless Network Name :	dlink0001 (Also called the SSID)
802.11 Mode :	802.11 Mixed(g/b)
Enable Auto Channel Selection :	<input type="checkbox"/>
Wireless Channel :	6
Transmission Rate :	Best (automatic) (Mbit/s)
Channel Width :	20 MHz
Short Guard Interval :	<input type="checkbox"/>
WMM Enable :	<input type="checkbox"/> (Wireless QoS)
Enable Hidden Wireless :	<input type="checkbox"/> (Also called "Disable SSID Broadcast")

WIRELESS SECURITY MODE	
Security Mode :	Enable WPA/WPA2 Wireless Security (enhanced)

WPA/WPA2	
WPA/WPA2 requires stations to use high grade encryption and authentication.	
Cipher Type :	Both
PSK / EAP :	PSK
Network Key :	C9D96633EA4CB8B773891A1613CEADA7D5E (8~63 ASCII or 64 HEX)

Connect to a Wireless Network Using Windows Vista®

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

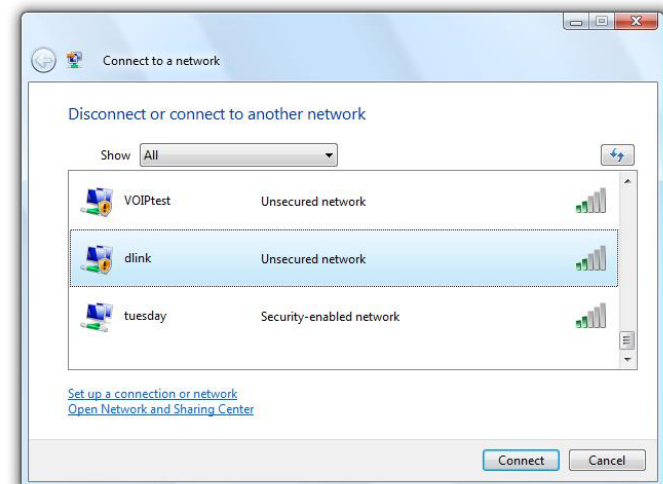
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

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



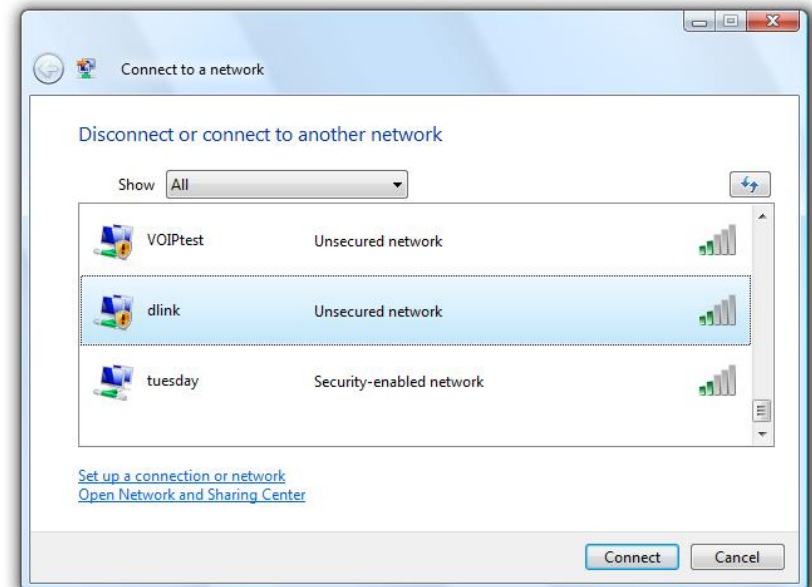
Configure Wireless Security

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

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

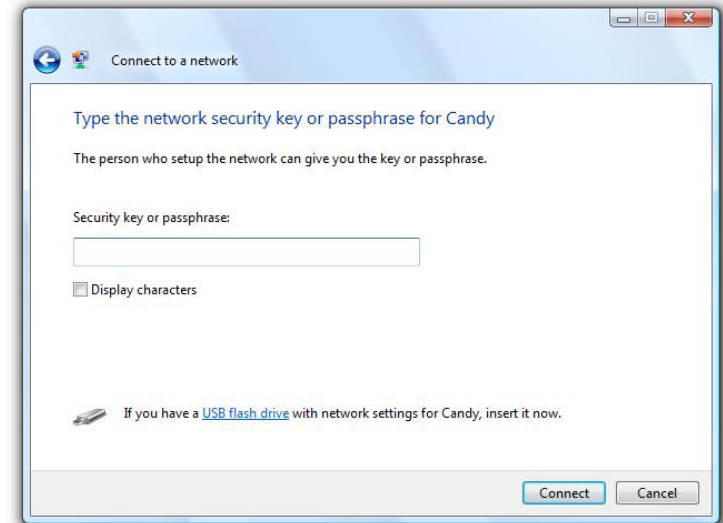


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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

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

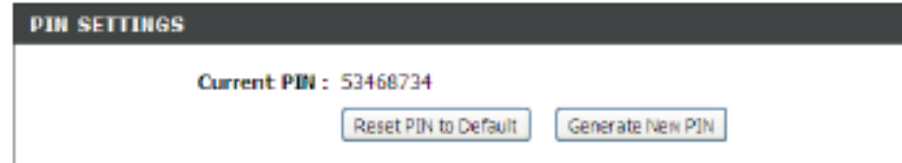


Connect Using WCN 2.0 in Windows Vista®

The router supports Wi-Fi protection, referred to as WCN 2.0 in Windows Vista®. The following instructions for setting this up depends on whether you are using Windows Vista® to configure the router or third party software.

When you first set up the router, Wi-Fi protection is disabled and unconfigured. To enjoy the benefits of Wi-Fi protection, the router must be both enabled and configured. There are three basic methods to accomplish this: use Windows Vista's built-in support for WCN 2.0, use software provided by a third party, or manually configure.

If you are running Windows Vista®, log into the router and click the **Enable** checkbox in the **Basic > Wireless** section. Use the Current PIN that is displayed on the **Advanced > Wi-Fi Protected Setup** section or choose to click the **Generate New PIN** button or **Reset PIN to Default** button.



If you are using third party software to set up Wi-Fi Protection, carefully follow the directions. When you are finished, proceed to the next section to set up the newly-configured router.

Connect to a Wireless Network Using Windows® XP

Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

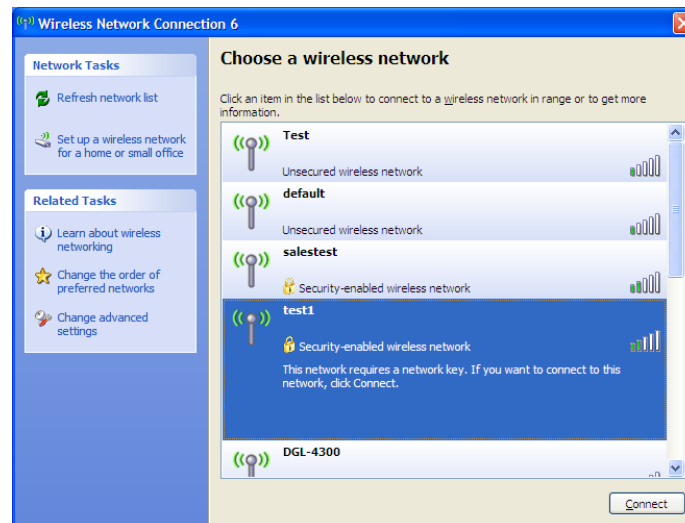
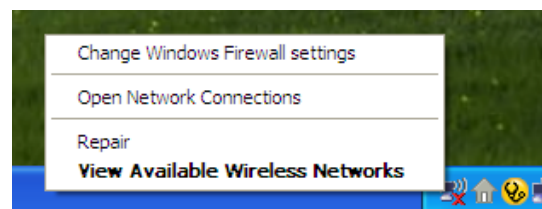
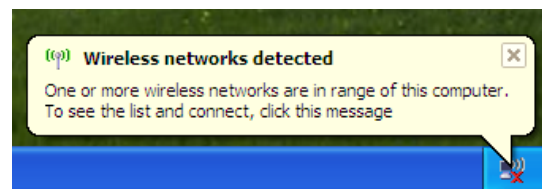
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

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

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

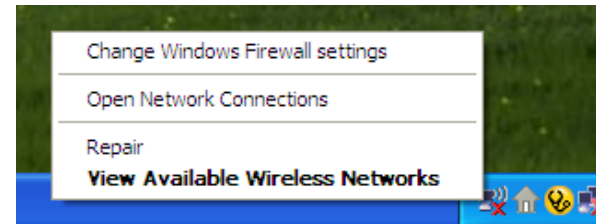
If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



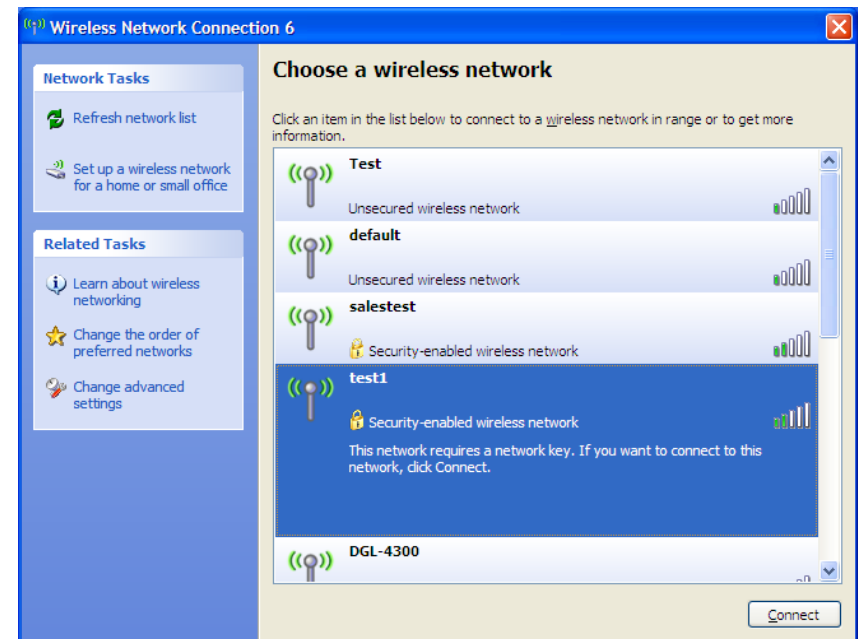
Configure WPA-PSK

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

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

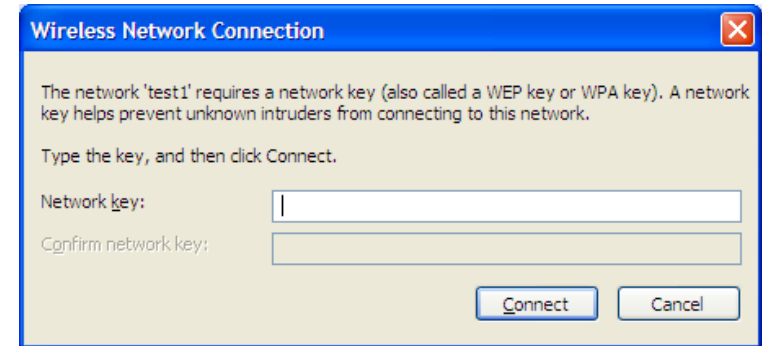


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



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

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



LCD Screen Options

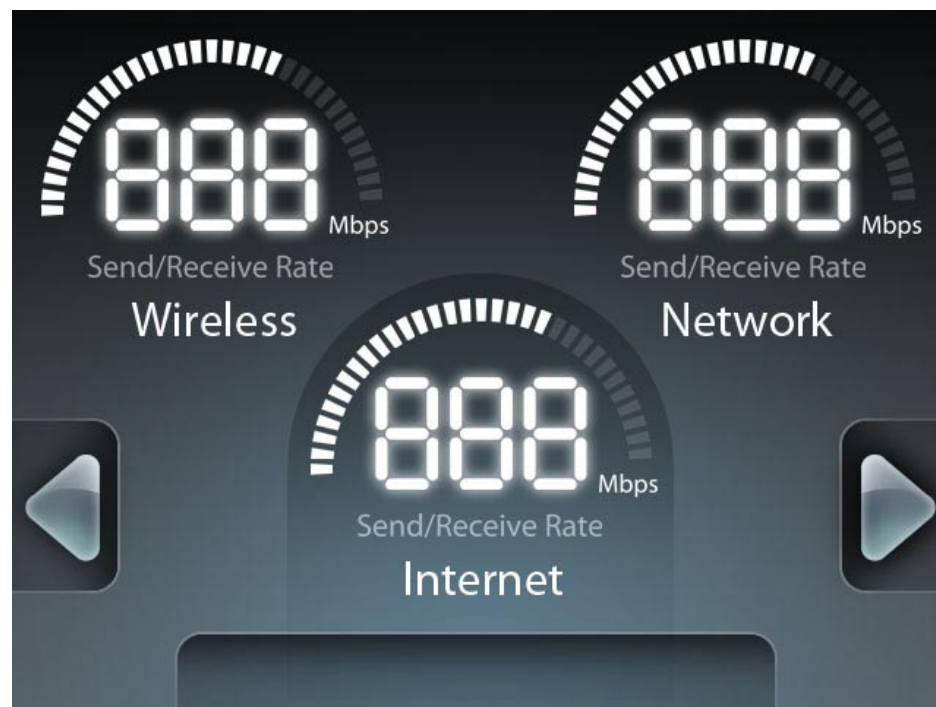
Router Statistics

The **Router Statistics** screen will display the following information:

Wireless - The send and receive rate of your wireless traffic.

Network - The send and receive rate of your network (LAN) traffic.

Internet - The send and receive rate of your Internet (WAN) traffic.



Status



General Router Info

The **General Router Information** screen will display the following information:

Model Name - The model of the router (DIR-685).

Hardware Version - The hardware revision of the router.

Firmware Version - The current firmware version of the router.

System Up Time - Displays how long the router has been on.

New Firmware - Displays if there is a new firmware available for upgrading the router.

General Router Information

Model Name : DIR-685

Hardware Version : A1

Firmware Version : v1.00

System Up Time : 8 Days, 17h : 53m : 18s

New Firmware : Available



Internet Status

The **Internet Status** screen will display the following information:

Connection Type - Displays the Internet connection type (Dynamic, PPPoE, PPTP, L2TP, or Static).

Cable Status - Connection status of the Internet port.

Network Status - Connection status of the Internet.

Connection Time - Displays how long the router has been connected to the Internet.

MAC Address - The MAC address of the Internet port on the router.

IP Address - The IP address of the router (Internet port).

Subnet Mask - The subnet mask of the router.

Gateway - The gateway IP address of the router.

Internet Status

Connection Type : PPPoE

Cable Status : Connected

Network Status : Connected

Connection Time : 8 Days, 17h : 53m : 18s

MAC Address : 00-0E-35-5C-02-AB

IP Address : 18.52.86.120

Subnet Mask : 255.255.255.240

Gateway : 18.52.86.126



Wired Status

The **Wired Status** screen will display the following information:

MAC Address - The MAC address of the router (LAN).

IP Address - The IP address of the router (LAN).

Subnet Mask - The subnet mask of the router.

DHCP Status - Displays if the DHCP server is enabled or disabled on the router.

Cable Status Port 1/2/3/4 - Displays the connection status of each of the 4 LAN ports.

Wired Status

MAC Address : 00-0E-35-5C-02-AB

IP Address : 192.168.0.1

Subnet Mask : 255.255.255.0

DHCP Server : Enabled

Cable Status Port 1 : Disconnected

Cable Status Port 2 : Connected

Cable Status Port 3 : Connected

Cable Status Port 4 : Disconnected



Wireless Status

The **Wireless Status** screen will display the following information:

Wireless Radio - Displays the status of the wireless function of the router (Enabled or Disabled).

Wireless Channel - Displays the channel of your wireless network.

Host Network Name (SSID) - The SSID of the wireless network.

Guest Network Name (SSID) - The SSID of the guest wireless network.

802.11 Mode - The IEEE 802.11 mode(s) used on the router.

Host Zone Security Mode - Displays the encryption used on the host wireless network.

Guest Zone Security Mode - Displays the encryption used on the guest wireless network.

MAC Address - The wireless MAC address of the router.

WPS PIN Number - The current WPS PIN number for the router.

Wireless Status

Wireless Radio : Enabled

Wireless Channel : 9

Host Network Name (SSID) : dlink

Guest Network Name (SSID) : dlink_guest

802.11 Mode : 802.11b, 802.11g, & 802.11n

Host Zone Security Mode : WPA2/PSK-AES

Guest Zone Security Mode : WEP

MAC Address : 00-0D-36-5D-02-AB

WPS PIN Number : 24681353



Hard Disk Status

The **Hard Disk Status** screen will display the following information:

HD - The brand/model of the hard drive.

Format - The format of the hard drive (EXT3).

Capacity - The total capacity of the hard drive.

Used - The amount of space used on the hard drive.

Available - The space available on the hard drive.

Disk Health - Displays the hard drive health status.

Disk Temp - Displays the temperature of the hard drive.



WPS

The **Wi-Fi Protected Setup™** screen will display two ways to setup Wi-Fi Protected Setup (WPS):

PIN: Select this option to use PIN method. In order to use this method you must know the wireless client's eight digit PIN and click **Connect**.

Push Button: Select this option to use PBC (Push Button) method to add a wireless client. Click **Connect**.



Router Settings



LCD Saving Settings

The **Adjust Display Sleep Time** screen will appear. Use the left and right arrow buttons to select the amount of inactive time before the LCD display goes to sleep.

To save your settings, press the up arrow. You will be prompted to select **Yes** or **No**. Press the left button to select **Yes** and press the center button.

Clock Display Setting

Select **Yes** if you want the clock displayed on the LCD screen when asleep. Select **No** to have the LCD screen off when asleep.



LCD Luminance Settings

The **LCD Luminance Settings** screen will allow you to adjust the brightness of the LCD screen.

Press the left arrow to make the LCD screen darker or press the right arrow to make it brighter.

To save your settings, press the up arrow. You will be prompted to select **Yes** or **No**. Press the left button to select **Yes** and press the center button.

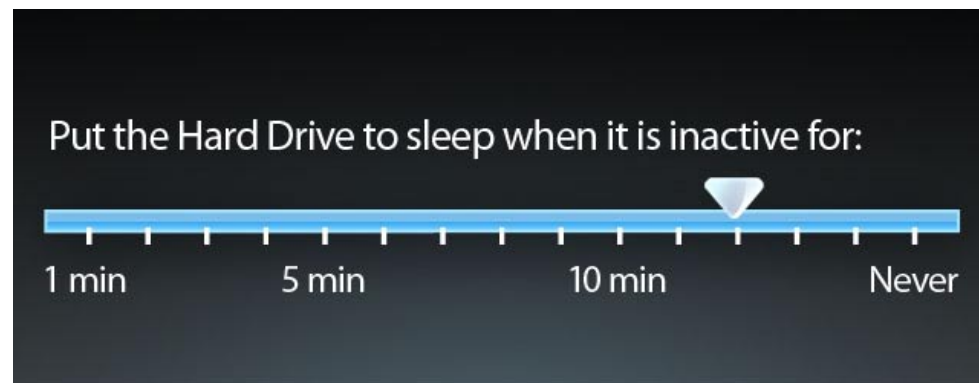




Hard Drive Saving Settings

The **Hard Disk Saving Settings** screen will allow you to set the length of time of inactivity before the hard drive goes to sleep.

To save your settings, press the up arrow. You will be prompted to select **Yes** or **No**. Press the left button to select **Yes** and press the center button.



Photos

Select the image or folder that contains the images you want to display on the LCD screen and press the center button.

Thumbnails of all the available images will appear. Select an image and press the center button. This will start the slideshow and will display all images in the selected folder.

FrameChannel®

Our featured DIR-685 online site, FrameChannel® (<http://dlink.framechannel.com>), is a free service that allows you to add, create and manage online channels for your personalized content after you have signed up an account online. FrameChannel also allows you to set up your frame to incorporate images from popular photo sharing websites, such as Facebook®, Flickr™, Picasa®, and more. Your frame will automatically update when changes are made to any of your photo sharing sites.

Your DIR-685 will display the instructions to set up a FrameChannel account. On the DIR-685 select **FrameChannel** and then press the center button. For more details, follow the steps below:

1. Using the web browser on your PC, enter **<http://dlink.framechannel.com>**
2. Click **Get Started Now**
3. Enter the Activation Code displayed to activate your router.

Note: Your activation code can be found after you have selected **FrameChannel** on your router.

Click **Save & Continue** to proceed.

The screenshot shows a web browser window titled "Sign Up for a FrameChannel Account". It displays a multi-step sign-up process. The first step, "Step 1 - Activate your frame", is highlighted. It contains instructions to enter an activation code displayed on the wireless frame. Below the instructions is a text input field labeled "Code:". To the right of the input field are two orange buttons: "Skip this step" and "Save & Continue". Below Step 1, there are three more steps listed in a lighter gray box: "Step 2 - Account information", "Step 3 - Where's your frame?", and "Step 4 - Invite friends to publish on your frame".

4. Enter your account information. Read and check the checkbox to agree to the FrameChannel's terms of service.

Note: *It is recommended to note down all your account information for future log-on purposes.*

Click **Save & Continue** to proceed.

The screenshot shows the 'Sign Up for a FrameChannel Account' form, specifically Step 2: Account information. The form is titled 'Sign Up for a FrameChannel Account' and has two steps: Step 1 - Activate your frame and Step 2 - Account information. Step 2 is the active step. It contains the following fields: First Name*, Last Name*, Email*, Username*, Password*, and Confirm Password*. There is a checkbox for 'I agree to the FrameChannel Terms of Service' and a 'Save & Continue' button.

5. Enter the remaining information for your account and click **Save & Continue** to proceed.

The screenshot shows the 'Sign Up for a FrameChannel Account' form, specifically Step 3: Where's your frame?. The form is titled 'Sign Up for a FrameChannel Account' and has four steps: Step 1 - Activate your frame, Step 2 - Account information, Step 3 - Where's your frame?, and Step 4 - Invite friends to publish on your frame. Step 3 is the active step. It contains the following fields: Your Country (dropdown menu with 'United States' selected), Your Nearest City (dropdown menu with '-- Select City --' selected), 5 Digit Zip (text input field), and Room your frame will be in (dropdown menu with '-- Select Room --' selected). There is a checkbox for 'Optional: By providing your frame's whereabouts, we'll be able to better suggest appropriate content such as regional news and weather'. There are two buttons: 'Skip this step' and 'Save & Continue'.

6. You may invite your friends to join or click **I'm done!** to enjoy your FrameChannel experience.

The screenshot shows a web interface for signing up for a FrameChannel account. The title is "Sign Up for a FrameChannel Account". Below the title are four steps listed in a vertical stack:

- Step 1** - Activate your frame
- Step 2** - Account information
- Step 3** - Where's your frame?
- Step 4** - Invite friends to publish on your frame

Step 4 is the active step. Below the step title, there is a sub-header: "Optional: Invite friends and family members to send photos directly to your FrameChannel account". Below this, there are four "Email:" labels, each followed by a text input field. At the bottom right of the form, there is a green button labeled "I'm done!".

7. Once your account is active, you can select what channels you want to display on your frame.

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-685. Read the following descriptions if you are having problems. (The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

1. Why am I unable to access the web-based configuration utility?

When entering the IP address of the D-Link router (192.168.0.1 for example), you are not connecting to a website on the Internet or have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

- Make sure you have an updated Java-enabled web browser. We recommend the following:
 - Internet Explorer 7.0 or higher
 - Netscape 8 or higher
 - Mozilla 1.7.12 (5.0) or higher
 - Opera 8.5 or higher
 - Safari 1.2 or higher (with Java 1.3.1 or higher)
 - Camino 0.8.4 or higher
 - Firefox 2.0 or higher
 - Chrome 1.0 or higher
- Verify physical connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different cable or connect to a different port on the device if possible. If the computer is turned off, the link light may not be on.
- Disable any Internet security software running on the computer. Software firewalls such as Zone Alarm, Black Ice, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

- Configure your Internet settings:
 - Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** icon. From the **Security** tab, click the button to restore the settings to their defaults.
 - Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the **LAN Settings** button. Make sure nothing is checked. Click **OK**.
 - Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
 - Close your web browser (if open) and open it.
- Access the web management. Open your web browser and enter the IP address of your D-Link router in the address bar. This should open the login page for web management.
- If you still cannot access the configuration, unplug the power to the router for 10 seconds and plug back in. Wait about 30 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

2. What can I do if I forgot my password?

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 30 seconds to access the router. The default IP address is 192.168.0.1. When logging in, the username is **admin** and leave the password box empty.

3. Why am I unable to connect to certain sites or send/receive emails when connecting through my router?

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

Note: AOL DSL+ users must use MTU of 1400.

To find the proper MTU size, you will have to do a special ping of the destination you are trying to go to. A destination could be another computer, or a URL.

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

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

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

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52

Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 203ms, Average = 132ms

C:\>
```

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

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

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

- Open your browser, enter the IP address of your router (192.168.0.1) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU, enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your email. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

Wireless Basics

Wireless networking makes it easy to send powerful data signals to every corner of your house without cabling! No extreme home makeover is needed! You do not need to hire an electrician. Think of wireless networking like cordless phones for your computers. Setting-up a home network is as easy as plugging in a TV and attaching the cable. Let us show you how.

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

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

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

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

What is Wireless?

Wireless or Wi-Fi technology is an easy way to connect your computers into a network without using wires. Wi-Fi uses radio frequencies to connect computers and peripherals (such as printers and game consoles) wherever they are located in your home or office.

Why D-Link Wireless?

A true designer and manufacturer, D-Link is an award-winning worldwide leader in networking products for home and business. D-Link has been at the forefront of Wi-Fi technology since it was first launched in 2000. D-Link delivers the networking performance you need at a price you can afford.

How Does Wireless Work?

Wireless networking works like your cordless phone: radio signals transmit data from point A to point B (and back). There are two different types of wireless networks: Wireless Local Area Network (WLAN) and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a Wireless Local Area Network, a device called an access point (AP) connects computers and peripherals to a network (wireless routers have an access point built-in). The access point has a small antenna(s) attached to it, allowing it to transmit data back and forth via radio signals. Using an indoor wireless router/access point and a wireless PC adapter, the signal can travel up to 300 feet (see the illustration). With an outdoor access point, the signal can reach out up to 11 miles to serve places like manufacturing plants and other industrial facilities, college and high school campuses, airports, golf courses and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth® is the industry-standard wireless technology used to create a Wireless Personal Area Network. Devices in a Bluetooth WPAN operate at a range of up to 30 feet, much less than a WLAN. WPAN data transfer speeds are also slower than what is possible with a WLAN.

However, Bluetooth WPAN does not use nearly as much power as WLAN, which makes it ideal for personal devices such as mobile phones, PDAs, headphones, laptops, speakers and other devices that operate on batteries.

Who uses wireless?

With wireless data transfer speeds now rivaling wired connection speeds, wireless technology's popularity has grown from being a convenience to the home networking solution of choice. Whether you want to set up a network at your home or small office, D-Link has wireless solutions to make it quick and easy.

Home

Let everyone at home share broadband Internet access and more

- Surf the web, email, instant message, share files and printers
- No wires to impact your home's décor
- Simple and easy to use

Small Office and Home Office

Powerful features level the playing field

- Share an Internet connection and printer with multiple computers
- Remotely access your office network from home
- No need to dedicate office space

Where is wireless used?

Wireless technology is everywhere today, well beyond the home and office. People have come to expect freedom of mobility. More and more public facilities are providing wireless access to attract and keep customers. Wireless connections in public places are popularly known as “hot spots.”

D-Link Wireless Notebook Adapters let you access the Internet through hot spots in remote locations like airports, hotels, coffee shops, libraries, restaurants and convention centers.

Popular Wireless Standards

Wi-Fi uses radio technologies to provide fast, secure, reliable wireless connectivity. Some of the popular wireless networking standards include Draft 802.11n, 802.11g, and 802.11b and 802.11a. These operate in the unlicensed 2.4 and 5GHz radio bands. With increasingly faster wireless speeds and wireless operating distances ranging from 300 feet to 11 miles (outdoors)*, Wi-Fi is a convenient solution for home and business connectivity.

Tips

Here are a few things to keep in mind when you install your wireless network:

Security

Do not let your neighbors or intruders connect to your wireless network. We strongly suggest that you replace the default passwords on every device you purchase with passwords of your own. Default means that every router, access point or other networking device comes with the same password. Imagine how many “dlink” networks there would be in the world if none of our customers renamed their routers?! Hackers make it a point to know every company’s default passwords. By simply defining a new password, one that will certainly be easier for you to remember than the default, you will establish the protection you need to halt hackers from accessing your network or devices.

As you answer the questions posed by our easy set-up wizards, rename your router and devices something unique and easy for you to remember. But be careful not to be so creative or simplistic that you provide sensitive information with the name you give your device. “Smith Family Router” is not the best idea.

Further secure your wireless network by turning on the WPA or WEP security feature on your router or access point. D-Link’s easy set-up wizards walk you through every step of the installation process, including choosing your level of security. After your initial installation, D-Link’s browser-based interfaces make it easy to review or change your settings.

Centralize your router or Access Point

Make sure you place the access point in a centralized location within your network for the best performance at each PC. Try to place the access point as high as possible as this helps to better disperse the signal throughout your home.

Eliminate Interference

Place home appliances such as cordless telephones, microwaves and televisions as far away from the access point as possible. This will significantly reduce any interference that the appliances might cause since they likely operate on the same frequency as your access point.

Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DIR-685 wireless network Cardbus adapters.

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

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus adapters. All the adapters must be in Ad-Hoc mode to communicate.

Networking Basics

Check your IP address

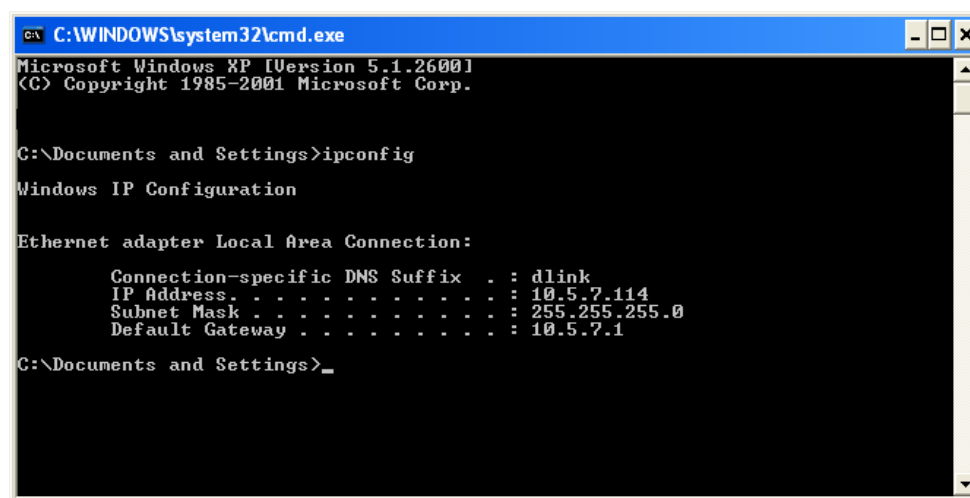
After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below:

Click on **Start > Run**. In the run box type **cmd** and click **OK**. (Windows Vista® users type *cmd* in the **Start Search** box.)

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.



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

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

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

C:\Documents and Settings>_
```

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.

Statically Assign an IP address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

Step 1

Windows Vista® - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

Windows® XP - Click on **Start > Control Panel > Network Connections**.

Windows® 2000 - From the desktop, right-click **My Network Places > Properties**.

Step 2

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

Step 3

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

Step 4

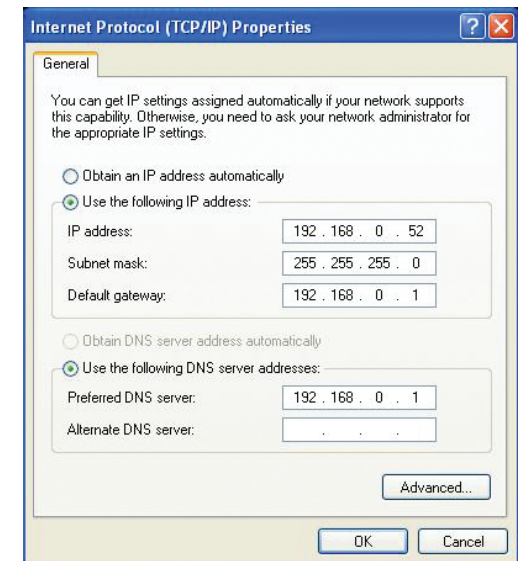
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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

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

Step 5

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



Glossary

802.11a - An IEEE wireless LAN specification standard that operates in 5GHz frequency band.

802.11b - An IEEE wireless LAN specification standard that operates in 2.4GHz frequency band and is interoperable with 802.11b standard devices.

802.11g - An IEEE wireless LAN specification standard that operates in 2.4GHz frequency band and is interoperable with 802.11g standard devices.

Access Point - A device that creates wireless signal to allow users to connect wirelessly in a wired network.

Bridge - Connects any wired Ethernet device to a wireless network.

Broadband - Fast Internet connections typically at home, such as DSL and Cable, that allow high bandwidth capability are considered broadband connection.

Bluetooth - A low power short-range wireless network used to connect between desktops and laptop computers, PDAs, digital cameras, scanners, cell phones, and printers. Bluetooth wireless signal can transmit up to 30 feet.

Cable Modem - A device that works over coaxial line (TV), providing high bandwidth transfer rate, to access the Internet.

Cardbus Network Adapter - A device that connects a laptop to the network.

DDNS (Dynamic Domain Name System) - A service that maps Internet domain name to a dynamic IP address as it changes.

DHCP (Dynamic Host Configuration Protocol) - A protocol that dynamically assigns IP address to devices on the network.

DSL (Digital Subscriber Line) - DSL allows a high bandwidth transfer rates using existing phone line, to access the Internet.

Ethernet - First generation of Ethernet transfers up to 10Mbps. Fast Ethernet, the second generation transfers up to 100Mbps, and Gigabit Ethernet, the third generation of Ethernet transfers up to 1000Mbps.

Firewall - A security feature that protects a network by preventing intruders to connect.

Hotspots - A place usually in public where you can access wireless connection to the Internet. Hotspots are commonly found at airports, hotels, coffee shops, libraries, restaurants, and convention centers.

IP (Internet Protocol) Address - An unique number that identifies computers or devices on the network.

ISP (Internet Service Provider) - Company that provides Internet access such as Cox, Adelphia, SBC, Verizon, Comcast, and many more.

LAN (Local Area Network) - Group of computers connected together that can share data and peripherals such as printers, scanners, and etc.

PCI Network Adapter - A device that connects a desktop to the network.

Router - A device that connects LANs, WANs, and the Internet.

SSID (Service Set Identifier) - A network name that identifies the wireless network.

USB (Universal Serial Bus) - A standard interface commonly used to connect peripheral devices to computers.

VPN (Virtual Private Network) - Provides secured remote access to a network via the Internet by sending data in tunnels.

WAN (Wide Area Network) - A network that covers a large geographic area, usually two or more LANs.

WEP (Wired Encryption Privacy) - A standard security feature used to encrypt data over a wireless network to prevent intruder.

WPA (Wi-Fi Protected Access) - A stronger and more secured encryption than WEP to prevent intruders from trying to connect to wireless networks.

WLAN (Wireless Local Area Network) - A type of LAN that uses high-frequency radio waves to communicate with devices rather than wires.

Technical Specifications

Standards

- IEEE 802.11n (draft)
- IEEE 802.11g
- IEEE 802.3
- IEEE 802.3u

Security

- WPA-Personal
- WPA2-Personal
- WPA-Enterprise
- WPA2-Enterprise

Frequency Range

- 2.4GHz to 2.483GHz (802.11n/g)

External Antenna Type

- Two (2) detachable reverse SMA Antennas

LEDs

- | | | |
|---------|----------------|----------|
| • Power | • Internet | • Status |
| • WLAN | • LAN (10/100) | • USB |

Operating Temperature

- 32°F to 131°F (0°C to 55°C)

Humidity

- 95% maximum (non-condensing)

Safety & Emissions

- FCC
- CE
- IC

Dimensions

- L = 7.6 inches
- W = 4.6 inches
- H = 1.2inches

Warranty

- 1 Year limited

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

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DIR-685)
- Hardware Revision (located on the label on the bottom of the router (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the router).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:

(877) 453-5465

Internet Support:

<http://support.dlink.com>

For customers within Canada:

Phone Support:

(800) 361-5265

Internet Support:

<http://support.dlink.com>

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty:

D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware: One (1) year
- Power supplies: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty:

D-Link warrants that the software portion of the product (“Software”) will substantially conform to D-Link’s then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days (“Software Warranty Period”), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by DLink in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty:

The Limited Warranty provided hereunder for Hardware and Software portions of D-Link’s products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold “As-Is” without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim:

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow DLink to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.com/>.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered:

The Limited Warranty provided herein by D-Link does not cover:

Products that, in D-Link’s judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties:

EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED “AS-IS” WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability:

TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NONCONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law:

This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

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CE Mark Warning:

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC Statement:

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

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

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

FCC Caution:

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. To maintain compliance with FCC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

We declare that the product is limited in CH1~CH11 by specified firmware controlled in the USA.

IC statement

Operation is subject to the following two conditions:

- 1) This device may not cause interference and
- 2) This device must accept any interference, including interference that may cause undesired operation of the device.

This device has been designed to operate with an antenna having a maximum gain of 2 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

- (i) the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems;
- (ii) the maximum antenna gain (2dBi) permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3).

In addition, users should also be cautioned to take note that high-power radars are allocated as primary users (meaning they have priority) of the bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

Règlement d'Industry Canada

Les conditions de fonctionnement sont sujettes à deux conditions:

- 1) Ce périphérique ne doit pas causer d'interférence et.
- 2) Ce périphérique doit accepter toute interférence, y compris les interférences pouvant perturber le bon fonctionnement de ce périphérique.

The Class [B] digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulation.

Cet appareil numérique de la class [B] respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Registration



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

Version 1.0
January 26, 2009