D-Link Air **DI-514**

2.4GHz Wireless Router

Manual



Contents

1.	Package Contents	3
2.	Introduction	4
3.	Wireless Basics	8
4.	Getting Started	11
5.	Using the Configuration Menu	13
6.	Troubleshooting	35
7.	Networking Basics	40
8.	Technical Specifications	55
9	Technical Support	57
10.	Warranty	58
11.	Registration	61

1. Package Contents



Contents of Package:

- D-Link Air DI-514 2.4GHz Wireless Router
- Power Adapter 5V DC, 2.5A
- Manual on CD
- Printed Quick Installation Guide

Note: Using a power supply with a different voltage rating than the one included with the DI-514 will cause damage and void the warranty for this product.

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

System Requirements for Configuration:

- Computer with a Windows, Macintosh, or Linux-based operating system with an installed Ethernet adapter
- Internet Explorer Version 6.0 or Netscape Navigator version 6.0 and above, with JavaScript enabled

2. Introduction

The D-Link *Air* DI-514 Wireless Router is an 802.11b wireless router with the added benefits of myriad robust firewall features. It is ideal for those creating their first wireless network, as well as for more advanced users looking for additional management settings and policy-based content filtering. Filters can be set based on MAC address, IP address, URL and/or Domain Name.

A simple, yet intelligent, web-based setup wizard makes the DI-514 easy for any user to quickly and securely connect computers to share a high-speed Internet connection, files, resources, games or just to communicate. An integrated 4-port switch allows direct connection of up to four computers. Several wireless clients can also securely connect to the network using 64 or 128-bit WEP encryption.

Additional advanced features include pass-through of multiple concurrent IPSec and PPTP VPN sessions for telecommuters or for anyone who needs to transmit sensitive information more securely.

The D-Link *Air* DI-514 is the ideal networking solution for small offices, home offices, schools, coffee shops and other small businesses that cater to the public.

This manual provides a quick introduction to wireless technology and its application as it relates to networking. Please take a moment to read through this manual if you need to get acquainted with wireless technology.

Connections



Features and Benefits

- Built in 4-Port Switch Connects multiple Ethernet-enabled (Ethernet network adapters installed) computers and devices to a Broadband (Cable or DSL) modem to share the Internet connection
- Wireless Connection Computers and devices with 802.11b compliant wireless network adapters installed can connect with the DI-514
- Advanced Firewall and Parental Control features, accessed through the simple and comprehensive Web-based user interface, include:
 - Content Filtering Easily applied content filtering based on MAC Address, IP Address, URL and/or Domain Name
 - *Filter Scheduling* Content filters can also be scheduled to be active on certain days or for a duration of hours or minutes
 - Network Address Translation NAT allows you to share a single IP address and protects you from outside intruders gaining access to your private network
 - Multiple Concurrent VPN Sessions Supports multiple and concurrent IPSEC and PPTP sessions, so multiple users behind the DI-514 can access corporate networks through various VPN clients more securely
- Simple Setup Wizard for Easy Installation The D-Link setup wizard simplifies the installation process, getting you up and running in just a few clicks

LEDS



3. Wireless Basics

D-Link *Air* 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. D-Link wireless products will allow you access to the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking brings.

A WLAN (wireless local area network) is a cellular computer network that transmits and receives data with radio signals instead of wires. WLANs 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.

People use WLAN technology for many different purposes:

Mobility - Productivity increases when people have access to data in any location within the operating range of the WLAN. Management decisions based on real-time information can significantly improve worker efficiency.

Low Implementation Costs – WLANs are easy to set up, manage, change and relocate. Networks that frequently change, both physically and logically, can benefit from WLANs ease of implementation. WLANs can operate in locations where installation of wiring may be impractical.

Installation and Network Expansion - Installing a WLAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings. Wireless technology allows the network to go where wires cannot – even outside the home or office.

Wireless Basics

Inexpensive Solution - Wireless network devices are as competitively priced as conventional Ethernet network devices.

Scalability –WLANs can be configured in a variety of ways to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to larger infrastructure networks to accommodate hundreds or thousands of users, depending on the number of wireless devices deployed.

The DI-514 is compatible with the following *wireless products (the maximum data transfer speed for the DI-514 is 11mbps)*:

- D-Link Air DWL-650, D-Link AirPlus™ DWL-650+, D-Link AirPlus Xtreme™ G DWL-G650 Wireless Cardbus Adapters used with laptop computers
- D-Link Air DWL-520, D-Link AirPlus DWL-520+, D-Link AirPlus Xtreme G DWL-G520
 Wireless PCI cards used with desktop computers
- D-Link Air DWL 700AP, DWL-AirPlus DWL-900AP+, DWL-2000AP+
 Enhanced 2.4GHz Wireless Access Points
- **D-Link AirPlus DWL-800AP+** Enhanced 2.4GHz Wireless Range Extender
- D-Link AirPlus DWL-810+
 Enhanced 2.4GHz Ethernet-to-Wireless Bridge

Standards - Based Technology

The IEEE standard-based technology assures that the D-Link *Air* Products are interoperable with existing compatible 2.4GHz wireless technology. This means you will be able to transfer large files quickly or even watch a movie in MPEG format over your network without noticeable delays.

The technology works by using multiple frequencies in the 2.4GHz range at speeds up to 11 Mbps. D-Link *Air* products will automatically sense the best possible connection speed to ensure the greatest speed and range possible with the technology.

Installation Considerations

D-Link *Air* DI-514 lets you access your network, using a wireless connection, from virtually anywhere within its operating range. Keep in mind, however, that the number, thickness and location of walls, ceilings or other objects that the wireless signals must pass thru 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:

- Keep the number of walls and ceilings between the DI-514 and your receiving device (e.g., the DWL-650) to a minimum - each wall or ceiling can reduce your D-Link *Air* Wireless product's range from 3 to 90 feet (1 to 30 meters.) Position your receiving devices so that the number of walls or ceilings is minimized.
- 2. Be aware of the direct line between routers and computers. 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 can impede the wireless signal a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways whenever possible.
- 4. Keep your product away (at least 3 to 6 feet or 1 to 2 meters) from electrical devices or appliances that generate RF noise.

4. Getting Started

There are basically two modes of networking.

- Infrastructure using a Wireless Router such as the DI-514, or an Access Point
- Ad-Hoc directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DWL-650 wireless Cardbus adapters.

On the following page we will show you an example of an **Infrastructure Network** using the DI-514.

The **Infrastructure Network** example shown on the following page contains the following D-Link network devices (your existing network may be comprised of other devices):

- A wireless Router D-Link Air DI-514
- A laptop computer with a wireless adapter -D-Link Air DWL-650
- A desktop computer with a wireless adapter -D-Link Air DWL-520
- A desktop computer with an Ethernet adapter D-Link DFE-530TX+

11

A Cable modem - D-Link DCM-201

Getting Started Setting Up an Infrastructure Network



Please remember that **D-Link AirPlus** wireless devices are pre-configured to connect together, right out of the box, with the default settings.



You will need a broadband Internet access (Cable/DSL) subscription.



Consult with your Cable/DSL provider for proper installation of the modem.



Connect the modem to the DI-514 Wireless Broadband Router. See the **Quick Installation Guide** included with the router.



If you are including a desktop computer (*Computer 1*) in your network, you can install the **D-Link DFE-530TX+** Ethernet NIC adapter into the desktop computer. See the **Quick Installation Guide** *included with the DFE-530TX+*.



Install the drivers for the wireless network adapter (such as the **D-Link** *Air* **DWL-650**) into the laptop computer. See the *Quick Installation Guide included with the DWL-650*.



If you are including a desktop computer wirelessly (*Computer 2*), install **the D-Link** *Air* **DWL-520** wireless adapter into the desktop computer. See the **Quick Installation Guide** included with the DWL-520



5. Using the Configuration Menu

Whenever you want to configure your network or the DI-514, you can access the Configuration Utility by opening the web-browser and typing in the IP Address of the DI-514. The DI-514 default IP Address is shown below:

- Open the web browser
- Type in the **IP Address** of the Access Point

Eile	<u>E</u> dit	⊻iew	F <u>a</u> vorites	<u>T</u> ools	Help
0	Back	• 6	- 🗙	2	۵ ,
A <u>d</u> dre	ess 🧿	http://	192.168.0.1	1	

(The IP Address shown in the example above is the default setting. If you have changed the IP Address of the DI-514 to conform to a network, then input that IP Address in the web browser, instead of the default IP Address shown.)

- Type admin in the User Name field (lower case)
- Leave the **Password** blank
- Click OK

Connect to	0 192.168.0.1	? 🔀
Access Point		
User name:	🕵 admin	*
Password:		
	<u>R</u> emember my passwe	ord
	ОК	Cancel

Setup Wizard

The Setup Wizard page is the first page that appears when logging into the web-based management interface. The Setup Wizard is a utility used to quickly configure the DI-514. It will guide you through four quick and basic steps to help you connect to your ISP. You will be connected to your ISP (Internet Service Provider) and have Internet access within minutes.





Wireless

Wireless Settings are settings for the (Access Point) Portion of the Wireless Router. Here you can change the wireless settings to fit an existing wireless network or to customize your wireless network.

Home > Wireless

		2.4GHz Wi	reless Route	er er
4 Home	Advanced	Tools	Status	Help
These are the C SS. WEP Enc	wireless settings for th	e AP(Access Poi	nt)Portion.	
Ke	y Type : HEX 💌			
	Key1:	00		
	Key2 : 0 0000000	00		
	Keyd - 00000000	00		

SSID

Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is "**default**". The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

Channel

Indicates the channel setting for the DI-514. 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.

WEP

Wired Equivalent Privacy (WEP) is a wireless security protocol for Wireless Local Area Networks (WLAN). WEP provides security by encrypting the data that is sent over the WLAN. The DI-514 supports 2 levels of WEP Encryption: 64-bit encryption and 128-bit encryption. WEP is **disabled** by default. The WEP setting can be changed to fit an existing wireless network or to customize your wireless network.

Key Type

The Key Types that are supported by the DI-514 are HEX (Hexadecimal) and ASCII (American Standard Code for Information Interchange.) The Key Type can be changed to fit an existing wireless network or to customize your wireless network.

KEYS

Keys 1-4 allow you to easily change wireless encryption settings to maintain a secure network. Simply select the specific key to be used for encrypting wireless data on the network.

WAN

WAN is short for Wide Area Network. The WAN settings can be referred to as the Public settings. All IP information in the WAN settings are public IP addresses which are accessible on the Internet.

The WAN settings consist of three main options: *Dynamic IP Address*, *Static IP Address*, and *PPPoE*. Select the appropriate option and fill in the information needed to connect to your ISP.

Home Advar	nced Tools Status Help	
WAN Settings Please select the appropriat	te option to connect to your ISP.	Please be s
Oynamic IP Address	Choose this option to obtain an IP address automatically from your ISP. (For most Cable modem users)	to remove any exis
O Static IP Address	Choose this option to set static IP information provided to you by your ISP.	PPPoE client softw
O PPPoE	Choose this option if your ISP uses PPPoE. (For most DSL users)	installed on your
O Others	PPTP and BigPond Cable	
O PPTP	(for Europe use only)	computers
O BigPond Cable	(for Australia use only)	
Dynamic IP		
Host Name	DI-514 (optional)	
MAC Address	00 - 11 - 55 - 33 - 44 - 56 (optional)	
	Clone MAC Address	
Primary DNS Address	0.0.0	
Secondary DNS Address	0.0.0.0 (optional)	
1001	1500	

Dynamic IP Address

Choose **Dynamic IP Address** 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 field is optional but may be required by some ISPs. The host name is the device name of the Router.

MAC Address: The default MAC address is set to the WAN's physical interface MAC address on the Broadband Router. You can use the "Clone MAC Address" button to copy the MAC address of the Ethernet Card installed by your ISP and replace the WAN MAC address with this MAC address. It is not recommended that you change the default MAC address unless required by your ISP.

D-Link alding Networks for People			Air	Wire	less Net	work
DI-514	Home	Advar	nced	Tools	Status	Help
	WAN Settings Please select the	e appropriat	e option to	connect to yo	ur ISP.	
	O Dynamic IP /	Address	Choose from you	this option to o Ir ISP. (For mo	obtain an IP address ist Cable modem us	automatically ers)
Vizard	Static IP Add	Iress	Choose	this option to s	set static IP informat	ion provided to
Mireless	O PPPoE		Choose	this option if y	our ISP uses PPPoE	E. (For most
Will eless	O Others		PPTP ar	nd BigPond Ca	ble	
4	O PPTP		(for Euro	pe use only)		
WAN	O BigPo	nd Cable	(for Aust	ralia use only)		
	Static IP					
AN	IP Address		0.0.0.0	(4	assigned by your ISF	2)
-	Subnet Mask		0.0.0.0			-5-4
HCP	ISP Gateway Ad	dress	0.0.0.0			
	Primary DNS Ad	dress	0.0.0.0			
	Secondary DNS	Address	0.0.0.0	(0	optional)	
	MTU		1500	1		

Choose Static IP Address if all WAN IP information is provided to you by your ISP. You will need to enter in the IP address, subnet mask, gateway address, and DNS address(es) provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four IP 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: Public IP address provided by your ISP.

Subnet Mask: Subnet mask provided by your ISP.

ISP Gateway Address: Public IP address of your ISP that you are connecting to.

Primary DNS Address: Primary DNS (Domain Name Server) IP provided by your ISP

17

Secondary DNS Address: optional

PPPoE

Please be sure to remove any Client Software program on your computer before you start your configuration of the DI-514 Router.

Choose PPPoE (Point to Point Protocol over Ethernet) if your ISP uses PPPoE connection. Your ISP will provide you with a username and password. This option is typically used for DSL services. Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection.

WARA Settings Please select the appropriate option to connect to your ISP. O Dynamic IP Address Choose this option to obtain an IP address automatical from your ISP. (For most Cable modern users) O Static IP Address Choose this option to set static IP information provided your ISP. Ø PPDeE Choose this option to set static IP information provided your ISP. O Others PPTP and BuPont Cable Ø pPrpe (for Europe use only) Ø BigPand Cable (for Australia use only) PPPPeE Ø Dynamic PPPoE User Name Ø Dynamic PPPoE Password (optional) P Address 0000 Service Name (optional) PAddress 0000 Maximum Milt Time Minutes MTU 1492	Home	Advanced	Tools	Sto	atus	Help
Prese seed the appropriate open to form your type in the address submitted in your type in the address submitted in your type in the address submitted in the submitted in the address submitted in the address submitted in the address submitted in the address submitted in the submitted i	WAN Settings	anoronoiste antion	to connect to	unur ISD		
Static IP Address from your ISP. (For most Cable modern users) O Static IP Address Choose this option to set static IP information provided you by your ISP. O PPPoE Choose this option to set static IP information provided you by your ISP. O Othors PPTP and BigPond Cable O PPPoE (for Australia use only) BigPond Cable O Dynamic PPPoE (O Static PPPoE User Name O Dynamic PPPoE (O Static PPPoE Password Image: Cable (optional) Primary DNS Address 0000 Primary DNS Address 0000 Secondary DNS Address 0000 Maximum Kile Time Minutes MTU 1482	O Dynamic IP Ad	idrees Choos	e this option	o obtain an IP	address	automatically
State: [P Address Choose thin dorin to set state: P intermation provide your ISP uses PPPoE. (For most DS users) Others PPTP and BigPond Cable O PPTP (for Europe use only) DigPond Cable O Dynamic PPPoE User Name O Dynamic PPPoE Static PPoE User Name O Dynamic PPPoE Static PPoE O Dynamic PPPoE O Dynamic PPOE O Dynamic PPO		from y	our ISP (For	most Cable m	iodem use	rs)
Choose this option if your ISP uses PPPAE. (Far most DS, users) Others PPTP and BigPond Cable (or Europe use only) (or BigPond Cable (for Australia use only) PPPeE	O Static IP Addre	you b	y your ISP.	o set static in	· intormati	on provided to
Others PPTP and BigPond Cable Opprp (ter Europe use only) Oligeand Cable (for Australia use only) PPPeE User Name Opnamic PPPeE Static PPPeE User Name (optional) P Address 0000 Primary DNS Address 0000 Secondary DNS Address 0000 MTU 1482	PPPoE	Choor DSL u	te this option	f your ISP use	IS PPPOE	(For most
O PPTP (der Europe use only) O BigPond Cable PPPPE O Dynamic PPP0E ○ Static PPP0E User Name Password Service Name PAddress Service Name PAddress Secondary DNS Address Secondary DNS Address Secondary DNS Address O000 Secondary DNS Address O000 Nacionau Kile Time O Mmotes MTU 1492	O Others	PPTP	and BigPond	Cable		
BigPand Cable (for Australia use only) PPPoE Ø Dynamic PPPoE () Static PPPoE Password Password Password PAdrices DIS Address DIS Address DIS Address DIS Address DIS Address DIS Addres	O PPTP	(for Er	rope use only	1		
PPPeE	O BigPond	i Cable (for A	ustralia use or	ly)		
User Name © Dynamic PPPeE © Static PPPeE Password • • • • • • • • • • • • • • • • • • •	PPPoE					
User Name Password Retype Password Retype Password Password PAddress Pointary DNS Address D000 Secondary DNS Address D000 (optional) Maximum Kile Time D Minutes MTU 1422		() D	ynamic PPPo	E O Static F	PPPoE	
Password Retype Password Service Name PAdress Primary DNS Address Secondary DNS Address OOO Address OOO Secondary DNS Address OOO Address OO Addres	User Name					
Ratype Password	Password		•••••	•••••	•	
Service Name (optional) IP Address 0000 Phimary DNS Address 0000 Secondary DNS Address 0000 Maximum Kille Time 0 Minutes MTU 1492	Retype Password		•••••	•••••	•	
IP Address 0.000 Primary DNS Address 0.000 Secondary DNS Address 0.000 Maximum Idle Time 0 MTU 1492	Service Name				(optiona	d)
Primary DNS Address 0:000 Secondary DNS Address 0:000 Maximum Idle Time 0 MTU 1492	IP Address	0.0.0		1		
Secondary DNS Address 00000 (optional) Maximum Idle Time 0 Minutes MTU 1492	Primary DNS Addre	0.0.0	0			
Maximum Idle Time 0 Minutes MTU 1492	Secondary DNS Ac	ddress 0.0.0	0	(optional)		
MTU 1492	Maximum Idle Time	e 0	Minutes			
	MTU	1492	<u> </u>			
					0	0

Select Static PPPoE to use a static IP address for your PPPoE connection.

Dynamic PPPoE: PPPoE connection where you will receive an IP address automatically from your ISP

Static PPPoE: PPPoE connection where you have an assigned (static) IP address

User Name: Your PPPoE username provided by your ISP

Password: Your PPPoE password provided by your ISP

Retype Password: Re-enter PPPoE password

Service Name: Enter the service name provided by your ISP. (optional) **IP Address:** This option is only available for Static PPPoE. Enter in the

static IP address for the PPPoE connection.

Primary DNS Address: Primary DNS IP provided by your ISP Secondary DNS Address: optional

Maximum Idle time: The amount of time of inactivity before disconnecting your PPPoE session. Enter a Maximum Idle Time (in minutes) to define a maximum period of time for which the Internet connection is maintained during inactivity. If the connection is inactive for longer than the defined Maximum Idle Time, then the connection will be dropped. Either set this to zero or enable Auto-reconnect to disable this feature.

MTU: MTU stands for Maximum Transmission Unit. For PPPoE connections, you may need to change the MTU settings in order to work correctly with

your ISP.

Auto-reconnect: If enabled, the Broadband Router will automatically connect to your ISP after your system is restarted or if the connection is dropped.

Home > LAN



LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DI-514. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and cannot be seen on the Internet.

IP Address: The IP address of the LAN interface. The default IP address is 192.168.0.1.

Subnet Mask: The subnet mask of the LAN interface. The default subnet mask is 255.255.255.0.

Local Domain Name: This field is optional. Enter in the your local domain name.

514			2.4GHzW	ireless Route	r
514	Home	Advanced	Tools	Status	Help
	LAN Settings				
	The DI-514 can b	e setup as a DHCP S	erver to distribute IF	Addresses to the LA!	N network
	DHCP Server	©	Enabled C Disabl	ed	
	IP Pool Starting	Address 192	.168.0.100		
	IP Pool Ending A	Address 192	.168.0.199		
	Lease Time	11	ÆEK 💌		
					3 6
				Apply C	ancel Hel
	DHCP Clients L	ist		Appij C	uncer ner
	IP Addre	ess H	lost Name	MAC Add	ress
				00 00 AC AD TO 0	c .

DHCP

DHCP stands for Dynamic Host Control Protocol. The DI-514 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 DI-514. 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.

Starting IP address: The starting IP address for the DHCP server's IP assignment.

Ending IP address: The ending IP address for the DHCP server's IP assignment.

Lease Time: The length of time for the IP lease.

2	0

Advanced > Virtual Server

514			2.4G	Iz Wireless	Router	
	Home	Advanced	Too	ols St	atus I	Help
	Virtual Server Virtual Server is	used to allow inter	net users a	iccess to LAN ser	vices.	
_		O Enabled O D)isabled			
	Name			Clear		
	Private IP					
L	Protocol Type	TCP				
	Private Port					
Ш	Public Port					
L	Sebedule					
	Schedule	O Always				
Ш		O From time 0	00 = 00	AM to U		M 📉
11		day St	un 🎽 to	Sun 🚩		
					- 💙 🕓) (
	Virtual Servers	s List			Apply Can	cel He
	Name		Private IP	Protocol	Schedule	1.11
					and the second se	and the second se
	Virtual Serv	ver FTP	0.0.0.0	TCP 21/21	always	4

Virtual Server

The DI-514 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 DI-514 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DI-514 are invisible to the outside world. If you wish, you can make some of the LAN computers accessible from the Internet by enabling *Virtual Server*. Depending on the requested service, the DI-514 redirects the external service request to the appropriate server within the LAN network.

The DI-514 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 services that are created will be listed at the bottom of the screen in the Virtual Servers List. There are already 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.

Name: The name referencing the virtual service.

Private IP: The server computer in the LAN (Local Area Network) that will be providing the virtual services.

Protocol Type: The protocol used for the virtual service.

Private Port: The port number of the service used by the Private IP computer.

Public Port: The port number on the WAN side that will be used to access the virtual service.

Schedule: The schedule of time when the virtual service will be enabled. The schedule may be set to Always, which will allow the particular service to always be enabled. If it is set to Time, select the time frame for the service to be enabled. If the system time is outside of the scheduled time, the service will be disabled.

Example #1:

If you have a Web server that you wanted Internet users to access at all times, you would need to enable it. Web (HTTP) server is on LAN (Local Area Network) computer 192.168.0.25. HTTP uses port 80, TCP. Name: Web Server Private IP: 192.168.0.25 Protocol Type: TCP Private Port: 80 Public Port: 80 Schedule: always

Virtual Servers List

	Name	Private IP	Protocol	Schedule	
R	Virtual Server HTTP	192.168.0.25	TCP 80/80	always	



Click on this icon to edit the virtual service.

Click on this icon to delete the virtual service. Example #2:

If you have an FTP server that you wanted Internet users to access by WAN port 2100 and only during the weekends, you would need to enable it as such. FTP server is on LAN computer 192.168.0.30. FTP uses port 21, TCP.

Name: FTP Server

Private IP: 192.168.0.30 Protocol Type: TCP Private Port: 21 Public Port: 2100 Schedule: From: 01:00AM to 01:00AM, Sat to Sun

> All Internet users who want to access this FTP Server must • connect to it from port 2100. This is an example of port redirection and can be useful in cases where there are many of the same servers on the LAN network.

Home Advanced Tools Status I Special Application Special Application is used to run applications that require multiple connections.	k
Special Application Special Application is used to run applications that require multiple connections. O Enabled O Disabled Name Trigger Port Trigger Type TCP V Public Port Public Port Public Type TCP V Special Applications List Apply Cance NAME Trigger Public Battle.net 6112 DMZ MSN Gaming Zone MSN Gaming Zone	elp
Virtual Server Name Clear Trigger Port - Trigger Type TCP v Public Port - Public Port - Public Type TCP v Firewall NAME NAME Trigger Public Battle.net 6112 DMZ Dialpad TCU II 2019 MSN Gaming Zone 476242300-2400.28800-29000	
Applications Trigger Port Trigger Type TCP Public Port Public Type Public Type TCP Special Applications List Apply Cander NAME Trigger Public Battle.net 6112 DMZ Dialpad TCU II 2019 MSN Gaming Zone 476242300-2400.28800-29000	
Applications Trigger Type TCP Public Port Public Type TCP Public Type TCP Special Applications List Apply Cand NAME Trigger Public Battle.net 6112 6112 DMZ DMZ DMZ MSN Gaming Zone 47624 2300-2400,28800-29000	
Public Port Public Type TCP Special Applications List NAME Trigger Public Battle.net 6112 Dialpad 7175 51200-51201,51210 ICU II 2019 MSN Gaming Zone 476242300-2400,28800-29000	
Public Type TCP Image: Constraint of the system Image: Constr	
Special Applications List Apply Cane NAME Trigger Public Battle.net 6112 Dialpad 7175 ICU II 2019 MSN Gaming Zone 476242300-2400.28800-29000	
Special Applications List Apply Cane NAME Trigger Public Battle.net 6112 Dialpad 7175 ICU II 2019 MSN Gaming Zone 476242300-2400.28800-29000	0
NAME Trigger Public Battle.net 6112 6112 Dialpad 7175 51200-51201,51210 ICU II 2019 2000-2038,2050-2051,2069,2085,3010-303 MSN Gaming Zone 47624,2300-2400,28800-29000	Hel
Battle.net 6112 6112 Dialpad 7175 51200-51201,51210 ICU II 2019 2000-2038,2050-2051,2069,2085,3010-303 MSN Gaming Zone 47624,2300-2400,28800-29000	
Dialpad 7175 51200-51201,51210 ICU II 2019 2000-2038,2050-2051,2069,2085,3010-303 MSN Gaming Zone 47624,2300-2400,28800-29000	
LUII 2019 2000-2038,2050-2051,2069,2085,3010-30 MSN Gaming Zone 476242300-2400,28800-29000	
MSN Gaming Zone 476242300-2400.28800-29000	0
	2
PC-to-Phone 12053 12120,12122,24150-24220	
$\Box Quick lime 4 554 6970-6999$	

dvanced > Applications

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 DI-514. 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 public ports associated with the trigger port to open them for inbound traffic.

The DI-514 provides some predefined applications in the table on the bottom of the web page. Select the application you want to use and enable it. *Note! Only one PC can use each Special Application tunnel.*

Trigger Name: This is the name referencing the special application.

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

Trigger Type: This is the protocol used to trigger the special application.

Public Port: This is the port number on the WAN 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.

Public Type: This is the protocol used for the special application. **Schedule:** This is the schedule of time when the special application will be enabled.

Filters

Filters are used to deny or allow LAN (Local Area Network) computers from accessing the Internet. The DI-514 can be setup to deny internal computers by their IP or MAC addresses. The DI-514 can also block users from accessing restricted web sites.

D-Link Air Wireless Network 2.4GHz Wireless Router DI-514 Home Advanced Tools Status Help Filters are used to allow or deny LAN users from accessing the Internet D IP Filters O URL Blocking O MAC Filters O Domain Blocking Use IP Filters to deny LAN IP addresses access to the Internet O Enabled O Disabled Clear Filters P Port Protocol Type TCP Schedule O Always O From time 00 • : 00 • AM • to 00 • : 00 • AM • day Sun ¥ to Sun ¥ 🧭 😏 🔁 Apply Cancel Help IP Range Schedulo TCP 20-21 10 always TCP 80 always TCP 443 always UDP 53 always TCP 25 TCP 110 39 always always 11 ICMP 8 always 1 TCP 23 always

IP Filters

Use IP Filters to deny LAN IP addresses from accessing the Internet. You can deny specific port

numbers or all ports for the specific IP address.

IP: The IP address of the LAN computer that will be denied access to the Internet.

Port: The single port or port range that will be denied access to the Internet. *Schedule:* This is the schedule of time when the IP Filter will be enabled.



Advanced > Filters

MAC Filters

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

		2.4GHz Wi	reless kouter	
Home	Advanced	Tools	Status	Help
Filters	to allow or deny LAN	users from acce	ssing the Internet	
i inters are used	to allow or delity Date	users norm acce	soing the internet.	
O IP Filters	O URL Blockin	Ig		
 MAC Filters 	S O Domain Bloo	cking		
MAC Ellison				
Lise MAC Filter	s to deny I AN compu	ters access to th	e Internet hy their N	Address
Obe motor men	s to delly DAN compa	1013 000033 10 11	te internet by their it	And Address.
Oisabled M	AC Filters			
O Only allow	MAC address listed I	approved and worked	The second se	
	WHO address listed i	Sciow to access	Internet from LAN	
Only deny	MAC address listed b	elow to access I	internet from LAN	
O Only deny	MAC address listed b	elow to access I	Internet from LAN	
Only deny	MAC address listed b MAC address listed b lame	elow to access I	Internet from LAN	
Only deny	MAC address listed b lame	elow to access I	Internet from LAN	
Only deny	MAC address listed b lame	elow to access I	Internet from LAN	
O Only deny N MAC Add DHCP C	MAC address listed b MAC address listed b lame	elow to access I	Clear	
Only deny N MAC Add DHCP C	MAC address listed b MAC address listed b lame	elow to access I	Internet from LAN Clear Clear Clone	00
Only deny N MAC Add DHCP C	MAC address listed b MAC address listed b lame	elow to access I	Internet from LAN Clear Clear Clone	Cancel Help

URL Blocking

URL Blocking is used to deny LAN computers from accessing specific web sites by its URL. A URL is a specially formatted text string that defines a

location on the Internet. If any part of the URL contains the blocked word, the site will not be accessible and the web page will not display.

Home Advanced Tools Status Help Filters Filters are used to allow or deny LAN users from accessing the Internet. IP Filters ORA Filters Domain Blocking URL Blocking Block those URLs which contain keywords listed below: Enabled Disabled Delete Apply Canced Help	Home Advanced Tools Status Help Filters Filters are used to allow or deny LAN users from accessing the Internet. Image: Server Image: Se	two its for People	_	Air	• Wirel 2.4GHz Wi	ess Net	work
Filters Filters are used to allow or deny LAN users from accessing the Internet. IP Filters Output Delete Filters Filters URL Blocking Block those URLs which contain keywords listed below. Enabled Delete Delete Apply Cancel Help Concel Help	Filters alserver alserver iverset <		Home	Advanced	Tools	Status	Help
 IP Filters Oranin Blocking MAC Filters Domain Blocking URL Blocking Block those URLs which contain keywords listed below. Enabled Obsabled Delete Apply Cancel Help 	 IP Filters URL Blocking MAC Filters Domain Blocking URL Blocking URL Blocking Blocking Elacking Elacking Delete Delete Apply Concel He 	1	Filters Filters are used	to allow or deny LAN	l users from acce	ssing the Internet.	
URL Blocking URL Block those URLs which contain keywords listed below:	URL Blocking Block those URLs which contain keywords listed below.		O IP Filters	URL Blocki Demois Blocki	ng		
Block those URLs which contain keywords listed below.	Unc. Diocang Block those URLs which contain keywords listed below. Enabled Disabled Delete		UNAC FILTERS	Uomain Blo	icking.		
C Enabled Delete Delete	C Enabled Delete Delete		Block those URL	.s which contain key	words listed belo	w.	
Delete V V V Apply Cancel Help	Delete Solution Apply Cancel He		O Enabled 💿	Disabled			
Apply Cancel Help	Apply Cancel He					elete	
Ø 🥴 🕄	Apply Cancel He						
S C Carcel Help	Solution State Sta						
Apply Cancel Help	Apply Cancel He					0	30
						Apple	y Cancel Help

Domain Blocking

Domain Blocking is used to allow or deny LAN (Local Area Network) computers from accessing specific domains on the Internet. Domain blocking will deny all requests to a specific domain such as http and ftp. It can also allow computers to access specific sites and deny all other sites.

Home	Advanced	Tools	Status	Hel
Filters Filters are use	d to allow or deny LAN	l users from acce	ssing the Internet.	
O ID Filtere	O LIRL Blacks	00		
O MAC Filter	rs O Domain Blo	cking		
Domain Block	king			
 Disabled 	territa :			
O Allow use	rs to access all doma	ins except "Block	ked Domains*	
O Deny user	rs to access all domai	ns except "Permi	tted Domains*	
Permitted Do	mains			
1.0		D	elete	
Blocked Dom	ains			
			1.1.	
			elete	

Advanced > Firewall

	Air	2.4GHz W	ireless Route	work
Hom	e Advanced	Tools	Status	Help
Firewall R Firewall Ru	ules les can be used to allow or	r deny traffic fro	m passing through t	he DI-514.
	O Enabled O Disabled	4		
Name		Clear		
Action	O Allow O Deny			
-	Interface IP Range Start	IP Range Er	d Protocol Port P	Range
Source	• M			
Destination			TCP	-
Schedule	O Always	00 - 01		AN4
	Promitime 00 :		to 00 🛀 : 00 🛀	MM C
	dou SID Y			
	day Sun 🞽	10 300	*	-
	day Sun 🞽		0	3
Firewall R	day Sun 💌 ules List	Source	Appl Destination	y Cancel P
Firewall R Action	day Sun v ules List Name Allow to Ping WAN port	Source	Appl Destination	y Cancel Protocol
Firewall R Action Allow	day Sun V ules List Name Allow to Ping WAN port Default	Source WAN,*	Appl Destination LAN,192.168.0.1 LAN,*	y Cancel P Protocol ICMP,8 IP (0),*

Firewall Rules is an advance feature used to deny or allow traffic from passing through the Broadband Router. It works in the same way as IP

Filters with additional settings. You can create more detailed access rules for the DI-514. When virtual services are created and enabled, it will also display in Firewall Rules. Firewall Rules contains all network firewall rules pertaining to IP (Internet Protocol).

In the **Firewall Rules List** at the bottom of the screen, the priorities of the rules are from top (highest priority) to bottom (lowest priority.)

Note: The DI-514 MAC Address filtering rules have precedence over the Firewall Rules.



If you have a client PC that cannot run Internet applications properly from behind the DI-514, then you can set the client up to unrestricted Internet access. It allows a computer to be exposed to the Internet. This feature is useful for gaming purposes. Enter the IP address of the internal computer that will be the DMZ host. Adding a client to the DMZ (Demilitarized Zone) may expose your local network to a variety of security risks, so only use this option as a last resort.

Advanced > Performance

-514		2.4GHz W	ireless Route	r
Home Ad	lvance	d Tools	Status	Help
Wireless Performan These are the Wireles	ce s Perform	ance features for the	AP(Access Point) F	^D ortion.
Beacon inter	/al 100	(msec, range:1~10	000, default:100)	
RTS Threshol	1 : 2432	(range: 256~2432,	default:2432)	
Fragmentatio	1: 2346	(range: 256~2346,	default:2346, even n	iumber only)
DTIM interva	l : 3	(range: 1~255, def	ault:3)	
Basic Rate	s: O 1-2	2(Mbps) 💿 1-2-5.5-11	(Mbps)	
TX Rate	s: O 1-2	2(Mbps) 🛞 1-2-5.5-11	(Mbps)	
Preamble Typ	e: 💿 Sh	ort Preamble O Lo	ng Preamble	
Authenticatio	n: O Op	en System 🔘 Sha	red Key 💿 Auto	
SSID Broadcas	t: 💿 En	abled O Disabled		
Antenna transr	nit er: 100%	17dBm 👻		

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

RTS Threshold - This value should remain at its default setting of **2432**. If inconsistent data flow is a problem, only a minor modification should be made.

Fragmentation - This value should also remain at its default setting of **2346**. If you experience a high packet error rate, you may slightly increase your Fragmentation Threshold within the value range of 256 to 2,346. Setting the Fragmentation Threshold too low may result in poor performance.

DTIM - (Delivery Traffic Indication Message) **3** is the default setting. A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

Basic Rates – Select the data rate. Default is **1-2-5.5-11Mbps**.

TX Rates – Select the data rate. Default is 1-2-5.5-11Mbps.

Preamble Type - Short preamble is the default setting. (High traffic networks should use the shorter preamble type.) The preamble defines the length of the CRC block used in communication between the Access Point and the roaming wireless Network adapters. (Cyclic Redundancy Check is a common technique for detecting data transmission errors)

Authentication - Select Open system, Shared Key or Auto

Open System - The DI-514 will be visible to all devices on the network. This is the default setting.

Shared Key - In this mode, in order to access the DI-514 on the network, the device must be listed in the MAC Address Control List.

Auto - In this mode, all devices on the network can access the DI-514.

SSID Broadcast - **Enable** is the default setting. Choose **Enable** to broadcast the SSID across the network. All devices on a network must share the same SSID (Service Set Identifier) to establish communication. Choose **Disable** if you do not wish to broadcast the SSID over the network.

Tools > Admin

Admin

At this page, the DI-514 administrator can change the system password. There are two accounts that can access the Broadband Router's Web-Management interface. They 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.

D-Link Air Wireless Network 2.4GHz Wireless Router DI-514 Home Advanced Status Help Tools Administrators can change their login password. Administrator (The Login Name is "admin") Admin New Password Confirm Password User (The Login name is "user") New Password Confirm Password O Enabled Disabled IP Address Port 8080 -**3** C oply Cancel Help

Remote Management

Remote Management allows the DI-514 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. *IP Address:* Internet IP address of the computer that has access to the Broadband Router. *It is not recommended that you set the IP address to* * (*star*), because this allows any Internet IP address to access the Broadband Router, which could result in a loss of security for your network. If you elect to enable Remote Management, enter the IP Address of your remote location.

Port: Select the port number used to access the Broadband Router.

Example: <u>http://x.x.x.x8080</u> whereas x.x.x.x is the WAN IP address of the Broadband Router and 8080 is the port used for the Web-Management interface. **Tools > Time**

Time

The system time is the time used by the DI-514 for scheduling services. You can manually set the time or connect to a NTP (Network Time Protocol) server. If an NTP server is set, you will only need to set the time zone. If you manually set the time, you may also set Daylight Saving dates and the system time will automatically adjust on those dates.

D-Link



System Settings

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

Tools> System



Firmware Upgrade

You can upgrade the firmware of the Broadband Router at this page. Make sure the firmware you want to use is on the local hard drive of the computer. Click on Browse to browse the local hard drive and locate the firmware to be used for the update. Please check the D-Link support site for updates firmware at http://support.dlink.com.

Tools > Firmware



Tools > Misc



Miscellaneous Items

These are additional tools and features of the Broadband Router.

Ping Test

This useful diagnostic utility can be used to check if a computer is on the Internet. It sends ping packets and listens for replies from the specific host.

Reboot Device

If for any reason the Broadband Router is not responding correctly, you may want to reboot the Broadband Router.

Block WAN Ping - When you "Block WAN Ping", the DI-514 will not respond to ping commands from the Internet. Pinging public WAN IP addresses is a common method used by hackers to test whether your WAN IP address is valid.

Discard PING from WAN side: By enabling this option, the DI-514 will not reply to ping (ICMP) request packets from the Internet.

VPN Pass-Through - The Broadband Router supports VPN (Virtual Private Network) pass-through for both PPTP (Point-to-Point Tunneling Protocol) and IPSec (IP Security). Once VPN pass-through is enabled, there is no need to open up virtual services. Multiple VPN connections can be made through the Broadband Router. This is useful when you have many VPN clients on the LAN network.

Dynamic DNS - Fill in the required fields to use the Dynamic Domain Server feature.



Status > Device Info

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

This page in the

information for the

to your ISP.

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

This page allows you to observe the DI-514's working status:

LAN

• IP Address: LAN/Private IP Address of the DI-514

• Subnet Mask: LAN/Private Subnet Mask of the DI-514 WAN

- IP Address: WAN/Public IP Address
- Subnet Mask: WAN/Public Subnet Mask
- Gateway: WAN/Public Gateway IP Address
- Domain Name Server: WAN/Public DNS IP Address
- Wan Status: WAN Connection Status

Firmware version: Displays the current firmware version **WAN MAC Address:** Displays the WAN port MAC/hardware address **LAN MAC Address:** Displays the LAN port MAC/hardware address

Status > Log

The Broadband Router keeps a running log of events and activities occurring on the Router. If the device is rebooted, the logs are automatically cleared. You may save the log files under Log Settings.



First Page - The first page of the log.

Last Page - The last page of the log. Previous - Moves back one log page. Next - Moves forward one log page. Clear - Clears the logs completely.

Log Settings - Brings up the page to configure the logs.

Log Settings

Not only does the Broadband Router display the logs of activities and events, it can be setup to send these logs to another location.

SMTP Server/IP Address - The address of the SMTP server that will be used to send the logs.

Email Address - The email address the logs will be sent to. Click on Email Log Now to send the email.

Traffic Statistics

The Broadband Router keeps statistics of traffic that passes through it. You are able to view the amount of packets that passes through the Router on both the WAN port and the LAN port. The traffic counter will reset if the device is rebooted.

ink Is for People		Air	• Wirel 2.4GHz Wi	ess Net	work
14	Home	Advanced	Tools	Status	Help
Info	Refresh Res	et			0
nfo	Refresh Res	et Receiv	9	Transn	🛟 Help
	Refresh Res	et Receiv	e O Packets	Transn	Help 10 Packets
	Refresh Res Item WAN LAN	et Receiv	e O Packets 381 Packets	Transn	Help Help 10 Packets 394 Packets

Status > Wireless

Connected Wireless Clients List

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



This chapter provides solutions to problems that can occur during the installation and operation of the DI-514 Wireless Access Point. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

(Note: It is recommended that you use an Ethernet connection to configure the DI-514 Access Point.)

- 1. The computer used to configure the DI-514 cannot access the Configuration menu.
 - Check that the **Ethernet LED** on the DI-514 is **ON**. If the **LED** is not **ON**, check that the cable for the Ethernet connection is securely inserted.
 - Check that the Ethernet Adapter is working properly. Please see item 6 (Check that the drivers for the network adapters are installed properly) in this Troubleshooting section to check that the drivers are loaded properly.
 - Check that the IP Address is in the same range and subnet as the DI-514. Please see Checking the IP Address in Windows XP in the Networking Basics section of this manual.

Note: The IP Address of the DI-514 is 192.168.0.1. All the computers on the network must have a unique IP Address in the same range, e.g., 192.168.0.x. and a Subnet Mask of 255.255.255.0. Any computers that have identical IP Addresses will not be visible on the network.

 Do a Ping test to make sure that the DI-514 is responding. Go to Start>Run>Type Command>Type ping 192.168.0.1. A successful ping will show four replies.



2. The wireless client cannot access the Internet in the Infrastructure mode.

 Make sure the wireless client is associated and joined with the correct router. To check this connection: Right-click on the Local Area Connection icon in the taskbar> select View Available Wireless Networks. The Connect to Wireless Network screen will appear. Please make sure you have selected the correct available network, as shown in the illustrations below.

	Connect to Wireless Network
	The following network(s) are available. To access a network, select it from the list, and then click Connect.
	Available networks:
	🗼 alan
	Default
Disable	This network requires the use of a network key (WEP). To access this network, type the key, and then click Connect.
Status Repair	Network key:
View Available Wireless Networks	If you are having difficulty connecting to a network, click Advanced.
Open Network Connections	Advanced Connect Cancel

- Check that the IP Address assigned to the wireless adapter is within the same IP Address range as the gateway. Since the DI-514 has an IP Address of 192.168.0.1, wireless adapters must have an IP Address in the same range, e.g., 192.168.0.x. Each device must have a unique IP Address; no two devices may have the same IP Address. The subnet mask must be the same for all the computers on the network.) To check the IP Address assigned to the wireless adapter, double-click on the Local Area Connection icon in the taskbar > select the Support tab and the IP Address will be displayed. (Please refer to Checking the IP Address in the Networking Basics section of this manual.)
- If it is necessary to assign a Static IP Address to the wireless adapter, please refer to the appropriate section in Networking Basics. If you are entering a DNS Server address you must also enter the Default Gateway Address. (Remember that if you have a DHCP-capable router, you will not need to assign a Static IP Address. See Networking Basics: Assigning a Static IP Address.)

3. Check that the drivers for the network adapters are installed properly.

You may be using different network adapters than those illustrated here, but this procedure will remain the same, regardless of the type of network adapters you are using.



- Double-click on Network
 Adapters
- Right-click on D-Link
 AirPlus DWL-650
 Wireless Cardbus
 Adapter
- Select **Properties** to check that the drivers are installed properly



• Look under **Device Status** to check that the device is working properly.

General	Advanced Sett	ings Driver	Resources		
	D-Link AirPl	us DWL-650) Wireless C	ardbus	Adapter
	Device type:	Network a	adapters		
	Manufacturer:	D-Link			
	Location:	PCI bus 5	, device 0, fur	nction 0	
This start	e status device is working the troubleshooter	properly.	levice, click T	roublesh	oot to
<u>D</u> evice	usage:				
Use th	is device (enable)				~
				ιк	Cancel

38

D-Link AirPlus DWL-650+ Wireless Cardbus Adapter

? 🗙

Click OK

4. Resetting the DI-514 to Factory Default Settings

After you have tried other methods for troubleshooting your network, you may choose to **Reset** the DI-514 to the factory default settings. Remember that D-Link Plus products network together, out of the box, at the factory default settings.



To hard-reset the D-Link Plus DI-514 to Factory Default Settings, please do the following:

- Leave the device powered on, do not disconnect the power
- Press the reset button and hold (use a paper clip)
- Keep the button pressed about 10 seconds
- Release the button

The DI-514 will then automatically reboot itself.

Using the Network Setup Wizard in Windows XP

In this section you will learn how to establish a network at home or work, using **Microsoft Windows XP.**

Note: Please refer to websites such as <u>http://www.homenethelp.com</u> and <u>http://www.microsoft.com/windows2000</u> for information about networking computers using Windows 2000, ME or 98.

Go to Start>Control Panel>Network Connections Select Set up a home or small office network

Network Setup Wizard	
	Welcome to the Network Setup Wizard This wizard will help you set up this computer to run on your network. With a network you can: • Share an Internet connection • Set up Internet Connection Firewall • Share files and folders • Share a printer
	To continue, click Next.
	< <u>B</u> ack Next > Cancel

When this screen appears, Click Next.

Please follow all the instructions in this window:



Click Next

In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.

Select a connection meth	od.
Select the statement that best (describes this computer:
 This computer connects direction to the Internet through this on <u>View an example</u>. 	ectly to the Internet. The other computers on my network cor computer.
This computer connects to la residential gateway. View an example.	the Internet through another computer on my network or thro
 O <u>D</u> ther	
Learn more about <u>home or sma</u>	Il office network configurations.
	< Back Next > Car

Enter a Computer description and a Computer name (optional.)

letwork Setup Wizard	
Give this computer a	description and name.
<u>Computer description:</u>	Mary's Computer
Computer name:	Office
The current computer na	me is Office
Learn more about <u>compu</u>	iter names and descriptions.
	< <u>Back</u> <u>Next></u> Cancel

Click Next

Enter a **Workgroup** name. All computers on your network should have the same **Workgroup** name.

Name your network	с.
Name your network by should have the same	specifying a workgroup name below. All computers on your network workgroup name.
Workgroup name:	Accounting Examples: HOME or OFFICE

42

Click Next

Please wait while the Network Setup Wizard applies the changes.

Network Setup Wizard				
Ready to apply network setting	s			
The wizard will apply the following set and cannot be interrupted. Settings:	tings. This process may take a few minutes to complete			
Network settings: Computer description: Mary Computer name: Offic Workgroup name: Acco	's Computer e sunting			
The Shared Documents folder and any printers connected to this computer have been shared.				
To apply those settings, block them.				
	< <u>B</u> ack <u>N</u> ext > Cancel			

When the changes are complete, click Next.

Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.

Network Setup Wizard			
Please wait			
Please wait while the wizard configures this computer for home or small office networking. This process may take a few minutes.			
5	20		
	< <u>B</u> ack <u>N</u> ext > Cancel		

In the window below, select the best option. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.

Network Setup Wizard				
You're almost done				
You need to run the Network Setup Wizard once on each of the computers on your network. To run the wizard on computers that are not running Windows XP, you can use the Windows XP CD or a Network Setup Disk.				
What do you want to do?				
⊙ Create a Network Setup Disk.				
◯ <u>U</u> se the Network Setup Disk I already have				
O Use my Windows XP CD				
O Just finish the wizard; I don't need to run the wizard on other computers				
< <u>B</u> ack Next ≻ Cancel				

Insert a disk into the Floppy Disk Drive, in this case drive **A**.

Network Setup Wizard	
Insert the disk you want to use.	- The second se
Insert a disk the into the following disk drive, and then click Next. 3½ Floppy (A:) If you want to format the disk, click Format Disk. <u>Format Disk</u>	
< <u>Back</u>	Cancel

Format the disk if you wish, and click Next.

Please wait while the Network Setup Wizard copies the files.



Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.



Please read the information on this screen, then click **Finish** to complete the **Network Setup Wizard**.



The new settings will take effect when you restart the computer. Click **Yes** to restart the computer.

System 9	Settings Change 🛛 🔀
?	You must restart your computer before the new settings will take effect. Do you want to restart your computer now?
	Yes No

You have completed configuring this computer. Next, you will need to run the **Network Setup Disk** on all the other computers on your network. After running the **Network Setup Disk** on all your computers, your new wireless network will be ready to use.

Networking Basics Naming your Computer

To name your computer, please follow these directions:

In Windows XP:

- Click **Start** (in the lower left corner of the screen)
- Right-click on My Computer
- Select **Properties** and click



 Select the Computer Name Tab in the System Properties window.

You may enter a **Computer description** if you wish, this field is optional.

To rename the computer and join a domain,

• Click Change...

System Prope	rties			? 🔀
System Re	estore	Automa	atic Updates	Remote
General	Compu	iter Name	Hardware	Advanced
Windows uses the following information to identify your computer on the network.				
Computer <u>d</u> esc	cription:			
For example: "Kitchen Computer" or "Mary's Computer".				
Full computer name: Office				
Workgroup: Accounting				
To use the Network Identification Wizard to join a domain and create a local user account, click Network ID ID.				
To rename this computer or join a domain, click Change.				

Networking Basics Naming your Computer

- In this window, enter the **Computer name**.
- Select **Workgroup** and enter the name of the **Workgroup**.
- All computers on your network must have the same Workgroup name.
- Click OK

Computer Name Chang	es ? 🔀
You can change the name a computer. Changes may affe	and the membership of this act access to network resources.
Computer name:	
Office	
Full computer name: Office	
	More
Member of	
⊙ <u>W</u> orkgroup:	
Accounting	
	OK Cancel

Checking the IP Address in Windows XP

The wireless adapter-equipped computers in your network must be in the same IP Address range (see **Getting Started** in this manual for a definition of IP Address Range.) To check on the IP Address of the adapter, please do the following:

- Right-click on the Local Area Connection icon in the task bar
- Click on Status



Networking Basics Checking the IP Address in Windows XP

This window will	★ Wireless Network Connect	ction 7 Status 💦 🛛 🔀
appear.	Genera Support	
Click the	Internet Protocol (TCP/IP)	
Support Tab	IP Address:	192.168.0.114
	Subnet Mask:	255.255.255.0
	Default Gateway:	192.168.0.1
		Details
	Repair	
Click Close		<u><u>C</u>lose</u>

Assigning a Static IP Address in Windows XP/2000

Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:

- Go to Start
- Double-click on
 Control Panel



Networking Basics Assigning a Static IP Address in Windows XP/2000



S Network Connections File Edit View Favorites Tools Advanced Help G Back 🔻 🕥 👻 🏂 🔎 Search 📂 Folders 💷 Address 🔕 Network Connections Name Network Tasks LAN or High-Speed Internet Create a new connection
 Set up a home or small office network
 Disable this network device Local Area Con Disab Status Repair Bridge Connections Repair this connection Create Shortcut View status of this Rename Change settings of this connection Other Places ۲ 🥵 Control Panel My Network Places Details ۲ 🛃 start 🔰 🛸 Network Connections

Double-click on
 Network Connections

- Right-click on Local Area Connections.
- Double-click
 Properties

Networking Basics Assigning a Static IP Address in Windows XP/2000

- Highlight Internet Protocol (TCP/IP)
- Click Properties
- Select Use the following IP address in the Internet Protocol (TCP/IP) Properties window, below.

🕹 Local Area Connection 7 Properties 🛛 🔹 🔀				
General Advanced				
Connect using:				
DWL-650+ Wireless Cardbus Adapter				
Configure				
Client for Microsoft Networks Client for Microsoft Networks Client for Microsoft Networks Client for Microsoft Networks Client Protocol (TCP/IP)				
Install				
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.				
Show icon in notification area when connected				
OK Cancel				

• Input your **IP** address and subnet mask. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

IP Address:

e.g., 192.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: Enter the LAN IP Address of the wireless router. (D-Link wireless routers have a LAN IP address of 192.168.0.1)

 Select Use the following DNS server addresses.
 Enter the LAN IP address of the wireless router. (D-Link wireless routers have a LAN IP address of 192.168.0.1)

Internet Protocol (TCP/IP) Properties ? 🗙 General You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically Use the following IP address: 192.168.0. IP address: 2 255 . 255 . 255 . 0 Subnet mask: Default gateway: Obtain DNS server address automatically Use the following DNS server addresses Preferred DNS server: Alternate DNS server: Advanced... OK Cancel

Click OK

You have completed the assignment of a Static IP Address. (You do not need to assign a Static IP Address if you have a DHCP-capable Gateway/Router.)

Networking Basics Assigning a Static IP Address with <u>Macintosh OS X</u>

Go to the **Apple Menu** and select **System Preferences**.

Click on Network



Select **Built-in Ethernet** in the **Show** pull-down menu.

Select **Manually** in the **Configure** pull-down menu.

	Location: Automatic	•
Show: Built-in Eth	ernet 🔹	
	✓ Manually	oxies
Configur	Manually using DHCI Using DHCP Using BootP	P Router
IP Addres	s: (Provided by DHCP Server) k: 255.255.255.0	
Route	er: 192.168.0.1	Search Domains (Optional)
DHCP Client I	D; (Optional)	
Ethernet Addres	s:	Example: apple.com, earthlink.net

Input the **Static IP Address**, the **Subnet Mask** and the **Router IP Address** in the appropriate fields.

Click Apply Now

		Location: Automa	itic 🔋	
Show:	Built-in Ether	net	•	
_		TCP/IP PPPoE A	AppleTalk Proxies	
	Configure:	Manually		
			Domain Name Servers (Option	ali
H	IP Address:	192.168.0.2		
	Subnet Mask:	255.255.255.0		
	Router:	192.168.0.1	Search Domains (Option	al)
En	arnat Address:	00.00.02.75 da 5 1	Example: apple.com, earthlink.net	

Networking Basics Selecting a Dynamic IP Address with Macintosh OS X

Go to the Apple Menu and select System Preferences . Click on Network	Strates System Preferences Strates Strates Strates Strates
Select Built-in Ethernet in the Show pull-down menu.	Opplays Sound Network Show All Displays Sound Location: Automatic Show: Built-in Ethernet
Select Using DHCP in the Configure pull-down menu.	Annually wang DHCP Router Configure V Using DHCP Router Using BootP IP Address: (Provided by DHCP Server) Subnet Mask: 255.255.25.0 Router: 192.168.0.1 DHCP Client ID: (Optional) Ethernet Address: Complex apple.com, earthlink.net
Click Apply Now	O Network Show AB Displays Sound Network Startup Disk Location: Automatic T
The IP Address , Subnet mask , and the Router's IP Address will appear in a few seconds.	Show: Built-in Ethernet TCP/IP PPPOE AppleTalk Proxies Configure: Using DHCP IP Address: 192.168.0.160 (rhowded by DHC? Server) Subnet Mask: 255.255.0 Router: 192.168.0.1 DHCP Client ID: (Optional) Ethernet Address: 00.06.96.79.de.Sa Cick the lock to prevent further changes. Apply Now

Checking the Wireless Connection by Pinging For Windows XP and 2000:

Go to **Start** > **Run** > type **cmd**. A window similar to *Fig.* 9.25 will appear. Type **ping xxx.xxx.xxx**, where **xxx** is the **IP address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.



For Windows ME and 98SE:

Go to **Start** > **Run** > type **command**. A window similar to *Fig. 9.26* will appear. Type **ping xxx.xxx.xxx**, where **xxx** is the **IP address** of the Wireless Router or Access Point. A good wireless connection will show four replies from the wireless router or access point, as shown.



8. Technical Specifications

Standards

• IEEE 802.11b • IEEE 802.3

• IEEE 802.3u

VPN Pass Through / Multi-Sessions

- PPTP
- L2TP
- IPSec

Device Management

Web-Based – Internet Explorer v6 or later; Netscape Navigator v6 or later; or other Java- enabled browsers.

Wireless Data Rates

With Automatic Fallback • 11Mbps • 5.5Mbps • 2Mbps • 1Mbps

Encryption

64/128 - bit RC4

Media Access Control

CSMA/CA with ACK

Wireless Frequency Range

2.4GHz to 2.462GHz

Wireless Operating Range

Indoors: Up to 328 feet (100 meters) Outdoors: Up to 984 feet (300 meters)

Wireless Modulation Technology

Direct Sequence Spread Spectrum (DSSS) 11-chip Barker sequence

Modulation Techniques

11Mbps (CCK)5.5Mbps (CCK)

2Mbps(DQPSK)

• 1Mbps(DBPSK)

Wireless Transmit Power

15dBm ± 2 dB

External Antenna Type

Single detachable reverse SMA

LEDs

- Power
- M1
- M2
- WAN
- Local Network—10/100
- WLAN (Wireless Connection)

Operating Temperature

32°F to 131°F (0°C to 55°C) **Humidity** 95% maximum (non-condensing)

Power Input

Power Supply DC 5V, 2.5A

Safety & Emissions

- FCC
- UL

Dimensions

- L = 5.6 inches (142mm)
- W = 4.3 inches (109mm)
- H = 1.2 inches (31mm)

Weight

~2.0 lbs (907g)

Warranty

1 year

9. Technical Support

Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the warranty period on this product.

U.S. and Canadian customers can contact D-Link Technical Support through our website, or by phone.

Tech Support for customers within the United States: *D-Link Technical Support over the Telephone:* (877) 453-5465 24 hours a day, seven days a week.

> *D-Link Technical Support over the Internet:* http://support.dlink.com email:support@dlink.com

Tech Support for customers within Canada: *D-Link Technical Support over the Telephone:* (800) 361-5265 Monday to Friday 7:30am to 12:00am EST

> *D-Link Technical Support over the Internet:* http://support.dlink.ca email:support@dlink.ca

10. Warranty (USA only)

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor and
- 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, addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link products described below will be free from material defects in workmanship and materials from the date of original retail purchase of the product, for the period set forth below applicable to the product type ("Warranty Period"), except as otherwise stated herein.

1-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) One (1) Year
- Power Supplies and Fans One (1) Year
- Spare parts and spare kits Ninety (90) days

D-Link's sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link's sole discretion. Such 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 in its sole discretion 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 from the date of original retail purchase. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the 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 ("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 Warranty Period, the magnetic media on which D-Link delivers the Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund at D-Link's sole discretion. Except as otherwise agreed by D-Link 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. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. 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 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 D-Link to confirm the same.
- The original product owner must obtain a Return Material Authorization ("RMA") number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided.
- 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. 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, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.
- Return Merchandise Ship-To Address USA: 17595 Mt. Herrmann, Fountain Valley, CA 92708 Canada: 2180 Winston Park Drive, Oakville, ON, L6H 5W1 (Visit http://www.dlink.ca for detailed warranty information within Canada)

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: This limited warranty provided by D-Link does not cover: Products, if 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, the documentation for the product, or if the model or senal 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; Products that have been purchased from inventory clearance or liquidation pertaining to the product. D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this 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 NON-INFRINGEMENT. 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 NINETY (90) DAYS. 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.

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, OR ARISING OUT OF ANY BREACH 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 NON-CONFORMING 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 150

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 the product owner may also have other rights which vary from state to state.

Trademarks: D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective manufacturers or owners.

Copyright Statement: No part of this publication or documentation accompanying this Product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976. Contents are subject to change without prior notice. Copyright[®] 2002 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

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 communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

FCC Caution:

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment; such modifications could void the user's authority to operate the 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. The antenna(s) used for this equipment must be installed to provide a separation distance of at least eight inches (20 cm) from all persons.

This equipment must not be operated in conjunction with any other antenna.

For detailed warranty outside the United States, please contact corresponding local D-Link office.

11. Registration

Register your D-Link product online at http://support.dlink.com/register/

10/11/04