D-Link *Express* EtherNetwork[™]VDI-604

4-Port Ethernet Broadband Router

Manual

D-Link

Building Networks for People

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Introduction

The D-Link Express EtherNetwork VDI-604 is a 4-port Ethernet Broadband Router. The D-Link VDI-604 enables users to quickly and easily share a high speed Internet connection. The D-Link VDI-604 also incorporates many advanced features, traditionally found in more expensive routers.

The VDI-604 is compatible with most popular operating systems, including Macintosh, Linux and Windows, and can be integrated into an existing network. This Manual is designed to help you connect the D-Link Express EtherNetwork VDI-604 to a high speed Internet connection and 4 Ethernet PC connections.

This manual provides a quick introduction to Broadband Router Technology, Firewalls, and Local Area Networking. Please take a moment to read through this manual and get acquainted with these various technologies.

Features and Benefits

Ethernet Switch

Allows you to quickly and easily share an Internet connection with multiple computers and devices.

VPN supported

Supports multiple and concurrent IPSec and PPTP pass-through sessions, so multiple users behind the VDI-604 can access corporate networks through various VPN clients more securely.

Advanced Firewall & Parental Control 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, IP Address, URL and/or Domain Name.

Filter Scheduling

These filters can also be scheduled to be active on certain days or for a duration of hours or minutes.

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Network Address Translation

NAT allows you to share a single IP Address and protects you from outside intruders gaining access to your private network.

DHCP Server Supported

All of the networked computers can retrieve TCP/IP settings automatically from the VDI-604.

Web-Based Management

VDI-604 is configurable through any network computer's web browser using Netscape or Internet Explorer.

Access Control Supported

Allows you to assign different access rights for different users.

Virtual Server Supported

Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.

Special Application Supported

Special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on. The VDI-604 can sense the application type and open a multi-port tunnel for it.

DMZ Host Supported

Allows a networked computer to be fully exposed to the Internet. This function is used when the Special Application feature is insufficient to allow an application to function correctly.



Technology Introduction

Introduction to Broadband Router Technology

A router is a device that forwards data packets from a source to a destination. Routers forward data packets using IP addresses and not a MAC address. A router will forward data from the Internet to a particular computer on your LAN.

The information that makes up the Internet gets moved around using routers. When you click on a link on a web page, you send a request to a server to show you the next page. The information that is sent and received from your computer is moved from your computer to the server using routers. A router also determines the best route that your information should follow to ensure that the information is delivered properly.

A router controls the amount of data that is sent through your network by eliminating information that should not be there. This provides security for the computers connected to your router, because computers from the outside cannot access or send information directly to any computer on your network. The router determines which computer the information should be forwarded to and sends it. If the information is not intended for any computer on your network, the data is discarded. This keeps any unwanted or harmful information from accessing or damaging your network.

Introduction to Firewalls

A firewall is a device that sits between your computer and the Internet that prevents unauthorized access to or from your network. A firewall can be a computer using firewall software or a special piece of hardware built specifically to act as a firewall. In most circumstances, a firewall is used to prevent unauthorized Internet users from accessing private networks or corporate LAN's and Intranets.

A firewall watches all of the information moving to and from your network and analyzes each piece of data. Each piece of data is checked against a set of criteria that the administrator configures. If any data does not meet the criteria, that data is blocked and discarded. If the data meets the criteria, the data is passed through. This method is called packet filtering.

A firewall can also run specific security functions based on the type of application or type of port that is being used. For example, a firewall can be configured to work with an FTP or Telnet server. Or a firewall can be configured to work with specific UDP or TCP ports to allow certain applications or games to work properly over the Internet.

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Introduction to Local Area Networking

Local Area Networking (LAN) is the term used when connecting several computers together over a small area such as a building or group of buildings. LAN's can be connected over large areas. A collection of LAN's connected over a large area is called a Wide Area Network (WAN).

A LAN consists of multiple computers connected to each other. There are many types of media that can connect computers together. The most common media is CAT5 cable (UTP or STP twisted pair wire.) On the other hand, wireless networks do not use wires; instead they communicate over radio waves. Each computer must have a Network Interface Card (NIC), which communicates the data between computers. A NIC is usually a 10Mbps network card, or 10/100Mbps network card, or a wireless network card.

Most networks use hardware devices such as hubs or switches that each cable can be connected to in order to continue the connection between computers. A hub simply takes any data arriving through each port and forwards the data to all other ports. A switch is more sophisticated, in that a switch can determine the destination port for a specific piece of data. A switch minimizes network traffic overhead and speeds up the communication over a network.

Networks take some time in order to plan and implement correctly. There are many ways to configure your network. You may want to take some time to determine the best network set-up for your needs.

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Package Contents



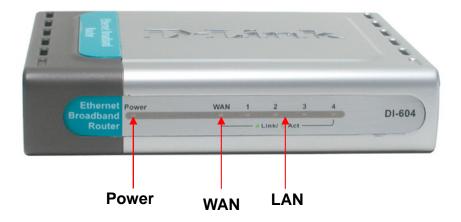
- VDI-604 Ethernet Broadband Router
- Power Adapter
- 2 Ethernet Cables

Note: Using a power supply with a different voltage rating will damage and void the warranty for this product. If any of the above items are missing, please contact your reseller.



Hardware Description

Front Panel



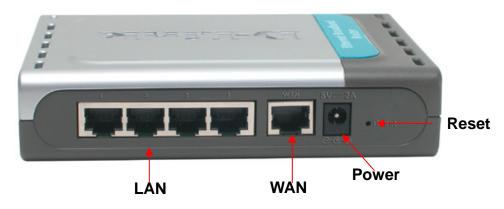
Power Power indicator will light Green.

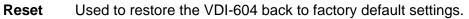
- **WAN** WAN status indicator will light Green when there is good physical WAN connection.
- LAN Link status indicators light Green. The LED flickers when the corresponding port is sending or receiving data.

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Hardware Description

Rear Panel





LAN PORTS* 1-4	LAN port sockets (CAT5 Ethernet RJ-45 cable). The LED glows steadily when a port is connected to a hub, switch or network-adapter-equipped computer in your local area network (LAN.)
WAN*	WAN port socket (CAT5 Ethernet RJ-45 cable). This is where you will connect to your high speed Internet access
Power	Connect one end of your included power adapter to the power port and the other end into your power outlet.

*All ports (both LAN & WAN) are Auto-MDIX. All ports auto-sense cable types to accommodate Straight-through or Cross-over cable.

Reset

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

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

The VDI-604 will then automatically reboot itself.



Getting Started

Installation Location

The VDI-604 can be positioned at any convenient place in your office or house. No special wiring or cooling requirements are needed. However, you should comply with the following guidelines:

- Place the VDI-604 on a flat horizontal plane.
- Keep away from any heating devices.
- Do not place in a dusty or wet environment.

The recommended operational specifications of the VDI-604 are:

Temperature	32°F ~ 131°F
Humidity	5 % ~ 90 %

In addition, remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install the hardware.

Network Settings

To use the VDI-604 correctly, you have to properly configure the network settings of your computers. The default *IP address* of the VDI-604 is **192.168.0.1**, and the default *subnet mask* is **255.255.255.0**. These addresses can be changed as needed, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to **Configuring Your PCs to Connect to the VDI-604** to configure it.

For example:

1. Configure your computer *IP* as 192.168.0.3, *subnet mask* as 255.255.255.0 and *gateway* as 192.168.0.1

Or more conveniently

2. Configure your computers to obtain TCP/IP settings automatically from the DHCP server feature of the VDI-604

Since the IP address of the VDI-604 is 192.168.0.1, the IP address of your computer must be 192.168.0.X (where "X" is a number between 2 and 254.) Each computer on your network must have a different IP address within that range. The default gateway must be 192.168.0.1 (the IP address of the VDI-604).

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Configuring the VDI-604

The VDI-604 provides an embedded Web-based management utility making it operating system independent. You can configure your VDI-604 through the Netscape Communicator or Internet Explorer browser in MS Windows, Macintosh, Linux or UNIX based platforms. All that is needed is a web browser such as Internet Explorer or Netscape Navigator version 4 and higher with Java Script enabled.

Start-up and Log in

Activate your web browser and type in the IP address of the VDI-604 into the *Location* (for Netscape) or *Address* (for IE) field and press "Enter." The default IP address of the VDI-604 is **192.168.0.1**

For example: http://192.168.0.1

After the connection is established, the logon screen will pop up. To log in as an administrator, enter the username of

🕘 DI	-604	- Micro	osoft Inter	net Ex	plore	r
Eile	<u>E</u> dit	⊻iew	F <u>a</u> vorites	<u>T</u> ools	Help	0
G	Back	- 6	- 💌	2		Search
Addre	ss	http://:	192.168.0.1			

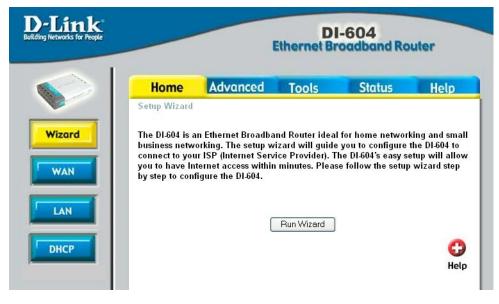
"admin" and the password of "password". Click the **OK** button. If the password is correct, the web-management interface will appear.

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Using the Configuration Menu

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 VDI-604. It will guide you through four quick and basic steps to help you connect to your Ihigh speed Internet access. You will be connected to your ISP (Internet Service Provider) and have Internet access within minutes.



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 options: *Dynamic IP Address*, *Static IP Address*, and *PPPoE*. Select the appropriate option and fill in the information needed to connect to your ISP.

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HOME > WAN > DYNAMIC IP Address

nk for People	DI-604 Ethernet Broadband Router					
Home	Advanced Tools Status Help					
WAN Settings Please select the © Dynamic IP A	e appropriate option to connect to your ISP. Address: Choose this option to obtain an IP address automatically from					
C Static IP Add	your ISP. (For most Cable modem users) dress Choose this option to set static IP information provided to you by your ISP. Choose this option if your ISP uses PPPoE. (For most DSL users)					
Dynamic IP Host Name MAC Address	DI-604 (optional) 00 - 03 - 2F - FF - FC - 09 (optional) Clone MAC 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.

Host Name: The Host Name field is optional but may be required by some ISPs. The host name is the device name of the Broadband 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.

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HOME > WAN > Static IP Address

-Link Ing Networks for People			D Ethernet B	I-604 roadband Ro	uter
	Home Advo	inced	Tools	Status	Help
	WAN Settings				
	Please select the appropri	ate option	to connect to yo	ur ISP	
Wizard	O Dynamic IP Address		natically from y	obtain an IP addro our ISP.(For most (
WAN	 Static IP Address 		se this option to ded to you by y	set static IP inforn our ISP.	nation
LAN	O PPPoE	Choo: DSL u		your ISP uses PPP	oE.(For most
	Static IP				
DHCP	IP Address		(*	assigned by your ISF	')
Direi	Subnet Mask				
	ISP Gateway Address				
	Primary DNS Address				
	Secondary DNS Address			optional)	
				S Apply	2 G Cancel Help

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

Secondary DNS Address: optional

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HOME > WAN > PPPOE **D**-Link **DI-604 Ethernet Broadband Router** Advanced Tools Please be Home Status Help <u>/!</u>` NAN Setti sure to Please select the appropriate option to connect to your ISP. remove any Wizard Choose this option to obtain an IP address automatically from your ISP. (For most Cable modem users) O Dynamic IP Address existing Choose this option to set static IP information provided to you by your ISP. O Static IP Address **PPPoE** Client WAN Choose this option if your ISP uses PPPoE. (For most DSL users) • PPPoE Software LAN PPPoE installed on ● Dynamic PPPoE ○ Static PPPoE your User Name DHCP computers. Password Retype Password Service Name (optional) IP Address 0.0.0.0 Primary DNS Address 0.0.0.0 Secondary DNS Address 0.0.0.0 (optional) 0 Minutes Maximum Idle Time 1492 MTU Auto-reconnect - 😢 🖸 \checkmark Apply Cancel Help

Choose PPPoE (Point to Point Protocol over Ethernet) if you're ISP uses PPPoE connection. Your ISP will provide you with a username and password. . Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection. 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

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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.

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HOME > LAN

024			DI Ethernet Br	-604 oadband Ro	outer
1	Home	Advanced	Tools	Status	Help
	LAN Settings				
	The IP address o	of the DI-604.			
	IP Address	192.168.0	.1		
	IP Address Subnet Mask	192.168.0			
		255.255.2			(optional)
	Subnet Mask	255.255.2			(optional)

LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the VDI-604. 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.

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HOME > DHCP

nk.	DI-604 Ethernet Broadband Router						
Home	Advance	ed Tools	Status	Help			
DHCP Serv The DI-604 (network.		DHCP server to distribute	IP addresses to t	he LAN			
DHCP Serve	er G	Enabled C Disabled					
Starting IP /	Address 19	2.168.0.100					
Ending IP A		2.168.0.199					
Lease Time		Hour					
			0	30			
DHCP Clien	t Table		Apply	Cancel He			
Host Name	IP Address	MAC Address	Expired Time	9			
Host Name unknown	IP Address 192.168.0.103	08-00-46-4B-F2-96	Expired Time Feb/05/210	6 23:32:34			
Host Name	IP Address	The Fragress	Expired Time Feb/05/210 Peb/05/210	e 6 23:32:34 6 23:32:34			

DHCP stands for Dynamic Host Configuration Protocol. The VDI-604 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 VDI-604. 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.

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ADVANCED > VIRTUAL SERVER

D-Link Building Networks for People		DI-604 net Broadba	nd Router			
	Home	Advanc	ed Too	ols Sta	tus H	lelp
	Virtual Server Virtual Server is	used to allow l	nternet users a	access to LAN servi	ces.	
Virtual Server	Name Private IP	C Enabled (Disabled	Clear		
Filters	Protocol Type Private Port					
Firewall	Public Port Schedule	C Always				_
DMZ			e 00 ▼ : 00 Sun ▼ to	▼ AM ▼ to 00 Sun ▼	▼] : 00 ▼ AN	1 -
	Virtual Servers	List			🍼 🕴	el Help
	Name		Private IP	Protocol	Schedule	
	Virtual Serv		0.0.0.0	TCP 21/21	always	
	Virtual Serv Virtual Serv		0.0.0.0	TCP 80/80 TCP 443/443	always	
	Virtual Serv Virtual Serv		0.0.0.0 0.0.0.0	TCP 443/443 UDP 53/53	always always	
	Virtual Serv		0.0.0.0	TCP 25/25	always always	
	Virtual Serv		0.0.0.0	TCP 110/110	always always	
	Virtual Serv		0.0.0.0	TCP 23/23	alwaγs	
	F IPSec		0.0.0.0	UDP 500/500	always	
	PPTP		0.0.0.0	TCP 1723/1723	always	

The VDI-604 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 network.

The VDI-604 firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the VDI-604 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 VDI-604 redirects the external service request to the appropriate server within the LAN network.

The VDI-604 is also capable of port-redirection meaning incoming traffic

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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 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 network that will be providing the virtual services.

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

Protocol Type: The protocol used for the virtual service.

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 we 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 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



Vin	tual 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.

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ADVANCED > APPLICATIONS

Link Networks for People	DI-604 Ethernet Broadband Router					
	Home	Advanced	Tools	Status	Help	
	Special Applicatio		ulications that you	uive un diale e europe	tions	
			•••••••••••••••••••••••••••••••••••••••	uire multiple connec	tions.	
		Enabled O Di	and a second	-		
	Name	2/07		Clear		
•	Trigger Port	-				
_	Trigger Type	CP 💌				
	Public Port					
	Public Type	CP 🔻				
1					O C	
	Special Applicatio	nne Liet		Apply	Cancel Hel	
	NAME	Trigger Pub	lic	Аррту	curret net	
	■ Battle.net	6112 611			.	
	🔲 Dialpad	7175 512	00-51201,51210	l		
	🗖 ICU II			51,2069,2085,301		
	📕 MSN Gaming 2					
	PC-to-Phone		20,12122,24150	-24220		
	🔲 Quick Time 4	554 697	0-6999			

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 VDI-604. 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 VDI-604 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.

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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 a hyphen to add port ranges.

Public Type: This is the protocol used for the special application.

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ADVANCED > FILTERS > IP FILTERS

_	-		D Ethernet B	I-604 roadband Ro	outer
E	ome	Advanced	Tools	Status	Help
Filter				1. 1. 1. 1.	
Filters	are used t	o allow or deny LAN	users from acce	ssing the Internet.	
• IF	Filters	O URL Blockin	g		
ОМ	AC Filters	C Domain Bloc	king		
IP Fil					
		deny LAN IP addres:	ses access to th	e Internet.	
O E	nabled C	Disabled Clear			
		IP			
	F	Port			
	Protocol Ty	/pe TCP 💌			
		lule O Always			
		~			
		From time 01	• : 00 • AM	1 ▼ to 01 ▼ : 00	
		day Sun	💌 to Sun 💌]	
				Solution	(3)
IP Fil	ter List			Appl	y Cancel Hel
	IP Range	e Protoco	il.	Schedule	,,
Π	*	TCP 20	-21	always	
	*	TCP 80		always	
	*	TCP 44	3	always	
	*	UDP 53	F.	always	
	*	TCP 25		always	
	*	TCP 11	0	always	1
	*	ICMP 8		always	
Г	*	TCP 23		always	

Filters

Filters are used to deny or allow LAN computers from accessing the Internet. The VDI-604 can be setup to deny internal computers by their IP or MAC addresses. The VDI-604 can also block users from accessing restricted web sites.

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.

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ADVANCED > FILTERS > MAC FILTERS

D*LINK Rding Networks for People			DI Ethernet Br	-604 oadband Rou	04 Idband Router			
$\langle \rangle$	Home	Advanced	Tools	Status	Help			
	Filters Filters are used to a	llow or deny LAN	users from acces	sing the Internet				
Virtual Server				onig the internet.				
Thrutur Server	 IP Filters MAC Filters 	 O URL Blockin O Domain Bloc 	о					
	WAC Filters	SO Domain Dio	скіну					
Applications	MAC Filters							
	Use MAC Filters to	deny LAN compu	ters access to the	e Internet by their MA	AC Address.			
Filters	Disabled MAC F	Filters						
	O Only allow MA	C address listed I	elow to access Ir	ternet from LAN				
	O Only deny MAG	address listed b	elow to access In	ternet from LAN				
Firewall	Name			Clear				
	100000000000000000000000000000000000000							
DMZ	MAC Address			-				
	DHCP Client	unknown,08-00-		Clone				
	Drief Clief		40-40-1 2-30	CIGINO	-			
					3			
	MAC Filter List			Apply	Cancel Help			
	Name	MAC Addre	SS					

Use **MAC Filters** to allow or deny LAN 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.

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ADVANCED > FILTERS > URL BLOCKING

Home Advanced rs are used to allow or deny L IP Filters © URL Blo MAC Filters © Domain Blocking k those URLs which contain	AN users from accessir cking Blocking	Status	Help
rs are used to allow or deny L IP Filters © URL Blo MAC Filters © Domain Blocking	cking Blocking	ng the Internet.	
	keywords listed below.		
Enabled © Disabled	Add	e	
			3

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.

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Link letworks for People		DI-604 Ethernet Broadband Router					
	Home	Advanced	Tools	Status	Help		
	Filters Filters are used t	o allow or deny LAN	users from acces	sing the Internet			
Server	C IP Filters						
	O MAC Filters	 URL Blockin Domain Blockin 					
ons			11				
	Domain Blockir © Disabled	ig					
		to access all web si	tes except "Block	ed Domains"			
s		to access all web sit	1				
	Permitted Dom	ains	Add	1			
	2		Del				
	Blocked Domai	ns					
			Add				
			Del	ete			
			<i>*</i>		O C		

Domain Blocking is used to allow or deny LAN 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.

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ADVANCED > FILTERS > FIREWALL

attack orks for People	-	-		Ether	DI-60 net Broadt	4 and Router			
\geq		Home	Advance	d To	ols S	tatus Help			
		wall Rules							
	Fire				raffic from passin	g through the DI-604.			
			Enabled C Dis		r.				
	Nam			Clear					
	Acti		Allow C Deny face IP Range	Start IP Ra	inge End Proto	col Port Range			
	Sou					cor i on runge			
	Dest	tination *	-	— i	TCP				
	Sch	edule O	Always						
				: 00 -	AM 🕶 to 01 💌	: 00 🕶 AM 💌			
			day Sun	💌 to Sun	•				
						🕥 🙆 🕻			
	Fire	wall Rules	List			Apply Cancel He			
		Action	Name	Source	Destination	Protocol			
		Deny	Default	*,*	LAN,*	IP (0),*			
		Allow	Default	LAN.*	* *	IP (0),*			

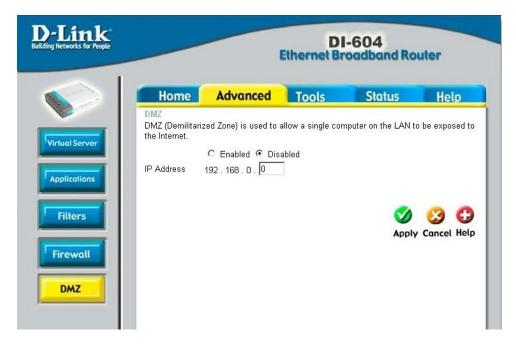
Firewall Rules is an advance feature used to deny or allow traffic from passing through the Broadband Router. It works in the same way as IP Filters with additional settings. You can create more detailed access rules for the VDI-604. When virtual services are created and enabled, it will also display 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 (the highest priority) to the bottom (the lowest priority.)



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ADVANCED > DMZ



If you have a client PC that cannot run Internet applications properly from behind the VDI-604, 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.

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TOOLS > ADMIN D-Link **DI-604 Ethernet Broadband Router** Home Advanced Status Tools Help Administrator Settings Administrators can change their login password. Admin Administrator (The Login Name is "admin") New Password Time Confirm Password User (The Login name is "user") System New Password Confirm Password Firmware Remote Management C Enabled Disabled Misc. IP Address * Port 8080 -80 VCT G 88 1080 Apply Cancel Help 8080

Admin

At this page, the VDI-604 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.

Remote Management

Remote Management allows the VDI-604 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. If the IP address is set to * (star). This allows any Internet IP address to access the Broadband Router. *It is not*

-30-

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: The port number used to access the Broadband Router. (Select from the pull-down menu.)

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

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D-Link Iding Networks for People			DI Ethernet Br	-604 oadband Ro	uter
	Home	Advanced	Tools	Status	Help
	Time Set the DI-604 sy	vstem time.			
Admin	Local Time	Jul/16/2002 10:3	3:19		
Time	Time Zone	(GMT-08:00) Pa	cific Time (US & I	Canada)	
Time	Default NTP Serv	er 🗌	(optional)		
System	Set the Time	Year 2002 💌 N	1oth Jul 💌 Day	16 💌	
System		Hour 10 💌 Min	ute Secon	d 19 💌 Set Tim	ie
Firmware	Daylight Saving	C Enabled @	Disabled)1 💌 End Jan j	- 01 -	
Misc.					
				-	~ •

Time

The system time is the time used by the VDI-604 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.

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TOOLS > SYSTEM

D-Link rilding Networks for People		-	DI-604 Ethernet Broadband Router				
$\langle \rangle$	Home	Advanced	Tools	Status	Help		
Admin	System Setting Save Settings T Save	gs Fo Local Hard Drive					
Time System	Load Settings F	From Local Hard Drive	1				
Firmware Misc.	Restore To Fac	tory Default Settings			G		
VCT					Help		

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.

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TOOLS > MISC

Home Advanced Tools Status Het Ping Test Ping Test is used to send "Ping" Packets to test if a computer is on the Internet. Host Name or IP address Ping Restant Device Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. Pinging public WAN IP address is a common method used by hackers to test whether your WAN IP address is valid. Discard PING from WAN side C Enabled C Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PTP C Enabled C Disabled IPSec C Enabled C Disabled	nk s for People	DI-604 Ethernet Broadband Router				
Ping Test is used to send "Ping" Packets to test if a computer is on the Internet. Host Name or IP address Ping Restart Device Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. Pinging public WAN IP addresses is a common method used by hackers to test whether your WAN IP addresses is valid. Discard PING from WAN side C Enabled C Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled	Hor	ne Advanced	Tools	Status	Help	
Host Name or IP address Ping Restart Device Reboots the DI-604. Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. Pinging public WAN IP addresses is a common method used by hackers to test whether your WAN IP addresses is a common method used by hackers to test whether your WAN IP address is valid. Discard PING from WAN side C Enabled C Disabled VPN Pass-THrough Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled			Deellen 1. 1. 1. 1. 2			
address Restart Device Reboots the DI-604. Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. Pinging public WAN IP addresses is a common method used by hackers to test whether your WAN IP addresses is valid. Discard PING from WAN side C Enabled C Disabled VPN Pass-THrough Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled			Packets to test if a c	omputer is on the li	nternet.	
Reboots the DI-604. Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled C Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled		ne or IP		Ping		
Reboots the DI-604. Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled C Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled						
Reboot Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled C Disabled VPN Pass-THrough Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled	in out in the					
Block WAN Ping When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled C Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled	Rebuuls					
When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled	Reboo	t				
When you "Block WAN Ping", you are causing the public WAN IP address on the D to not respond to ping commands. 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 C Enabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled	DL W	AN D'				
to not respond to ping commands. 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 C Enabled © Disabled VPN Pass-Through Allows VPN connections to work through the DI-604. PPTP C Enabled © Disabled			u are causing the nul	blic WAN IP addres	s on the DL-6	
Discard PING from WAN side C Enabled C Disabled VPN Pass-THrough Allows VPN connections to work through the DI-604. PPTP C Enabled C Disabled	to not res	pond to ping commands	. Pinging public WAN	N IP addresses is a		
VPN Pass-THrough Allows VPN connections to work through the DI-604. PPTP C Enabled © Disabled	method u	ised by nackers to test v	vnetner your wAN IP	address is valid.		
Allows VPN connections to work through the DI-604. PPTP C Enabled © Disabled	Discard F	PING from WAN side O	Enabled 💿 Disable	ed		
Allows VPN connections to work through the DI-604. PPTP C Enabled © Disabled						
PPTP C Enabled © Disabled						
	Allows VI	PN connections to work	through the DI-604.			
IPSec O Enabled © Disabled	PPTP	C Enab	iled 🖲 Disabled			
	IPSec	O Enab	led 🖲 Disabled			
				Apply	Cancel H	

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.

Restart Device

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

Block WAN Ping

When you "Block WAN Ping", you are causing the public WAN IP address on the Broadband Router to not respond to ping commands. Pinging

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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 VDI-604 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.

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TOOLS > VCT

D-Link Building Networks for People	_		DI-604 Ethernet Broadband Router		
	Home Fast Ethernet Virtual Cable 1	Advanced	Tools	Status	Help
Admin	Ports	Link Status			
System	LAN1			Connected Connected	More Info More Info
Firmware Misc.	LAN2			Disconnected Connected	More Info More Info
<u>vc</u> т	LAN4			Disconnected	More Info

Virtual Cable Tester (VCT) is an advanced feature that integrates a LAN cable tester on every Ethernet port on the router. Through the graphical user interface (GUI), VCT can be used to remotely diagnose and report cable faults such as opens, shorts, swaps, and impedance mismatch. The VCT feature significantly reduces service calls and returns by allowing users to easily troubleshoot their cable connections.

Ports – The Ethernet port names associated to the physical ports.

Link Status – The current link status of the Ethernet cable connected to the respective Ethernet port.

More Info – Click on **More Info** for detailed information about the cable link status.

 ${\it Refresh}$ – Click on ${\it Refresh}$ to run the VCT test. Allow the router a few seconds to complete the test.

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This page displays the current information for the Broadband Router. It will display the WAN, LAN, and MAC address information.

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

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

WAN

MAC Address 00-40-05-B2-D5-9A

Connection PPPoE Disconnected Connect Disconnect

IP Address 0.0.0.0

Subnet Mask 255.0.0.0

Default Gateway 0.0.0.0

DNS

This page allows you to observe the VDI-604's working status:

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

LAN

- IP Address: LAN/Private IP Address of the VDI-604
- Subnet Mask: LAN/Private Subnet Mask of the VDI-604

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

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STATUS > LOG

nk s for People			D Ethernet Br	I-604 roadband Roa	uter
	Home	Advanced	Tools	Status	Help
	features. First Page	Last Page Pr	evious Next	Clear Log Setti	ngs Help
	Time Apr/29/2002 15:4 Apr/29/2002 15:4 Apr/29/2002 15:4	15:51 DHCP Requ 15:51 DHCP Requ		Source Destination	Note 10.80.1.105 10.80.1.105

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 Setting.

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.

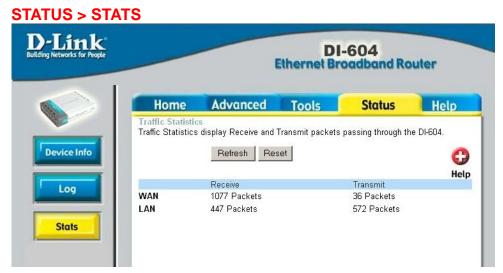
Log Settings

Not only does the Broadband Router display the logs of activities and events, it can be setup to send these logs to another location. The logs can be sent via email to an email account.

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

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

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Traffic Statistics

The Broadband Router keeps statistic 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.

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Troubleshooting

-

If you **do not** wish to set the static IP address on your PC, you will need to configure your PC to request an IP address from the gateway.

Click the **Start** button, select **Settings**, and select **Control Panel**. Double-click the **Network** icon.

In the configuration tab, select the **TCP/IP protocol line** that has been associated with your network card/adapter. If there is no TCP/IP line listed, you will need to install TCP/IP now.

Network	? >
Configuration Identification Access Control	
The following network components are installed:	
 Microsoft Network Monitor Driver -> Dial-Up Ad Microsoft Network Monitor Driver -> PCI 10/10 TCP/IP -> Dial-Up Adapter 	-
TCP/IP -> PCI 10/100 Fast Ethernet Adapter	
File and printer sharing for Microsoft Networks	
Add Remove	P <u>r</u> operties
Primary Network Logon:	
Client for Microsoft Networks	•
<u>File and Print Sharing</u>	
Description TCP/IP is the protocol you use to connect to the wide-area networks.	Internet and
<u> </u>	Cancel

Click the **Properties** button.

Choose the IP ADDRESS tab. Select Obtain an IP automatically.

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T	CP/IP Properties		? >
1	Bindings	Advanced	NetBIOS
Í	DNS Configuration	Gateway WINS Confi	iguration IP Address
	If your network doe	be automatically assigne is not automatically assig nistrator for an address, a	n IP addresses, ask
-		address automatically	
- 11	C Specify an IP	address:	
	[P Address:		
	S <u>u</u> bnet Mas	k:	
- 11			
- 11			
		OK OK	Cancel

After clicking OK, windows might ask you to restart the PC. Click Yes.

CONFIRM YOUR PC'S IP CONFIGURATION

There are two tools which are great for finding out a computer's IP configuration: MAC address and default gateway.

WINIPCFG (for Windows 95/98)

Inside the windows 95/98 Start button, select Run and type winipcfg. In the example below this computer has an IP address of 192.168.0.100 and the default gateway is 192.168.0.1. The default gateway should be the network device IP address. The MAC address in windows 95/98 is called the Adapter Address.

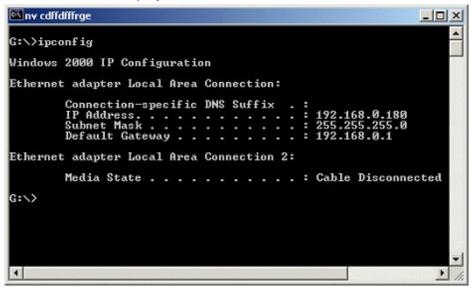
NOTE: You can also type **winipcfg** in the DOS command prompt.

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PIP Configuration Ethernet Adapter Information	-		-	
Adapter Add			0 Fast Ethernet Ad	
IP Address Subnet Mask		1 92.168.0100 255.255.255.0		
Default Gate	way	19	2.168.0 1	
ОК	Rel	ease	Renew	
Release All	Ren	e <u>w</u> All	More Info >>	

IPCONFIG (for Windows 2000/NT/XP)

At the command prompt type **IPCONFIG** and press **Enter**. Your PC IP information will be displayed as shown below.

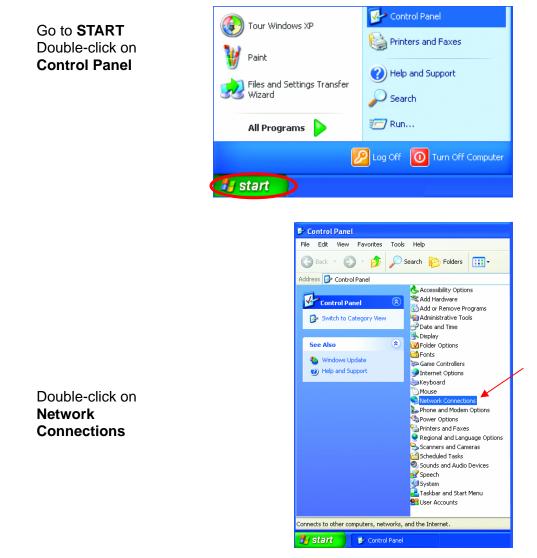


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Assigning a Static IP Address

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.

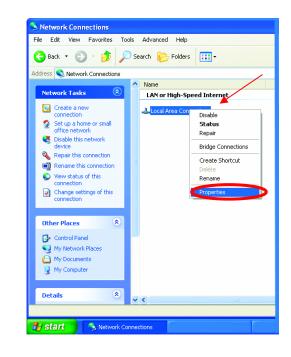
If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:



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Right-click on Local Area Connections.

Double-click Properties



Highlight Internet Protocol (TCP/IP)

Click Properties

🕹 Local Area Connection 7 Properties 🛛 🔹 🔀
General Advanced
Connect using:
■ D-Link DWL-A650
<u>C</u> onfigure
This connection uses the following items:
Client for Microsoft Networks Elie and Printer Sharing for Microsoft Networks Bos Packet Scheduler File and Protocol (TCP/IP)
Install Uninstall Properties
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

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Select **Use the following IP address** in the Internet Protocol (TCP/IP) Properties window.

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.) Input your DNS server addresses.

The DNS server information will be provided by your ISP (Internet Service Provider.)

nternet Protocol (TCP/IP) Pr	operties ?
General	
	automatically if your network supports d to ask your network administrator for
O <u>O</u> btain an IP address automa	atically
• Use the following IP address	:
IP address:	192.168.0.2
S <u>u</u> bnet mask:	255 . 255 . 255 . 0
Default gateway:	192. 168 . 0
O O <u>b</u> tain DNS server address a	automatically
OUse the following DNS serve	er addresses:
Preferred DNS server:	192. 168 . 0
Alternate DNS server:	· · ·
	Ad <u>v</u> anced
	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.)

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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.

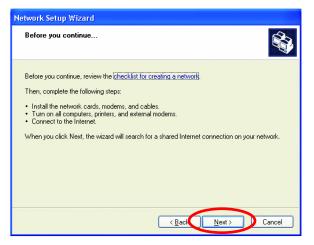
Go to Start>Control Panel>Network Connections Select Set up a home or small office network



When this screen appears, Click Next.

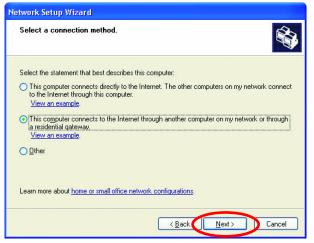
-47-

Please follow all the instructions in this window:



Click Next

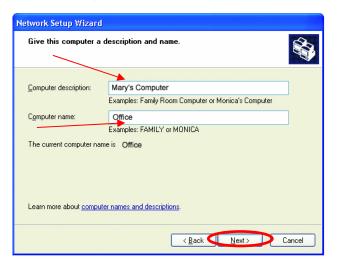
In the following window, select the best description of your computer. If your computer connects to the Internet through a gateway/router, select the second option as shown.



Click Next

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



Click Next

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

letwork Setup Wiza	rd
Name your network	
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
	< Back Next > Cancel

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Click Next

Please wait while the **Network Setup Wizard** applies the changes.

Network Setup Wizard	
Ready to apply network settings	ļ
The wizard will apply the following settings. This process may take a few minutes to complete and cannot be interrupted. Settings:	
Network settings: Image: Computer computer computer name: Computer name: Office Workgroup name: Accounting The Shared Documents folder and any printers connected to this computer have been shared. To apply these settings, click Next.	
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.
3
< <u>₿</u> ack <u>N</u> ext > Cancel

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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.



Format the disk if you wish, and click Next.

5	1	
-5	I	-

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**.

Network Setup Wizard	
	Completing the Network Setup Wizard
	You have successfully set up this computer for home or small office networking.
山人	For help with home or small office networking, see the following topics in Help and Support Center:
	Using the Shared Documents folder Sharing files and folders
	To see other computers on your network, click Start, and then click My Network Places.
	To close this wizard, click Finish.
	<back cancel<="" finish="" th=""></back>

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

System Settings Change			
?	You must restart your computer before the new settings will take effect. Do you want to restart your computer now?		
	Yes <u>N</u> o		

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.

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Networking Basics Naming your Computer

To name your computer, please follow these directions:

In Windows XP:

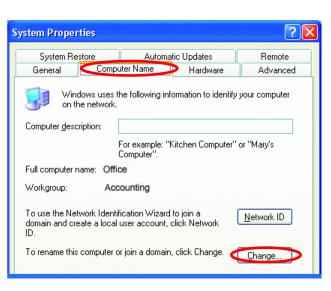
- Click **Start** (in the lower left corner of the screen)
- Right-click on My
 Computer
- Select Properties
 and click



 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



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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 Changes
You can change the name and the membership of this computer. Changes may affect access to network resources.
Office
Full computer name: Office Member of Domain: • Workgroup:
Accounting
OK Cancel

Checking the IP Address in Windows XP/2000

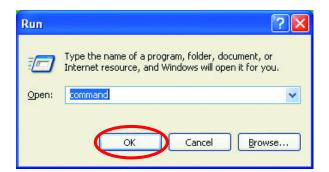
Go to Start > All Programs > Accessories > Command Prompt



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Checking the IP Address in Windows XP/2000

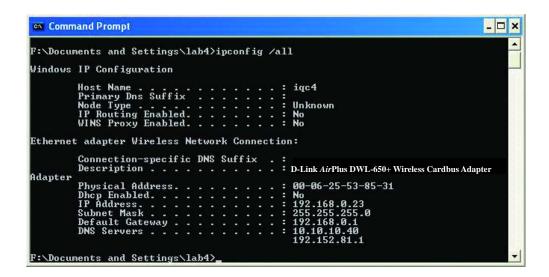
Type Command



Click OK

Checking the IP Address in Windows XP/2000

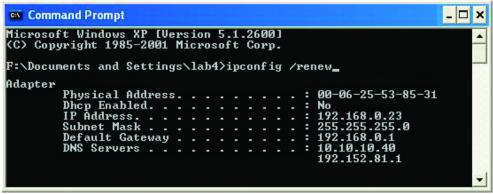
Type **ipconfig /all** at the prompt. Click **Enter**. All the configuration settings are displayed as shown below.



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Checking the IP Address in Windows XP/2000

Type **ipconfig /renew** at the prompt to get a new IP Address. Click **Enter**. The new IP Address is shown below.



(Windows 98/ME users: go to Start > Run. Type Command. Type winipcfg at the prompt. Click Release and Renew to obtain a new IP Address.)

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Assigning a Static IP Address

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:

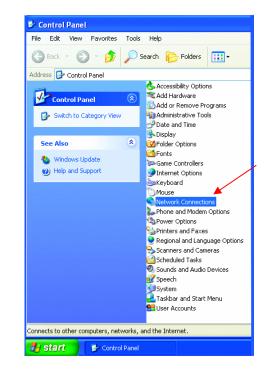
- Go to Start
- Double-click on
 Control Panel



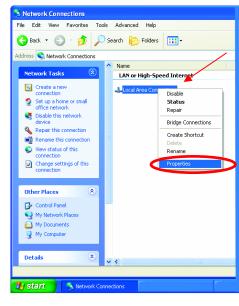
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Networking Basics Assigning a Static IP Address

Double-click on
 Network Connections



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



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Networking Basics Assigning a Static IP Address

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

🕹 Local Area Connection 7 Properties 🛛 🔹 💽
General Advanced
Connect using:
BWL-650+ Wireless Cardbus Adapter
Configure
This connection uses the following items:
Client for Microsoft Networks Client for Microsoft Networks Qlient for Microsoft Networks Qlient for Scheduler Client Frotocol (TCP/IP)
Install Uninstal Properties
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.)
- Input your DNS server • addresses. (Note: If you are entering a DNS server, you must enter the IP Address of the Default Gateway.)

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. ODbtain an IP address automatically • O Use the following IP address: • IP address: 192.168.0.2 Subnet mask: 255 . 255 . 255 . 0 Default gateway: O Obtain DNS server address automatically O Use the following DNS server addresses: Preferred DNS server: . . | Alternate DNS server Advanced.. ΟK Cancel

?×

The DNS server information will be provided by your ISP (Internet Service Provider.)

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Adding and Sharing Printers in Windows XP

After you have run the **Network Setup Wizard** on all the computers in your network (please see the **Network Setup Wizard** section at the beginning of **Networking Basics**,) you can use the **Add Printer Wizard** to add or share a printer on your network.

Whether you want to add a **local printer** (a printer connected directly to one computer,) share an **LPR printer** (a printer connected to a print server) or share a **network printer** (a printer connected to your network through a Gateway/Router,) use the **Add Printer Wizard**, you can find the directions below:

First, make sure that you have run the <u>Network Setup Wizard</u> on all of the computers on your network.

We will show you 3 ways to use the Add Printer Wizard

- 1. Adding a local printer
- 2. Sharing an network printer
- 3. Sharing an LPR printer

Adding a local printer

(A printer connected directly to a computer)

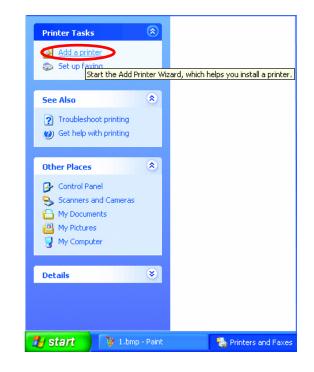
A printer that is not shared on the network and is connected directly to one computer is called a **local printer**. If you do not need to share your printer on a network, follow these directions to add the printer to one computer.

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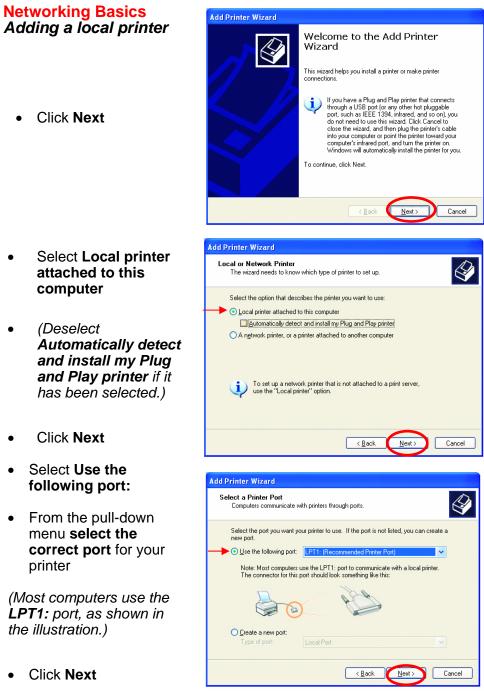
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Go to Start>	Windows Movie Maker	Control Panel
Printers and Faxes	Files and Settings Transfer Wizard Notepad	 Help and Support Search Run
	All Programs 🕨	
	🖉 start	Log Off 🚺 Turn Off Computer

• Click on Add a printer



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- Select and highlight the **correct driver** for your printer.
- Click Next

(If the correct driver is not displayed, insert the CD or floppy disk that came with your printer and click **Have Disk**.)

• At this screen, you can change the name of the printer (optional.)

- Select Yes, to print a test page. A successful printing will confirm that you have chosen the correct driver.
- Click Next



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This screen gives you information about your printer.

Add Printer Wizard				
	Completing the Add Printer Wizard			
	You have successfully completed the Add Printer Wizard. You specified the following printer settings:			
	Name: Share name: Port:	HP DeskJet 500 <not shared=""> LPT1:</not>		
	Model:	HP DeskJet 500		
	Default	Yes		
	Test page:	Yes		
	To close this wizard, click Finish.			
		< Back Finish Cancel		

Click Finish

When the test page has printed,

HP DeskJet 500		
A test page is now being sent to the printer. Depending on the speed of your printer, it may take a minute or two before the page is printed.		
The test page briefly demonstrates the printer's ability to print graphics and text, and it provides technical information about the printer driver.		
If the test page printed, click OK. If the test page did not print, click Troubleshoot.		
OK Troubleshoot		

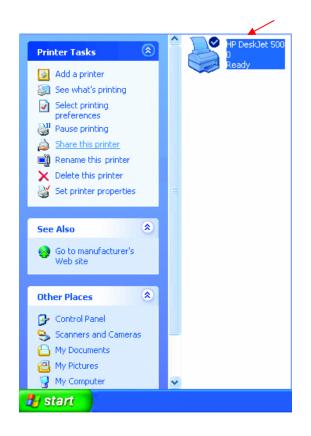
Click OK

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• Go to Start> Printers and Faxes

A successful installation will display the printer icon as shown at right.

You have successfully added a local printer.

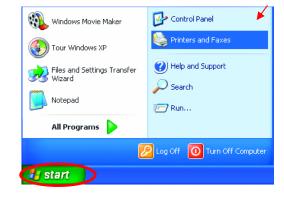


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Sharing a network printer

After you have run the **Network Setup Wizard** on all the computers on your network, you can run the **Add Printer Wizard** on all the computers on your network. Please follow these directions to use the **Add Printer Wizard** to share a printer on your network:

• Go to Start> Printer and Faxes

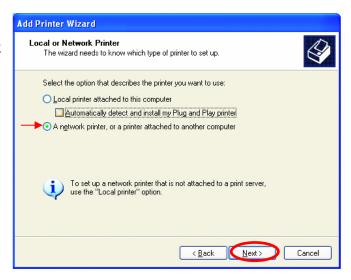


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Networking Basics Sharing a network printer

•

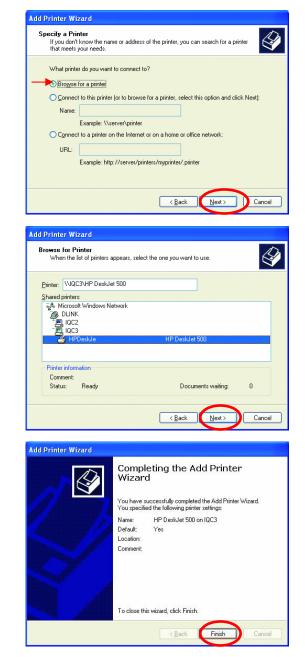
- ٨ **Printer Tasks** Click on 📓 🛯 🕹 🖓 Add a Printer log Set up fa: Start the Add Printer Wizard, which helps you install a printer. Add Printer Wizard Welcome to the Add Printer Wizard This wizard helps you install a printer or make printer connections. If you have a Plug and Play printer that connects through a USB port for any other hot pluggable port, such as IEEE 1394, infrared, and so on), you do not need to use this wizard. Click Cancel to close the wizard, and then plug the printer's cable into your computer's infrared port, and turn the printer for you. Windows will automatically install the printer for you. j) Click Next To continue, click Next. Next > Cancel
- Select Network
 Printer
- Click Next



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Networking Basics *Sharing a network printer*

- Select Browse for a printer
- Click Next
- Select the **printer** you would like to share.
- Click Next

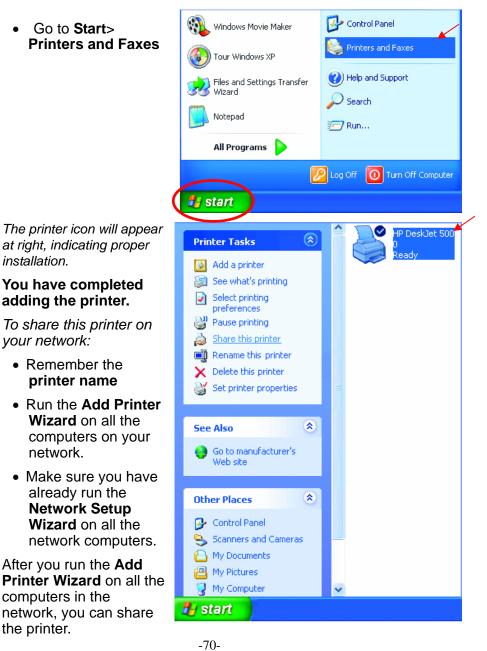


• Click Finish

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Networking Basics Sharing a network printer

To check for proper installation:



Networking Basics Sharing an LPR printer

To share an LPR printer (using a print server,) you will need a Print Server such as the DP-101P+. Please make sure that you have run the Network Setup Wizard on all the computers on your network. To share an LPR printer, please follow these directions:

- Add Printer Wizard • Go to Start> Welcome to the Add Printer Wizard **Printers** and Faxes This wizard helps you install a printer or make printer connections. Click on If you have a Plug and Play printer that connects through a USB port (or any other hot pluggable port, such as IEEE 1394, infrared, and so on), you do not need to use this wizard. Click Cancel to **i**) Add a Printer close the wizard, and then plug the printer's cable into your computer or point the printer toward your computer's infrared port, and turn the printer on. The screen to the Windows will automatically install the printer for you. right will display. To continue, click Next. Click Next (<u>B</u>ack Next> Cancel Add Printer Wizard Select • Local printer... Local or Network Printer The wizard needs to know which type of printer to set up. Select the option that describes the printer you want to use: Cocal printer attached to this computer Automatically detect and install my Plug and Play printer O A network printer, or a printer attached to another computer To set up a network printer that is not attached to a print server, use the "Local printer" option. Click Next < <u>B</u>ack <u>N</u>ext> Cancel
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Networking Basics Sharing an LPR printer

- Select Create a new port
- From the pull-down menu, select **Standard TCP/IP Port**, as shown.
- Click Next
- Please read the instructions on this screen.
- Click Next

- Enter the **Printer IP** Address and the **Port** Name, as shown.
- Click Next



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Networking Basics Sharing an LPR printer

•	In this screen, select Custom.	Add Standard TCP/IP Printer Port Wizard
-		Additional Port Information Required The device could not be identified.
•	Click Settings	The detected device is of unknown type. Be sure that: The device is properly configured. The address on the previous page is correct. Either correct the address and perform another search on the network by returning to the previous wizard page or select the device type if you are sure the address is correct. Device Type Standard Generic Network Card
	_	● <u>C</u> ustom <u>Settings</u>
		< <u>B</u> ack <u>N</u> ext > Cancel

- Enter the **Port Name** and the **Printer Name** or **IP Address**.
- Select LPR
- Enter a Queue Name (if your Print-Server/ Gateway has more than one port, you will need a Queue name.)
- Click OK

ort Name:		IP_192.170.0.20	
Printer Name or IP <u>A</u> ddress		192.170.0.20	
Protocol			
<u>○ R</u> aw		<u> —▶⊙ L</u> PR	
Raw Settings			
Port <u>N</u> umber:	9100)	
LPR Settings			
Queue Name:	lp		
LPR Byte Count	ing Enable	d	
SNMP Status Er	nabled		
Community Name:	publi	c	
SNMP <u>D</u> evice Inde	x: 1		

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Networking Basics Sharing an LPR printer

- This screen will show you information about your printer.
- Click Finish
- Select the **printer** you are adding from the list of **Printers**.
- Insert the printer driver disk that came with your printer.
- Click Have Disk

If the printer driver is already installed,

- Select Keep existing driver
- Click Next



Completing the Add Standard TCP/IP Printer Port Wizard

No LPR, lp

To complete this wizard, click Finish.

< <u>B</u>ack

Device: 192.170.0.20 Port Name: IP_192.170.0.20 Adapter Type:

You have selected a port with the following characteristics.

Finish Cancel

Add Standard TCP/IP Printer Port Wizard

SNMP:

Protocol: Device:



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Networking Basics Sharing an LPR printer

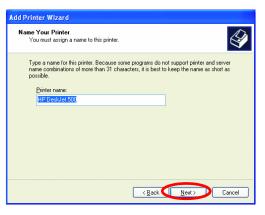
 You can rename your printer if you choose. It is optional.

Please remember the name of your printer. You will need this information when you use the **Add Printer Wizard** on the other computers on your network.

- Click Next
- Select **Yes**, to print a test page.
- Click Next

This screen will display information about your printer.

- Click **Finish** to complete the addition of the printer.
- Please run the Add Printer Wizard on all the computers on your network in order to share the printer.







Note: You must run the Network Setup Wizard on all the computers on your network before you run the -75- Add Printer Wizard.

Other Tasks

For help with other tasks in home or small office networking, see **Using the Shared Documents** folder and **Sharing files and folders** in the **Help and Support Center** in Microsoft Windows XP.

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Technical Specifications

Standards

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

VPN Pass Through / Multi-Sessions

- PPTP
- L2TP
- IPSec

Device Management

Web-Based - requires at least Microsoft Internet Explorer v5 or later,

Netscape Navigator v4 or later, or other Java-enabled browsers.

Media Access Control

CMSA/CA with ACK

LEDS

- Power
- WAN
- Local Network 10/100

Operating Temperature

32*F to 131*F (0*C to 55*C)

Humidity

95% maximum (non-condensing)

Power Input

External power Supply DC 5V, 2.0A

Safety & Emissions

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- FCC
- UL

Dimensions

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

Weight

0.44 lbs (200g)

Warranty

Warranty Statement

Limited Warranty (USA Only)

Subject to the terms and conditions set forth herein, GTE.Net LLC d/b/a Verizon Internet Solutions and Verizon Internet Services Inc. (collectively "Verizon Online") provide this Limited Warranty for the products you are obtaining through Verizon Online ("Product(s)"). This Limited Warranty is provided only to the person or entity ("Customer") that originally purchased the Product(s) from:

•Verizon Online and for

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product that Verizon Online reasonably determines is substantially equivalent (or superior) in all material respects to defective hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period from the

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date of original purchase from Verizon Online.

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Product 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 Product 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 Product does cause harmful interference to radio or television reception, which can be determined by turning the Product off and on, the Customer 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 Product and receiver.
- Connect the Product into an outlet on a circuit different from that to which the receiver is connected.
- Consult Verizon Online or an experienced radio/TV technician for help.

• Return Product shall be packaged and shipped to Verizon Teleproducts, 400 Brandywine Parkway, West Chester, PA 19380. The Customer is responsible for taking the package to a UPS Ground or a common carrier, selected by Verizon Online, with shipping charges prepaid.

What Is Not Covered: This Limited Warranty provided by Verizon Online does not cover: Products, which in Verizon Online's sole discretion, have been subjected to abuse, accident, alternation, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair of 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 cost; Operational adjustments covered in the operating manual for the Product and normal maintenance; Damage that occurs in shipment, due to an 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 Verizon -81-

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Governing Law: This Limited Warranty shall be governed by the laws of the State of New York,

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• Customer must submit with the Product as part of the claim a written description of the hardware defect or Software non-conformance in sufficient detail to allow Verizon Online to confirm the same.

• Customer must obtain a Return Authorization ("RA") number from Verizon Online and, if requested, provide written proof of purchase of Product (such as a copy of the dated purchase invoice of the Product) before the warranty service is provided.

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• Upon Customer's request, Verizon Online will provide Customer with an RA and postage-paid

package for the original Product under warranty. No Cash on Delivery ("COD") returns are allowed.

• After an RA number is issued, the defective Product must be packaged securely in the provided packing material, original or other suitable shipping package, to ensure that it will not be damaged in transit, and the RA number must be prominently marked on the outside of the package. All accessories and manuals must be included in the shipping package, such as the power cord and Ethernet cable.

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Rev. 032205

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