

D-LINK *AirPlus* DI-714P+

**Enhanced 2.4 GHz
Wireless Router**

Manual

D-Link

Building Networks for People

10142004

v140

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Package Contents



Contents of Package:

- **D-Link AirPlus DI-714P+ 2.4GHz Wireless Router**
- Power Adapter – 5V DC
- Manual on CD
- Quick Installation Guide

Note: Using a power supply with a different voltage rating than the one included with the DI-714P+ 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:

- Ethernet-Based Cable or DSL Modem
- Computer with Windows, Macintosh, or Linux-based operating system with an installed Ethernet adapter
- Internet Explorer version 5.5 or Netscape Navigator version 4.79 and above, with JavaScript enabled

Introduction

The D-Link *AirPlus* DI-714P+ Wireless Broadband Router is an enhanced 802.11b high-performance, wireless router with a printer port. It is an ideal way to extend the reach and number of computers connected to your wireless network.

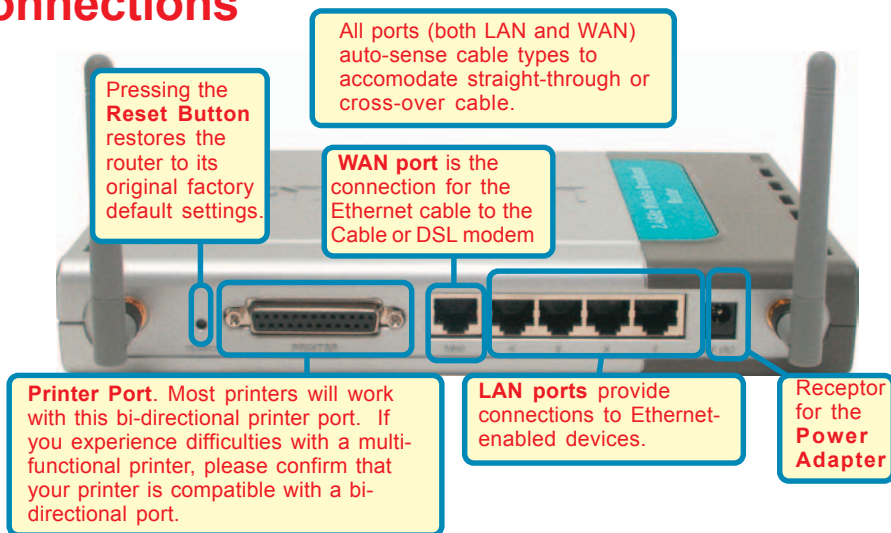
Unlike most 802.11b routers, the DI-714P+ is capable of data transfer speeds up to 22 Mbps* (compared to the standard 11 Mbps) when used with other D-Link *AirPlus* products such as the DWL-520+ and DWL-650+ Wireless Adapters.

After completing the steps outlined in the *Quick Installation Guide* (included in your package) you will have the ability to share information and resources, as well as share a printer wirelessly on your network.

The DI-714P+ is compatible with most popular operating systems, including Macintosh, Linux and Windows, and can be integrated into a large network. This Manual is designed to help you connect the Router and D-Link *AirPlus* 2.4GHz Wireless Adapters into a network in Infrastructure mode. *Please take a look at the **Getting Started** section in this manual to see an example of an Infrastructure network using the DI-714P+.*

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

Connections



Features & Benefits

- Connects multiple computers to an Ethernet Broadband (Cable or DSL) modem to share the Internet connection
- Supports VPN pass-through, providing added security
- Advanced Firewall features for added network security
- DHCP server support enables all networked computers to automatically receive IP addresses
- Wireless connection of up to 22Mbps
- Web-based interface for Management
- Access Control to manage users on the network
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Stronger network security with 256-bit encryption
- Printer port enables connection to a network printer
- WAN and LAN ports auto detect cable types (straight-through or cross-over)
- UPnP supported



Note: Please refer to the *Troubleshooting* section in this manual for instructions on how to use the Reset button

LEDS

LED stands for **L**ight-**E**mitting **D**iode. The **DI-714P+** has the following LEDs as described below:

LED	LED Activity
Power	A steady light indicates a connection to a power source
M1 LED	Flashes once per second to indicate an active system
M2 LED	Lights up when the device has an Internet Connection
WAN	A solid light indicates connection on the WAN port. This LED blinks during data transmission
WLAN	A solid light indicates that the wireless segment is ready. This LED blinks during wireless data transmission.
LOCAL NETWORK (Ports 1-4)	A solid light indicates a connection to an Ethernet-enabled computer on ports 1-4. This LED blinks during data transmission.

Wireless Basics

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

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

Wireless Basics

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

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

People use wireless LAN 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 (Wireless Local Area Networks) 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 Speed and Simplicity - Installing a wireless LAN system can be fast and easy and can eliminate the need to pull cable through walls and ceilings.

Network Expansion - Wireless technology allows the network to go where wires cannot.

Scalability – Wireless Local Area Networks (WLANs) can be configured in a variety of topologies to meet the needs of specific applications or existing infrastructure. 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.

Wireless Basics

*The DI-714P+ is compatible with other **D-Link AirPlus** 802.11b products, which include:*

- ◆ Enhanced 2.4GHz Wireless Cardbus Adapters used with laptop computers (DWL-650+)
- ◆ Enhanced 2.4GHz Wireless PCI cards used with desktop computers (DWL-520+)

Standards-Based Technology

Based on the IEEE **802.11b** standard, the DI-714P+ is interoperable with existing compatible 2.4GHz wireless technology with data transfer speeds of up to 22Mbps (with the D-Link *AirPlus* family of wireless devices,) as well as standard 802.11b technology (the D-Link *Air* family of wireless devices), with speeds of up to 11Mbps.

Installation Considerations

The D-Link *AirPlus* DI-714P+ lets you access your network, using a wireless connection, from virtually anywhere. Keep in mind, however, that the number, thickness and location of walls, ceilings or other objects that the wireless signals must pass through may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the DI-714P+ and your receiving device (e.g., the DWL-650+) to a minimum-each wall or ceiling can reduce your D-Link *AirPlus* wireless product's range from 3-90 feet (1-30 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! Try to make sure that devices are positioned so that the signal will travel straight through a wall or ceiling for better reception.
3. Building Materials make a difference - a solid metal door or aluminum studs may have a negative effect on range. Try to position wireless devices and computers with wireless adapters so that the signal passes through drywall or open doorways and not other materials.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.

Getting Started

With its default settings, the DI-714P+ will connect with other D-Link *Air* or *AirPlus* products, right out of the box.

With a single IP Address from your Broadband Internet Service provider you can share the Internet with all the computers on your local network, without sacrificing speed or security, using D-Link *Air* networking products.

IP ADDRESS

Note: If you are using a DHCP-capable router in your network setup, such as the DI-714P+, you will not need to assign a static IP Address.

If you need to assign IP Addresses to the computers on the network, please remember that the **IP Address for each computer must be in the same IP Address range as all the computers in the network**, and the Subnet Mask must be exactly the same for all the computers in the network.

For example: If the first computer is assigned an IP Address of 192.168.0.2 with a Subnet Mask of 255.255.255.0, then the second computer can be assigned an IP Address of 192.168.0.3 with a Subnet Mask of 255.255.255.0, etc.

IMPORTANT: If computers or other devices are assigned the same IP Address, one or more of the devices may not function properly on the network.

An **Infrastructure** wireless network contains an Access Point. The **Infrastructure Network** example, shown here, contains the following D-Link network devices:

A wireless Broadband Router - **D-Link AirPlus DI-714P+**

A laptop computer with a wireless adapter - **D-Link AirPlus DWL-650+**

A desktop computer with a wireless adapter - **D-Link AirPlus DWL-520+**

A Cable modem - **D-Link DCM-200**

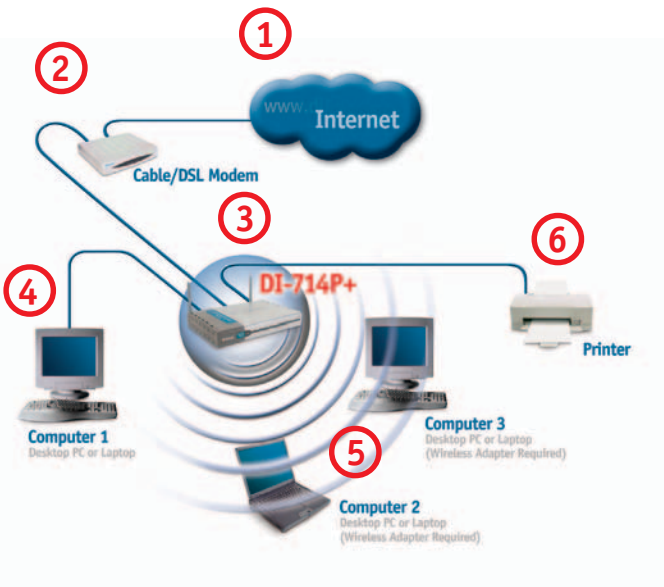
Getting Started

Please refer to the following sections of this manual for additional information about setting up a network:

Networking Basics - learn how to check and assign your IP Address; share printers and files.

Using the Configuration Menu - learn the settings for the DI-714P+, using the web-based interface.

Troubleshooting - learn how to check for common installation issues and other tips for troubleshooting.



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

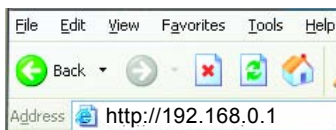
For a typical wireless setup at home (as shown above), please do the following:

- 1** You will need broadband Internet access (a Cable or DSL subscription line into your home or office)
- 2** Consult with your Cable or DSL provider for proper installation of the modem
- 3** Connect the Cable or DSL modem to the DI-714P+ wireless broadband router (see the *Quick Installation Guide* included with the DI-714P+.)
- 4** If you are connecting a desktop computer to your network, you can install the D-Link AirPlus DWL-520+ wireless PCI adapter into an available PCI slot. (See the *Quick Installation Guide* included with the DWL-520+.)
- 5** If you are connecting a laptop computer to your network, install the drivers for the wireless cardbus adapter (e.g., **D-Link AirPlus DWL-650+**) into a laptop computer. (See the *Quick Installation Guide* included with the DWL-650+.)
- 6** Connect your printer to the printer port on the DI-714P+. Please refer to the quick installation guide for loading the print server software.

Using the Configuration Menu

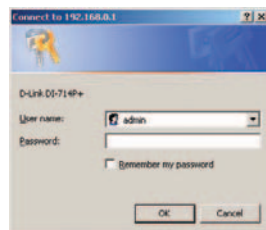
Whenever you want to configure your network or the DI-714P+, you can access the Configuration Menu by opening the web-browser and typing in the IP Address of the DI-714P+. The DI-714P+ default IP Address is shown below:

- Open the web browser
- Type in the **IP Address** of the DI-714P+

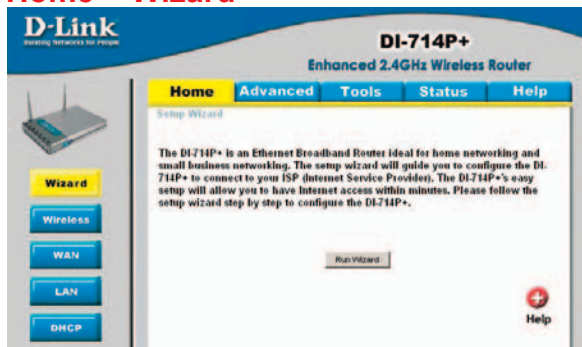


Note: if you have changed the default IP Address assigned to the DI-714P+, make sure to enter the correct IP Address.

The factory default **User name** is **admin** and the default **Password** is blank (empty). It is recommended that you change the admin password for security purposes. Please refer to **Tools>Admin** to change the admin password.



Home > Wizard



The Home>Wizard screen will appear. Please refer to the *Quick Installation Guide* for more information regarding the Setup Wizard.



Apply

Clicking **Apply** will save changes made to the page



Cancel

Clicking **Cancel** will clear changes made to the page



Help

Clicking **Help** will bring up helpful information regarding the page



Restart

Clicking **Restart** will restart the router. (Necessary for some changes.)

Using the Configuration Menu

Home > Wireless

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. The top navigation bar includes tabs for Home, Advanced, Tools, Status, and Help. The 'Wireless Settings' section is active, showing options for Network ID (SSID), Channel, WEP, and WEP Encryption. The 'Wireless' button is highlighted in the left sidebar. At the bottom right, there are 'Apply', 'Cancel', and 'Help' buttons.

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Enhanced 2.4GHz Wireless Router

Home **Advanced** **Tools** **Status** **Help**

Wireless Settings
These are the wireless settings for the AP (Access Point) portion.

Network ID (SSID): default

Channel: 6

WEP: ☐ Enabled ☒ Disabled

WEP Encryption: 64 Bit

WEP Key 1:

Key 2:

Key 3:

Key 4:

802.1X Settings...

☒ Apply ☐ Cancel ☐ Help

SSID-

Default is the default setting. All devices on the network must share the same SSID. If you change the default setting, the SSID may be up to 32 characters long.

Channel-

6 is the default channel. All devices on the network must share the same channel.

WEP-

Click *Enabled* or *Disabled* (default)

WEP Encryption-

Select the level of encryption desired: 64, 128 or 256-bit

64-bit Requires 10 digits

128-bit Requires 26 digits

256-bit Requires 58 digits

Keys 1-4-

Input up to 4 WEP keys using Hexadecimal format; select the one you wish to use.

802.1x settings-

Click to use 802.1x for an extra-level of security, including client authentication, and the window shown on the next page will appear.

Hexadecimal digits consist of the numbers 0-9 and the letters A-F.



WEP (Wired Equivalent Privacy) If you enable encryption on the DI-714P+, make sure to also enable encryption on all 802.11b wireless clients, or wireless connection will not be established.

Using the Configuration Menu

Home > Wireless > 802.1x

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. On the left, there is a navigation menu with buttons for Wizard, Wireless (highlighted), WAN, LAN, and DHCP. The main content area is titled '802.1X Settings' and includes the following fields and options:

- 802.1X**: A checkbox labeled 'Enable' which is currently unchecked.
- Encryption Key Length**: Three radio button options: 'Non Dynamic Key' (selected), '64 bits', and '128 bits'.
- RADIUS Server**: A text input field.
- RADIUS Shared Key**: A text input field.

At the bottom right of the configuration area, there are three buttons: 'Apply' (with a green checkmark icon), 'Cancel' (with a yellow X icon), and 'Help' (with a red plus icon).

802.1x-

The 802.1x is an authentication method which is designed to compliment the existing WEP encryption. During the authentication process, the server verifies the identity of the client attempting to connect to the network. With the proper client account and encryption key, access to the network is granted. Unfamiliar encryption key or clients are denied from accessing the wireless network. This feature will help safe guard a Local Area Network (LAN) from unwanted visitors.

To take the full advantage of the 802.1x in DI-714P+, all of the wireless devices on your network must be 802.1x compatible and must have the 802.11x feature enabled to communicate with the router. (Note: Windows 2000 users will find a few download to enable 802.1x clients on the Microsoft website.)

Encryption Key- Selection for Encryption Key

* Dynamic Keying is a technique for changing the WEP Key used between the supplicant (wireless client) and the access point.

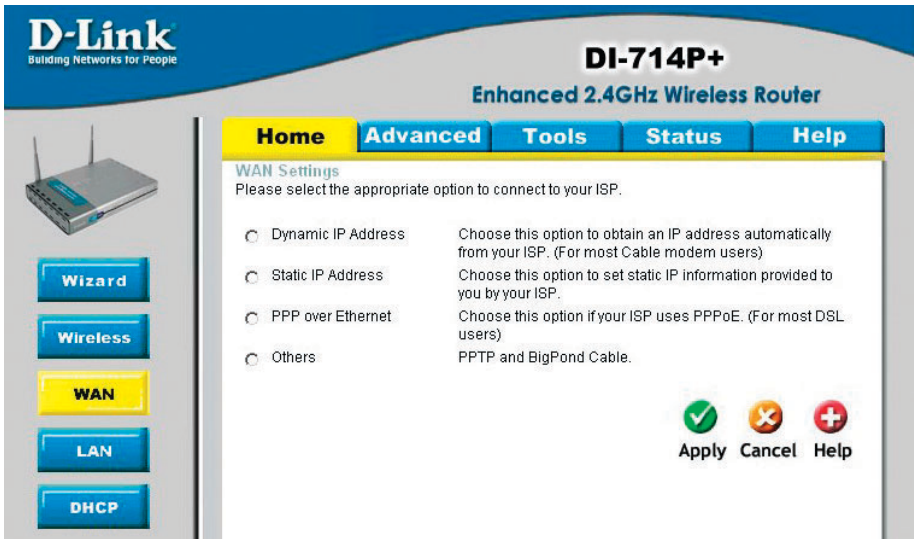
- No Dynamic Keying – This will not generate a Dynamic Key.
- 64 bits – This will generate a 10 digit Dynamic Key value for encryption.
- 128 bits – This will generate a 26 digit Dynamic Key value for encryption.

RADIUS Server- Enter the IP address of the RADIUS server that will be used as the 802.1x authenticator.

RADIUS shared key- Enter the secret key that has also been entered into the RADIUS server's configuration.

Using the Configuration Menu

Home > WAN



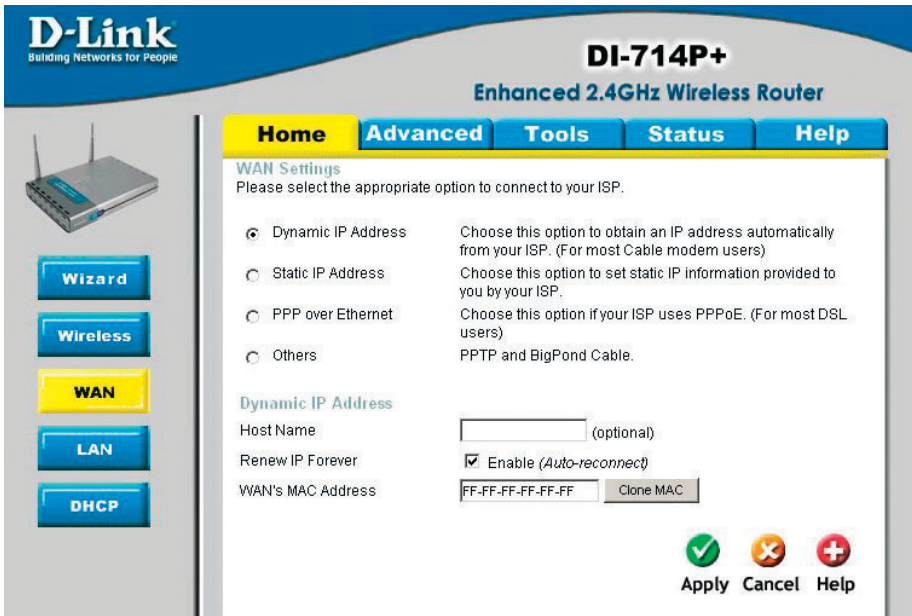
Choose WAN Type

WAN stands for **Wide Area Network**. In this case WAN represents the mode in which your ISP connects to the Internet. If you are uncertain, please ask your ISP which of the following represents your connection mode to the Internet:

- | | |
|----------------------------|--|
| Dynamic IP Address- | Obtain an IP address from your ISP automatically (mainly for Cable users) |
| Static IP Address- | Your ISP assigns you a Static IP Address |
| PPP over Ethernet- | Some ISPs require the use of PPPoE to connect to their services (mainly for DSL users) |
| Others- | |
| PPTP- | For use in Europe only |
| Big Pond Cable- | For use in Australia only |

Using the Configuration Menu

Home > WAN > Dynamic IP Address



The screenshot shows the D-Link configuration interface for a DI-714P+ router. On the left is a sidebar with navigation buttons: Wizard, Wireless, WAN (highlighted in yellow), LAN, and DHCP. The main content area has tabs for Home, Advanced, Tools, Status, and Help. Under the 'Home' tab, the 'WAN Settings' section is active, displaying instructions to select an option for connecting to an ISP. Four radio button options are listed: Dynamic IP Address (selected), Static IP Address, PPP over Ethernet, and Others. Each option has a descriptive text block. Below these, the 'Dynamic IP Address' section is expanded, showing fields for Host Name (optional), Renew IP Forever (checked with 'Enable (Auto-reconnect)'), and WAN's MAC Address (FF-FF-FF-FF-FF-FF) with a 'Clone MAC' button. At the bottom right are three buttons: Apply (with a green checkmark icon), Cancel (with a red X icon), and Help (with a red plus icon).

Most Cable modem users will select this option to obtain an IP Address automatically from their ISP (Internet Service Provider).

Host Name-

This is optional, but may be required by some ISPs. The host name is the device name of the Router.

Renew IP Forever-

Enable this feature to allow the router to automatically reconnect to the ISP if the connection drops.

MAC Address-

The default MAC Address is set to the WAN's physical interface MAC address on the Router.

Clone MAC Address-

This feature will copy the MAC address of the Ethernet card, and replace the WAN MAC address of the Router with this Ethernet card MAC address. It is not recommended that you change the default MAC address unless required by your ISP.

Using the Configuration Menu

Home > WAN > Static IP Address

The screenshot shows the D-Link configuration interface for a DI-714P+ router. On the left is a sidebar with navigation buttons: Wizard, Wireless, WAN (highlighted in yellow), LAN, and DHCP. The main content area has tabs for Home, Advanced, Tools, Status, and Help. Under the 'Advanced' tab, the 'WAN Settings' section is active, showing four radio button options: Dynamic IP Address, Static IP Address (selected), PPP over Ethernet, and Others. Each option has a brief description. Below this, the 'Static IP Address' section contains five input fields: WAN IP Address, WAN Subnet Mask, WAN Gateway, Primary DNS, and Secondary DNS, each with a default value of 0.0.0.0. At the bottom right are three buttons: Apply (with a green checkmark icon), Cancel (with a yellow X icon), and Help (with a red plus icon).

If you use a Static IP Address, you will input information here that your ISP has provided to you.

WAN IP Address- Input the IP Address provided by your ISP

WAN Subnet Mask- Input the Subnet Mask provided by your ISP

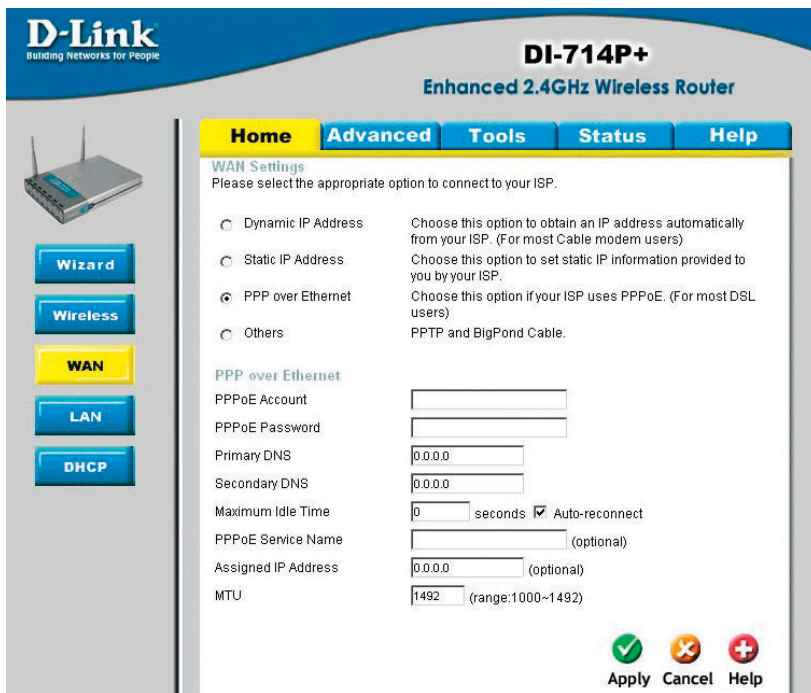
WAN Gateway- Input the Gateway address provided by your ISP

Primary DNS- Input the primary DNS address provided by your ISP

Secondary DNS- (Optional) Input the Secondary DNS address provided by your ISP.

Using the Configuration Menu

Home > WAN > PPPoE



The screenshot shows the D-Link configuration interface for the DI-714P+ router. The 'WAN' tab is selected in the left sidebar. The main content area is titled 'WAN Settings' and 'Please select the appropriate option to connect to your ISP.' There are four radio button options: 'Dynamic IP Address', 'Static IP Address', 'PPPoE over Ethernet' (which is selected), and 'Others'. Below these, the 'PPP over Ethernet' section contains several input fields: 'PPPoE Account', 'PPPoE Password', 'Primary DNS' (0.0.0.0), 'Secondary DNS' (0.0.0.0), 'Maximum Idle Time' (0 seconds) with a checked 'Auto-reconnect' box, 'PPPoE Service Name' (optional), 'Assigned IP Address' (optional), and 'MTU' (1492, range: 1000~1492). At the bottom right of the form are three buttons: 'Apply' (green checkmark), 'Cancel' (orange X), and 'Help' (red plus).

Most DSL users will select this option to obtain an IP address automatically from their ISP through the use of PPPoE.

PPPoE Account- Your PPPoE password provided by your ISP

PPPoE Password- Your PPPoE username is provided by your ISP

Primary DNS- You will get the DNS IP automatically from your ISP but you may enter a specific DNS address that you want to use instead.

Secondary DNS- (Optional) Input the secondary DNS address

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

PPPoE Service Name- (Optional) Check with your ISP for more information if they require the use of service name.

Assigned IP Address- (Optional) Enter in the IP Address if you are assigned a static PPPoE address.

MTU- *Maximum Transmission Unit*; default is 1492; you may need to change the MTU to conform to your ISP.

Using the Configuration Menu

Home > WAN > PPTP

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. On the left is a sidebar with navigation buttons: Wizard, Wireless, WAN (highlighted), LAN, and DHCP. The main content area has tabs for Home, Advanced, Tools, Status, and Help. Under the 'Home' tab, the 'WAN Settings' section is active, displaying the text 'Please select the appropriate option to connect to your ISP.' Below this are four radio button options: 'Dynamic IP Address', 'Static IP Address', 'PPP over Ethernet', and 'Others'. The 'Others' option is selected, and it is further configured with 'PPTP' (for Europe use only) selected and 'BigPond Cable' (for Australia use only) unselected. Below the radio buttons is the 'PPTP' section with input fields for 'My IP Address' (0.0.0.0), 'My Subnet Mask' (255.255.255.0), 'Server IP Address' (0.0.0.0), 'PPTP Account', 'PPTP Password', 'Connection ID' (optional), and 'Maximum Idle Time' (0 seconds). The 'Auto-reconnect' checkbox is checked. At the bottom right of the form are three buttons: 'Apply' (with a green checkmark icon), 'Cancel' (with an orange X icon), and 'Help' (with a red plus icon).

Point-to-Point Tunneling Protocol (PPTP) is a WAN connection used in Europe.

My IP Address- Enter the IP Address

My Subnet Mask- Enter the Subnet Mask

Server IP Address- Enter the Server IP Address

PPTP Account- Enter the PPTP account name

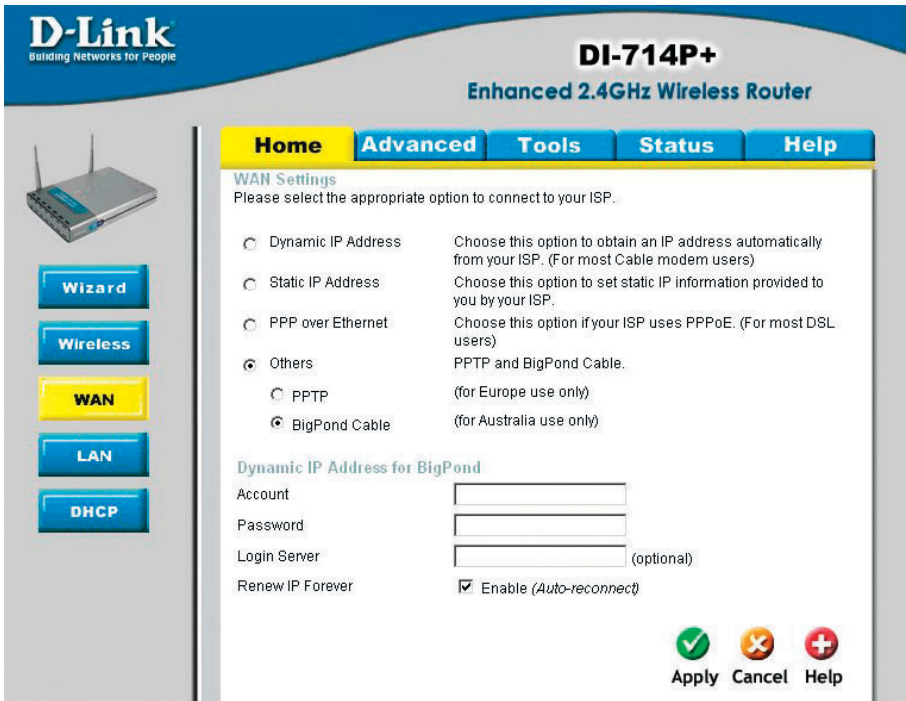
PPTP Password- Enter the PPTP password

Connection ID- (Optional) Enter the connection ID if required by your ISP

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

Using the Configuration Menu

Home > WAN > BigPond Cable



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Home **Advanced** **Tools** **Status** **Help**

WAN Settings
Please select the appropriate option to connect to your ISP.

☐ Dynamic IP Address Choose this option to obtain an IP address automatically from your ISP. (For most Cable modem users)

☐ Static IP Address Choose this option to set static IP information provided to you by your ISP.

☐ PPP over Ethernet Choose this option if your ISP uses PPPoE. (For most DSL users)

☒ Others PPTP and BigPond Cable.

☐ PPTP (for Europe use only)

☒ BigPond Cable (for Australia use only)




Dynamic IP Address for BigPond

Account

Password

Login Server (optional)

Renew IP Forever ☒ Enable (Auto-reconnect)

  
Apply **Cancel** **Help**

Dynamic IP Address for BigPond is a WAN connection used in Australia.

Account- Enter in the username for the BigPond account

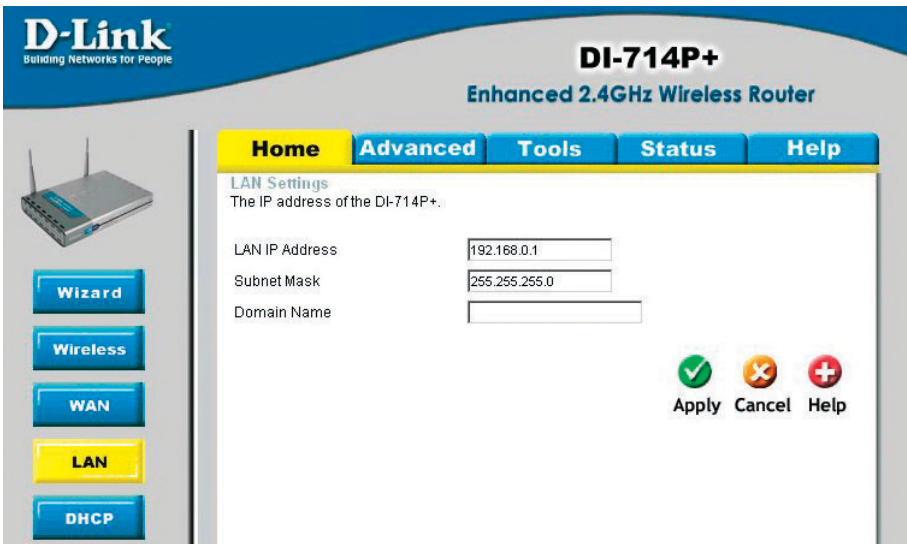
Password- Enter the password for the BigPond account

Login Server- (Optional) enter the Login Server name if required

Renew IP forever- If enabled, the device will automatically connect to your ISP after your unit is restarted or when the connection is dropped.

Using the Configuration Menu

Home > LAN

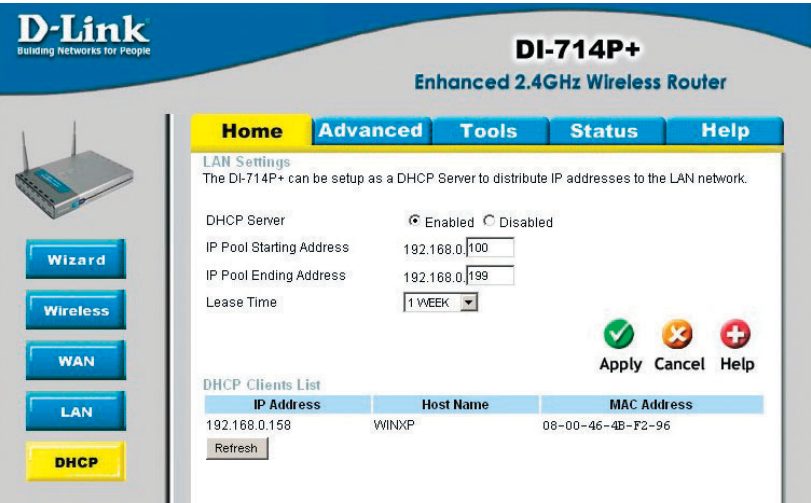


LAN is short for Local Area Network. This is considered your internal network. These are the IP settings of the LAN interface for the DI-714P+. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is private to your internal network and 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**
- Domain Name-** (Optional) The name of your local domain

Using the Configuration Menu

Home > DHCP



DHCP stands for *Dynamic Host Control Protocol*. The DI-714P+ 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-714P+. 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.

- DHCP Server-** Enable or disable the DHCP service
- IP Pool Starting Address-** The starting IP address for the DHCP server’s IP assignment
- IP Pool Ending Address-** The ending IP address for the DHCP server’s IP assignment
- Lease Time-** The length of time for the DHCP lease
- DHCP Clients List-** Lists the DHCP clients connected to the DI-714P+. Click **Refresh** to update the list. The table will show the Host Name, IP Address, and MAC Address of the DHCP client computer.

Using the Configuration Menu

Advanced > Virtual Server

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. The top navigation bar includes tabs for Home, Advanced (selected), Tools, Status, and Help. On the left, a sidebar contains buttons for Virtual Server (selected), Application, Filter, Routing, DMZ, and Performance. The main content area is titled 'Virtual Server' and includes a description: 'Virtual Server is used to allow Internet users access to LAN services.' The configuration fields are as follows:

- ID:** A text input field containing the number '1'.
- Enable:** A checkbox labeled 'Enable' which is currently unchecked.
- Service Ports:** A text input field.
- Well known services:** A dropdown menu with the text '-- select one --'.
- Service IP:** A text input field containing '192.168.0.'.
- Schedule:** Radio buttons for 'Always' (selected) and 'From'.
- From time:** Time selection fields showing '00' for hours and '00' for minutes.
- To time:** Time selection fields showing '00' for hours and '00' for minutes.
- day:** Day selection dropdowns showing 'Sun' for both start and end days.

At the bottom right of the form are three icons: a green checkmark, an orange 'X', and a red plus sign, followed by the buttons 'Apply', 'Cancel', and 'Help'. Below the form, there are three tabs: 'Service Ports', 'Server IP', and 'Schedule'.

The DI-714P+ 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-714P+ firewall feature filters out unrecognized packets to protect your LAN network so all computers networked with the DI-714P+ 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-714P+ redirects the external service request to the appropriate server within the LAN network.

There are already defined well-known virtual services. To use them, select one from the drop down list. You will only need to input the LAN IP address and the Service Ports of the computer running the service, select *Always* or *Schedule* a time during which the virtual server will be in effect, and *Enable* it.

Service Ports- Enter in the service port or ports to be used. A range of ports can be specified with a hyphen. (e.g., 20-21)

Service IP- The IP address of the internal computer that will be using the virtual service

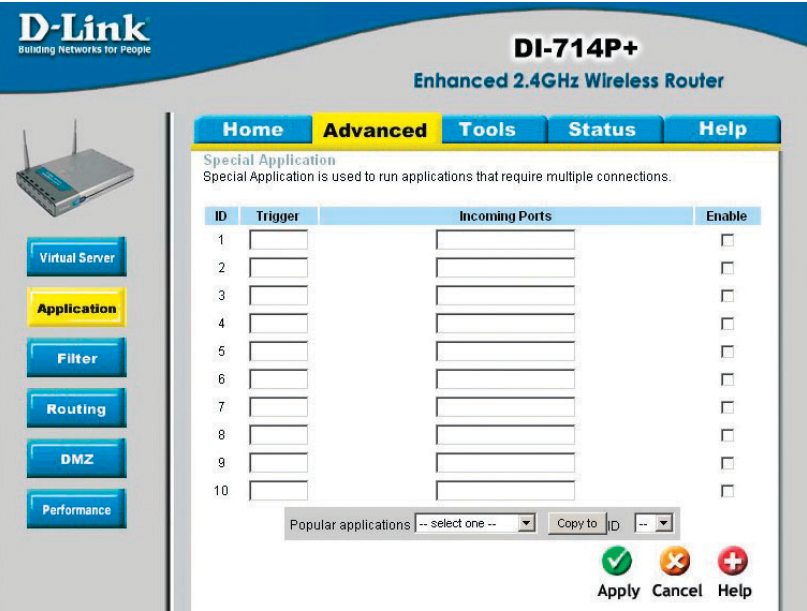
Schedule- Select *Always* or *Schedule* a time during which the service will be in effect

Well known services- Select one of the well-known services from the pull-down list

Enable- Select to activate the policy

Using the Configuration Menu

Advanced > Application



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-714P+. If you need to run applications that require multiple connections, specify the port normally associated with an application in the **Trigger** field, then enter the public ports associated with the trigger port into the **Incoming Ports** field.

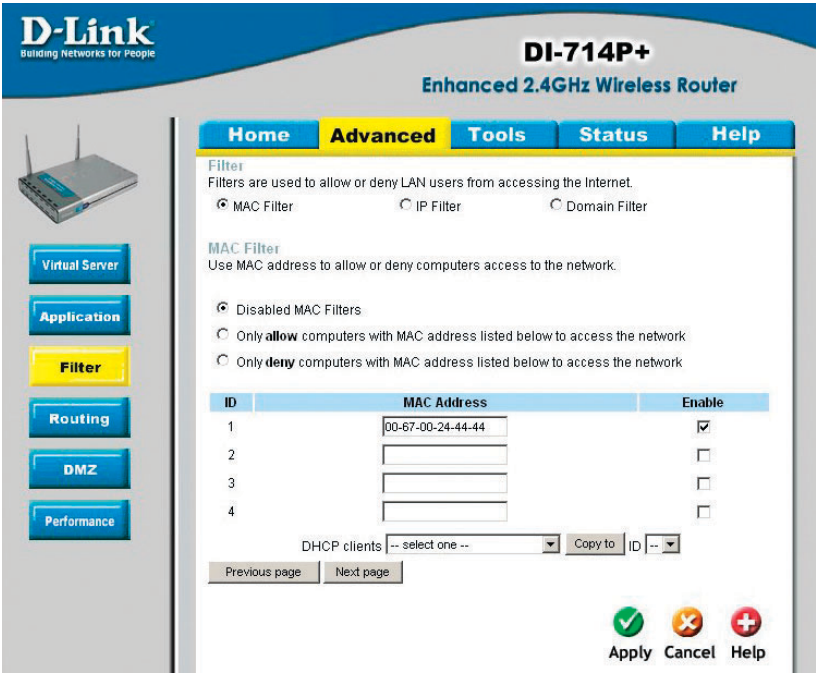
At the bottom of the screen, there are already defined special applications. To use them, select one from the drop down list and select an ID number you want to use. Then click the “Copy to” button and the router will fill in the appropriate information to the list. You will then need to enable the service. If the mechanism of Special Applications fails to make an application work, try using DMZ host instead.

Note! Only one PC can use each Special Application tunnel.

- Trigger-**
- This is the port used to trigger the application. It can be either a single port or a range of ports.
- Incoming Ports-**
- 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.
- Enable-**
- Select to activate the policy

Using the Configuration Menu

Advanced > MAC Filters



MAC (Media Access Control) Filters are used to deny or allow LAN (Local Area Network) computers from accessing the Internet and network by their MAC address. MAC filters apply both to wired computers connected to one of the four Ethernet LAN ports and also to wireless clients connected wirelessly to the DI-714P+.

At the bottom of the screen, there is a list of MAC addresses from the DHCP client computers connected to the DI-714P+. To use them, select one from the drop down list and select an IP number you want to use. Then click the “Copy to” button and the DI-714P+ will fill in the appropriate information to the list.

Disabled MAC Filter: Select this option if you do not want to use MAC filters.

Only allow computers with MAC address listed below to access the network-

Select this option to only allow computers that are in the list to access the network and Internet. All other computers will be denied access to the network and Internet.

Only deny computers with MAC address listed below to access the network-

Select this option to only deny computers that are in the list to access the network and Internet. All other computers will be allowed access to the network and Internet.

MAC Address-

Enter the **MAC Address** of the client that will be filtered

Enable-

Select this option for the specific IP filter policy to take effect.

Using the Configuration Menu

Advanced > IP Filter

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. The 'Advanced' tab is selected, and the 'IP Filter' section is active. The 'Filter' section has three radio buttons: 'MAC Filter', 'IP Filter' (which is selected), and 'Domain Filter'. Below this, the 'IP Filter' section has a description: 'Use IP Filters to deny LAN IP addresses access to the Internet.' There are three radio buttons: 'Disabled IP Filter' (selected), 'Allow all computers to access the Internet except those listed below.', and 'Deny all computers to access the Internet except those listed below.'. Below these are two radio buttons: 'Enabled' and 'Disabled'. The 'IP' field has two input boxes for start and end IP addresses. The 'Port' field has two input boxes for start and end port numbers. The 'Schedule' section has a radio button for 'Always' and a section for 'From time' and 'To' with dropdowns for hour, minute, and day. At the bottom, there are three icons: a green checkmark, a red X, and a red plus sign, with labels 'Apply', 'Cancel', and 'Help' respectively. Below the icons are three tabs: 'IP Range', 'Port Range', and 'Schedule'.

Use IP (Internet Protocol) filters to allow or deny computers access to the Internet based on their IP address. IP filters apply both to wired computers connected to one of the four Ethernet LAN ports and also to wireless clients connected wirelessly to the DI-714P+.

Disabled IP Filter- Select this option if you do not want to use IP filters.

Allow all computers to access the Internet except those listed below-

Select this option to allow computers that are in the list to access the Internet. All other computers will be denied access to the Internet.

Deny all computers access to the Internet except those listed below-

Select this option to deny computers that are in the list to access the Internet. All other computers will be allowed access to the Internet.

IP- Enter in the IP address range of the computers that you want the policy to apply to. If it is only a single computer that you want the policy applied to, then enter the IP address of that computer in the Start Source IP and leave the End Source IP blank.

Port- Enter in the port range of the TCP/UDP ports that you want the policy to apply to. If it is only a single port that you want the policy applied to, then enter the port number in the Start Port field and leave the End Port field blank. If you want to use all the ports, you can leave the port range empty.

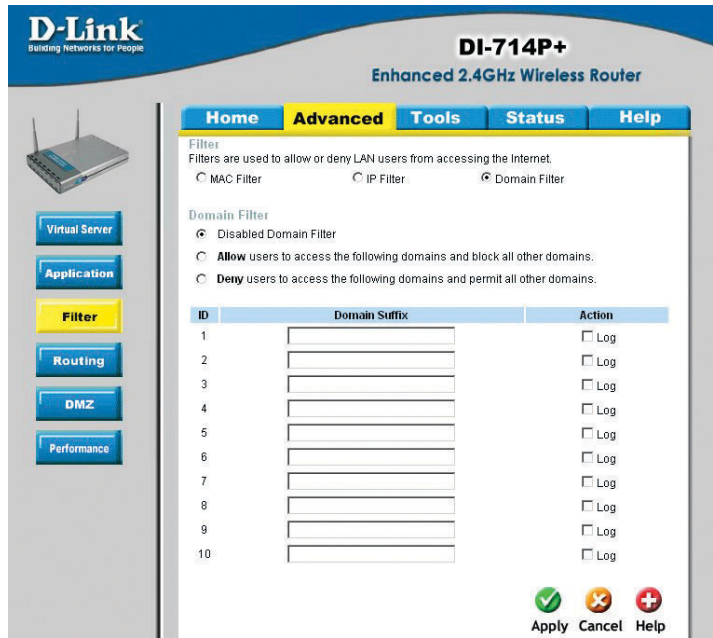
Schedule- Select Always, or input a specific time schedule during which the specific filter will be enabled

Enabled or Disabled-

After you have input all the *IP*, *Port* and *Schedule* information then click *Enabled* or *Disabled*. You can change this setting later by clicking on the *Edit* or *Delete* icon in the list of filters at the bottom of this screen.

Using the Configuration Menu

Advanced > Domain Filter



Use Domain filters to allow or deny computers access to specific Internet domains whether it is through www, ftp, snmp, etc. Domain filters apply both to wired computers connected to one of the four Ethernet LAN ports and also to wireless clients connected wirelessly to the DI-714P+.

Disabled Domain Filter- Select this option if you do not want to use Domain filters.

Allow users to access the following domains and block all other domains-
Select this option to allow users to access the specified Internet domains listed below. Users will be denied access to all other Internet domains.


Deny users to access the following domains and permit all other domains-
Select this option to deny users to access the specified Internet domains listed below. Users will be allowed access to all other Internet domains.

Domain suffix- Enter in the domain suffix of the Internet domain you want to use. (example: shopping.com, sports.net)


Log- Select this option to log usage to the specified domain. The logs can be viewed in Status > Log.

Using the Configuration Menu

Advanced > Routing



DI-714P+
Enhanced 2.4GHz Wireless Router



Virtual Server

Application

Filter

Routing

DMZ

Performance

HomeAdvancedToolsStatusHelp

Routing Table

Use the Routing Table for routing purposes within your local network.

ID	Destination	Subnet Mask	Gateway	Hop	Enable
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

✓

✗

+

Apply

Cancel

Help

Static routes can be added if you require specific routes within your internal network. These routes will not apply to the WAN (Internet) network.

- Destination-

Enter in the IP of the specified network that you want to access using the static route
- Subnet Mask-

Enter in the subnet mask to be used for the specified network.
- Gateway-

Enter in the gateway IP address to the specified network.
- Hop-

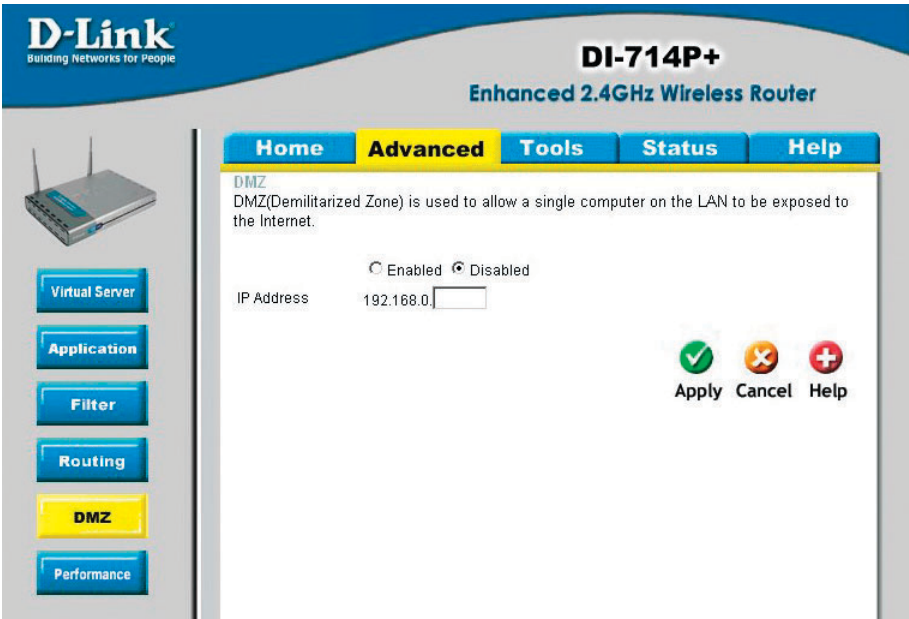
Enter in the amount of hops it will take to the specified network.
- Enable-

Select this option for the specified static route to take effect.

Hop Count - in a transmission path, each link is terminated at a network device such as a router or gateway. The number of hops equals the number of routers or gateways that data must pass through before reaching the destination.

Using the Configuration Menu

Advanced > DMZ



If you have a computer that cannot run Internet applications properly from behind the DI-714P+, then you can allow that computer to have unrestricted Internet access. Enter the IP address of that computer as a DMZ (Demilitarized Zone) host with unrestricted Internet access. Adding a client to the DMZ may expose that computer to a variety of security risks; so only use this option as a last resort.

Using the Configuration Menu

Advanced > Performance

The screenshot shows the D-Link DI-714P+ Enhanced 2.4GHz Wireless Router configuration interface. The top navigation bar includes tabs for Home, Advanced (selected), Tools, Status, and Help. On the left, there is a sidebar with buttons for Virtual Server, Application, Filter, Routing, DMZ, and Performance (highlighted in yellow). The main content area is titled 'Wireless Performance' and contains a list of settings for the AP (Access Point) portion. The settings are as follows:

Setting	Value	Range/Default
Beacon Interval	100	(msec, range: 1~1000, default: 100)
RTS Threshold	2432	(range: 256~2432, default: 2432)
Fragmentation	2346	(range: 256~2346, default: 2346, even number only)
DTIM Interval	3	(range: 1~65535, default: 3)
TX Rates	<input type="radio"/> 1-2(Mbps) <input type="radio"/> 1-2-5.5-11(Mbps) <input checked="" type="radio"/> 1-2-5.11-22(Mbps)	
Preamble Type	<input type="radio"/> Short Preamble <input checked="" type="radio"/> Long Preamble	
Authentication Type	<input type="radio"/> Open System <input type="radio"/> Shared Key <input checked="" type="radio"/> Both	
SSID broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	

At the bottom right of the configuration area, there are three buttons: Apply (with a green checkmark icon), Cancel (with an orange X icon), and Help (with a red plus icon).

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 interval- (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.

TX Rates- Select the data rate. Default is **1-2-5.5-11-22Mbps**.

Preamble Type- **Long 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)

Using the Configuration Menu

Authentication- Select **Open system**, **Shared Key** or **Both**

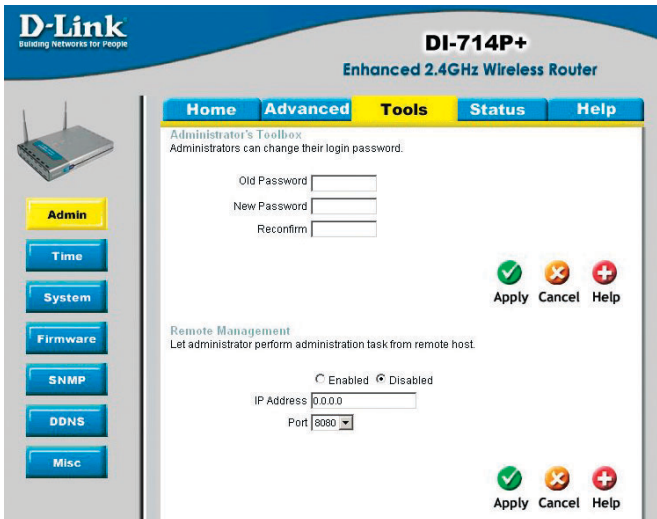
Open System - The DI-714P+ will be visible to all devices on the network. This is the default setting

Shared Key - In this mode, in order to access the DI-714P+ on the network, the device must be listed in the MAC Address Control List

Both - In this mode, all devices on the network can access the DI-714P+

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



You can change the **admin password** here. It is recommended that you change the admin password from the default setting. The default password is blank (nothing).

Password-

To change the admin password, enter in the old password, and enter the new password twice to confirm

Remote Management-

Remote Management allows the device to be configured through the WAN (Wide Area Network) port from the Internet using a web browser. A username and password is still required to access the browser-based management interface.

IP Address-

Internet IP Address of the computer that has access to the DI-714P+. If the IP Address is set to 0.0.0.0, this allows all Internet IP addresses to access the DI-714P+.


Port-


The port number used to access the DI-714P+.

Example: <http://x.x.x.x:8080>, where x.x.x.x. is the WAN IP address of the DI-714P+ and 8080 is the port used for the Web Management interface.

Using the Configuration Menu

Tools > Time

**DI-714P+**
Enhanced 2.4GHz Wireless Router



Admin

Time

System

Firmware

SNMP

DDNS

Misc

HomeAdvancedToolsStatusHelp

Time

Set the DI-714P+ system time.

Local Time

Thu Jan 01 00:20:12 1970

☒ Enable NTP

Sync

Default NTP Server

(optional)

Time Zone

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

☐ Set Device Date and Time

Year: 2002




Month: Jan

Day: 1

Hour: 0

Minute: 0

Second: 0

ApplyCancelHelp

You will need to set the time zone corresponding to your location. The time can be set manually or the device can connect to a NTP (Network Time Protocol) server to retrieve the time.

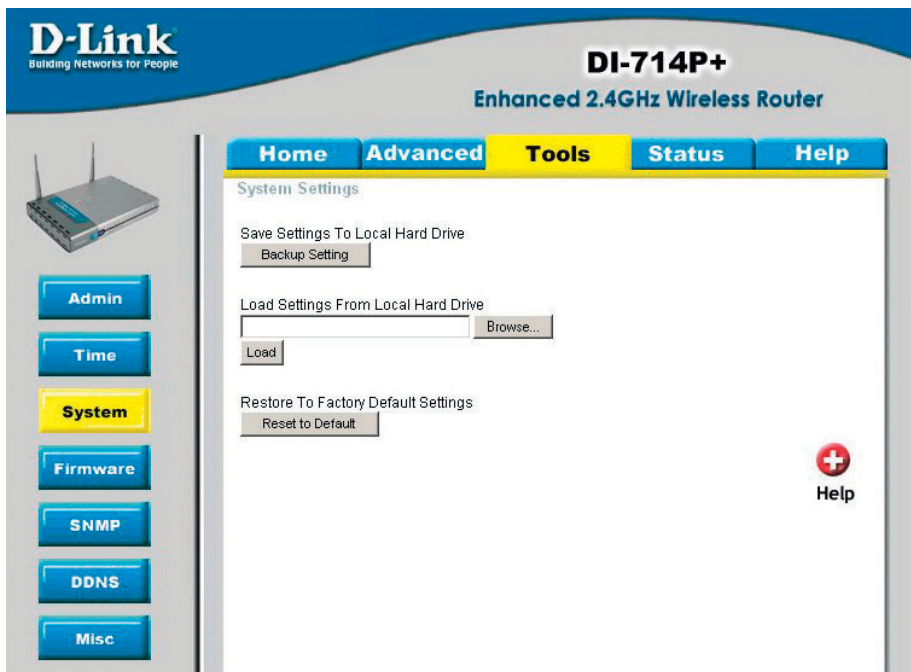
Enable NTP- (Network Time Protocol). Select to synchronize the time on the DI-714P+ to an NTP server.

Set Device Date and Time- You can manually set the time on your network here

NTP is short for **Network Time Protocol**, an Internet standard protocol that assures accurate synchronization to the millisecond of computer clock times in a network of computers.

Using the Configuration Menu

Tools > System



The current system settings can be saved as a file onto the local hard drive. The saved file or any other saved setting file created by the DI-714P+ can be uploaded into the unit. To reload a system settings file, click on “Browse” to search the local hard drive for the file to be used. The device can also be reset back to factory default settings by clicking on “Reset to Default” button. Use the restore feature only if necessary. This will erase previously save settings for the unit. Make sure to save your system settings before doing a factory restore.

Save Settings to Local Hard Drive-

Click **Save** to save the current settings to the local Hard Drive

Load Settings from Local Hard Drive-

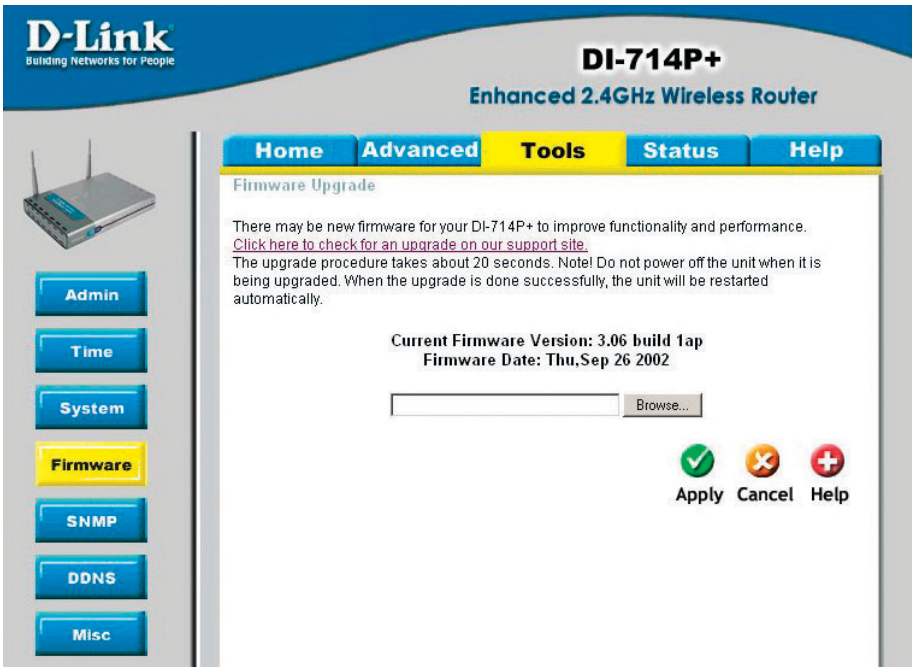
Click **Browse** to find the settings file, then click **Load**

Restore to Factory Default Settings-

Click **Restore** to restore the factory default settings

Using the Configuration Menu

Tools > Firmware



You can upgrade the firmware of the device using this tool. Make sure that the firmware you want to use is saved on the local hard drive of the computer. Click on “Browse” to search the local hard drive for the firmware to be used for the update. Upgrading the firmware will not change any of your system settings but it is recommended that you save your system settings before doing a firmware upgrade. Please check the D-Link support site for firmware updates at <http://support.dlink.com>.

Browse-

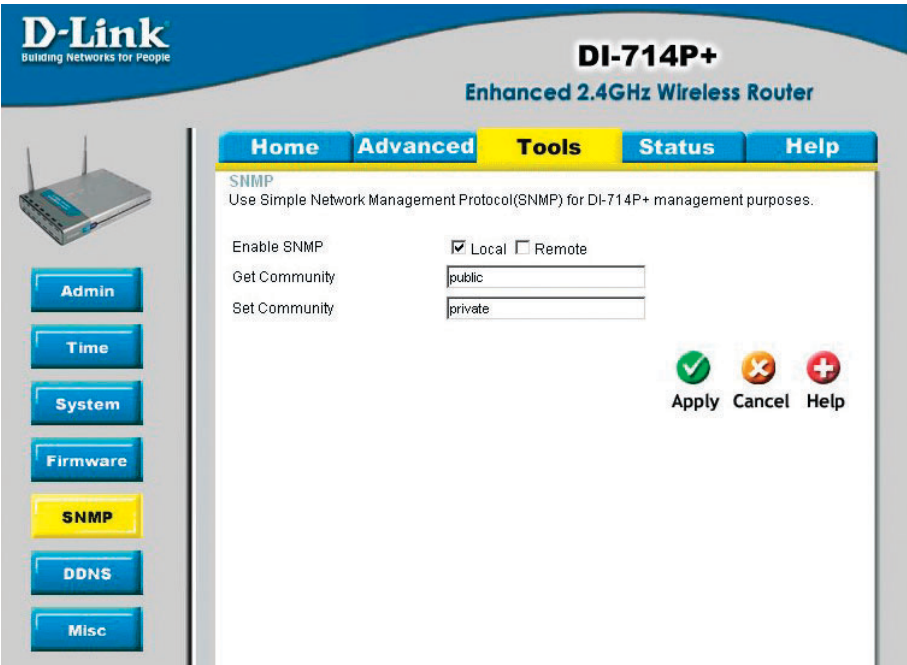
After you have downloaded the new firmware, click **Browse** in this window to locate the firmware update on your hard drive. Click **Apply** to complete the firmware upgrade.



Note! Do not power off the unit when it is being upgraded. When the upgrade is complete, the unit will be restarted automatically.

Using the Configuration Menu

Tools > SNMP



SNMP (Simple Network Management Protocol) is a widely used network monitoring and control protocol that reports activity on each network device to the administrator of the network. SNMP can be used to monitor traffic and statistics of the DI-714P+. The DI-714P+ supports SNMP v1.

Enable SNMP- (Simple Network Management Protocol)

Local- LAN (Local Area Network)

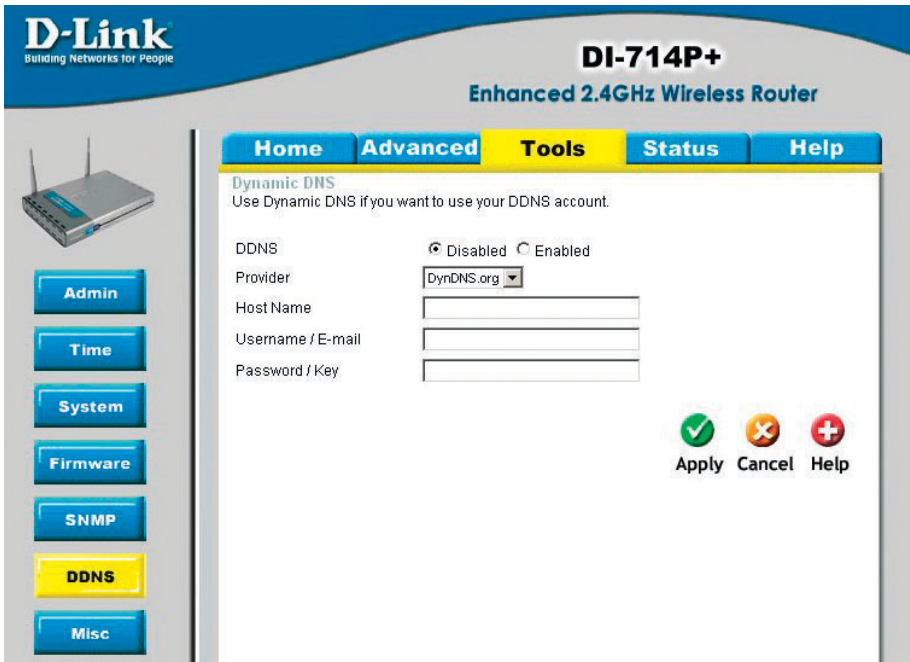
Remote- WAN (Wide Area Network)

Get Community- Enter the password **public** in this field to allow “Read only” access to network administration using SNMP. You can view the network, but no configuration is possible with this setting.

Set Community- Enter the password **private** in this field to gain “Read and Write” access to the network using SNMP software. The administrator can configure the network with this setting.

Using the Configuration Menu

Tools > DDNS



Users who have a Dynamic DNS account may use this feature on the DI-714P+ itself.

DDNS- (Dynamic DNS) when an IP address is automatically assigned by a DHCP server, DDNS automatically updates the DNS server. Select **Disabled** or **Enabled**

Provider- Select from the pull-down menu

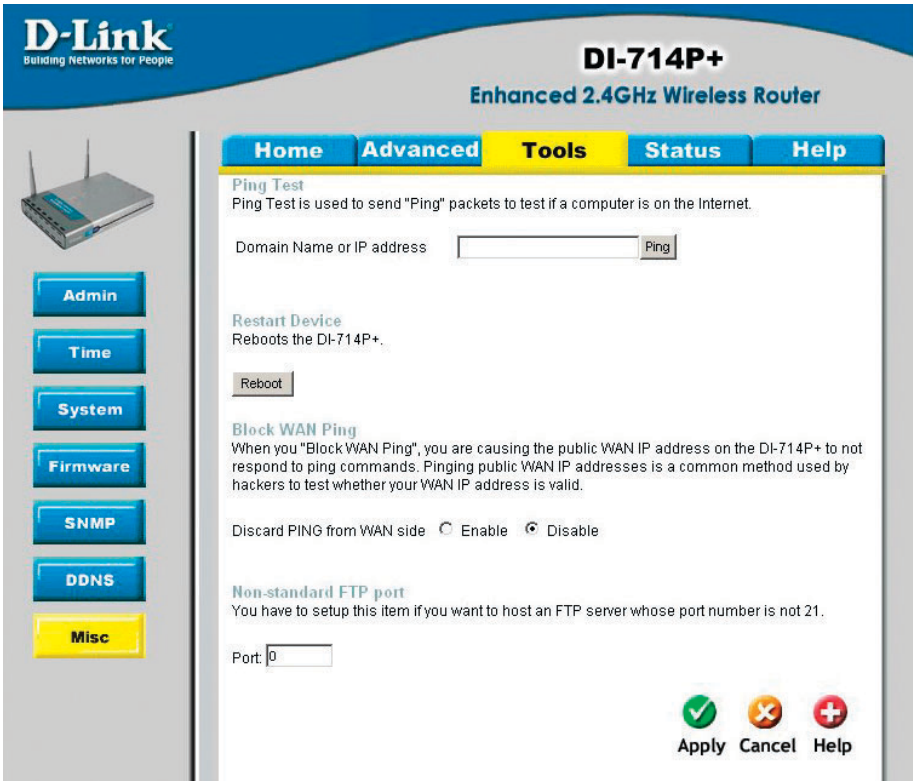
Host Name- Enter the Host name

Username/Email- Enter the username/email address

Password/Key- Enter the password/key

Using the Configuration Menu


Tools > Misc



- Ping Test-** Use the Ping test to send ping packets (ICMP) to test if a computer (host) is on the Internet.
- Restart Device-** Click reboot to restart the unit.
- Block WAN Ping-** Click **Enabled** to block the WAN ping. Computers on the Internet will not get a reply back from the DI-714P+ when it is being “ping”ed. This may help to increase security.
- Non-standard FTP port-** If an FTP server you want to access is not using the standard port 21, then enter in the port number that the FTP server is using instead.

Using the Configuration Menu


Status > Device Info



Building Networks for People

DI-714P+

Enhanced 2.4GHz Wireless Router



Device Info

Log

Stats

Wireless

HomeAdvancedTools**Status**Help

Device Information

Firmware Version: 1.20, Fri, Jan 24 2003

LAN

MAC Address

00-50-18-15-BB-E2

IP Address

192.168.0.1

Subnet Mask

255.255.255.0

DHCP Server

Enable

WAN

MAC Address

00-50-18-15-BB-E1

Connection

DHCP Client Disconnected.

DHCP Renew

DHCP Release

Remaining Lease Time

00:00:00

IP Address

0.0.0.0

Subnet Mask

0.0.0.0

Gateway

0.0.0.0

Domain Name Server

0.0.0.0

Wireless

MAC Address

00-50-18-15-BB-E2

ESSID

default

WEP

Disable

Channel

6


Peripheral

Printer

Not ready

Refresh

Device Time: Fri Dec 31 00:23:34 1999



Help

This screen displays information about the DI-714P+ such as WAN, LAN, and Wireless status.

DHCP Renew- Use this button to reconnect to your ISP, if your WAN connection is set up for DHCP.

DHCP Release- Use this button to disconnect from your ISP, if your WAN connection is set up for DHCP.

Refresh- Click to refresh the information.

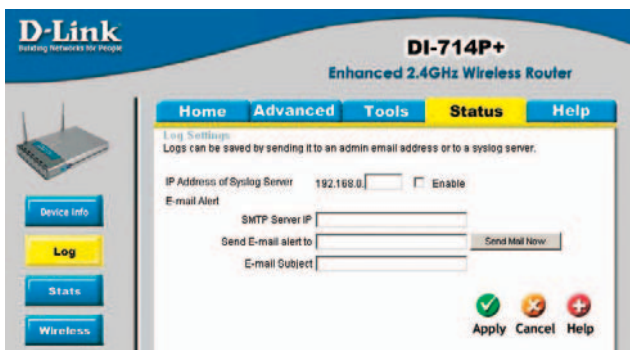
Using the Configuration Menu

Status > Log



This log page displays logs of activities and events that are occurring through the DI-714P+

Status > Log Settings



Syslog Server-

Enter in the IP address of a syslog server within the network. Click Enable to activate the policy. The DI-714P+ will send all of it's logs to the specified syslog server.

E-Mail Alert-

The DI-714P+ can be set up to send the log files to a specific email address.

SMTP Server IP-

Enter in the IP address of the mail server.

Send E-Mail alert to-


Enter in the email address of the recipient who will receive the email log.

E-Mail Subject-

Enter in the email subject. Click on **Send Mail Now** to send the email log.

Using the Configuration Menu

Status > Stats


Building Networks for People

DI-714P+

Enhanced 2.4GHz Wireless Router


Home

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Device Info

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Wireless

Traffic Statistics

Traffic Statistics display Receive and Transmit packets passing through the DI-714P+.

Refresh

Reset


+

Help

Item	Receive	Transmit
WAN	0 Packets	10 Packets
LAN	381 Packets	394 Packets
Wireless	0 Packets	51 Packets

This screen displays the Receive and Transmit packets passing through the DI-714P+. Click on **Refresh** for the most recent information and **Reset** to clear the counter.

Status > Wireless


Building Networks for People

DI-714P+

Enhanced 2.4GHz Wireless Router


Home

Advanced

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Help



Device Info

Log

Stats

Wireless

Connected Wireless Client List

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

Refresh

+

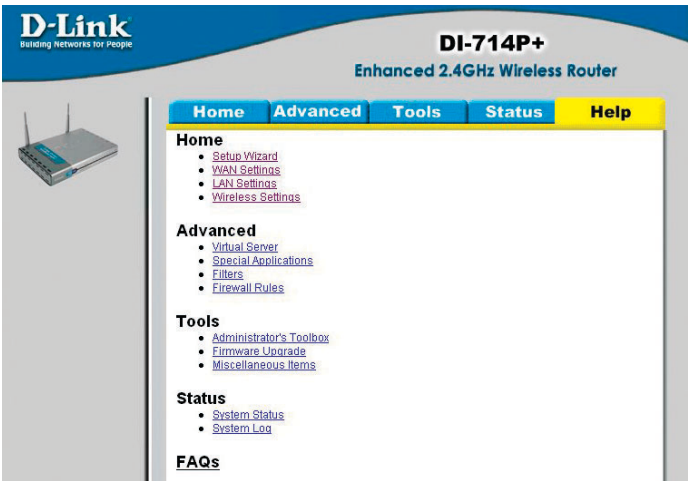
Help

Connected Time	MAC Address
----------------	-------------

This screen displays the connection time and the MAC Address of the connected wireless clients. Click on **Refresh** for the most recent information..

Using the Configuration Menu

Help



This screen displays the complete **Help** menu. For help at anytime, click the **Help** tab in the Configuration menu.

Installing the Print Server Software

Insert the installation CD-ROM into the CD-ROM drive. The following window will be shown automatically. If it is not, please run “autorun.exe” on the CD-ROM.

Click Install Windows Printer Software



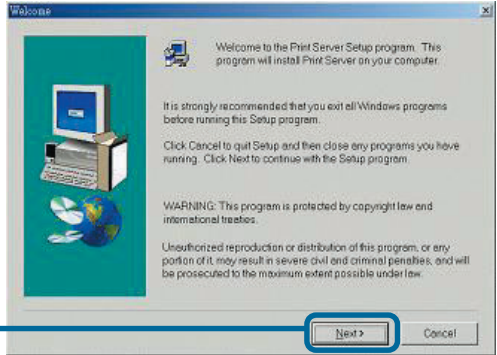
Select your Windows operating system



Installing the Print Server Software (continued)

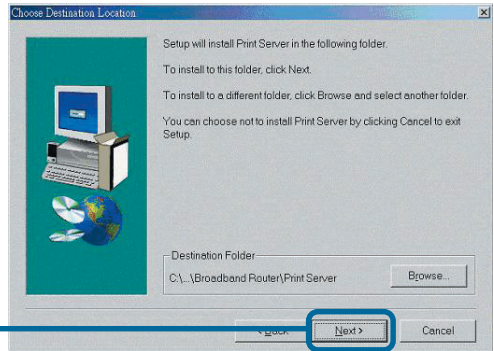
Wait until the following **Welcome** dialog appears.

Click **Next**



Select the destination folder.

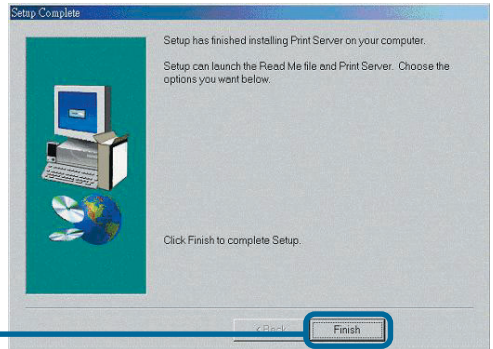
Click **Next**



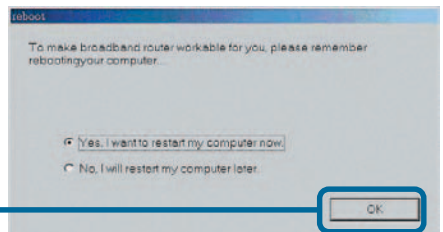
Then, the setup program will begin to install the programs into the destination folder.

When the following window is displayed.

Click **Finish**



Click **OK**



After rebooting your computer, the software installation procedure is finished.

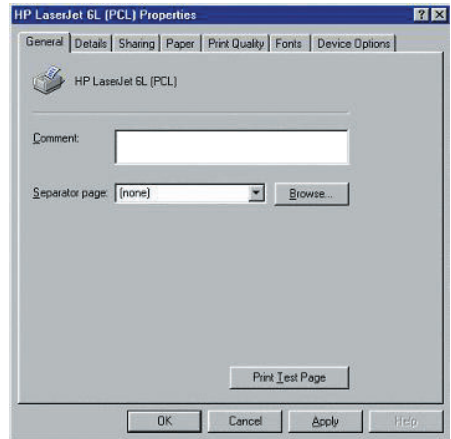
Configuring on Windows 98se/Me Platforms

After you finish the software installation procedure, your computer will be capable of network printing provided by the DI-714P+. For convenience, we call the printer connected to the printer port of the DI-714P+ a *printer server*. On a Windows 95/98 platform, open the **Printers** window in the **My Computer** menu.

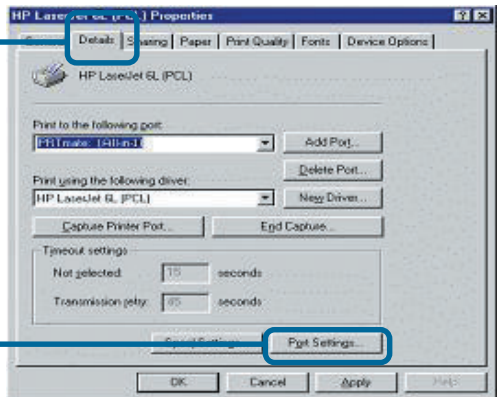
Now, you can configure the print server of the DI-714P+:

Find out the corresponding icon of your *printer server*, for example, the **HP LaserJet 6L**. Right click on that icon, and then select **Properties**.

The following screen appears:



Click on the
Details tab



Click Port Settings

Choose the “PRTmate: (All-in-1)” from the list attached at the **Print To** item. Be sure that the **Printer Driver** item is configured to the correct driver of your *printer server*.

Type in the IP address of the DI-714P+.



Click OK

Configuring on Windows 2000/XP Platforms

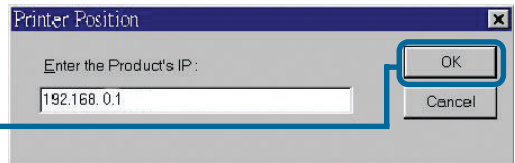
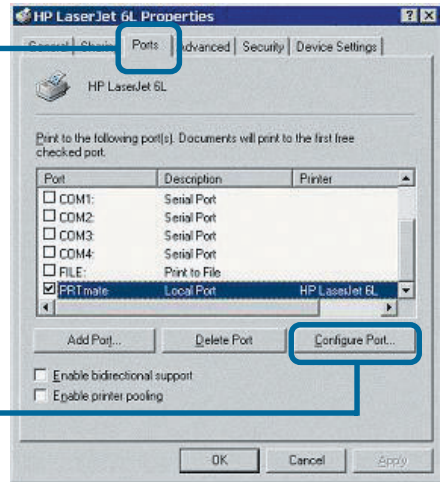
Click **Port**

The configuration procedure for a Windows 2000/XP platform is similar to that of Windows 95/98 except the screen of printer **Properties**:

Click **Configure Port**

Type in the IP address of the DI-714P+.

Click **OK**



(Note: Screen shots are taken in Windows 2000, similar screens will appear in Windows XP.)

Networking Basics

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 <http://www.homenethelp.com> and <http://www.microsoft.com/windows2000> for information about networking computers using Windows 2000, ME or 98.

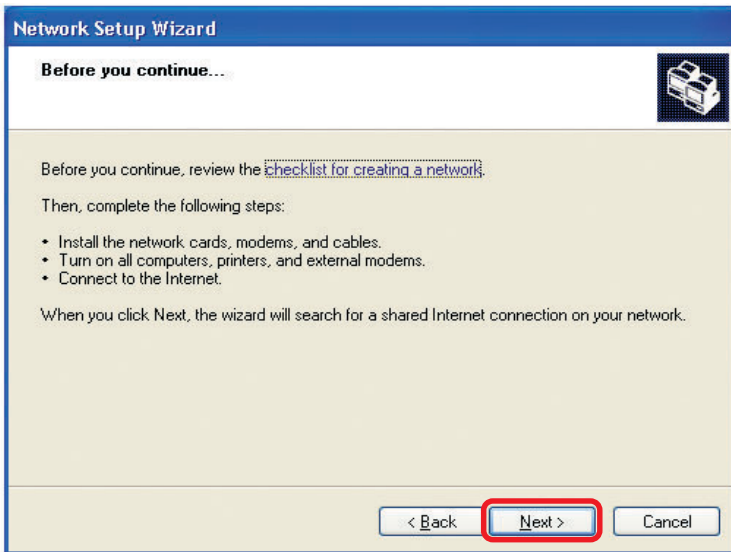
Go to **Start>Control Panel>Network Connections**
Select **Set up a home or small office network**



When this screen appears, **Click Next.**

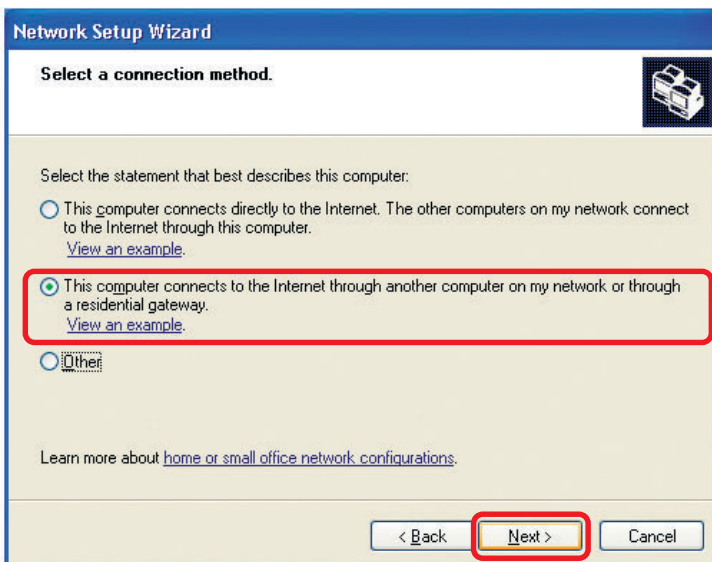
Networking Basics

Please follow all the instructions in this window:



Click **Next**

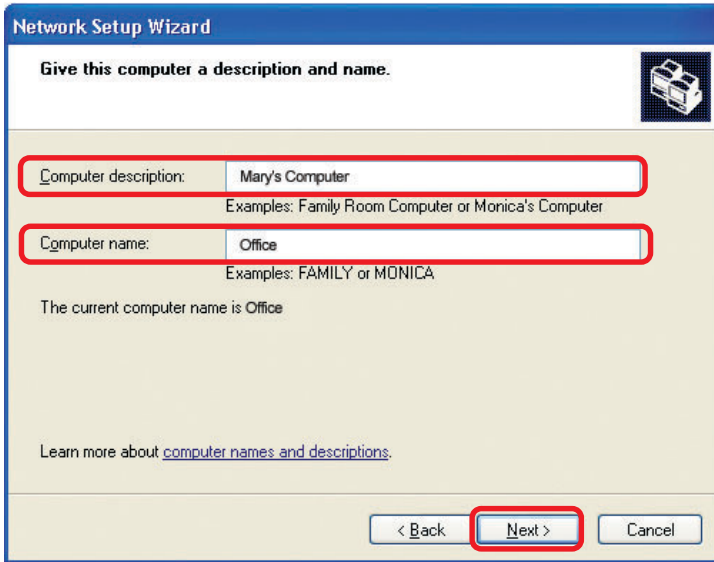
In the following window, select the best description of your computer. If your computer connects to the internet through a gateway/router, select the second option as shown.



Click **Next**

Networking Basics

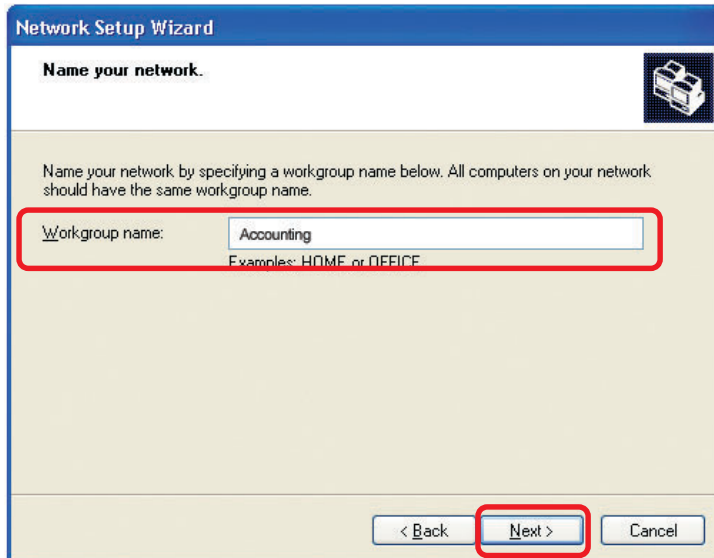
Enter a **Computer description** and a **Computer name** (optional.)



The screenshot shows the 'Network Setup Wizard' window with the title 'Give this computer a description and name.' The window contains two text input fields. The first field is labeled 'Computer description:' and contains the text 'Mary's Computer'. Below it, there is a line of text: 'Examples: Family Room Computer or Monica's Computer'. The second field is labeled 'Computer name:' and contains the text 'Office'. Below it, there is a line of text: 'Examples: FAMILY or MONICA'. Below these fields, it says 'The current computer name is Office'. At the bottom, there is a link: 'Learn more about [computer names and descriptions](#).' At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a red rectangle.

Click **Next**

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

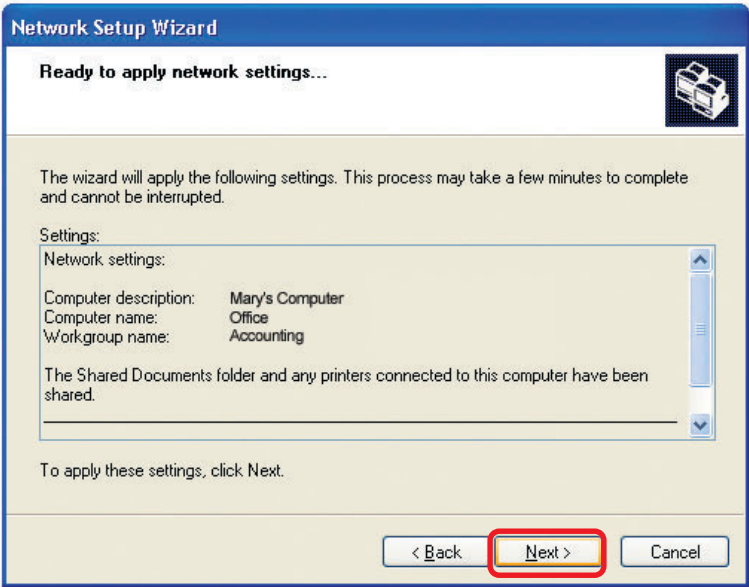


The screenshot shows the 'Network Setup Wizard' window with the title 'Name your network.' The window contains a text input field labeled 'Workgroup name:' which contains the text 'Accounting'. Below it, there is a line of text: 'Examples: HOME or OFFICE'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a red rectangle.

Click **Next**

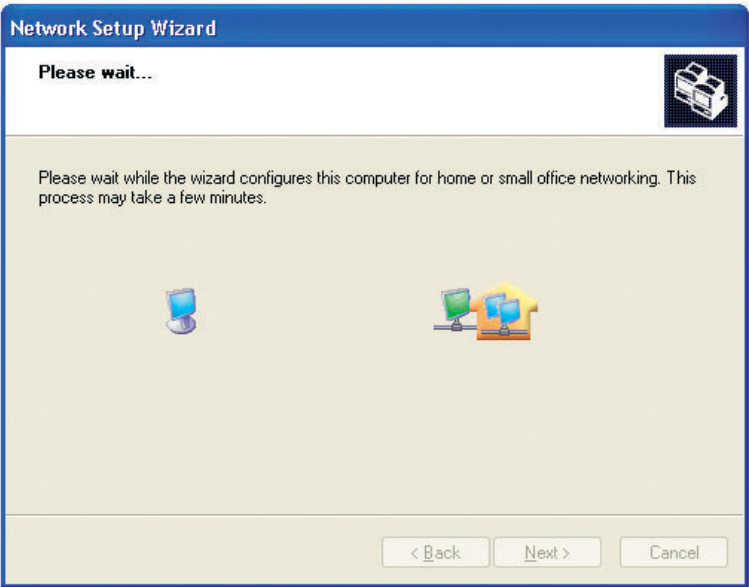
Networking Basics

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



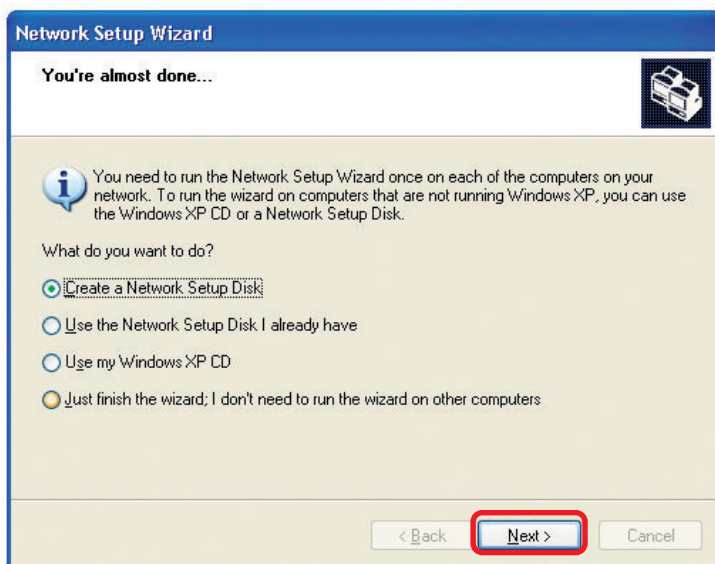
When the changes are complete, click **Next**.

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

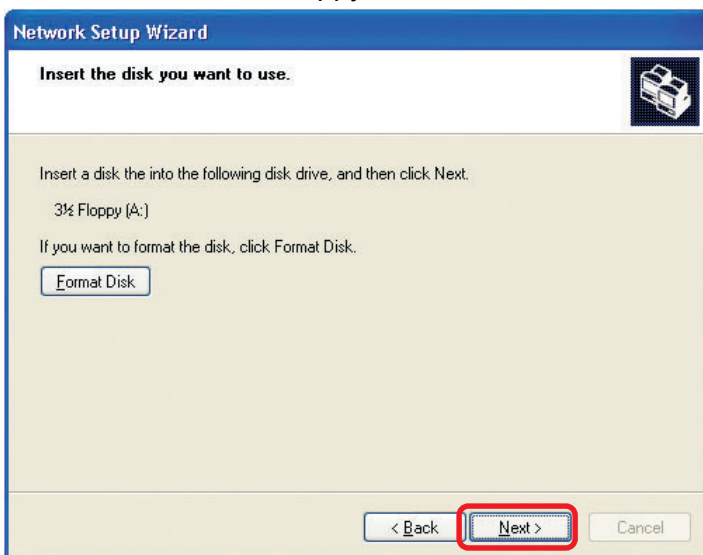


Networking Basics

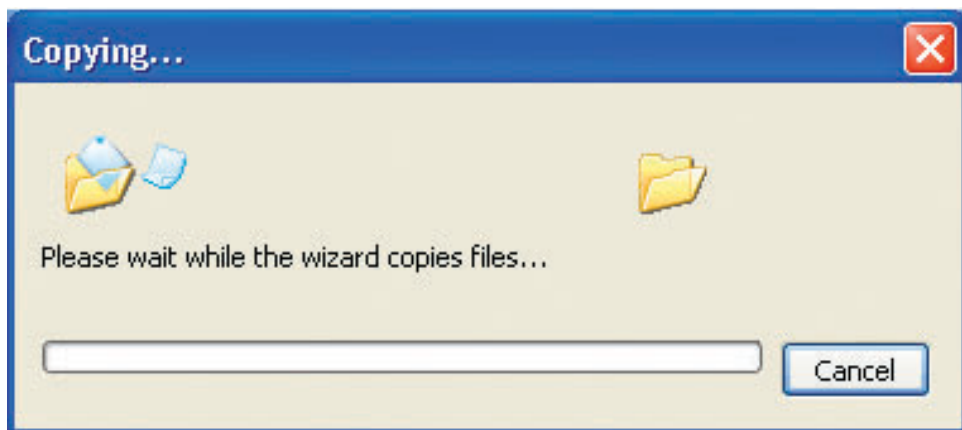
In the window below, select the option that fits your needs. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network. Click **Next**.



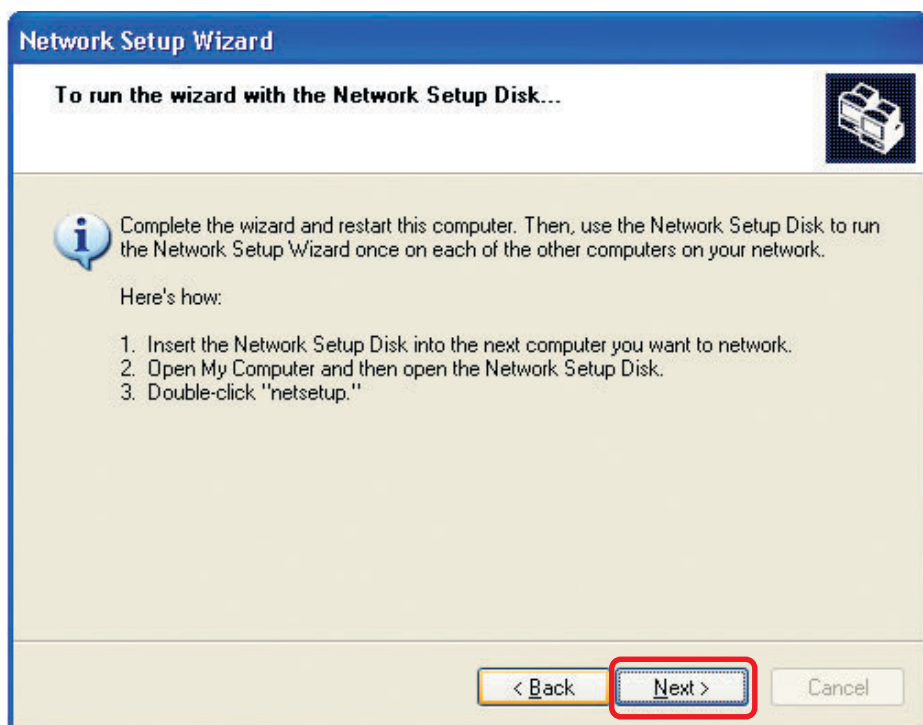
Insert a disk into the Floppy Disk Drive, in this case drive **A**.



Networking Basics

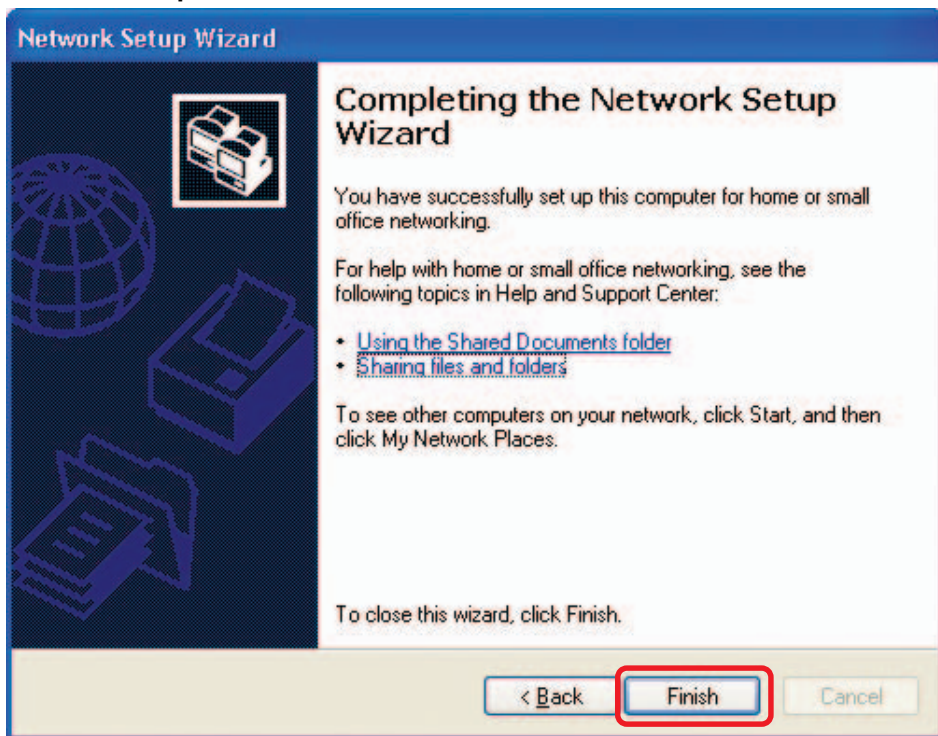


Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.

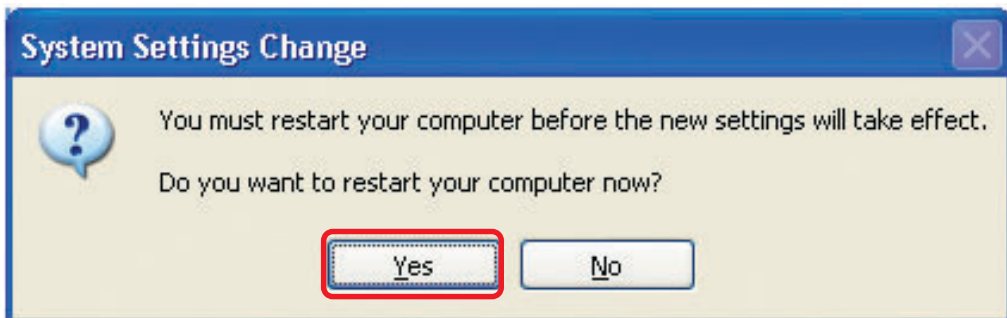


Networking Basics

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.



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

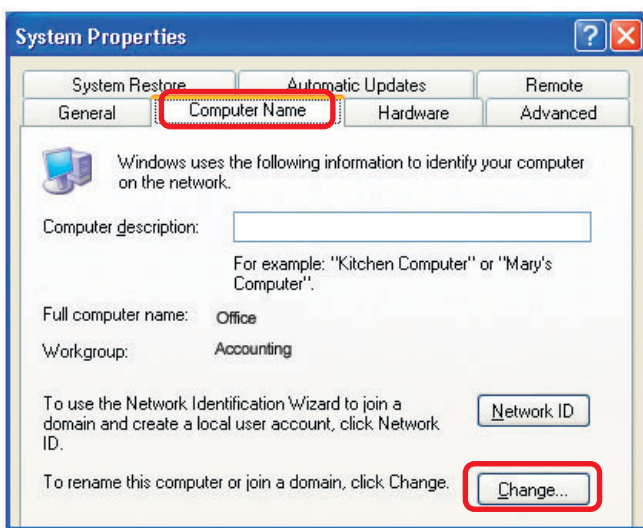
Naming your Computer

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.

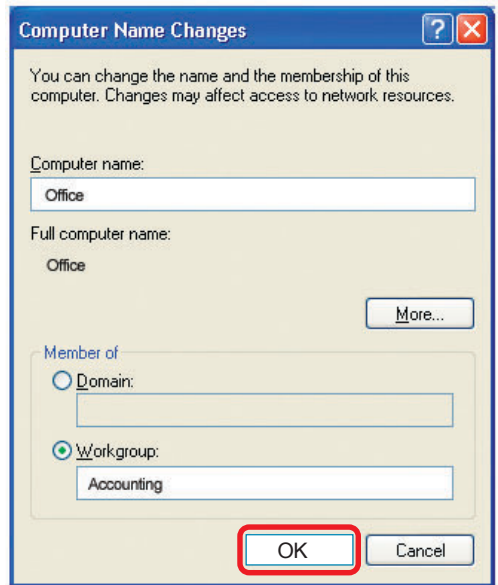


- You may enter a **Computer Description** if you wish; this field is optional.
- To rename the computer and join a domain, Click **Change**.

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**



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**



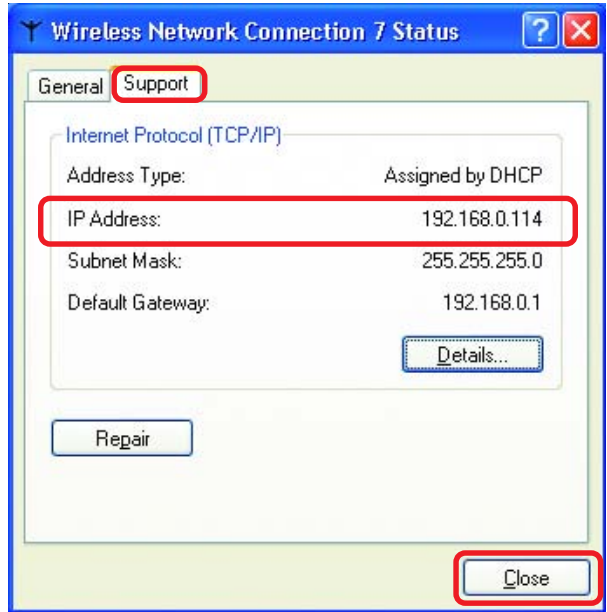
Networking Basics

Checking the IP Address in Windows XP

This window will appear.

- Click the **Support** tab

- Click **Close**

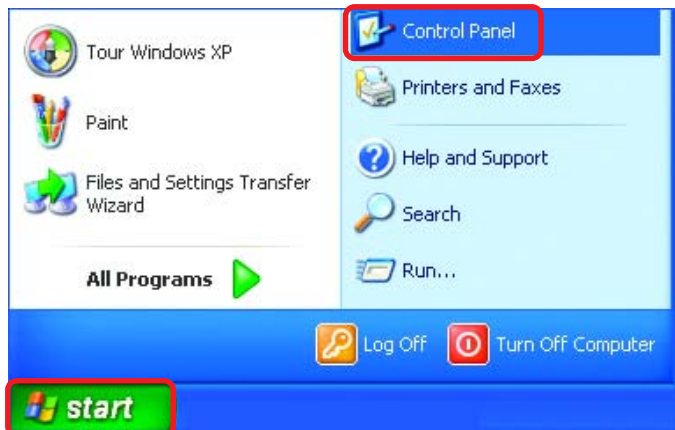


Assigning a Static IP Address in Windows XP/2000

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:

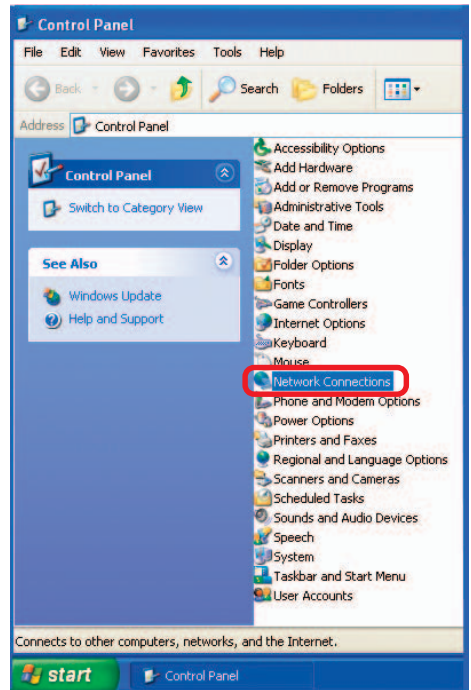
- Go to **Start**
- Double-click on **Control Panel**



Networking Basics

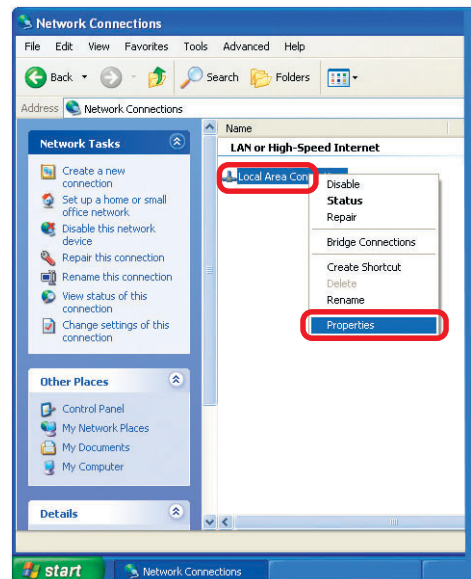
Assigning a Static IP Address in Windows XP/2000

- Double-click on **Network Connections**



- Right-click on **Local Area Connections**

- Double-click on **Properties**



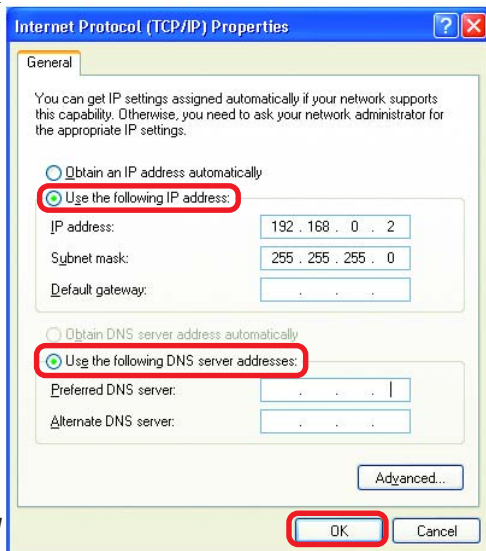
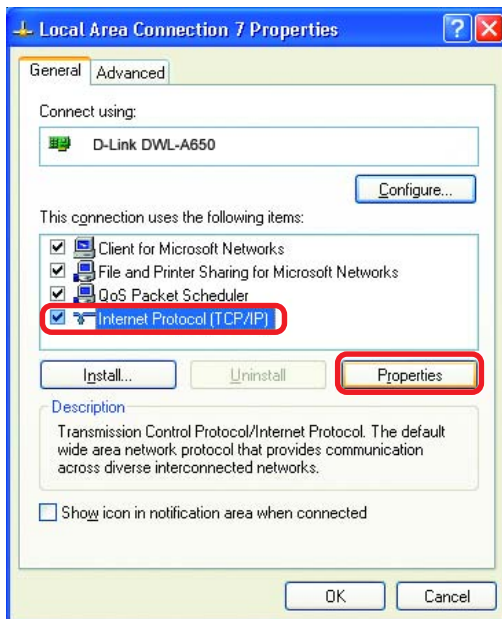
Networking Basics

Assigning a Static IP Address in Windows XP/2000

- Click on **Internet Protocol (TCP/IP)**
- Click **Properties**
- 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.)

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

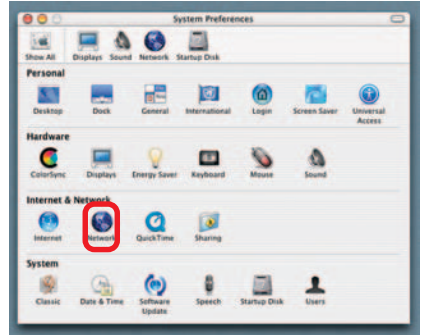
- Click **OK**



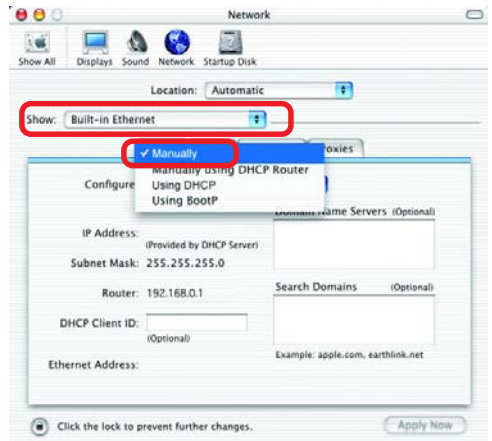
Networking Basics

Assigning a Static IP Address with Macintosh OSX

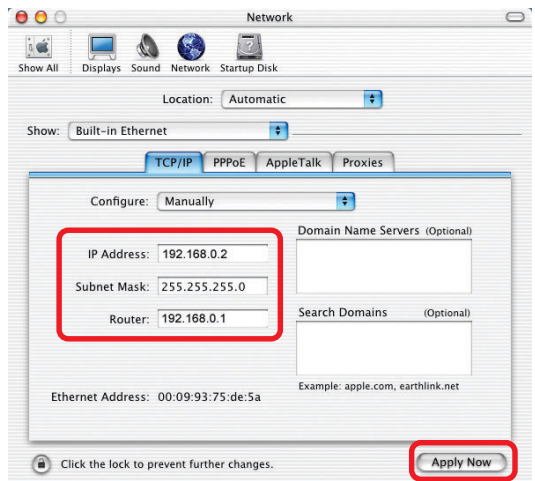
- Go to the **Apple Menu** and select **System Preferences**
- Click on **Network**



- Select **Built-in Ethernet** in the **Show** pull-down menu
- Select **Manually** in the **Configure** pull-down menu



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

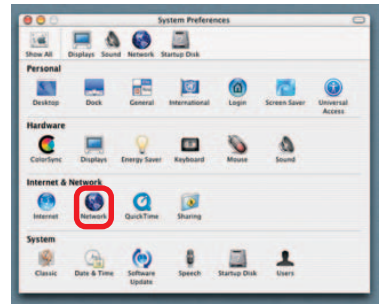


- Click **Apply Now**

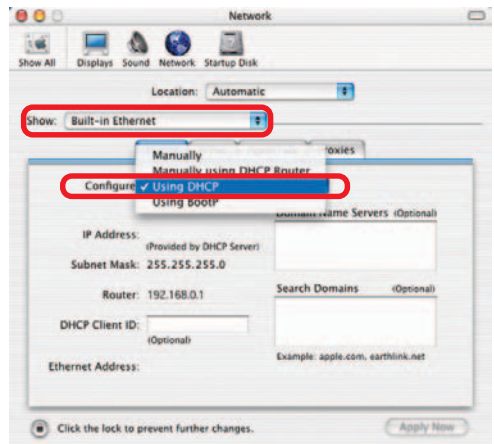
Networking Basics

Selecting a Dynamic IP Address with Macintosh OSX

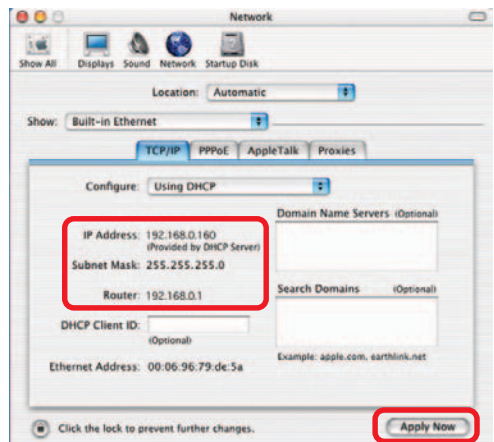
- Go to the **Apple Menu** and select **System Preferences**
- Click on **Network**



- Select **Built-in Ethernet** in the **Show** pull-down menu
- Select **Using DHCP** in the **Configure** pull-down menu



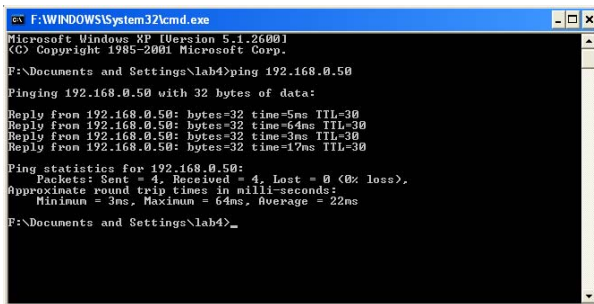
- Click **Apply Now**
- The **IP Address**, **Subnet mask**, and the **Router's IP Address** will appear in a few seconds



Networking Basics

Checking the Wireless Connection by Pinging in Windows XP and 2000

- Go to **Start > Run >** type **cmd**. A window similar to this one will appear. Type **ping xxx.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.



```
F:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab4>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

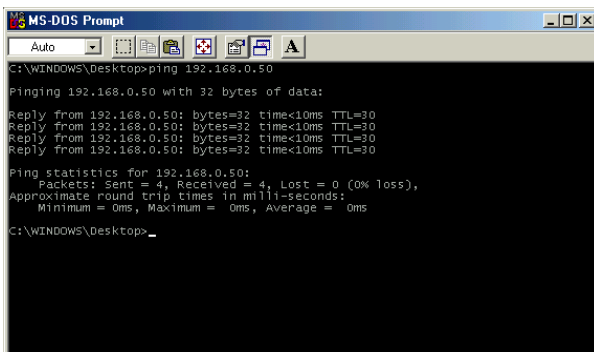
Reply from 192.168.0.50: bytes=32 time=5ms TTL=30
Reply from 192.168.0.50: bytes=32 time=64ms TTL=30
Reply from 192.168.0.50: bytes=32 time=3ms TTL=30
Reply from 192.168.0.50: bytes=32 time=17ms TTL=30

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 64ms, Average = 22ms

F:\Documents and Settings\lab4>_
```

Checking the Wireless Connection by Pinging in Windows Me and 98

- Go to **Start > Run >** type **command**. A window similar to this will appear. Type **ping xxx.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.



```
MS-DOS Prompt
Auto
C:\WINDOWS\Desktop>ping 192.168.0.50

Pinging 192.168.0.50 with 32 bytes of data:

Reply from 192.168.0.50: bytes=32 time<10ms TTL=30
Reply from 192.168.0.50: bytes=32 time<10ms TTL=30
Reply from 192.168.0.50: bytes=32 time<10ms TTL=30
Reply from 192.168.0.50: bytes=32 time<10ms TTL=30

Ping statistics for 192.168.0.50:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\WINDOWS\Desktop>_
```

Networking Basics

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**. Please follow the directions below:

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

On the following pages, we will show you these 3 ways to use the **Add Printer Wizard**:

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

(Other Networking Tasks)

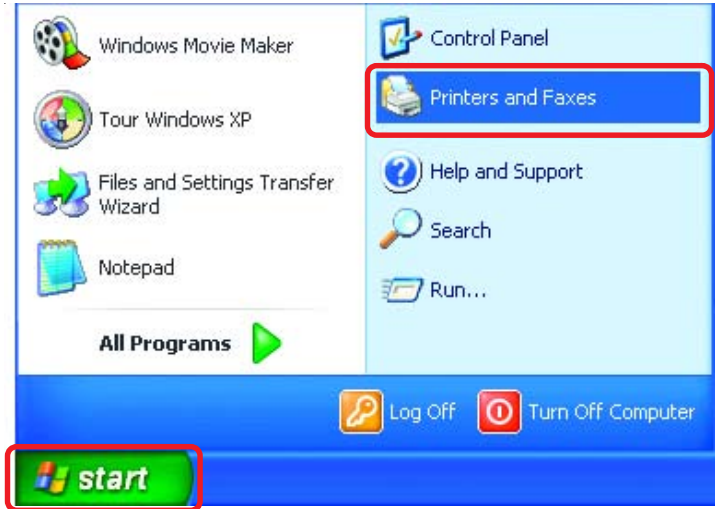
For help with other tasks, that we have not covered here, in home or small office networking, see **Using the Shared Documents** folder and **Sharing files and folders** in the **Help and Support Center** in Microsoft **Windows XP**.

Networking Basics

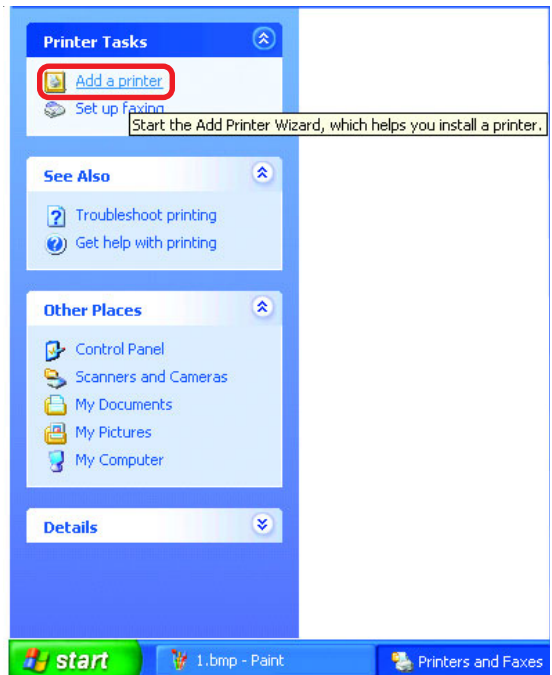
Adding a local printer (a printer connected directly to a computer)

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.

- Go to **Start> Printers and Faxes**



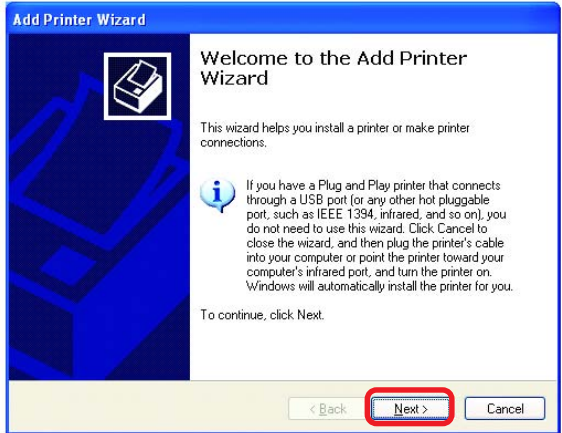
- Click on **Add a printer**



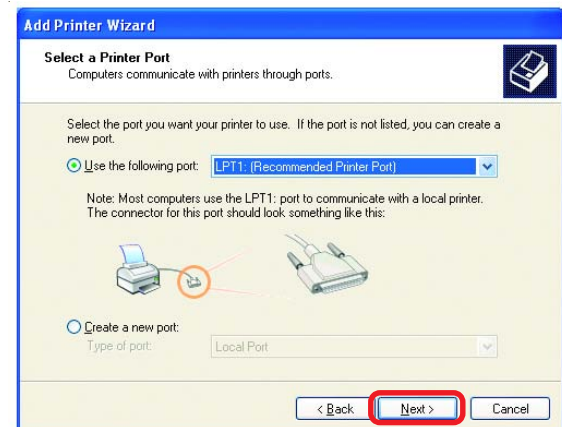
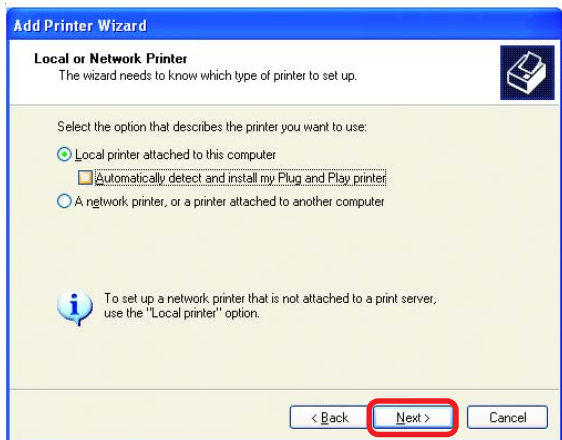
Networking Basics

Adding a local printer

- Click **Next**
- Select **Local printer attached to this computer**
- *(Deselect **Automatically detect and install my Plug and Play printer** if it has been selected.)*



- Click **Next**
- Select **Use the following port:**
- From the pull-down menu **select the correct port** for your printer



*(Most computers use the **LPT1:** port, as shown in the illustration.)*

- Click **Next**

Networking Basics

Adding a local printer

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

- Click **Next**

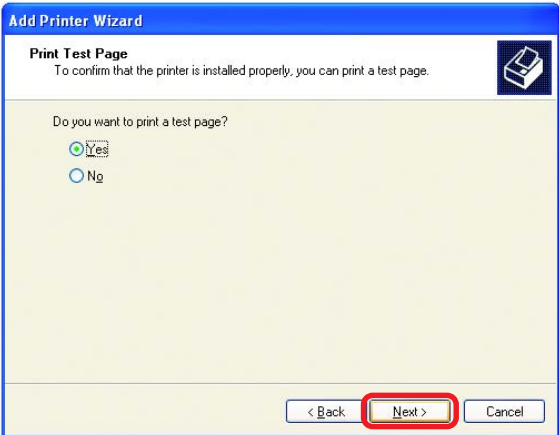
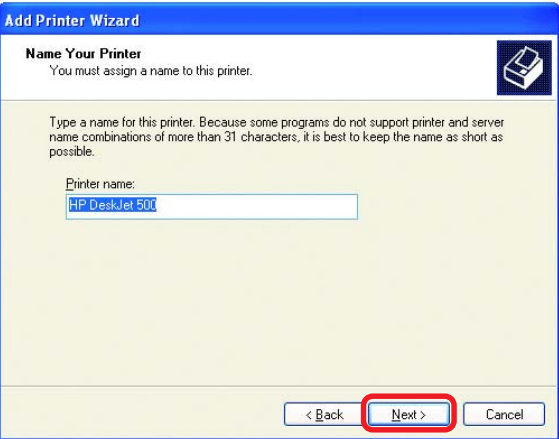
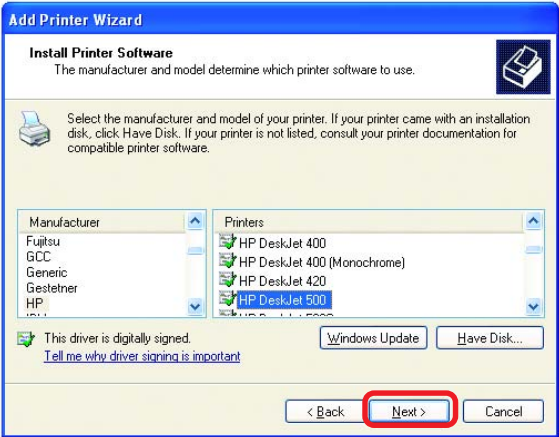
*(If the correct driver is not displayed, insert the CD or floppy disk that came with your printer and click **Have Disk**.)*

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

- Click **Next**

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

- Click **Next**



Networking Basics

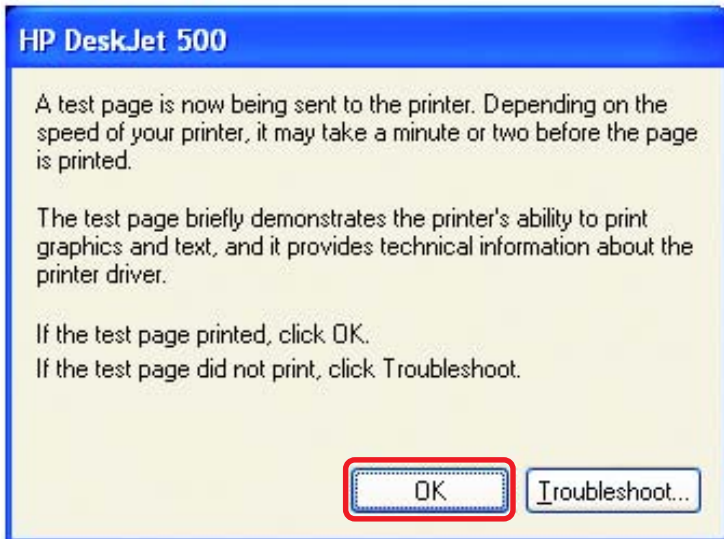
Adding a local printer

This screen gives you information about your printer.



Click **Finish**

When the test page has printed,



Click **OK**

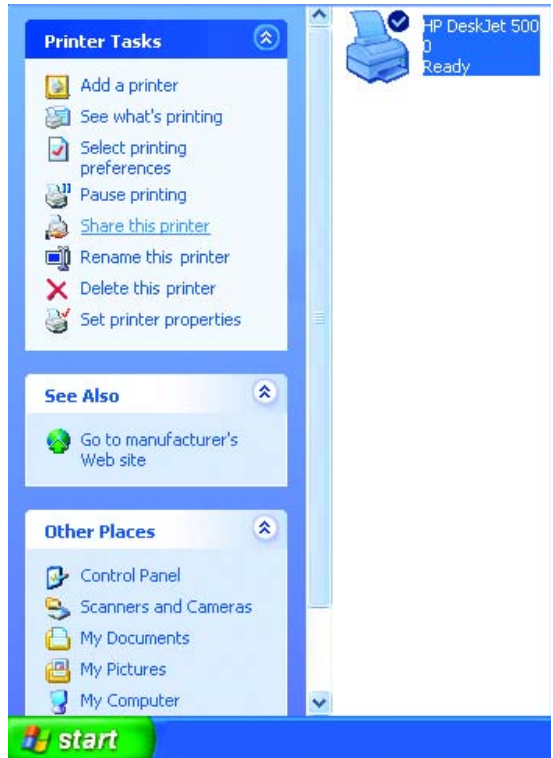
Networking Basics

Adding a local printer

- 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.



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> Printers and Faxes**



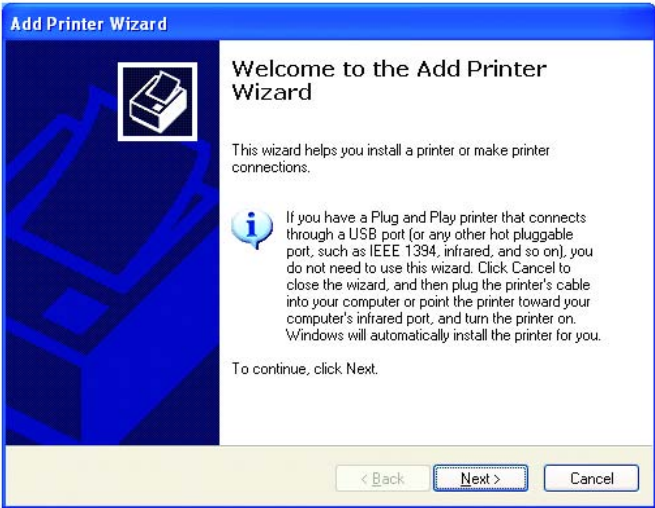
Networking Basics

Sharing a network printer

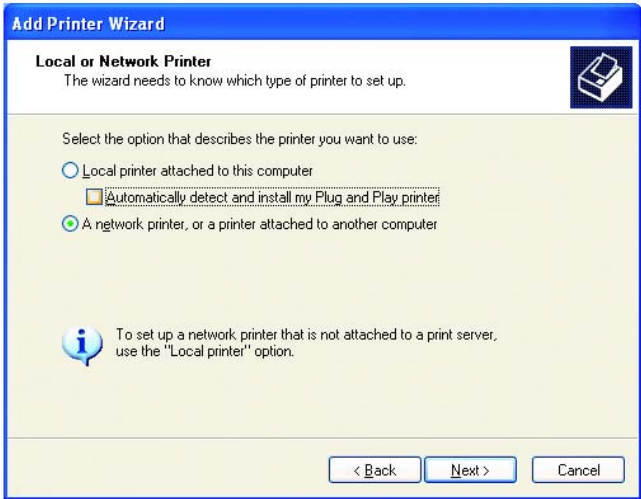
- Click on **Add a printer**



- Click **Next**



- Select **Network Printer**



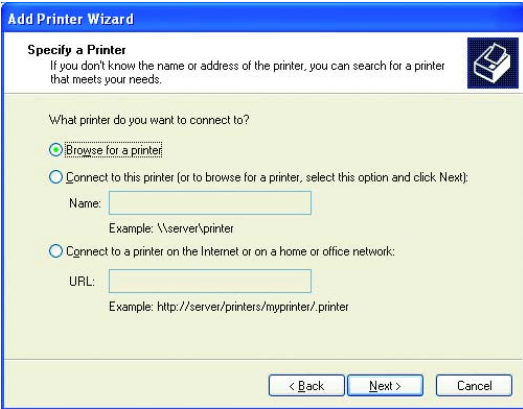
- Click **Next**

Networking Basics

Sharing a network printer

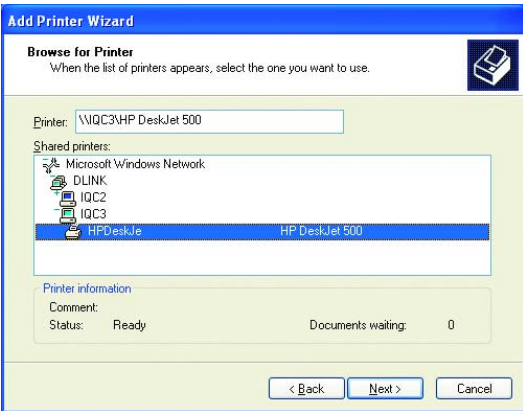
- Select **Browse for a printer**

- Click **Next**

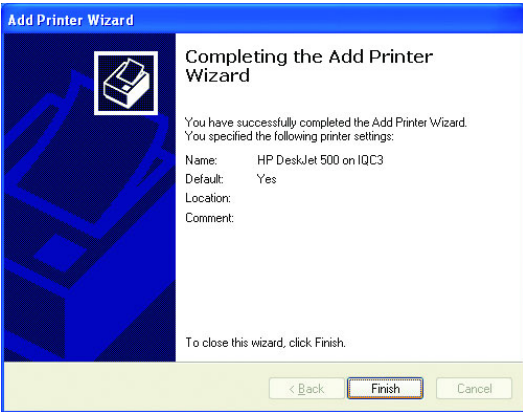


Select the **printer** you would like to share

- Click **Next**



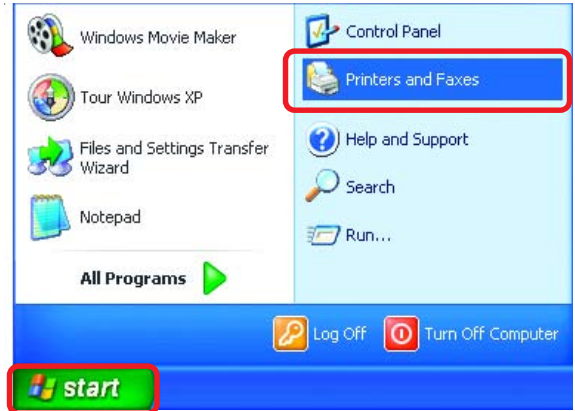
- Click **Finish**



Networking Basics

Sharing a network printer

- To check for proper installation:
- Go to **Start > Printers and Faxes**



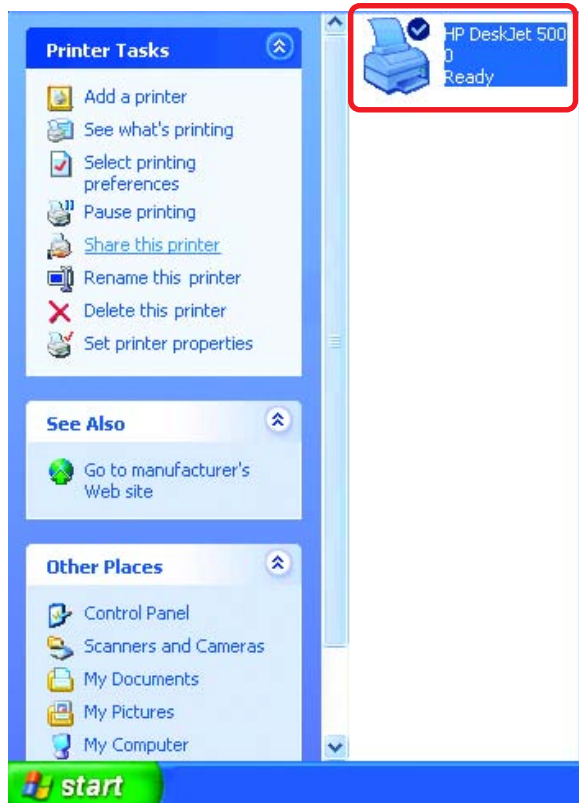
The printer icon will appear at right, indicating proper installation.

You have completed adding the printer.

To share this printer on your network:

- Remember the **printer name**
- Run the **Add Printer Wizard** on all the computers on your network
- Make sure you have already run the **Network Setup Wizard** on all the network computers

After you run the **Add Printer Wizard** on all the computers in the network, you can share the printer.



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:

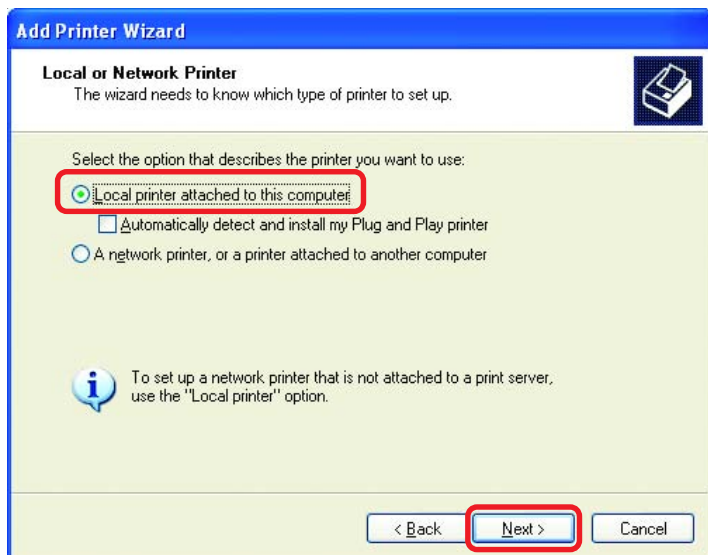
- Go to **Start > Printers and Faxes**
- Click on **Add a Printer**

The screen to the right will appear



- Click **Next**

- Select **Local Printer...**



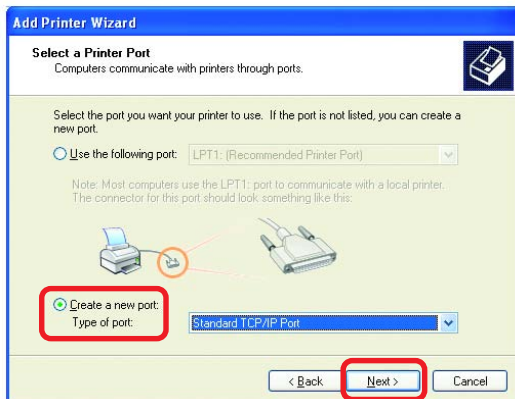
- Click **Next**

Networking Basics

Sharing an LPR printer

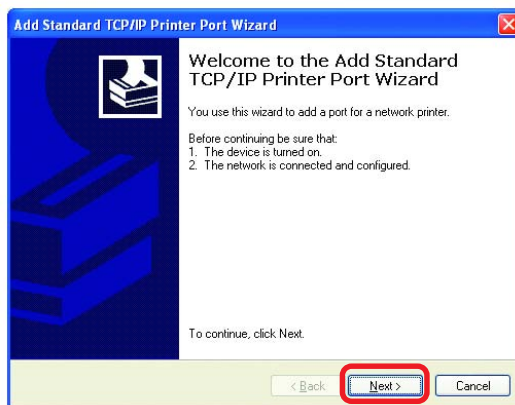
- Select **Create a new port**
- From the pull-down menu, select **Standard TCP/IP Port**, as shown.

- Click **Next**



- Please read the instructions on this screen

- Click **Next**



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

- Click **Next**



Networking Basics

Sharing an LPR printer

- In this screen, select **Custom**

- Click **Settings**



Add Standard TCP/IP Printer Port Wizard

Additional Port Information Required
The device could not be identified.

The detected device is of unknown type. Be sure that:

1. The device is properly configured.
2. 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

☒ Custom **Settings...**

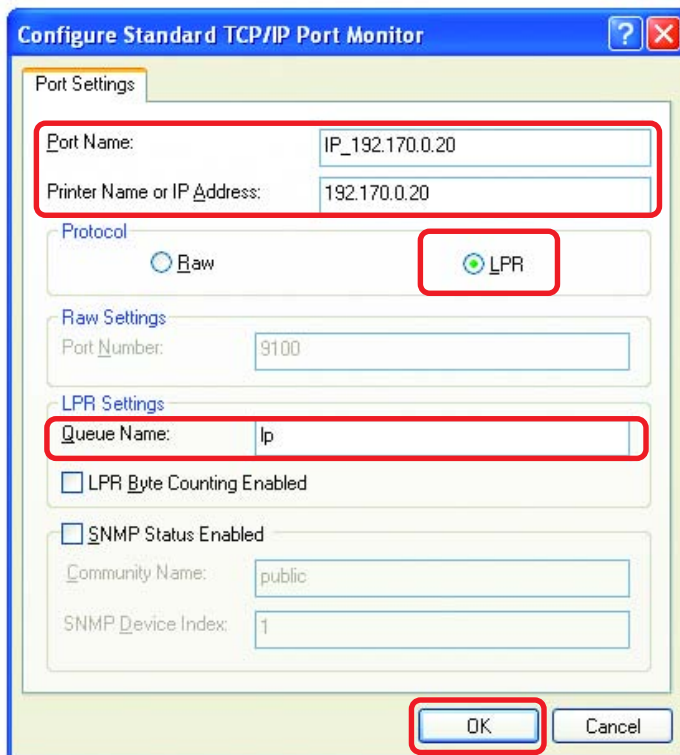
< Back Next > Cancel

- 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**



Configure Standard TCP/IP Port Monitor

Port Settings

Port Name: IP_192.170.0.20

Printer Name or IP Address: 192.170.0.20

Protocol

☐ Raw ☒ **LPR**

Raw Settings

Port Number: 9100

LPR Settings

Queue Name: lp

☐ LPR Byte Counting Enabled

☐ SNMP Status Enabled

Community Name: public

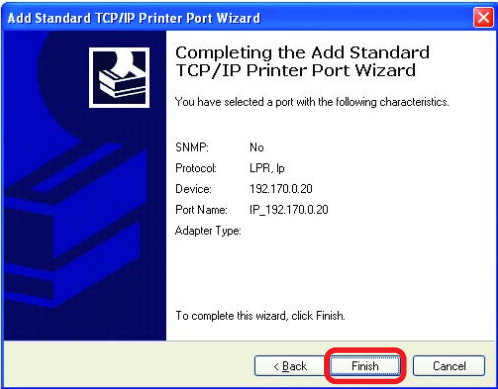
SNMP Device Index: 1

OK Cancel

Networking Basics

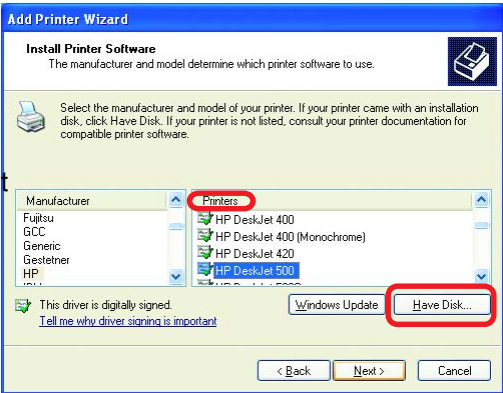
Sharing an LPR printer

- This screen will show you information about your printer.



- Click **Finish**

- Select the **printer** you are adding from the list of **Printers**.

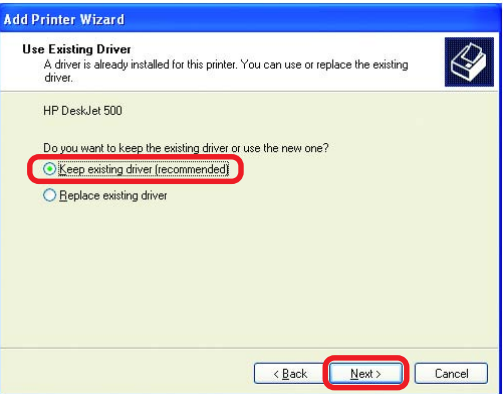


- Insert the printer driver disk that came with your printer.

- Click **Have Disk**

If the printer driver is already installed, do the following:

- Select **Keep existing driver**

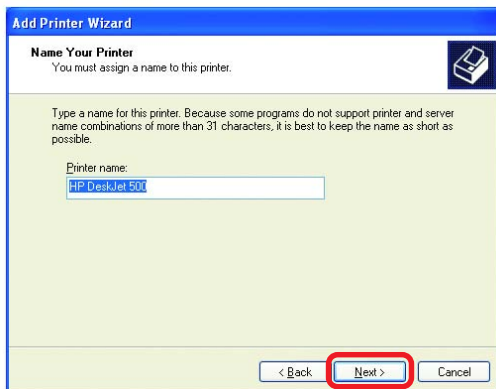


- Click **Next**

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**



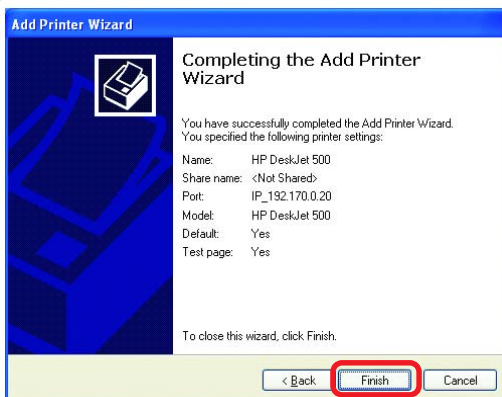
- Select **Yes**, to print a test page.



- 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 **Add Printer Wizard**.*

Troubleshooting

This Chapter provides solutions to problems that can occur during the installation and operation of the DI-714P+ Wireless Broadband Router. We cover various aspects of the network setup, including the network adapters. Please read the following if you are having problems.

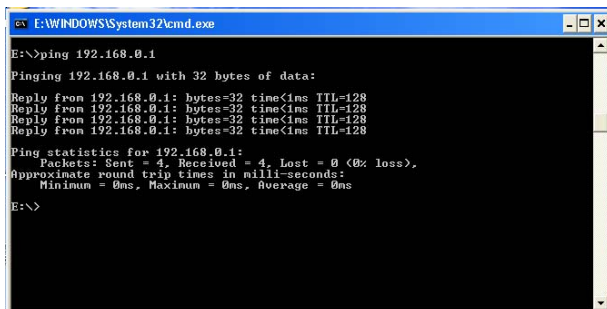
Note: It is recommended that you use an Ethernet connection to configure the DI-714P+ Wireless Broadband Router.

1. The computer used to configure the DI-714P+ cannot access the Configuration menu.

- Check that the **Ethernet LED** on the DI-714P+ 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 3 (***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-714P+. Please see ***Checking the IP Address in Windows XP*** in the **Networking Basics** section of this manual.

Note: *The IP Address of the DI-714P+ 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. Any computers that have identical IP Addresses will not be visible on the network. They must all have the same subnet mask, e.g., 255.255.255.0*

- Do a **Ping test** to make sure that the DI-714P+ is responding. Go to **Start>Run>Type Command>Type ping 192.168.0.1**. A successful ping will show four replies.



```
E:\WINDOWS\System32\cmd.exe
E:\>ping 192.168.0.1
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
E:\>
```

Note: If you have changed the default IP Address, make sure to ping the correct IP Address assigned to the DI-714P+.

Troubleshooting

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

- Make sure the wireless client is associated and joined with the correct Access Point. 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.

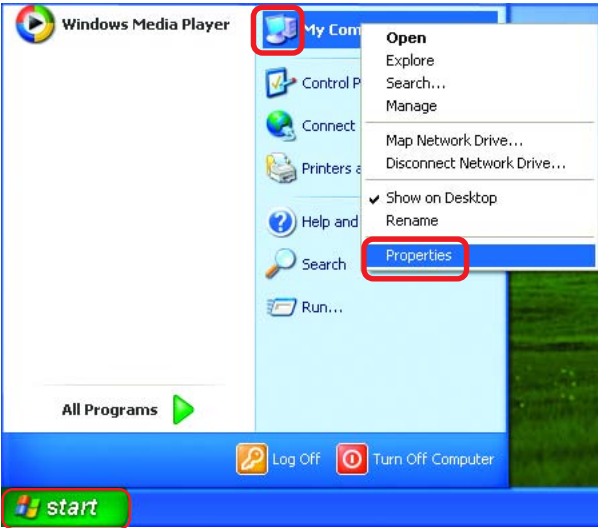


- Check that the **IP Address** assigned to the wireless adapter is within the same **IP Address range** as the access point and gateway. *(Since the DI-714P+ has an IP Address of 192.168.0.1, wireless adapters must have an IP Address in the same range, e.g., 192.168.0.x. Each device must have a unique 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**.)*

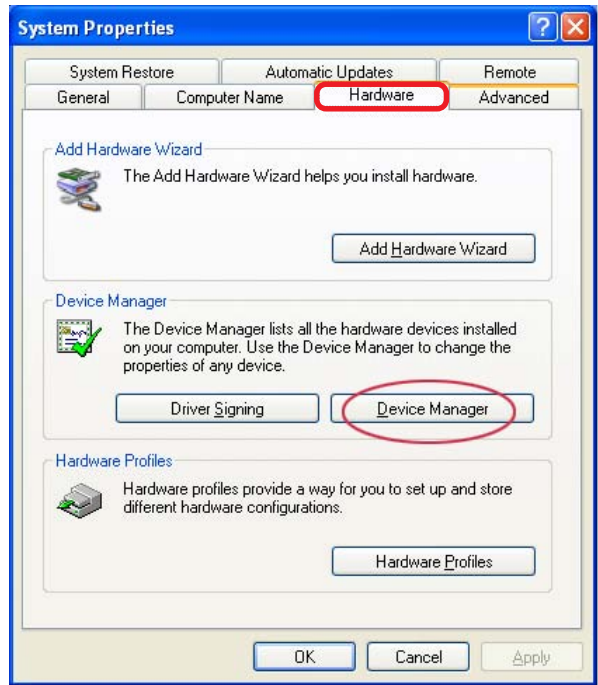
Troubleshooting

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.



- **Select the Hardware Tab**

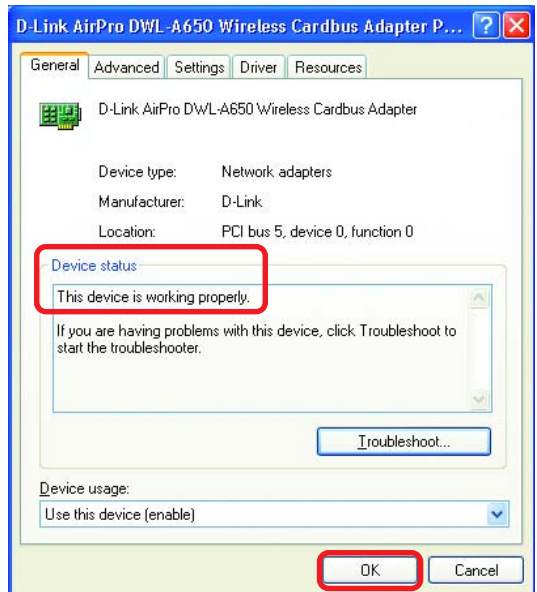
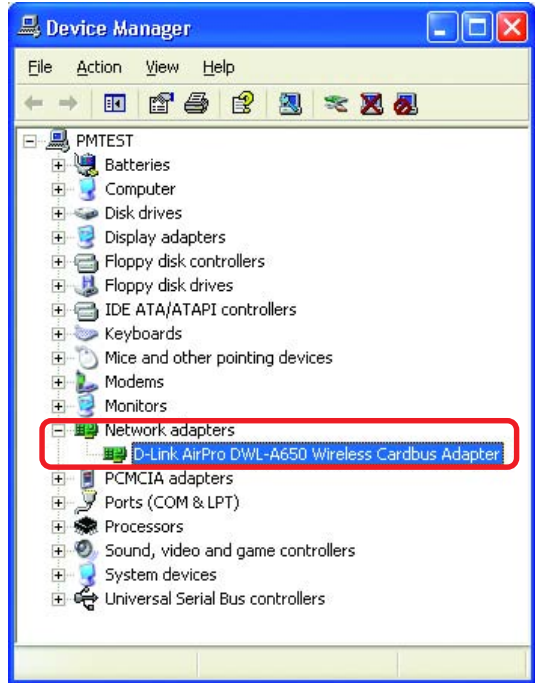


- **Click Device Manager**

Troubleshooting

- Double-click on **Network Adapters**
- Right-click on **D-Link AirPro DWL-A650 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

- Click **OK**



Troubleshooting

4. What variables may cause my wireless products to lose reception?

D-Link products let you access your network from virtually anywhere you want. However, the positioning of the products within your environment will affect the wireless range. Please refer to **Installation Considerations** in the **Wireless Basics** section of this manual for further information about the most advantageous placement of your D-Link wireless products.

5. Why does my wireless connection keep dropping?

- Antenna Orientation- Try different antenna orientations for the DI-714P+. Try to keep the antenna at least 6 inches away from the wall or other objects.
- If you are using 2.4GHz cordless phones, X-10 equipment or other home security systems, ceiling fans, and lights, your wireless connection will degrade dramatically or drop altogether. Try changing the Channel on your Router, Access Point and Wireless adapter to a different Channel to avoid interference.
- Keep your product away (at least 3-6 feet) from electrical devices that generate RF noise, like microwaves, Monitors, electric motors, etc.

6. Why can't I get a wireless connection?

To establish a wireless connection, while enabling Encryption on the DI-714P+, you must also enable encryption on the wireless client.

- For 802.11b, the Encryption settings are: 64, 128, or 256 bit. Make sure that the encryption bit level is the same on the Router and the Wireless Client.

Make sure that the SSID on the Router and the Wireless Client are exactly the same. If they are not, wireless connection will not be established. Please note that there are two separate SSIDs for 802.11a and 802.11b. The default SSID for both 802.11a and 802.11b is **default**.

Troubleshooting

7. Resetting the DI-714P+ to Factory Default Settings

After you have tried other methods for troubleshooting your network, you may choose to **Reset** the DI-714P+ to the factory default settings. Remember that D-Link *AirPlus* products network together, out of the box, at the factory default settings.



To hard-reset the D-Link *AirPlus* DI-714P+ to Factory Default Settings, please do the following:

- Turn off the DI-714P+
- Locate the **Reset** button on the back of the DI-714P+
- Use a paper clip to press the **Reset** button and power on.
- Hold for about 5 seconds (don't hold too long) and then release. (Or, release when M1 and M2 flash at the same time.)
- After you have completed the above steps, the DI-714P+ will be reset to the factory default settings

Technical Specifications

Standards

- IEEE 802.11b
- IEEE 802.3
- IEEE 802.3u

VPN Pass Through / Multi-Sessions

- PPTP
- L2TP
- IPSec

Advanced Firewall Features

Device Management

- Web-Based – Internet Explorer v5 or later; Netscape Navigator v4 or later; or other Java- enabled browsers.

Wireless Data Rates*

With Automatic Fallback

- 22Mbps
- 11Mbps
- 5.5Mbps
- 2Mbps
- 1Mbps

Encryption

- 64/128/256-bit RC4

Media Access Control

- CMSA/CA with ACK

Wireless Frequency Range

- 2.4GHz to 2.462GHz

Wireless Operating Range

- Indoors: Up to 328 feet (100 meters)

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

Technical Specifications

Wireless Modulation Technology

- PBCC - Packet Binary
- Convolutional Coding
- Direct Sequence Spread
- Spectrum (DSSS)
- 11-chip Barker sequence

Modulation Techniques

- Barker (1Mbps/0db)
- Barker (2Mbps/3db)
- CCK (5.5Mbps/5.5db)
- PBCC (5.5 Mbps/1.5db)
- CCK (11Mbps/8.5db)
- PBCC (11Mbps/4.5db)
- PBCC (22Mbps/8.5db)

Wireless Transmit Power

- 15dBm \pm 2dB

External Antenna Type

- Dual 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

- Ext. Power Supply DC 5V

Technical Specifications

Safety & Emissions

- FCC
- UL

Dimensions

- L = 9.25 inches (233mm)
- W = 6.5 inches (165mm)
- H = 1.375 inches (35mm)

Weight

- ~2.0 lbs (907g)

Contacting Technical Support

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

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

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

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>

When contacting technical support, you will need the information below. (Please look on the back side of the unit.)

- *Serial number of the unit*
- *Model number or product name*
- *Software type and version number*

Warranty

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.

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

- Hardware (excluding power supplies and fans) Three (3) Years
- 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 will be free of physical defects. D-Link's sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund 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 of 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 and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if shipping charges are prepaid by the customer and upon request.

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, 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 sales or other sales in which 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.

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

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

FCC Statement: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio 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: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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 transmitter must not be operated in conjunction with any other antenna.