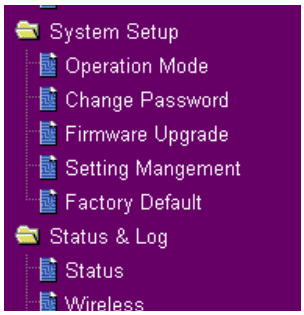
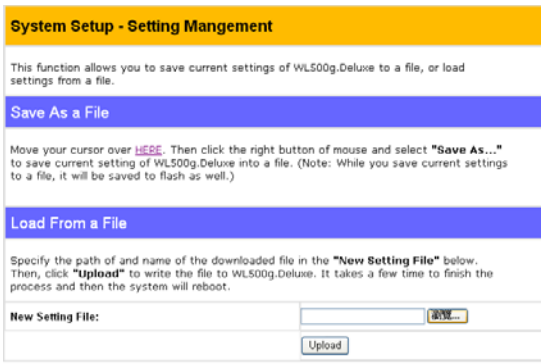
System Setup - Setting Management

Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.



Setting Management



This function allows you to save current settings to a file, or load settings from a file.

Save As a File

Move your cursor over the **HERE** link on the web page. Then click the right button of mouse and select **Save As...** to save current setting into a file.

Note: When current settings are saved to file, it will be saved to flash as well.

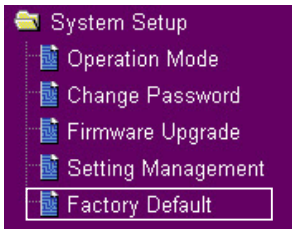
Load From a File

Specify the path of and name of the downloaded file in the **New Setting File** below. Then, click **Upload** to write the file to. It takes a few time to finish the process and then the system will reboot.

New Setting File

Click **Browse** to locate the file.

System Setup



Click this item on the menu to reveal a sub menu. Follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.

Factory Default

Restoring Factory Default Settings

Web Manager

You can reset all settings to their factory defaults through the web manager using the “Factory Default” page in “Advanced Setup”. Click the **Restore** button and wait about 30 seconds before trying to access the ASUS Wireless Router.

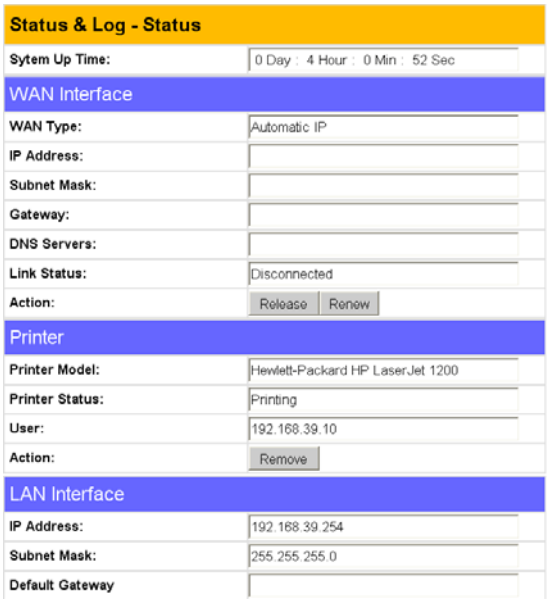
Hardware

You can reset all settings to their factory defaults manually by pushing the “Restore” button in a hole on the back of the ASUS Wireless Router while it is ON. Use a pen or straightened paper clip to hold the “Restore” button depressed over 5 seconds until the power LED on the front of the ASUS Wireless Router starts blinking.

Note: You will be notified when factory default settings are restored while using the web manager.

Status & Log

The Status & Log pages give you all the necessary information for monitoring the Wireless Router's condition.



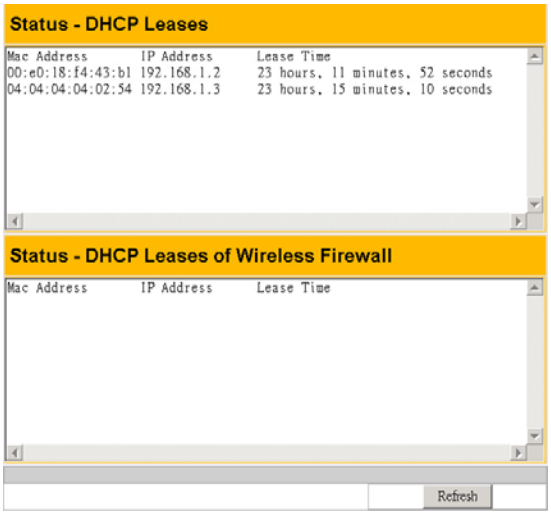
Status

System information for WAN, LAN, and Printer are displayed on this page. The buttons for WAN interface allow you to release or renew the IP address if your WAN Connection Type is set as Automatic IP. The button for Printer Server is used to remove printing jobs manually.

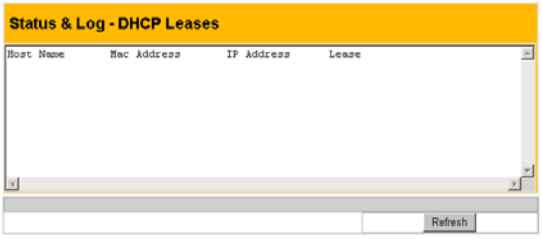
Wireless

Wireless clients, who connect to the Wireless Router, are displayed on this page. You can use buttons for radio control to manually disable or enable the wireless function.

WL500g



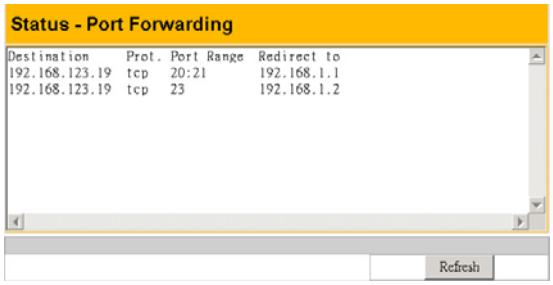
WL500g Deluxe



DHCP Leases

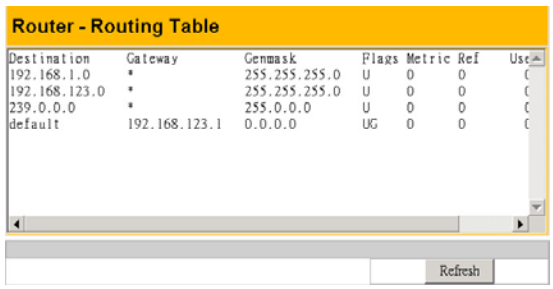
Clients who request IP from DHCP server of your local area network or DHCP server in you're your wireless network behind Wireless Firewall are displayed in this page.

Status & Log (Cont.)



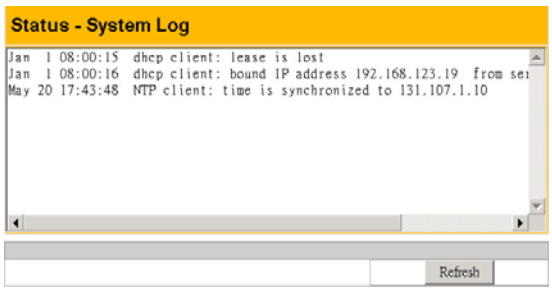
Port Forwarding

Information of port forwarding rules, which are added by Port Mapping, Virtual Server, Virtual DMZ or UPnP, are displayed in this page.



Routing Table

Static routing rules or dynamic routing rules updated by RIP are displayed in this page.



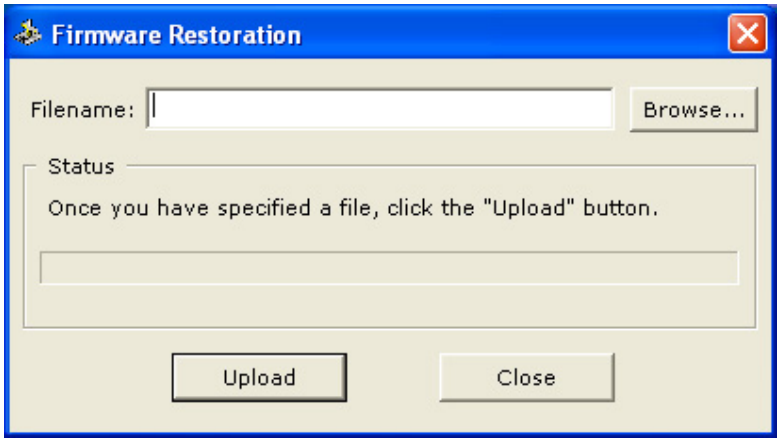
System Log

The last 1024 system log entries are recorded in this page.

Firmware Restoration

This utility will automatically search out failed ASUS Wireless Routers and upload a firmware that you specify. The process takes about 3 to 4 minutes and during this process the PWR, AIR, and WAN LEDs will remain lit while the LAN LED will flash slowly.

The Firmware Restoration utility is an emergency rescue tool to restore a ASUS Wireless Router which has failed during a previous firmware upload. A failed firmware upgrade will cause the ASUS Wireless Router to enter a failure mode, waiting for the user to use the Firmware Restoration utility to find and upload a new firmware. This is not a firmware upgrade utility and cannot be used on a working ASUS Wireless Router. Normal firmware upgrades must be done through the web manager.



Using a Hub

If you have problems upload a firmware while using a network hub, try connecting your computer directly to the LAN port. Either 10Base-T or 100Base-TX connections will work.

Setup Printer Wizard

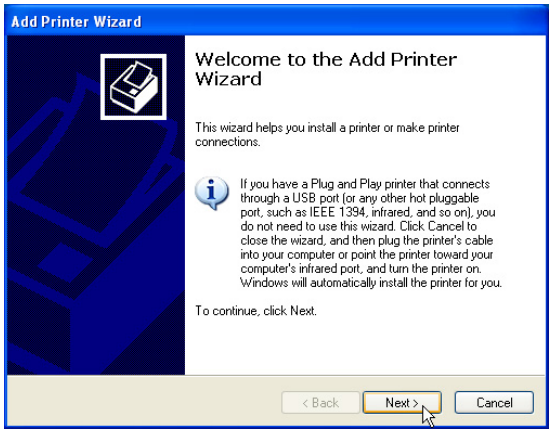
Follow the procedures below to set up your computers to utilize the printer server function of the ASUS Wireless Router.

Installing the Printer Driver

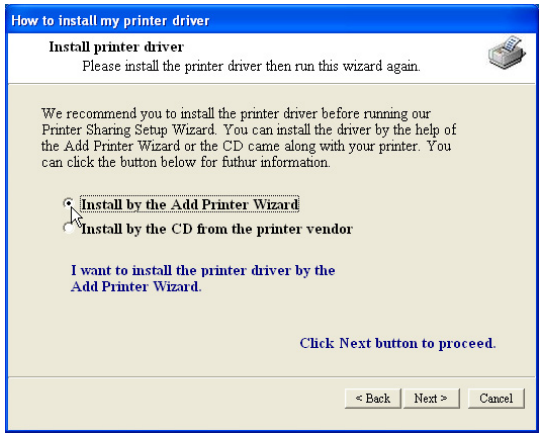
Adding a printer to your computer simplifies the ASUS Wireless Router Printer Setup Wizard.

You are recommended to install a printer driver by the setup program that comes with your printer (see following Note), and then continue to the "Printer Setup Wizard" in the next section. If you run the "Printer Setup Wizard" without a printer driver installed, you are directed to the "Add Printer Wizard".

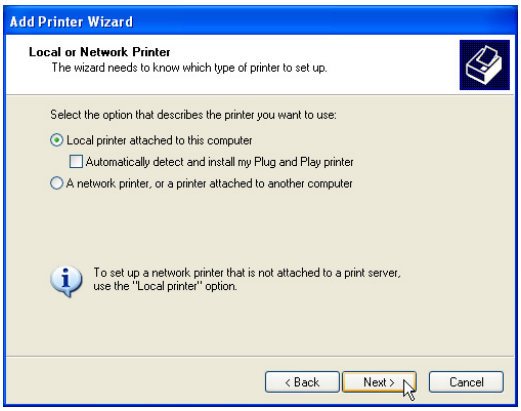
Note: Some printer setup utilities require a printer to be physically connected to your PC during installation. Follow the driver installation instructions to connect your printer to the PC to install the driver and reconnect the Wireless Router after the printer driver has been installed.



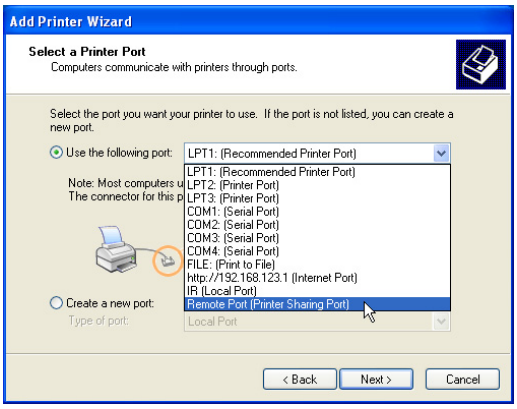
(1) Run the "Add Printer Wizard" from **Start | Printers and Faxes | Add Printer.**



(2) Choose "Install by the Add Printer Wizard".

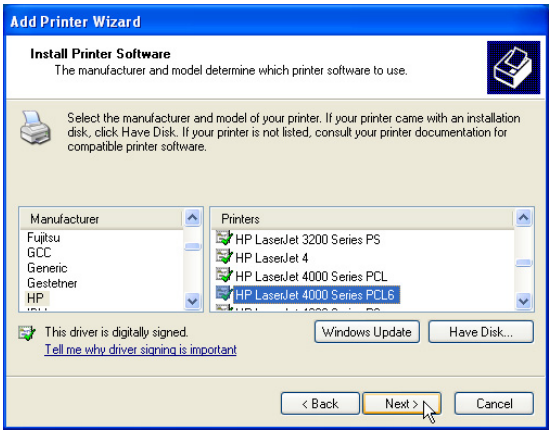


(3) Choose “Local printer attached to this computer”.

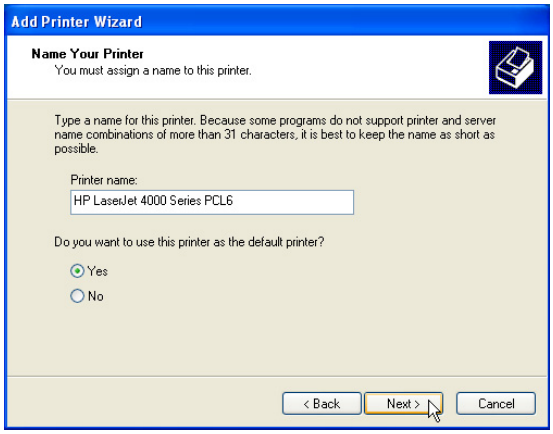


(4) Choose “Remote Port (Printer Sharing Port)”. If this is not available, select LPT1*. You can select a USB port later in the “Printer Setup Wizard” if you are using a USB printer.

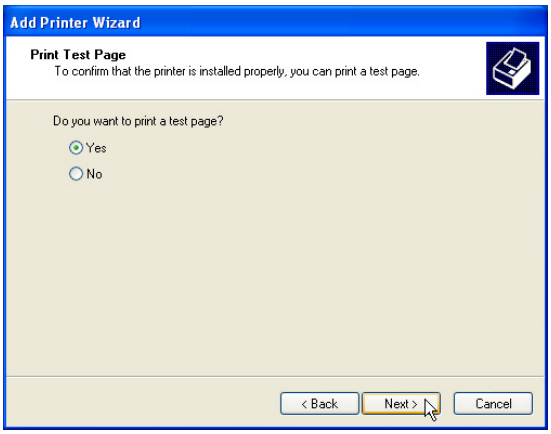
*** WL500b/g also supports standard based network printing protocol, called, LPR, which is also supported by Windows XP, Windows 2000, MAC or Unix based system. If you are a Windows XP user, please refer to Setup for LPR client under Windows XP for setting as a LPR client.**



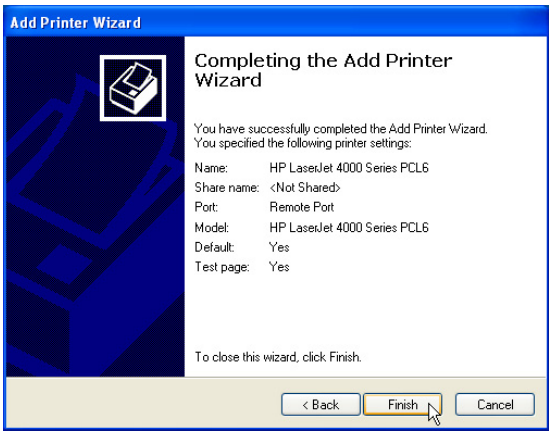
(5) Find your manufacturer and model. Click **Have Disk** if you cannot find your printer in the list and use the driver provided with your printer.



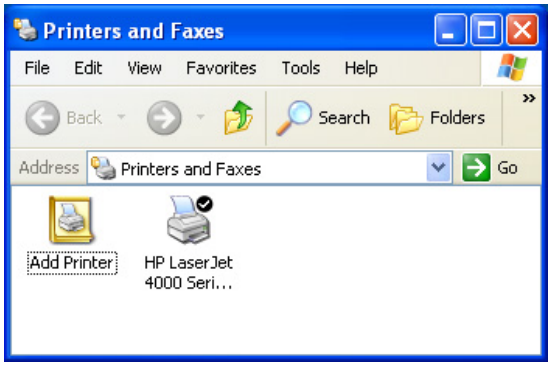
(6) Click **Next** to set this as your default printer.



(7) You can print a test page.

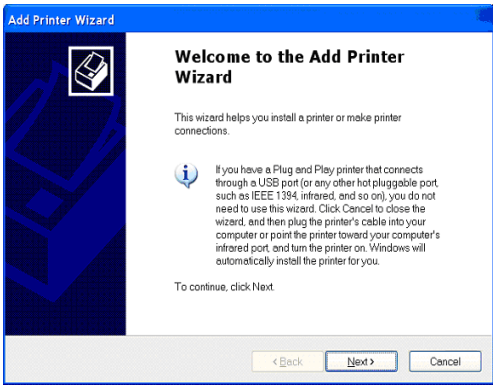


(8) Click **Finish** to close the wizard.

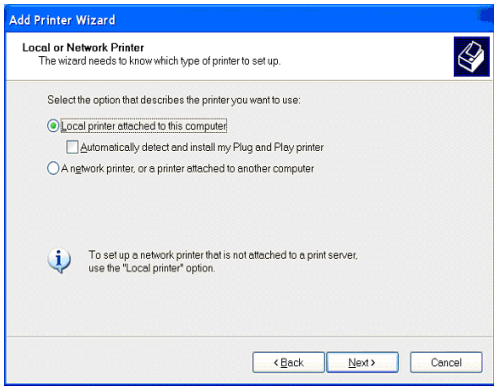


Your printer will show in the “Printers and Faxes” window and the check mark shows that it is set as your default printer.

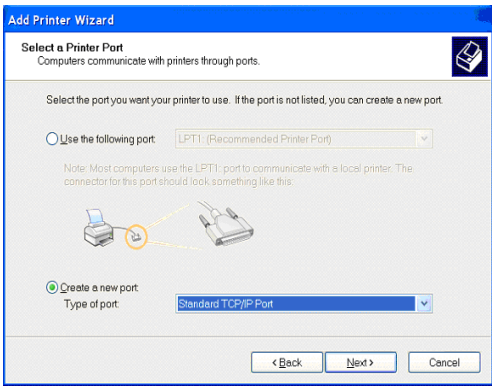
Setup for LPR client under Windows XP



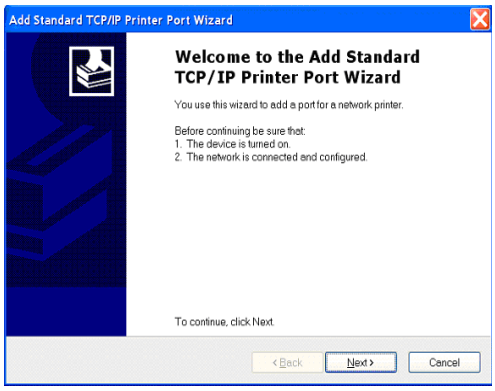
1. Run the “Add Printer Wizard” from Start | Printers and Faxes | Add Printer.



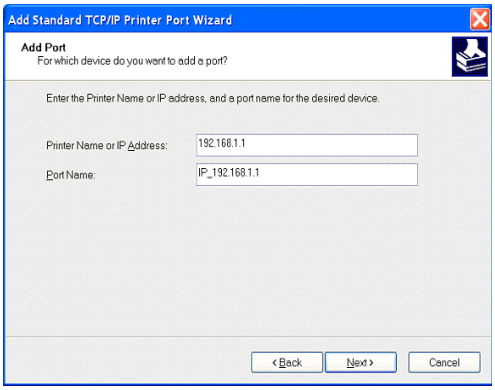
2. Choose “Local printer attached to this computer” then press **Next**.



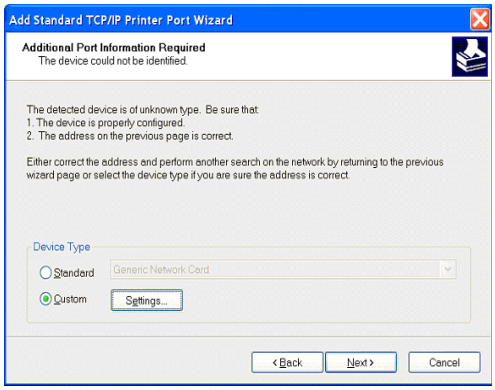
3. Click on “Create a new port” and select “Standard TCP/IP Port” in the pull down menu. Then press **Next**.



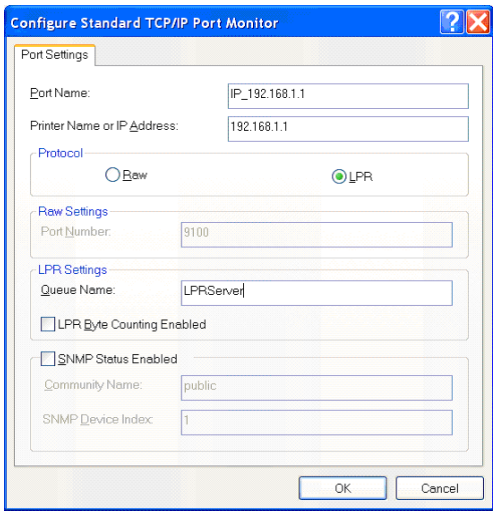
4. Click **Next** on the “Add Standard TCP/IP Printer Port Wizard”.



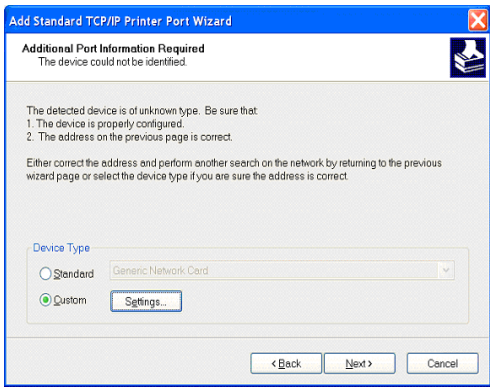
5. Input the IP address of the WL500g in the “Printer Name or IP Address” field and the press **Next**.



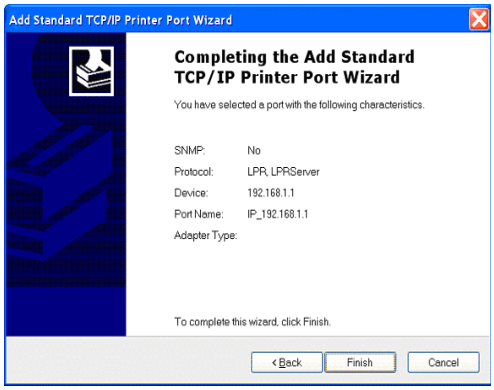
6. Select “Custom” and then click **Settings…**



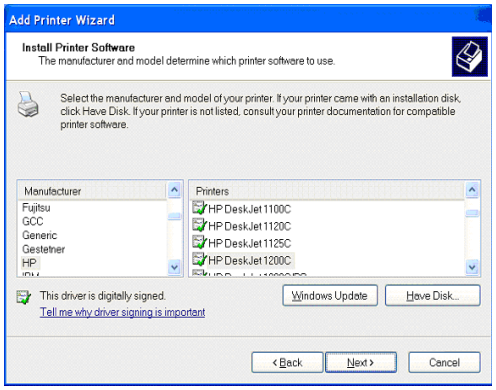
7. Select Protocol **LPR** and type **LPRServer** in "Queue Name field".



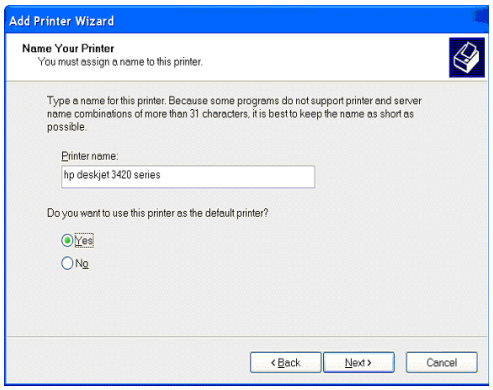
8. After completing settings, press **Next**.



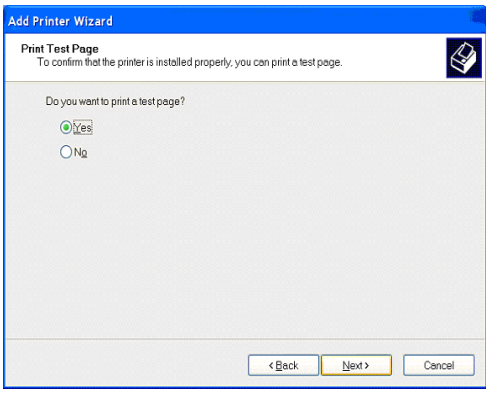
9. Press **Finish** to complete the "Add Standard TCP/IP Printer Port Wizard" and go back to "Add Printer Wizard".



10. Find the manufacturer and model of your printer. Click **Have Disk** if you cannot find it in the list and use the driver provided with your printer.



11. Click **Next** to set this as your default printer.



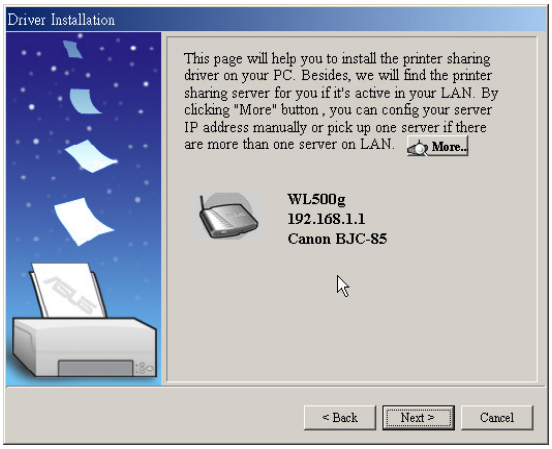
12. Select **Yes** and **Next** to print a test page, otherwise select **No**.

13. When the "Add Printer Wizard" is complete, click **Finish** to close the wizard.

Printer Setup Wizard

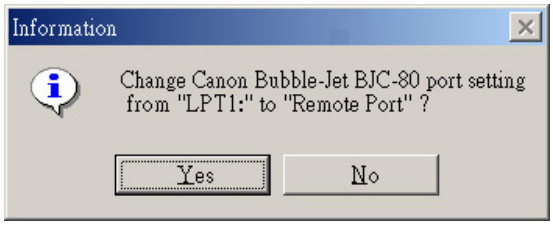
Make sure your printer is connected to the Wireless Router printer port or USB port and its power is turned on. Launch the "Printer Setup Wizard" through the Start menu. The wizard will explore all available ASUS Wireless Routers and model information of the printers attached to them in your local network.

(1) Having a printer installed on the printer port (LPT1) or a USB port makes the setup process easier (refer to the following page).



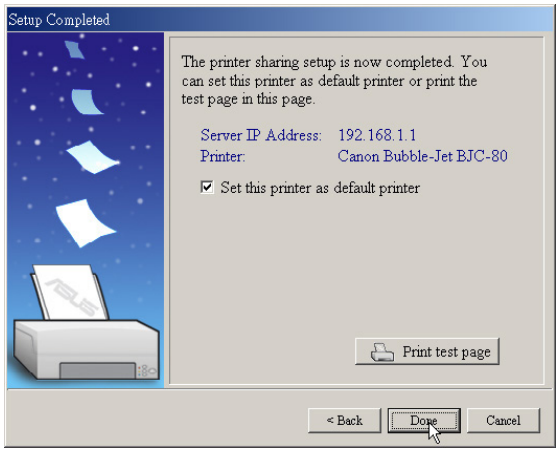
(2) If the printer is found, the name of the printer will be shown on this screen.

Note: If there is an error communicating with the printer, you will get this message. Make sure that the printer is ON, ready, and connected. Click **Back** and **Next**.



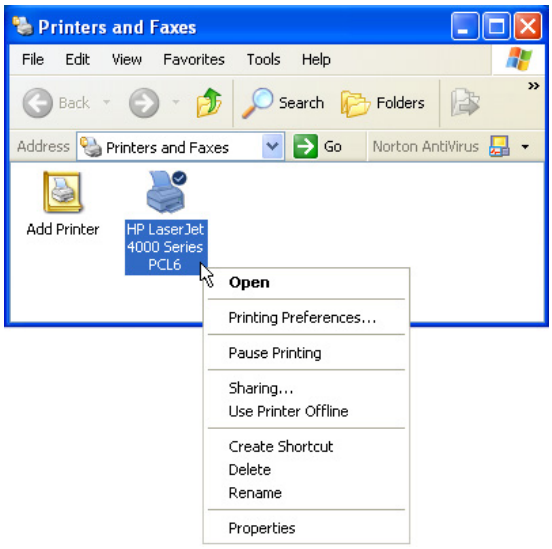
(3) This setup wizard will change your default printer to use "Standard TCP/IP port" which is serviced by the ASUS Wireless Router.

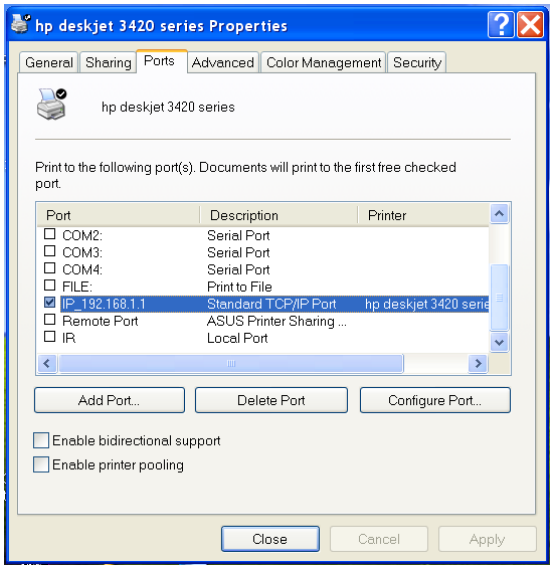
Note: For Windows XP or Windows 2000, this setup wizard will guide you to select or add a "Standard TCP/IP port". Refer to "Setup for LPR client under Windows XP" for details. For Windows 98 or Windows ME, this setup wizard will change your default printer to use "Remote Port" which is serviced by the ASUS Wireless Router.



(4) Click **Done** when setup is complete.

Verifying Your Printer





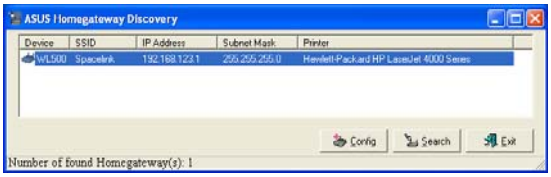
After setting up the printer, a printer icon will appear in Windows' "Printers and Faxes". Right click the printer icon and choose **Properties** to configure the printer.

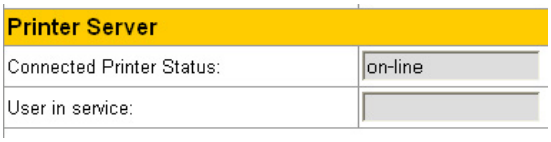
If your printer was previously setup, the ASUS Wireless setup wizard changes the printing port from the computer's local LPT1 (parallel) port or USB port to "Standard TCP/IP port"*. If necessary, you can change this back at anytime or use Windows "Add Printer" to setup another printer.

Note: If you use Windows 98 or ME which do not support "Standard TCP/IP port"", you need to use "Remote Port" which is supported by ASUS.

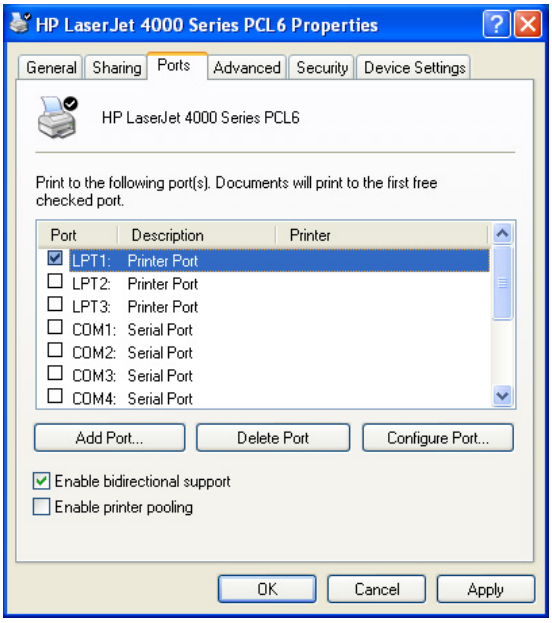
Verifying Your Printer (Cont')

Note: If you use LPR client in Windows XP or Windows 2000, Standard TCP/IP port will be used. Please refer to Setup for LPR client under Windows XP in details.





When properly setup, the ASUS Wireless Router will show the printer name in the "Device Discovery" utility and show "on-line" under the "Printer Server" on the "Status" page of the web manager.



4. Wireless Performance

This section provides the user with ideas for how to improve the performance of a ASUS Wireless network.

Site Topography

For optimal performance, locate wireless mobile clients and the ASUS Wireless Routers away from transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment. Signal loss can occur when metal, concrete, walls or floors block transmission. Locate the ASUS Wireless Routers in open areas or add the ASUS Wireless Routers as needed to improve coverage.

Microwave ovens operate in the same frequency band as the ASUS Wireless Router. Therefore, if you use a microwave within range of the ASUS Wireless Router you may notice network performance degradation. However, both your microwave and your the ASUS Wireless Router will continue to function.

Site Surveys

A site survey (utility provided with the WLAN PC card and CF card) analyzes the installation environment and provides users with recommendations for equipment and its placement. The optimum placement differs for each model.

Range

Every environment is unique with different obstacles, barriers, materials, etc. and, therefore, it is difficult to determine the exact range that will be achieved without testing. However, has developed some guidelines to estimate the range that users will see when the product is installed in their facility, but there are no hard and fast specifications.

Radio signals may reflect off of some obstacles or be absorbed by others depending on their construction. For example, with two 802.11b radios, you may achieve up to 1000' in open space outdoors where two devices have a line of sight, meaning they see each other with no obstacles. However, the same two units may only achieve up to 300' of range when used indoors.

The IEEE 802.11b specification supports four data rates: 11 Mbps, 5.5 Mbps, 2 Mbps, and 1 Mbps. Operation at 1 Mbps provides greater range than operation at 11 Mbps. The ASUS Wireless Router will automatically adjust the data rate to maintain a usable radio connection.

Therefore, a client that is close to the ASUS Wireless Router may operate at 11 Mbps while a client that is on the fringe of coverage may operate at 1 Mbps. As mentioned earlier, you can configure the data rates that the ASUS Wireless Router will use. Note that if you limit the range of data rates available to the ASUS Wireless Router, you may reduce the effective wireless range of the ASUS Wireless products.

Troubleshooting

The ASUS Wireless Router is designed to be very easy to install and operate. However, if you experience difficulties, use the information in this chapter to help diagnose and solve problems. If you cannot resolve a problem, contact Technical Support, as listed on the front of this manual.

Common Problems and Solutions

Problem

ASUS Wireless Router does not power up:

Solution

- Check for faulty the ASUS Wireless Router power supply by measuring the output voltage with an electrical test meter.
- Check failed AC supply (power outlet)

Problem

Cannot communicate with the ASUS Wireless Router through a wired network connection.

Solution

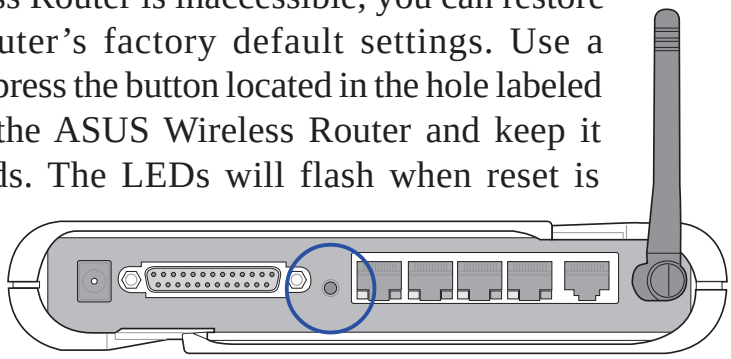
- Verify network configuration by ensuring that there are no duplicate IP addresses. Power down the device in question and ping the assigned IP address of the device. Ensure no other device responds to that address.
- Check that the cables used have proper pin outs and connectors or use another LAN cable.

Problem

The ASUS Wireless Router Web Manager still cannot find or connect to the ASUS Wireless Router after verifying the IP address and LAN cable, changes cannot be made, or password is lost.

Solution

In case the ASUS Wireless Router is inaccessible, you can restore the ASUS Wireless Router's factory default settings. Use a straightened paper clip to press the button located in the hole labeled "Reset" on the back of the ASUS Wireless Router and keep it depressed over 5 seconds. The LEDs will flash when reset is successful.



Reset to Defaults

The following are factory default values. These values will be present when you first receive your the ASUS Wireless Router, if you push the reset button on the back of the ASUS Wireless Router over 5 seconds, or if you click the "Restore" button on the "Factory Default" page under "Advanced Setup".

Name	Default Value
User Name	admin
Password	admin
Enable DHCP	Yes
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DNS Server 1	192.168.1.1
DNS Server 2	(blank)
SSID	default
Domain Name	(blank)

Problem

My 802.11b PC Card will not associate with the ASUS Wireless Router.

Solution

Follow these steps:

1. Try to bring the devices closer together; the PC Card may be out of range of the ASUS Wireless Router.
2. Confirm that the ASUS Wireless Router and PC Card have the same SSID.
3. Confirm that the ASUS Wireless Router and PC Card have the same Encryption settings, if enabled.
4. Confirm that the ASUS Wireless Router's Air and Link LEDs are solid green.
5. Confirm that the authorization table includes or excludes the MAC address of the WLAN PC card if "Wireless Access Control" is enabled.

Problem

The throughput seems slow.

Solution

To achieve maximum throughput, verify that your antennas are well-placed, not behind metal, and do not have too many obstacles between them. If you move the client closer to the ASUS Wireless Router and throughput increases, you may want to consider adding a second the ASUS Wireless Router and implementing roaming.

- Check antenna, connectors and cabling.
- Verify network traffic does not exceed 37% of bandwidth.
- Check to see that the wired network does not exceed 10 broadcast messages per second.
- Verify wired network topology and configuration.

Problem

I cannot find the ASUS Wireless Routers using the ASUS Wireless Router Discovery.

Solution

To configure the ASUS Wireless Router through a wireless LAN card, your computer must be in the same subnet of the ASUS Wireless Router. You cannot find the ASUS Wireless Routers with subnet different from your computer within the same gateway. You must change your computer to the same subnet as the ASUS Wireless Router. The factory default subnet of the ASUS Wireless Router is "192.168.1.1".

In Windows NT/2000/XP, you must log in with Administrator privileges so that all functions of the ASUS Wireless Router Manager can function correctly. If you do not log in as a member of the Administrator group, you cannot change IP settings but can still run the Discovery utility if the original IP setting is correct.

Problem

How do I upgrade the firmware on the ASUS Wireless Router?

Solution

Periodically, a new Flash Code is available for ASUS Wireless Routers on the Web site at **http://www.asus.com**. Update the ASUS Wireless Router s Flash Code using the Firmware Upgrade option on the System Setup menu of the Web manager.

Glossary

Access Point - An access point is a device that allows wireless clients to connect to other wireless clients and it acts as a bridge between wireless clients and a wired Ethernet network.

Broadband - A type of data transmission in which a single medium (such as cable) carries several channels of data at once.

Channel - Wireless access points allows you to choose different radio channels in the wireless spectrum. A wireless LAN device operates within the 2.4 GHz spectrum and a channel is within a FCC specified range, similar to any radio channel.

Client - A client is the desktop or mobile PC that is connected to your network.

Device name - Also known as DHCP client ID or network name. Sometimes provided by an ISP when using DHCP to assign addresses.

DHCP (Dynamic Host Configuration Protocol) - This protocol allows a computer (or many computers on your network) to be automatically assigned a single IP address from a DHCP server.

DNS Server Address (Domain Name System) - DNS allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a user enters a domain name into the Internet browser, the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.

DSL Modem (Digital Subscriber Line) - A DSL modem uses your existing phone lines to transmit data at high speeds.

Encryption - This provides wireless data transmissions with a level of security.

ESSID (Extended Service Set Identifier) - You must have the same ESSID entered into the gateway and each of its wireless clients. The ESSID is a unique identifier for your wireless network.

Ethernet - Ethernet networks are connected by cables and hubs, and move data around. This is a standard for computer networks.

Frame-bursting - Refers to burst mode. *Burst mode* optionally allows a station to transmit a series of frames without relinquishing control of the transmission medium.

Firewall - A firewall determines which information passes in and out of a network. NAT can create a natural firewall by hiding a local network's IP addresses from the Internet. A Firewall prevents anyone outside of your network from accessing your computer and possibly damaging or viewing your files.

Gateway - A network point that manages all the data traffic of your network, as well as to the Internet and connects one network to another.

Handshaking - handshaking refers to the signals that are transmitted between communications networks that establish a valid connection between two stations.

IEEE - The Institute of Electrical and Electronics Engineers. The IEEE sets standards for networking, including Ethernet LANs. IEEE standards ensure interoperability between systems of the same type.

IP Address (Internet Protocol) - An IP address consists of a series of four numbers separated by periods, that identifies a unique Internet computer host, allowing messages intended for that computer to be delivered to the correct destination.

ISP (Internet Service Provider) - An ISP is a business that allows individuals or businesses to connect to the Internet. Users log on to the Internet using an account with an ISP or Internet Service Provider. ISPs can serve IP addresses dynamically, or assign static (fixed) IP addresses to individual computers.

ISP Gateway Address - The ISP Gateway Address is an IP address for the Internet router. This address is only required when using a cable or DSL modem.

LAN (Local Area Network) - A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address (Media Access Control) - A MAC address is the hardware address of a device connected to a network.

NAT (Network Address Translation) - NAT masks a local network's group of IP addresses from the external network, allowing a local network of computers to share a single ISP account. This process allows all of the computers on your home network to use one IP address. This will enable access to the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

PC Card - This is an Ethernet card that connects to the PCMCIA slot on your Notebook PC. This enables the computer to communicate with wireless access points.

PPP (Point-to-Point Protocol) - PPP is a protocol for communication between computers using a serial interface, typically a personal computer connected by phone line to a server.

PPPoE (Point-to-Point Protocol over Ethernet) - Point-to-Point Protocol is a method of secure data transmission. PPP using Ethernet to connect to an ISP.

Subnet Mask - A subnet mask is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network.

TCP/IP (Transmission Control Protocol/Internet Protocol) - This is the standard protocol for data transmission over the Internet. Protocols used to connect hosts on the Internet.

WAN (Wide Area Network) - A system of LANs, connected together. A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a wide area network.

WECA (Wireless Ethernet Compatibility Alliance) - An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b wireless networking products and to promote that standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network) - This is a group of computers and other devices connected wirelessly in a small area. A wireless network is referred to as LAN or WLAN.

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- The pppd PPP daemon implementation
- The dproxy DNS proxy implementation
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Version 2, June 1991

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