

Wireless 11g Residential Gateway

User's Guide

FCC Caution

1. The 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.
2. FCC RF Radiation Exposure Statement: The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.
3. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
4. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

Trademarks

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Revision History

Revision	History	Date
V2.0	First Release	November 2003

Important Safety Precautions

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this User's Manual for future reference.
 2. Keep this equipment away from humidity.
 3. Lay this equipment on a reliable flat surface before setting it up.
 4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
 5. All cautions and warnings on the equipment should be noted.
 6. Never pour any liquid into the opening that could damage or cause electrical shock.
 7. If any of the following situations arises, get the equipment checked by a service personnel:
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment has not work well or you can not get it work according to User's Manual.
 - The equipment has dropped and damaged.
 - If the equipment has obvious sign of breakage.
 8. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C OR BELOW -20°C, IT MAY DAMAGE THE EQUIPMENT.**
-

How to Use This Guide

This User's Guide provides instructions and illustrations on how to install and use your Wireless 11g Residential Gateway.

- ❶ Chapter 1, **Introduction**, provides a general information on the product you bought, including its application, specification, and requirements.
- ❷ Chapter 2, **Hardware Installation**, tells you how to install the product into your system.
- ❸ Chapter 3, **Configuration**, describes the Configuration Utility that lets you configure your product to connect the network quickly and easily.
- ❹ Chapter 4, **Using the Print Server**, helps you to install and use the USB printer as a print server in your network.
- ❺ **Appendix**, includes the instructions of assigning a fixed IP address and resuming the firmware.

Please note that the setting diagrams or values in this guide are **FOR YOUR REFERENCE ONLY**. The actual settings and values depend on your system and network. If you are not sure about these information, please ask your network administrator or MIS staff for help.

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1

Introduction

>>> 1.1 Wireless 11g Residential Gateway

Compliant with IEEE802.11g and IEEE802.11b, the **Wireless Residential Gateway** is designed for high throughput and fully function that leads you into the wireless network environment. In the rapid growing network environment, the wireless gateway acts as a home-end device that connects your computer to the WAN service (e.g. the Internet). With the wireless gateway, networking and sharing information throughout the house/office become an easy and flexible task. In addition, the wireless gateway is also a switching device as an aggregating point of the wireless LAN and wired LAN clients, and as a router between LAN and WAN traffic. It also provides a USB printer port to act as a print server in your network.

Combined the SPI firewall, wireless Access Point, Print Server, and LAN switch into a compact package, the wireless gateway can provide you with the essential security and IP sharing function. These features build the wireless gateway as a cutting-edge, cost-effective device that fits to SOHO/home application.

>>> 1.2 Networking Options

The wireless gateway is a Base Station that bridges communication between computers (via wireless networking), and connects the computers to the Internet.

You can use the wireless gateway in the following applications:

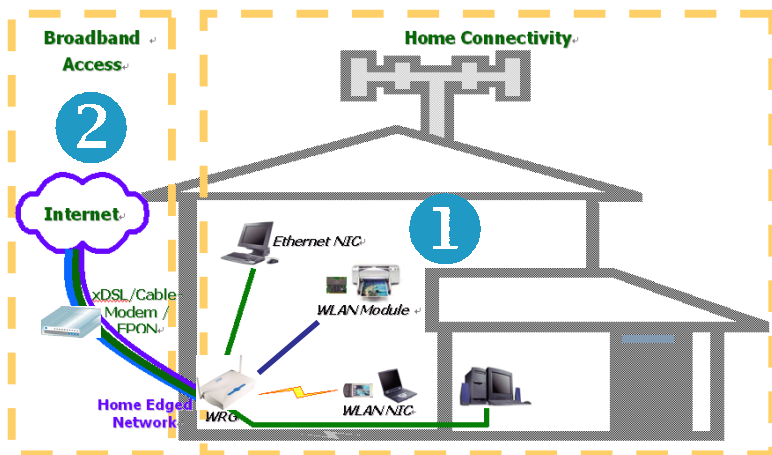
Home connectivity

A stand-alone wireless network. As shown in the right part of the diagram below (1), the out-of-the-box mode of operation for the wireless gateway that allows your client stations to share files and printers. Adding wireless computers is as easy as inserting a wireless client adapter and configuring the computer with the same Network Name and Key.

Broadband access

A wireless/wired Internet access via xDSL/Cable Modem or Ethernet (2). To access the Internet via a xDSL/Cable or ISDN modem, you will need to:

- Connect the external modem to the wireless gateway using a LAN cable.
- An ISP (Internet Service Provider) account.



Typical Configuration of Wireless LAN

>>> 1.3 Features and Benefits

With the wireless gateway, your network can immediately upgrade to a wireless network, providing wireless access to the LAN and WLAN, and sharing information and printers in the network.

54 Mbps Data Rate (max.)/150-400 ft. Indoor Range

The wireless gateway runs with data-intensive applications like MP3, multimedia, gaming and streaming video/audio - even through walls, floors and ceilings. You can get Ethernet quality networking without wires and cables - ideal for standard networking requirements.

Superior Antenna Design

Dual dipole antennas provide superior polarized reception and diversity transmission for the best signal quality.

Interoperable with any 802.11g Compliant Device

The wireless gateway complies with IEEE 802.11g standard and Wi-Fi, allowing full interoperability with any Wi-Fi certified wireless product.

Easy to Install and Use

The Configuration Utility with user-friendly and Web-based interface provides step-by-step instructions, making the wireless gateway fast and easy to be installed and used in the network.

WEP Security to Ensure Privacy

Supports 64-/128-bit WEP encryption, which ensures that your network signal is secure and private inband and outband of your home and office.

Scalability

The wireless gateway can be configured in every way to meet your needs of specific applications and installations. It also provides Flash memory for easy firmware upgrade.

>>> 1.4 Package Contents

Unpack the package and check all the items carefully. If any item contained is damaged or missing, please contact your local dealer immediately. Also, keep the box and packing materials in case you need to ship the unit in the future. The package should contain the following items:



- One Wireless 11g Residential Gateway.



- One AC Power Adapter, 12VDC/1A output.



- One Ethernet cable (RJ-45).



- One Quick Start Guide.



- One CD-ROM including User's Manual and Quick Start Guide.

>>> 1.5 System Requirements

After installing the wireless gateway, you need the followings to configure respective network settings:

- A network-enabled computer.
- Windows 98SE/ME/2000/XP; Linux; Macintosh.
- A JavaScript-enabled web browser, such as Internet Explorer 5.0 and Netscape 6.0.

>>> 1.6 Specification



General

Standard Compliance	- IEEE802.11g/IEEE802.11b/ IEEE802.3/IEEE802.3u - USB 1.1
Internet Protocol Supported	TCP/IP, NAT, DHCP, HTTP, PPPoE, PPTP, DNS, LPR, SNTP
Operating Temperature	0 ~ 55°C (32 ~ 122°F)
Storage Temperature	-30 ~ 70°C (-22 ~ 158°F)
Operating Humidity	0 ~ 85% @ 40°C (104°F), non-condensing



Performance

Wired Data Rates	10/100Mbps auto-negotiating (full-duplexing switch)
Wireless Data Rates	IEEE802.11b (auto-fallback) - CCK: 11, 5.5Mbps - DQPSK: 2Mbps - DBPSK: 1Mbps IEEE802.11g (auto-fallback) - OFDM: 54, 48, 36, 24, 18, 12, 9, and 6Mbps
Wireless Range	Open Space: - ≥ 170m @ 11Mbps - ≥ 50m @ 54Mbps Indoor: - ≥ 120m @ 11Mbps - ≥ 20m @ 54Mbps
Wireless Transmission Power	17±1dBm



LAN

Number of Ports

Four 10/100Mbps switched Ethernet ports (RJ-45)

Number of PCs Supported

Up to 253 PCs

Routing

NAT, TCP/IP



WAN

Number of Ports

One 10/100Mbps Fast Ethernet port for cable/xDSL modem (RJ-45)

Firewall

- IP/Port Address Forwarding Filtering
- MAC Address Forwarding Filtering
- MAC Address Associating Filtering
- DoS Prevention
- Application Layer Gateway
- Virtual DMZ
- SPI



Device Management

Tools

Web-based browser; event log; login password

LEDs

Power, LAN/WAN/WLAN port activity, USB port

Physical Specifications

Dimensions (WxDxH)	180 x 127.7 x 32mm
Weight	295g
Antenna	Dipole type with dual external antenna
Input Voltage	12VDC (includes AC adapter)

Certifications

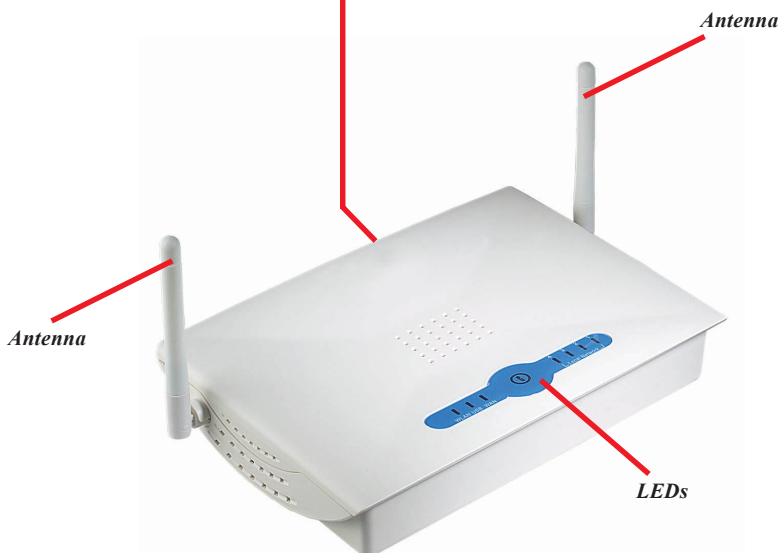
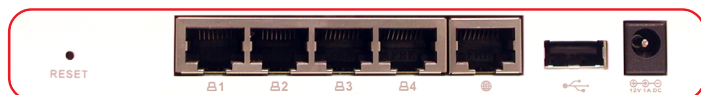
U.S.	FCC Part 15 class B, Wi-Fi
Europe	CE

2 Hardware Installation

This chapter provides a quick introduction to your wireless gateway, including product view, installation and power up.

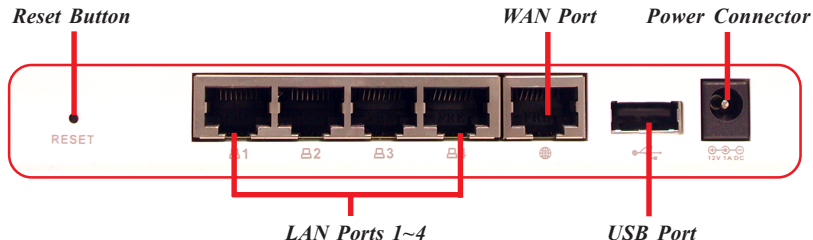
>>> 2.1 Product View

Connection Ports



Wireless Residential Gateway

>>> 2.2 Connection Ports



** Use a pointed object
(e.g. a stretched clip)*

Reset Button

1. Press and hold* this button longer than 1 second to restart the wireless gateway.
2. Press and hold* this button longer than 5 seconds, the system will reload the factory default settings.

LAN Ports 1~4

The wireless gateway provides four 10/100Mbps Fast Ethernet ports, allowing connection to the computers and other network devices.

WAN Port

This 10/100Mbps Fast Ethernet port provides connection to your xDSL/Cable Modem or Ethernet connection.

USB Port

The USB 1.1 port is used to connect the printer to provide print server function.

Power Connector

Connect the enclosed power adapter and provide power to the wireless gateway.

>>> 2.3 LEDs



Power

A steady **Blue** light glows to indicate the power adapter is connected.



LAN 1~4

The **Green** light glows when there is a computer/device connected to respective port.



WAN

A **Green** light glows when the system connects to the xDSL/ Cable Modem or Ethernet connection, and it will blink when receiving/transmitting data on the link.



USB

A **Green** light glows when the USB printer is connected to the wireless gateway.



Wireless Status

A **Green** light glows to indicate the status of wireless gateway's wireless networking.

>>> 2.4 Installing Your Wireless Gateway

2.4.1 Positioning

To operate normally, the wireless gateway should be put on a flat surface, and do not put any heavy object on it. Before connecting wireless gateway to your devices, please note that the wireless gateway should be placed in a location where is:

- **Easy to access**, so that you can conveniently connect it to the xDSL/Cable Modem through the WAN port, and to the computers/devices through the LAN ports.
- **Allows you to observe the LEDs clearly**, so that you may monitor the real-time networking status and take instant measures as problems arise.

2.4.2 Connecting Cables

1. To access to the Internet, connect one end of an Ethernet cable to the WAN port of the wireless gateway, and the other end to your xDSL/Cable modem.
2. For wired connection to the network devices, connect one end of an Ethernet cable to the LAN port (1~4) of the wireless gateway, and the other end to your computers /devices.
3. To connect the USB printer, connect one end of the USB cable to the USB port of the wireless gateway, and the other end to your printer.
4. For wireless connection, install the wireless adapters onto your computers, and you have to configure respective settings on your computers (refer to your wireless adapter's manual) to take full advantages of your wireless gateway.



2.4.3 To Power Up...

Plug the DC end of the power adapter into the power connector of the wireless gateway; then, plug the AC end to an electrical outlet. The wireless gateway is powered up immediately.



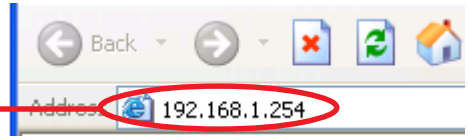
3 Configuration

>>> 3.1 Configuration Utility

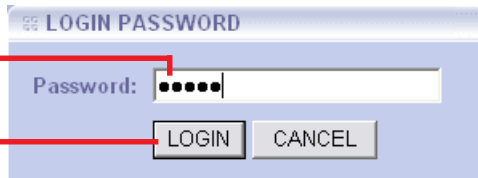
** **admin** is the default password of the wireless gateway, and can be changed in the Configuration Utility. Refer to section 3.3.1 for details.*

The wireless gateway provides you with a convenient utility to customize the network settings. Whenever you want to configure the respective settings, open your web browser (e.g. Internet Explorer), and type the default IP address **192.168.1.254** in the Address bar and press [Enter]. When the password page appears, type **admin*** in the Password box and click **LOGIN**.

Open the web browser and enter the IP Address of the wireless gateway.



Enter the Password

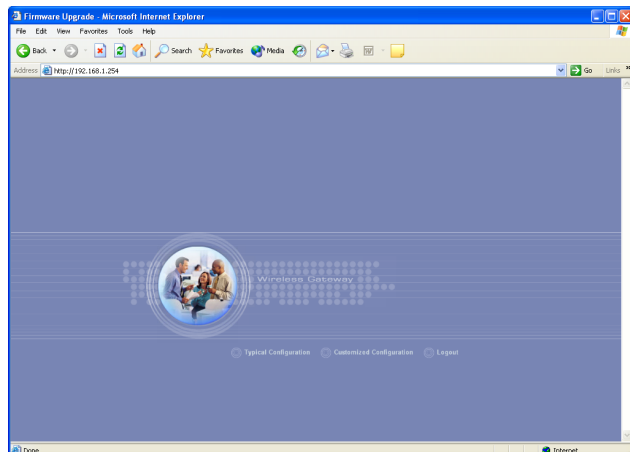


Click

Since the wireless gateway supports DHCP Server and which is enabled by default, the computer connected to it is automatically assigned a dynamic IP address that is allowed to enter the Configuration Utility. Otherwise, you have to assign a fixed IP address to this computer within the IP address range of the wireless gateway.

For example, you can assign a fixed IP address of **192.168.1.253** with a Subnet Mask of **255.255.255.0**. (For more instruction, please refer to *Appendix - A, Assigning a Fixed IP Address.*)

The Home window of the Configuration Utility will appear as below, which provides three options to select: **Typical Configuration**, **Customized Configuration**, and **Logout**.



Home Window of the Configuration Utility

Typical Configuration provides a step-by-step Setup Wizard to guide you through the basic settings of the gateway. Generally, after completing the four steps in this option, your gateway can connect to the ISP.

Customized Configuration allows you to customize the network settings of your gateway for some specific purposes, such as changing password, updating firmware, and configuring other network settings.

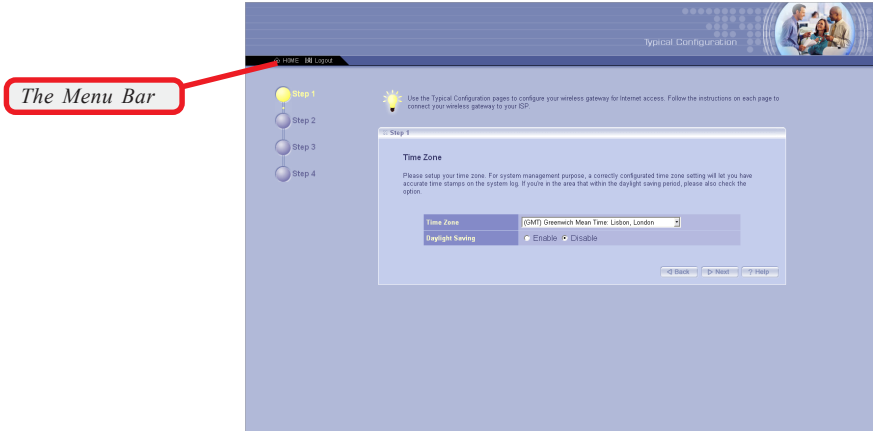
Logout allows you to exit the utility and return to the password page.

Factory Default Settings of the Wireless Gateway

SSID	RG54GS
Channel	7
Password	admin
IP Address	192.168.1.254
Subnet Mask	255.255.255.0
Encryption	Disable

>>> 3.2 Typical Configuration

Click **Typical Configuration** in the Home window of the Configuration Utility, and the Setup Wizard appears from *Step 1* to guide you through the configuration.



Step 1. Setting the Time Zone

The Menu Bar

During the Setup Wizard, whenever you click **HOME** in the menu bar will make you return to the Home window; click **Logout** to exit the Configuration Utility.



The Menu Bar

Step 1. Setting the Time Zone

First, you should set the Time Zone. For system management purpose, a correct time zone setting will let you have accurate time stamps on the system log. If you are in the area that within the daylight saving period, please also check the **Daylight Saving** option.

When completed, click **Next** to continue *step 2*.

Step 2. Setting the Connection Type

According to the connection type you are using, click the respective option to configure the settings.



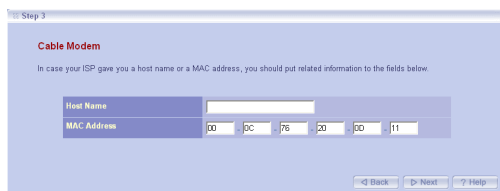
Step 2. Setting the Connection Type

Step 3. Setting the Connection Type (continue)

Cable Modem

If your broadband access is through a cable modem, select this option.

If you are not sure on these settings, please ask your ISP for assistance.



If your ISP provides you a **Host Name** or a locked **MAC Address**, you should enter these information in the respective fields.

Fixed-IP xDSL

If your broadband access is through an xDSL modem and your ISP assigned you a static IP address, select this option.

Step 3

Fixed IP

Please put the necessary information such as IP Address, Subnet Mask, Default Gateway and DNS server got from your ISP to the fields below.

IP	
subnet mask	
Default Gateway	
DNS	

< Back Next > ? Help

Enter the necessary information in the respective fields, such as the IP address, Subnet Mask, Default Gateway and DNS server provided by your ISP.

xDSL-PPPoE

If your broadband access is through an xDSL modem and your ISP did not assign you a static IP address, select this option.

If you are not sure on these settings, please ask your ISP for assistance.

Step 3

PPPoE

Please put the necessary information such as username and password got from your ISP to the fields below. In case your ISP gave you a service name, you should put it to the related field.

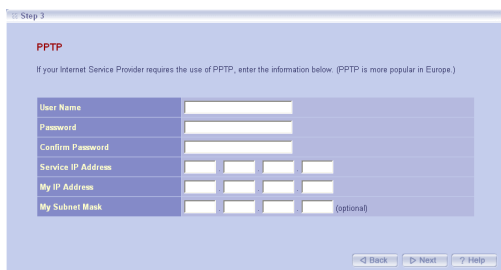
User Name	
Password	
Confirm Password	
Service Name (Default:NA)	

< Back Next > ? Help

Enter the necessary information in the respective fields, such as the user name and password provided by your ISP. If your ISP gave you a service name, you should put it to the respective field (the default is none).

xDSL-PPTP

If your broadband access is through an xDSL modem and your ISP did not assign you a static IP address, select this option. (This option is used mostly in Europe.)

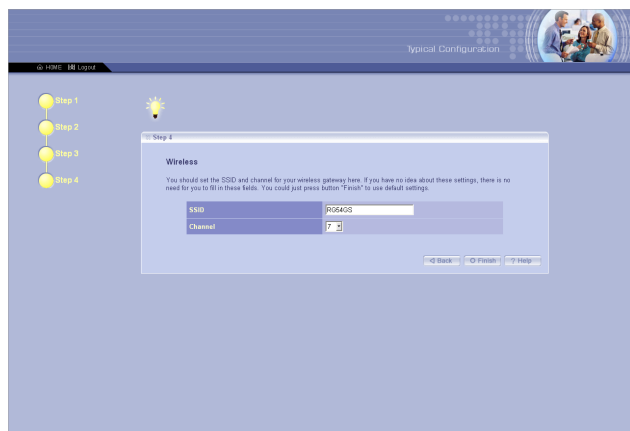


Enter the necessary information in the respective fields, such as the user name and password provided by your ISP.

When completed, click **Next** to continue *step 4*.

Step 4. Setting the Wireless Network Settings

You could set the SSID (Network Name) and channel for your wireless gateway.

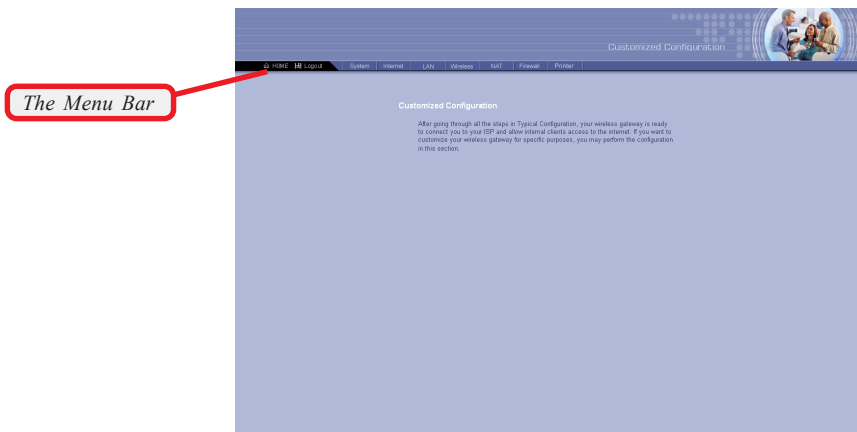


When completed, click **Finish** to save your settings and exit the Configuration Utility.

>>> 3.3 Customized Configuration

Typically, your wireless gateway will have no problem to connect to your ISP and let internal clients to access to the Internet without any problem after going through all steps in Typical Configuration. If you want to customize your wireless gateway for some specific purposes, you may perform the configuration here.

Click **Customized Configuration** in the Home window of the Configuration Utility, and the main window appears as below.



Main Window of Customized Configuration

The Menu Bar

There is a menu bar in the top of the Customized Configuration window, where contains two options to exit the configuration window (**HOME** and **Logout**, as described in *page 16*); and seven options for advanced configuration: **System**, **Internet**, **LAN**, **Wireless**, **NAT**, **Firewall** and **Printer**, each one allows you to configure the respective settings and view the system status.



The Menu Bar

3.3.1 System

This page includes all the basic configuration tools such as options to control management access, upgrade system firmware and restart system.

This window includes:

- > Time Zone
- > Password Setting
- > Remote Management
- > Firmware Upgrade
- > Restart
- > Factory Default
- > System Status
- > Statistics
- > Event Log



> Time Zone

For system management purpose, a correct time zone setting will let you have accurate time stamps on the system log. If you use the wireless gateway in the country adopting the Daylight Saving Time, please check the **Daylight Saving** option.

> Password Setting

The wireless gateway is shipped with default password **admin**. This option allows you to use other password to replace the old password. First, enter the old password, and then enter the new password twice to confirm the password changed. Then, click **Apply** to save the settings.

Tip: Once you have changed the settings in each option, click **Apply** to save the settings, or **Cancel** to abandon. Clicking **Help** can bring up the help window.

A diagram illustrating the 'Password Setting' form. It shows three input fields: 'Old Password', 'New Password', and 'Confirm New Password'. Red callout boxes with labels 'Old Password' and 'New Password' point to the first two fields respectively. The 'Confirm New Password' field is also shown. The fields are part of a larger form with a blue header and a white background.

> Remote Management

Setting to **Enable** allows you to manage your wireless gateway through WAN connection.

> Firmware Upgrade

Once you obtained a new version of firmware (e.g. downloading from the manufacturer's website), you can update the firmware of your wireless gateway. Click **Browse** to point to the firmware file, and then click **Upgrade** to start.

IMPORTANT: *If power failure occurs during upgrading firmware, the wireless gateway provides a second way to resume the previous firmware. For more information, refer to Appendix B, Resuming the Previous Firmware.*

> Restart

Clicking **Restart** allows you to restart your wireless gateway through the Configuration Utility, without unplugging the power cable or pressing the Reset button longer than 1 seconds.

> Factory Default

Clicking **Restore** allows you to resume the factory settings of your wireless gateway. This function is the same as pressing the **Reset** button (on the front panel) longer than 5 seconds.

> System Status

This option contains detail information of your wireless gateway, including general information and respective network settings.

> Statistics

This option contains the statistics of your wireless gateway, such as respective networking statistics, allowing you to monitor the device clearly. Click **Refresh** to re-load the statistics.

> Event Log

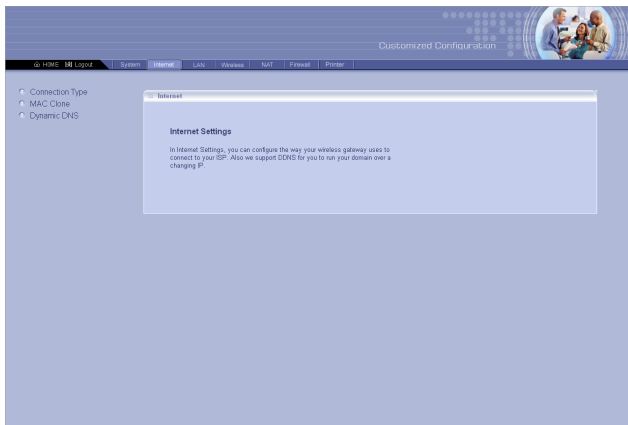
Select this option to display a list containing the event log of your wireless gateway.

3.3.2 Internet

In the Internet settings window, you can configure the way your wireless gateway used to connect to your ISP.

This window includes:

- > *Connection Type*
- > *MAC Clone*
- > *Dynamic DNS*



> Connection Type

This option allows you to configure the way to connect to your ISP. The wireless gateway can be connected to your ISP in any of the following ways: **DHCP Client**, **PPPoE**, **Fixed IP**, and **PPTP**.

DHCP Client: If your ISP gives you a host name, select this option to enter the respective information.

PPPoE: If you use the xDSL modem to connect to the ISP, select this option and enter the necessary information, such as the User Name and Password. If your ISP gives you a service name, you should put it to the related field.

Fixed IP: If your ISP assigns a fixed IP Address, select this option and enter the necessary information, including the IP Address, Subnet Mask, Default Gateway, Primary DNS, and Secondary DNS.

PPTP: If you use the xDSL modem to connect to the ISP, select this option and enter the necessary information. (This option is used mostly in Europe.)

> MAC Clone

If your ISP restricts to PCs only, use this function to copy a PC Media Access Control (MAC) address to your wireless gateway. This procedure will cause the wireless gateway to appear as a single PC.

> Dynamic DNS

Setting to **Enable** allows you to run your domain over a changing IP. Choose one Dynamic DNS provider from the drop-down list box and fill in related fields to make it work. If you have problem in doing these settings, please check with the Dynamic DNS provider that you choose.

The screenshot shows a configuration page for Dynamic DNS. Two red callout boxes with arrows point to specific elements: one points to the 'Enable' radio button, and the other points to the 'Dynamic DNS Provider' dropdown menu. The form fields include Host Name, User Name, Password, My IP Address (0.0.0.0), and an Update Manually button labeled 'Update Now'.

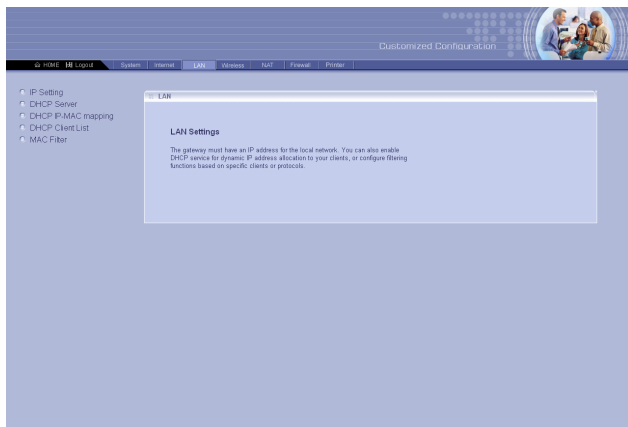
Dynamic DNS	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Dynamic DNS Provider	DynDNS.org ▼
Host Name	<input type="text"/>
User Name	<input type="text"/>
Password	<input type="password"/>
My IP Address	0.0.0.0
Update Manually	<input type="button" value="Update Now"/>
Status	

3.3.3 LAN

In the LAN settings window, you can configure the IP address and DHCP server for your wireless gateway.

This window includes:

- > IP Setting
- > DHCP Server
- > DHCP IP-MAC mapping
- > DHCP Client List
- > MAC Filter



> IP Setting

You can setup IP address information for the LAN ports of your gateway.

> DHCP Server

Your wireless gateway can act as a DHCP server, and can assign IP addresses to your clients automatically. The assigned IP addresses will be within the range of IP pool that you have specified in this option. For example, not including the default IP address **192.168.1.254** of the LAN port, you can configure the range from **192.168.1.1** to **192.168.1.253**.

Enable this function

Enter the range
of IP address

DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
IP Pool Starting Address	<input type="text" value="192.168.1.1"/>
IP Pool Ending Address	<input type="text" value="192.168.1.32"/>
Lease Time	<input type="text" value="24"/> Hours (0 - 720)

> DHCP IP-MAC mapping

You can specify the IP address and hardware address association for a manual binding to a DHCP client.

> DHCP Client List

This option is used to display the DHCP clients assigned by the DHCP server. Click **Refresh** to re-load the statistics.

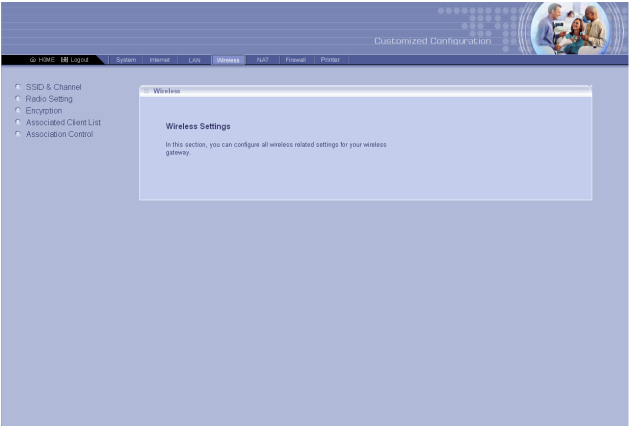
> MAC Filter

This option allows you to limit the computer to access the Internet. When you enable this option and set up the respective settings, only the computer with a MAC address in the MAC list can access the Internet.

3.3.4 Wireless

In this section, you can configure all wireless related settings for your wireless gateway.

- This window includes:
- > SSID & Channel
 - > Radio Setting
 - > Encryption
 - > Associated Client List
 - > Association Control



> SSID & Channel

This option is used to set the SSID (Network Name) and channel for your wireless gateway. If you have changed the SSID or Channel settings, click **Apply** to save the settings.

> Radio Setting

This option allows you to configure the operation parameters of the AP radio settings*.

** These settings are for advanced users or MIS staff only. If you do not know how to set these parameters, you are recommended to use the default value.*

Beacon Period	<input type="text" value="100"/>	TUs (1-65535)
RTS Threshold	<input type="text" value="2347"/>	(0-2347)
Fragment Threshold	<input type="text" value="2346"/>	(800-2346)
DTIM Period	<input type="text" value="3"/>	(1-255)
Mode	<input type="text" value="Auto"/>	
Basic Rate	<input type="text" value="Default"/>	
Transmit Rate	<input type="text" value="Auto"/>	

> Encryption

This option allows you to configure the setting of data encryption. The WEP key must be set before the data encryption is enforced.



The screenshot shows a configuration page for Data Encryption. A red rounded rectangle with the text "Enable WEP" is positioned to the left of the "Enable" radio button, which is circled in red. A red line connects the box to the button. The form has a blue header bar with the title "Data Encryption" and two radio buttons: "Enable" (selected) and "Disable". Below the header is a table with four rows for WEP keys. The first row is selected.

Data Encryption	
Authentication Type	Both
WEP Key 1	<input type="text"/> 64-bit
WEP Key 2	<input type="text"/> 64-bit
WEP Key 3	<input type="text"/> 64-bit
WEP Key 4	<input type="text"/> 64-bit

> Associated Client List

This option is to display information of stations that are currently associating to your wireless gateway.

> Association Control

This option allows you to control which PC can connect to the wireless LAN. If you enabled this feature, only PCs with MAC address located in Association Control List can connect to the wireless LAN.

3.3.5 NAT

NAT (Network Address Translation) allows multiple users at your local site to access the Internet over a single-user account. It can also prevent hacker attacks by mapping local addresses to public addresses for key services, such as Web or FTP.

This window includes:
> *Static NAT Setting*
> *Virtual Server*
> *Special Applications*



> Static NAT Setting

Use the Static NAT screen for the Network Address Translation (NAT) process that provides internal to external IP address mapping. It also includes a list of Global IP if you have setup.

> Virtual Server

You can configure the wireless gateway as a virtual server, so that remote users can access the services (e.g. Web or FTP) at your local site via public IP addresses. It also includes a list of Virtual Server if you have setup (maximum 32 entries).

> Special Applications

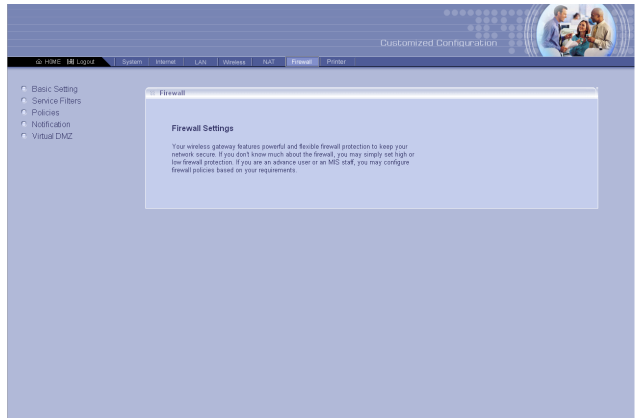
Some special applications, such as Internet gaming, video conference and Internet telephony, require multiple connections. This feature allows these applications to work properly. It also includes a list of Special Applications if you have setup (maximum 32 entries).

3.3.6 Firewall

The wireless gateway provides extensive firewall protection by restricting connection parameters to eliminate the risk of hacker attacks.

This window includes:

- > Basic Setting
- > Service Filters
- > Policies
- > Notification
- > Virtual DMZ



> Basic Setting

You can set up the level of firewall protection in this option. For general use, the user can just configure the firewall through the Firewall Protection option (**High**, **Low**, and **Disable**), which include pre-defined configuration for the respective options. For advanced settings, please ask the network manager for assistance.

> Service Filters

You can use this window to create and apply filters that can selectively block traffic to pass in and out of your network according to Protocol Type or Port Number. It also includes a list of Filters if you have setup (maximum 32 entries).

> Policies

Policies are the core of your firewall configuration. You may define and schedule your rules for inbound/outbound traffic.

IMPORTANT: Any incorrect setting in this option may cause the wireless gateway malfunctioned. If you are not sure of the settings, please ask the network manager for help.

> Notification

You can enable Email Notification function. Once enabled, you should configure the respective settings in the following fields. This is a useful feature when you want to acquire the security log remotely.

> Virtual DMZ

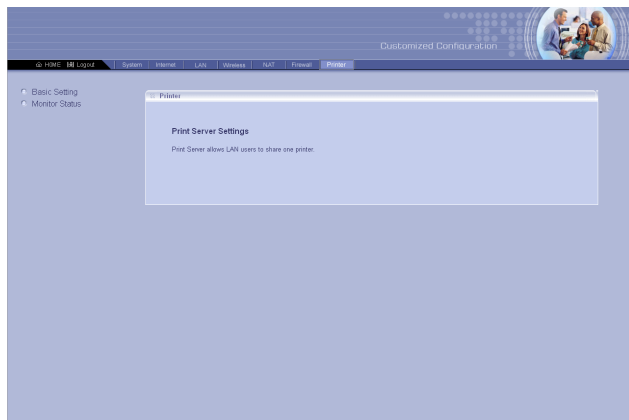
If you have a local client PC that cannot run an Internet application properly from behind the NAT firewall, you can open the client up to unrestricted two-way Internet access by defining a virtual DMZ. It also includes a list of DMZ if you have setup.

3.3.7 Printer

You can configure the print server settings in this window. This function allows the LAN users to share one printer.

This window includes:

- > Basic Setting
- > Monitor Status



> Basic Setting

This option allows you to configure the settings of the Print Server to share the printing service for LAN users.

Enable Print Server

Print Server Status	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Print Server IP	192.168.1.254
Printer Status	Offline

> Monitor Status

This option displays the information of the current printing tasks.

4

Using the Print Server

The wireless gateway provides a USB port to connect the USB printer, allowing you to built up a print server in your network easily and quickly. This chapter is to help you set up the LPD client on your PC.

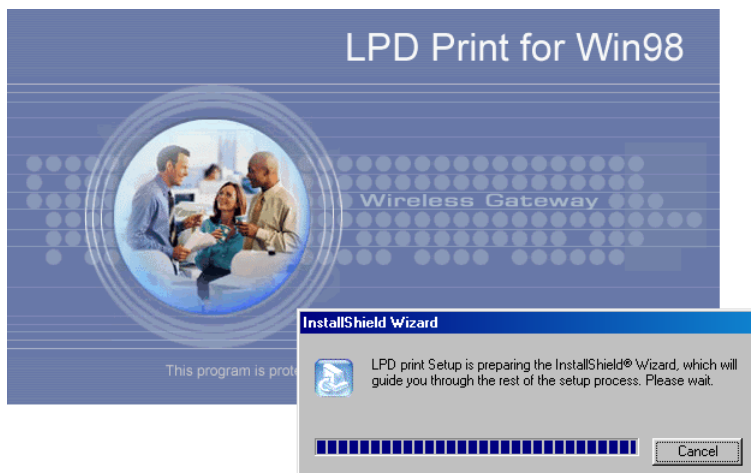
NOTE: The settings or values in the following diagrams are **FOR YOUR REFERENCE ONLY**. The actual settings and values depend on your system.

>>> 4.1 For Windows 98SE/ME User

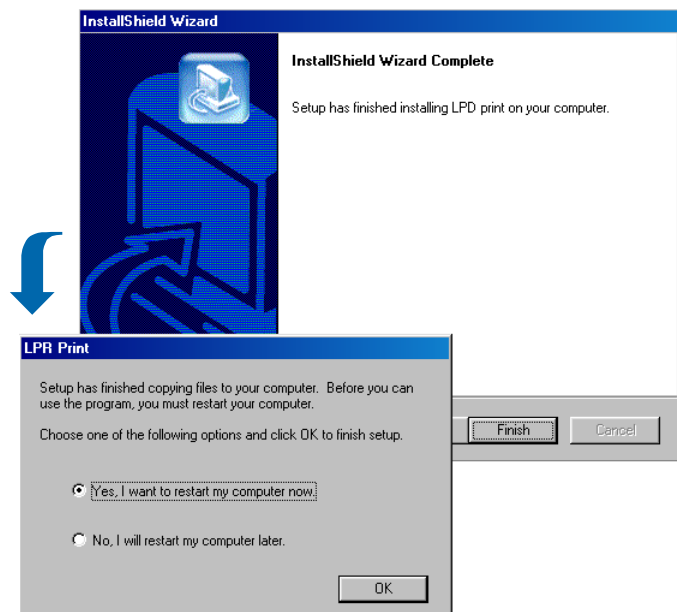
4.1.1 Installing the LPD Client Utility

For Windows 98SE/ME user, the LPD client utility should be installed in the computer before adding a printer.

1. Double-click the **D:\PrinterDriver\Setup.exe** in the software CD to launch the setup program, where **D** is the disk drive.



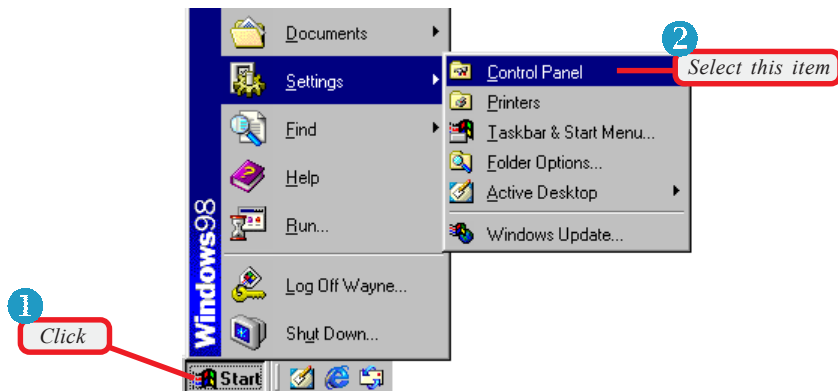
2. In the Welcome screen of the InstallShield Wizard, click **Next**.
3. Read the License Agreement, and click **Yes**.
4. In the following screen, click **Next** to start copying files.
5. When completed, click **Finish**. Then, choose **Yes** option and click **OK** to restart your computer.



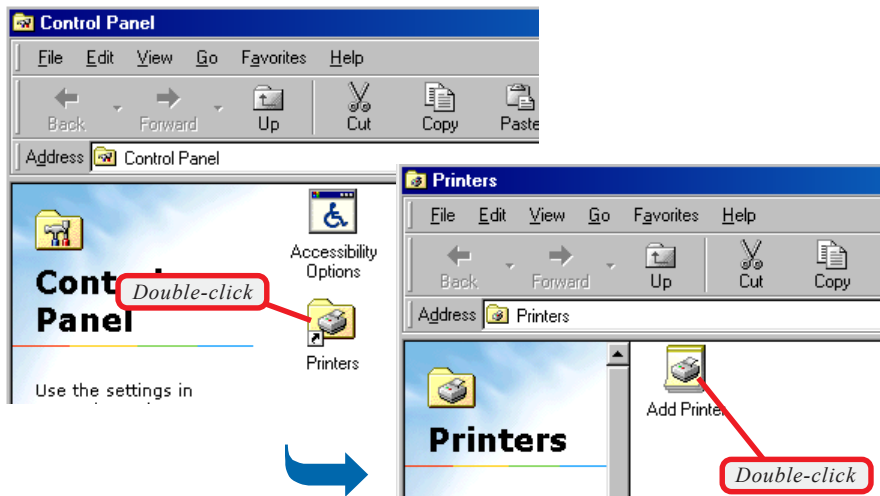
Then, you can install the driver for the printer connected to the wireless gateway.

4.1.2 Installing the Printer Driver

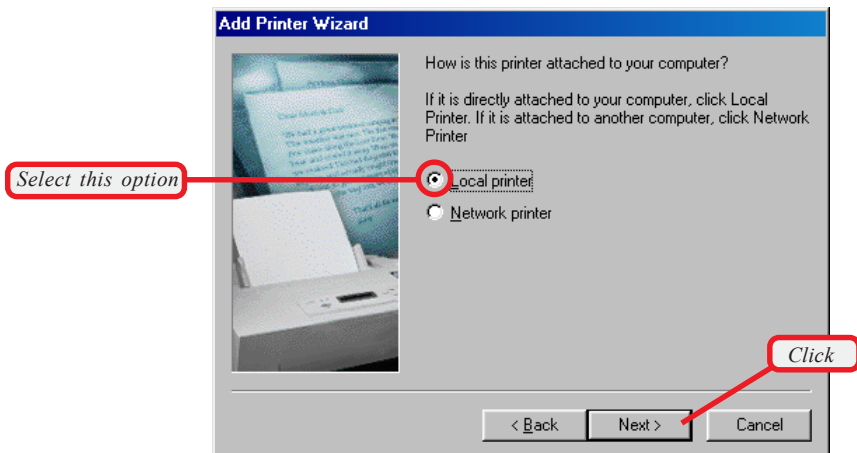
1. Click **Start** and choose **Settings**, then **Control Panel**.



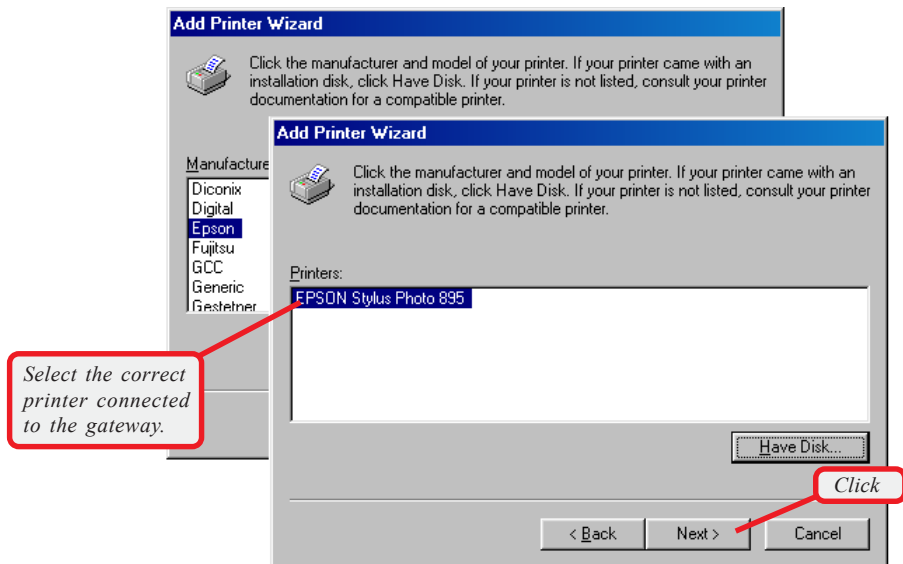
2. In the **Control Panel** window, double-click the **Printers** icon. Then, in the **Printers** window, double-click the **Add Printer** icon to launch the **Adding Printer Wizard**.



3. In **Adding Printer Wizard**, click **Next**, and then select **Local printer** and click **Next**.



4. Select the appropriate **Manufacturer** and **Printer type** from the lists to install the driver. Otherwise, click **Have disk...** to find the driver in specified location. Then, select the correct printer from the lists and click **Next**.



5. In the following windows, select the printer port and enter the printer name.

Tip: At this time, you can assign any port to this printer, such as **LPT1** (Windows default setting), and then configure the LPD port later (see the following section).

6. When completed, click **OK**.

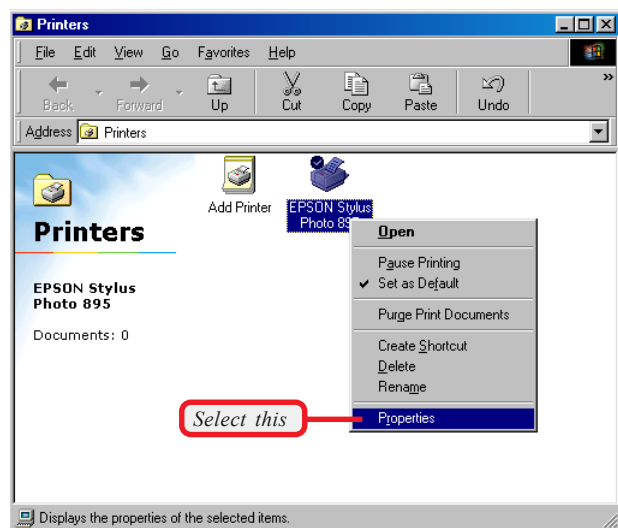
Now, you have added the printer successfully.

NOTE: For some printers of specified manufacturer, you may need to connect the printer to the computer to install the driver. In this case, connect the printer to the computer and install the driver first, and then remove the printer to connect it to the gateway.

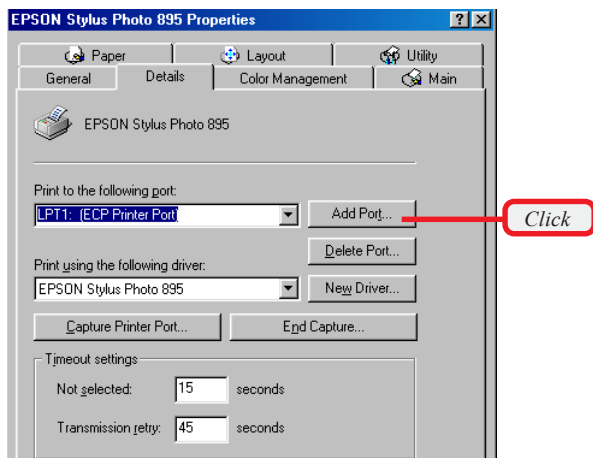
4.1.3 Configuring the LPD Port

Before configuring the LPD port, connect your computer to the wireless gateway first.

1. Open the **Control Panel** window, then the **Printers** window. In the **Printers** window, right-click the printer icon you added in the previous section, and select **Properties**.

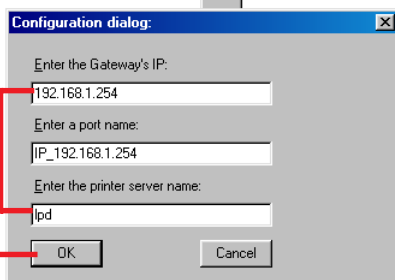
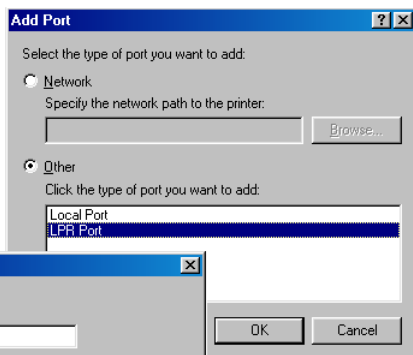


2. The printer's **Properties** window appears. Select the **Details** tab, and click **Add port....**



3. In the **Add Port** window, select **Other** option and then **LPR Port**; then, click **OK** to enter the printer's information. When completed, click **OK** to return to the printer's **Properties** window.

*The port name can be any one you like; however, the Gateway's IP address **MUST** be identical to the setting on your gateway.*



Enter the printer's information

Click

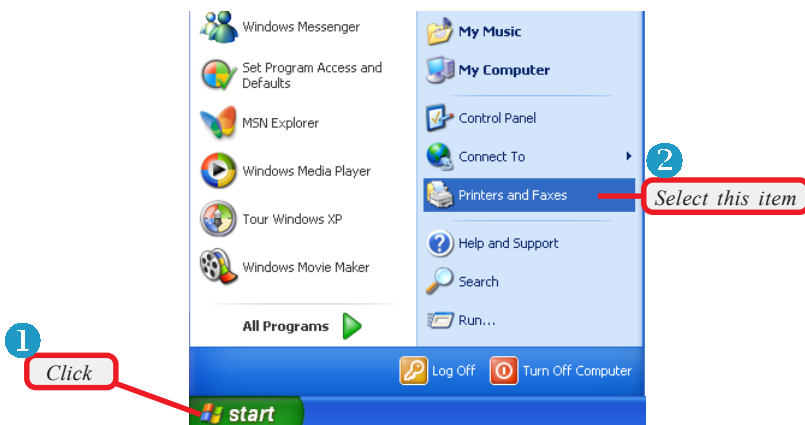
4. The port you added will appear in the list, please click **Apply** and then **OK** to complete the installation.
5. Anytime you want to configure the LPD port, select the port from the list and click **Port Settings....** The **Configuration dialog** window will appear allowing you to change the settings.

After clicking **OK** to finish configuring, you must click **Capture printer port** to update the port you modified. Finally, click **OK** to complete the installation.

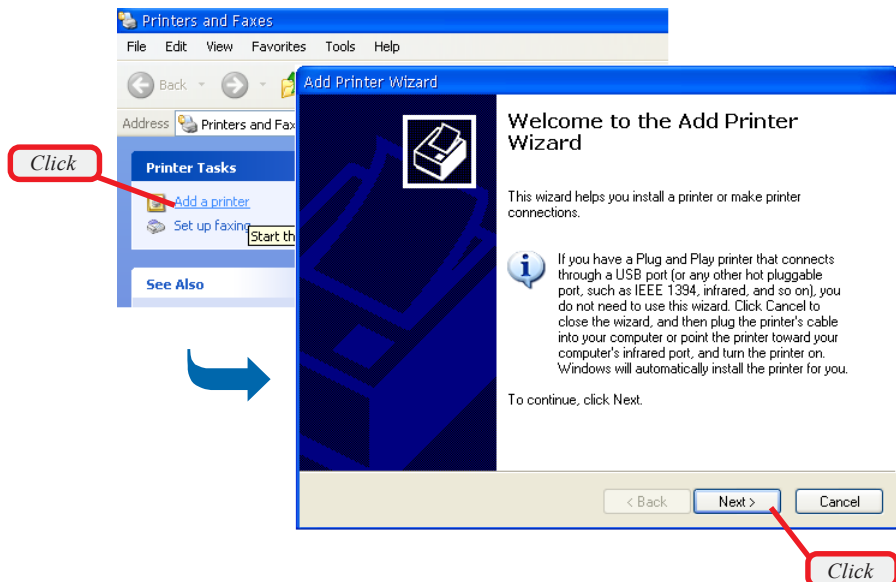
>>> 4.2 For Windows 2000/XP User

4.2.1 Installing the Printer Driver

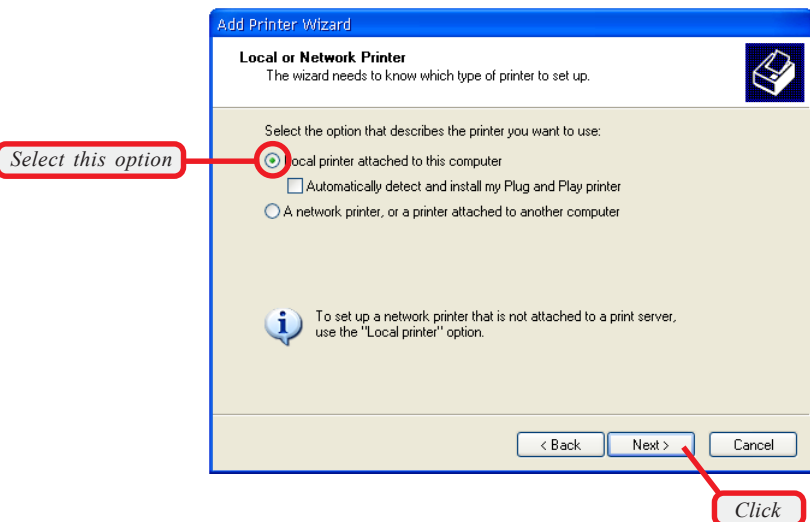
1. Click **Start** and choose **Printers and Faxes**.



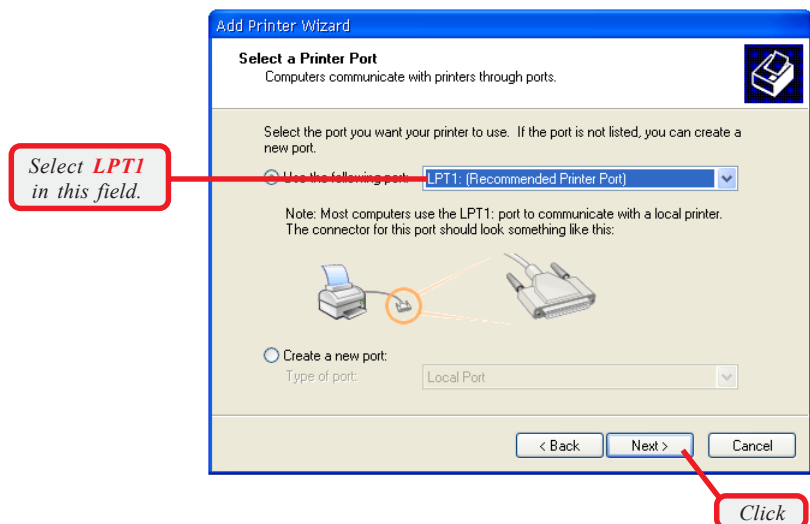
2. Click **Add Printer**, and then click **Next** in the **Adding Printer Wizard** window.



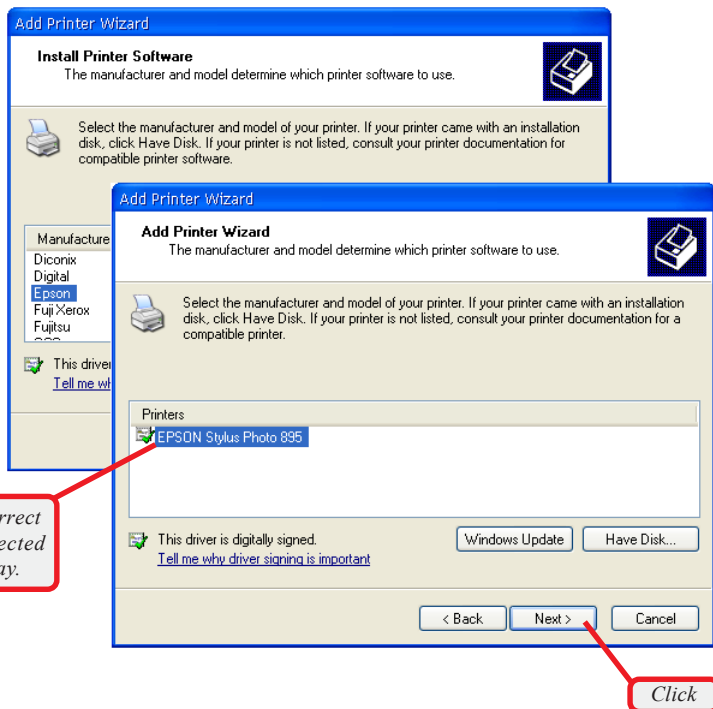
3. Select **Local printer attached to this computer** and click **Next**.



4. Select **LPT1** and click **Next**.



5. Select the appropriate **Manufacturer** and **Printers** from the lists to install the driver. Otherwise, click **Have disk...** to find the driver in specified location. Then, select the correct printer from the lists and click **Next**.

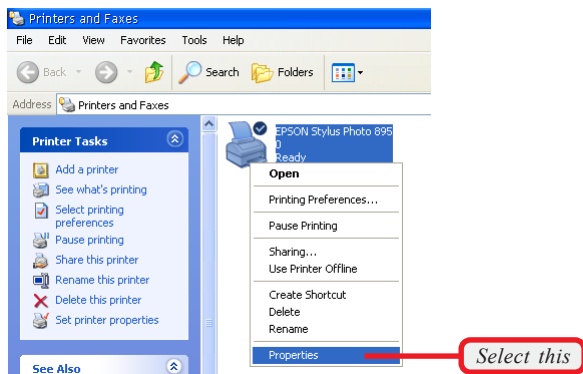


6. Enter a name for this printer, and click **Next**.
 7. In Print Test Page, choose **No** to skip the print test, and click **Next**.
 8. When completed, click **Finish** and the setup program start to copy files to your system.
- Now, you have added the printer successfully.

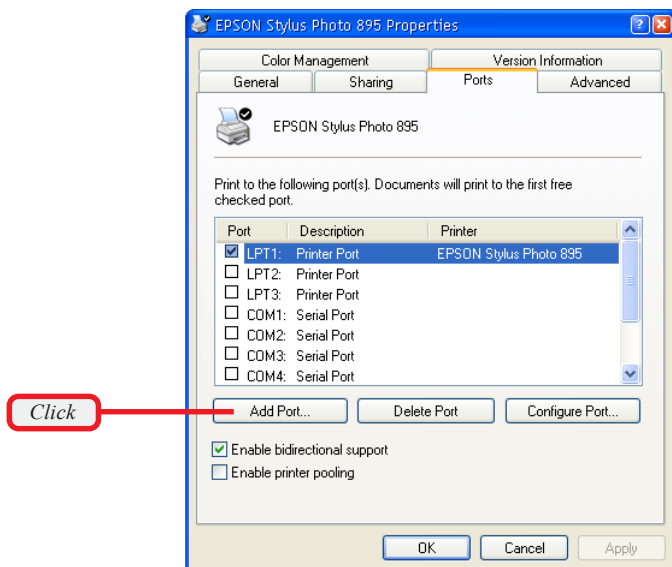
4.2.2 Configuring the LPD Port

Before configuring the LPD port, connect your computer to the wireless gateway first.

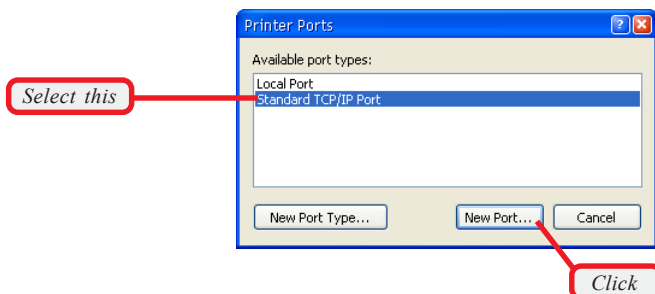
1. Open the **Control Panel** window, then the **Printers and Faxes** window. In the **Printers and Faxes** window, right-click the printer icon you added and select **Properties**.



2. The printer's **Properties** window appears. Select the **Ports** tab, and click **Add port...**

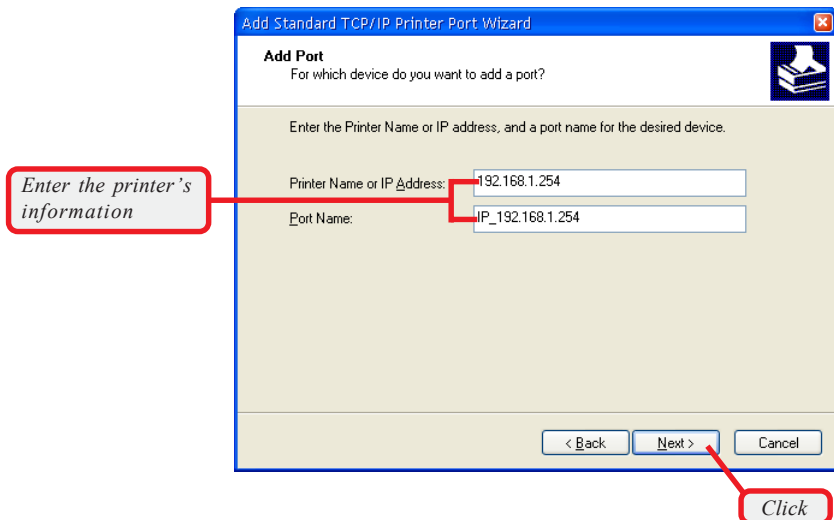


3. Select **Standard TCP/IP Port** and click **New Port...**



4. In the Welcome screen of Add Standard TCP/IP Printer Port Wizard, click **Next**.

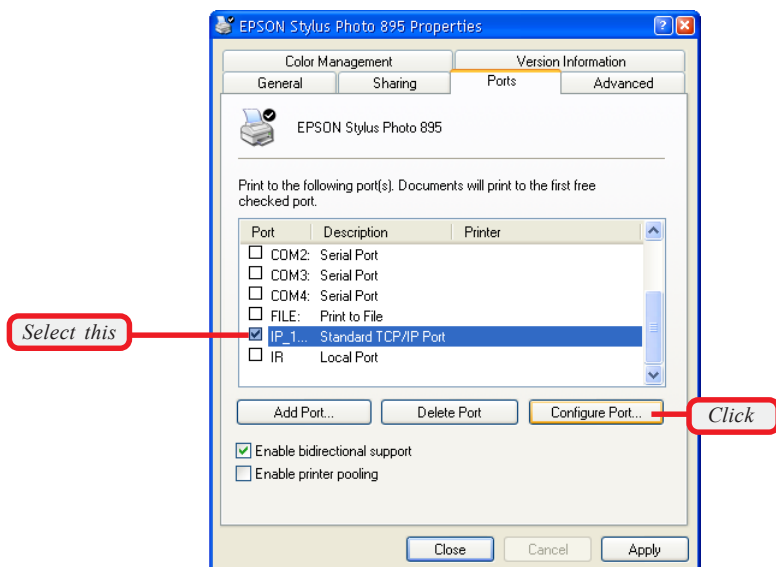
5. Enter the Printer Name (or IP Address) and Port Name, and click **Next**.



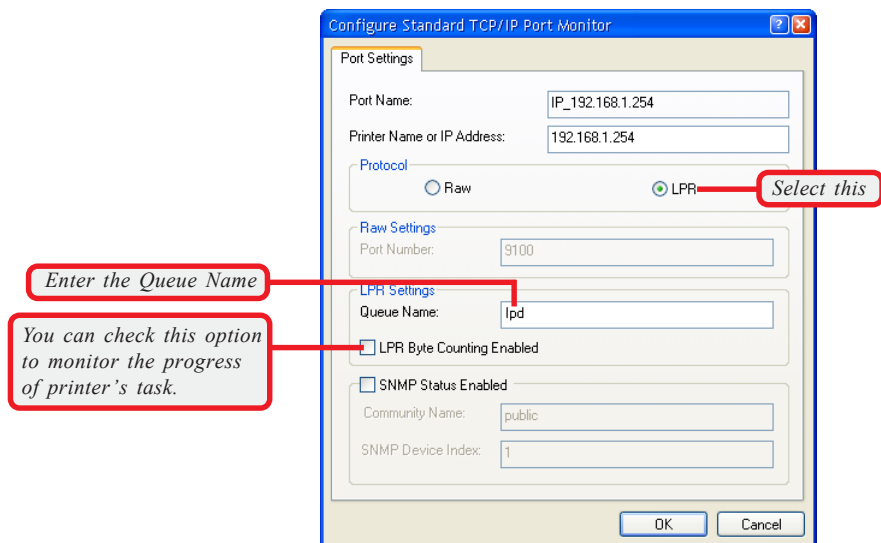
6. Select Device Type and click **Next**.

7. When completed, click **Finish**. You have added the Standard TCP/IP Port successfully. Click **Close** to return to the printer's **Properties** window, and new Standard TCP/IP Port will appear in the list.

8. Select the Standard TCP/IP Port and click **Configure Port...**



9. Select **LPR** protocol and then enter **Queue Name**, and then click **OK** to complete the configuration.



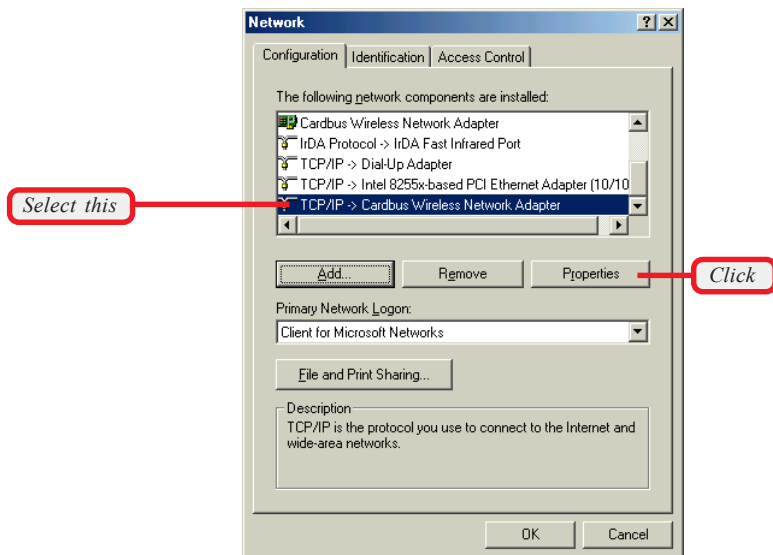
Appendix

A - Assigning a Fixed IP Address

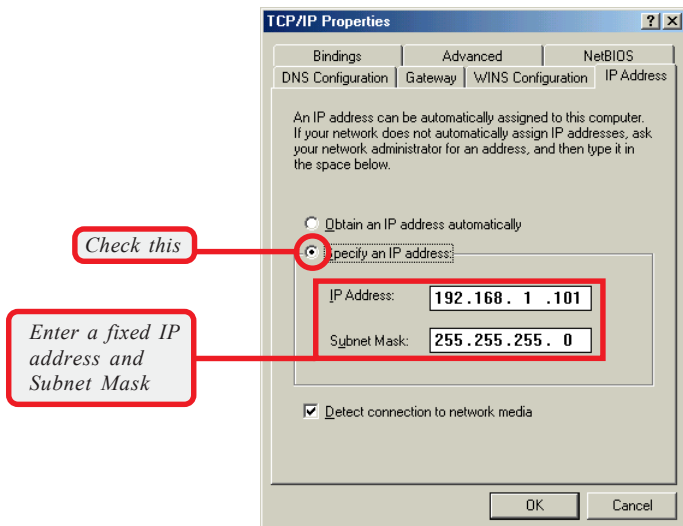
To configure the wireless gateway, sometimes you may need to assign a fixed IP address to this computer within the IP address range of the wireless gateway.

Q Under Windows 98SE/ME

1. Go to **Start -> Settings -> Control Panel**.
2. Double-click the **Network** icon.
3. The Network window appears as below. Select **TCP/IP** item, and click **Properties** to bring up the **TCP/IP Properties** window.



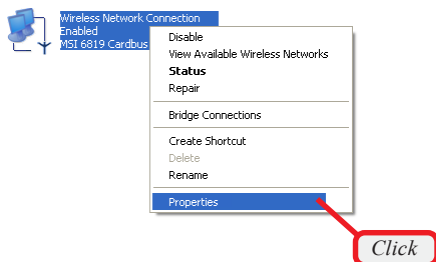
4. Choose **IP Address** tab and check **Specify an IP Address**. Then, enter an IP address into the empty field. Suggested IP Address Range is **192.168.1.1** to **192.168.1.253**, and suggested Subnet Mask is **255.255.255.0**.



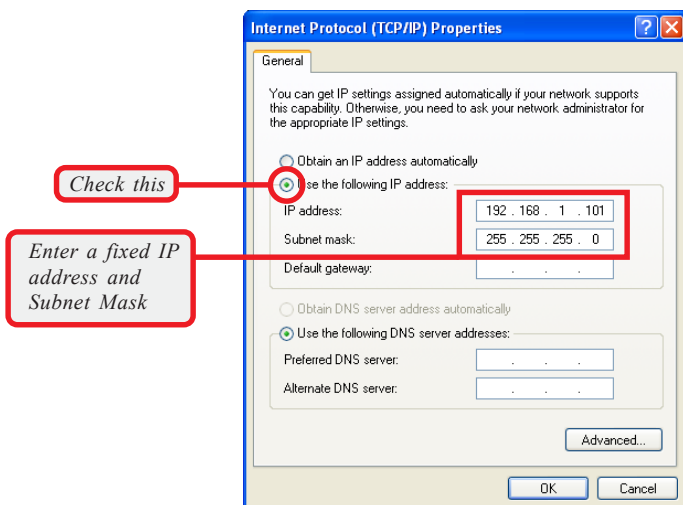
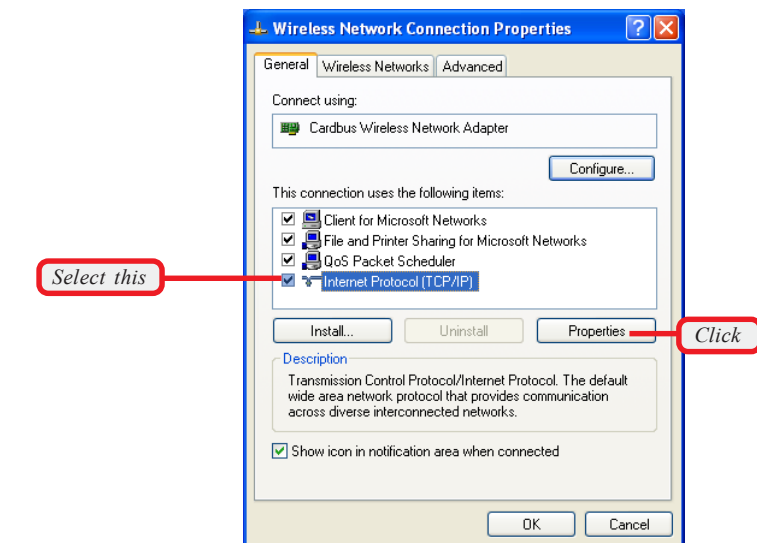
5. Click **OK**. Then, click **Yes** when prompted to reboot the computer.

Under Windows 2000/XP

1. Click **Start** and choose **Control Panel** to open the **Control Panel** window.
2. Double-click the **Network Connection** icon to open the **Network Connection** window.
3. Right-click the **Network Adapter** icon and click **Properties** from the shortcut menu.



4. When the **Connection Properties** window appears, choose **General** tab and select **Internet Protocol [TCP/IP]**, and click **Properties** to bring up the **Internet Protocol [TCP/IP] Properties** window.
5. Check **Use the following IP address**. Then, enter an IP address into the empty field. Suggested IP Address Range is **192.168.1.1** to **192.168.1.253**, and suggested Subnet Mask is **255.255.255.0**.



Configuring a fixed IP address

6. Click **OK** to complete the configuration.

B - Resuming the Previous Firmware

The wireless gateway allows you to upgrade its firmware conveniently from the Configuration Utility. It means that you can obtain the latest function and take most advantage of your wireless gateway. However, there is some risk when you are upgrading firmware, such as power failure. If, unfortunately, power failure occurs during upgrading firmware, the wireless gateway may not work anymore. To protect your investment, the wireless gateway provides a second way to resume the original firmware before upgrading, and keep the wireless gateway working normally.

To resume the firmware:

1. Connect the wireless gateway to a computer, and then connect the power cable. Assign a fixed IP address to this computer within the IP address range of the wireless gateway. (See *Appendix A* for instruction.)
2. Click **Start** at the taskbar and select **Run**.
3. If you are using Window 2000/XP operating system, type **cmd** in the Open box and press [Enter]. (For Windows 98SE/ME, you should type **command**.)
4. Type **tftp -i [host IP address] put [source]*** in the pop-up DOS window and press [Enter].
5. Wait for a few seconds, and the original firmware will be re-loaded into the wireless gateway. Then, you can enter the Configuration Utility and use the wireless gateway again.

* **host IP address** - the gateway's IP address, such as **192.168.1.254**.
source - the path and filename of the firmware, such as **D:\filename.gzh**.

Tip: Type **tftp** and press [Enter] in the DOS window can bring up the respective instruction for its parameter.