

# **User's Manual**

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## **FCC Interference 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 radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

## **CE Declaration of Conformity**

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B, and EN 50082-1. This meets the essential protection requirements of the European Council Directive 89/336/EEC on the approximation of the laws of the member states relation to electromagnetic compatibility.

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# Chapter 1 Introduction

Congratulations on your purchase of this outstanding Wireless Broadband Router. This product is specifically designed for Small Office and Home Office needs. It provides a complete SOHO solution for Internet surfing, and is easy to configure and operate even for non-technical users. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for fully exploiting the functions of this product.

## 1.1 Functions and Features

- **High speed for wireless LAN connection**  
11Mbps data rate by incorporating Direct Sequence Spread Spectrum (DSSS).
- **Roaming**  
Provides seamless roaming within the IEEE 802.11b WLAN infrastructure.
- **IEEE 802.11b compatible**  
Allowing inter-operation among multiple vendors.
- **Auto fallback**  
11M, 5M, 2M, 1M data rate with auto fallback.
- **Broadband modem and NAT Router**  
Connects multiple computers to a broadband (cable or DSL) modem or an Ethernet router to surf the Internet.
- **Auto-sensing Ethernet Switch**  
Equipped with a 4-port auto-sensing Ethernet switch.
- **VPN supported**  
Supports multiple PPTP sessions and allows you to setup VPN server and VPN clients.

- **Printer sharing (Optional)**

Embeds a print server to allow all of the networked computers to share one printer.

- **Firewall**

All unwanted packets from outside intruders are blocked to protect your Intranet.

- **DHCP server supported**

All of the networked computers can retrieve TCP/IP settings automatically from this product.

- **Web-based configuring**

Configurable through any networked computer's web browser using Netscape or Internet Explorer.

- **MAC Address Access Control supported**

Allows you to assign different access right for different users.

- **Virtual Server supported**

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

- **User-Definable Application Sensing Tunnel**

User can define the attributes to support the special applications requiring multiple connections, like Internet gaming, video conferencing, Internet telephony and so on, then this product can sense the application type and open multi-port tunnel for it.

- **DMZ Host supported**

Lets a networked computer be fully exposed to the Internet; this function is used when special application sensing tunnel feature is insufficient to allow an application to function correctly.

- **Firmware Upgradable**

Provides firmware upgrade via Web Browser or Windows Application.

## **1.2 Packing List**

- Wireless broadband router unit
- Installation CD-ROM
- Power adapter
- CAT-5 UTP Fast Ethernet cable

# Chapter 2 Hardware Installation

## 2.1 Panel Layout

### 2.1.1. Front Panel

The front panel features four 10/100 Mbps Ethernet ports, one Wide Area network (WAN) port and diagnostic LED indicators. The WAN port connects your DSL or cable modem to the router. The LAN ports are used to connect to your computers or other network devices. LEDs monitor the status of each port.



Figure 2-1 Front Panel

**Port:**

**WAN:** the port where you will connect your cable (or DSL) modem or Ethernet router.

**Port 1-4:** the ports where you will connect networked computers and other devices.

**UPLINK:** the port where you will connect another hub to expand your Intranet.

LED:

LED	Function	Color	Status	Description
POWER	Power indication	Green	On	Power is being applied to this product.
M1	System status 1	Orange	Blinking	This product is functioning properly.
M2	System status 2	Orange	On	This product is working for some service.
			Blinking	This product is being configured or upgraded. <b>Don't turn it off!</b>
LAN	LAN port activity	Green	On	The LAN port is linked.
			Blinking	The LAN port is sending or receiving data.
WLAN	Wireless activity	Green	Blinking	Sending or receiving data via wireless
Link/Act. 1~4	Link status	Green	On	An active station is connected to the corresponding LAN port.
			Blinking	The corresponding LAN port is sending or receiving data.
10/100 1~4	Data Rate	Green	On	Data is transmitting in 100Mbps on the corresponding LAN port.

## 2.1.2. Rear Panel

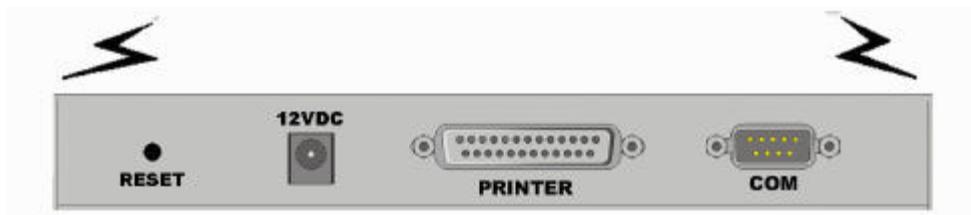


Figure 2-2 Rear Panel

Ports:

Port	Description
<b>RESET</b>	To reset system settings to factory defaults, please follow the steps: <ol style="list-style-type: none"><li>1. Power off the device,</li><li>2. Press the reset button and hold,</li><li>3. Power on the device,</li><li>4. Keep the button pressed about 5 seconds,</li><li>5. Release the button,</li><li>6. Watch the M1 and M2 LEDs, they will flash 8 times and then M1 flash once per second.</li></ol>
<b>12VDC</b>	Power inlet: DC 12V, 1.2A (minimum)
<b>PRINTER</b>	Printer Port (Optional)
<b>COM</b>	Serial port (connect analog modem or console cable)

## 2.2 Procedure for Hardware Installation

### 1. Decide where to place your Wireless Broadband Router:

You can place your Wireless Broadband Router on a desk or other flat surface, or you can mount it on a wall. For optimal performance, place your Wireless Broadband Router in the center of your office (or your home) in a location that is away from any potential source of interference, such as a metal wall or microwave oven.

## 2. Setup LAN connection:

- a. Wired LAN connection: connects an Ethernet cable from your computer's Ethernet port to one of the LAN ports of this product.
- b. Wireless LAN connection: locate this product at a proper position to gain the best transmit performance.

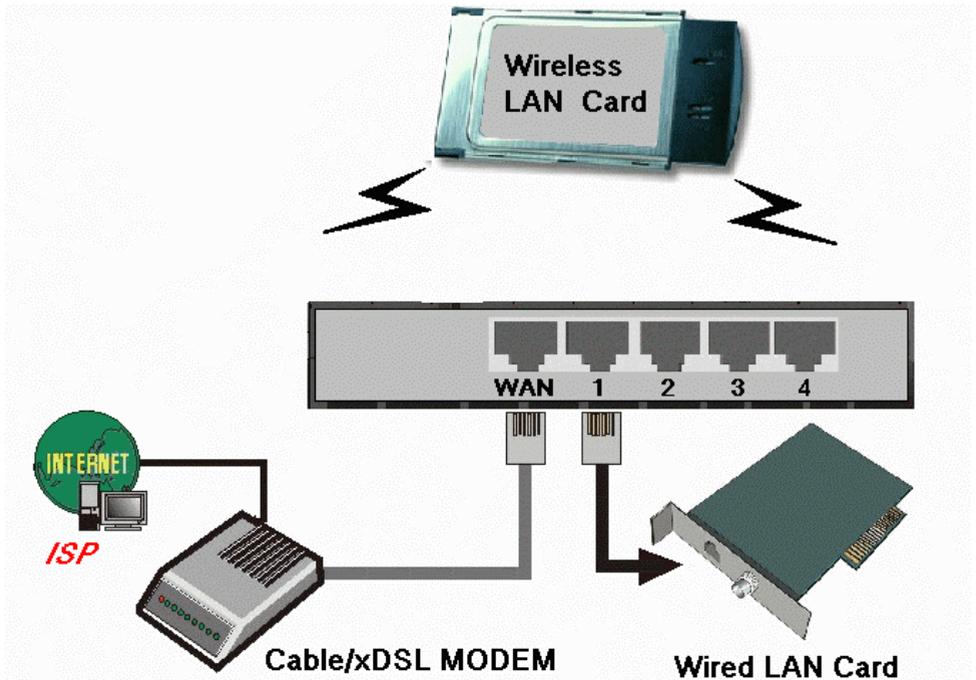


Figure 2-3 Setup of LAN and WAN connections for this product.

3. **Setup WAN connection:** prepare an Ethernet cable for connecting this product to your cable/xDSL modem or Ethernet backbone. Figure 2-3 illustrates the WAN connection.

**4. Connecting this product with your printer:** use the printer cable to connect your printer to the printer port of this product. (Optional)

**5. Power on:**

Connecting the power cord to power inlet and turning the power switch on, this product will automatically enter the self-test phase. When it is in the self-test phase, the indicators M1 and M2 will be lighted ON for about 10 seconds, and then M1 and M2 will be flashed 3 times to indicate that the self-test operation has finished. Finally, the M1 will be continuously flashed once per second to indicate that this product is in normal operation.

# Chapter 3 Network Settings and Software Installation

To use this product correctly, you have to properly configure the network settings of your computers and install the attached setup program into your MS Windows platform (Windows 95/98/NT/2000).

## 3.1 Make Correct Network Settings of Your Computer

The default *IP address* of this product is 192.168.123.254, and the default *subnet mask* is 255.255.255.0. These addresses can be changed on your need, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to *Appendix A* to configure it. For example,

1. configure *IP* as 192.168.123.1, *subnet mask* as 255.255.255.0 and *gateway* as 192.168.123.254, or more easier,
2. configure your computers to load TCP/IP setting automatically, that is, via DHCP server of this product.

After installing the TCP/IP communication protocol, you can use the *ping* command to check if your computer has successfully connected to this product. The following example shows the ping procedure for Windows 95 platforms. First, execute the *ping* command

```
ping 192.168.123.254
```

If the following messages appear:

```
Pinging 192.168.123.254 with 32 bytes of data:
```

```
Reply from 192.168.123.254: bytes=32 time=2ms TTL=64
```

a communication link between your computer and this product has been successfully established. Otherwise, if you get the following messages,

```
Pinging 192.168.123.254 with 32 bytes of data:
```

```
Request timed out.
```

there must be something wrong in your installation procedure. You have to check the following items in sequence:

1. *Is the Ethernet cable correctly connected between this product and your computer?*

**Tip:** The LAN LED of this product and the link LED of network card on your computer must be lighted.

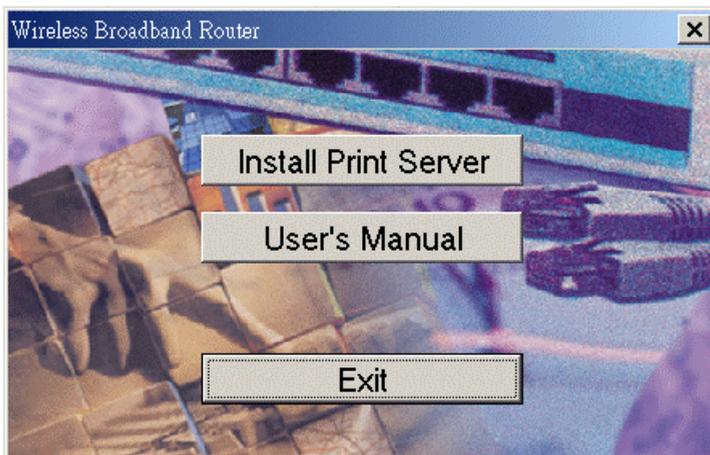
2. *Is the TCP/IP environment of your computers properly configured?*

**Tip:** If the IP address of this product is 192.168.123.254, the IP address of your computer must be 192.168.123.X and default gateway must be 192.168.123.254.

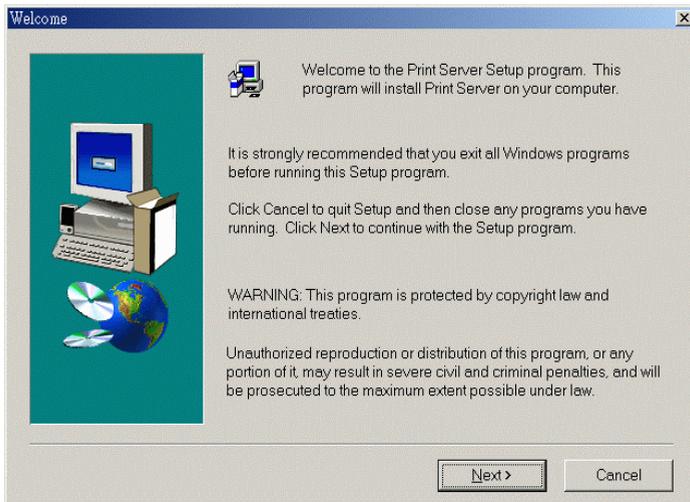
### **3.2 Install the Software into Your Computers**

*Skip this section if you do not want to use the print server function of this product.*

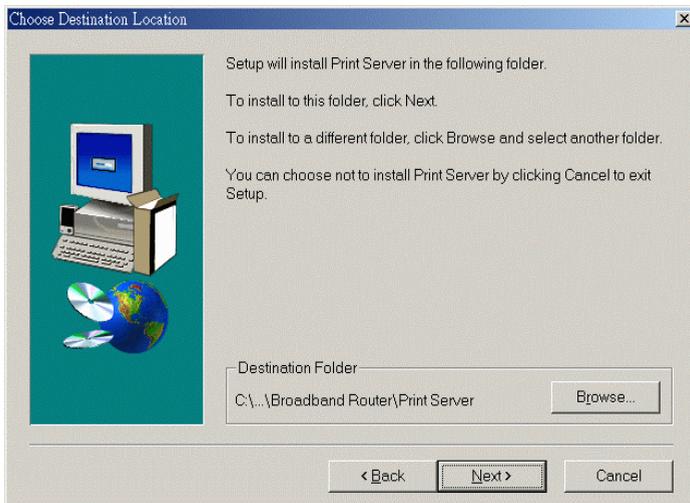
Step 1: Insert the installation CD-ROM into the CD-ROM drive. The following window will be shown automatically. If it isn't, please run "install.exe" on the CD-ROM.



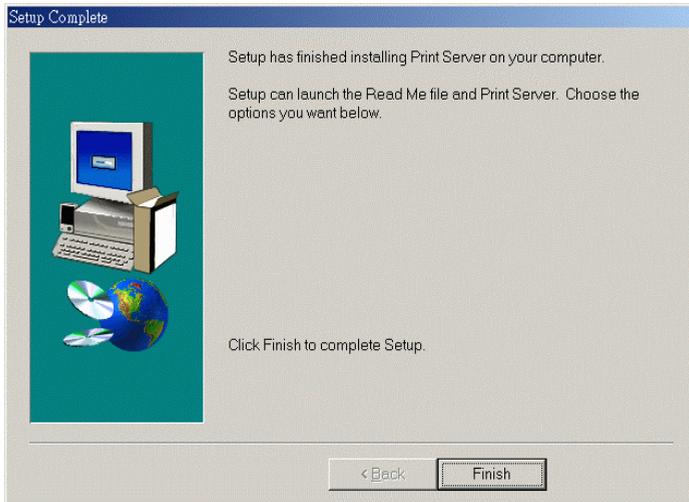
Step 2: Click on the **INSTALL** button. Wait until the following **Welcome** dialog to appear, and click on the **Next** button.



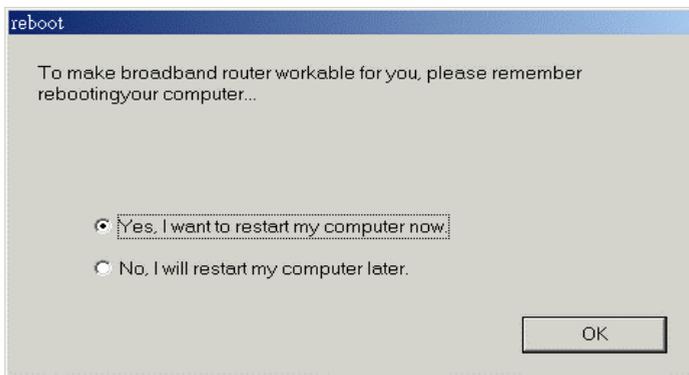
Step 3: Select the destination folder and click on the **Next** button. Then, the setup program will begin to install the programs into the destination folder.



Step 4: When the following window is displayed, click on the **Finish** button.



Step 5: Select the item to restart the computer and then click the **OK** button to reboot your computer.



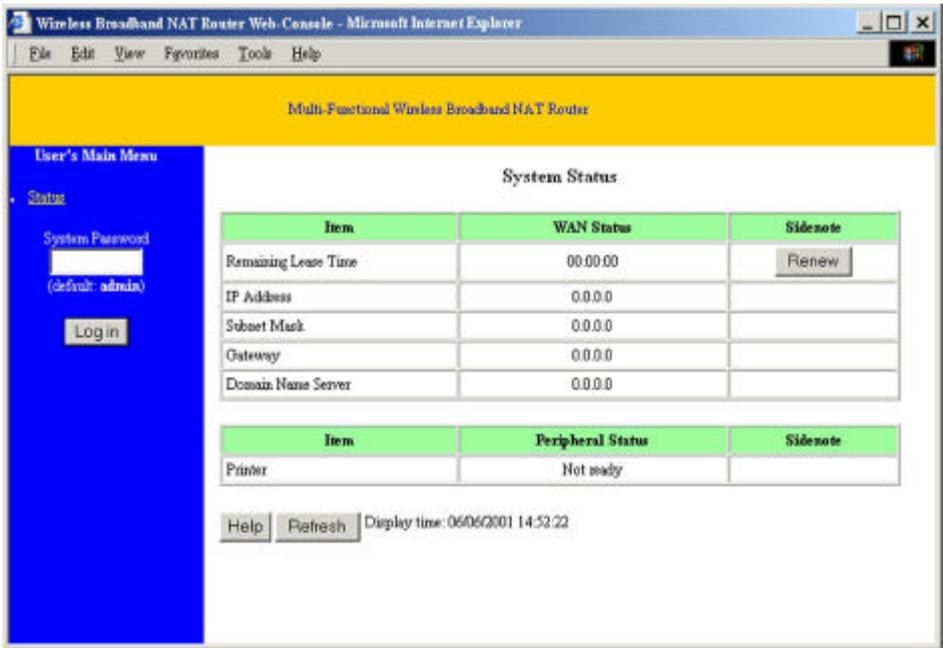
Step 6: After rebooting your computer, the software installation procedure is finished.

Now, you can configure the NAT Router (refer to Chapter 4) and setup the Print Server (refer to Chapter 5).

# Chapter 4 Configuring Wireless Broadband Router

This product provides Web based configuration scheme, that is, configuring by your Web browser, such as Netscape Communicator or Internet Explorer. This approach can be adopted in any MS Windows, Macintosh or UNIX based platforms.

## 4.1 Start-up and Log in



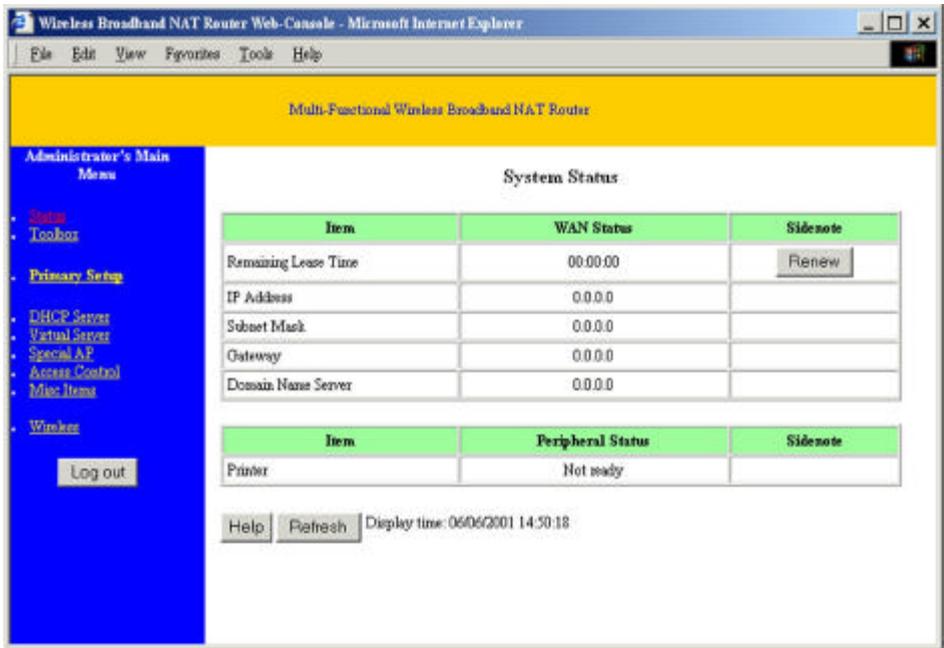
Activate your browser, and *disable the proxy* or *add the IP address of this product into the exceptions*. Then, type this product's IP address (the factory setting is **192.168.123.254**) in the *Location* (for Netscape) or *Address* (for IE) field and press ENTER.

After the connection is established, you will see the web user interface of this product. There are two appearances of web user interface: *for general users* and *for system*

*administrator.*

To log in as an administrator, enter the system password (the factory setting is "admin") in the **System Password** field and click on the **Log in** button. If the password is correct, the web appearance will be changed into administrator configure mode. As listed in its main menu, there are several options for system administration.

## 4.2 Status



This option provides the function for observing this product's working status:

A. WAN Port Status.

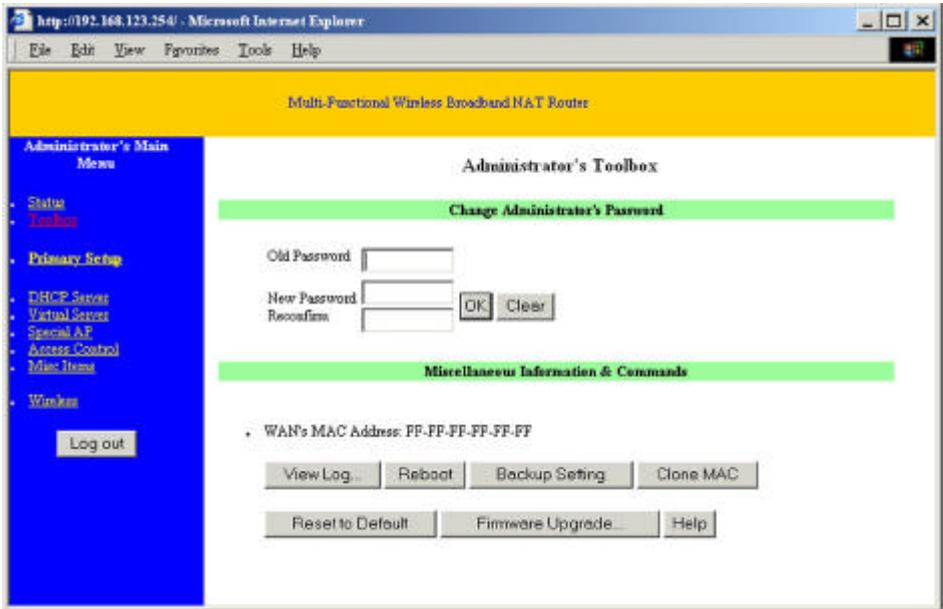
If the WAN port is assigned a dynamic IP, there may appear a **“Renew”** or **“Release”** button on the *Sidenote* column. You can click this button to renew or release IP manually.

B. Modem Status.

C. Printer Status. The possible kinds of printer status include “Ready”, “Not ready”, “Printing...”, and “Device error”.

*When a job is printing, there may appear a “Kill Job” button on the Sidenote column. You can click this button to kill current printing job manually.*

## 4.3 Toolbox



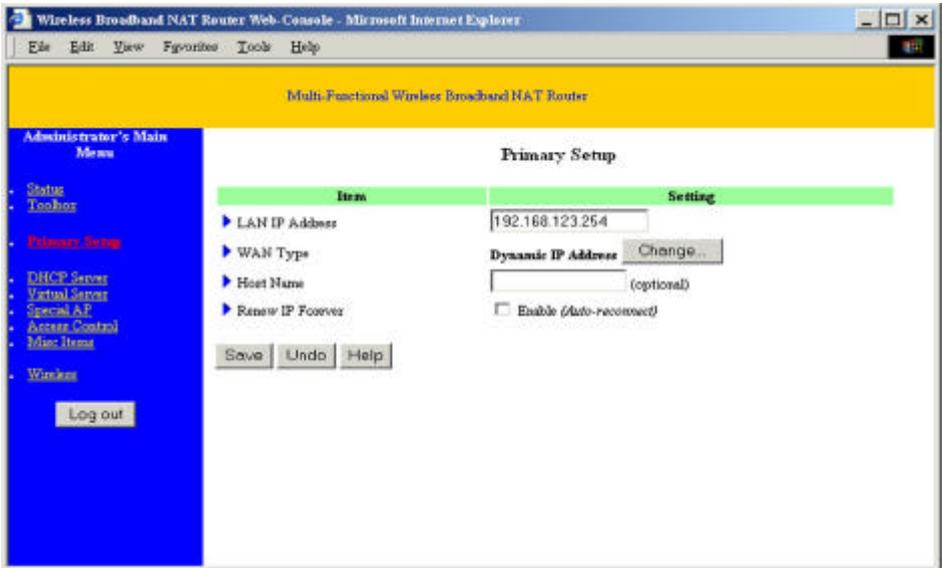
This option enables you to change the administrator password. Besides, you can get the information about *Firmware version* and *WAN's MAC Address*.

There are some useful buttons in this page:

- |                         |  |
|-------------------------|--|
| <b>View Log</b>         | View the system logs   |
| <b>Reboot</b>           | Reboot this device   |
| <b>Backup Setting</b>   | You can backup your settings by clicking this button and save it as a bin file. Once you want to restore these settings, please click <b>Firmware Upgrade</b> button and use the bin file you saved. |
| <b>Reset to Default</b> | Reset the settings of this device to the default values  |
| <b>Firmware Upgrade</b> | Prompt the administrator for a file and upgrade it to this device  |

**Note:** we strongly recommend you to change the system password for security reason.

## 4.4 Primary Setup



This option is primary to enable this product to work properly. The setting items and the web appearance depend on the WAN type. Choose correct WAN type before you start.

1. **LAN IP Address**: the local IP address of this device. The computers on your network must use the LAN IP address of your product as their Default Gateway. You can change it if necessary.
2. **WAN Type**: WAN connection type of your ISP. You can click **Change** button to choose a correct one from the following four options:
  - A. *Static IP Address*: ISP assigns you a static IP address.
  - B. *Dynamic IP Address*: Obtain an IP address from ISP automatically.
  - C. *PPP over Ethernet*: Some ISPs require the use of PPPoE to connect to their services.
  - D. *Dial-up Network*: To surf the Internet via PSTN/ISDN.

#### **4.4.1 Static IP Address**

*WAN IP Address, Subnet Mask, Gateway, Primary and Secondary DNS*: enter the proper setting provided by your ISP.

#### **4.4.2 Dynamic IP Address**

1. *Host Name*: optional. Required by some ISPs, for example, @Home.
2. *Renew IP Forever*: this feature enables this product to renew your IP address automatically when the lease time is expiring-- even when the system is idle.

#### **4.4.3 PPP over Ethernet**

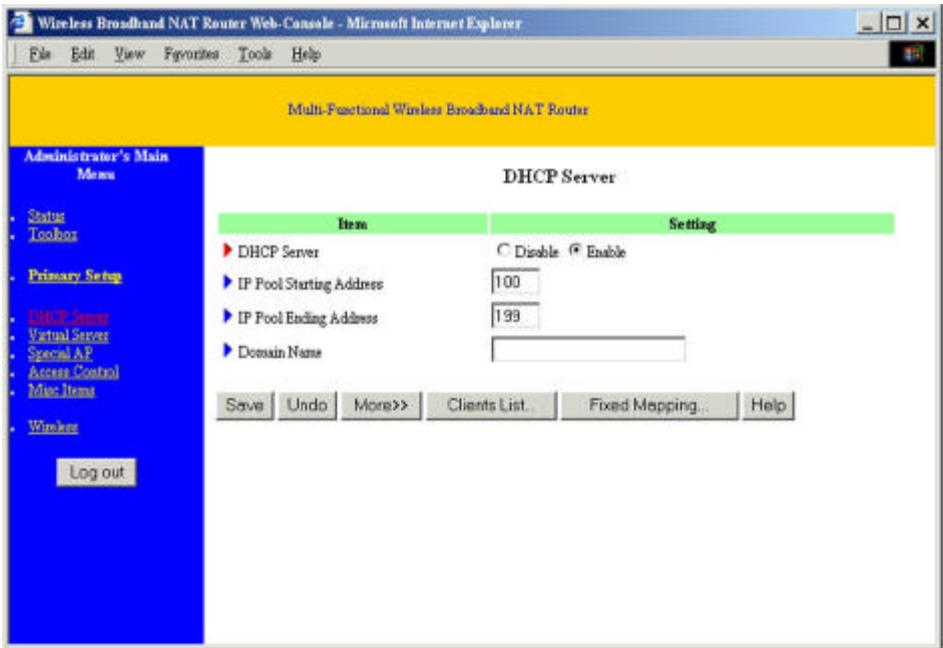
1. *PPPoE Account and Password*: the account and password your ISP assigned to you. For security, this field appears blank. If you don't want to change the password, leave it empty.
2. *PPPoE Service Name*: optional. Input the service name if your ISP requires it. Otherwise, leave it blank.
3. *Maximum Idle Time*: the amount of time of inactivity before disconnecting your PPPoE session. Set it to zero or enable Auto-reconnect to disable this feature.

#### **4.4.4 Dial-up Network**

1. *Dial-up Telephone, Account and Password*: assigned by your ISP. For security, this field appears blank. If you don't want to change the password, leave it empty.
2. *Primary and Secondary DNS*: If they are configured as "0.0.0.0.", they will be automatically assigned upon connection.
3. *Maximum Idle Time*: the amount of time of inactivity before disconnecting your dial-up session.
4. *Baud Rate*: the communication speed between this product and your MODEM or ISDN TA.
5. *Extra Setting*: (initialization string) optional. Used to optimize the communication

quality between the ISP and your MODEM or ISDN TA

## 4.5 DHCP Server



The settings of a TCP/IP environment include host IP, Subnet Mask, Gateway, and DNS configurations. It is not easy to manually configure all the computers and devices in your network. Fortunately, *DHCP Server* provides a simple approach to handle all these settings. This product supports the function of DHCP server. If you enable this product's DHCP server and configure your computers as "automatic IP allocation" mode, then when your computer is powered on, it will automatically load the proper TCP/IP settings from this product. The settings of DHCP server include the following items:

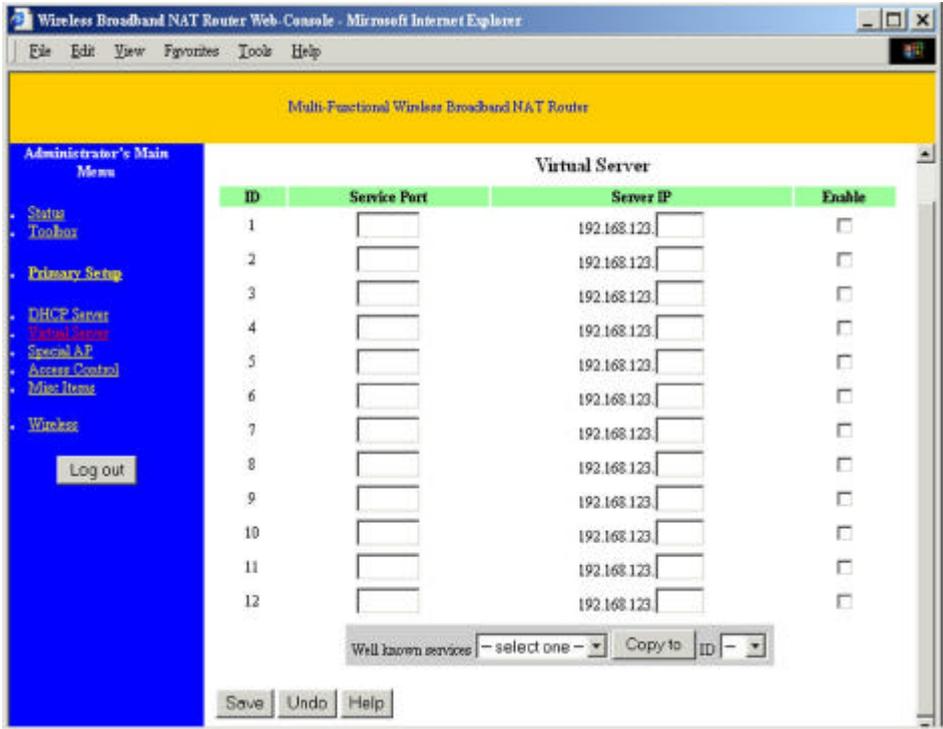
1. **DHCP Server:** Choose "Disable" or "Enable."
2. **Range of IP Address Pool:** Whenever there is a request, the DHCP server will automatically allocate an unused IP address from the *IP address pool* to the requesting computer. You must specify the starting and ending address of the IP address pool.

3. **Domain Name:** Optional, this information will be passed to the client.

**Clients List** List the current mapping of the IP and MAC address for each DHCP client.

**Fixed Mapping** In general, DHCP server assigns an IP address chosen from the IP addresses pool randomly. **Fixed Mapping** allows you to assign a specific IP address to the specified MAC address.

## 4.6 Virtual Server



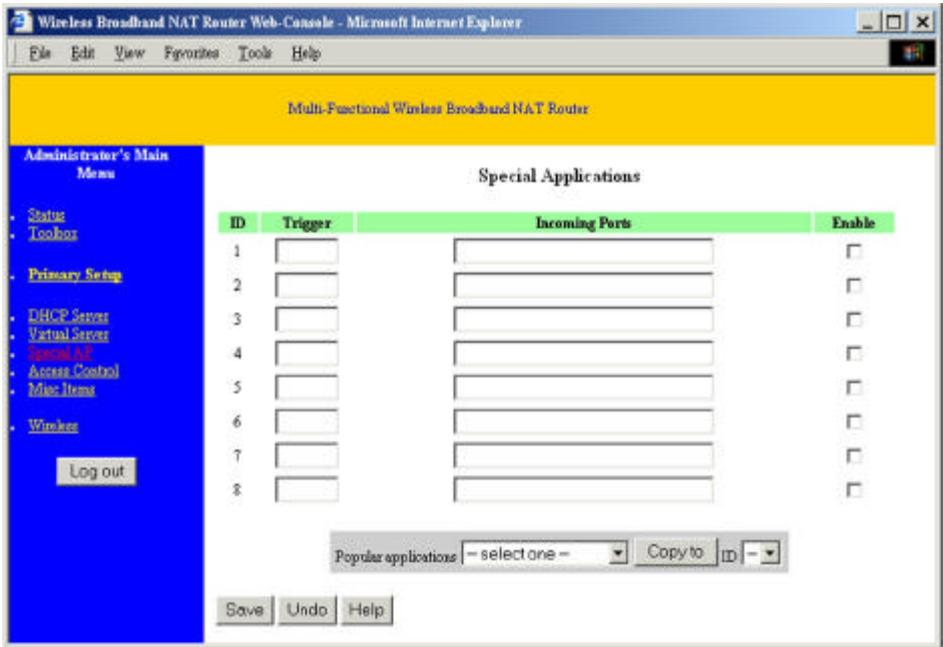
This product's NAT firewall filters out unrecognized packets to protect your Intranet, so all hosts behind this product are invisible to the outside world. If you wish, you can make some of them accessible by enabling the *Virtual Server Mapping*.

A virtual server is defined as a **Service Port**, and all requests to this port will be redirected to the computer specified by the **Server IP**.

For example, if you have an FTP server (port 21) at 192.168.123.1, a Web server (port 80) at 192.168.123.2, and a VPN server at 192.168.123.6, then you need to specify the following virtual server mapping table:

Service Port	Server IP	Enable
21	192.168.123.1	V
80	192.168.123.2	V
1723	192.168.123.6	V

## 4.7 Special AP



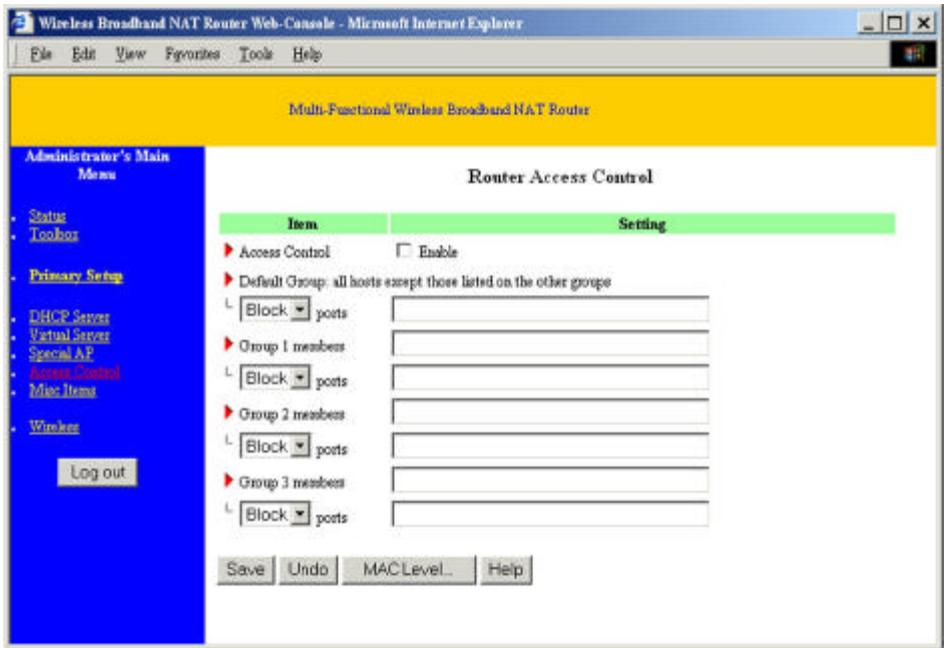
Some applications require multiple connections, like Internet games, Video conferencing, Internet telephony, etc. Because of the firewall function, these applications cannot work with a pure NAT router. The **Special Applications** feature allows some of these applications to work with this product. If the mechanism of *Special Applications* fails to make an application work, try setting your computer as the **DMZ** host instead.

1. **Trigger**: the outbound port number issued by the application.
2. **Incoming Ports**: when the trigger packet is detected, inbound packets sent to the specified port numbers are allowed to pass through the firewall.

This product provides some predefined settings. Select your application and click **Copy to** to add the predefined setting to your list.

Note: At any given time, only one PC can use each Special Application.

## 4.8 Access Control



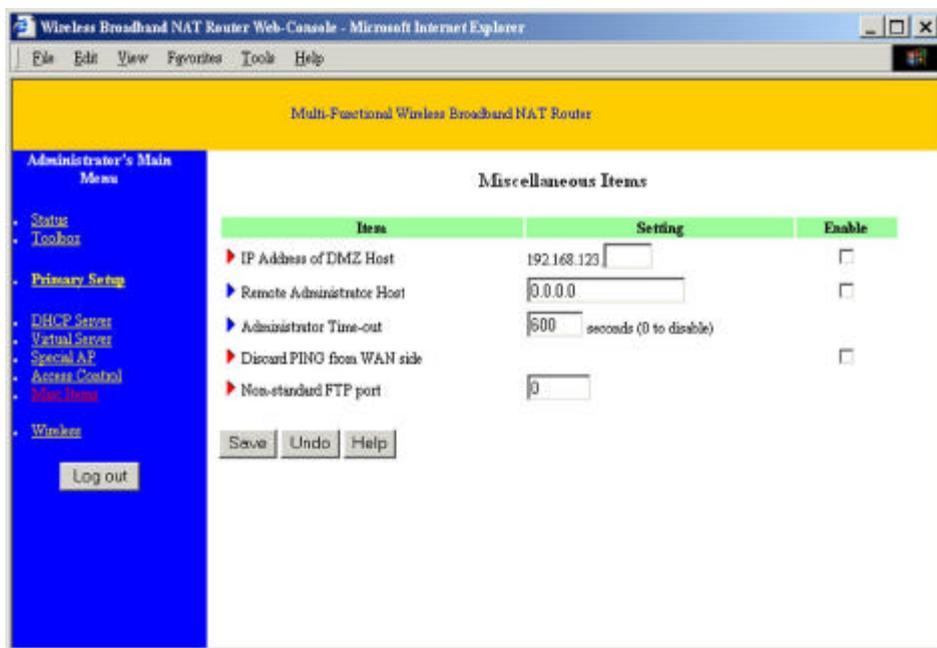
Access Control allows you to assign different access right for different users. First, you have to divide users into different groups. Users are identified by their IP addresses. You can assign the members of Group 1, 2 and 3. The others are all members of Default Group. Second, you have to assign the access right for each group. Access right can allow or block for access specified TCP and UDP ports. For example:

Group	Members	Access Right	Comments
Default	-	Allow ()	No access right (allow nothing)
Group 1	50-99	Allow (25,53)	Can browse(80), receive(110) and send(25) email only
Group 2	100-199	Block (21,119)	Cannot read net news(119) and FTP(21) only
Group 3	1-9,20	Block ()	Fully access (block nothing)

***MAC Level***

The basic Access Control is based on the IP address only. If a user is able to change his IP address, the user will be out of control. The MAC level access control allows you to control the mapping of MAC addresses and IP addresses. You can also control which MAC address is allowed to connect to this device.

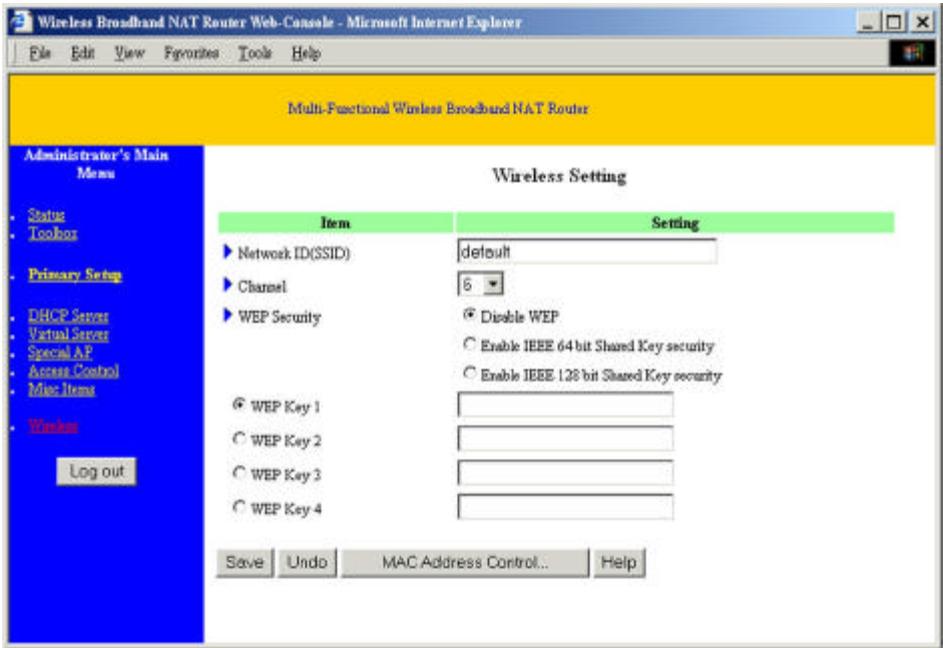
## 4.9 Misc. Items



1. **IP Address of DMZ Host:** The DMZ (Demilitarized Zone) Host is a host without the protection of a firewall. It allows a computer to be exposed to unrestricted 2-way communication for Internet games, video conferencing, Internet telephony and other special applications. (Note that this feature should be used only when needed.)
2. **Remote Administrator Host:** In general, only Intranet users can browse the built-in web pages to perform administration task. If this feature is enabled, only the specified IP address can perform remote administration. If the specified IP address is 0.0.0.0, any remote host can connect to the product to perform administration tasks. When this feature is enabled, the web port will be shifted to 88.
3. **Administrator Time-out:** The amount of time of inactivity before the product will automatically close the Administrator session. Set this to zero to disable it.

4. ***Discard PING from WAN side***: When this feature is enabled, hosts on the WAN cannot ping this product.
5. ***Non-standard FTP port***: You have to configure this item if you want to access an FTP server whose port number is not 21. *This setting will be lost after rebooting.*

## 4.10 Wireless Setting



Wireless settings allow you to set the wireless configuration items.

1. **Network ID(SSID):** Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this product and other Access Points that have the same Network ID. (The factory setting is “*default*”)
2. **Channel:** The radio channel number. The permissible channels depend on the Regulatory Domain. The factory setting is as follows:

USA/Canada Europe/Australia (ETSI) Japan (All)	Channel 6
Spain, France	Channel 10
Japan	Channel 14

3. **WEP Security:** Select the data privacy algorithm you want. Enabling the security can protect your data while it is transferred from one station to another. The standardized

IEEE 802.11 WEP (64-bit or 128-bit) is used here.

4. **WEP Key 1, 2, 3 & 4:** When you enable the 64-bit or 128-bit WEP key security, please select one WEP key to be used and then input 10 or 26 hex-decimal (0-9, A-F) digits.

**MAC Address Control** Setup MAC addresses to control which wireless clients can associate to the wireless LAN.

## 4.11 MAC Address Control

The screenshot shows the 'MAC Address Control' page in a web browser. The browser title is 'Wireless Broadband NAT Router Web-Console - Microsoft Internet Explorer'. The page title is 'Multi-Functional Wireless Broadband NAT Router'. The main content area is titled 'MAC Address Control' and contains the following elements:

- MAC Address Control**  Enable
- Connection control: Wireless and wired clients with C checked can connect to this device, and unspecified MAC addresses to connect. (Dropdown: allow)
- Association control: Wireless clients with A checked can associate to the wireless LAN, and unspecified MAC addresses to associate. (Dropdown: deny)
- Table:**

ID	MAC Address	IP Address	C	A
1	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="text"/>	192.168.123. <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below the table is a 'DHCP clients' dropdown menu with the text '- select one -' and a 'Copy to:' dropdown menu with 'ID' selected. At the bottom are buttons for 'Previous page', 'Next page', 'Save', 'Undo', and 'Help'.

MAC Address Control allows you to assign different access right for different users and to assign a specific IP address to a certain MAC address.

**MAC Address Control** Check "Enable" to enable the "MAC Address Control". All of the settings in this page will take effect only when "Enable" is checked.

**Connection control** Check "Connection control" to enable the controlling of which wired and wireless clients can connect to this device. If a client is denied to connect to this device, it means the client can't access to the Internet either. Choose "allow" or "deny" to allow or deny the clients, whose MAC addresses

are not in the "Control table" (please see below), to connect to this device.

***Association control***

Check "Association control" to enable the controlling of which wireless client can associate to the wireless LAN. If a client is denied to associate to the wireless LAN, it means the client can't send or receive any data via this device. Choose "allow" or "deny" to allow or deny the clients, whose MAC addresses are not in the "Control table", to associate to the wireless LAN.

***Control table***

"Control table" is the table at the bottom of the "MAC Address Control" page. Each row of this table indicates the MAC address and the expected IP address mapping of a client. There are four columns in this table:

<b>MAC Address</b>	MAC address indicates a specific client.
<b>IP Address</b>	Expected IP address of the corresponding client. Keep it empty if you don't care its IP address.
<b>C</b>	When " <b>Connection control</b> " is checked, check "C" will allow the corresponding client to connect to this device.
<b>A</b>	When " <b>Association control</b> " is checked, check "A" will allow the corresponding client to associate to the wireless LAN.

In this page, we provides the following Combobox and button to help you to input the MAC address.



The image shows a horizontal control bar with a light gray background. On the left, the text 'DHCP clients' is followed by a dropdown menu containing the text '-- select one --'. To the right of this is a button labeled 'Copy to'. Further right is another dropdown menu containing the text '--'.

You can select a specific client in the “DHCP clients” Combobox, and then click on the “Copy to” button to copy the MAC address of the client you select to the ID selected in the “ID” Combobox.

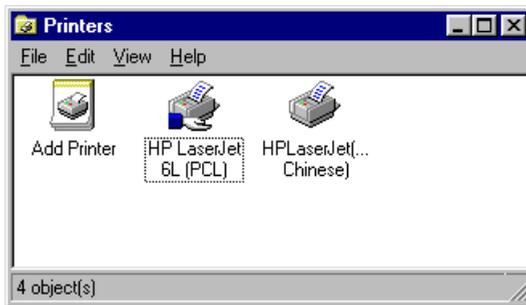
**Previous page and Next Page** To make this setup page simple and clear, we have divided the “Control table” into several pages. You can use these buttons to navigate to different pages.

## Chapter 5 Print Server

This product provides the function of network print server for MS Windows 95/98/NT/2000 and Unix based platforms. (If the product you purchased doesn't have printer port, please skip this chapter.)

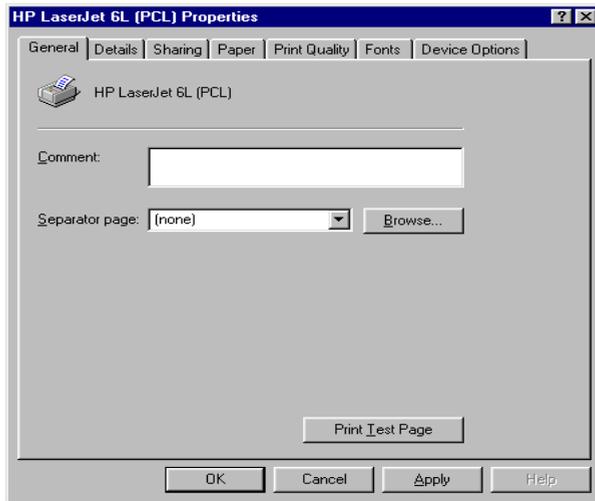
### 5.1 Configuring on Windows 95/98 Platforms

After you finished the software installation procedure described in Chapter 3, your computer has possessed the network printing facility provided by this product. For convenience, we call the printer connected to the printer port of this product as *server printer*. On a Windows 95/98 platform, open the **Printers** window in the **My Computer** menu:

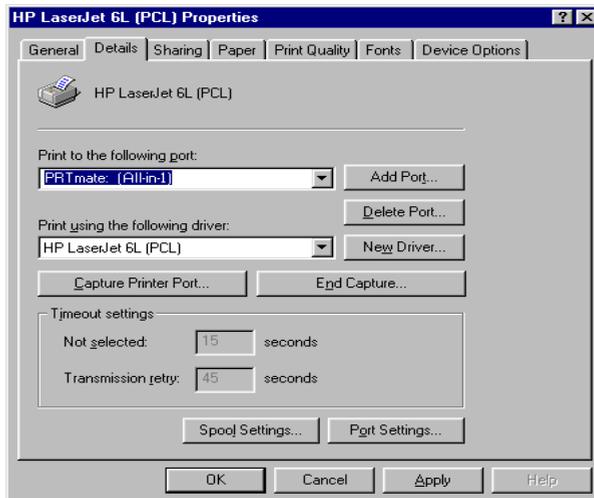


Now, you can configure the print server of this product:

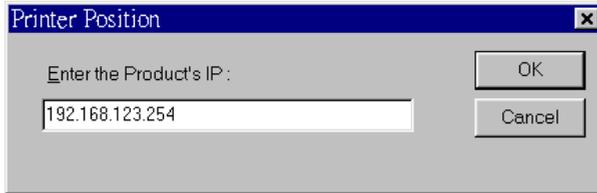
1. Find out the corresponding icon of your *server printer*, for example, the **HP LaserJet 6L**. Click the mouse's right button on that icon, and then select the **Properties** item:



2. Click the **Details** item:



3. 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 *server printer*.
4. Click on the button of **Port Settings**:

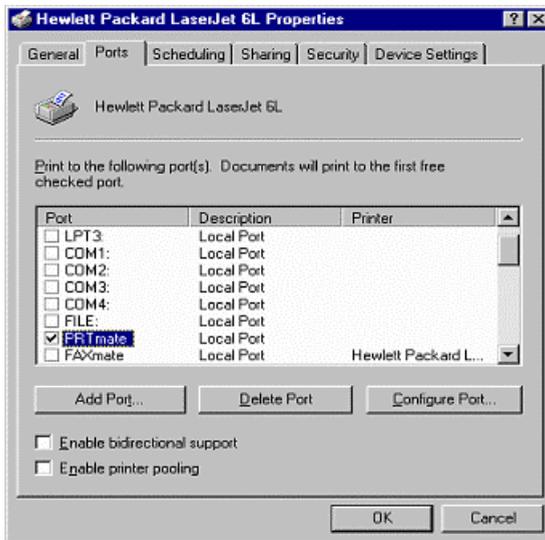


Type in the IP address of this product and then click the **OK** button.

5. Make sure that all settings mentioned above are correct and then click the **OK** button.

## 5.2 Configuring on Windows NT Platforms

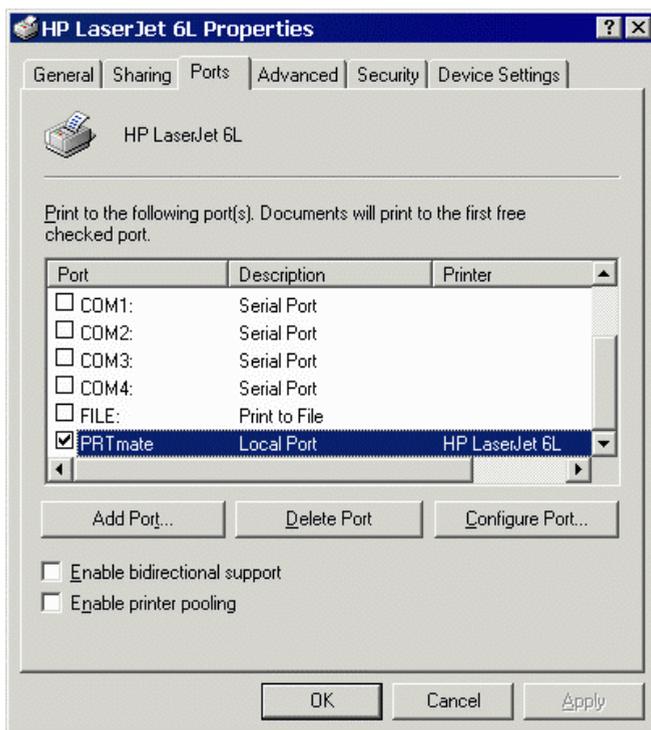
The configuration procedure for a Windows NT platform is similar to that of Windows 95/98 except the screen of printer **Properties**:



Compared to the procedure in last section, the selection of *Details* is equivalent to the selection of **Ports**, and *Port Settings* is equivalent to *Configure Port*.

### 5.3 Configuring on Windows 2000 Platforms

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



Compared to the procedure in last section, the selection of *Details* is equivalent to the selection of **Ports**, and *Port Settings* is equivalent to *Configure Port*.

## **5.4 Configuring on Unix based Platforms**

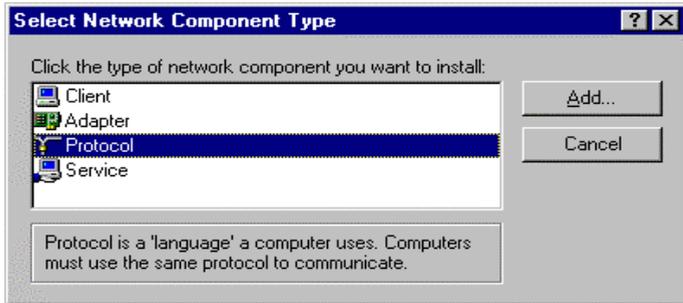
Please follow the traditional configuration procedure on Unix platforms to setup the print server of this product. The printer name is “lp.”

# Appendix A TCP/IP Configuration for Windows 95/98

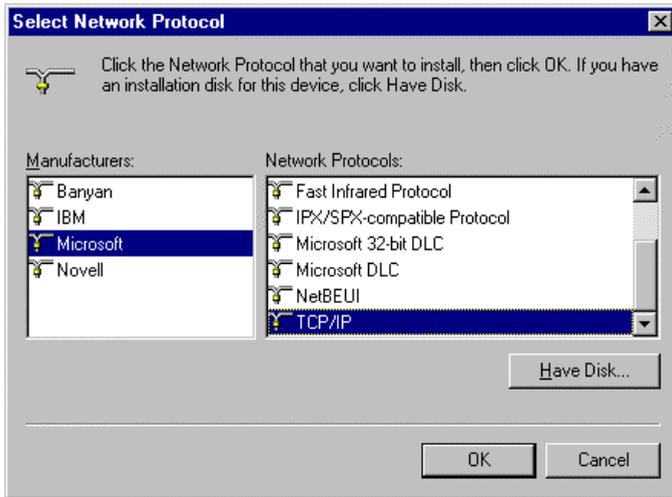
This section introduces you how to install TCP/IP protocol into your personal computer. And suppose you have been successfully installed one network card on your personal computer. If not, please refer to your network card manual. Moreover, the Section A.2 tells you how to set TCP/IP values for working with this NAT Router correctly.

## A.1 Install TCP/IP Protocol into Your PC

1. Click **Start** button and choose **Settings**, then click **Control Panel**.
2. Double click **Network** icon and select **Configuration** tab in the Network window.
3. Click **Add** button to add network component into your PC.
4. Double click **Protocol** to add TCP/IP protocol.



5. Select **Microsoft** item in the *manufactures* list. And choose **TCP/IP** in the *Network Protocols*. Click **OK** button to return to Network window.

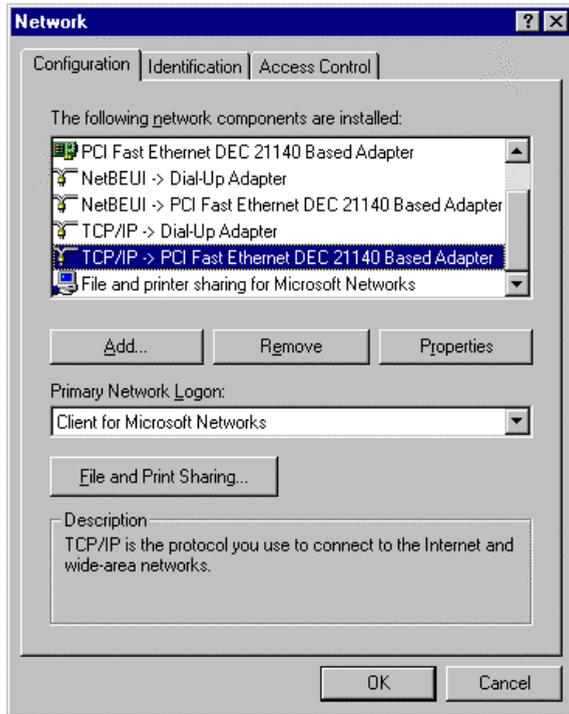


6. The TCP/IP protocol shall be listed in the Network window. Click **OK** to complete the install procedure and restart your PC to enable the TCP/IP protocol.

## A.2 Set TCP/IP Protocol for Working with NAT Router

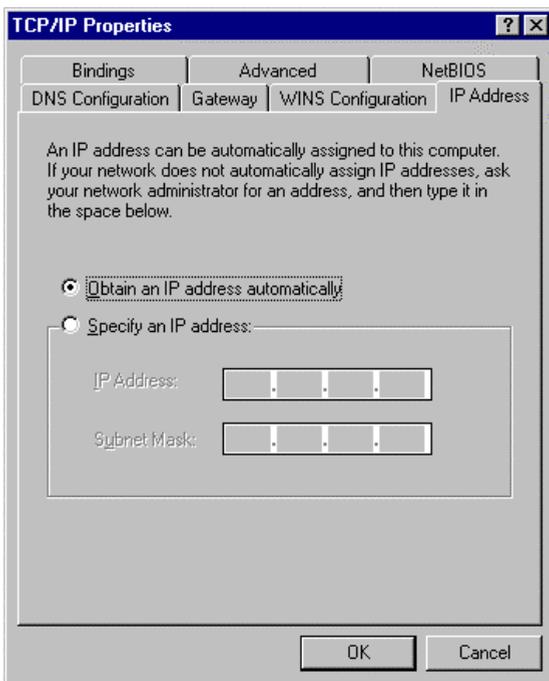
1. Click **Start** button and choose **Settings**, then click **Control Panel**.

2. Double click *Network* icon. Select the TCP/IP line that has been associated to your network card in the *Configuration* tab of the Network window.

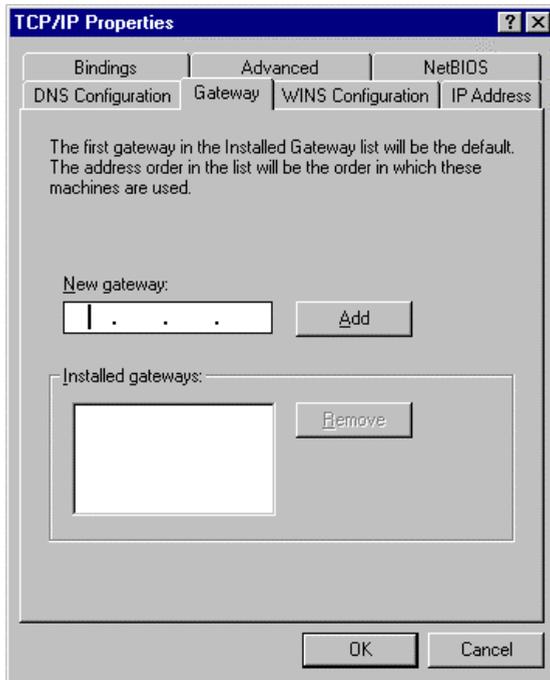


3. Click *Properties* button to set the TCP/IP protocol for this NAT Router.
4. Now, you have two setting methods:
  - A. Get IP via DHCP server

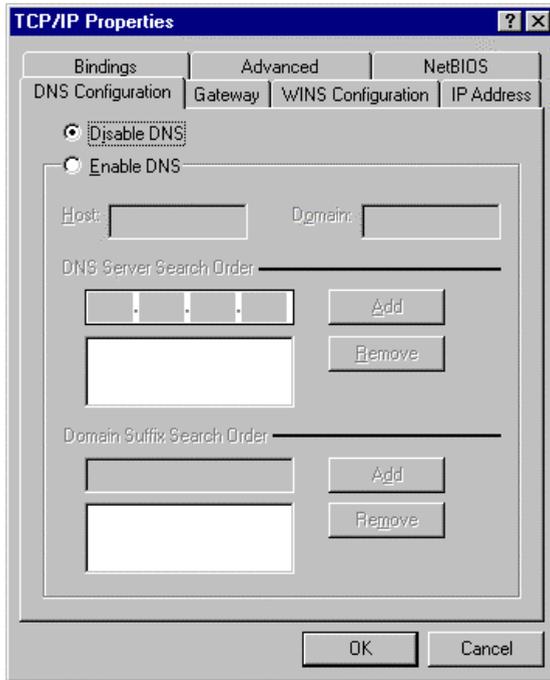
- a. Select **Obtain an IP address automatically** in the *IP Address* tab.



- b. Don't input any value in the *Gateway* tab.

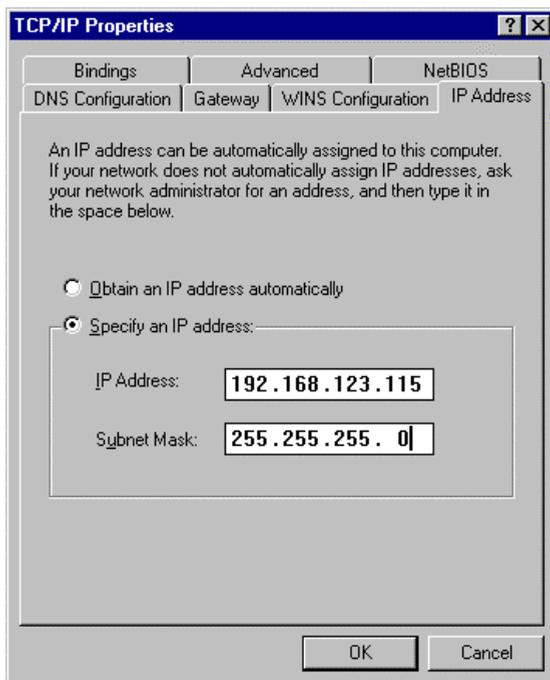


- c. Choose **Disable DNS** in the *DNS Configuration* tab.

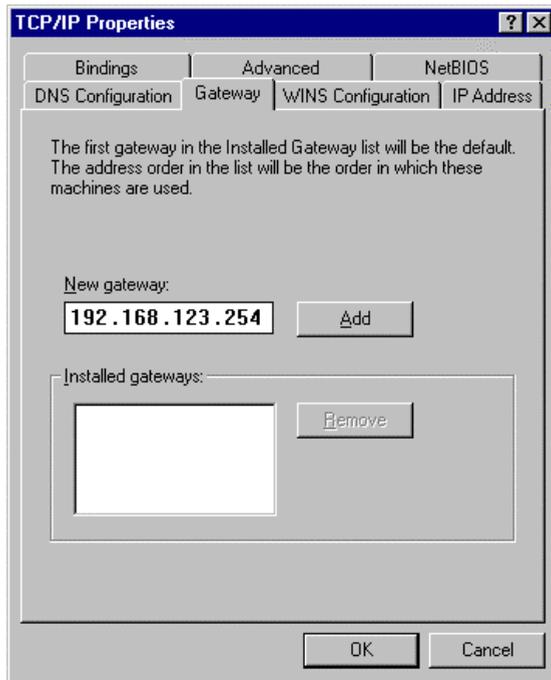


## B. Configure IP manually

- a. Select ***Specify an IP address*** in the *IP Address* tab. The default IP address of this product is 192.168.123.254. So please use 192.168.123.xxx (xxx is between 1 and 253) for *IP Address* field and 255.255.255.0 for *Subnet Mask* field.



- b. In the *Gateway* tab, add the IP address of this product (default IP is 192.168.123.254) in the *New gateway* field and click **Add** button.



- c. In the *DNS Configuration* tab, add the DNS values which are provided by the ISP into *DNS Server Search Order* field and click **Add** button.

