Wireless Internet Gateway
For ADSL/Cable

Quick Installation Guide

Contents

FCC RF Radiation Exposure Statement:

This 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.

FCC Statement

Note: This digital equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, usesand can radiate radio frequency energy, and if not installed and used in accordance with the installtion manual, may cause harmful interference to radio communications. However, the re is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circle different from that t o which the receiver is connected.

- Consult the dealer or an experience radio/TV technician for help.

This device complies with part 15 of the FCC rules, Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.

CE Approved

This digital device has been CE Approved.

Introduction

This manual details instructions of set-up and functions of the wireless Internet gateway.

This is a breakthrough for SOHO users who need to share a high speed broadband Internet connection to the Internet. The high-powered antenna design assures its wireless connection even in large building.

The wireless Internet gateway enables your network to connect through any ADSL/Cable modem onto the Internet--providing a simple network solution for SMB and SOHO users.

Wireless Internet gateway is equipped with:
- A WAN Ethernet port (to connect to ADSL/Cable modem)
- An Ethernet port (10/100Mpbs)
- One asynchronous port

Once the WAN Ethernet is connected to an ADSL/Cable modem, your ISP will **automatically** activate your account. In this way, the entire LAN can share one high-speed line to the Internet.

The asynchronous port may connect to a 56K modem or to an ISDN TA (to be used as a dialup backup to the ADSL/Cable connection should the ADSL/Cable connection fail). If there is no ADSL/Cable service in your area, the dialup backup can also serve as your Internet access solution.

PACKAGE CONTENTS

Please inspect your package. The following items should be included:

1). Wireless internet gateway (the Device)
2). Power adapter
3). Quick Installation Guide

If any of the above items are damaged or missing, please contact your dealer immediately.

PRE-INSTALLATION CHECKLIST

Before installing the wireless internet gateway, you should:

- Have carefully read the entire manual.
- Be familiar with the terminology and concepts of browsers. (This guide works under the assumption that you are proficient with the browsers you are using).
- Have met all the hardware and software requirements.

SYSTEM REQUIREMENTS

- Microsoft I.E 4.0 or later version or Netscape Navigator 4.0 or later version
- One computer with an installed 10Mbps, 100Mbps or 10/100Mbps Ethernet card
- One Modem or ISDN TA (if a dialup backup connection is needed)
- One RJ-45 ADSL/Cable Internet connection
- TCP/IP protocol installed
- UTP network Cable with a RJ-45 connection

FEATURES AND BENEFITS

High speed for wireless LAN connection
Support up to 11 Mbps data rate by incorporating Direct Sequence Spread
Spectrum (DSSS) technology.

IEEE 802.11b compatible
Fully compatible with the IEEE 802.11b standard

Wireless AP features
Provides Roaming, Best Access Point Selection

Wireless Encryption Protocol
Capable of up to 128 Bit WEP encryption

IP sharing
Shared Internet Access for up to 253 users

ADSL/Cable Backup
Supports dialup backup in case ADSL/Cable connection fails

PPPoE Client
Supports PPPoE client function to connect to the remote PPPoE server

Idle Timer
Let you set a specified idle-time before automatically disconnecting

Routing Protocol
Supports static route, RIP 1/2

Built-in NAT function
Allows multiple PCs and devices to share one Internet connection

Virtual Server
Allows internal workstations (servers) to be accessible from Internet

New feature Upgradeable
New features are upgradeable in the future

Web-Based Configuration
Web based configuration

Firewall Protection
Built-in NAT firewall guarantees network security

DHCP Server
Automatically assigns IP information to network users

DHCP Client
Automatically acquires IP information for ADSL/Cable from your ISP

Dial-on Demand
Eliminates the need for Dial-up and automatically logs in to your ISP
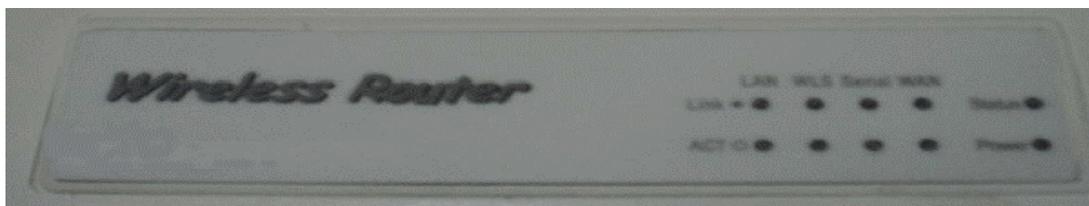
Hacker Attack Logging
Supports general hacker attack pattern monitoring and logging

VPN Support
Support PPTP, L2TP and IPSec pass through function

ONE - PORT Wireless Internet Gateway ADSL/Cable Router

The Wireless Internet gateway Front View

LED indicators

LAN	**ACT**	**(Green)**	Green LED will **BLINK** if packet is transmitting or receiving.
	LNK	**(Green))**	Green LED will **LIGHT** when a good link is established.
WLS	**ACT**	**(Green)**	Green LED will **BLINK** when data is transmitting or receiving.
	LNK	**(Green)**	Green LED will **LIGHT** when Wireless LAN is ready.
Serial	**ACT**	**(Green)**	Green LED will **BLINK** when data is transmitting or receiving.
	LNK	**(Green)**	Green LED will **LIGHT** when remote carrier has be been detected.
WAN	**ACT**	**(Green)**	Green LED will **BLINK** if packet is transmitting or receiving.
	LNK	**(Green)**	Green LED will **LIGHT** when a good link is established.
STATUS		**(Orange)**	Orange LED will **BLINK** when device boot and upgrade firmware.

POWER   **(Red)**   Red LED will **LIGHT** if the gateway is receiving power.

The Wireless Internet gateway Rear View

The rear panel of the wireless Internet gateway is where all connections are made.

POWER (5 VAC)	The power port is where you will connect the AC power adapter
WAN	The WAN Ethernet port is where you will connect your ASDL/Cable modem
Async	The Async port is where you will connect the 56K modem or ISDN TA
LAN	The LAN port on the rear panel. This is where you will connect networked devices, such as PCs, ftp servers or anything else you want to put on your network.

NOTE !   **The Reset Button**

 If you would like to load default settings, press the reset button and hold it for 5 seconds. It will load the factory default settings for the device. **Please be careful**. Do not press the reset button unless you want to clear the current data.

Connecting Wireless Internet Gateway To The Network

Preface

In order to install the wireless Internet gateway: you will need to check your PC's settings and the values from your ISP before connecting your gateway to the network.

The information offered by your ISP

- Dynamic IP settings
- Your fixed IP address for the gateway
- Your subnet mask for the gateway
- Your default gateway IP address
- Your DNS IP address

NOTE !

   If you would like to use PPPoE, you will need the following values from your ISP in order to install your router:

- Username
- Password

The static IP settings for the PC

- Your PC's fixed IP address
- Your PC's subnet mask
- Your PC's default gateway
- Your PC's primary DNS IP address

NOTE !   The router's default IP address settings is 192.168.2.1

The dynamic IP settings for the PC

We recommend that you leave your IP settings as automatically assigned. By default, the gateway is a DHCP server, and it will give your PC the necessary IP settings.

NOTE !
　　　　If the gateway assigns your PC's IP address, you have to enable the function that obtains the IP address automatically for your PC. (**please See Page 36**)

Confirm Hardware Installation

After you have the previous values on hand, you can begin to configure your wireless Internet gateway.

1. Confirm power of the equipments, on your PCs, your ADSL/Cable modem and the wireless Internet gateway.

2. Connect the power-supply cable to the power port at the rear of the wireless Internet gateway. Plug the supplied power cable into a power outlet. Plug the other end into the back of the power adapter.

3. Connect a network cable from one of your PCs' Ethernet ports to one of the LAN ports on the back of the wireless Internet gateway. Do the same with all the PCs you wish to connect to the wireless Internet gateway.
(If your PCs install with the station cards, you can connect to the device without cabling)

4. Connect the network cable from your ADSL/Cable modem to the WAN Ethernet port on the rear of the wireless Internet gateway.

If everything is done, please continue to configure the wireless Internet gateway's settings on next page…….

Configuring Your Wireless Router

Launch your web browser and type the device IP address **(http:// 192.168.2.1)** in the browser's address box. This IP address is the default value of your gateway. Press **Enter**

NOTE ! Please make sure your PC's IP address is in the same network as the router's. In the windows 95/98 you can type **WINIPCFG**, in the windows 2000/NT you can type **IPCONFIG (please see page 38)**

The main menu will appear. It displays all the functions that you can browse, as well as setup for the wireless internet gateway.

SETUP WIZARD

Setup wizard is a step-by-step process that will let you input all the basic settings.

Click the **SETUP WIZARD**

A username and password will appear. Leave the password box empty and type **admin** (the default username) in the username box. Click **OK**
The setup wizard's page will appear.

> **NOTE !** If you would like to change the password please **See Page 26**

TIME SETTINGS

Please choose the local time zone. After selecting please click **Next** button to continue to the next step. You can also click the buttons on the left to set up the configuration.

DEVICE IP SETTINGS

You have to give your internet gateway an IP address on your network. This is not the IP address from your ISP but the local internal LAN IP address. The IP address "192.168.2.1" is the default value of your gateway.

Device IP Address
The internal LAN IP address of your internet gateway

Device IP Subnet Mask
The subnet mask can usually be left as its default entry "255.255.255.0"

ADSL/Cable ISP SETTINGS

If you would like to use ADSL/Cable ISP settings, you have to enable this function by configuring this page. Some ISPs may give you Static IP settings. If this is the case for your ISP, then you need to:

Enter the IP address that is provided by your ISP
Enter the IP subnet mask
Enter the ISP gateway address
Enter the DNS IP address

ISP ADDITIONAL SETTINGS (PPPoE SETTINGS)

If you would like to use ISP additional settings, you have to enable this function and configure this page. Some ISP use this protocol for authentication purposes; if this is the case, you need to enter:

User name: Enter the user name of your ISP account.
Password: Enter the password of your ISP account.
Retype password: Enter the password of your ISP account again to re-confirm.
Some ISPs use Host Name to authenticate the user; if this is the case, you need to enter:
Host Name: Enter the name of the gateway.
Some ISP require you input the LAN card Mac address; if this is the case, you need to enter:
Mac Address: Enter this LAN card Mac address.

NOTE !   Some ISP may recognize your LAN card Mac address as a legal user; In this case, you have to copy the LAN card Mac address in the Mac address field.
For WIN 95/98 you can run **winipcfg** to see the LAN card Mac address
For WIN 2000/NT you can run **ipconfig/all** to see the LAN card Mac address

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WIRELESS SETTINGS

Here allows user to configure ESSID, Channel, WEP Encryption and the level of WEP Encryption.

ESSID
ESSID is a unique name shared among all points in a wireless network.

CHANNEL
To avoid interference, user should choose a proper Channel in wireless network.

WEP
WEP (Wired Equivalent Privacy) is method of encrypting data that is transmitted over your wireless network to ensure data security. If you would like to use this function, you can **Enable Encryption and Select the method of encryption (40 Bit or 128 Bit)**.

If Encryption option is Checked**, User has to enter encryption key manually.**

MODEM SETTINGS

The modem dialup can be used as a backup for the ADSL/Cable connection. If you would like to use modem backup you need to enable the modem settings function; click on the square shown below and input the ISP account information.

Note: If you want to change the baudrate settings, please click on the **"ADVANCED SETTINGS".** Then click on the **MODEM SETTINGS** button.

SAVE & RESTART

After you have finished making all the changes on the various pages, please **click Save & Restart to save the settings** and **restart the device**. After the restart, the device will function according to the saved settings.

During the startup process the LED of the device will blink. Please **wait** until the blinking of the device stops before proceeding.
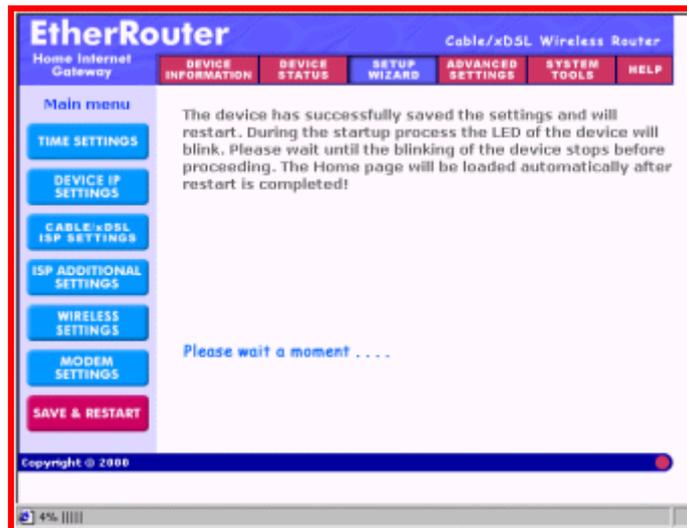
Device Information

Device information displays the current settings of the wireless internet gateway.
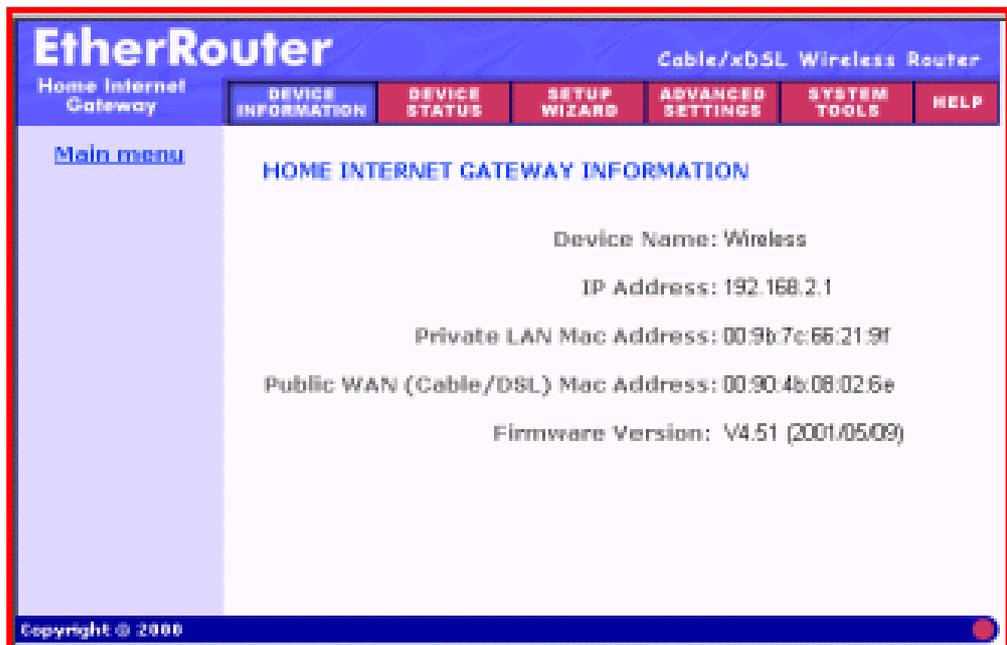
Device Name
The host name of the wireless internet gateway

IP Address
The IP address of the wireless internet gateway

Private LAN Mac Address
The Mac address of the wireless internet gateway LAN port

Public WAN (ADSL/Cable) Mac Address
The Mac Address of the wireless internet gateway WAN Ethernet port

Firmware version
Displays the Firmware Version and its release date

DEVICE STATUS

Device status displays the current connection status of the internet gateway.
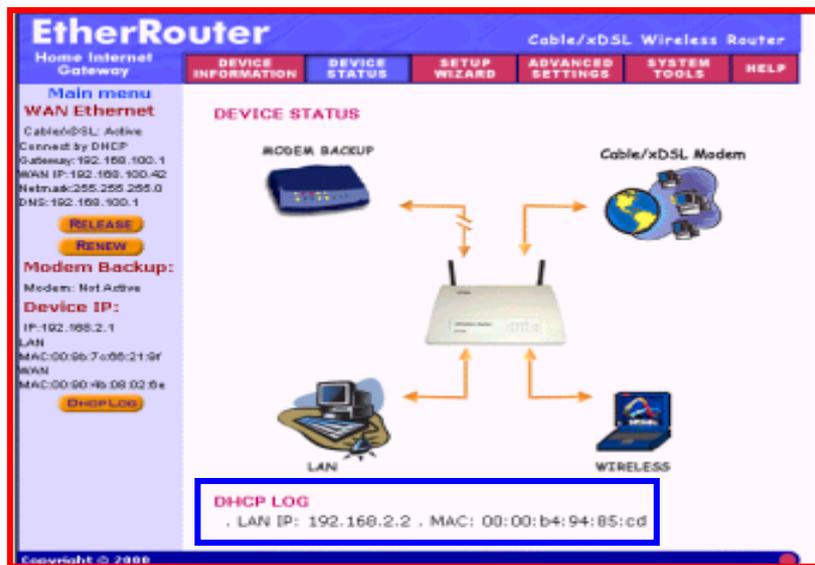
Modem Backup
The modem can be used as a dialup backup for the ADSL/Cable connection. If the current connection is via modem, it will show "**Modem: Active**," otherwise it will show "**Not Active**".

Device IP
Shows the Device IP address, private LAN Mac address and public WAN Mac address of the wireless internet gateway.

Release and Renew
Click **Release** button, the wireless internet gateway will disconnect with the ADSL/Cable modem.
Click **Renew** button, the wireless internet gateway will connect with the ADSL/Cable modem again.

DHCP Log
Click **DHCP Log** button, the screen will display the current DHCP client information.

Advanced Settings

Advanced settings include DHCP server, virtual server and password settings.

A username and password dialog will appear. Type **"admin"** in the user name box, and type the password that you have set for the device (the default is no password) Click **OK.**
The Advanced Settings page will appear.
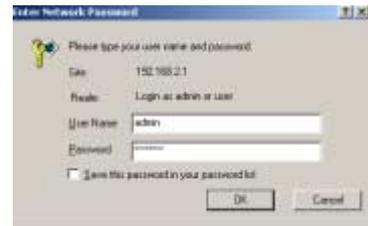
DHCP SERVER SETTINGS

The wireless internet gateway's DHCP server is enabled by default. If you would like to disable the DHCP server, uncheck on the square circled below.

IP Address Pool Range

The IP address pool contains the range of the IP address that will automatically be assigned to the clients of your network.
Default setting is from **192.168.2.2** to **192.168.2.100**

IP Address Reservation

You can use IP address reservation option to give particular computers on your network the same static IP address every time the computer is turned on.

VIRTUAL SERVER SETTINGS

Virtual server settings allow clients on the Internet to access your LAN via the Internet. You can use the IP mapping function to access an FTP server or Telnet server etc. remotely through Internet.

STATIC ROUTING SETTINGS

Static routing settings allow the wireless internet gateway to route IP packets to another network. The routing table stores the routing information so that your network device knows where to redirect the IP packets to the proper network.

Destination IP Address
The destination IP is the address of the remote network to which you want to assign a static route.

Subnet Mask
The subnet mask of your network IP address.

Gateway IP Address
The IP address of the interface used to link to the remote network.

DYNAMIC ROUTING SETTINGS

Dynamic routing settings allow the home internet gateway to route IP packets to another network automatically. The RIP protocol is applied, and broadcasts the routing information to other routers on the network regularly.

For the SEND option choosing the proper protocol by which you transmit the data on the network.

For the RECEIVE option choosing the proper protocol by which the home internet gateway receive the data on the network.

MODEM STRING SETTINGS

Modem string settings allow user to detail settings for the modem. If you want to change the baudrate settings, please check the initial string. (You can refer to your manual of the modem or TA.)

ADMINISTRATION SETTINGS

PASSWORD SETTINGS

You can give your internet gateway a new password. This password is required the next time you configure your internet gateway. To enter a password, type your password in the new password field and type it again in the retype password field.

> **NOTE !**   It is important to remember your password. If for any reason you lose or forget your password, press the small reset button located on the back of the device for 5-6 seconds. Reset action will re-initialize the settings. All configurations, including password, will be reset, and requires re-entering.
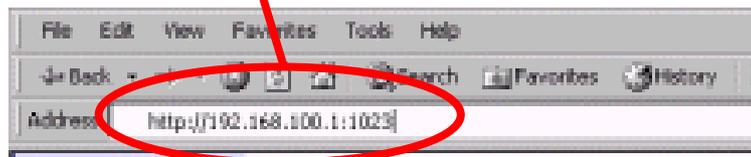
SYSTEM ADMINISTRATION

Here allows remote user to configure and administrate the wireless internet gateway through Internet.

The default port no for **HTTP** and **TELNET** are **80** and **23** respectively.

The default IP address of remote administration host is: **0.0.0.0**. (IP address 0.0.0.0 means that any PC on the network can remote access and manage the wireless internet gateway)

 If you use this function you have to **enable** the feature **"Allow remote user to configure the device"** first. Once you have enabled this function, type the wireless internet gateway **WAN IP address (http://192.168.100.1:1023)** into the browser of any or specific PC on the network.

http://<WAN IP Address>: <Port No>

| File | Edit | View | Favorites | Tools | Help |

Back ... | Search | Favorites | History

Address | http://192.168.100.1:1023

NOTE !

  Once HTTP port no **(NOT PORT 80)** have be changed and the sers of LAN terminal want to configure the wireless internet gateway, the users have to type the wireless internet gateway **LAN IP address with port no (http://192.168.2.1:1023)**
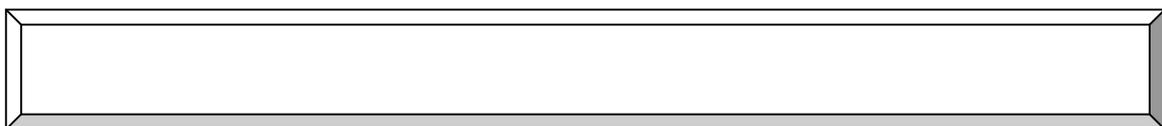
If you finished all the settings, please click Submit button to go to the next page…

SAVE & RESTART

Here shows all the functions of the **ADVANCED SETTINGS**. If you have finished making all the changes on the various pages, please **click Save & Restart** to save the settings and restart the device. If you want to configure the setting again, you can browse those functions then click them. After the restart, the device will function according to the saved settings.

Save & Restart lets you save the input settings to the wireless internet gateway (so as to be retrieved at a later time) and then restart it.
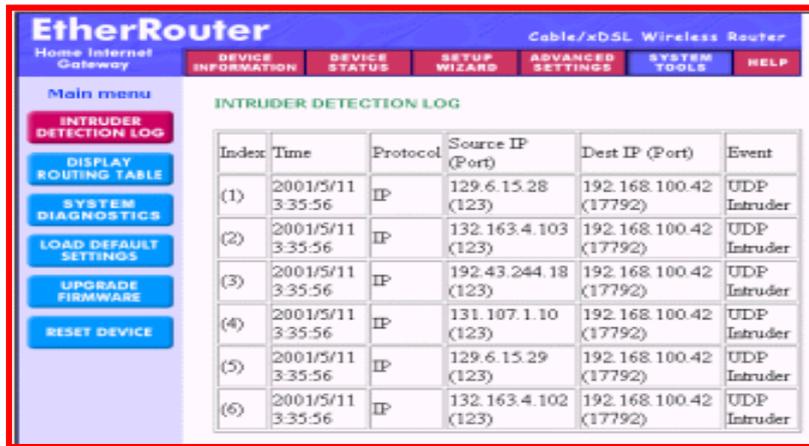
SYSTEM TOOLS

System tools
Detects the status of the wireless internet gateway.

INTRUDER DETECTION LOG

The event messages show the possible hacker attacks that have occurred on your internet gateway. Up to 32 hacker attacks may be logged in this manner.
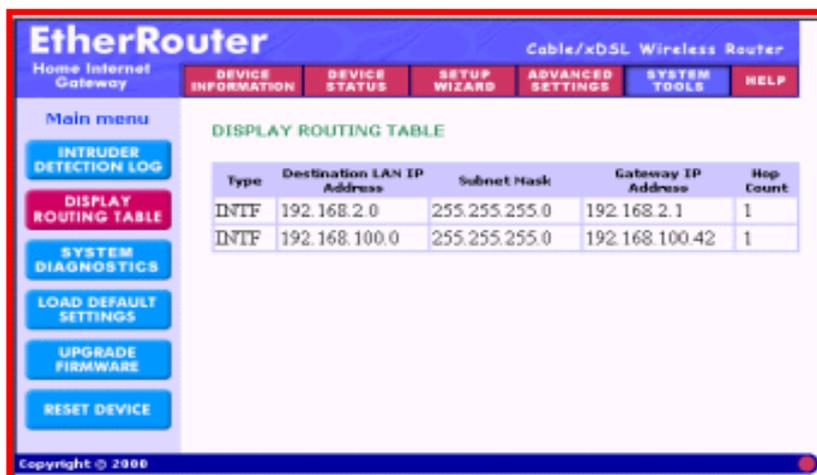

DISPLAY ROUTING TABLE

Here shows the current static routing configuration.

SYSTEM DIAGNOSTIC

System diagnosis shows your internet gateway's information. It will perform a check-up on your internet gateway to make sure that everything is functioning properly.

LOAD DEFAULT SETTINGS

This allows you to load the original default settings of your wireless internet gateway.

UPGRADE FIRMWARE

The upgrade firmware option allows you to upgrade the latest firmware to your wireless internet gateway.
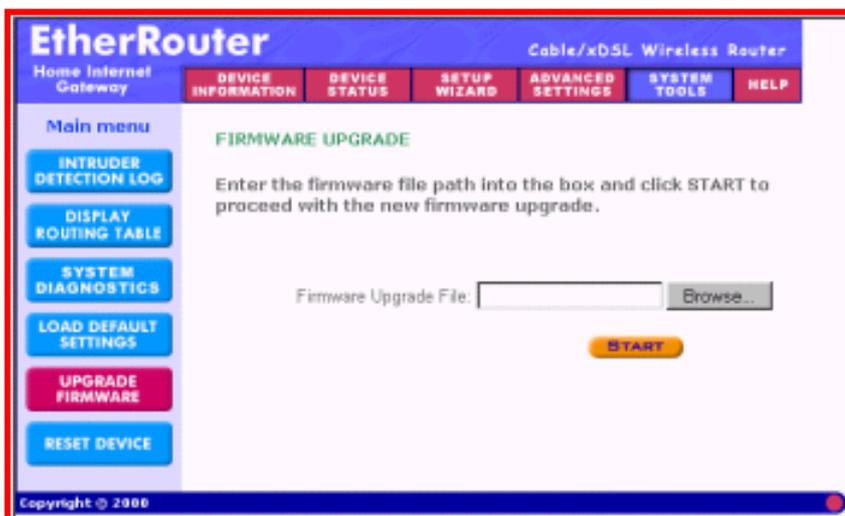
RESET DEVICE

Resetting the device will restart it. Click on the **START** button to restart.
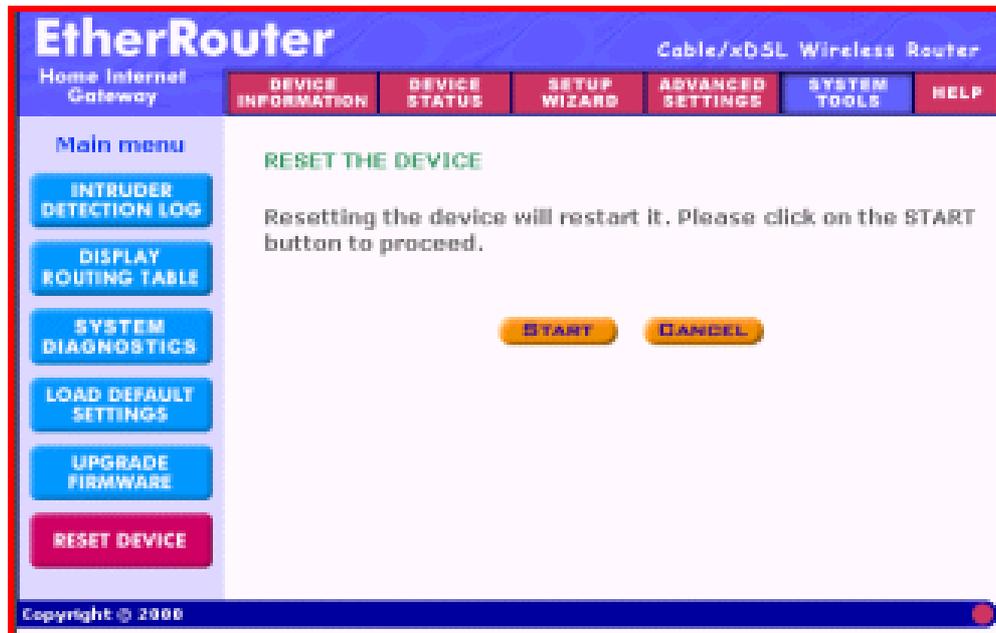
How using telnet to configure your Wireless Internet Gateway

Telnet is a telecommunications software utility which allows you to access a remote device. The internet gateway has a built-in telnet server that enables a telnet client to remotely configure the gateway using a menu system.

NOTE !
To successfully configure your internet gateway using telnet, TCP/IP have to be correctly configured on your PCs and router. And your PCs have to be located on the same subnet.

Launch DOS commend prompt and type **Telnet**, followed by router's IP address (default IP address is 192.168.2.1) then press **Enter**.
NOTE: If you change **Telnet** port no **(NOT PORT 23),** you should type:
192.168.2.1   <Port No>.
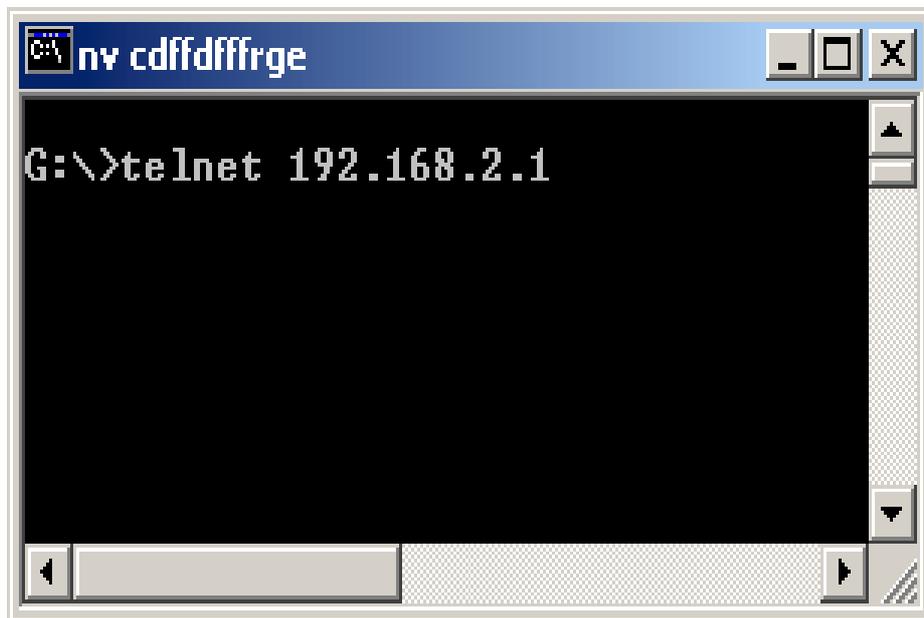
```
G:\>telnet 192.168.2.1
```

When prompted to input the router password, press **Enter**. The wireless internet gateway telnet server menu will be shown as below.
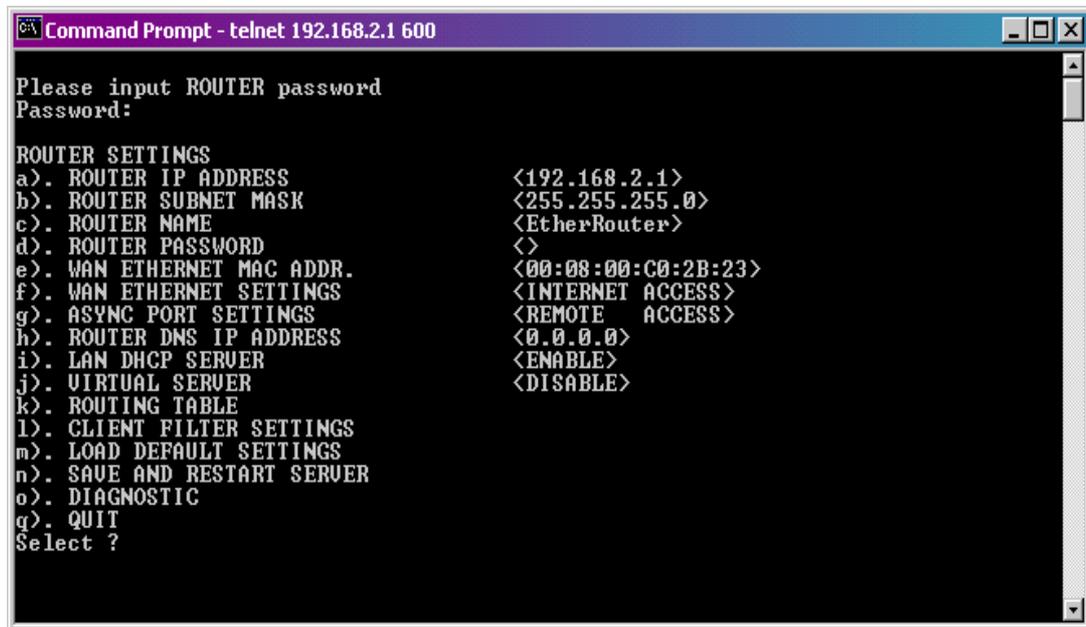
```
Command Prompt - telnet 192.168.2.1 600                          _ □ ×

Please input ROUTER password
Password:

ROUTER SETTINGS
a). ROUTER IP ADDRESS              <192.168.2.1>
b). ROUTER SUBNET MASK            <255.255.255.0>
c). ROUTER NAME                   <EtherRouter>
d). ROUTER PASSWORD               <>
e). WAN ETHERNET MAC ADDR.        <00:08:00:C0:2B:23>
f). WAN ETHERNET SETTINGS         <INTERNET ACCESS>
g). ASYNC PORT SETTINGS           <REMOTE   ACCESS>
h). ROUTER DNS IP ADDRESS         <0.0.0.0>
i). LAN DHCP SERVER               <ENABLE>
j). VIRTUAL SERVER                <DISABLE>
k). ROUTING TABLE
l). CLIENT FILTER SETTINGS
m). LOAD DEFAULT SETTINGS
n). SAVE AND RESTART SERVER
o). DIAGNOSTIC
q). QUIT
Select ?
```

Define the **Router IP Address**, **Router Subnet Mask**, **Router Name** and **Password** by selecting menu letter corresponding to each item. (item a~d)

WAN Ethernet Mac Address
Displays the hardware address of the board. You may change the Mac address if required by your ISP.

WAN Ethernet Settings
Selects the function of the WAN Ethernet port as **Internet Access**. Complete the **External IP Port Address**, **External IP Port Netmask**, **Gateway IP Address** and **DNS IP Address** fields using the IP address provided by your ISP.

Async Port Settings
Selects the function of the async port as **IP Routing** if you have an analog modem or ISDN TA connected to the async port. Complete the **Telephone number**, **User name** and **Password** needed to make the connection to your ISP. Use the menu options to provide specific information about your modem's **Serial baudrate (speed), Modem Pre-initial, initial, dial-up and hangup strings.** You may also use the menu options to create or edit **Login Scripts.**

Router DNS IP Address
Enter the IP address of your ISP system's DNS as provided by your ISP.

LAN DHCP Server
You can enable or disable the DHCP function on the internet gateway. If you select enable, you will be prompted to enter the address range from which the router will issue IP address.

Virtual Server (IP Mapping)
Define the list of mapped internal and external IP address. For example, you may want to use IP mapping to access an FTP server on your LAN via the internet.

Load default Settings
Sets the router back to its original factory settings.

Apply and Save Changes
Saves the current configurations into the internet gateway's memory.
NOTE: you must select **Apply and Save Changes** before leaving the menu or your configuration changes will be lost when the gateway is powered off.

Diagnostic
Select Diagnostic to perform basic hardware checking and display the gateway's firmware version. You may also use this option to assign WAN and LAN Mac address if required by your ISP.

When all options have been configured and after you have selected **Apply and Save Changes**, select **q.) Quit.**

How Configuring Your PCs Connect To The Wireless Router

If you **do not** wish to set a static IP address on your PC, you will need to configure your PC to accept the IP address that your gateway will provide.

1. Click **Start** button, select **Settings**, then **Control Panel**

2. Double-click the **Network** Icon

3. In the **configuration** windows, select the **TCP/IP protocol line** that has been associated with your network card/adapter. If there is no TCP/IP line listed, you will need to install the TCP/IP now.
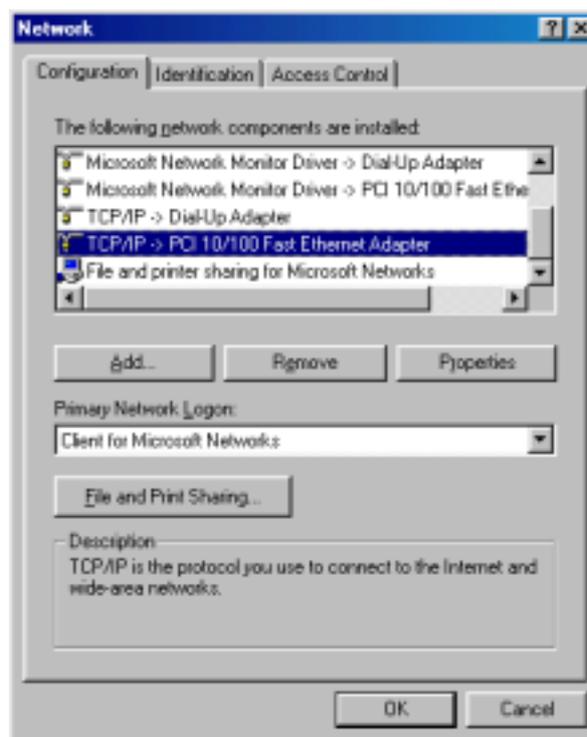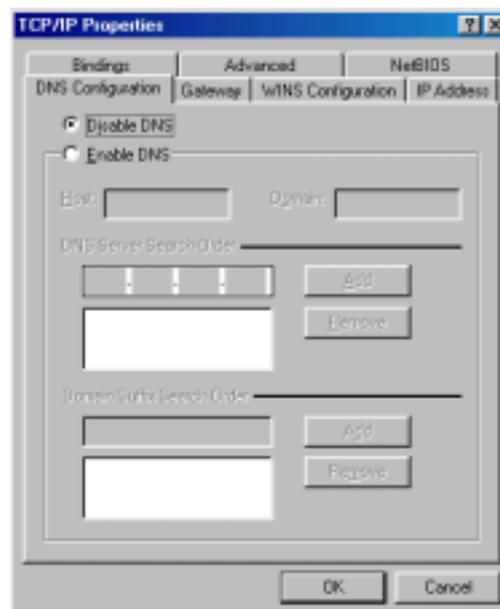
4. Click the **Properties** button, then choose the **IP ADDRESS** tab. Select **Obtain an IP address automatically**.

5. Then select **DNS configuration** tab to add **DNS IP address**. If you do not wish to add DNS you can **Disable DNS function**. Press **OK**. You have completed the client settings.

6. After clicking **OK**, windows will ask you to restart the PC. Click **Yes**.
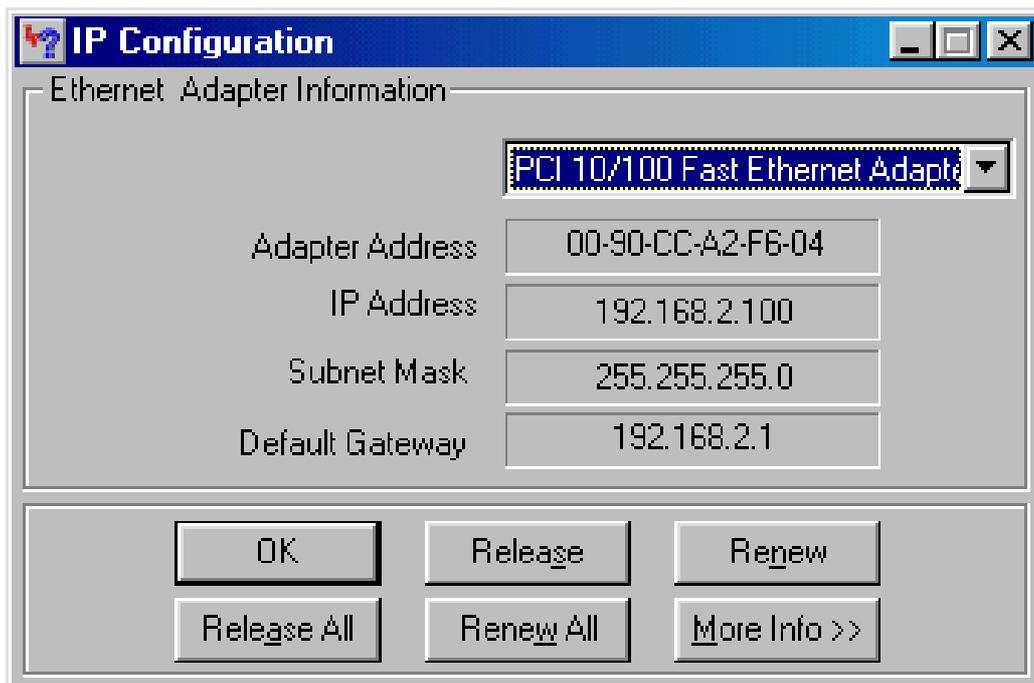
CONFIRM YOUR PC's IP CONFIGURATION

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

- **WINIPCFG (for windows 95/98)**

    Inside the windows 95/98 **Start** button, select Run and type **winipcfg**. In the example below this computer has a IP address of 192.168.2.100 and the default gateway is 192.168.2.1. The default gateway should be the network device IP address. The MAC address in windows 95/98 is called the Adapter Address.

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

● **IPCONFIG (for windows 2000/NT)**

In the DOS command type **IPCONFIG** and press **Enter**. Your PC IP information will be displayed as shown below.
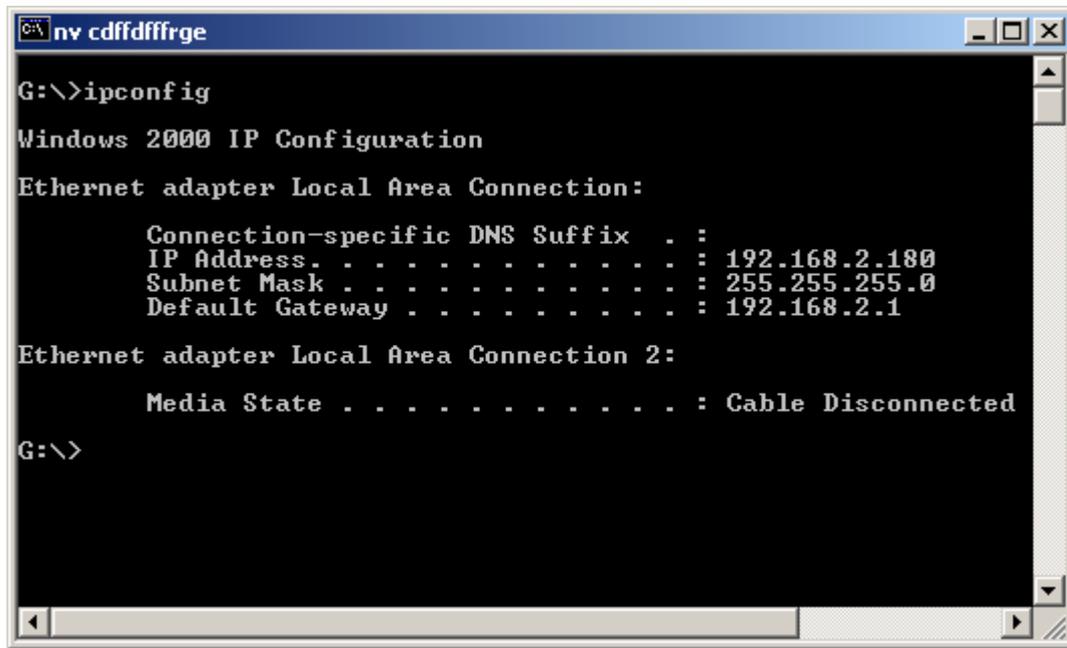
```
nv cdffdfffrge                                          _ □ X

G:\>ipconfig

Windows 2000 IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . :
        IP Address. . . . . . . . . . . : 192.168.2.180
        Subnet Mask . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . : 192.168.2.1

Ethernet adapter Local Area Connection 2:

        Media State . . . . . . . . . . : Cable Disconnected

G:\>
```

This concludes the user manual.

Should you require further assistance or have other inquires please contact your distributor.