



GN-B46B
Wireless Broadband Router
User Guide

<http://www.gigabyte.com.tw>

Rev. 1.0 First Edition

25A08-0B46B-F00

Federal Communication Commission 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 harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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Chapter1 Introduction

Overview

GN-B46B Router is a full function broadband router. This router equip with powerful firewall and DoS protection, which can give the user maximum protection to prevent from damage by malicious internet user. The UPnP and MSN messenger support can provide the environment for user to surfing internet with out any trouble. The GN-B46B wireless router is composed of the Realtek CCU, 802.11b wireless, Switch and 10/100 Ethernet. This product adopts the direct sequence spread spectrum (DSSS) technology and the DBPSK, DQPSK, and CCK modulation mode to provide a very stable wireless communication quality and an excellent signal receiving capability. This product features the compact size, low power consumption, and power management functions, and provides a high-speed wireless data communication.

Features

- Conforms to IEEE 802.11b specification.
- Transmits data rate up to the maximum speed of 11Mbps.
- Dynamically scales the data rate to 11, 5.5, 2, and 1Mbps.
- Support 64-bit /128-bit WEP encryption.
- Support PPPoE and PPPoE Unnumbered DSL connection
- Support up to 4 WAN configuration records
- Support DHCP client for cable/DSL connection
- Support DHCP server with static and dynamic style
- Support UPnP IGD 1.0
- Support MSN messenger and most Internet applications
- Support Firewall Filtering
- Support Virtual Server
- Support DMZ
- Support Stateful Packet Inspection (SPI)
- Support DoS Protection
- Support Stealth Mode
- VPN Packets Pass Through (Support PPTP/IPSec/L2TP Protocol)
- Log Management (Support Firewall/UPnP/WAN Connection Log)
- Easy Web Management
- Support WAN side Remote Management
- DNS Relay
- Web based Firmware upgrade
- MDI/MDIX Auto crossover detect

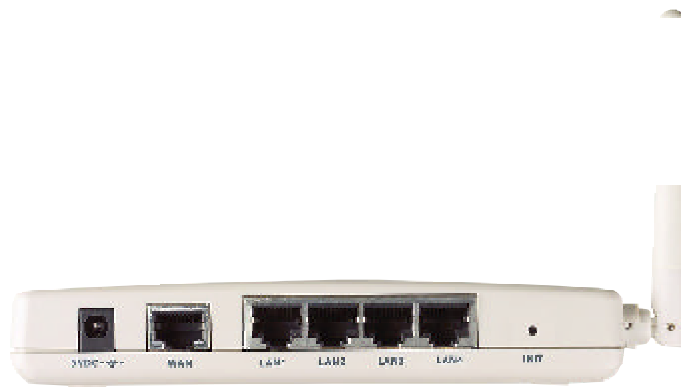
Package Contents

Before the installation procedures, please ensure the components are not damaged during the shipping. The shipment of the GN-B46B includes:

- One GN-B46B Wireless Broadband Router
- One AC Power Adapter
- One User Guide

Please contact your local distributor or authorized reseller immediately for any missing or damaged components. If you require returning the damaged product, you must pack it in the original packing material or the warranty will be voided.

The Rear Panel



The router's ports are located on the router's rear panel.

■ Power

The power port is where you connect the power adapter.

■ One Ethernet WAN Port

RJ-45, Auto-sensing and Auto-MDI/MDIX for 10/100M Ethernet WAN connection

■ Four Ethernet LAN Port

RJ-45, Auto-sensing and Auto-MDI/MDIX for 10/100M Ethernet LAN connection

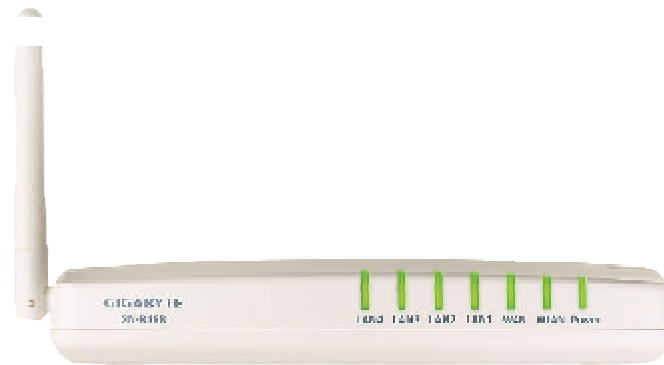
■ Init Bottom

Initial reset (Init to factory default)

■ Wireless antenna

One 2.4 GHz antenna

The Front Panel LEDs



The router's LEDs display information about the router's status.

- **Power** (Green Light)

The indicator will light on for 5 secs, then off for 5 secs, then blink for 10 secs, after that it will stay on. If the indicator does not show up by the previous procedures, please check your device.

- **WLAN** (Green Light)

Blinking	Package transmit
----------	------------------

- **WAN** (Green Light)

On	ADSL/Cable Modem is connected to WAN port.
Blinking	Transmit or receive data via the WAN port.

- **LAN1-LAN4**

On	10/100 Mbps Network Connection
Blinking	10/100 Mbps Data Transmission Rate

Chapter 2 Connect to the Router

Preparation

It needs to prepare these three things before you begin:

1. An active Internet service such as that provided by a cable or ADSL broadband account.
2. Make sure the Internet Service Provider (ISP) configuration information for your ADSL account.

Hardware Requirements

To use the Wireless Broadband Router on your network, each computer needs an installed Ethernet Network Interface Card (NIC) and an Ethernet cable (RJ-45) or a PCMCIA wireless adapter for laptop computer.

System Requirements

- A Computer with Windows, Macintosh, or Linux-based operating system.
- A Javascript-enabled web browser program which supports HTTP uploads such as Microsoft Internet Explorer or Netscape Navigator version 4.0 or above.

Internet Configuration Requirements

In order to connect your router to Internet, you will need one or more of these configuration parameters provided by your ISP:

- ❖ Host and Domain Names
- ❖ ISP Login Name and Password
- ❖ ISP Domain Name Server (DNS) Address
- ❖ Fixed IP Address which is also known as Static IP Address
- ❖ Subnet mask
- ❖ Default Gateway

Wired Connect to a PC

- Step1. Turn off your network's hardware, including the Router, PCs and cable or ADSL modem.
- Step2. Connect an Ethernet cable form your cable or ADSL modem to the WAN port of the GN-B46B.
- Step3. Connect one end of an Ethernet cable to one of the LAN ports (LAN 1-4) on the router, and the other end to an Ethernet port on a PC.
- Step4. Connect the power adapter to the power connection slot of the GN-B46B, and then plug the power adapter into a power outlet.
- Step5. Power on the cable or ADSL modem, PCs. The connection procedure is completed then go to the "Chapter3 Configuration of the PCs".

Note: Please check if the light of the WAN port of the GN-B46B is lit. If not, try to use the cross over Ethernet cable.

Wireless Connect to a PC

- Step1. Turn off your network's hardware, including the Router, PCs and cable or ADSL modem.
- Step2. Connect an Ethernet cable form your cable or ADSL modem to the WAN port of the GN-B46B.
- Step3. Connect the power adapter to the power connection slot of the GN-B46B, and then plug the power adapter into a power outlet.
- Step4. Power on the cable or ADSL modem, PCs. The connection procedure is completed then go to the "Chapter3 Configuration of the PCs".

Note: If you use wireless connection, please refer to the wireless LAN card manual which provided by your wireless card manufacture. The SSID of the Wireless LAN card should be the same as the SSID of the GN-B46B. The default value is "GIGABYTE" (or "any", if your wireless LAN card can support.), please do notice the form of the SSID value whether is captial or not.

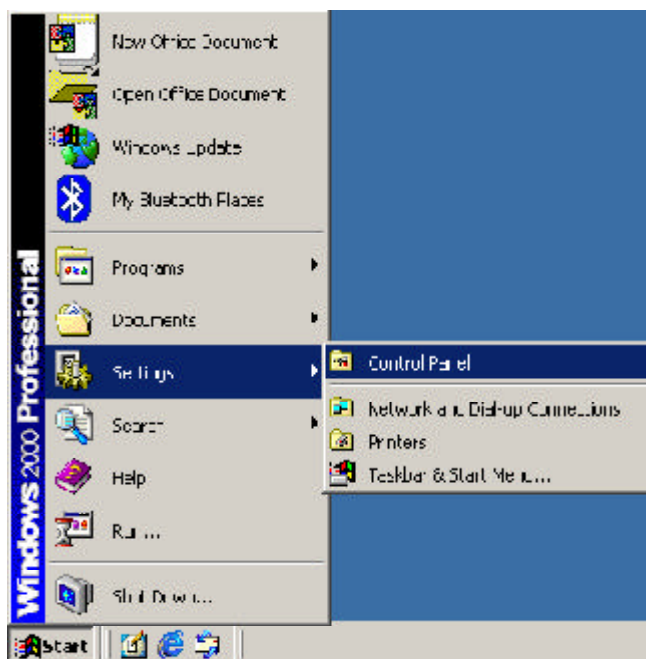
Chapter3 Configuration of the PCs

Overview

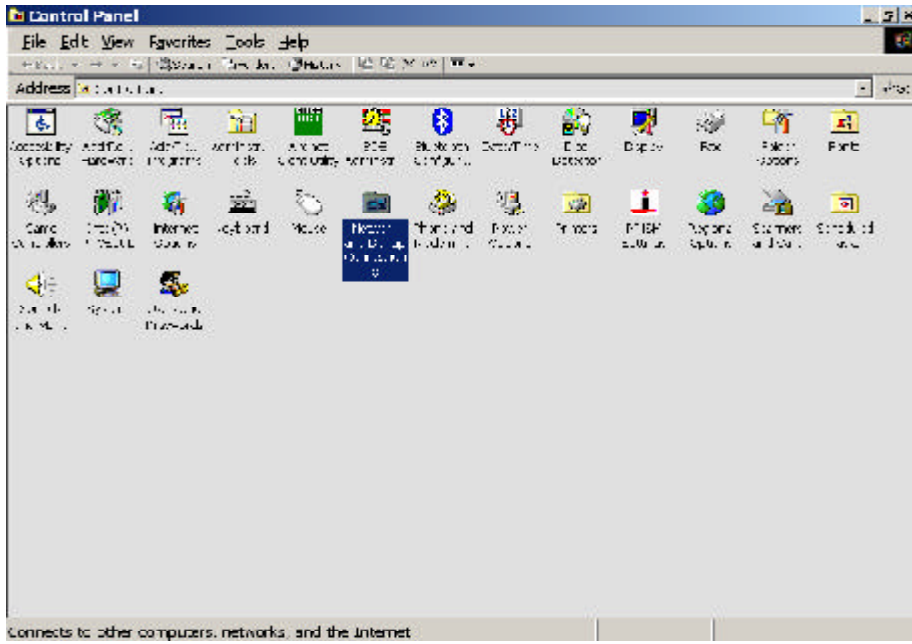
To connect to the router, your computer needs to be configured to obtain an IP address automatically via DHCP server. Please follow the instruction to perform the setup under the TCP/IP network environment. By default Windows 98, Me, 2000 and XP has TCP/IP installed. If you have not installed the TCP/IP communication Protocol, please install it now, and then select your operating system for the setup.

The Settings under Windows 2000

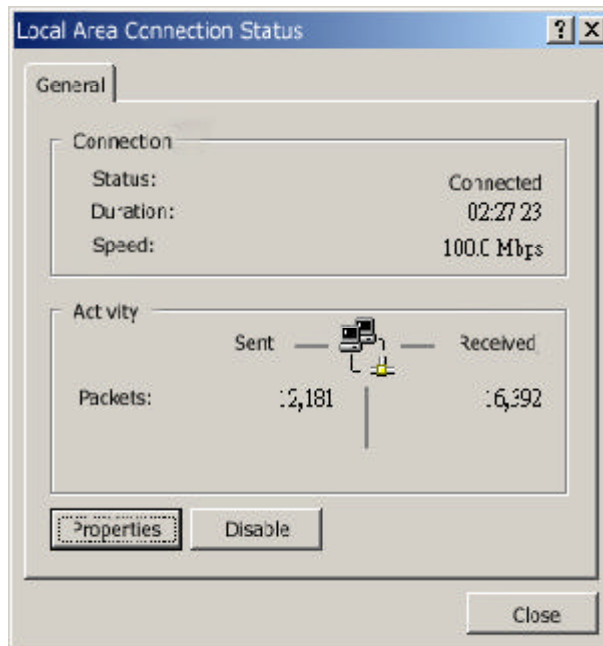
- Step1. Click **“Start”** in the desktop of the Windows to select **“Settings”**, and then select **“Control Panel”**.



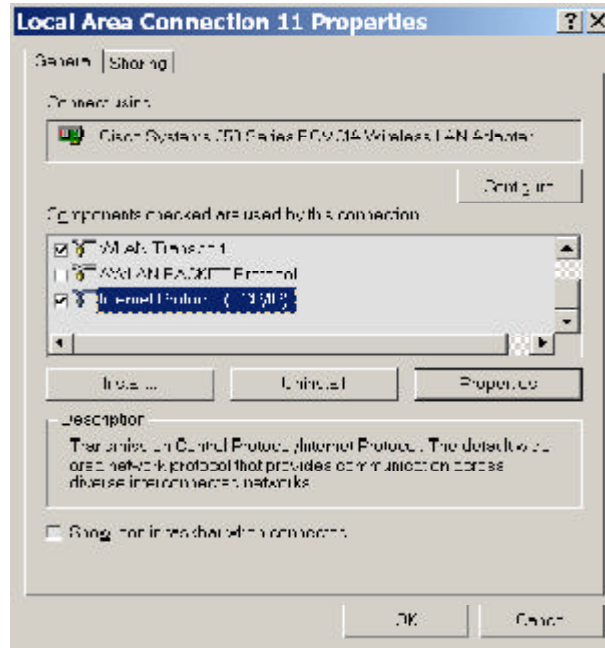
Step2. Double-click the **“Network and Dial-up Connections”** icon.



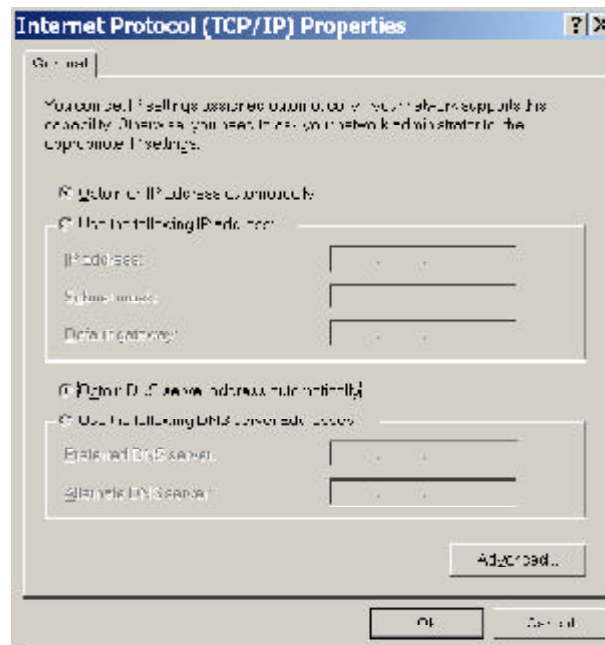
Step3. Double-click the **“LAN CONNECTION”** and click the **“Properties”** button.



- Step4. The “**Local Area Connection Properties**” dialog box will appear. Verify that the Internet Protocol (TCP/IP) item is checked. And then double-click the “**Internet Protocol (TCP/IP)**” item.

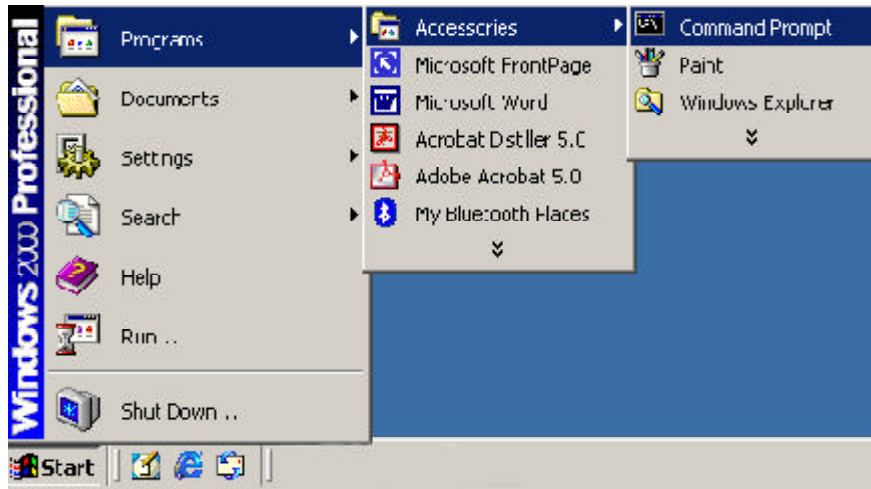


- Step5. Select “**Obtain an IP address automatically**” and “**Obtain DNS server address automatically**”, click the “**OK**” button to return to Local Area Connection Properties. Click the “**OK**” button again to complete the PC configuration.

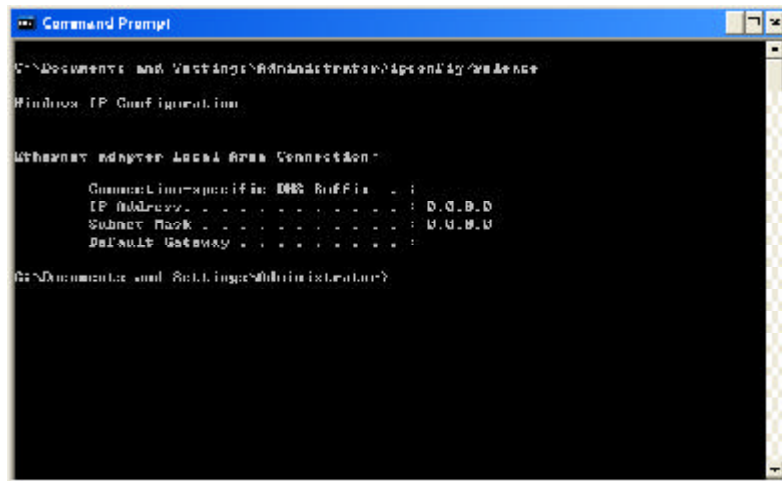


Now, the computer will obtain an IP address automatically from GN-B46B then you can go to the Step10 directly. If you would like to obtain an IP address manually, please refer to Step6~Step9.

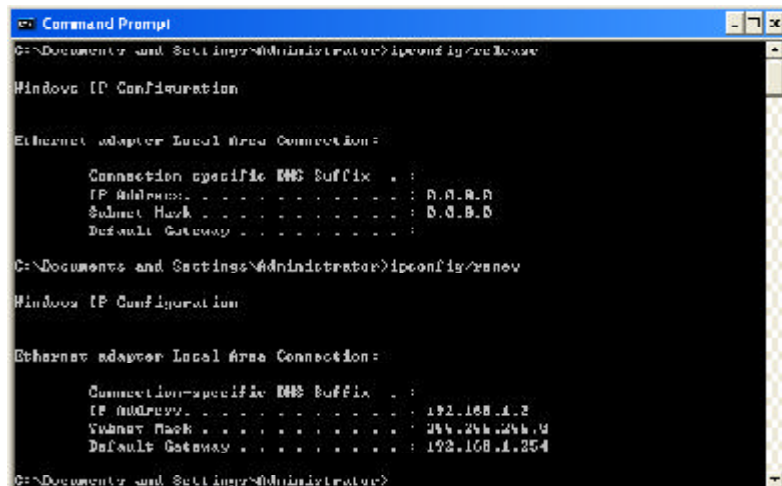
Step6. Click **“Start”** at the desktop of the Windows, and then **“Programs”**, **“Accessories”** and **“Command Prompt”** in sequence.



Step7. Key in the command **“ipconfig / release”** in DOS mode and then enter.

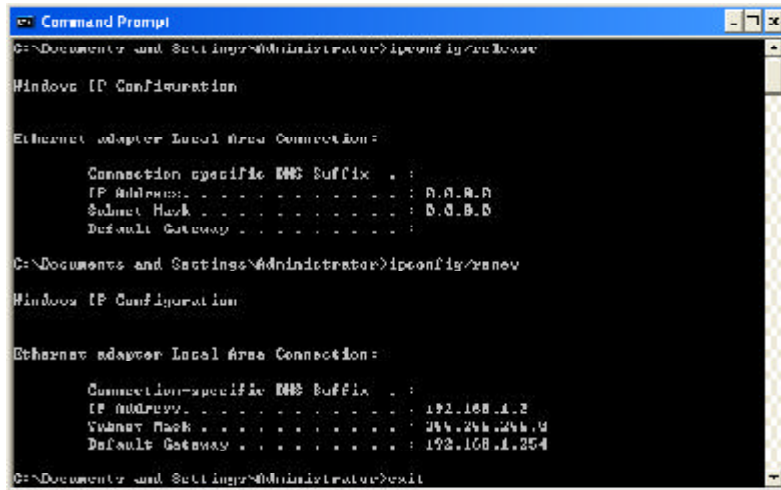


Step8. Key in the command **“ipconfig / renew”** and then enter.

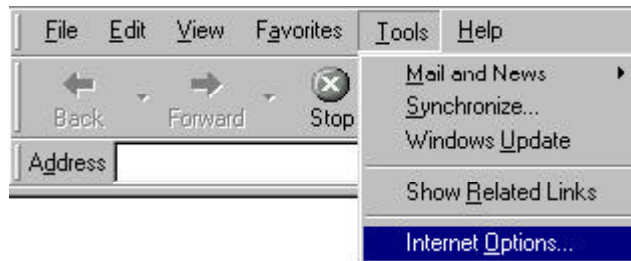


Note: *If the IP address of the GN-B46B is 192.168.1.254, the IP address of your computer must be 192.168.1.X (where “X” is a number between 1 and 253. Each computer on your network must have a different IP address within that range where “X” represents a number between 1 and 253.) The default gateway must be 192.168.1.254.*

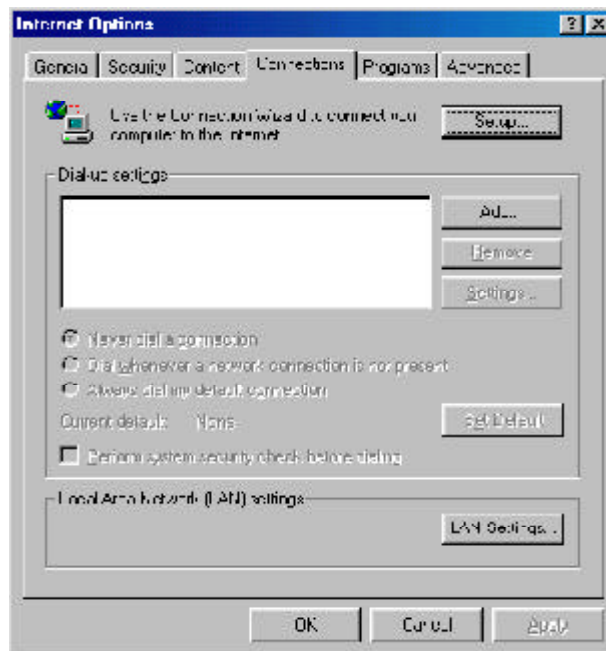
Step9. Key in “**exit**” and then enter.



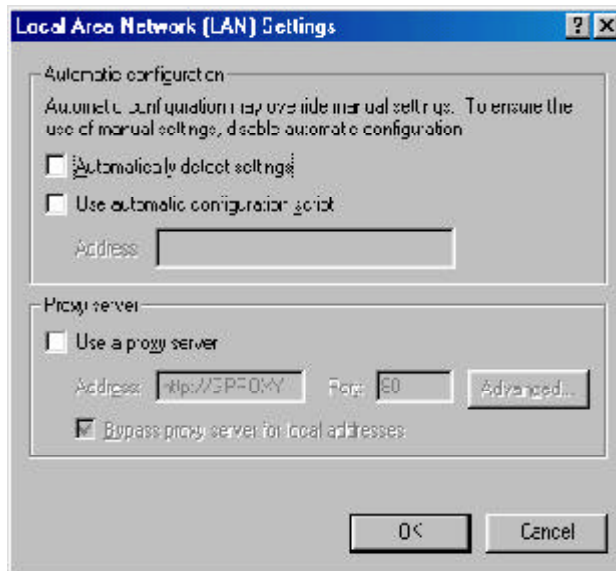
Step10. In your “**IE Browser**” select “**Internet Options**” under “**Tools**”.



Step11. In this dialog box, please click the “LAN Settings” on the “Connections” tab.



Step12. Please DO NOT tick all of the selection boxes. Click the “OK” button after finishing with the setup, and go to the “Chapter4 Basic Setup for Router”.



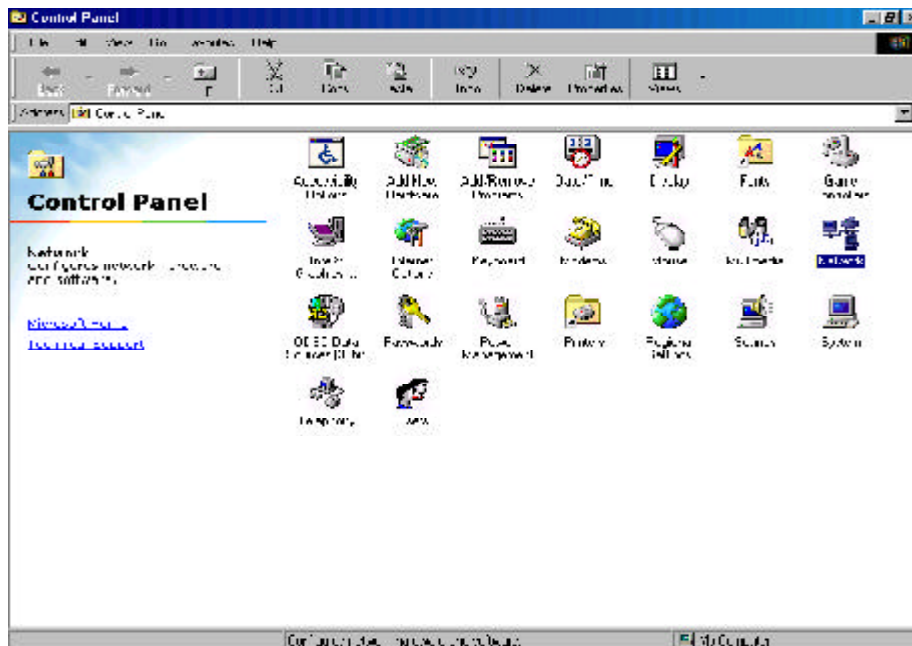
Note: If your ISP Company has a designated Proxy setting, Key in the setting after you complete the GN-B46B configuration.

The Settings under Windows 95/98/Me

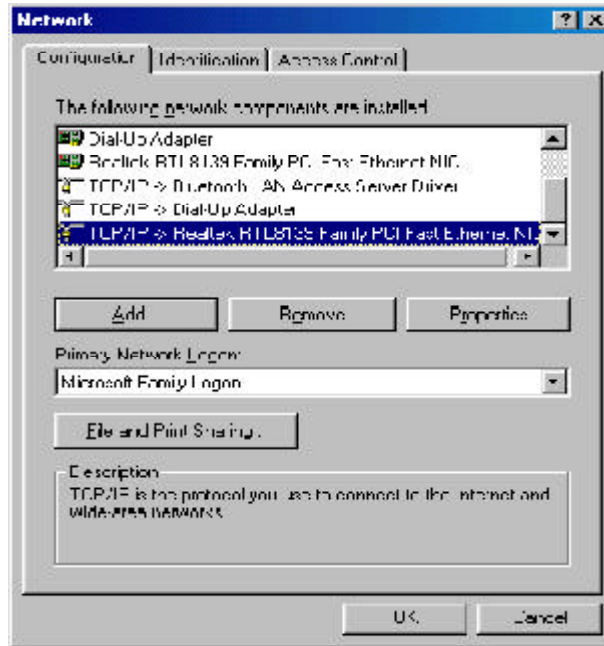
- Step1. Click **"Start"** at the desktop of the Windows and select **"Settings"**, and then select the **"Control Panel"**.



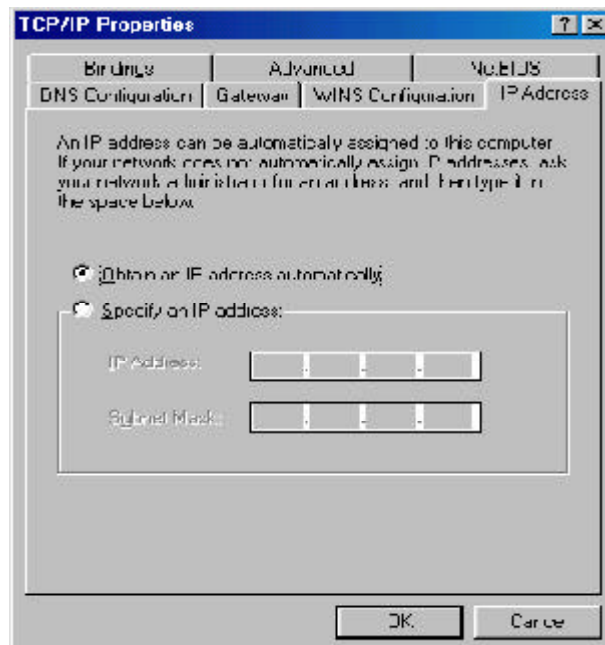
- Step2. Double-click the **"Network"** icon.



Step3. On the Configuration tab, please choose your appropriate setting “TCP/IP-> your network LAN card” and click “Properties” button.



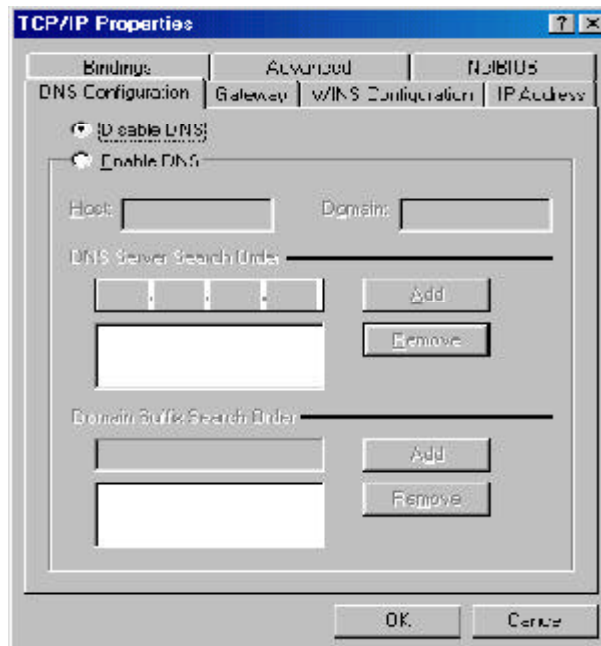
Step4. Select the “IP Address” tab. Please select “Obtain an IP address automatically” and then select the “Gateway” tab.



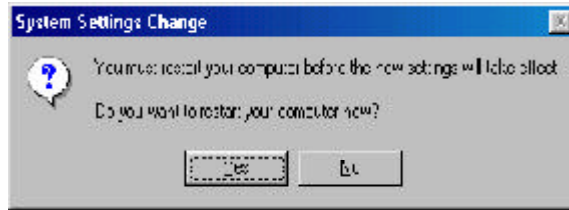
- Step5. On the “**Gateway**” tab, please clear all *installed gateways* and do not fill any of the blanks and then select the “**DNS Configuration**” tab.



- Step6. On the “**DNS Configuration**” tab, please select “**Disable DNS**” and then click the “**OK**” button.



Step7. Click the “**OK**” button again. Windows will ask you to restart your PC. Please click the “**Yes**” button. If Windows does not ask you to restart , please restart your computer anyway.



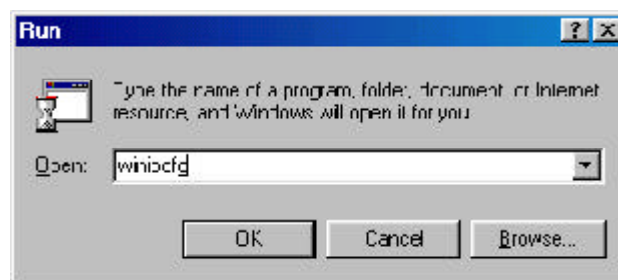
Note: The Windows may ask you for the original Windows installation disk or additional files. Please insert your Windows CD-ROM into your CD-ROM drive and check the correct location, e.g., D:\win98, D:\win9x, etc. (If “D” is your CD-ROM drive).

After booting the computer, the computer will obtain an IP address automatically from the GN-B46B then you can go to the Step11 directly. If you would like to obtain an IP address manually, please refer to Step8~Step10.

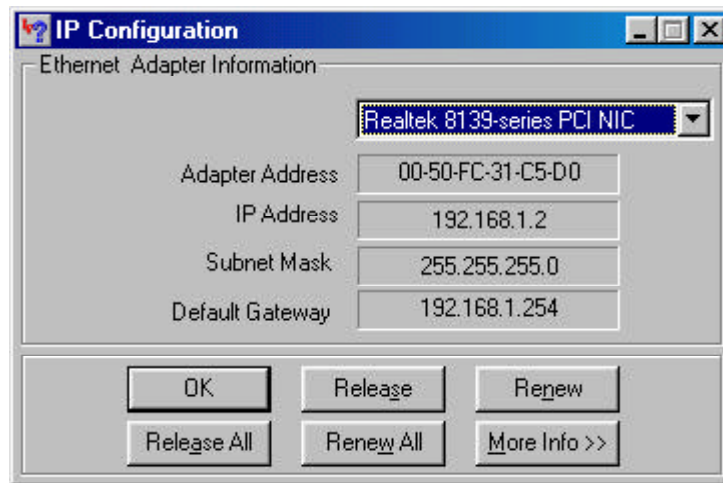
Step8. Click “**Start**” at the desktop of the Windows and select “**Run..**”.



Step9. Key in “**winipcfg**” and click the “**OK**” button.



- Step10. In the pulled down menu, please select your network LAN card and click the **“Release All”** button, and then click the **“Renew All”** button. Click the **“OK”** button.

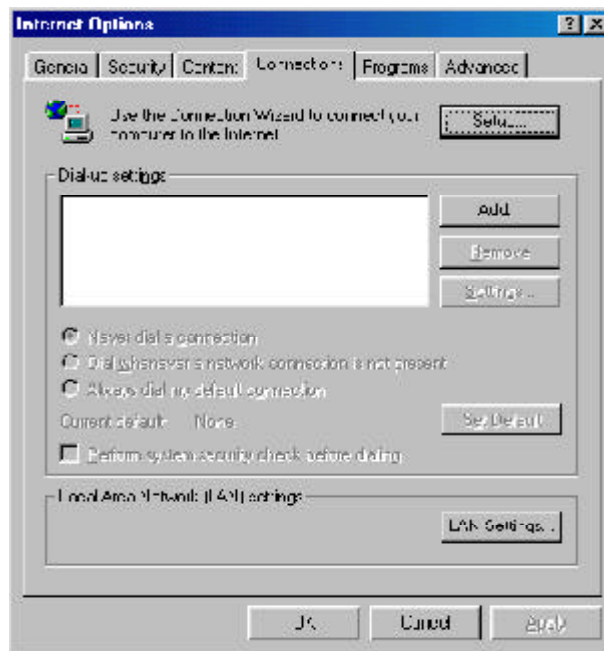


Note: If the IP address of the GN-B46B is 192.168.1.254, the IP address of your computer must be 192.168.1.X (where “X” is a number between 1 and 253. Each computer on your network must have a different IP address within that range where “X” represents a number between 1 and 253.) The default gateway must be 192.168.1.254.

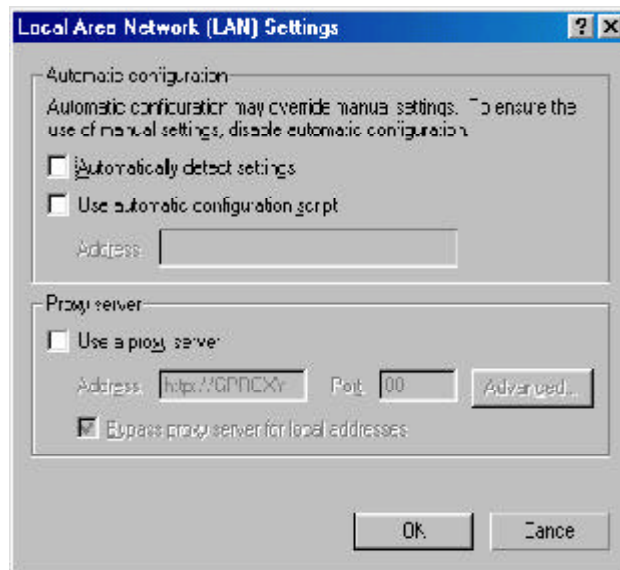
- Step11. In your **“IE Browser”** select **“Internet Options”** under **“Tools”**.



Step12. In this dialog box, please click the “LAN Settings” on the “Connections” tab.



Step13. Please DO NOT tick all of the selection boxes. Click the “OK” button after finishing with the setup, and go to the “Chapter4 Basic Setup for Router”.



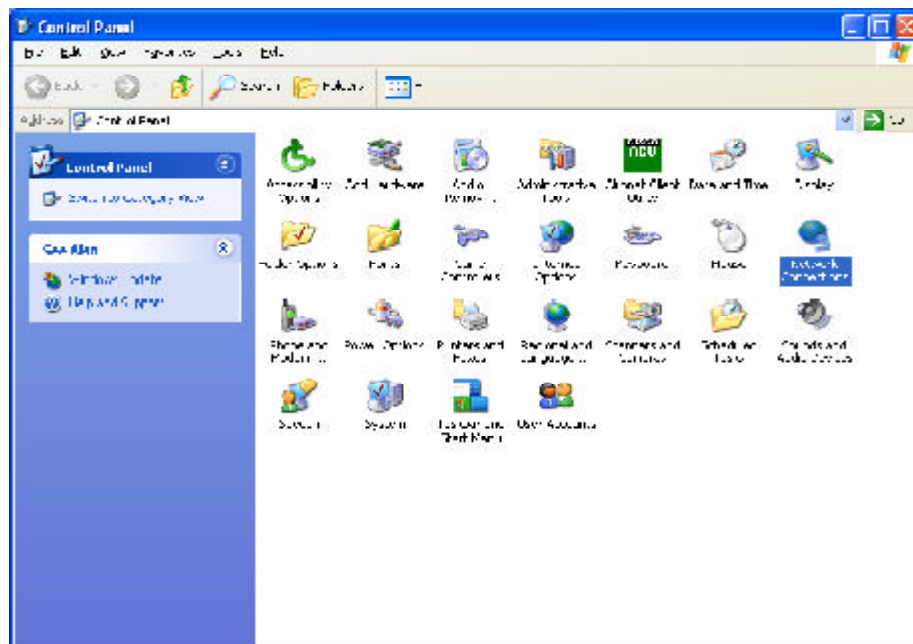
Note: If your ISP Company has a designated Proxy setting, Key in the setting after you complete the GN-B46B configuration.

The Settings under Windows XP

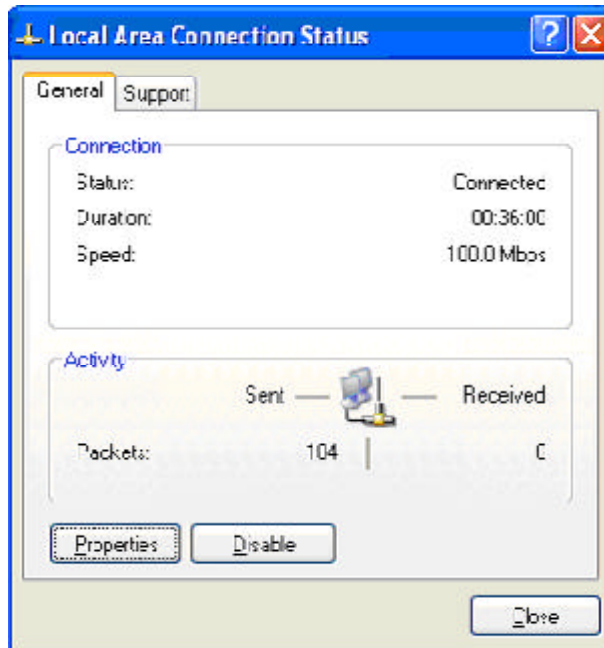
- Step1. Click **“Start”** in the desktop of the Windows to select **“Settings”**, and then select **“Control Panel”**.



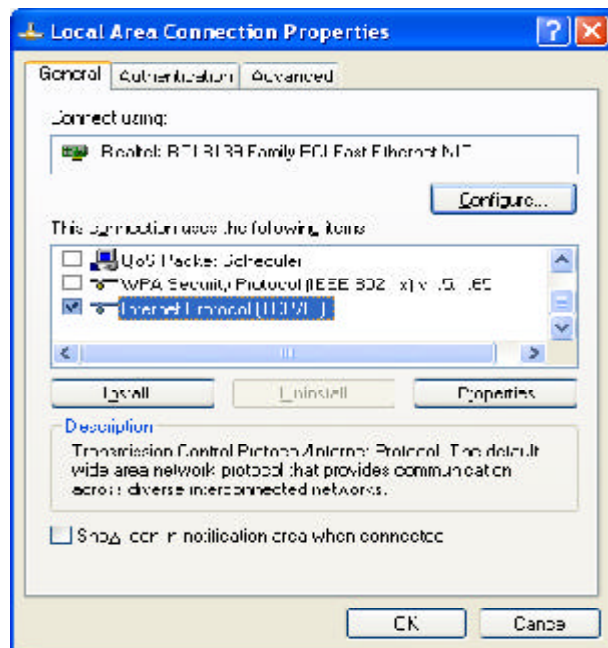
- Step2. Double-click the **“Network and Dial-up Connections”** icon.



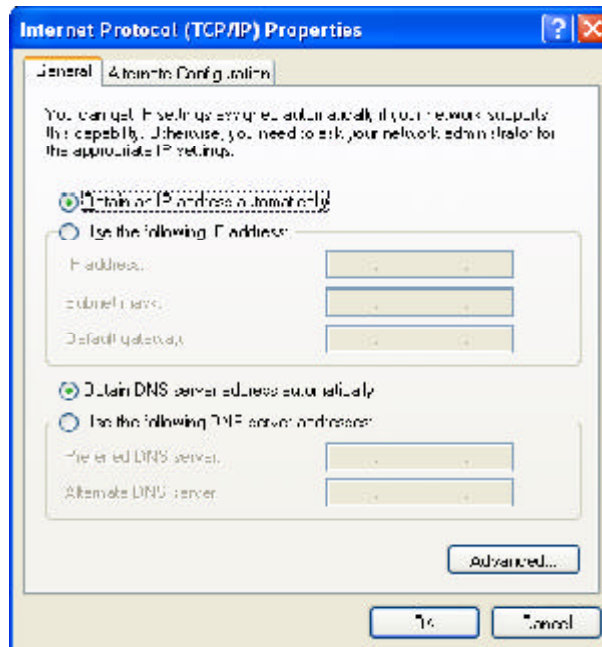
Step3. Double-click the **“LAN CONNECTION”** and click the **“Properties”** button.



Step4. The **“Local Area Connection Properties”** dialog box will appear. Verify that the Internet Protocol (TCP/IP) item is checked. And then double-click the **“Internet Protocol (TCP/IP)”** item.

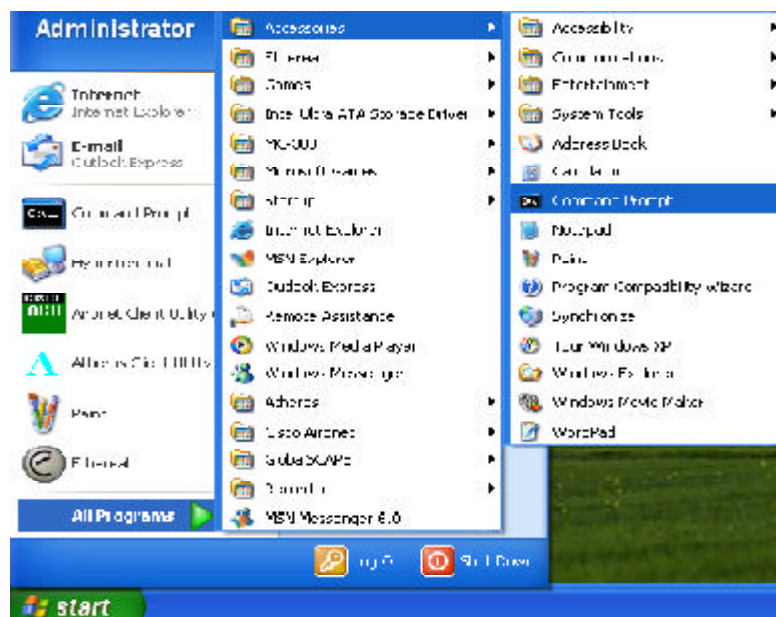


- Step5. Select “**Obtain an IP address automatically**” and “**Obtain DNS server address automatically**”, click the “**OK**” button to return to Local Area Connection Properties. Click the “**OK**” button again to complete the PC configuration.

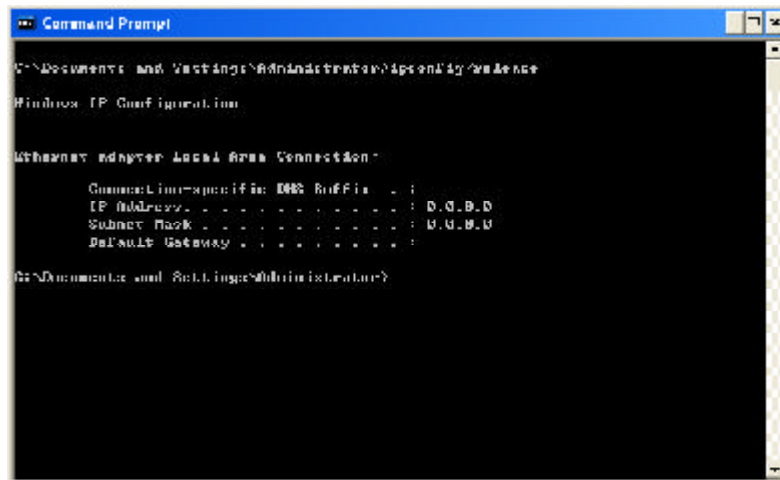


Now, the computer will obtain an IP address automatically from GN-B46B then you can go to the Step10 directly. If you would like to obtain an IP address manually, please refer to Step6~Step9.

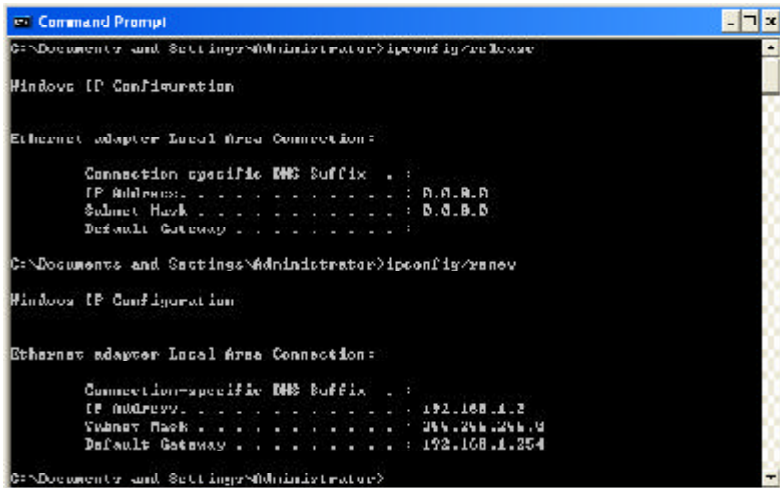
- Step6. Click “**Start**” at the desktop of the Windows, and then “**Programs**”, “**Accessories**” and “**Command Prompt**” in sequence.



Step7. Key in the command “**ipconfig / release**” in DOS mode and then enter.

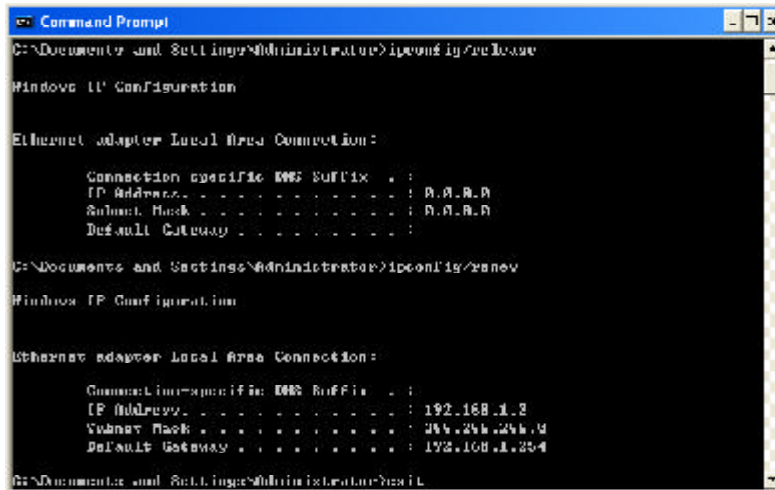


Step8. Key in the command “**ipconfig / renew**” and then enter.

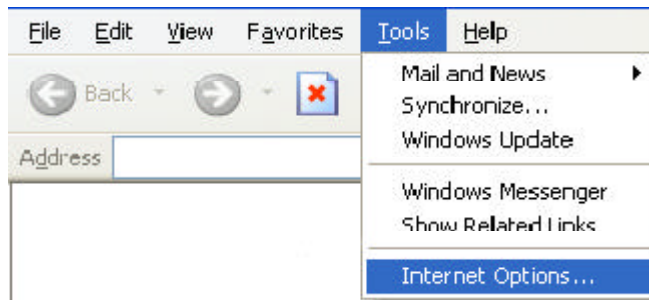


Note: *If the IP address of the GN-B46B is 192.168.1.254, the IP address of your computer must be 192.168.1.X (where “X” is a number between 1 and 253. Each computer on your network must have a different IP address within that range where “X” represents a number between 1 and 253.) The default gateway must be 192.168.1.254.*

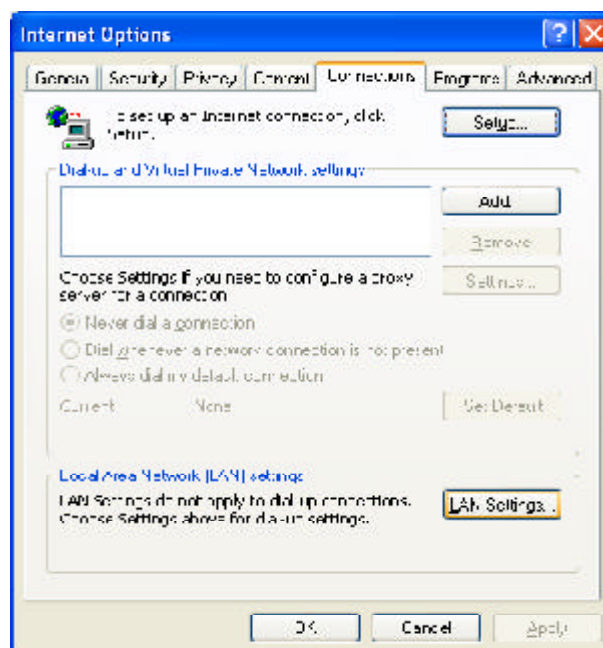
Step9. Key in “**exit**” and then enter.



Step10. In your “**IE Browser**” select “**Internet Options**” under “**Tools**”.



Step11. In this dialog box, please click the “**LAN Settings**” on the “**Connections**” tab.



Step12. Please **DO NOT** tick all of the selection boxes. Click the “**OK**” button after finishing with the setup, and go to the “**Chapter4 Basic Setup for Router**”.



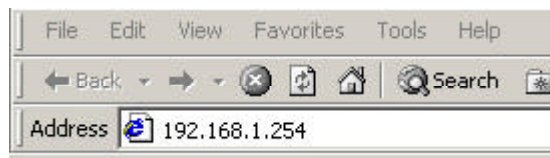
Note: If your ISP Company has a designated Proxy setting, Key in the setting after you complete the GN-B46B configuration.

Chapter4 Basic Setup for Router

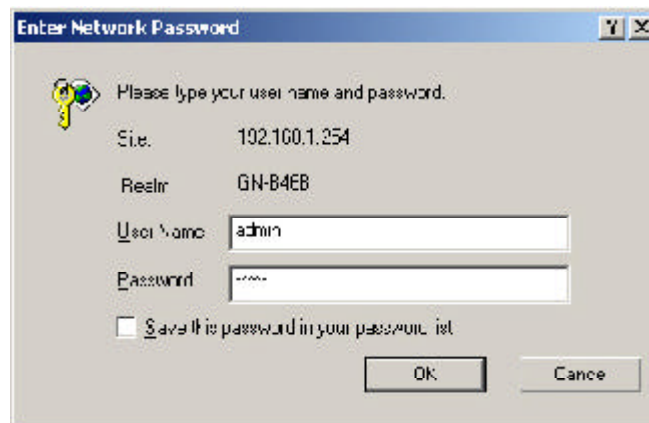
The GN-B46B provides Web based configuration. You can configure your GN-B46B through your Internet Explorer browser or Netscape Communicator.

Log in to the Router

- Step1. Key in the preset IP address“**192.168.1.254**” in the address column in the browser, and then press enter.



- Step2. The dialogue box will appear as shown in the following diagram, and key in the default user name “**admin**” for the wideband network GN-B46B and the default password “**admin**”, and then press “**OK**”.



Setup Wizard

Step3. The homepage of the GN-B46B will appear as shown below, and click the “Setup Wizard” on the screen, and such Setup Wizard will guide you to complete the necessary steps for the setup on screen as follows.



LAN Setup

Step4. “LAN Setup” is shown in the diagram. Each setup item of the local area network is default setting, and is not necessary to make change to it for normal operation. Please input the settings on your own if change is needed.

IP Address & Subnet Mask

The values are the Router’s IP Address and Subnet Mask. The default values are 192.168.1.254 for the IP Address and 255.255.255.0 for the Subnet Mask.

DHCP Setup

- ❖ “enabled” indicates that the DHCP function of the router is initialized, and will automatically assign an IP Address to the computer that is connected to the LAN end of the router.
- ❖ ”disabled” indicates that all IP Address of all the computers need to assign the IP address manually.

DHCP Start Address / End Address

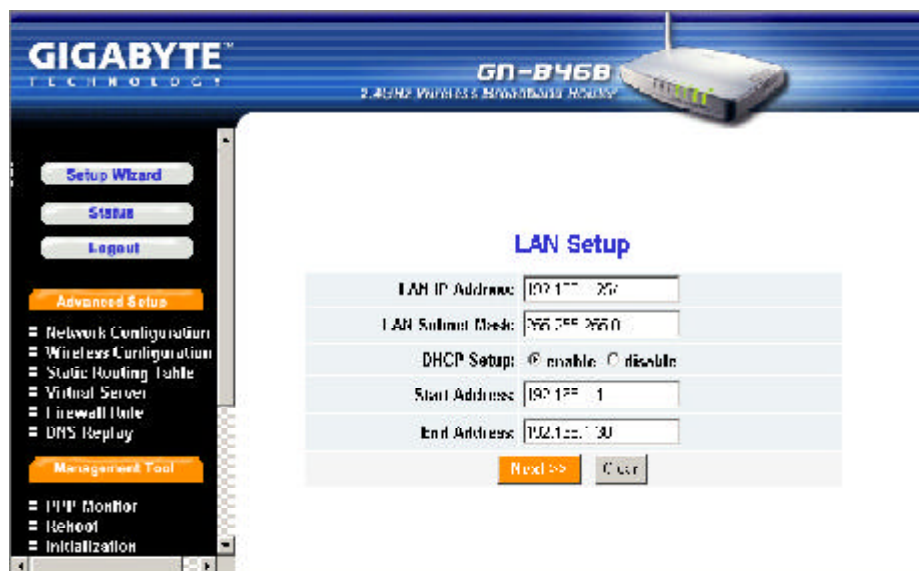
When the DHCP setting is “enable”, the GN-B46B uses this allocable range of the IP address as the initial value to assign the IP to the PC connected to the LAN end.

For example,

The DHCP start address is 192.168.1.1 and the end address is 192.168.1.50.

The IP allocable range of the DHCP is from 192.168.1.1 to 192.168.1.50.

Click “**Next**”, go to next step.



GIGABYTE
TECHNOLOGY

GN-B46B
4-PORT WIRELESS BROADBAND ROUTER

Setup Wizard
Status
Logout

Advanced Setup

- Network Configuration
- Wireless Configuration
- Static Routing Table
- Virtual Server
- Firewall Rule
- DNS Replay

Management Tool

- HTTP Monitor
- Reboot
- Initialization

LAN Setup

LAN IP Address:	192.168.1.255
LAN Subnet Mask:	255.255.255.0
DHCP Setup:	<input checked="" type="radio"/> enable <input type="radio"/> disable
Start Address:	192.168.1
End Address:	192.168.1.50

Next >> Cancel

Step5. Choose your desired wide area network mode.

- **“PPPoE”**: If you are using the hourly rate for the ADSL, please select this item. And then please follow Step 6
- **“Dynamic IP Address”**: If you use the wideband fixed connection of ADSL/ Cable Modem, but do not have a static IP, please select this item. And then please follow Step 10
- **“Static IP Address”**: If you use the wideband fixed connection of ADSL/ Cable Modem, but have a static IP, please select this item. And then please follow Step 14
- **“PPPoE Unnumber”**: If you are the user of the PPPoE Unnumber, please select this item. And then please follow Step18.

After your desired wide area network mode is selected, please press **“Next”**.



PPPoE

Step6. If you select “**PPPoE**” under the WAN TYPE SELECT, key in the User ID and password. The wideband company provides the above data, and press “**Finish**” to go to next step.

■ **PPPoE User ID and Password:**

The “User ID” and “Password” are your ISP assigned to you.



Step7. Press “**Reboot**” to go to next step.



Step8. Please wait a moment.



Step9. The IE browser will be automatically connected to the main menu, and your setup has completed by then. Please use your IE connect to Internet.

Note: If you can connect to the Internet , the setting is completed. If you use the Wireless Lan Card connection or need further setting, please continue to **Chapter5 Advanced Setup**.



Dynamic IP Address

Step10. If you select the **“Dynamic IP Address”** in the WAN TYPE SELECT, the following screen will appear. Please key in the Host Name if your ISP has provided. And then press **“Finish”** to go to next step.



Step11. Press **“Reboot”** to go to next step.



Step12. Please wait a moment.



Step13. The IE browser will be automatically connected to the main menu, and your setup has completed by then. Please use your IE connect to Internet.

Note: If you can connect to the Internet , the setting is completed. If you use the Wireless Lan Card connection or need further setting, please continue to **Chapter5 Advanced Setup**.



Static IP Address

Step14. If you select “**Static IP Address**” in the WAN TYPE SELECT, please key in the data provided by the wideband company in the following fields as shown below. And then press “**Finish**” to go to next step.

Note: If your wideband company gives you more than one IP address, then select one of them to fill in the column in the following fields.

Step15. Press “**Reboot**” to go to next step.

Step16. Please wait a moment.



Step17. The IE browser will be automatically connected to the main menu, and your setup has completed by then. Please use your IE connect to Internet.

Note: If you can connect to the Internet , the setting is completed. If you use the Wireless Lan Card connection or need further setting, please continue to **Chapter5 Advanced Setup**.



PPPoE Unnumber

Step18. If you select “**PPPoE Unnumber**” in the WAN TYPE SELECT, please key in the data provided by the wideband company in the following fields as shown below. And then press “**Finish**” to go to next step.

Note: If your wideband company gives you more than one IP address, then select one of them to fill in the column in the following fields.

The screenshot shows the configuration interface for the Gigabyte GN-B46B router. The page title is "PPPoE Unnumber". On the left, there is a navigation menu with sections: "Setup Wizard" (Setup Wizard, Status, Logout), "Advanced Setup" (Network Configuration, Wireless Configuration, Static Routing Table, Virtual Server, Firewall Rule, DNS Relay), and "Management Tool" (PPP Monitor, Reboot, Initialization, Change Password, Change WAN Mode). The main content area contains the following fields:

User ID:	<input type="text"/>
Password:	<input type="text"/>
WAN IP Address:	<input type="text"/>
WAN Subnet Mask:	<input type="text"/>

At the bottom of the form are three buttons: "Back", "Finish", and "Help".

Step19. Press “**Reboot**” to go to next step.

The screenshot shows the configuration interface for the Gigabyte GN-B46B router. The page title is "Setup Completed!". The left navigation menu is the same as in the previous screenshot, but the "Management Tool" section now includes "Reboot" and "Initialization". The main content area contains the following text:

Setup Completed!
Please reboot the Router now.

At the bottom of the main content area is a single button: "Reboot".

Step20. Please wait a moment.



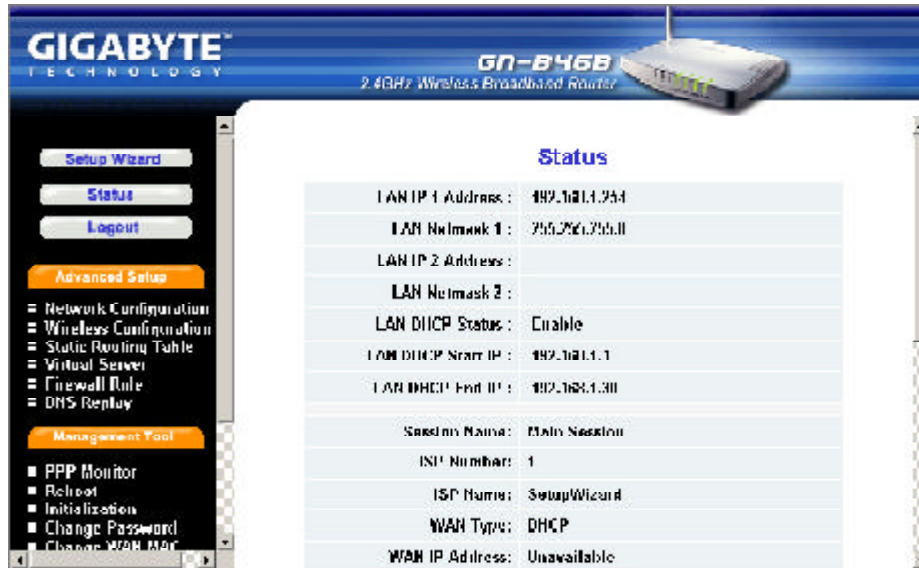
Step21. The IE browser will be automatically connected to the main menu, and your setup has completed by then. Please use your IE connect to Internet.

Note: If you can connect to the Internet , the setting is completed. If you use the Wireless Lan Card connection or need further setting, please continue to **Chapter5 Advanced Setup**.



Status

You can use this status screen to view the router's current connection status and configuration.



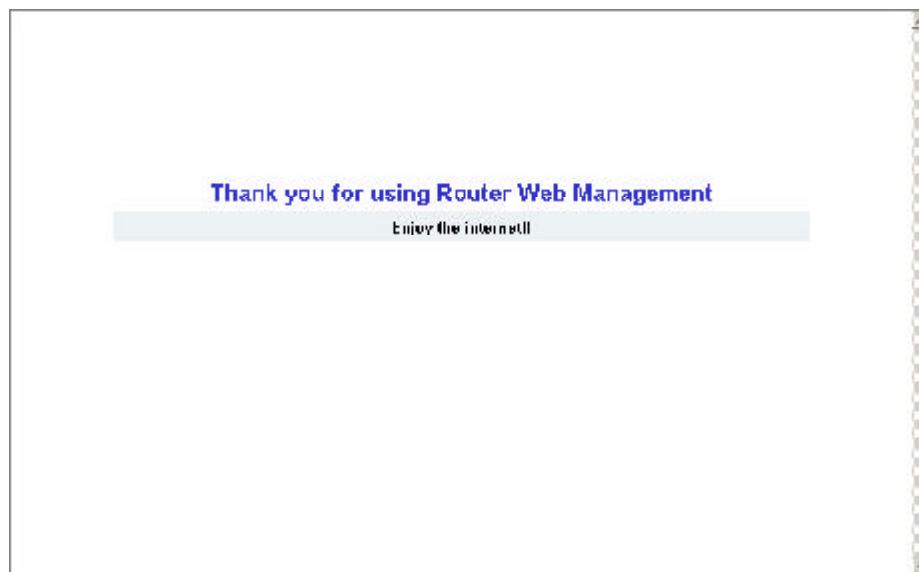
The screenshot shows the Gigabyte GN-B46B router's web management interface. The top banner features the Gigabyte logo and the model name. The left sidebar contains navigation options: Setup Wizard, Status, Logout, Advanced Setup, and Management Tool. The main content area displays the Status page with the following configuration details:

Status	
LAN IP 1 Address :	192.168.1.254
LAN Netmask 1 :	255.255.255.0
LAN IP 2 Address :	
LAN Netmask 2 :	
LAN DHCP Status :	Enable
LAN DHCP Start IP :	192.168.1.1
LAN DHCP End IP :	192.168.1.30
Session Name :	Main Session
ISP Number :	1
ISP Name :	SetupWizard
WAN Type :	DHCP
WAN IP Address :	Unavailable

Logout

As you finished the configuration of the GN-B46B, please choose “Logout”.

Note: After 5 minutes idle time, the system will be logout automatically.



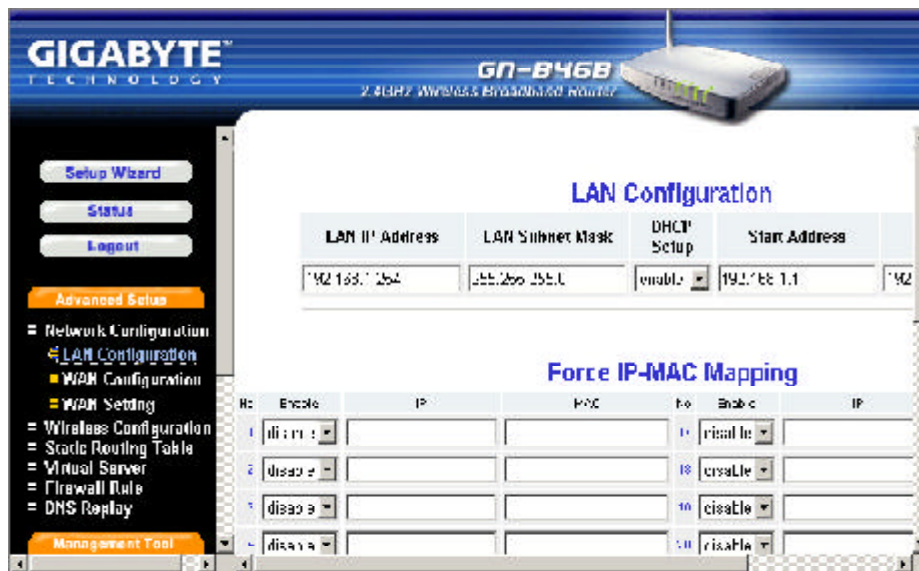
Chapter 5 Advanced Setup

This chapter will show you the advanced setup of the GN-B46B if you need require special configuration.

Network Configuration

The Network Configuration function allows you to access to the LAN Configuration, WAN Configuration and WAN Configuration Setting.

LAN Configuration



- **LAN Configuration**
From this table, you can modify the LAN setting if it necessary.
- **Force IP-MAC Mapping**
This function allows you to assign a specific IP address to one specific PC.

Verify the desired setting and then click the **“Submit”** button to set the value into GN-B46B.