

2.4GHz Wireless Broadband Router

USER MANUAL

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1. Overview

1.1 Product Feature

- ? Compliance with IEEE 802.11g and 802.11b standards
- ? Highly efficient design mechanism to provide unbeatable performance
- ? Strong network security with WEP and 802.1X encryption
- ? Achieving data rate up to 54Mbps for 802.11g and 11Mbps for 802.11b with wide range coverage; high performance to deliver up to 54Mbps raw data rate for 802.11g
- ? Quick and easy setup with Web-based management utility

1.2 System Requirements

- ? Windows 98, 98SE, Millennium Edition (ME), 2000 and XP operating systems
- ? Microsoft Internet Explorer 5.5 or higher
- ? DSL/ Cable Modem Broadband Internet connection and ISP account
- ? PCs equipped with 10Mbps or 10/100 Mbps Ethernet connection to support TCP/IP protocol
- ? One CD-ROM drive

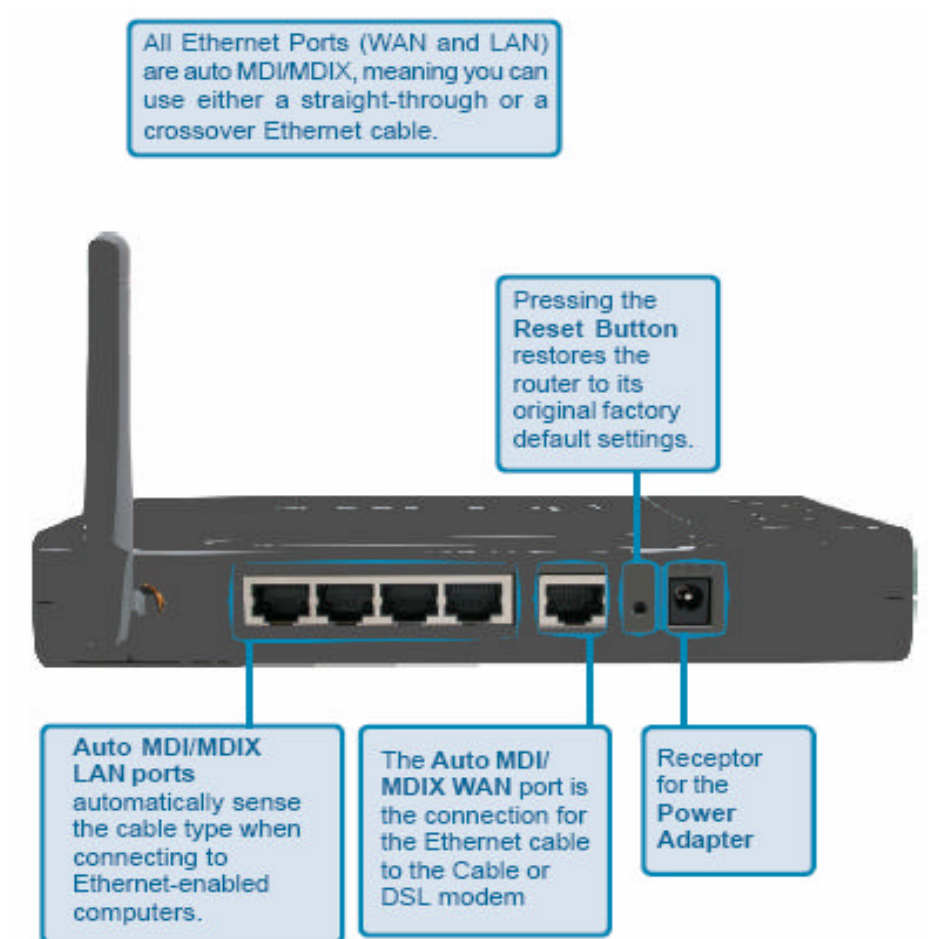
1.3 Applications

- ? Home SOHO networking for device sharing and wireless multimedia
- ? Wireless office provides a wider range for home and SOHO Ethernet
- ? Enables wireless building-to-building data communication
- ? Built-in infrastructure mode
- ? Router provides ideal solution for:
 - ? Difficult-to-wire environments
 - ? Temporary LANs for scenarios such as trade-exhibitions and meetings
 - ? Enables LAN adaptability to frequently changing environments
 - ? Enables remote access to corporate network information, for example e-mail and the company home page

2. Getting Start

2.1 Know the 54Mbps Wireless Router

Ports:



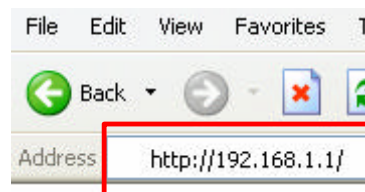
LEDs:

LED	Color	Status	Description
Power	Green	On	Indicates proper connection to power supply.
		OFF	The unit is not receiving power
Status	Green	On	Indicates that the device is connected to the WLAN.
WAN	On		Indicates connection to the WAN port
		Blinking	Data transmission.
WLAN	On		Link is established
	On	Blinking	Packet transmit or receive activity
	Off	—	No Link activity
LAN	On		Indicates connection is established.
	On	Blinking	Data transmissions
	Off	—	No LAN connections

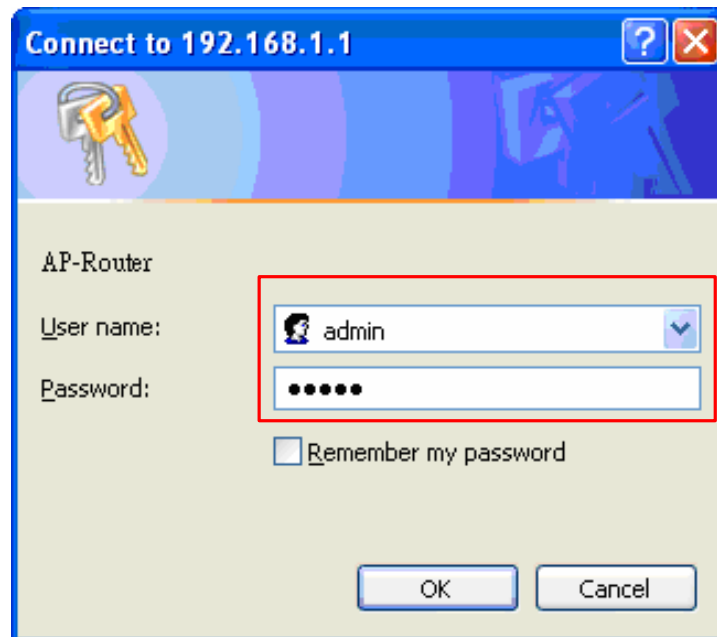
2.2 Connect to the 54Mbps Wireless Router

2.2.1 Access the Setting Menu

You could start to access the configuration menu anytime by opening a web browser window by typing the IP address of this wireless router. The default IP is 192.168.1.1.



The below window will popup. Please enter the user name and password. Both of the default is “admin”.



A login window titled "Connect to 192.168.1.1" with a blue header bar. Below the header is a decorative banner with a key icon. The main area is light gray and contains the text "AP-Router". Below this, there are two labels: "User name:" and "Password:". The "User name:" field is a dropdown menu showing "admin". The "Password:" field is a text box with ten dots. Below these fields is a checkbox labeled "Remember my password". At the bottom right are "OK" and "Cancel" buttons. A red rectangle highlights the "User name:" and "Password:" fields.

Connect to 192.168.1.1

AP-Router

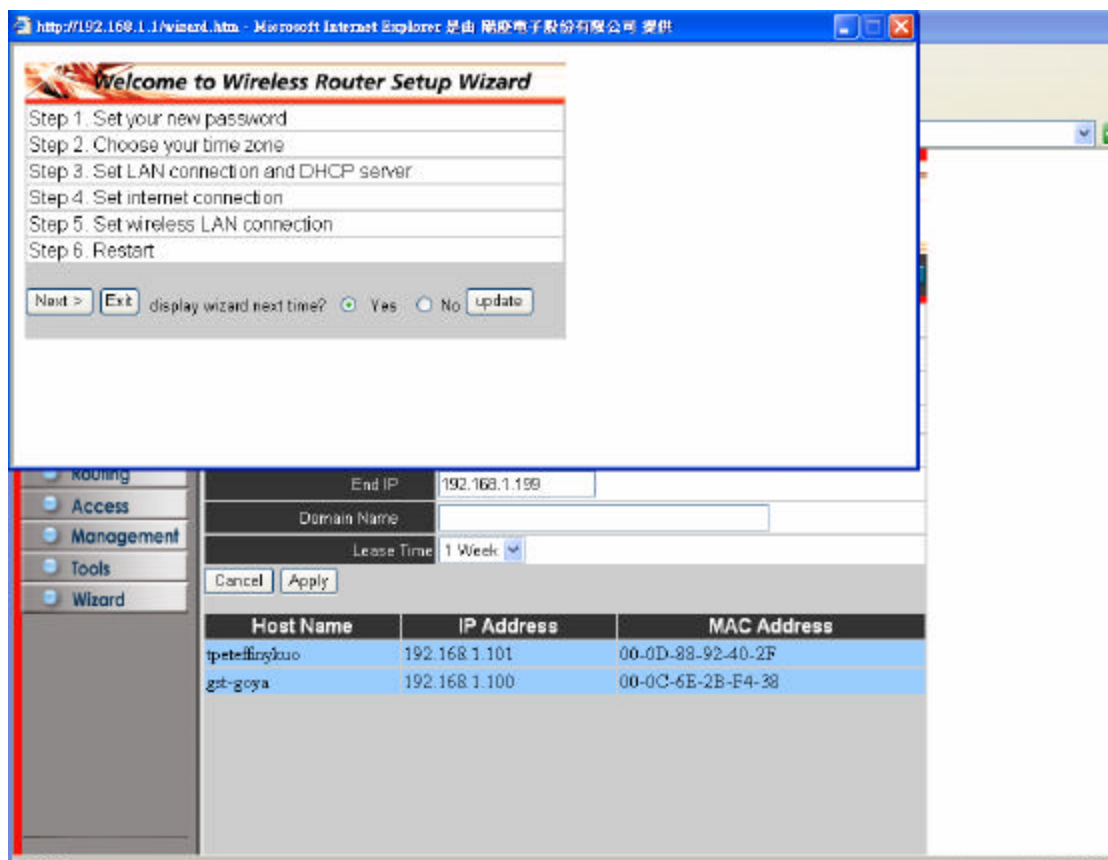
User name: admin

Password:

☐ Remember my password

OK Cancel

Now, the main menu screen is popup.



A screenshot of a web browser showing the "Welcome to Wireless Router Setup Wizard" page. The page has a blue header bar with the title "Welcome to Wireless Router Setup Wizard". Below the header is a list of steps: Step 1. Set your new password, Step 2. Choose your time zone, Step 3. Set LAN connection and DHCP server, Step 4. Set internet connection, Step 5. Set wireless LAN connection, and Step 6. Restart. Below the list are buttons for "Next >", "Exit", and "display wizard next time?" with radio buttons for "Yes" and "No", and an "update" button. On the left side, there is a sidebar with a tree view containing "Routing", "Access", "Management", "Tools", and "Wizard". The "Management" section is expanded, showing a table with columns "Host Name", "IP Address", and "MAC Address". The table contains two rows: "tpetefingkuo" with IP "192.168.1.101" and MAC "00-0D-88-92-40-2F", and "gst-goya" with IP "192.168.1.100" and MAC "00-0C-6E-2B-E4-38". Above the table are fields for "End IP" (192.168.1.199), "Domain Name", and "Lease Time" (1 Week), with "Cancel" and "Apply" buttons.

http://192.168.1.1/wizard.htm - Microsoft Internet Explorer 是由 國際電子股份有限公司 提供

Welcome to Wireless Router Setup Wizard

Step 1. Set your new password
Step 2. Choose your time zone
Step 3. Set LAN connection and DHCP server
Step 4. Set internet connection
Step 5. Set wireless LAN connection
Step 6. Restart

Next > Exit display wizard next time? Yes No update

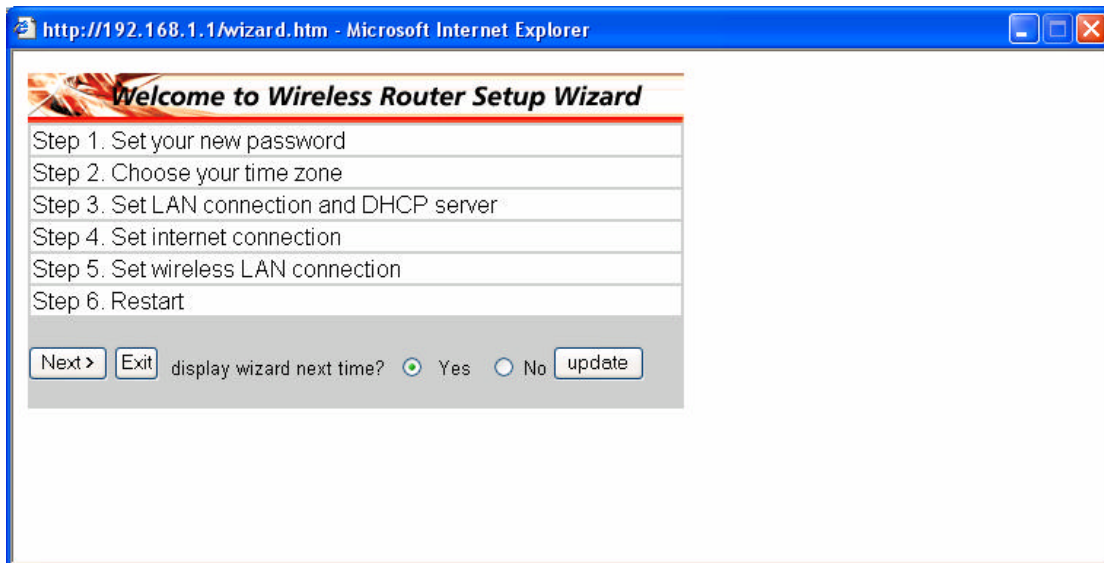
Routing
Access
Management
Tools
Wizard

End IP: 192.168.1.199
Domain Name:
Lease Time: 1 Week
Cancel Apply

Host Name	IP Address	MAC Address
tpetefingkuo	192.168.1.101	00-0D-88-92-40-2F
gst-goya	192.168.1.100	00-0C-6E-2B-E4-38

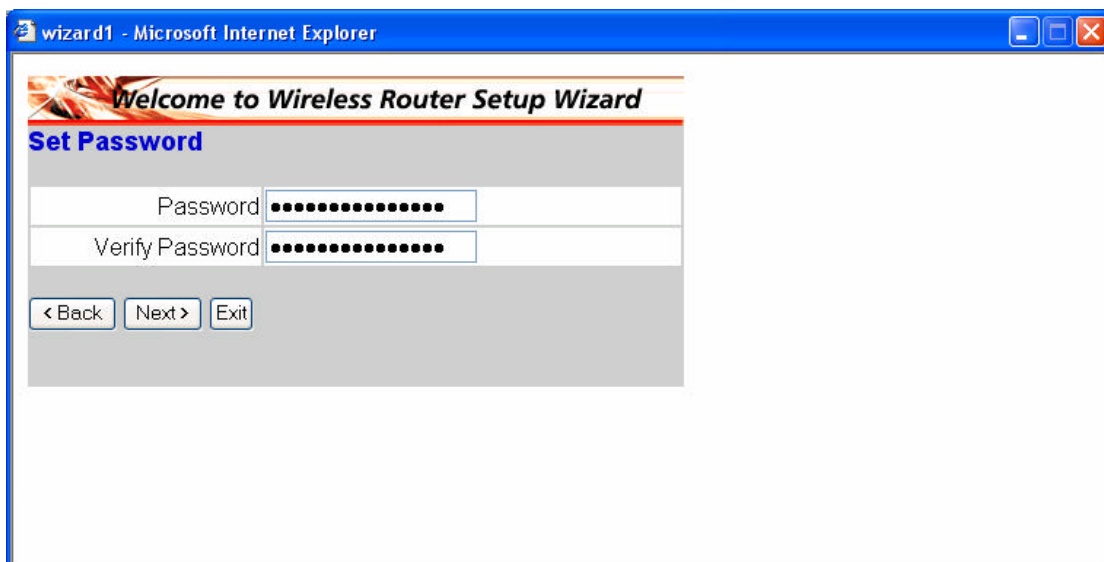
2.2.2 Quick Setup with Wizard

Setup wizard is provided as the part of the web configuration utility. You can simply follow the step-by-step process to get your wireless router configuration ready to run in 6 easy steps by clicking on the “**Wizard**” button on the function menu. The following screen will appear. Please click “**Next**” to continue.



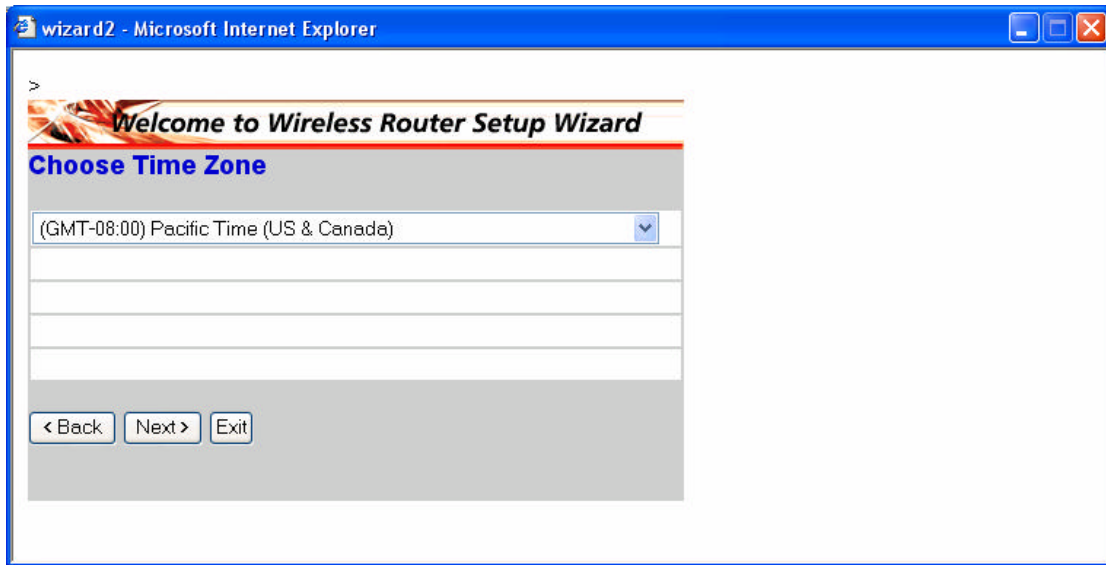
Step 1: Set your new Password

You can change the password as you like and then click “**Next**” to continue.



Step2: Choose your time zone

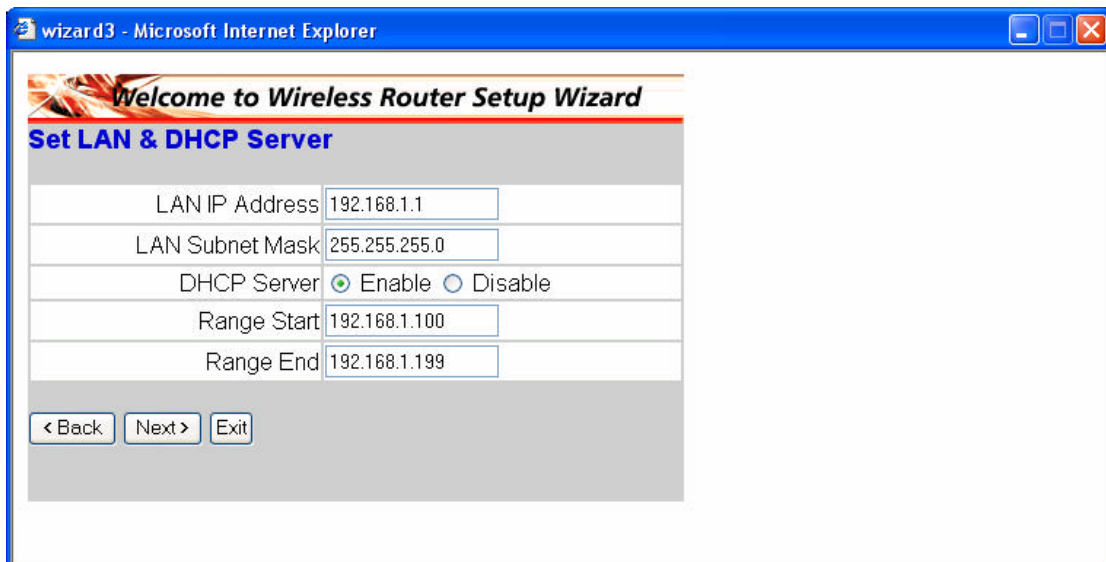
Select your time zone from the drop down list. Please click “**Next**” to continue.



The screenshot shows a web browser window titled 'wizard2 - Microsoft Internet Explorer'. The page has a header with a logo and the text 'Welcome to Wireless Router Setup Wizard'. Below the header, the title 'Choose Time Zone' is displayed. A dropdown menu is open, showing '(GMT-08:00) Pacific Time (US & Canada)' as the selected option. Below the dropdown, there are three empty text input fields. At the bottom of the form, there are three buttons: '< Back', 'Next >', and 'Exit'.

Step 3: Set LAN connection and DHCP server

Set your IP address and mask. The default IP is 192.168.1.1. If you like to enable DHCP, please click “**Enabled**”. DHCP enabled is able to automatically assign IP addresses. Please assign the range of IP addresses in the fields of “**Range start**” and “**Range end**”. Please click “**Next**” to continue.



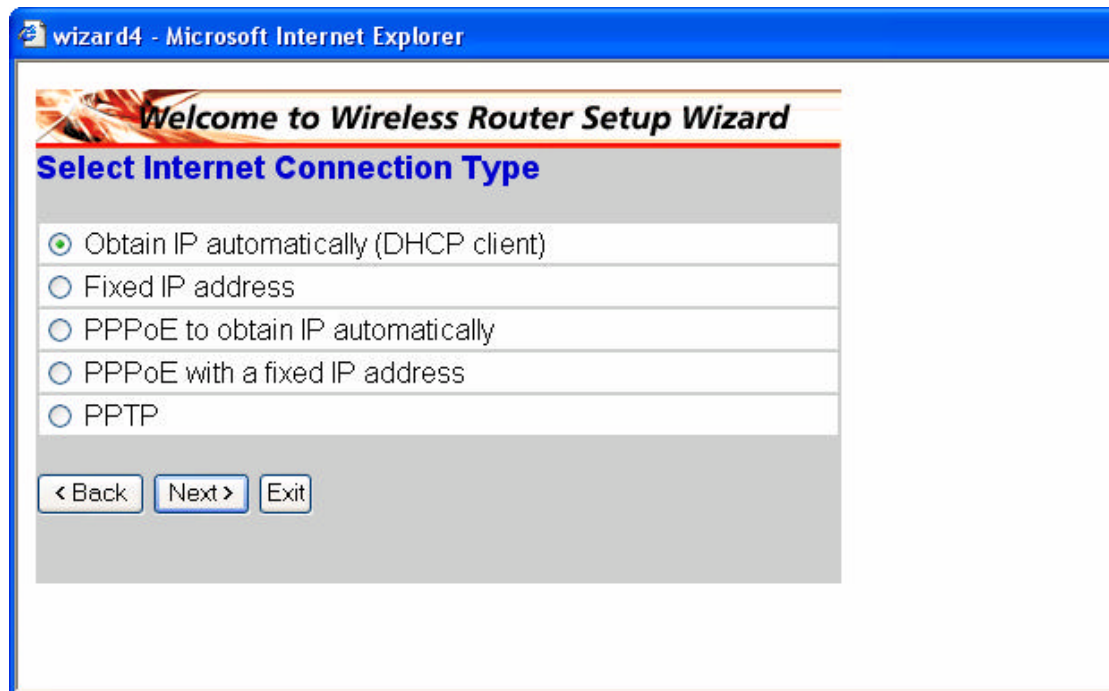
The screenshot shows a web browser window titled 'wizard3 - Microsoft Internet Explorer'. The page has a header with a logo and the text 'Welcome to Wireless Router Setup Wizard'. Below the header, the title 'Set LAN & DHCP Server' is displayed. The form contains several input fields: 'LAN IP Address' with the value '192.168.1.1', 'LAN Subnet Mask' with the value '255.255.255.0', 'DHCP Server' with radio buttons for 'Enable' (selected) and 'Disable', 'Range Start' with the value '192.168.1.100', and 'Range End' with the value '192.168.1.199'. At the bottom of the form, there are three buttons: '< Back', 'Next >', and 'Exit'.

Step 4: Set Internet connection

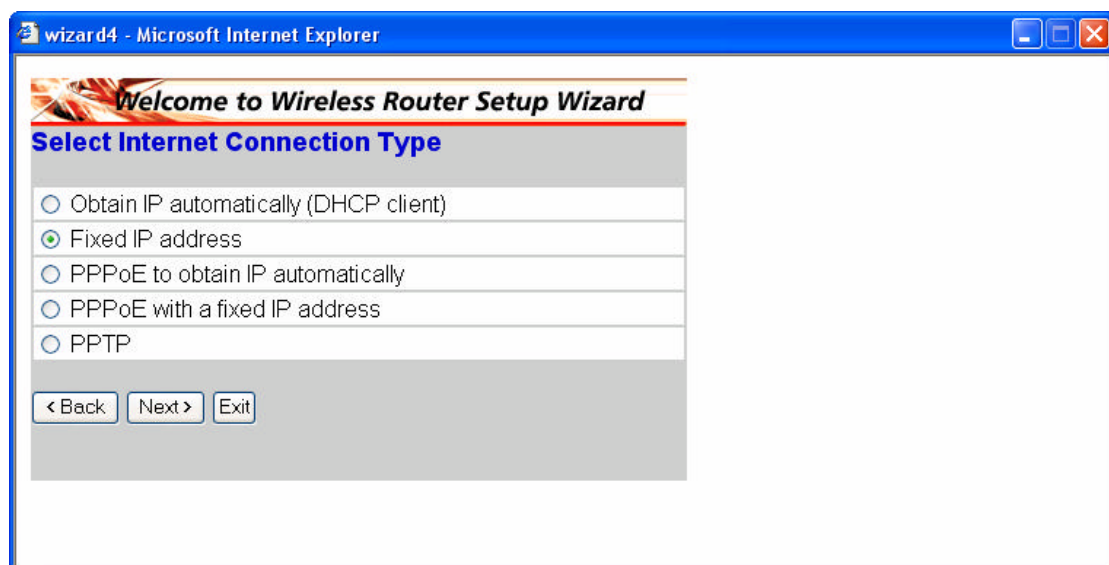
Select how the router will set up the Internet connection: Obtained IP automatically; Fixed IP address; PPPoE to obtain IP automatically; PPPoE with a fixed IP address; PPTP.

Obtain IP automatically (DHCP client):

If you have enabled DHCP server, choose "Obtain IP automatically (DHCP client)" to have the router assign IP addresses automatically.



Fixed IP Address:



If Fixed IP address is assigned, the below screen will pop up. Please set the WAN address and DNS server.

The screenshot shows a web browser window titled 'wizard5 - Microsoft Internet Explorer'. The page is titled 'Welcome to Wireless Router Setup Wizard' and 'Set Fixed IP Address'. It contains a table with input fields for WAN IP Address, WAN Subnet Mask, WAN Gateway Address, and three DNS Server Addresses, all currently set to 0.0.0.0. At the bottom are buttons for '< Back', 'Next >', and 'Exit'.

WAN IP Address	0.0.0.0
WAN Subnet Mask	0.0.0.0
WAN Gateway Address	0.0.0.0
DNS Server Address 1	0.0.0.0
DNS Server Address 2	0.0.0.0
DNS Server Address 3	0.0.0.0

< Back Next > Exit

PPPoE to obtain IP automatically:

The screenshot shows a web browser window titled 'wizard4 - Microsoft Internet Explorer'. The page is titled 'Welcome to Wireless Router Setup Wizard' and 'Select Internet Connection Type'. It lists six options with radio buttons: 'Obtain IP automatically (DHCP client)', 'Fixed IP address', 'PPPoE to obtain IP automatically' (which is selected), 'PPPoE with a fixed IP address', and 'PPTP'. At the bottom are buttons for '< Back', 'Next >', and 'Exit'.

☐ Obtain IP automatically (DHCP client)
☐ Fixed IP address
☒ PPPoE to obtain IP automatically
☐ PPPoE with a fixed IP address
☐ PPTP

< Back Next > Exit

wizard6 - Microsoft Internet Explorer

Welcome to Wireless Router Setup Wizard

Set PPPoE to obtain IP automatically IP

User Name	
Password	
Verify Password	

< Back Next > Exit

PPPoE with a fixed IP address:

wizard4 - Microsoft Internet Explorer

Welcome to Wireless Router Setup Wizard

Select Internet Connection Type

☐ Obtain IP automatically (DHCP client)
☐ Fixed IP address
☐ PPPoE to obtain IP automatically
☒ PPPoE with a fixed IP address
☐ PPTP

< Back Next > Exit

Wizard9 - Microsoft Internet Explorer

Welcome to Wireless Router Setup Wizard

Set PPPoe with a fixed IP Address

User Name	
Password	
Verify Password	
IP Address	0.0.0.0

< Back Next > Exit

PPTP:

wizard4 - Microsoft Internet Explorer

Welcome to Wireless Router Setup Wizard

Select Internet Connection Type

☐ Obtain IP automatically (DHCP client)

☐ Fixed IP address

☐ PPPoE to obtain IP automatically

☐ PPPoE with a fixed IP address

☒ PPTP

< Back Next > Exit

Wizard10 - Microsoft Internet Explorer

Welcome to Wireless Router Setup Wizard

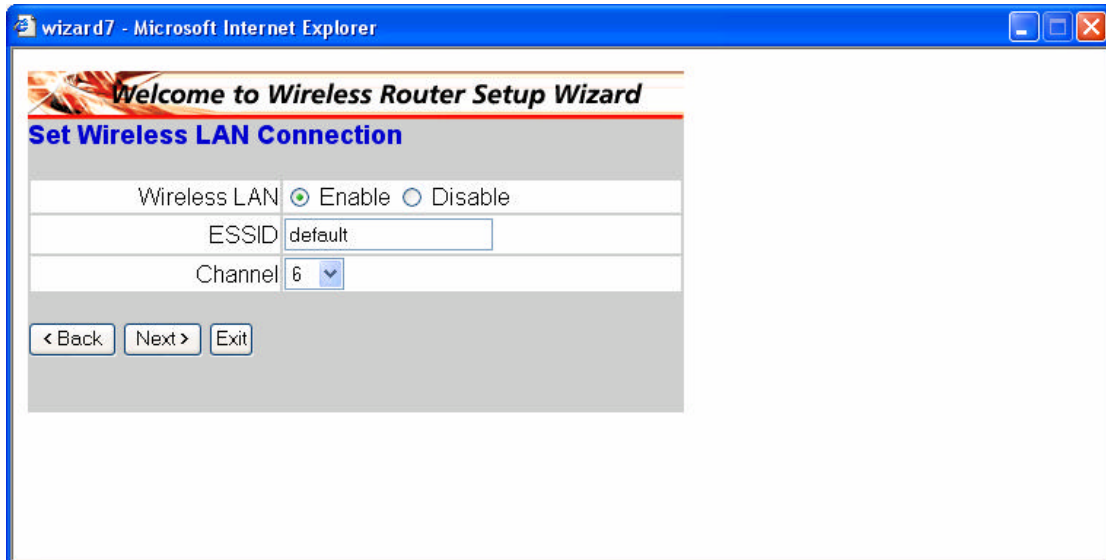
Set PPTP Client

My IP	0.0.0.0
Subnet Mask	0.0.0.0
GateWay	0.0.0.0
Server IP	0.0.0.0
PPTP Account	
PPTP Password	
Retype Password	

< Back Next > Exit

Step 5: Set Wireless LAN connection

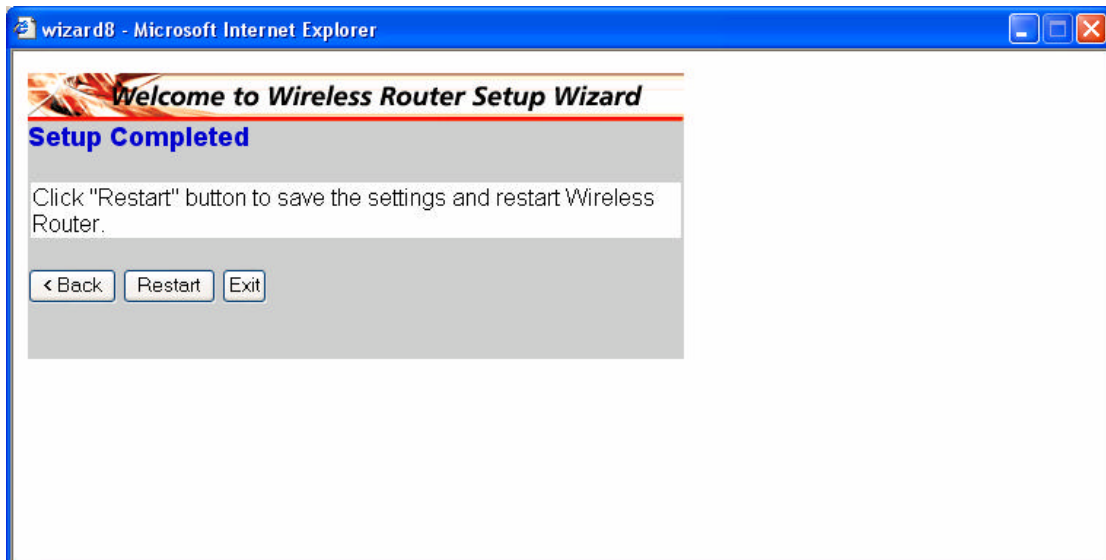
Click “enable” to enable wireless LAN. If you enable the wireless LAN, type the SSID in the text box and select a communications channel. The SSID and channel must be the same as wireless devices attempting communication to the router.



The screenshot shows a web browser window titled 'wizard7 - Microsoft Internet Explorer'. The page has a header with a starburst graphic and the text 'Welcome to Wireless Router Setup Wizard'. Below the header, the title 'Set Wireless LAN Connection' is displayed in blue. The main content area contains three rows of settings: 'Wireless LAN' with radio buttons for 'Enable' (selected) and 'Disable'; 'ESSID' with a text box containing 'default'; and 'Channel' with a dropdown menu showing '6'. At the bottom of the settings area are three buttons: '< Back', 'Next >', and 'Exit'.

Step 6: Restart

The Setup wizard is now completed. The new settings will be effective after the Wireless router restarted. Please click “**Restart**” to reboot the router. If you do not want to make any changes, please click “**exit**” to quit without any changes. You also can go back to modify the setting by clicking “**Back**”.



The screenshot shows a web browser window titled 'wizard8 - Microsoft Internet Explorer'. The page has a header with a starburst graphic and the text 'Welcome to Wireless Router Setup Wizard'. Below the header, the title 'Setup Completed' is displayed in blue. The main content area contains a text box with the message: 'Click "Restart" button to save the settings and restart Wireless Router.' At the bottom of the content area are three buttons: '< Back', 'Restart', and 'Exit'.

3. Configuration

3.1 LAN Setting

The screen enables you to configure the LAN & DHCP Server, set WAN parameters, create Administrator and User passwords, and set the local time, time zone, and dynamic DNS.

3.1.1 LAN & DHCP Server

This page enables you to set LAN and DHCP properties, such as the host name, IP address, subnet mask, and domain name. LAN and DHCP profiles are listed in the DHCP table at the bottom of the screen.

The screenshot shows a web browser window displaying the configuration page for a Wireless Router. The page title is "Wireless Router" and it features a "54 Mbps" logo. The navigation menu on the left includes "LAN Setting", "Wireless", "Status", "Routing", "Access", "Management", "Tools", and "Wizard". The main content area is titled "LAN&DHCP server" and contains the following fields:

- Host Name: AP-Router
- IP Address: 192.168.1.1
- Subnet Mask: 255.255.255.0
- DHCP Server: ☒ Enabled ☐ Disabled
- Start IP: 192.168.1.100
- End IP: 192.168.1.199
- Domain Name:
- Lease Time: 1 Week

Below these fields are "Cancel" and "Apply" buttons. At the bottom, there is a table listing DHCP client computers:

Host Name	IP Address	MAC Address
gst-4jg3lquml	192.168.1.100	00-0C-6E-2B-F4-38

Host Name: Type the host name in the text box. The host name is required by some ISPs. The default host name is "AP-Router."

IP Address: This is the IP address of the router. The default IP address is 192.168.1.1.

Subnet Mask: Type the subnet mask for the router in the text box. The default subnet mask is 255.255.255.0.

DHCP Server: Enables the DHCP server to allow the router to automatically assign IP addresses to devices connecting to the LAN. DHCP is enabled by default.

All DHCP client computers are listed in the table at the bottom of the screen, providing the host name, IP address, and MAC address of the client.

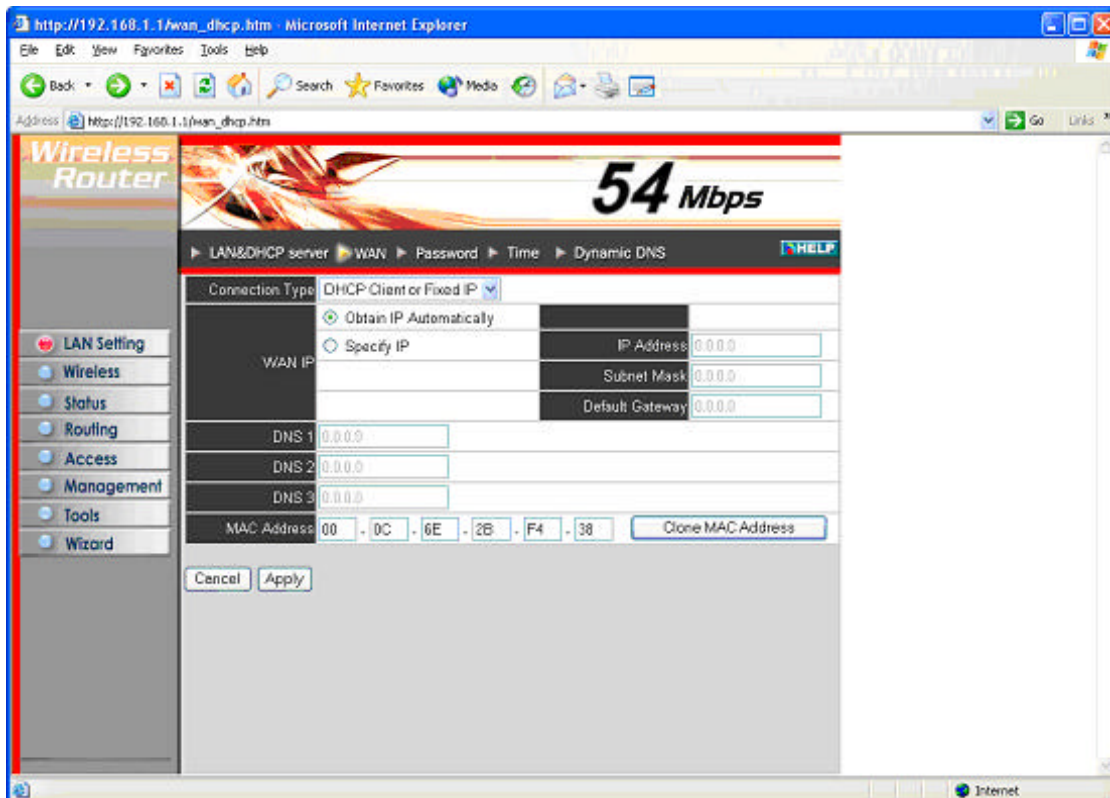
Start IP: Type an IP address to serve as the start of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

End IP: Type an IP address to serve as the end of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the router.

Domain Name: Type the local domain name of the network in the text box. This item is optional.

3.1.2 WAN

This screen enables you to set up the router WAN connection, specify the IP address for the WAN, add DNS numbers, and enter the MAC address.



Connection Type: Select the connection type, either DHCP client, Fixed IP or PPPoE from the drop-down list.

WAN IP: Select whether you want to specify an IP address manually, or want DHCP to obtain an IP address automatically. When *Specify IP* is selected, type the IP address, subnet mask, and default gateway in the text boxes. Your ISP will provide you with this information.

DNS 1/2/3: Type up to three DNS numbers in the text boxes. Your ISP will provide you with this information.

MAC Address: If required by your ISP, type the MAC address of the router WAN interface in this field.

DNS 1/2/3: Type up to three DNS numbers in the text boxes. Your ISP will provide you with this information.

3.1.3 Password

This screen enables you to set administrative and user passwords. These passwords are used to gain access to the router interface.

http://192.168.1.1/wan_dhcp.htm - Microsoft Internet Explorer

Address: http://192.168.1.1/wan_dhcp.htm

Wireless Router 54 Mbps

LAN&DHCP server | **WAN** | Password | Time | Dynamic DNS

Connection Type: DHCP Client or Fixed IP

Obtain IP Automatically (selected) | Specify IP

IP Address: 0.0.0.0

Subnet Mask: 0.0.0.0

Default Gateway: 0.0.0.0

DNS 1: 0.0.0.0

DNS 2: 0.0.0.0

DNS 3: 0.0.0.0

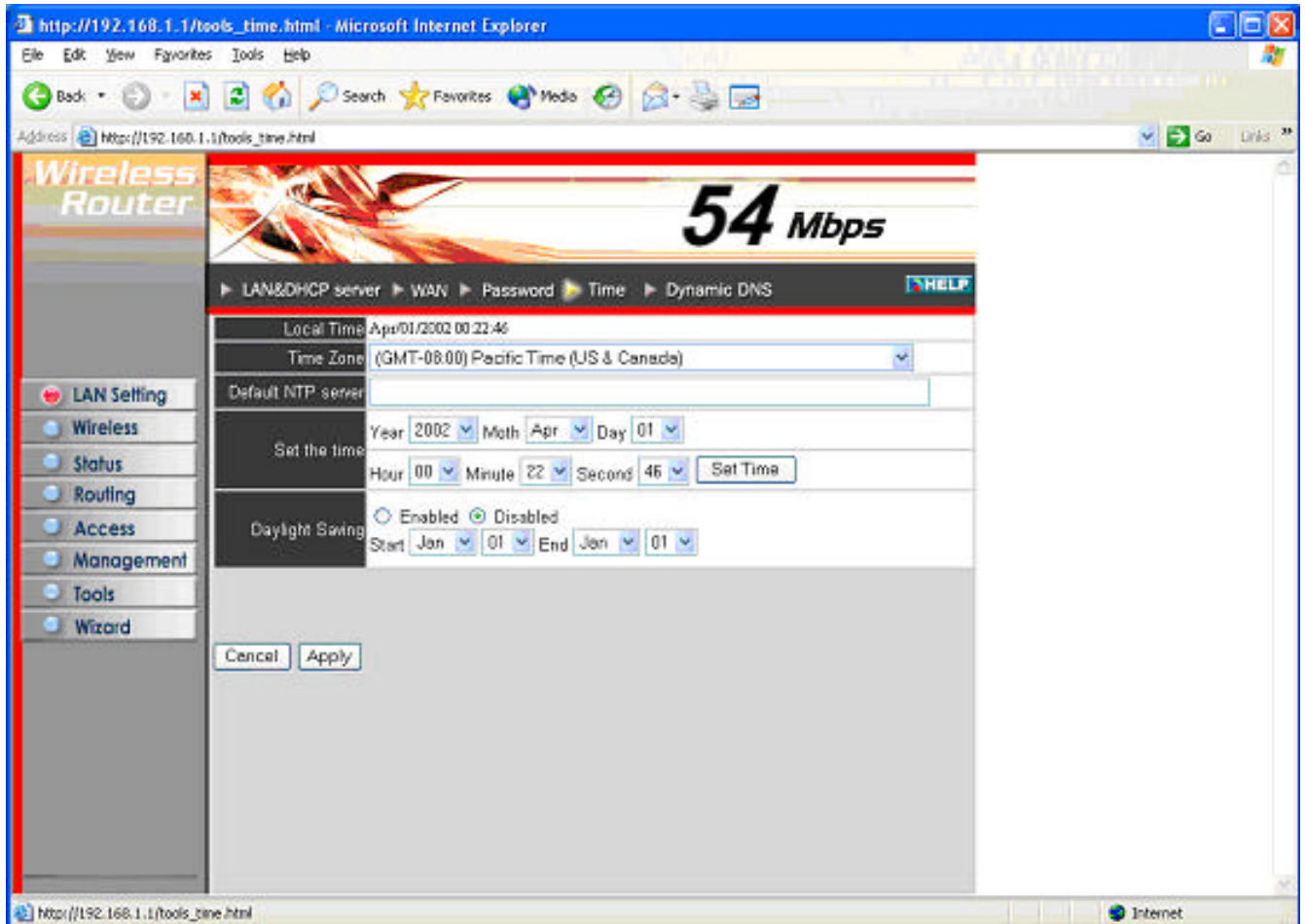
MAC Address: 00 - 0C - 6E - 2B - F4 - 38 Clone MAC Address

Cancel Apply

Administrator: Type the password the Administrator will use to log in to the system. The password must be typed again for confirmation.

3.1.4 Time

This screen enables you to set the time and date for the router's real-time clock, select your time zone, and enable or disable daylight saving.



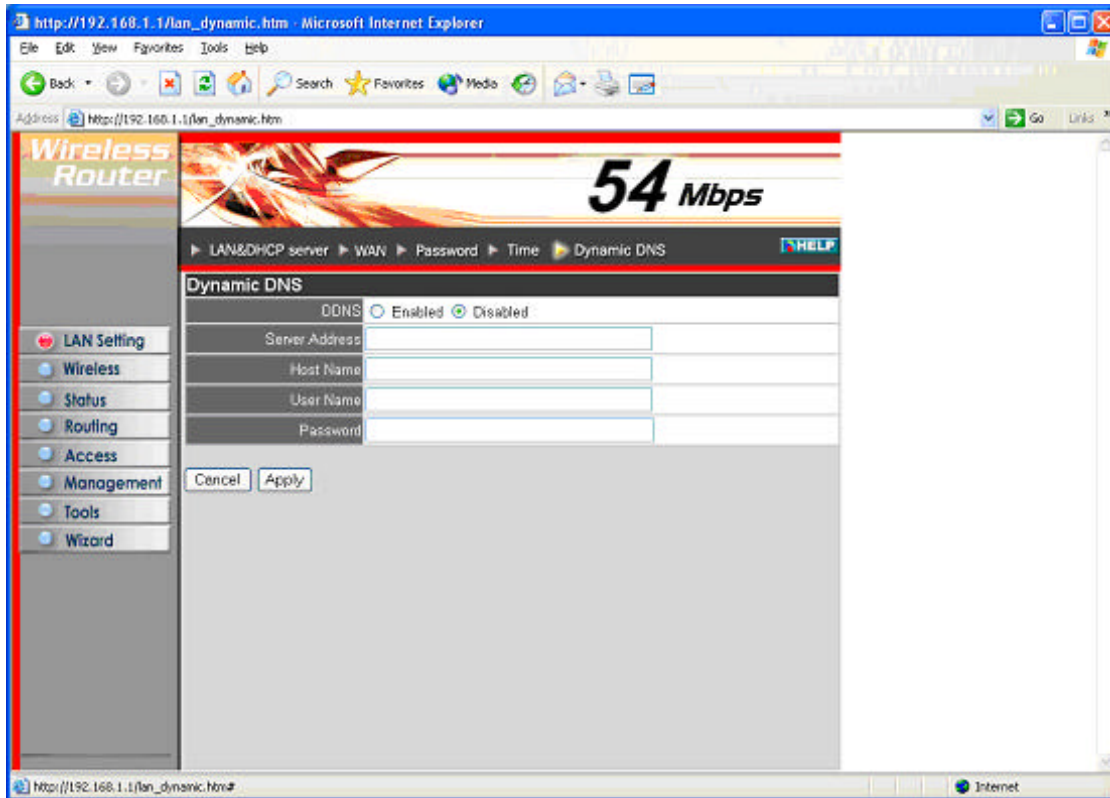
Local Time: Displays the local time and date.

Time Zone: Select your time zone from the drop-down list.

Daylight Saving: Enables you to enable or disable daylight saving time. When enabled, select the start and end date for daylight saving time.

3.1.5 Dynamic DNS

This allows the DDNS server what your current IP address is when you are on-line. You firstly need to register your preferred DNS on the DDNS providers. Then, please fill the related information in the below fields: DDNS server address, Host Name, User Name and Password.

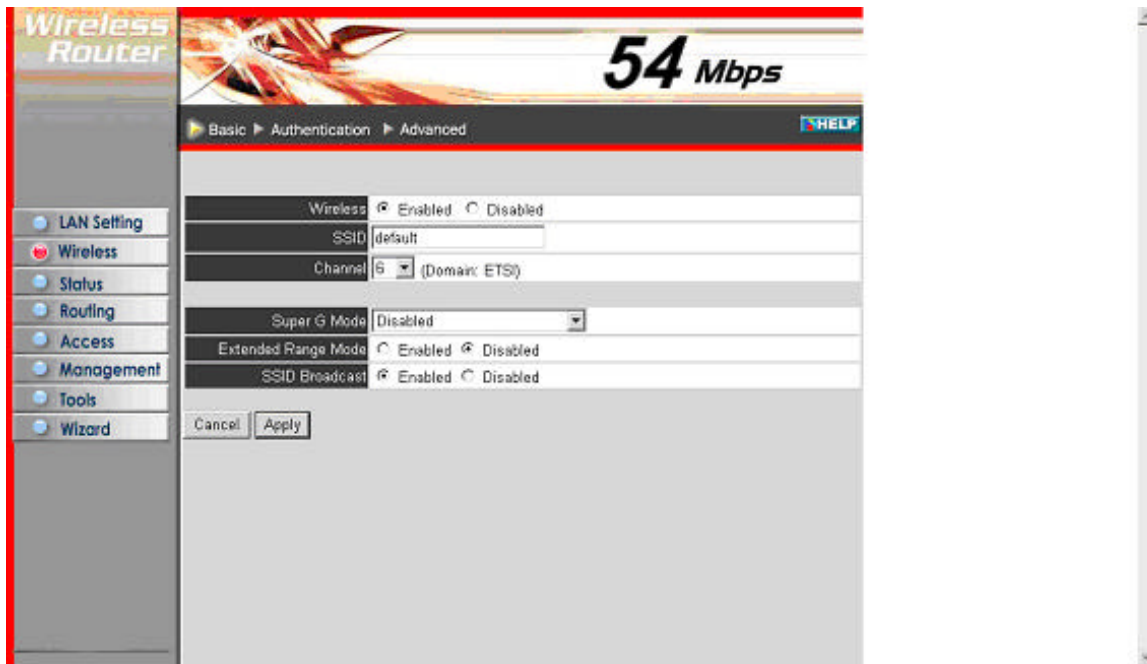


3.2 Wireless

This section enables you to set wireless communications parameters for the router's wireless LAN feature.

3.2.1 Basic

This page allow you to enable and disable the wireless LAN function, create a SSID, and select the channel for wireless communications.



Enable/Disable: Enables and disables wireless LAN via the router.

SSID: Type an SSID in the text box. The SSID of any wireless device must match the SSID typed here in order for the wireless device to access the LAN and WAN via the router.

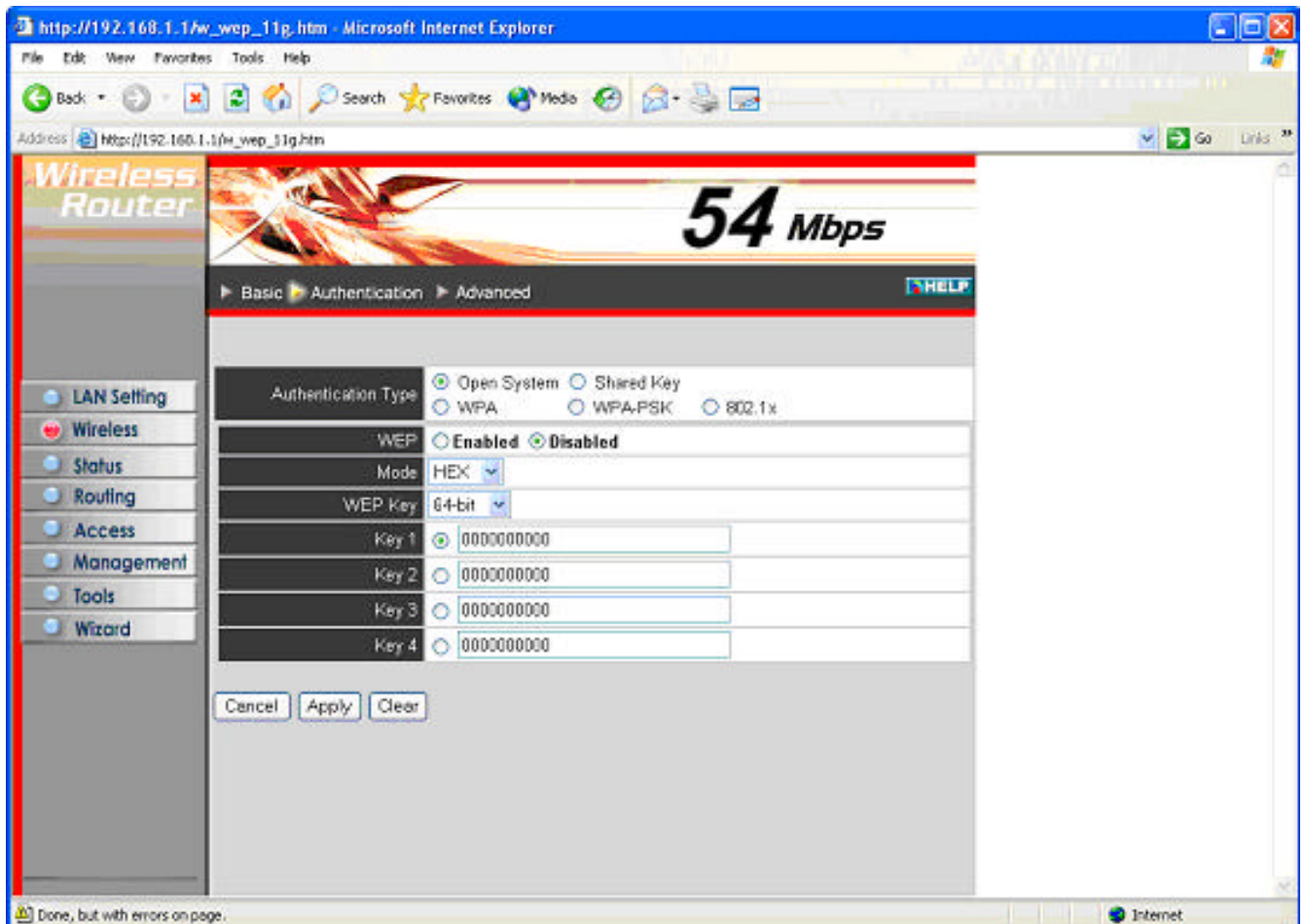
Channel: Select a transmission channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the LAN and WAN via the router.

Super G mode: Super G mode is disabled by selecting "Disable" from the drop list. If you like to use Super G to enhance the speed, there are three options on Super G mode: Super G without turbo; Super G with Dynamic turbo and Super G with Static turbo. Turbo mode indicates the combination of two channels to enhance the throughput. Super G without turbo indicates that it is on Super G mode without the channel's combination. Dynamic turbo is able to automatically detect if any 'SuperG based' product is available. If no, the connection is via 'normal' G.. Static turbo means it will not go back to 'normal' G once it starts.

Extended Range Mode: Enable and disable wireless LAN via router.

3.2.2 Authentication

This screen enables you to set authentication type for secure wireless communications. Open System allows public access to the router via wireless communications. Shared Key requires the user to set a WEP key to exchange data with other wireless clients that have the same WEP key. This router also support WPA, WPA-PSK and 802.1X.



Authentication Type: The authentication type default is set to open system. There are five options: Open System; Shared Key; WPA; WPA-PSK and 802.1X.

WEP: Enable or Disabled.

Mode: Select the level of encryption you want from the drop-down list. The router supports, 64- and 128-bit encryption.

WEP Key: Select WEP Key - 64 or 128 bits from the drop-down list.

Key 1 ~ Key 4: Enables you to create an encryption scheme for Wireless LAN transmissions. Manually enter a set of values for each key. Select which key you want to use by clicking the radio button next to the key. Click **Clear** to erase key values.

If **WPA** or **802.1X** is selected, the below screen is shown. Please set the length of the encryption key and the parameters for the RADIUS server.

The screenshot shows the 'Authentication' tab of a wireless router's configuration page. The page has a sidebar on the left with navigation links: LAN Setting, Wireless, Status, Routing, Access, Management, Tools, and Wizard. The main content area is titled 'Authentication' and includes a 'Basic' tab. The 'Authentication Type' section has radio buttons for Open System, Shared Key, WPA (selected), WPA-PSK, and 802.1X. Below this, the 'Lifetime' is set to 30 Minutes. The 'Encryption Key Length' is set to 64 bits. The 'RADIUS Server 1' section includes fields for IP (0.0.0.0), Port (1812), and Shared Secret. The 'RADIUS Server 2 (Optional)' section includes fields for IP (0.0.0.0), Port (0), and Shared Secret. At the bottom, there are 'Cancel', 'Apply', and 'Clear' buttons.

Lifetime: Select the Lifetime of the Encryption Key from 5 Minutes to 1 Day. As soon as the lifetime of the Encryption Key is over, the Encryption Key will be renewed by the Radius server.

Encryption Key: Select the Encryption Key Length Size ranging from 64 to 128 Bits that you would like to use.

RADIUS Server:

1. Enter the **IP address** of and the **Port** used by the **Primary** Radius Server
Enter the **Shared Secret**, which is used by the Radius Server.
2. Enter the **IP address** of, **Port** and **Shared Secret** used by the **Secondary** Radius Server.

Note: As soon as 802.1X security is enabled, all the wireless client stations that are connected to the Router currently will be disconnected. The wireless clients must be configured manually to authenticate themselves with the Radius server to be reconnected.

If **WPA-PSK** is selected, please set the PSK key in the passphrase field. The length should be 8 characters at least.

The screenshot shows the 'Authentication' tab of the Wireless Router configuration interface. The left sidebar contains a menu with 'Wireless' selected. The main content area has a header with '54 Mbps' and a 'HELP' button. Below the header, there are tabs for 'Basic', 'Authentication', and 'Advanced'. The 'Authentication' tab is active, showing the 'Authentication Type' section with radio buttons for 'Open System', 'Shared Key', 'WPA', 'WPA-PSK' (selected), and '802.1x'. Below this are two text input fields for 'Passphrase' and 'Confirmed Passphrase'. At the bottom of the form are 'Cancel', 'Apply', and 'Clear' buttons.

3.2.3 Advanced

This screen enables you to configure advanced wireless functions.

The screenshot shows the 'Advanced' tab of the Wireless Router configuration interface. The left sidebar contains a menu with 'Wireless' selected. The main content area has a header with '54 Mbps' and a 'HELP' button. Below the header, there are tabs for 'Basic', 'Authentication', and 'Advanced'. The 'Advanced' tab is active, showing various configuration options: 'Beacon Interval' (100, default: 100 msec, range: 20~1000), 'RTS Threshold' (2346, default: 2346, range: 1500~2346), 'Fragmentation Threshold' (2346, default: 2346, range: 256~2346, even number only), 'DTIM Interval' (1, default: 1, range: 1~255), 'TX Rates (Mbps)' (Auto), '11g only mode' (Enable/Disable), and 'Antenna transmit power' (full). At the bottom of the form are 'Cancel' and 'Apply' buttons.

Beacon Interval: Type the beacon interval in the text box. You can specify a value from 1 to 1000. The default beacon interval is 100.

RTS Threshold: Type the RTS (Request-To-Send) threshold in the text box. This value stabilizes data flow. If data flow is irregular, choose values between 256 and 2432 until data flow is normalized.

Fragmentation Threshold: Type the fragmentation threshold in the text box. If packet transfer error rates are high, choose values between 256 and 2432 until packet transfer rates are minimized. (**NOTE:** *set this fragmentation threshold value may diminish system performance.*)

DTIM Interval: Type a DTIM (Delivery Traffic Indication Message) interval in the text box. You can specify a value between 1 and 65535. The default value is 3.

TX Rates (Mbps): Select one of the wireless communications transfer rates, measured in megabytes per second, based upon the speed of wireless adapters connected to the WLAN.

11g only mode: enable or disable.

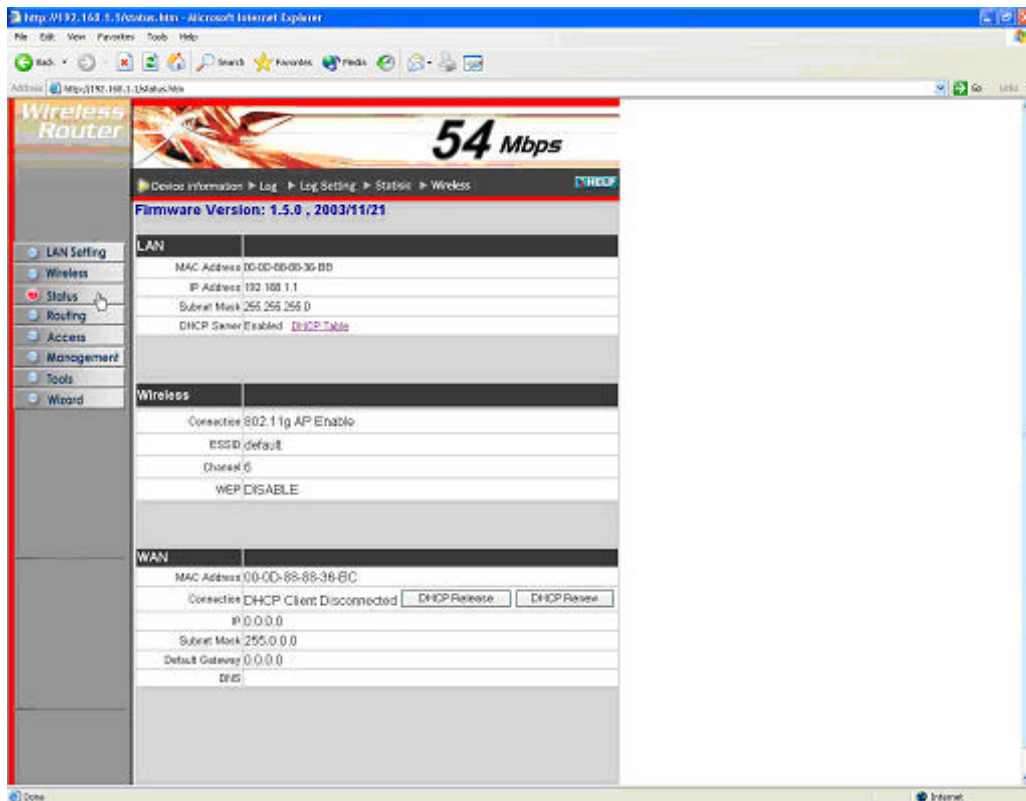
Antenna Transmit Power: Adjust the power of the antenna transmission by selecting from the dropping list.

3.3 Status

This selection enables you to view the status of the router LAN, WAN connections, and view logs and statistics pertaining to connections and packet transfers.

3.3.1 Device Information

This screen enables you to view the router LAN, Wireless and WAN configuration.



Firmware Version: Displays the latest build of the router firmware interface. After updating the firmware in Tools - Firmware, check this to ensure that your firmware was successfully updated.

LAN: This field displays the router's LAN interface MAC address, IP address, subnet mask, and DHCP server status. Click *DHCP Table* to view a list of client stations currently connected to the router LAN interface.

Wireless: Displays the router's wireless connection information, including the router's wireless interface MAC address, the connection status, the SSID status, which channel is being used, and whether WEP is enabled or not.

WAN: This field displays the router's WAN interface MAC address, DHCP client status, IP address, subnet mask, default gateway, and DNS.

Click *DHCP Release* to release all IP addresses assigned to client stations connected to the WAN via the router. Click *DHCP Renew* to reassign IP addresses to client stations connected to the WAN.