

AP699GEC2.FW97-5 Router

User Manual

Contents

1	Safety Precaution	3
2	Introduction.....	4
3	Hardware Description and Installation.....	5
3.1	Hardware Description.....	5
3.1.1	Front Panel.....	5
3.1.2	Rear Panel	6
3.2	Hardware Installation.....	8
3.2.1	System Requirements.....	8
3.2.2	Preparation.....	8
3.2.3	Installation	8
3.3	Operating Range.....	9
3.4	Roaming.....	9
4	TCP/IP Configuration and Wireless Connection.....	10
4.1	TCP/IP Configuration	10
4.2	Wireless Connection	14
5	Login	17
6	Language Selection.....	19
7	Web Configuration.....	19
7.1	Running Status.....	19
7.1.1	Router Status.....	20
7.1.2	Client List.....	21
7.2	Setup Wizard.....	21
7.3	LAN Setup.....	24
7.4	WAN Setup	25
7.5	Wireless Setup.....	33
7.5.1	Basic Setup	34
7.5.2	WPS Setup.....	38
7.5.3	Guest Network.....	42
7.5.4	Advanced Setup	44
7.5.5	Repeater Function	46
7.5.6	Use as an Access Point	48
7.5.7	Use as a STA.....	49
7.6	Media Features	50
7.6.1	Samba Setup.....	50

7.6.2	FTP Setup	52
7.6.3	HTTP Access Storage.....	55
7.6.4	DLNA.....	56
7.6.5	QoS Setup.....	56
7.7	Advanced Setup.....	59
7.7.1	UPnP Setup.....	60
7.7.2	Virtual Servers	61
7.7.3	DDNS	62
7.7.4	Static Routes	63
7.7.5	Port Triggering	65
7.8	Security Options.....	67
7.8.1	Parental Controls	67
7.8.2	WAN Setup.....	70
7.8.3	Block Sites.....	71
7.8.4	MAC Address Filtering	72
7.9	Utilities	73
7.9.1	Router Reboot	73
7.9.2	Backup Setup	74
7.9.3	Firmware Update	75
7.9.4	System Log.....	75
7.9.5	E-mail	76
7.9.6	System Settings.....	77
7.9.7	Self Healing	80
7.10	Downloader.....	81
7.11	Logout.....	82
8	Troubleshooting.....	84

About the Manual

This user manual mainly describes how to install and configure the wireless router.

Manual Structure

The following table describes the structure of the manual.

Chapter	Description
Chapter 1 : Safety Precaution	Introduce safety precaution information.
Chapter 2 Introduction	Describe the router and the pack list.
Chapter 3 Hardware Description and Installation	Describe the front and rear panels of the router and hardware installation.
Chapter 4 TCP/IP Configuration and Wireless Connection	Describe how to configure the TCP/IP properties of your PC and how to connect the PC to the router wirelessly.
Chapter 5 : Login	Introduce how to log in to the graphic user interface of the router.
Chapter 6 : Language Selection	Introduce how to change the language of graphic user interfaces.
Chapter 7 : Web Configuration	Describe how to configure the parameters in graphic user interfaces.
Chapter 8 : Troubleshooting	Introduce troubleshooting information.

Features

- Support IEEE802.11a/ b/ g/ n/ ac
- 1166Mbps Transmission data rate up to 750 Mbps
- Support WEP and WPA for secure data transmission
- Support DHCP server
- Support upgrade through Web page
- Support restoring factory default settings
- Support demilitarized zone (DMZ)
- Support DNS proxy and forwarding
- Support QoS
- Support WPS
- Support guest network
- Support wireless security authentication
- Support 3 types of WAN connection modes: static IP, dynamic IP and PPPoE
- Support remote access control
- Support system status display
- Support backup and restoration of configuration file

1 Safety Precaution

Before you start to use the wireless router, read the following precaution information carefully.

- Use the power as indicated on the label and the power adapter in the package.
- An overburden power outlet or damaged lines and plugs may cause electric shock or fire accident. Check the power cords regularly. If you find any damage, replace it at once.
- Proper space left for heat dissipation is necessary to avoid overheating. The holes on the AP are designed for heat dissipation to ensure normal operation.
- Do not put this AP near to a heat source or high temperature. Avoid the AP direct exposing sunshine.
- Do not put this AP close to over damp place. Do not spill any fluid on this AP.
- Do not place this AP on an unstable surface or support.

2 Introduction

The AP699GEC2.FW97-5 (hereinafter referred to as the AP) is a high-performance network access device. It is fully compatible with IEEE802.11a/b/g/n/ac standards. It can provide reliable and convenient access service for individual users and SOHO (Small office, home office).

Pack List

Check the following items in the package.

- Router AP699GEC2.FW97-5 x 1
- Power adapter x 1
- Network cable x 1
- CD x 1
- Quick Installation Guide x 1
- (Optional) Warranty Card x 1

3 Hardware Description and Installation

3.1 Hardware Description

3.1.1 Front Panel

There are 6 LED indicators on the front panel. By observing their status, you can check whether the AP runs normally.



The following table describes the status of LED indicators on the front panel.

LED Indicator	Status	Description
Power	Green On	The power is on.
Wi-Fi1	Green On	Wi-Fi1 is enabled.
	Green	Wi-Fi1 is enabled and data is

LED Indicator	Status	Description
	Blinking	transmitted.
	Green Off	Wi-Fi1 is disabled.
Wi-Fi2	Green On	Wi-Fi2 is enabled.
	Green Blinking	Wi-Fi2 is enabled and data is transmitted.
	Green Off	Wi-Fi2 is disabled.
Wan	Green On	Connection is established.
	Green Blinking	Data is being transmitted.
	Off	Connection is not established.
WPS	Green On	WPS is under progress.
	Off	WPS is disabled.
	Green Blinking	Data is being transmitted.
	Green Off	LAN connection is not established.
USB	Green On	USB connection is established.
	Green Blinking	Data is being transmitted.
	Green Off	USB connection is not established.

3.1.2 Rear Panel

Figure 1



The following table describes interfaces and buttons on the rear panel.

Interface/Button	Description
 On/Off	Power switch
 Power	Power socket connecting to the power adapter
 WAN	RJ45 WAN interface connecting to WAN or an uplink network device
 LAN1 LAN2 LAN3 LAN4	RJ45 LAN interface connecting to a hub, switch, or computer in a LAN

	Press down this button and hold for 3 seconds to restore the factory defaults
	To enable WPS PBC mode, first enable WPS, and then press this button, and the AP starts to accept negotiation of PBC mode.
	USB port connecting to a USB storage device

3.2 Hardware Installation

3.2.1 System Requirements

Before installing the router, please ensure that the following items are ready.

- At least one Ethernet RJ45 cable (10Base-T/100Base-T)
- One AP699GEC2.FW97-5 wireless router
- A computer with the TCP/IP protocol and access to the Internet

3.2.2 Preparation

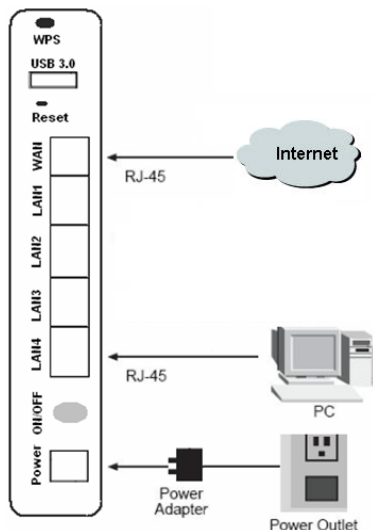
Before installing the router, please pay attention to the followings.

- The Ethernet cable connecting the AP to a computer, hub, router or switch should be less than 100 meters.
- Place the AP on a stable surface or support. Do not put the AP on the ground.
- Keep the AP clean. Avoid direct sunlight. Prevent metal from falling into the AP.
- Place the AP in the center of an area for optimized wireless coverage.

3.2.3 Installation

To install the AP, take the following steps.

- Step 1** Connect one end of the RJ45 Ethernet cable to a **LAN** interface of the AP.
- Step 2** Connect the other end of the cable to your PC.
- Step 3** Connect the power adapter to the **Power** socket of the AP.
- Step 4** Connect the WAN interface to WAN or an uplink network device.



3.3 Operating Range

The route and effect of wireless signal transmission varies with your home or office environment. For example, it has a straight-line transmission distance of 300 meters in an open environment, and 100 meters indoors.

3.4 Roaming

To enable a wireless client (for example, your PC) to roam among the routers AP699GEC2.FW97-5, ensure the followings.

- The routers are configured with an identical SSID.
- All wireless clients (for examples, PCs and PDAs) have the same SSID with the router.
- All the wireless routers use a same wireless channel.
- All the wireless routers are configured with a same encryption mode and a same key, so that they can be connected.
- To ensure wireless signal coverage and persistence in your environment, please place the router at a proper position.

4 TCP/IP Configuration and Wireless Connection

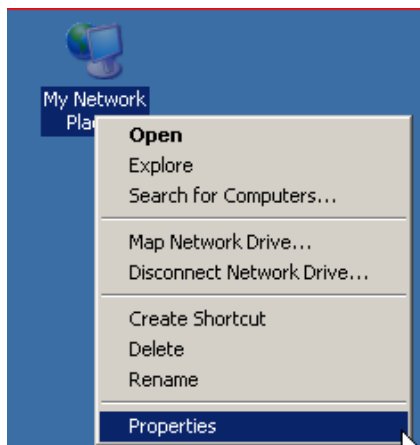
4.1 TCP/IP Configuration

You are suggested to configure the network interface card of your PC as Obtain an IP address automatically.

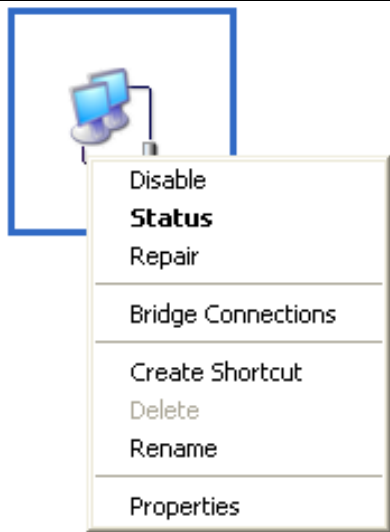
If you know the LAN configuration of AP, you may manually configure the TCP/IP properties of the network interface card. By default, the LAN IP address of the AP is 192.168.1.1, the subnet mask is 255.255.255.0, and the DHCP server is enabled.

To manually configure the network interface, perform the followings.

- Step 1** Right click the icon of **My Network Places**, and choose **Properties** from the menu. The **Network Connections** window is prompted.

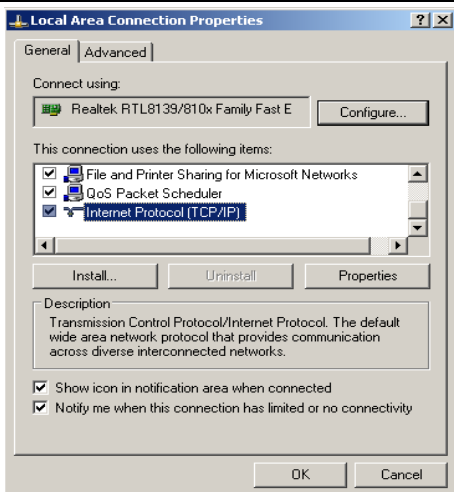


- Step 2** Right click the icon of network interface card, and choose **Properties** from the menu. The **Local Area Connections Properties** window is prompted.

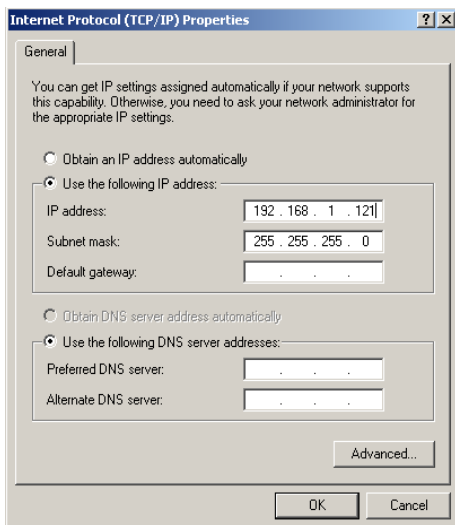
**Note:**

If multiple network interface cards are installed on your PC, a window other than the **Local Area Connections Properties** window may be prompted.

- Step 3** Double click **Internet Protocol (TCP/IP)** and the Internet Protocol (TCP/IP) Properties window is prompted.

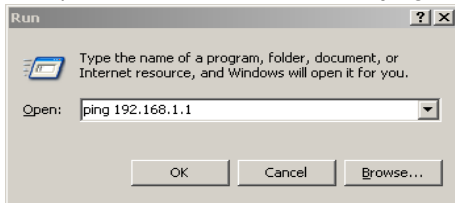


- Step 4** Select **Use the following IP address** and enter the IP address of the network interface card. The IP address must be 192.168. 1. X (X is an integer between 2 and 254). If you want to access the Internet through a wireless router, you need to enter the default gateway and IP address of the DNS server correctly.



Step 5 Set the subnet mask and click **OK**.

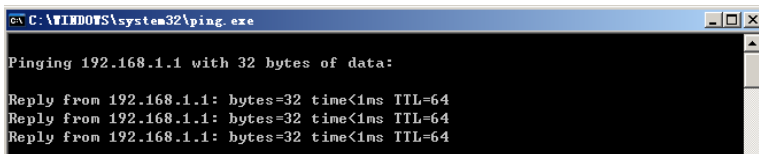
Step 6 After setting, you can ping the default IP address of the wireless router, to check the connection between the PC and the wireless router. On the desktop, choose **Start > Run**, and enter **ping 192.168.1.1**.



Note:

The **192.168.1.1** in the **ping** command is the default IP address of the LAN interface. If the IP address changes, enter the current IP address instead.

- Step 7** If the PC pings through the IP address of the AP, the following page will be prompted, indicating that the connection between your PC and the AP is normal.



```
C:\WINDOWS\system32\ping.exe

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
```

4.2 Wireless Connection

To connect the wireless network interface card of your PC to the AP, do as followings.

- Step 1** On your PC, enable the wireless network interface card and the **Wireless Zero Configuration**. Click the icon  in the system tray.



Note:

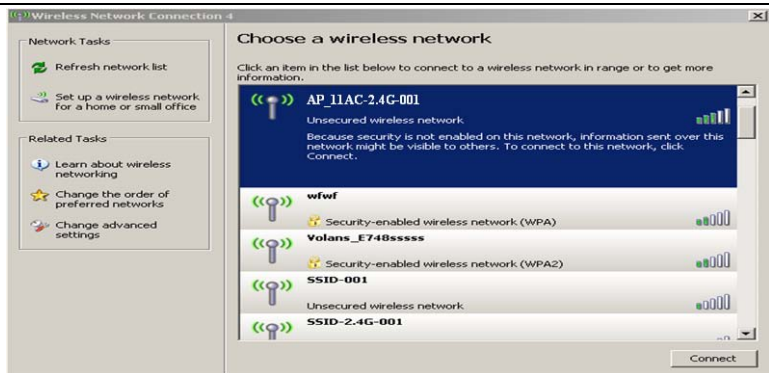
The default SSID of 2.4G wireless network is AP_11AC-2.4G-001, and that of 5G network is AP_11AC-5.8G-001.

- Step 2** In the popup window, click **Refresh network list**. Select the SSID that you want to connect and click **Connect**.

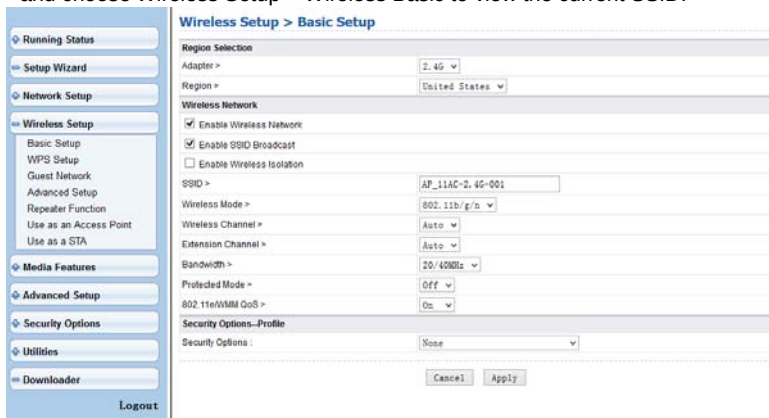


Note:

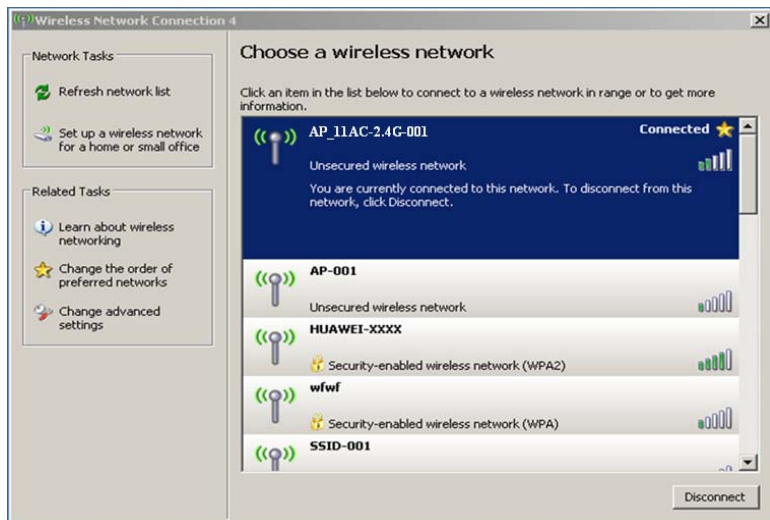
The default security setting of the AP is none, so that you can connect to the AP without entering an encryption key. If the AP is encrypted, you need to enter the key to establish connection.



If you are not sure of the SSID of the AP, please log in to the Web page of the AP, and choose Wireless Setup > Wireless Basic to view the current SSID.



Step 3 When **Connected** is shown on the top right of the selected wireless network, your PC is now connected to the wireless network of the AP.

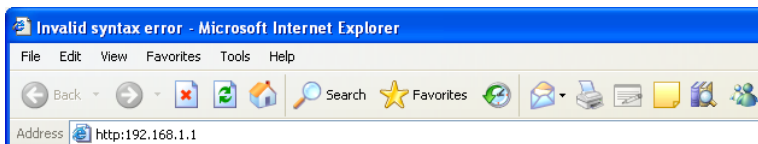
**Note:**

After connecting your PC to the AP successfully, set the network interface card to **Obtain an IP address automatically**.

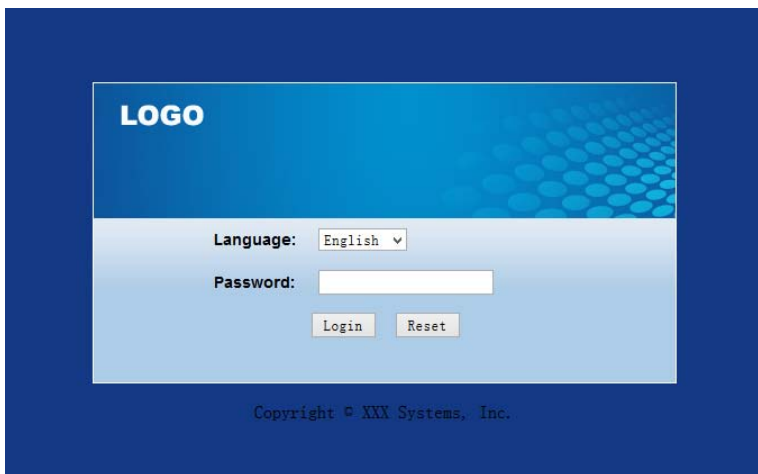
The configuration of wireless connection is now complete.

5 Login

Run the Internet Explorer (IE) browser, enter `http://192.168.1.1` (the default IP address of the AP) in the address bar, and press Enter.



In the window as shown in the following figure, enter the password admin, and click Login.



After logging in, you can check or modify the router configuration. To enable modified configuration, you may need to restart the router.



Caution:

If you are managing the AP through the Web page, do not cut off the power supply. Otherwise, the AP may be damaged.

6 Language Selection

After logging in to the Web page, you can choose a language from the dropdown list of language on the top right corner shown below.

Welcome Language: English

Running Status > Router Status

System Info

Hardware Version	V 1.0.0
Firmware Version	V 1.0.0
Boot Version	V 1.0.0
Serial No.	0123456789
Time and Date	2010/11/04 22:40 Tuesday

Internet Port

MAC Address	00:1E:63:8E:C9:30
Internet Access Mode	DHCP
IP Address	0.0.0.0
IP Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
Domain Name Server	0.0.0.0

LAN Port

MAC Address	00:1E:63:8E:C9:3F
IP Address	192.168.1.1
IP Subnet Mask	255.255.255.0
DHCP Server	Enabled

Wireless Port (Q)

Wireless Network Name (SSID)	AP_114C-2-4G-001
Region	United States
Wireless Channel	Auto
802.11 Mode	802.11n
Wireless Radio	Enabled
Broadcast Name	Enabled
Wireless Isolation	Enabled
WiFi Protected Setup	Enabled
Wireless Security Mode	WPA-PSK(TKIP+AES-128)
Wireless Port (Q)	AP_114C-8-8G-001
Wireless Network Name (SSID)	AP_114C-8-8G-001

Router Status Help

You can use the Router Status screen to check the current settings and status for your router. This screen shows you the current settings. If something needs to be changed, you will have to change it on the relevant screen.

Hardware Version: The router model.

Firmware Version: This is the current software the router is using. This will change if you upgrade your router.

Internet Port: These are the current settings that you set in the Setup Wizard or Basic Settings screens.

- **MAC Address:** The physical address of the router, as seen from the Internet.
- **IP Address:** The current Internet IP address. If assigned dynamically, and no Internet connection exists, this will be blank or 0.0.0.0.
- **Internet Access Mode:** Indicate whether DHCP, PPPoE or Static IP.
- **IP Subnet Mask:** The subnet mask associated with the Internet IP address.
- **Domain Name Server:** Display the address of the current DNS.

LAN Port: These are the current settings, as set in the LAN IP Setup screen.

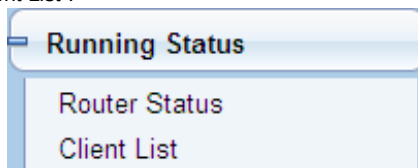
Hardware Version: V 1.0.0 Software Version: V 1.0.0 2011/04/04 Rights Reserved

7 Web Configuration

After logging in to the Web page, you can configure parameters of the router.

7.1 Running Status

On the navigation bar, click "Running Status". The submenu includes "Router Status" and "Client List".



7.1.1 Router Status

Click "Running Status" → "Router Status", and the following page is prompted.

Running Status > Router Status

System Info	
Hardware Version	V 1.0.0
Firmware Version	V 1.0.0
Boot Version	V 1.0.0
Serial No.	0123456789
Time and Date	2013/1/1 0:17:31AM Tuesday
Internet Port	
MAC Address	00:1E:E3:BE:C9:30
Internet Access Mode	DHCP
IP Address	0.0.0.0
IP Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
Domain Name Server	0.0.0.0
LAN Port	
MAC Address	00:1E:E3:BE:C9:2F
IP Address	192.168.1.1
IP Subnet Mask	255.255.255.0
DHCP Server	Enabled
Wireless Port(2G)	
Wireless Network Name (SSID)	AP_11AC-2.4G-001
Region	United States
Wireless Channel	Auto
802.11 Mode	802.11n
Wireless Radio	Enabled
Broadcast Name	Enabled
Wireless Isolation	Disabled
Wi-Fi Protected Setup	Enabled
Wireless Security Mode	WPA-PSK[TKIP]+WPA2-PSK[AES]
Wireless Port(5G)	
Wireless Network Name (SSID)	AP_11AC-5.8G-001
Region	United States
Wireless Channel	Auto
802.11 Mode	802.11n
Wireless Radio	Enabled
Broadcast Name	Enabled
Wireless Isolation	Disabled
Wi-Fi Protected Setup	Enabled
Wireless Security Mode	WPA-PSK[TKIP]+WPA2-PSK[AES]

Show Statistics

This page shows the current running status of the device including the software and hardware versions, Internet port and some features, wireless and WPS button status.

7.1.2 Client List

Click "Running Status" → "Client List", and the following page is prompted. The page shows the IP addresses, host names and MAC addresses of all the PCs in your network.

Running Status > Client List

Host Name	IP Address	MAC Address
GJ1301D	192.168.1.10	00:22:B0:69:0D:64

Refresh

7.2 Setup Wizard

The Setup Wizard helps you configure basic network parameters before accessing the Internet. Take the following steps.

Step 1 Click **Setup Wizard** on the navigation bar to display the Setup Wizard page as shown below.

Setup Wizard

The Smart Setup Wizard can detect the type of Internet connection that you have. Do you want the Smart Setup Wizard to try and detect the connection type now?

- ☒ Yes.
- ☐ No. I want to configure the router myself.

Next

Step 2 If you know the router configuration, you may choose **"No. I want to configure the router myself"**. If you want to go through the wizard, click Next, and the router will automatically detect the current Internet connection type.

Setup Wizard



Detecting the Internet Connection!!! This process can take a minute or two, please wait...

Note:

Before you see the above figure, make sure the WAN port of the router has been connected to the Internet through a RJ45 cable.

Step 3 Three types of Internet connection can be detected, which are **Dynamic IP (DHCP)**, **Static IP (fixed)** and **PPPoE**.

(1) Dynamic IP (DHCP)

If Dynamic IP (DHCP) is detected, the following page will be displayed. Under DHCP mode, the WAN port obtains its IP address, subnet mask address, gateway address and DNS server address through the DHCP server it is connected to.

Setup Wizard

Dynamic IP (DHCP) detected	
Account Name (If Required)	
Cancel Apply	

Enter the host name if your ISP provides it, otherwise leave it blank. Click **Apply**, and the following page will be displayed.

Setup Wizard

2.4GHz	
Wireless Network Name (SSID)	AP_11AC-2.4G-001
Network Key (Password)	8 to 63 characters
5GHz	
Wireless Network Name (SSID)	AP_11AC-5.8G-001
Network Key (Password)	8 to 63 characters
Cancel Apply	

Enter a network key of 8 to 63 characters, including spaces and symbol or 64 Hex (0~F) only. Click **Apply**, and the following page will be displayed.

Setup Wizard

This process can take a minute or two; please wait...

The following page will then be displayed to indicate successful setting.

Setup Wizard > success

2.4G	
Wireless Network Name (SSID)	AP_11AC-2.4G-001
Network Key (Password)	11111111
5G	
Wireless Network Name (SSID)	AP_11AC-5.8G-001
Network Key (Password)	11111111

Take me to the Internet

Click **Take me to the Internet** to start surfing on the Internet.

(2) Static IP (Fixed)

If Static IP (Fixed) is detected, the following page will be displayed.

Setup Wizard

Static (fixed) IP detected	
Internet IP Address	
IP Address	
IP Subnet Mask	
Gateway IP Address	
Domain Name Server (DNS) Address	
Primary DNS	
Secondary DNS	

Cancel Apply

Configure the parameters in this page as described in the following table.

Parameter	Description
IP Address	Input the IP address of WAN port.
IP Subnet Mask	Input the subnet mask of the WAN IP address. It is usually 255.255.255.0.
Gateway IP Address	Input the gateway IP address if necessary.
Primary DNS	Input the IP address of DNS server if necessary.
Secondary DSN	If your ISP provides another DNS server, input its IP address.

Click **Apply**, and complete subsequent configuration. You may refer to the corresponding part of (1) Dynamic IP (DHCP).

(3) PPPoE

If PPPoE is detected, the following page will be displayed.

Setup Wizard

PPPoE detected	
Login :	
Password :	
Cancel Apply	

Input the login name and password, which are provided by your ISP. Click **Apply**, and complete subsequent configuration. You may refer to the corresponding part of **(1) Dynamic IP (DHCP)**.



Note:

The username and password are case sensitive. For relevant problems, please contact your ISP.

7.3 LAN Setup

On the navigation bar, click “Network Setup” → “LAN Setup”, and the following page is prompted.

Network Setup > LAN Setup

LAN TCP/IP Setup				
IP Address >				
Subnet Mask >				
☒ Use Router as DHCP Server				
IP Pool Starting Address >				
IP Pool Ending Address >				
Lease Time >	One Day v			
Local Domain Name >				
Address Reservation				
#	IP Address	Device Name	MAC Address	
Add Edit Delete				
Cancel Apply				

In this page, you can configure the parameters of the LAN port. You can modify the IP address of the LAN port according to the actual network environment.

The following table describes parameters and buttons in this page.

Field	Description
IP Address	Set the IP address for the PC in this LAN to access the AP. The default IP is 192.168.1.1 . You can change it if necessary.
Subnet Mask	Subnet mask of the LAN port. You can enter a different subnet mask according to the actual network status.
Use Router as DHCP Server	If it is selected, the router serves as the DHCP server and automatically assigns IP addresses for all computers in the LAN.
IP Pool Starting Address	The start IP address of all the available successive IP.
IP Pool Ending Address	The end IP address of all the available successive IP.
Lease Time	Select the time for using one assigned IP from the dropdown list. After the lease time, the AP automatically assigns new IP addresses to all connected computers.
Local Domain Name	You may set a local domain name (network name) for your network.

**Note:**

If you change the IP address of router, you need to use the new address to login to the Web page. You also need to configure the gateway address of all the hosts in the LAN as this address before they access the Internet.

All the hosts in the LAN share the same subnet mask as the router.

7.4 WAN Setup

On the navigation bar, click “Network Setup” → “WAN Setup”, and the following page is prompted.

Network Setup > WAN Setup

Does your Internet Connection Require A Login?	☐ Yes ☒ No
Account Name (If Required)	
Internet IP Address	
☒ Get Dynamically From ISP	
☐ Use Static IP Address	
IP Address	. . .
IP Subnet Mask	. . .
Gateway IP Address	. . .
Domain Name Server (DNS) Address	
☒ Get Automatically From ISP	
☐ Use These DNS Servers	
Primary DNS	0 . 0 . 0 . 0
Secondary DNS	. . .
Router MAC Address	
☒ Use Default Address	
☐ Use Computer MAC Address	
☐ Use This MAC Address	00:1e:e3:be:c9:30

Five WAN connection types are provided, which are "PPPoE", "Dynamic IP (DHCP)", "Static IP (Fixed)", "PPTP" and "L2TP". You may choose one type and configure corresponding parameters.

● PPPoE

If your ISP provides PPPoE username and password, choose “Yes” for the question “Does your Internet Connection Require a Login”.

Network Setup > WAN Setup

Does your Internet Connection Require A Login?	☒ Yes ☐ No
Internet Service Provider	PPPoE ▾
Login	
Password	
Service Name (If Required)	
Connection Mode	Always On ▾
Idle Timeout (In minutes)	1
MTU Size(616~1492 bytes)	1480
Domain Name Server (DNS) Address	
☒ Get Automatically From ISP	
☐ Use These DNS Servers	
Primary DNS	0 0 0 0
Secondary DNS	
Router MAC Address	
☒ Use Default Address	
☐ Use Computer MAC Address	
☐ Use This MAC Address	00:1e:e3:be:c9:30

The following table describes the parameters in this page.

Field	Description
Login	Input the PPPoE dialup username provided by your ISP.
Password	Input the PPPoE dialup password provided by your ISP.
Service Name (If Required)	If several PPPoE servers are available, appoint a PPPoE server name.
MTU (616-1492 bytes)	The MTU value is usually fixed, unless your ISP provides a definite value. Changing this value may solve problems like network disconnection, low connection speed and network application operation.
Connection Mode	● Always on The router connects to the Internet automatically after powerup. If network is disconnected due to reasons other than the router, the system tries to connect again at an interval (10 seconds) until connection is established. This option is suggested if you pay for network service at a monthly-fixed amount. ● Dial On Demand The router connects to the Internet automatically when there is Internet access request from the LAN. Without such request within the set "Idle Timeout" duration, the router disconnects from the Internet automatically. This option is suggested if you pay for network service based on online duration.
Domain Name Server (DNS) Address	Usually after successful dialup, your ISP provides a DNS address automatically. Choose "Get Automatically From ISP". If you wish to appoint a DNS server, choose "Use These DNS Servers" and fill in the IP addresses.
Router MAC Address	The physical address (or MAC address) of a network interface card is exclusive. Usually choose "Use Default Address". You may choose "Use Computer MAC Address" or appoint an address by yourself.

After setting, click **Apply**.

● Dynamic IP (DHCP)

If your ISP does not provide any IP network parameters, choose “Get Dynamically From ISP”. Under this connection type, the router automatically obtains IP addresses, subnet masks and gateway addresses from your ISP.

Network Setup > WAN Setup

Does your Internet Connection Require A Login?	☐ Yes ☒ No
Account Name (If Required)	
Internet IP Address	
☒ Get Dynamically From ISP	
☐ Use Static IP Address	
IP Address	. . .
IP Subnet Mask	. . .
Gateway IP Address	. . .
Domain Name Server (DNS) Address	
☐ Get Automatically From ISP	
☒ Use These DNS Servers	
Primary DNS	0 . 0 . 0 . 0
Secondary DNS	. . .
Router MAC Address	
☒ Use Default Address	
☐ Use Computer MAC Address	
☐ Use This MAC Address	00:1e:e3:be:c9:30

At the field of “Account Name”, enter the host name if provide by your ISP. Otherwise leave this filed blank.

After setting, click **Apply**.

- **Static IP (Fixed)**

If your ISP provides an IP address, subnet mask, gateway and DNS server, choose "Use These DNS Servers". For detailed information, please consult your ISP.

Network Setup > WAN Setup

Does your Internet Connection Require A Login?	☐ Yes ☒ No
Account Name (If Required)	
Internet IP Address	
☐ Get Dynamically From ISP	
☒ Use Static IP Address	
IP Address	172 16 38 199
IP Subnet Mask	255 255 254 0
Gateway IP Address	172 16 38 1
Domain Name Server (DNS) Address	
☐ Get Automatically From ISP	
☒ Use These DNS Servers	
Primary DNS	10 28 100 1
Secondary DNS	10 28 100 2
Router MAC Address	
☒ Use Default Address	
☐ Use Computer MAC Address	
☐ Use This MAC Address	00:1e:e3:be:c9:30

The following table describes the parameters in this page.

Field	Description
IP Address	You must enter the WAN IP address provided by your ISP.
IP Subnet Mask	Enter the subnet mask address provided by your ISP. The address varies with your network type. Usually it is 255.255.255.0 (Type C).
Gateway IP Address	Enter the gateway address provided by your ISP. It is the IP address for connecting to the ISP.
Domain Name Server (DNS) Address	Usually after successful dialup, your ISP provides a DNS address automatically. Choose "Get Automatically From ISP". If you wish to appoint a DNS server, choose "Use These DNS Servers" and fill in the IP addresses.
Router MAC Address	The physical address (or MAC address) of a network interface card is exclusive. Usually choose "Use Default Address". You may choose "Use Computer MAC Address" or appoint an address by yourself.

After setting, click **Apply**.

● L2TP Dialup and PPTP Dialup

If your ISP provides you with a username and password for L2TP or PPTP dialup, choose "Yes" for the question "Does your Internet Connection Require a Login", and select L2TP or PPTP as shown in the following figure.

Network Setup > WAN Setup

Does your Internet Connection Require A Login?	☒ Yes ☐ No
Internet Service Provider	PPTP ▾
Login	PPPoE PPTP L2TP
Password	L2TP ●●●●
Connection Mode	Always On ▾
Idle Timeout (In minutes)	1
MTU Size(616~1436 bytes)	1436
My IP Address	. . .
Subnet Mask	. . .
Server Address	
Gateway IP Address	. . .
Domain Name Server (DNS) Address	
☐ Get Automatically From ISP ☒ Use These DNS Servers	
Primary DNS	10 28 100 1
Secondary DNS	10 28 100 2
Router MAC Address	
☒ Use Default Address ☐ Use Computer MAC Address ☐ Use This MAC Address	
	00:1e:e3:be:c9:30

Cancel

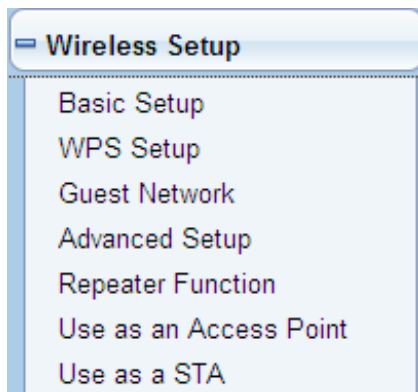
Apply

The following table describes the parameters in this page.

Field	Description
Login	Input the username for L2TP or PPTP dialup, which is provided by your ISP.
Password	Input the password for L2TP or PPTP dialup, which is provided by your ISP.
My IP Address	Usually the server automatically assigns an IP address for you. You may define one if you wish to.
Subnet Mask	Usually the server automatically assigns a subnet mask. If necessary, you may define one.
Domain Name Server (DNS) Address	Usually after successful dialup, your ISP provides a DNS address automatically. Choose "Get Automatically From ISP". If you wish to appoint a DNS server, choose "Use These DNS Servers" and fill in the IP addresses.
Router MAC Address	The physical address (or MAC address) of a network interface card is exclusive. Usually choose "Use Default Address". You may choose "Use Computer MAC Address" or appoint an address by yourself.

7.5 Wireless Setup

On the navigation bar, click "Wireless Setup". The submenu includes Basic Setup, WPS Setup, Guest Network, Advanced Setup, Repeater Function, Use as an Access Point and Use as a STA.



7.5.1 Basic Setup

Click "Wireless Setup" → "Basic Setup", and the following page is prompted.

Wireless Setup > Basic Setup

Region Selection	
Adapter >	2.4G ▾
Region >	United States ▾
Wireless Network	
☒ Enable Wireless Network	
☒ Enable SSID Broadcast	
☐ Enable Wireless Isolation	
SSID >	AP_11AC-2.4G-001
Wireless Mode >	802.11n ▾
Wireless Channel >	Auto ▾
Extension Channel >	Auto ▾
Bandwidth >	20/40MHz ▾
Protected Mode >	On ▾
802.11e/WMM QoS >	On ▾
Security Options--Profile	
Security Options :	WPA-PSK[TKIP]+WPA2-PSK[AES] ▾
Security Options(WPA-PSK+WPA2-PSK)	
PassPhrase :	11111111 (8-63 characters or 64 hexdigits)

The following table describes the parameters in this page.

Field	Description
Enable SSID Broadcast	You may choose to enable or disable SSID broadcast. When it is enabled, the router SSID will be broadcast in the wireless network, so that it can be scanned by

Field	Description
	wireless clients and they can join the wireless network with this SSID.
SSID	Service Set Identifier. The SSID length is utmost 32 characters, including letters, numbers and underscores. The SSID is case sensitive.
Wireless Mode	Select a maximum transmission rate from the dropdown list.
Wireless Channel	Wireless channels are applied mainly to avoid interference between two routers, or between a router and another wireless device. Select a channel from the dropdown list. The default is Auto .
Protected Mode	Ideally, protected mode is off. If you use HEAVY802.11b, the best choice is to disable protected mode.

You may configure security options for the 2.4G and 5G wireless networks respectively.

Wireless Setup > Basic Setup

Region Selection	
Adapter >	5G ▾
Region >	United States ▾
Wireless Network	
☒ Enable Wireless Network	
☒ Broadcast SSID >	
☐ Enable Wireless Isolation	
SSID >	AP_11AC-5.8G-001
Wireless Mode >	802.11n ▾
Wireless Channel >	Auto ▾
Extension Channel >	Auto ▾
Bandwidth >	20/40MHz ▾
Protected Mode >	On ▾
802.11e/WMM QoS >	On ▾
Security Options--Profile	
Security Options :	None ▾

- None

If "None" is chosen, any station can access the wireless network. Usually this option is not suggested.

- WPA2-PSK(AES)

WPA2-PSK (AES) adopts WPA2-PSK standard encryption type of AES using 128-bit data block symmetrical encryption. Input a password of 8~63 characters or 64 hexdigits.

Security Options--Profile

Security Options :

WPA2-PSK[AES]

**Security Options(WPA2-PSK)**

PassPhrase :

11111111

(8-63 characters or

64 hexdigits)

- WPA-PSK(TKIP)+ WPA2-PSK(AES)

If this option is chosen, a client may use WPA-PSK (TKIP) or WPA2-PSK (AES).

**Note:**

The hosts in wireless network should have the same security configuration with the router in order to connect to the router, for example, the SSID, password. Otherwise the clients cannot be connected to the router.

7.5.2 WPS Setup

Click "Wireless Setup" → "WPS Setup", and the following page is prompted.

Wireless Setup > WPS Setup

Adapter >	2.4G ▾
Wi-Fi Protected Setup (WPS)	Enabled ▾
WPS hardware button	Enabled ▾
Apply	
1) Personal Information Number (PIN) Method	
Enter Client Device PIN	Enroll
Router PIN: 38882920	Generate New PIN
2) Push Button Configuration (PBC) Method	
Start PBC	
3) Manual Configuration Method	
Network Name (SSID):	AP_11AC-2.4G-001
Wireless Security:	Configured
Network Authentication:	WPA-PSK[TKIP]+WPA2-PSK[AES]
Data Encryption:	TKIP+AES
Network Key (PSK):	11111111

First enable WPS for the 2.4G or 5G wireless network. Choose “Enable” at the dropdown list of “Wi-Fi Protected Setup (WPS)”, and then click **Apply**.

Through Wi-Fi protected setup, you may easily add a wireless client to the network without configuring parameters of the client, such as the SSID, security mode and password.

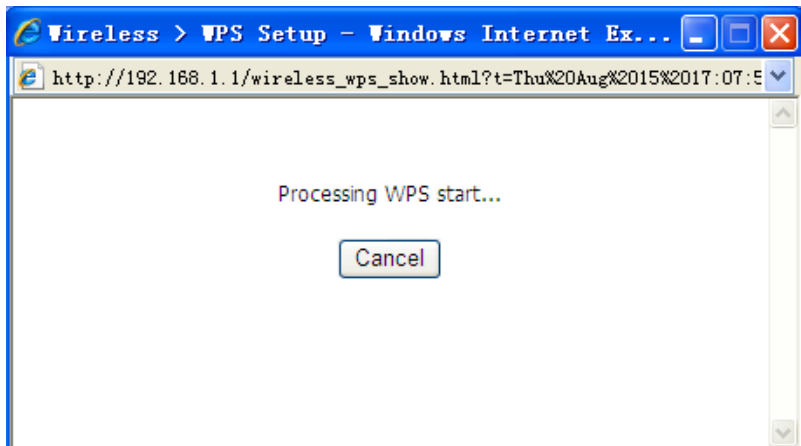
There are two WPS modes: PBC and PIN.

● PBC Mode

Take the following steps to add a wireless client to the router under PBC mode.

Step 1 In the above figure, click “Generate New PIN” to generate a new router PIN.

- Step 2** Click "Start PBC" or press the WPS button (only for 2.4G network) on the router, and the following figure is prompted.



- Step 3** Within two minutes, press the WPS button on network interface card, or click the PBC icon on the configuration tool of the card.

- Step 4** After successful connection, the following figure will be displayed. Now the client can access the LAN.

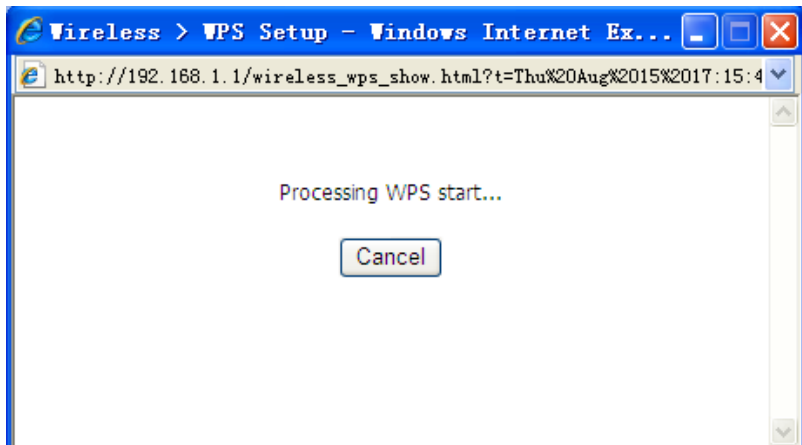


- **PIN Mode**

Take the following steps to add a wireless client to the router under PIN mode.

Step 1 In the above figure, input the PIN code of network interface card.

Step 2 Click "Enroll" to start WPS connection, and the following figure is prompted.



Step 3 Within two minutes, click the PIN button to start WPS connection.

Step 4 After successful connection, the following figure will be displayed. Now the client can access the LAN.



7.5.3 Guest Network

By enabling this function, a guest may access the Internet at your home without knowing your wireless password.

Click "Wireless Setup" → "Guest Network".

Wireless Setup > Guest Network

Adapter: 2.4G ▾

Network Profiles					
	Scheme	SSID	Security	Apply	SSID Broadcast
☒	1	AP_11AC-2.4G-002	None	No	Yes
☐	2	AP_11AC-2.4G-003	None	No	Yes

Wireless Settings--Profile

☐ Enable Guest Network

☒ Enable SSID Broadcast

☐ Enable Wireless Isolation

☒ Enable Broadcom WMF

Guest Wireless Network Name (SSID): AP_11AC-2.4G-002

Security Options--Profile

Security Options : None ▾

Cancel Apply

The following table describes the parameters in this page.

Field	Description
Enable Guest Network	You may choose to enable or disable guest network.
Guest Wireless Network Name (SSID)	Service Set Identifier of the guest network. The SSID length is utmost 32 characters, including letters, numbers and underscores. The SSID is case sensitive.
Security Options	Refer to the parameter description and configuration methods in 7.5.1 Basic Setup .

After setting, click **Apply**.

7.5.4 Advanced Setup

Click “Wireless Setup” → “Advanced Setup”, and the following page is displayed.

Wireless Setup > Advanced Setup

Adapter :
2.4G ▼

☒ Enable Broadcom WMF

☒ Enable Broadcom XPress™ Technology

☒ Enable Broadcom PHY Watchdog

Fragmentation Length (256-2346)
2346

CTS/RTS Threshold (1-2347)
2347

Preamble Mode
Long preamble ▼

Transmit Power Control
100% ▼

Wireless Card Access List

Setup Access List

Cancel Apply

The following table describes the parameters in this page.

Field	Description
Adapter	Choose a wireless frequency band from the dropdown list.
Enable Broadcom WMF	When this function is enabled, wireless multicast will be more fluent.
Fragmentation Length (256-2346)	A data packet exceeds this value in length will be divided into multiple packets. The number of packets influences wireless network performance. Avoid setting this value low. Usually it is set to 2346.
CTS/RTS Threshold (1-2347)	When the length of a data packet exceeds this value, the router will send a RTS frame to the destination wireless node, and the latter will reply with a CTS frame, thus they are ready to communicate.

Field	Description
Preamble Mode	The preamble defines the length of CRC in wireless device communication. It is defined by the 802.11b High Rate/DSSS PHY. A short preamble adopts a 56-bit synchronization field, and is suitable for a high-traffic network. A long preamble is mainly for improving the efficiency of a wireless network on real-time applications like streaming video and VoIP telephone.
Transmit Power Control	Set the transmitting power of router. The default is 100%.
Wireless Card Access List	You may allow specific PC NICs to access the wireless network. You may add, delete or edit an item in the list.

Click Setup Access List, and the following page is displayed.

Wireless Setup > Advanced Setup > Wireless Card Access List

☐ Turn Access Control On

#	Device Name	Mac Address
Add Edit Delete		

The following table describes the parameters in this page.

Field	Description
Turn Access Control On	After enabling this function, you can limit wireless NIC from accessing the router based on their MAC addresses.
Add	Click it to add a wireless NIC.
Edit	Select a wireless NIC, and click this button to edit its name or MAC address.

Field	Description
Delete	Select a wireless NIC, and click this button to delete it.

Click “Add”, and the following page is displayed.

Wireless Setup > Advanced Setup > Wireless Card Access Setup

Available Wireless Cards	
Device Name	Mac Address
Wireless Card Entry(Max of terms:16)	
Device Name	
Mac Address	

The following table describes the parameters in this page.

Field	Description
Available Wireless Cards	All available wireless NICs and their MAC addresses are listed here.
Device Name	You can define a name for the wireless NIC.
MAC Address	Input the physical address of a wireless NIC. A MAC address is a 12-character string.

Click “Add” to finish adding a wireless NIC.

7.5.5 Repeater Function

WDS (Wireless Distribution System) realizes interconnection of multiple APs in an IEEE 802.11 network, without a wired backbone. It is also called wireless bridge or repeater.

Click “Wireless Setup” → “Repeater Function”, and the following page is displayed.

Wireless Setup > Wireless Repeater

Adapter: 2.4G ▾

☐ Enable Wireless Repeating Function

☐ Disable Wireless Clients Association

Wireless MAC of this router: 00:1E:E3:BE:C9:31

☒ Wireless Repeater

Repeater IP Address:

Basic Station MAC Address:

☐ Wireless Basic Station

Repeater MAC Address 1:

Repeater MAC Address 2:

Repeater MAC Address 3:

Repeater MAC Address 4:

Cancel Apply

The following table describes the parameters in this page.

Field	Description
Adapter	Choose a wireless frequency band from the dropdown list.
Enable Wireless Repeating Function	While enabling this function, the wireless channel cannot be set to Auto .
Disable Wireless Clients Association	When this function is enabled, clients cannot access the LAN.
Wireless Repeater	Under this mode, the router communicates with the central base station as a repeater.
Repeater IP Address	Input an IP address for the repeater. It should be in the same network segment as the central base station.

Field	Description
Basic Station MAC Address	Input the physical address of the central base station.
Wireless Base Station	Under this mode, the router communicates with a repeater as the central base station. A maximum of 4 repeaters can be added.
Repeater MAC Address 1~4	Input the physical addresses of repeaters.

7.5.6 Use as an Access Point

Click “Wireless Setup” → “Use as an Access Point”, and the following page is displayed.

Wireless Setup > Use as an Access Point

Enable / Disable >



Enable



Disable

Cancel

Apply

The router can be used only as an access point, while all routing and firewall functions are disabled. You may select “Enable” and input an IP address and subnet mask for the AP.

Wireless Setup > Use as an Access Point

Enable / Disable >



Enable



Disable

Specify IP Address >

192

168

1

254

Subnet mask >

255

255

255

0

Cancel

Apply

7.5.7 Use as a STA

This function can be used for testing wireless throughput. The router can work under station mode, and be connected to an upstream Wi-Fi access point. Click "Wireless Setup" → "Use as a STA", and the following page is displayed.

Wireless Setup > Use as a STA

☐ Use as a STA		
☐ 2G ☒ 5G		
Connect to SSID :		Connection
Connection Status	SSID	

Take the following steps.

- Step 1** Configure a static IP address in the network segment 192.168.1.x for your NIC.
- Step 2** Choose Use as a STA to switch the router to STA mode, click **Apply**, and wait until the router is restarted. You will be directed to **http://192.168.1.2**.
- Step 3** Login to the GUI again, choose 2G or 5G, input the SSID to connect to, and click Connection.

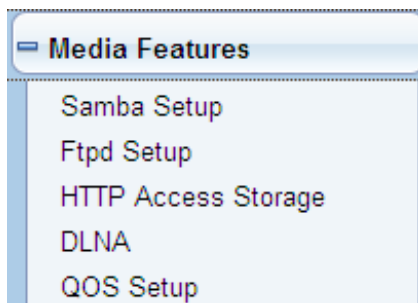
Wireless Setup > Use as a STA

☒ Use as a STA		
☒ 2G ☐ 5G		
Connect to SSID :	twsz	Connection
Connection Status		

- Step 4** When connection is successful, the SSID will be displayed at the Connection Status.
- Step 5** Now you can perform a throughput test.

7.6 Media Features

On the navigation bar, click “Media Features”. The submenu includes Samba Setup, Ftp Setup, HTTP Access Storage, DLNA and QoS Setup.



7.6.1 Samba Setup

Click “Media Features” → “Samba Setup”, and the following page is displayed. You can upload and download files.

Media Features > Samba Setup

Samba Mode >	Disabled ▾
User Name >	admin
Password >	

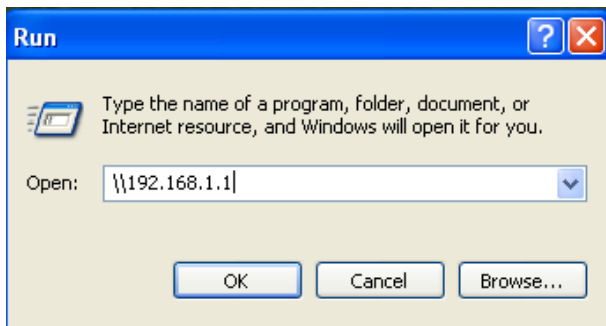
The following table describes the parameters in this page.

Field	Description
Samba Mode	● Disabled When this option is selected, the function is disabled. ● User When this option is selected, you need to input a password in the field.

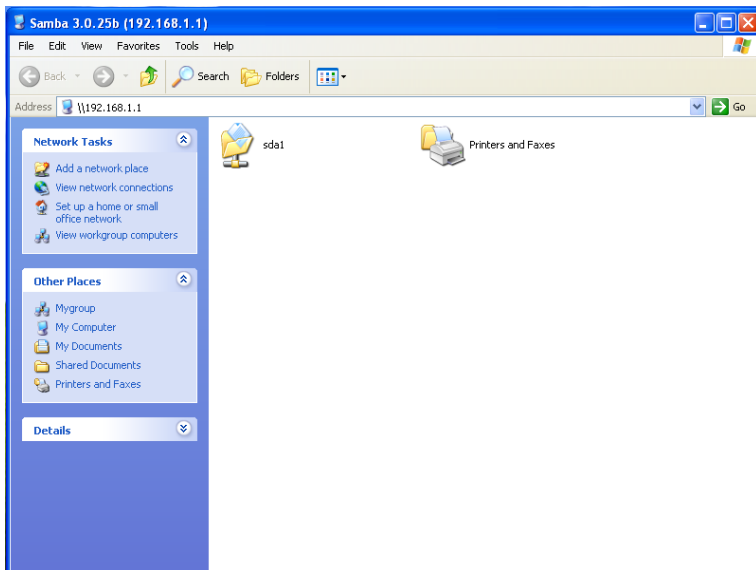
Field	Description
	● Share When this option is selected, no password is required to access the storage device.

Connect a USB device to the USB port of the router.

Click "Run" in the "Start" Menu of your PC, and input the address of the router 192.168.1.1.



Click Ok to enter the following page. If you login under User mode, you need to enter the username and password.



Find your storage device, and upload or download files.

7.6.2 FTP Setup

Click “Media Features” → “Ftp Setup”, and the following page is displayed. You can upload and download files after plugging a USB storage device into the router.

Media Features > FTP Setup

Ftpd Setting

☒ Enable FTP Server

FTP Server Port

FTP Server Account Manager

User Name

Password

Rights
 ☐ View
 ☐ Upload
 ☐ Download

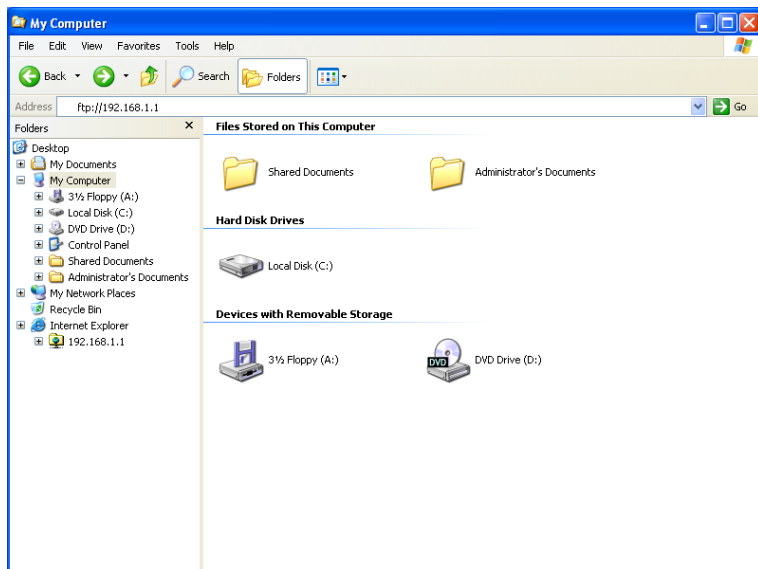
Account Table

No.	User	Password	Rights			Operation
			View	Upload	Download	
1	admin	admin	Y	Y	Y	Edit Delete

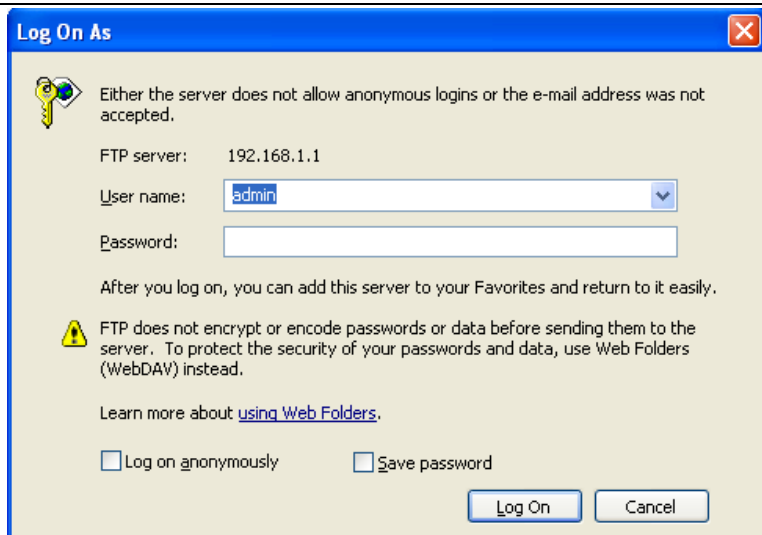
The following table describes the parameters in this page.

Field	Description
Enable FTP Server	Tick in the box to enable FTP service.
FTP Server Port	Set a FTP service port.
FTP Server Account Manager	You can configure a username, password and assign rights (upload, download and view) for all users.

Right click "My Computer", and select "Open" in the prompted menu to go to the following page. Type ftp://192.168.1.1 in the address bar, and tap "Enter".



Input the username and password, click “Log On” to access the files in the USB device.



7.6.3 HTTP Access Storage

Click “Media Features” → “HTTP Access Storage”, and the following page is displayed. You can upload and download files after connecting a USB storage device to the router.

Media Features > HTTP Access Storage

Enable	Access Method	Link	Port
☒	HTTP	readyshare.routerlogin.net http://readyshare.routerlogin.net/shares	80

Plug the USB device into the USB port of AP, click on <http://readyshare.routerlogin.net/shares> to visit your USB device to view and download files.

The following table describes the parameters in this page.

Field	Description
Enable	Tick in the box to enable HTTP access storage.
Link	It shows the domain name of HTTP access storage server. You can appoint one name and add it to the Favorites of your browser.

7.6.4 DLNA

Click “Media Features” → “DLNA”, and the following page is displayed. After enabling this function, media files in the USB device connected to the router can be found by a player supporting DLNA protocol.

Media Features > DLNA

☒ Enable DLNA

Cancel

Apply

7.6.5 QoS Setup

Click “Media Features” → “QoS Setup”, and the following page is displayed. After enabling this function, you can optimize network traffic according to the set QoS priority rule.

Media Features > QoS Setup

Enable Qos >	Disable ▾
Prioritize ACK >	Enabled ▾
Prioritize ICMP >	Disabled ▾
Default Traffic Class >	Low ▾
Inbound classes	
Max Downlink bandwidth >	15000 Kbit/s
Highest >	60 (%min) - 100 (%max) (9000 - 15000 Kbit/s)
High >	30 (%min) - 100 (%max) (4500 - 15000 Kbit/s)
Medium >	5 (%min) - 100 (%max) (750 - 15000 Kbit/s)
Low >	3 (%min) - 100 (%max) (450 - 15000 Kbit/s)
Lowest >	2 (%min) - 95 (%max) (300 - 14250 Kbit/s)
Outbound classes	
Max Uplink bandwidth >	15000 Kbit/s
Highest >	60 (%min) - 100 (%max) (9000 - 15000 Kbit/s)
High >	30 (%min) - 100 (%max) (4500 - 15000 Kbit/s)
Medium >	5 (%min) - 100 (%max) (750 - 15000 Kbit/s)
Low >	3 (%min) - 100 (%max) (450 - 15000 Kbit/s)
Lowest >	2 (%min) - 95 (%max) (300 - 14250 Kbit/s)
QoS Priority Rule list >	Setup QoS rule

Cancel

Apply

The following table describes the parameters in this page.

Field	Description
Prioritize ACK	Accelerate TCP ACK message. You are suggested to enable it.
Prioritize ICMP	Accelerate ICMP message. You are suggested to enable it.

Field	Description
Default Traffic Class	Choose a default queue for matching QoS rules.
Max Downlink/ Uplink bandwidth	Set the maximum downlink/ uplink bandwidth permitted by the QoS priority rule.
Setup QoS Rule	Click this button to set up a QoS rule.

Click "Setup QoS Rule", and the following page is displayed. You can edit, add or delete a priority rule.

Media Features > QoS Setup > QoS List

#	Rule Type	Address Type	Address	Protocol	Port Filter	Port Number	Class	Description
Edit Add Priority Rule Delete								
Cancel Refresh								

The following table describes the parameters in this page.

Field	Description
Edit	Select a rule from the QoS priority rule list, and click this button to edit it.
Add Priority Rule	Click this button to open the page QoS Priority Rules to customize your priority strategy.
Delete	Click this button to delete a rule from the QoS priority rule list.

Click Add Priority Rule, and the following page is displayed.

Media Features > QoS Setup > Qos Priority Rules

Rule Type	Upload v
IP/MAC Address Filter >	Any v
Address >	
Port Protocol Filter >	Any v
Port Filter >	Any v
Port List >	
Class Assigned >	Highest v
Description >	

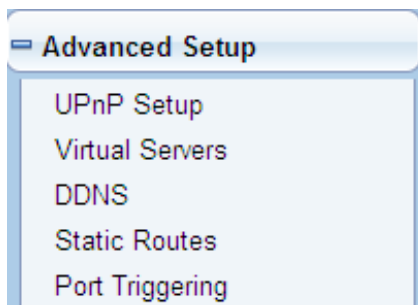
The following table describes the parameters in this page.

Field	Description
IP/MAC Address Filter	You may choose Any, Destination IP, Source IP or Source MAC.
Address	When you choose the address filter to be any, you may leave this field blank.
Port Protocol Filter	Choose a protocol applied at the port. You may choose TCP/UDP, TCP or UDP.
Port Filter	Choose a type of action port. You may choose Any, Destination Port, Source Port, or Source or Destination.
Class Assigned	Choose a priority. You may choose Highest, High, Medium, Low or Lowest.

After setting, click **Apply**.

7.7 Advanced Setup

On the navigation bar, click “Advanced Setup”. The submenu includes UPnP Setup, Virtual Servers, DDNS, Static Routes and Port Triggering.



7.7.1 UPnP Setup

With the UPnP (Universal Plug and Play) protocol, a host on the LAN side may request the router of port conversion, so that a host outside the LAN may access the resources on the hosts in the LAN.

Click "Advanced Setup" → "UPnP Setup", and the following page is displayed.

Advanced Setup > UPnP

☐ Turn UPnP On				
Advertisement Period(in minutes)	30	(1-1440)		
Advertisement Time To Live (in hops)	4	(1-255)		
UPnP Portmap Table				
Active	Protocol	Int. Port	Ext. Port	IP Address
				Description
Cancel Apply Refresh				

The following table describes the parameters in this page.

Field	Description
Turn UPnP On	Tick in the box to enable UPnP function.
Advertisement Period (in minutes)	It is the period the router broadcasts its UPnP information.

Field	Description
Advertisement Time To Live (in hops)	It is the hop count of an UPnP data packet sent. The default is 4. You may set a value between 1 and 255.
UPnP Portmap Table	The table shows the IP addresses of all current UPnP devices accessing the router, and the opened ports (internal and external) of such devices.

**Note:**

Only applications supporting the UPnP protocol may use this function.

Your operating systems and application software should support UPnP, such as Windows ME, Windows XP and Windows Vista.

7.7.2 Virtual Servers

Click “Advanced Setup” → “Virtual Servers”, and the following page is displayed

Advanced Setup > Virtual Servers

Add	Active Worlds Add					
Clear entry	1 Clear					
	enable	Description	Inbound port	Type	Private IP address	Private port
1	☐		-	BOTH	192.168.1.	-
2	☐		-	BOTH	192.168.1.	-
3	☐		-	BOTH	192.168.1.	-
4	☐		-	BOTH	192.168.1.	-
5	☐		-	BOTH	192.168.1.	-

To add a virtual server, select a service from the Add dropdown list, click Add to add it to the list below, and input private IP addresses manually.

Advanced Setup > Virtual Servers

Add		Active Worlds	Add
Clear entry		Active Worlds	
		Age of Empires	
	enable	Age of Empires Expansion: The Rise of Rome	address Private port
1	☐	Age of Empires II Expansion: The Conquerors	.1.
2	☐	Age of Empires II: The Age of Kings	.1.
3	☐	Age of Kings	.1.
4	☐	Age of Wonders	.1.
5	☐	Aliens vs. Predator	.1.
6	☐	Anarchy Online (BETA)	.1.
7	☐	AOL Instant Messenger	.1.
8	☐	Audiogalaxy Satellite	.1.
9	☐	Baldurs Gate	.1.
10	☐	BattleCom	.1.
11	☐	Battlefield Communicator	.1.
12	☐	Black and White	.1.
13	☐	Blizzard Battle.net	.1.
14	☐	Buddy Phone	.1.
		Bungie.net	
		Camerades	
		CART Precision Racing	
		Close Combat for Windows	
		Close Combat III: The Russian Front	
		Close Combat: A Bridge Too Far	
		Combat Flight Simulator 2: WWII Pacific Theater	
		Combat Flight Simulator: WWII Europe Series	
		Crimson Skies	
		CuSeeMe	
		Dark Reign	
		Dark Reign 2	
		Delta Force 2	

To delete an entry, you may select an entry from the Clear entry dropdown list. After setting, click **Apply**.

7.7.3 DDNS

Dynamic DNS (DDNS) realizes resolution of fixed domain names to dynamic IP addresses. For Internet subscribers using dynamic IP addresses, whenever they obtain a new IP address, the dynamic DNS software on the host sends the IP

address to the dynamic domain name server, and the DNS database will be updated.

Click “Advanced Setup” → “DDNS”, and the following page is displayed. In this page, you can configure DDNS parameters.

Advanced Setup > DDNS

DDNS Service >	DynDNS Web Site
DDNS Status >	Disable
User Name >	
Password >	
Domain Name >	. .

The following table describes the parameters in this page.

Field	Description
DDNS Service	Select Disabled or DynDNS from the dropdown list.
DDNS Status	It displays the current DNS status.
User Name	Input the DDNS username of DDNS account.
Password	Input the DDNS password of DDNS account.
Domain Name	Input the host name or domain name provided by the DDNS service provider.

After setting, click **Apply**.

7.7.4 Static Routes

Static Route reduces route selection problems and corresponding data overload and accelerates data packet forwarding.

Click “Advanced Setup” → “Static Routes”, and the following page is displayed. In this page, you can add, edit or delete static route rules, and view the current static routing table of the router.

Advanced Setup > Static Routes

#	Name	Destination	Gateway
Add Edit Delete			

To add a routing rule, click "Add", and the following page is displayed.

Advanced Setup > Static Routes

Route Name	
Destination IP Address	. . .
IP Subnet Mask	. . .
Gateway IP Address	. . .
Metric	(2-15)

The following table describes the parameters in this page.

Field	Description
Route Name	Input a name from the current static route.
Destination IP Address	Input the destination IP address or destination network.
IP Subnet Mask	Input the subnet mask of the destination IP address.
Gateway IP Address	Input an IP address of the router or host to which data packets are sent.
Metric	It is the number of other routers on the user network. Set a value between 2 and 15. If the router is connected directly, set the value to 2.

After setting, click **Apply**.

7.7.5 Port Triggering

Some applications need multiple connections, for example, WAN online games, video conferences and VoIP. With firewall, such applications cannot work under a simple NAT router, while a special application enables them to do so. When an application program initiates connection to a trigger port, all corresponding ports will be opened.

Click “Advanced Setup” → “Port Triggering”, and the following page is displayed.

Advanced Setup > Port Triggering

☐ Enable Port Triggering

Port Triggering Timeout(in minutes) (1-9999)

Max of rules: 32

#	Server Name	Service Type	Required Inbound Connection	Service User
Add Service Edit Service Delete Service				

The following table describes the parameters in this page.

Field	Description
Enable Port Triggering	Tick in the box to enable port triggering.
Port Triggering Timeout (in minutes)	Input a value between 1 and 9999. This value controls the inactivity timer of inbound port.
Add Service	Click this button to add a new rule.
Edit Service	Click this button to edit a selected rule.
Delete Service	Click this button to delete a selected rule.

Click “Add Service”, and the following page is displayed.

Advanced Setup > Port Triggering > Port Triggering - Services

Service Name	
Service User	Any v
Service Type	TCP v
Triggering Starting Port	(1~65535)
Triggering Ending Port	(1~65535)
Required Inbound Connection	
Connection Type	TCP v
Starting Port	(1~65535)
Ending Port	(1~65535)

The following table describes the parameters in this page.

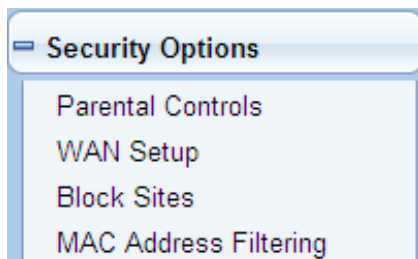
Field	Description
Service Name	Input a service name.
Service User	You may select "Any" or "Single Address". - Any: All users in the network are allowed to use the service. - Single Address: Input the NIC IP address of the PC to limit the service to this NIC.
Service Type	Choose a protocol used on the triggering port. You may choose TCP/UDP, TCP or UDP.
Triggering Starting Port	Set a port on which connection is initiated.
Triggering Ending Port	Set an ending trigger port.
Connection Type	Choose a trigger protocol from TCP&UDP, TCP and UDP.

Field	Description
Starting Port	When an open port is opened after connection is initiated at the trigger port, connection can be initiated at the opened port.
Ending Port	Set an ending triggered port.

After setting, click **Apply**.

7.8 Security Options

On the navigation bar, click "Security Options". The submenu includes Parental Controls, WAN Setup, Block Sites and MAC Address Filtering.



7.8.1 Parental Controls

Click "Security Options" → "Parental Controls", and the following page is displayed.

Security Options > Parental Controls

Parental Controls

☐ Enable ☒ Disable

Parental Control list >

#	MAC Address	Sites List	Schedule	Status
---	-------------	------------	----------	--------

Add

Edit

Delete

Enable all entries

Disable all entries

Cancel

Apply

Choose Enable to enable parental controls.

Click Add to display the following page.

Security Options > Parental Controls

The child PC's MAC address >	- - - - -
MAC address of the LAN PC >	--Please select-- 
Description of the refused sites >	
Refuse children access to the Domain Name >	
Domain Name 1 >	
Domain Name 2 >	
Domain Name 3 >	
Domain Name 4 >	
Domain Name 5 >	
Domain Name 6 >	
Domain Name 7 >	
Domain Name 8 >	
Effect at which time >	
Schedule Description >	
Week	☒ Every day ☐ Select the day of the week ☒ MON ☒ TUE ☒ WED ☒ THU ☒ FRI ☒ SAT ☒ SUN
Start time	00:00 AM 
End Time	00:00 AM 
Status	Enable 

The following table describes the parameters in this page.

Field	Description
The child PC's MAC address	You may manually type in the address, or choose from the dropdown list MAC address of the LAN PC .
Description of the refused sites	Input a description name for convenient future management.

Field	Description
Domain Name	Input domain names for children not to access.
Effect at which time	Set the effective time for the restrictions set above.

7.8.2 WAN Setup

Click “Security Options” → “WAN Setup”, and the following page is displayed. In this page, you can set a default DMZ server, and enable the router to response to Ping commands from the Internet. Be cautious while using them because they both possess hazards.

Security Options > WAN Setup

☐	Disable Port Scan and DOS Protection
☒	Disable SPI Firewall
☒	Respond to Ping on Internet Port
☐	Default DMZ Server
	192 168 1
ALG Setup	
☐	Enable SIP ALG
☐	Enable L2TP ALG
☐	Enable PPTP ALG
☐	Enable IPSEC ALG

The following table describes the parameters in this page.

Field	Description
Disable Port Scan and DOS Protection	When this function is enabled, your LAN will be protected from DOS attack. Usually, keep this function enabled.
Disable SPI Firewall	You can choose to enable SPI firewall.
Respond to Ping on	You may enable this function. Ping commands can be used as a diagnosis tool, yet it possesses security

Field	Description
Internet Port	hazards. Usually, you are suggested not to enable it.
Default DMZ Server	Input the IP address of a PC or server to be the DMZ server.
Enable SIP ALG	Some SIP applications have specific schemes for firewall penetration, which may conflict with the SIP ALG. In most cases, keep SIP ALG enabled.
Enable L2TP ALG	You may enable L2TP application layer gateway.

After setting, click **Apply**.

7.8.3 Block Sites

Click "Security Options" → "Block Sites", and the following page is displayed.

Security Options > Block Sites

Keyword Blocking

☒ Never

☐ Always

Type Keyword or Domain Name Here.

Add Keyword

Block Sites Containing these Keywords or Domain Names

Delete Keyword

Clear List

Cancel

Apply

In this page, you can add or delete rules of keyword or domain name blocking, to restrict LAN users from visiting some websites.

The following table describes the parameters in this page.

Field	Description
Keyword Blocking	Choose a blocking scheme. ● Never: When this is chosen, site blocking is disabled. ● Always: When this is chosen, site blocking is enabled.
Type Keyword or Domain Name Here	Input keyword or domain name you want to block. ● Domain: Input a domain name, for example, www.badstuff.com/xxx. ● Keyword: Input words contained in web inks.
Add Keyword	Press this button to add the input keywords or domain names to the list.
Block Sites Containing these Keywords or Domain Names	You may input 32 items at most.
Delete Keyword	Select an item from the blocking list, and click this button to delete it.
Clear List	Press this button to clear all the items in the above list.

After setting, click **Apply**.

7.8.4 MAC Address Filtering

Click "Security Options" → "MAC Address Filtering", and the following page is displayed.

Security Options > MAC Address Filtering

☐ Enable MAC Address Filtering

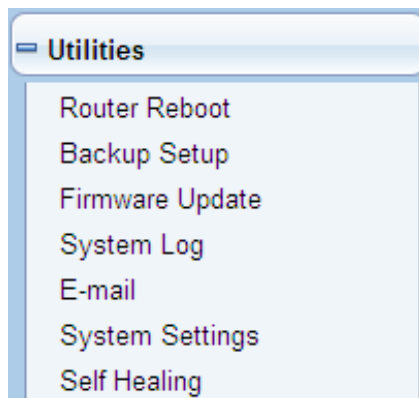
MAC Address Filtering List >

#	MAC Address

To enable this function, you need to input the MAC addresses of all the users in your network, so that they can access the information in the network.

7.9 Utilities

On the navigation bar, click “Utilities”. The submenu includes Router Reboot, Backup Setup, Firmware Update, System Log, E-mail, System Settings and Self Healing.



7.9.1 Router Reboot

Click “Utilities” → “Router Reboot”, and the following page is displayed.

Utilities > Router Reboot

Restart Router

Restart Router

Click Restart Router to reboot the router.

7.9.2 Backup Setup

Click “Utilities” → “Backup Setup”, and the following page is displayed.

Utilities > Backup Setup

Save a Copy of Current Settings

Save

restore a previously saved configuration

Browse...

Restore

Revert to Factory Default Settings

Restore Defaults

To restore the router to the factory defaults, click Restore Defaults. This is identical with pressing down the Reset button on the back panel and holding for 3 seconds.

To export the current settings of router to the local PC for future use, click Save, select an address and save the settings.

To load a file to the router, click Browse to choose a configuration file on your PC, and click Restore.



Note:

When you load new configuration, the original configuration will be lost. Please back up the current configuration before loading a new one. In this way, if the new configuration file has an error, you can load the backup file.

Keep the router on while loading a configuration file. Otherwise, the router might be damaged.

7.9.3 Firmware Update

Click “Utilities” → “Firmware Update”, and the following page is displayed.

Utilities > Firmware Update

Firmware Version >	V 0.00.01
Check For New Firmware Version >	Check Firmware
Update Firmware >	Browse...

In this page, you can update the router software. With your PC connected to the network, click Check Firmware to check for new software on the server for download.

To update the software, click Browse to choose a software file, and then click Update.

After update, the router will be started.



Note:

To avoid losing the original settings, back it up before updating the software.

During update, do not turn off the power or press the **Reset** button.

7.9.4 System Log

Click “Utilities” → “System Log”, and the following page is displayed.

Utilities > System log

System log:

2013-01-01 00:13:48 User 192.168.1.10 login system
2013-01-01 00:32:23 User 192.168.1.10 login system
2013-01-01 00:59:08 User 192.168.1.10 login system
2013-01-01 01:13:11 User 192.168.1.10 login system
2013-01-01 01:34:54 User 192.168.1.10 login system
2013-01-01 02:09:13 User 192.168.1.10 login system
2013-01-01 02:24:31 User 192.168.1.10 login system
2013-01-01 02:48:58 User 192.168.1.10 login system

Firewall log:

In this page, you can view the system log.

Click Save to save the system log to the local device.

Click Clear to save clear the system log.

Click Refresh to refresh the system log.

7.9.5 E-mail

Click "Utilities" → "E-mail", and the following page is displayed.

When a LAN user attempts to visit a blocked site, an alert can be sent. All the visited URL addresses are listed in the log file. If you want alerts and log messages be sent through email, please configure the parameters in this page.

Utilities > E-mail

☐ Turn E-mail Notification On	
Send Alerts and Logs via E-mail	
Your outgoing E-mail Server	
Send to this E-mail address	
☐ Your E-mail server requires authentication	
User Name	
Password	
Send logs according to this schedule	
Send Email :	None ▼
Day:	Monday ▼
Hour:	01:00AM ▼
Cancel Apply	

The following table describes the parameters in this page.

Field	Description
Turn E-mail Notification On	Tick in the box to enable this function.
Your outgoing E-mail Server	Define a server to send emails.
Send to this E-mail address	Define an E-mail address to which log messages are sent.
User Name	Input your mailbox username.
Password	Input your mailbox password.
Send logs according to this schedule	Set a time to send logs to the set email address.

7.9.6 System Settings

Click "Utilities" → "System Settings", and the following page is displayed.

Utilities > System Settings

Administrator Password															
Type in current Password>															
Type in new Password>															
Confirm new Password>															
Login Timeout>	10 1-99 minutes														
Time and Time Zone															
Time Zone >	(GMT-12:00) International Date Line West ▼														
Daylight Savings >	☐ Automatically Adjust Daylight Saving														
Primary NTP Server >	132.163.4.102-North America ▼														
Secondary NTP Server >	132.163.4.102-North America ▼														
Remote Management															
☐ Any IP address can remotely manage the router.															
Only this IP address can remotely manage the router	. . .														
Remote Access Port>															
Auto Update Firmware Enabling															
Auto Update Firmware Enable / Disable >	☐ Enable ☒ Disable														
Eco Mode															
☐ Disable radio from	12:00 PM ▼ To 12:00 PM ▼														
	<table border="0"> <tr> <td>Su</td> <td>Mo</td> <td>Tu</td> <td>We</td> <td>Th</td> <td>Fr</td> <td>Sa</td> </tr> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </table>	Su	Mo	Tu	We	Th	Fr	Sa	☐	☐	☐	☐	☐	☐	☐
Su	Mo	Tu	We	Th	Fr	Sa									
☐	☐	☐	☐	☐	☐	☐									

Cancel

Apply

- **Administrator Password**

The following table describes the parameters in this page.

Field	Description
Type in current Password	Type in the password for logging in to the router.
Type in new Password	Type in a new password.
Confirm new Password	Type in a new password again.
Login Timeout	Set the login timeout duration.

**Note:**

For security, you are suggested to change the initial username and password for the administrator. If you forget the password, please reset the router. The default username and password are both **admin**.

● Time and Time Zone

For synchronization with the global network time, the router time is set via the SNTP (Simple Network Time Protocol). Select the time zone you are in. If you are in a daylight saving area, choose Automatically Adjust Daylight Saving. Please wait at least 15 minutes for the time zone server to reply. You cannot set the time manually.

● Remote Management

Remote management enables the user to configure the router on a remote host in WAN via Web browser.

The following table describes the parameters in this page.

Field	Description
Any IP address can remotely manage the router.	All IP addresses on the Internet can manage the router.
Only this IP address can remotely manage the router	Define a specific IP address to manage the router.
Remote Access Port	Set a web port number for router management.

While both **Any IP address can remotely manage the router** and **Only this IP address can remotely manage the router** are not configured, remote management is disabled.

After setting, click **Apply**.

● Auto Update Firmware Enabling

When this function is enabled, the system checks for firmware update when you login to the router.

● Eco Mode

When this function is enabled, wireless function is disabled during the set duration.

7.9.7 Self Healing

Click "Utilities" → "Self Healing", and the following page is displayed.

Utilities > Self Healing

Auto initialize my router>	☐ Enabled ☒ Disabled
Set days>	
☐ SUN	
☐ MON	
☐ TUE	
☐ WED	
☐ THU	
☐ FRI	
☐ SAT	
Set time>	12:00 PM ▼

Cancel

Apply

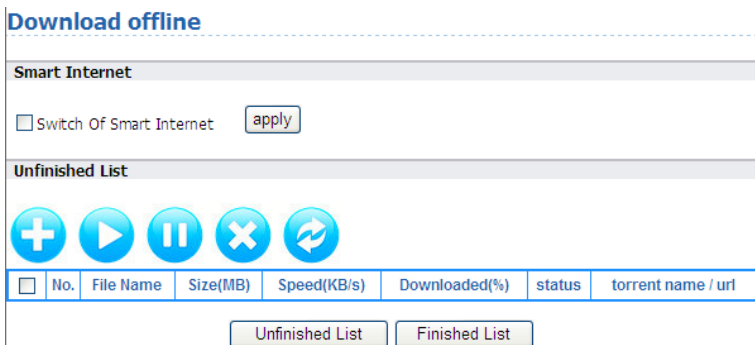
When is enabled, the router will be restarted at the fixed time. This is helpful to maintain the router performance.

7.10 Downloader

With offline download, the user may access the router, and download Internet resources to a USB storage device, using only a computer or other terminal (for example, a cellphone). During download, the computer or terminal can be powered down.

Take the following steps to download.

- Step 1** Plug a USB storage device into the USB port of the router, for example, a USB disk or mobile hard disk.
- Step 2** On the navigation bar, click “Downloader”, and the following page is displayed.



The following table describes the parameters in this page.

Field	Description
	Click it to originate a download task.
	Click it, and the selected task will begin, or wait for download.
	Click it to pause the selected task.
	The chosen task will be deleted, but the resources stored in the USB device will not be deleted. You are suggested to clear resources on the USB device regularly to leave space.

Field	Description
	Click it to refresh the status of all the tasks.

Step 3 Click  to originate a download task, and then select a download type.

Download offline

Smart Internet

☐ Switch Of Smart Internet

Add Tasks

☒ Add seeds (support BT seeds)

☐ Paste the address (support http / https / ftp resources)

The following table describes the parameters in this page.

Field	Description
Switch of Smart Internet	When this function is enabled, you can control dynamically offline download speed to save bandwidth.
Add seeds	Add a BT seed and originate a task of BT resources download.
Paste the address	Paste an http, https or ftp address and originate a download task.

Step 4 Click , and the selected task will begin, or wait for download.

Step 5 After download, unplug the USB device.

7.11 Logout

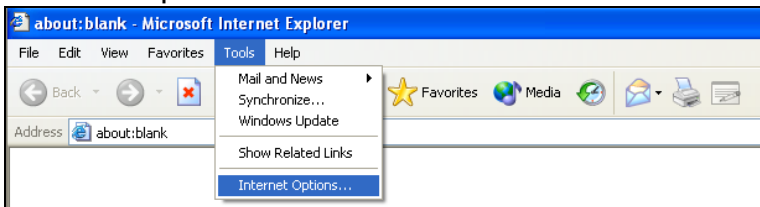
The Logout button is at the bottom of the navigation bar.

Click this button, and you will log out from the GUI and return to the login page.
To configure the router, you need to login again.

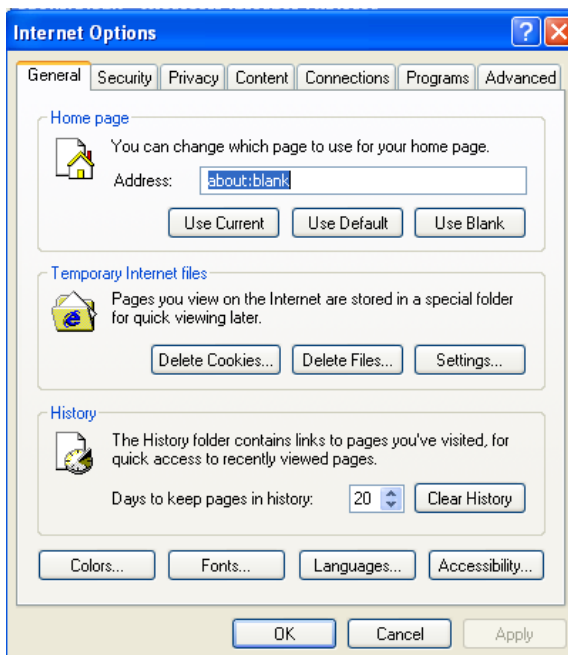
8 Troubleshooting

Why can't I configure the router via a web page?

- (1) Open the Web browser (for example, the Internet Explorer), and click **Tool** → **Internet Properties** in the menu bar.



- (2) Click **Delete Cookies**, and then **Delete Files**.



Why can't I establish a wireless network?

- You are not in the coverage of the wireless network.

- (1) Move the router closer to the user end.

- (2) Modify the wireless channel.

- Authentication problem

- (1) Connect the router to your PC with a wire.

- (2) Check the network security configuration.

- (3) Reset the router by pressing the Reset Button.

- The router cannot be searched.

- (1) Reset the router by pressing the Reset Button.

- (2) Check the wireless NIC setting.

- (3) Check the SSID and encryption setting.

Why can't I access the Internet wirelessly?

- (1) Move the router within the connection distance of the user end.

- (2) Check if your wireless NIC is connected to the right AP.

- (3) Check if the wireless network channel is the channel of your country/district.

- (4) Check the encryption setting.

- (5) Check if the ADSL cable is connected to the right port.

- (6) Change for another network cable.

Why can't I access the Internet?

- (1) Check whether the LED indicators on the ADSL modem and the router work normally.

- (2) Check whether the **WAN** indicator is on. If not, check the network cable connecting the **WAN** port is loose. If yes, connect the cable well.

- (3) When the **Link** indicator of the ADSL modem is on, you are connected to the Internet.

- (4) Restart your PC.

- (5) Reconfigure the AP.

- (6) Check whether the **WAN** indicator is on.

- (7) Check the wireless encryption setting.

- (8) Check whether the PC to be connected to the router can obtain an IP address under wire connection and wireless connection.

- (9) Check whether your web browser (for example, the Internet) adopts LAN and whether a proxy server is not applied.

