

User Guide

RT-AC56U

Dual Band Wireless-AC1200 Gigabit Router



The ultra-thin and stylish RT-AC56U features a 2.4GHz and 5GHz dual bands for an unmatched concurrent wireless HD streaming; SMB server, UPnP AV server, and FTP server for 24/7 file sharing; a capability to handle 300,000 sessions; and the ASUS Green Network Technology, which provides up to 70% power-saving solution.

E8556

Second Edition

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1 Getting to know your wireless router

1.1 Welcome!

Thank you for purchasing an ASUS RT-AC56U Wireless Router! The ultra-thin and stylish RT-AC56U features a 2.4GHz and 5GHz dual bands for an unmatched concurrent wireless HD streaming; SMB server, UPnP AV server, and FTP server for 24/7 file sharing; a capability to handle 300,000 sessions; and the ASUS Green Network Technology, which provides up to 70% power-saving solution.

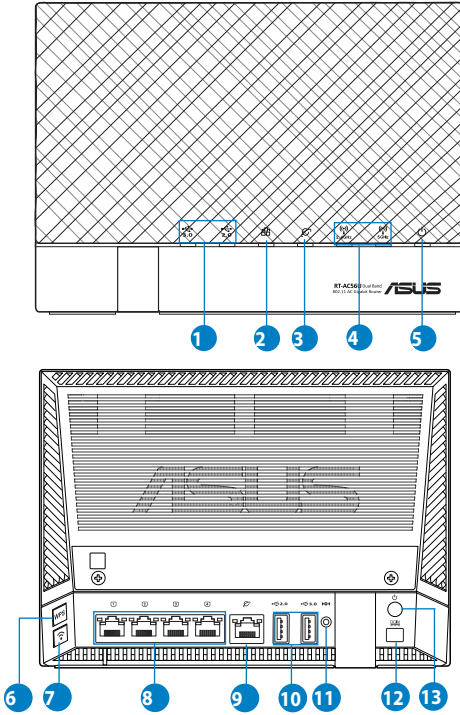
1.2 Package contents

- | | |
|---|---|
| <input checked="" type="checkbox"/> RT-AC56U Wireless Router | <input checked="" type="checkbox"/> Network cable (RJ-45) |
| <input checked="" type="checkbox"/> Power adapter | <input checked="" type="checkbox"/> Quick Start Guide |
| <input checked="" type="checkbox"/> Support CD (Manual, utility software) | <input checked="" type="checkbox"/> Warranty card |
| <input checked="" type="checkbox"/> Stand | |

NOTES:

- If any of the items are damaged or missing, contact ASUS for technical inquiries and support, Refer to the ASUS Support Hotline list at the back of this user manual.
 - Keep the original packaging material in case you would need future warranty services such as repair or replacement.
-

1.3 Your wireless router



-
- 1 USB 3.0 / 2.0 LED**
Off: No power or no physical connection.
On: Has physical connection to USB 3.0 / 2.0 devices.

 - 2 LAN LED**
Off: No power or no physical connection.
On: Has physical connection to a local area network (LAN).

 - 3 WAN LED**
Off: No power or no physical connection.
On: Has physical connection to a wide area network (WAN).

 - 4 2.4GHz LED / 5GHz LED**
Off: No 2.4GHz or 5GHz signal.
On: Wireless system is ready.
Flashing: Transmitting or receiving data via wireless connection.
-

-
- 5 Power LED**
Off: No power.
On: Device is ready.
Flashing slow: Rescue mode
Flashing quick: WPS is processing.

 - 6 WPS button**
This button launches the WPS Wizard.

 - 7 Wi-Fi On/Off button**
Press this button to turn on /off the Wi-Fi connection

 - 8 LAN 1 ~ 4 ports**
Connect network cables into these ports to establish LAN connection.

 - 9 WAN (Internet) port**
Connect a network cable into this port to establish WAN connection.

 - 10 USB 3.0 / 2.0 ports**
Insert USB 3.0 / 2.0 devices such as USB hard disks or USB flash drives into these ports.
Insert your iPad's USB cable into one of these ports to charge your iPad.

 - 11 Reset button**
This button resets or restores the system to its factory default settings.

 - 12 Power (DC-IN) port**
Insert the bundled AC adapter into this port and connect your router to a power source.

 - 13 Power button**
Press this button to power on or off the system.



NOTES:

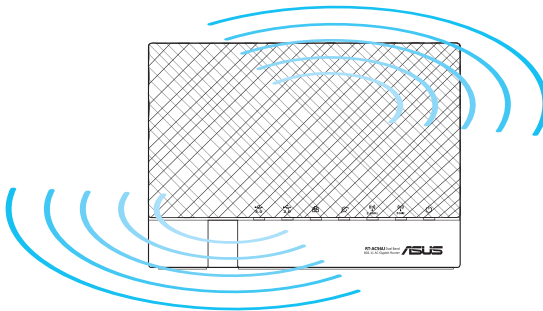
- Use only the adapter that came with your package. Using other adapters may damage the device.
- **Specifications:**

DC Power adapter	DC Output: +19V with max 1.58A current;		
Operating Temperature	0~40°C	Storage	0~70°C
Operating Humidity	50~90%	Storage	20~90%

1.4 Positioning your router

For the best wireless signal transmission between the wireless router and the network devices connected to it, ensure that you:

- Place the wireless router in a centralized area for a maximum wireless coverage for the network devices.
- Keep the device away from metal obstructions and away from direct sunlight.
- Keep the device away from 802.11g or 20MHz only Wi-Fi devices, 2.4GHz computer peripherals, Bluetooth devices, cordless phones, transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment to prevent signal interference or loss.
- Always update to the latest firmware. Visit the ASUS website at <http://www.asus.com> to get the latest firmware updates.
- To ensure the best wireless signal, orient the three detachable antennas as shown in the drawing below.
- For optimum performance, please switch on the cooling system.



1.5 Setup Requirements

To set up your wireless network, you need a computer that meets the following system requirements:

- Ethernet RJ-45 (LAN) port (10Base-T/100Base-TX/1000BaseTX)
- IEEE 802.11a/b/g/n/ac wireless capability
- An installed TCP/IP service
- Web browser such as Internet Explorer, Firefox, Safari, or Google Chrome

NOTES:

- If your computer does not have built-in wireless capabilities, you may install an IEEE 802.11a/b/g/n/ac WLAN adapter to your computer to connect to the network.
 - With its dual band technology, your wireless router supports 2.4GHz and 5GHz wireless signals simultaneously. This allows you to do Internet-related activities such as Internet surfing or reading/writing e-mail messages using the 2.4GHz band while simultaneously streaming high-definition audio/video files such as movies or music using the 5GHz band.
 - If you are using only one computer with single band IEEE 802.11b/g/n WLAN adapter, you will only be able to use the 2.4GHz band.
 - If you are using only one computer with dual band IEEE 802.11a/b/g/n/ac WLAN adapter, you will be able to use the 2.4GHz or 5GHz band.
 - If you are using two computers with both IEEE 802.11a/b/g/n/ac WLAN adapters, you will be able to use both 2.4GHz and 5GHz bands simultaneously.
 - The Ethernet RJ-45 cables that will be used to connect the network devices should not exceed 100 meters.
-

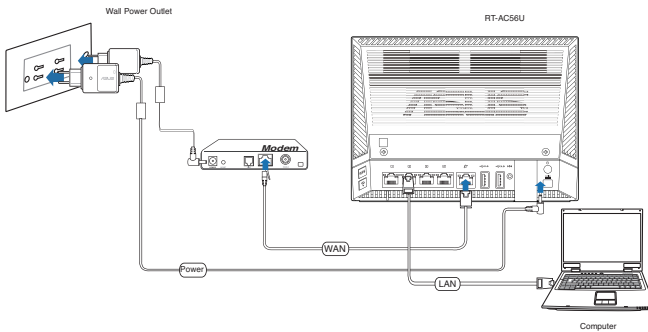
1.6 Router Setup

IMPORTANT!

- Use a wired connection when setting up your wireless router to avoid possible setup problems.
 - Before setting up your ASUS wireless router, do the following:
 - If you are replacing an existing router, disconnect it from your network.
 - Disconnect the cables/wires from your existing modem setup. If your modem has a backup battery, remove it as well.
 - Reboot your cable modem and computer (recommended).
-

1.6.1 Wired connection

NOTE: You can use either a straight-through cable or a crossover cable for wired connection.



To set up your wireless router via wired connection:

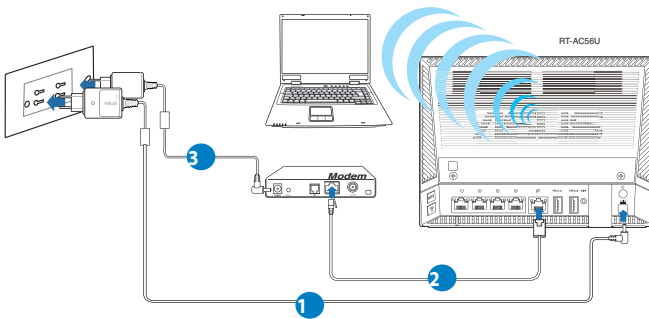
1. Insert your wireless router's AC adapter to the DC-IN port and plug it to a power outlet.
-

2. Using the bundled network cable, connect your computer to your wireless router's LAN port.

IMPORTANT! Ensure that the LAN LED is blinking.

- 3 Using another network cable, connect your modem to your wireless router's WAN port.
4. Insert your modem's AC adapter to the DC-IN port and plug it to a power outlet.

1.6.2 Wireless connection



To set up your wireless router via wireless connection:

1. Insert your wireless router's AC adapter to the DC-IN port and plug it to a power outlet.
- 2 Using the bundled network cable, connect your modem to your wireless router's WAN port.

3. Insert your modem's AC adapter to the DC-IN port and plug it to a power outlet.
4. Install an IEEE 802.11a/b/g/n/ac WLAN adapter on your computer.

NOTES:

- For details on connecting to a wireless network, refer to the WLAN adapter's user manual.
 - To set up the security settings for your network, refer to the section **Setting up the wireless security settings** in Chapter 3 of this user manual.
-

2 Getting started

2.1 Logging into the Web GUI

Your ASUS Wireless Router comes with an intuitive web graphical user interface (GUI) that allows you to easily configure its various features through a web browser such as Internet Explorer, Firefox, Safari, or Google Chrome.

NOTE: The features may vary with different firmware versions.

To log into the web GUI:

1. On your web browser, manually key in the wireless router's default IP address: **192.168.1.1** or default domain name: **http://router.asus.com**.
2. On the login page, key in the default user name (**admin**) and password (**admin**).
3. You can now use the Web GUI to configure various settings of your ASUS Wireless Router.



NOTE: If you are logging into the Web GUI for the first time, you will be directed to the Quick Internet Setup (QIS) page automatically.

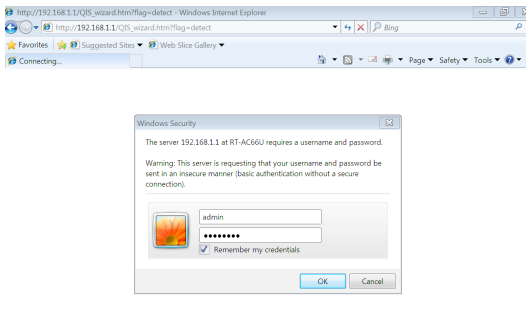
2.2 Quick Internet Setup (QIS) with Auto-detection

The Quick Internet Setup (QIS) function guides you in quickly setting up your Internet connection.

NOTE: When setting the Internet connection for the first time, press the Reset button on your wireless router to reset it to its factory default settings.

To use QIS with auto-detection:

1. Log into the Web GUI. The QIS page launches automatically.



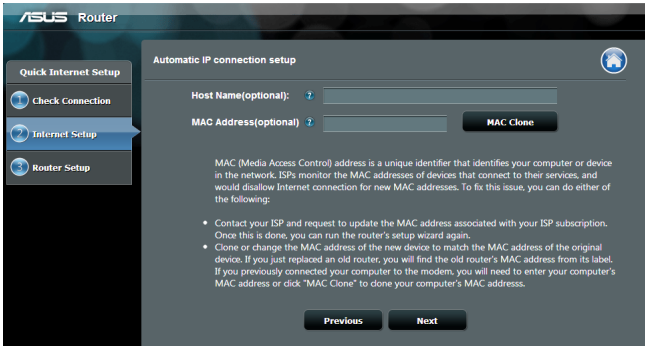
NOTES:

- By default, the login username and password for your wireless router's Web GUI is **admin**. For details on changing your wireless router's login username and password, refer to section **4.7.2 System**.
 - The wireless router's login username and password is different from the 2.4GHz/5GHz network name (SSID) and security key. The wireless router's login username and password allows you to log into your wireless router's Web GUI to configure your wireless router's settings. The 2.4GHz/5GHz network name (SSID) and security key allows Wi-Fi devices to log in and connect to your 2.4GHz/5GHz network.
-

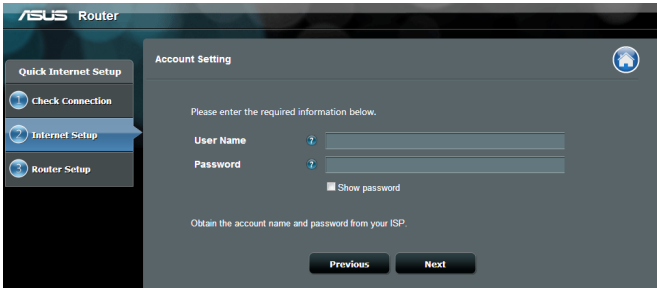
2. The wireless router automatically detects if your ISP connection type is **Dynamic IP, PPPoE, PPTP, L2TP, and Static IP**. Key in the necessary information for your ISP connection type.

IMPORTANT! Obtain the necessary information from your ISP about the Internet connection type.

for Automatic IP (DHCP)



for PPPoE, PPTP, and L2TP



for Static IP

The screenshot shows the 'Quick Internet Setup' screen on an ASUS Router. The left sidebar has three options: 'Check Connection', 'Internet Setup' (which is highlighted with a blue arrow), and 'Router Setup'. The main content area is titled 'Please refer to your ISP setting, and input the related information.' It contains three sections: 'Use the following IP address:' with fields for IP Address (0.0.0.0), Subnet Mask (0.0.0.0), and Default Gateway (0.0.0.0); 'DNS Servers' with fields for DNS Server1 and DNS Server2; and 'MAC Address(optional)' with a field and a 'MAC Clone' button. At the bottom are 'Previous' and 'Next' buttons.

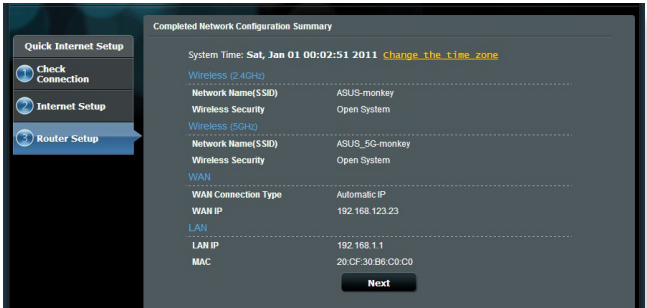
NOTES:

- The auto-detection of your ISP connection type takes place when you configure the wireless router for the first time or when your wireless router is reset to its default settings.
- If QIS failed to detect your Internet connection type, click **Skip to manual setting** and manually configure your connection settings.

3. Assign the wireless network name (SSID) and security key for your 2.4GHz and 5 GHz wireless connection. Click **Apply** when done.

The screenshot shows the 'Wireless Setting' screen on an ASUS Router. The left sidebar has three options: 'Quick Internet Setup', 'Internet Setup', and 'Router Setup' (which is highlighted with a blue arrow). The main content area is titled 'Wireless Setting' and contains the instruction: 'Assign a unique name or SSID (Service Set Identifier) to help identify your wireless network.' It has two sections: '2.4GHz - Security' with fields for Network Name(SSID) (ASUS) and Security Key (*****), and '5GHz - Security' with a checkbox for 'Copy 2.4GHz to 5GHz settings', a field for Network Name(SSID) (ASUS_5G), and a field for Security Key (*****). An 'Apply' button is at the bottom.



4. Your Internet and wireless settings are displayed. Click **Next** to continue.
5. Read the wireless network connection tutorial. When done, click **Finish**.



2.3 Connecting to your wireless network

After setting up your wireless router via QIS, you can connect your computer or other smart devices to your wireless network.

To connect to your network:

1. On your computer, click the network icon  in the notification area to display the available wireless networks.
2. Select the wireless network that you want to connect to, then click **Connect**.
3. You may need to key in the network security key for a secured wireless network, then click **OK**.
4. Wait while your computer establishes connection to the wireless network successfully. The connection status is displayed and the network icon displays the connected  status.

NOTES:

- Refer to the next chapters for more details on configuring your wireless network's settings.
 - Refer to your device's user manual for more details on connecting it to your wireless network.
-

3 Configuring the General settings

3.1 Using the Network Map

Network Map allows you to configure your network's security settings, manage your network clients, and monitor your USB device.



3.1.1 Setting up the wireless security settings

To protect your wireless network from unauthorized access, you need to configure its security settings.

To set up the wireless security settings:

1. From the navigation panel, go to **General > Network Map**.
2. On the Network Map screen and under **System status**, you can configure the wireless security settings such as SSID, security level, and encryption settings.

NOTE: You can set up different wireless security settings for 2.4GHz and 5GHz bands.

2.4GHz security settings

The screenshot shows the 'System Status' interface for the 2.4GHz band. It features a 'Wireless name(SSID)' field with 'ASUS' entered. The 'Authentication Method' is set to 'Open System' and 'WEP Encryption' is set to 'None'. An 'Apply' button is visible. Below this, a section for LAN settings shows 'LAN IP' as 192.168.1.1, 'PIN code' as 72013502, 'LAN MAC address' as 10:BF:48:D8:49:78, and 'Wireless 2.4GHz MAC address' as 10:BF:48:D8:49:78.

5GHz security settings

The screenshot shows the 'System Status' interface for the 5GHz band. It features a 'Wireless name(SSID)' field with 'ASUS_5G' entered. The 'Authentication Method' is set to 'Open System' and 'WEP Encryption' is set to 'None'. An 'Apply' button is visible. Below this, a section for LAN settings shows 'LAN IP' as 192.168.1.1, 'PIN code' as 72013502, 'LAN MAC address' as 10:BF:48:D8:49:78, and 'Wireless 5GHz MAC address' as 10:BF:48:D8:49:7C.

3. On the **Wireless name (SSID)** field, key in a unique name for your wireless network.

4. From the **Security Level** dropdown list, select the encryption method for your wireless network.

IMPORTANT! The IEEE 802.11n/ac standard prohibits using High Throughput with WEP or WPA-TKIP as the unicast cipher. If you use these encryption methods, your data rate will drop to IEEE 802.11g 54Mbps connection.

5. Key in your security passkey.
6. Click **Apply** when done.

3.1.2 Managing your network clients

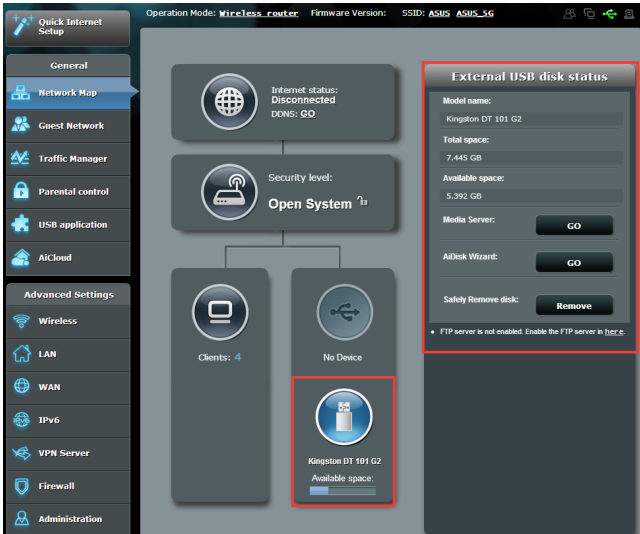


To manage your network clients:

1. From the navigation panel, go to **General > Network Map** tab.
2. On the Network Map screen, select the **Client Status** icon to display your network client's information.
3. To block a client's access to your network, select the client and click **block**.

3.1.3 Monitoring your USB device

The ASUS Wireless Router provides two USB 2.0 ports for connecting USB devices or USB printer to allow you to share files and printer with clients in your network.



NOTES:

- To use this feature, you need to plug a USB storage device, such as a USB hard disk or USB flash drive, to the USB 2.0 port on the rear panel of your wireless router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the Plug-n-Share Disk Support List at <http://event.asus.com/networks/disksupport>
- The USB ports support two USB drives or one printer and one USB drive at the same time.

IMPORTANT! You first need to create a share account and its permission /access rights to allow other network clients to access the USB device via an FTP site/third-party FTP client utility, Servers Center, Samba, or AiCloud. For more details, refer to the section **3.5.Using the USB Application** and **3.6 Using AiCloud** in this user manual.

To monitor your USB device:

1. From the navigation panel, go to **General > Network Map**.
2. On the Network Map screen, select the **USB Disk Status** icon to display your USB device's information.
3. On the AiDisk Wizard field, click **GO** to set up an FTP server for Internet file sharing.


NOTES:

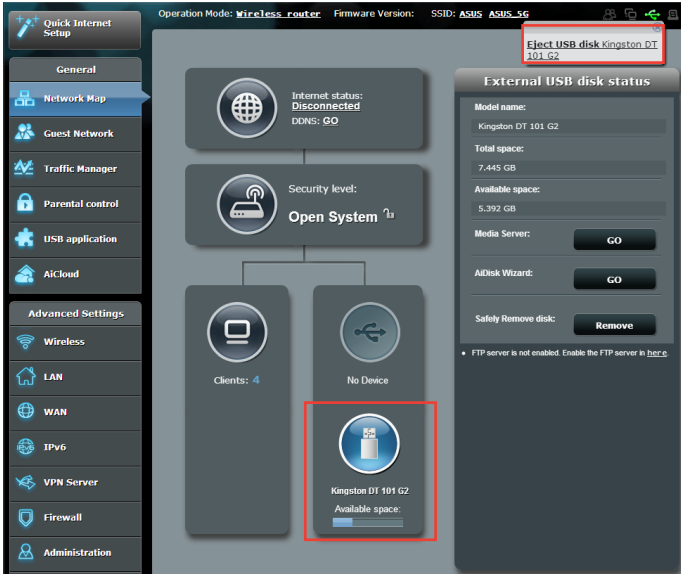
- For more details, refer to the section **3.5.2 Using Servers Center** in this user manual.
 - The wireless router works with most USB HDDs/Flash disks (up to 2TB size) and supports read-write access for FAT16, FAT32, EXT2, EXT3, and NTFS.
-

Safely removing the USB disk

IMPORTANT: Incorrect removal of the USB disk may cause data corruption.

To safely remove the USB disk:

1. From the navigation panel, go to **General > Network Map**.
2. In the upper right corner, click  > **Eject USB disk**. When the USB disk is ejected successfully, the USB status shows **Unmounted**.



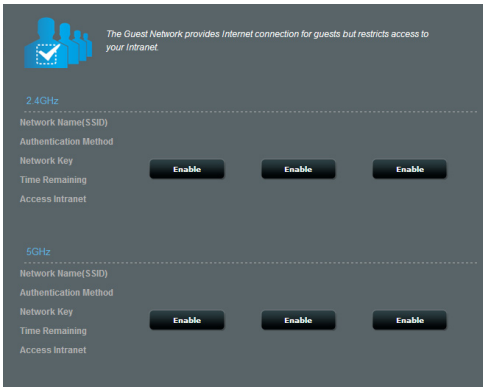
3.2 Creating a Guest Network

The Guest Network provides temporary visitors with Internet connectivity via access to separate SSIDs or networks without providing access to your private network.

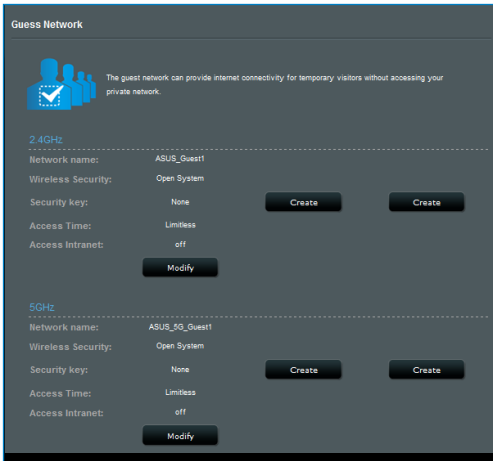
NOTE: RT-AC56U supports up to six SSIDs (three 2.4GHz and three 5GHz SSIDs).

To create a guest network:

1. From the navigation panel, go to **General > Guest Network**.
2. On the Guest Network screen, select 2.4Ghz or 5Ghz frequency band for the guest network that you want to create.
3. Click **Enable**.



4. To configure additional options, click **Modify**.

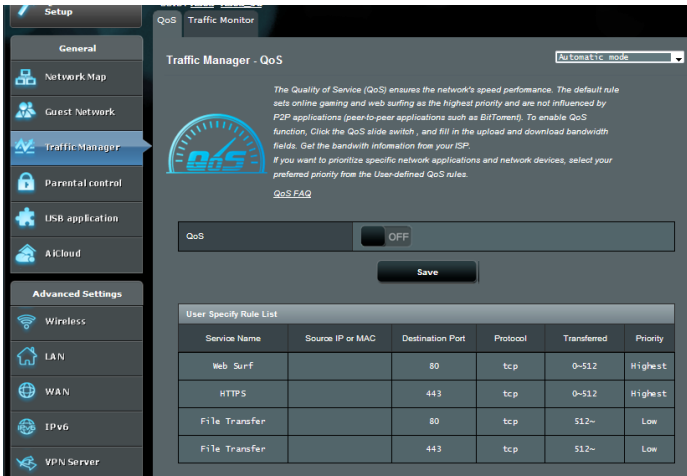


5. Click **Yes** on the **Enable Guest Network** screen.
6. Assign a wireless name for your temporary network on the **Network Name (SSID)** field.
7. Select an **Authentication Method**.
8. Select an **Encryption** method.
9. Specify the **Access time** or choose **Limitless**.
10. Select **Disable** or **Enable** on the **Access Intranet** item.
11. When done, click **Apply**.

3.3 Using the Traffic Manager

3.3.1 Managing QoS (Quality of Service) Bandwidth

Quality of Service (QoS) allows you to set the bandwidth priority and manage network traffic.



To set up bandwidth priority:

1. From the navigation panel, go to **General > Traffic Manager > QoS** tab.
2. Click **ON** to enable QoS. Fill in the upload and download bandwidth fields.

NOTE: Get the bandwidth information from your ISP.

3. Click **Save**.

NOTE: The User Specify Rule List is for advanced settings. If you want to prioritize specific network applications and network services, select **User-defined QoS rules** or **User-defined Priority** from the drop-down list on the upper-right corner.

4. On the **user-defined QoS rules** page, there are four default online service types – web surf, HTTPS and file transfers. Select your preferred service, fill in the **Source IP or MAC, Destination Port, Protocol, Transferred** and **Priority**, then click **Apply**. The information will be configured in the QoS rules screen.

NOTES

- To fill in the source IP or MAC, you can:
 - a) Enter a specific IP address, such as "192.168.122.1".
 - b) Enter IP addresses within one subnet or within the same IP pool, such as "192.168.123.*", or "192.168.*.*"
 - c) Enter all IP addresses as "*.*.*" or leave the field blank.
 - d) The format for the MAC address is six groups of two hexadecimal digits, separated by colons (:), in transmission order (e.g. 12:34:56:aa:bc:ef)
- For source or destination port range, you can either:
 - a) Enter a specific port, such as "95".
 - b) Enter ports within a range, such as "103:315", ">100", or "<65535".
- The **Transferred** column contains information about the upstream and downstream traffic (outgoing and incoming network traffic) for one section. In this column, you can set the network traffic limit (in KB) for a specific service to generate specific priorities for the service assigned to a specific port. For example, if two network clients, PC 1 and PC 2, are both accessing the Internet (set at port 80), but PC 1 exceeds the network traffic limit due to some downloading tasks, PC 1 will have a lower priority. If you do not want to set the traffic limit, leave it blank.

5. On the **User-defined Priority** page, you can prioritize the network applications or devices into five levels from the **user-defined QoS rules'** dropdown list. Based on priority level, you can use the following methods to send data packets:
 - Change the order of upstream network packets that are sent to the Internet.
 - Under **Upload Bandwidth** table, set **Minimum Reserved Bandwidth** and **Maximum Bandwidth Limit** for multiple network applications with different priority levels. The percentages indicate the upload bandwidth rates that are available for specified network applications.

NOTES:

- Low-priority packets are disregarded to ensure the transmission of high-priority packets.
- Under **Download Bandwidth** table, set **Maximum Bandwidth Limit** for multiple network applications in corresponding order. The higher priority upstream packet will cause the higher priority downstream packet.
- If there are no packets being sent from high-priority applications, the full transmission rate of the Internet connection is available for low-priority packets.

-
6. Set the highest priority packet. To ensure a smooth online gaming experience, you can set ACK, SYN, and ICMP as the highest priority packet.

NOTE: Ensure to enable QoS first and set up the upload and download rate limits.
