# tehnotzka

https://tehnoteka.rs

# Uputstvo za upotrebu (EN)

## ASUS RT-AX53U AX1800 WiFi ruter



Tehnoteka je online destinacija za upoređivanje cena i karakteristika bele tehnike, potrošačke elektronike i IT uređaja kod trgovinskih lanaca i internet prodavnica u Srbiji. Naša stranica vam omogućava da istražite najnovije informacije, detaljne karakteristike i konkurentne cene proizvoda.

Posetite nas i uživajte u ekskluzivnom iskustvu pametne kupovine klikom na link:

https://tehnoteka.rs/p/asus-rt-ax53u-ax1800-wifi-ruter-akcija-cena/

# **User Guide**

# RT-AX53U

## Wireless AX-1800 Dual Band WiFi 6 Router





E19790 First Edition January 2022

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# 1 Getting to know your wireless router

### 1.1 Welcome!

Thank you for purchasing an ASUS RT-AX53U Wireless Router! The ultra-thin and stylish RT-AX53U features a 2.4GHz and 5GHz dual bands for an unmatched concurrent wireless HD streaming and the ASUS Green Network Technology, which provides up to 70% power-saving solution.

## **1.2 Package contents**

☑ RT-AX53U Wireless Router☑ Network cable (RJ-45)☑ Power adapter☑ Quick Start Guide

- 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**

Power LED
Off: No power.
<b>On</b> : Device is ready.
Flashing slow: Rescue mode LAN 1~3 LEDs
2 LAN 1~3 LEDs Off: No power or no physical connection.
<b>On</b> : Has physical connection to a local area network (LAN).
3 WAN (Internet) LED
<b>Red</b> : No IP or no physical connection.
On: Has physical connection to a wide area network (WAN).
4 2.4GHz LED Off: No 2.4GHz signal.
On: Wireless system is ready.
Flashing: Transmitting or receiving data via wireless connection.
5 5GHz LED
Off: No 5GHz signal.
On: Wireless system is ready.
Flashing: Transmitting or receiving data via wireless connection.
6 USB 2.0 LED Off: No power or no physical connection.
<b>On</b> : Has physical connection to USB devices.
7 Reset button
This button resets or restores the system to its factory default settings.
8 Power switch
Press this switch to power on or off the system.



#### Power (DCIN) port

Insert the bundled AC adapter into this port and connect your router to a power source.



#### WPS button

This button launches the WPS Wizard.

#### USB 2.0 port

Insert USB 2.0 compatible devices such as USB hard disks or USB flash drives into this port.



#### WAN (Internet) port

Connect a network cable into this port to establish WAN connection.



#### LAN 1 ~ 3 ports

Connect network cables into these ports to establish LAN connection.

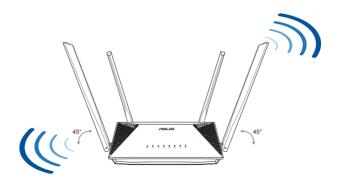
- Use only the adapter that came with your package. Using other adapters may damage the device.
- Specifications:

DC Power adapter	DC Output: +1	2V with max 1.5A	current
<b>Operating Temperature</b>	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 <u>http://www.asus.com</u> to get the latest firmware updates.



## 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/ax wireless capability
- An installed TCP/IP service
- Web browser such as Internet Explorer, Firefox, Safari, or Google Chrome

- If your computer does not have built-in wireless capabilities, you may
  install an IEEE 802.11a/b/g/n/ac/ax 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.
- Some IEEE 802.11n devices that you want to connect to your network may or may not support 5GHz band. Refer to the device's manual for specifications.
- The Ethernet RJ-45 cables that will be used to connect the network devices should not exceed 100 meters.

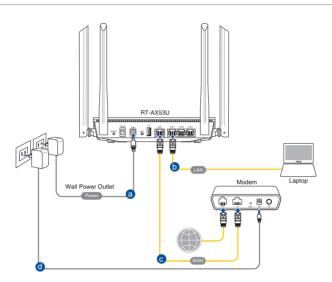
## 1.6 Router Setup

#### **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 followings:
  - 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.



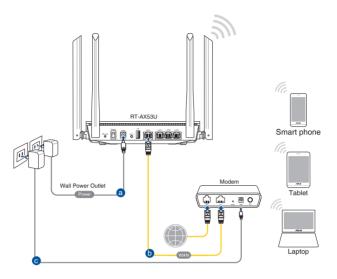
#### To set up your wireless router via wired connection:

- 1. Insert your wireless router's AC adapter to the DCIN 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 DCIN 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 DCIN 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 DCIN port and plug it to a power outlet.
- 4. Install an IEEE 802.11a/b/g/n/ac/ax WLAN adapter on your computer.

- 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 **3.1.1 Setting up the wireless security settings**.

# 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, enter 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 Autodetection

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.

Q4	Sign In ASUS Router Sign in with your ASUS router account	
	Username Password	
	Sign In	

- 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 4.6.2 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)

Internet Settings	Please select the Internet connection type from the options below. If you do not know the Internet connection type, contact your ISP.	
	DHCP	>
	PPPoE	>
	Static IP	>
	PPTP	>
	L2TP	>
	Special Requirement from ISP	
	Previous	

#### for PPPoE, PPTP, and L2TP

NELLS NELLG & RECEIPT		
Internet ISP Account Setting	Please enter the required information below. Username	
	Password C	
	Previous Next	

#### for Static IP

	Constant State
Internet Static IP	Static IP allows your PC to use a fixed IP address provided by your ISP.
	IP Address
	192.168.1.215
	Subnet Mask
	255.255.255.0
	Default Gateway
	192.168.1.1
	DNS Server1
	192.168.1.1
	DNS Server2
	Previous Next

- 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 5GHz wireless connection. Click **Apply** when done.

Wireless Settings	Assign a unique name or SSID (Service Set Identifier) to help identify your wireless network.
	Advanced Settings
	Network Name (SSID)
	ASUS
	Wireless Security
	Previous Apply

4. Your Internet and wireless settings are displayed. Click **Next** to continue.

Co	mpleted Network Configuration Sun	nmary
Quick Internet Setup	System Time: Sat, Jan 01 ( Wireless (2.4GHz)	10:02:51 2011 <u>Change the time zone</u>
	Network Name(SSID)	ASUS-monkey
Internet Setup	Wireless Security	Open System
-		
3 Router Setup	Network Name(SSID)	ASUS_5G-monkey
	Wireless Security	Open System
	WAN Connection Type	Automatic IP
	WAN IP	192.168.123.23
	LAN IP	192.168.1.1
	MAC	20:CF:30:B6:C0:C0
		Next

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 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.

- 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 and manage your network clients.



#### 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.

Sy	stem Stat	ius
2.4GHz	5GHz	Status
etwork Name (	S SID)	
US_2G		
thentication I	lethod	
A2-Persona		
A Encryption		
5 🔻		
A-PSK key		
	Apply	
N IP		
2.168.50.1		
code		
2345670		
N MAC addre	ss	
0:00:00:00:0	00:00	
reless 2.4GHz	MAC address	
:00:00:00:0	00:00	

#### **5GHz security settings**

S۱	stem Stat	us	
2.4GHz	5GHz	Status	
Network Name	(SSID)		
ASUS_5G			
Authentication	Method		
WPA2-Persor	ial 🔻		
WPA Encryptic	'n		
AES V			
WPA-PSK key			
	Apply		
LAN IP			
192.168.50.1	L		
PIN code			
12345670			
LAN MAC address			
00:00:00:00	:00:00		
Wireless 5GHz	MAC address		

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

4. From the **WEP Encryption** dropdown list, select the encryption method for your wireless network.

**IMPORTANT!** The IEEE 802.11n/ac/ax 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**.

## 3.2 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-AX53U 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.

Guest Network			
	The Guest Network provides Inte your local network.	ernet connection for guests but	restricts access to
Network Name (SSI	D)		
Authentication Method			
Network Key	Enable	Enable	Enable
Time Remaining			Default setting by Alexa/IFTTT
Access Intranet			
Network Name (SSI	ID)		
Authentication Method			
Network Key	Enable	Enable	Enable
Time Remaining			Default setting by Alexa/IFTTT
Access Intranet			

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

Guest Network				
The Guest Network provides Internet connection for guests but restricts access to your local network.				
Network Name (SSID)	ASUS_2G_Guest			
Authentication Method	Open System			
Network Key	None	Enable	Enable	
Time Remaining	Unlimited access		Default setting by Alexa/IFTTT	
Access Intranet	off			
	Remove			
Network Name (SSID)	ASUS 5G Guest			
Authentication Method	Open System			
Network Key	None	Enable	Enable	
Time Remaining	Unlimited access		Default setting by Alexa/IFTTT	
Access intranet	off			
	Remove			

- 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**.

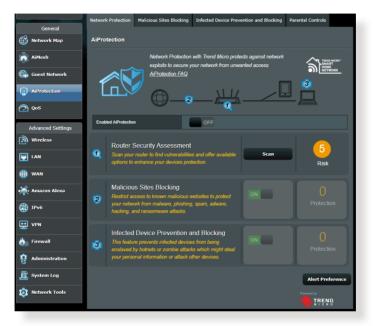
## 3.3 AiProtection

AiProtection provides real-time monitoring that detects malware, spyware, and unwanted access. It also filters unwanted websites and apps and allows you to schedule a time that a connected device is able to access the Internet.

/ISUS	Logout Reboot	English 🔻
Quick Internet	Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.384_4360</u> SSID: <u>ASUS_26_ASUS_56</u>	Арр 🔠 🔁 🔶
General	AiProtection	
Network Map	AlProtection with Trend Micro uses real-time network monitoring to detect maiware, viruses and o it reaches your PC or connected devices. Parental Controls let you schedule times that a connec access the Internet.	ther intrusions before ted device is able to
aiMesh		
Guest Network	Network Protection     Network Protection     Network Protection	
AiProtection	Malicious Sites Blocking     Vulnerability Protection     Infected Device Prevention and Blocking	
⊘ QoS		
	Parental Controls	
	Time Scheduling	

#### **3.3.1 Network Protection**

Network Protection prevents network exploits and secures your network from unwanted access.



#### **Configuring Network Protection**

#### **To configure Network Protection:**

- 1. From the navigation panel, go to **General** > **AiProtection**.
- 2. From the **AiProtection** main page, click on **Network Protection**.

#### 3. From the Network Protection tab, click Scan.

When done scanning, the utility displays the results on the **Router Security Assessment** page.

	delect Router Security Assessment of the		
D	efault router login username and password changed -	No	
N	/ireless password strength check -	Very Weak	
N	/ireless encryption enabled -	Strong	
N	/PS Disabled -		
U	PnP service disabled -		
N	/eb access from WAN disabled -	Yes	
P	ING from WAN disabled -	Yes	
D	MZ disabled -	Yes	
P	ort trigger disabled -	Yes	
P	ort forwarding disabled -	Yes	
A	nonymous login to FTP share disabled -	Yes	
D	isable guest login for Network Place Share -	Yes	
м	lalicious Website Blocking enabled -		
V	ulnerability Protection enabled -		
In	fected Device Prevention and Blocking -		
Mic	ro's database for always-up-to-date inntection. Close		

IMPORTANT! Items marked as Yes on the Router Security Assessment page is considered to be at a safe status. Items marked as No, Weak, or Very Weak is highly recommended to be configured accordingly.

- 4. (Optional) From the **Router Security Assessment** page, manually configure the items marked as **No**, **Weak**, or **Very Weak**. To do this:
  - a. Click an item.

**NOTE:** When you click an item, the utility forwards you to the item's setting page.

b. From the item's security settings page, configure and make the necessary changes and click **Apply** when done.

c. Go back to the **Router Security Assessment** page and click **Close** to exit the page.

- 5. To automatically configure the security settings, click **Secure Your Router.**
- 6. When a message prompt appears, click **OK**.

#### **Malicious Sites Blocking**

This feature restricts access to known malicious websites in the cloud database for an always-up-to-date protection.

**NOTE:** This function is automatically enabled if you run the **Router Weakness Scan**.

#### To enable Malicious Sites Blocking:

- 1. From the navigation panel, go to **General** > **AiProtection**.
- 2. From the **AiProtection** main page, click on **Network Protection**.
- 3. From the Malicious Sites Blocking pane, click ON.

#### **Infected Device Prevention and Blocking**

This feature prevents infected devices from communicating personal information or infected status to external parties.

**NOTE:** This function is automatically enabled if you run the **Router Weakness Scan**.

#### To enable Infected Device Prevention and Blocking:

- 1. From the navigation panel, go to **General** > **AiProtection**.
- 2. From the **AiProtection** main page, click on **Network Protection**.
- 3. From the **Infected Device Prevention and Blocking** pane, click **ON**.

#### **To configure Alert Preference:**

- 1. From the **Infected Device Prevention and Blocking** pane, click **Alert Preference**.
- 2. Select or key in the e-mail provider, e-mail account, and password then click **Apply**.

#### 3.3.2 Setting up Parental Controls

Parental Controls allows you to control the Internet access time or set the time limit for a client's network usage.

#### To go to the Parental Controls main page:

- 1. From the navigation panel, go to **General** > **AiProtection**.
- 2. From the **AiProtection** main page, click on the **Parental Controls** tab.



#### **Time Scheduling**

Time Scheduling allows you to set the time limit for a client's network usage.

**NOTE:** Ensure that your system time is synchronized with the NTP server.



#### To configure Time Scheduling:

- 1. From the navigation panel, go to **General** >**AiProtection** > **Parental Controls** > **Time Scheduling**.
- 2. From the Enable Time Scheduling pane, click ON.
- 3. From the **Clients Name** column, select or key in the client's name from the drop down list box.

**NOTE:** You may also key in the client's MAC address in the **Client MAC Address** column. Ensure that the client name does not contain special characters or spaces as these may cause the router to function abnormally.

- 4. Click (1) to add the client's profile.
- 5. Click **Apply** to save the settings.

## 3.4 Using the Traffic Manager

#### 3.4.1 Managing QoS (Quality of Service) Bandwidth

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

/15115	Logout	Reboot	English 🔻			
Quick Internet Setup	Operation Mode: Wireless r SSID: ASUS_2G ASUS_5G	outer Firmware Version: <u>3.0.0.4.384_4360</u>	App 🔏 🖻 🔶			
General	Bandwidth Monitor QoS	Web History				
🛞 Network Map	QoS - QoS to configurat	ion				
Guest Network		Quality of Service (QoS) ensures bandwidth for prioritized				
AiProtection		<ul> <li>Adaptive Qo S ensures inbound and outbound bandwidth on both wired and wireless connections for prioritized applications and tasks via pre-defined, drag-and- drop presets: gaming, media streaming, VoIP, web surfing and file transferring.</li> <li>Traditional QoS ensures inbound and outbound bandwidth on both wired and</li> </ul>				
Auapinye (05)		wireless connections for prioritized applications an parameters. • Bandwidth Limiter lets you set limits on downloa				
Game Boost		To enable QoS function, click the QoS slide switch and fill QoS FAQ	in the upload and download.			
👸 USB Application	Enable QoS	OFF				
AiCloud 2.0						
Advanced Settings		Apply				

#### 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.

- 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:

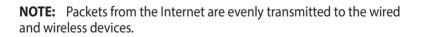
- Low-priority packets are disregarded to ensure the transmission of high-priority packets.
- Under Download Bandwidth table, set Maximum Bandwidth Limit for multiple network applications in corresponding order. The higher priority upstream packet will cause the higher priority downstream packet.
- If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

## 3.5 Traffic Analyzer

The traffic monitor feature allows you to access the bandwidth usage and speed of your Internet, wired, or wireless networks. It allows you to monitor network traffic in real-time or on a daily basis. It also offers an option to display the network traffic within the last 24 hours.

/isus	Logout		Reboot				English 🔻
Operation Hode:         Kirzless.roater         Firmware Version: 3.0.0.4.384_4360         App         & Composition           Status         Table Weak         Table Weak         Table Weak         App         & Composition							
General	Statistic Traffic	Monitor					
Network Map	Traffic Monitor						Real-time 🔻
Guest Network	Traffic Monitor allows	you to moni	tor the incoming or ou	tgoing packe	ts of the following:		
AiProtection		Internet		Wired		Wireles	
Adaptive QoS	Reception						
🗼. Traffic Analyzer	Transmission						g packets to wireless
Game Boost	NOTE: Packets from Traffic Monitor FAQ		are evenly transmitted	I to the wired	and wireless devices.		
\delta USB Application	Internet Conne 1025.39 KB/s	ction (WA	N) Wired W	Vireless			Thu 02:29 pm / 454.10 KB/s
AiCloud 2.0							
Advanced Settings	717.77 KB/s						
wireless							
🕎 LAN	512.70 KB/s						
🌐 wan							
Alexa & IFTTT	256.35 KB/s						
💮 1РV6							<u>'W</u>
VPN	Current		Average		Maximum		Total
ሕ Firewall	0.08 KB/		17.66 KB	/s	1013.22 KB/s		10.35 MB
Reference to the test of test	0.04 KB/	8	0.44 KB/	8	18.24 KB/s		263.85 KB
🛃 System Log							
😥 Network Tools							
Help & Support Manual   Utility   Feedback   Product Registration FAQ     P							



# 4 Configuring the Advanced Settings

## 4.1 Wireless

#### 4.1.1 General

The General tab allows you to configure the basic wireless settings.

Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firm SSID: <u>ASUS_2G_ASUS_5G</u>	ware Version: 3.0.0.4.384_4360 App & C +				
General	General WPS WDS Wireless MAC	Filter RADIUS Setting Professional Roaming Block List				
Metwork Map	Wireless - General					
Guest Network	Set up the wireless related information below	<i>.</i>				
AiProtection	Enable Smart Connect	OFF				
Adaptive QoS	Band	2.4GHZ *				
	Network Name (SSID)	ASUS_2G				
K. Traffic Analyzer	Hide SSID	● Yes © No				
Game Boost	Wireless Mode	Auto   Cptimized for Xbox  big Protection				
👸 USB Application	Channel bandwidth	20/40 MHz •				
AiCloud 2.0	Control Channel	Auto   Current Control Channel: 4				
(	Extension Channel	Auto V				
Advanced Settings	Authentication Method	WPA2-Personal v				
Wireless	WPA Encryption					
LAN LAN	WPA Pre-Shared Key	12345678				
() WAN	Protected Management Frames					
🚑 Alexa & IFTTT	Group Key Rotation Interval					
1Pv6		Apply				

#### To configure the basic wireless settings:

- 1. From the navigation panel, go to **Advanced Settings** > **Wireless** > **General** tab.
- 2. Select 2.4GHz or 5GHz as the frequency band for your wireless network.
- 3. Assign a unique name containing up to 32 characters for your SSID (Service Set Identifier) or network name to identify your wireless network. Wi-Fi devices can identify and connect to the wireless network via your assigned SSID. The SSIDs on the information banner are updated once new SSIDs are saved to the settings.

**NOTE:** You can assign unique SSIDs for the 2.4GHz and 5GHz frequency bands.

- 4. In the **Hide SSID** field, select **Yes** to prevent wireless devices from detecting your SSID. When this function is enabled, you would need to enter the SSID manually on the wireless device to access the wireless network.
- 5. Select any of these wireless mode options to determine the types of wireless devices that can connect to your wireless router:
  - Auto: Select Auto to allow 802.11AX, 802.11AC, 802.11n, 802.11g, and 802.11b devices to connect to the wireless router.
  - **Legacy**: Select **Legacy** to allow 802.11b/g/n devices to connect to the wireless router. Hardware that supports 802.11n natively, however, will only run at a maximum speed of 54Mbps.
  - **N only**: Select **N only** to maximize wireless N performance. This setting prevents 802.11g and 802.11b devices from connecting to the wireless router.

6. Select any of these channel bandwidth to accommodate higher transmission speeds:

**40MHz:** Select this bandwidth to maximize the wireless throughput.

**20MHz (default):** Select this bandwidth if you encounter some issues with your wireless connection.

- 7. Select the operating channel for your wireless router. Select **Auto** to allow the wireless router to automatically select the channel that has the least amount of interference.
- 8. Select any of these authentication methods:
  - Open System: This option provides no security.
  - WPA/WPA2/WPA3 Personal/WPA Auto-Personal: This option provides strong security. You can use either WPA (with TKIP), WPA2 (with AES) or WPA3. If you select this option, you must use TKIP + AES encryption and enter the WPA passphrase (network key).
  - WPA/WPA2/WPA3 Enterprise/WPA Auto-Enterprise: This option provides very strong security. It is with integrated EAP server or an external RADIUS back-end authentication server.

**NOTE:** Your wireless router supports the maximum transmission rate of 54Mbps when the **Wireless Mode** is set to **Auto** and **encryption method** is **WEP** or **TKIP**.

- 9. Select any of these WEP (Wired Equivalent Privacy) Encryption options for the data transmitted over your wireless network:
  - Off: Disables WEP encryption
  - 64-bit: Enables weak WEP encryption
  - 128-bit: Enables improved WEP encryption

10.When done, click **Apply**.

# 4.1.2 WPS

WPS (Wi-Fi Protected Setup) is a wireless security standard that allows you to easily connect devices to a wireless network. You can configure the WPS function via the PIN code or WPS button.

Quick Internet	Operation Mode: Wireless router Firmware Version: 3.0.0.4.384.4360 SSID: ASUS 26 ASUS 26 A	• 8 <b>•</b> +							
General	General WPS WDS Wireless MAC Filter RADIUS Setting Professional Roaming Block List	it							
Network Map	Wireless - WPS								
Guest Network	WPS (Wi-Fi Protected Setup) provides easy and secure establishment of a wireless network. You can configur the PIN code or the WPS button.	e WPS here via							
AiProtection	Enable WPS ON								
Adaptive QoS	Current Frequency 2.4GHz								
🙀. Traffic Analyzer	Connection Status Idle								
Game Boost	Configured Yes Reset								
👸 USB Application	AP PIN Code 12345670								
AiCloud 2.0 Advanced Settings	You can easily connect a WPS client to the network in either of these two ways: Method1: Click the WPS button on this interface (or press the physical WPS button on the router), then button on the client's WLAN adapter and wait for about three minutes to make the connection. Method2: Starth to client WPS process and gott the client PN code. Enter the client's PN code on the C field and click Start Rease check the user manual of your wriveless client to seen if a supports the WPSF writeser client does not user on the WPS feature to writeses client to seen if a support to the WPSF writeser client does not user on the WPS feature to writeses client to seen if a support the WPSF is client to writese client the writese client the manual at	lient PIN code unction. If your							
	wireless client does not support the WPS function, you have to configure the wireless client manually and set the same network Name (SSID), and security settings as this router.								
🛞 wan	Push button     Client PIN Code								
Alexa & IFTTT	Start								

**NOTE:** Ensure that the devices support WPS.

#### To enable WPS on your wireless network:

- From the navigation panel, go to Advanced Settings > Wireless > WPS tab.
- 2. In the Enable WPS field, move the slider to ON.
- WPS uses 2.4GHz by default. If you want to change the frequency to 5GHz, turn OFF the WPS function, click Switch Frequency in the Current Frequency field, and turn WPS ON again.

**NOTE:** WPS supports authentication using Open System, WPA-Personal, WPA2-Personal and WPA3-Personal. WPS does not support a wireless network that uses a Shared Key, WPA-Enterprise, WPA2-Enterprise, WPA3-Enterprise and RADIUS encryption method.

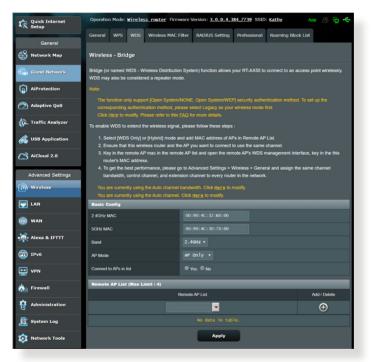
- 4. In the WPS Method field, select **Push Button** or **Client PIN** code. If you select **Push Button**, go to step 5. If you select **Client PIN** code, go to step 6.
- 5. To set up WPS using the router's WPS button, follow these steps:
  - a. Click **Start** or press the WPS button found at the rear of the wireless router.
  - b. Press the WPS button on your wireless device. This is normally identified by the WPS logo.

**NOTE:** Check your wireless device or its user manual for the location of the WPS button.

- c. The wireless router will scan for any available WPS devices. If the wireless router does not find any WPS devices, it will switch to standby mode.
- 6. To set up WPS using the Client's PIN code, follow these steps:
  - a. Locate the WPS PIN code on your wireless device's user manual or on the device itself.
  - b.Key in the Client PIN code on the text box.
  - c. Click **Start** to put your wireless router into WPS survey mode. The router's LED indicators quickly flash three times until the WPS setup is completed.

## 4.1.3 WDS

Bridge or WDS (Wireless Distribution System) allows your ASUS wireless router to connect to another wireless access point exclusively, preventing other wireless devices or stations to access your ASUS wireless router. It can also be considered as a wireless repeater where your ASUS wireless router communicates with another access point and other wireless devices.



#### To set up the wireless bridge:

- 1. From the navigation panel, go to **Advanced Settings** > **Wireless** > **WDS** tab.
- 2. Select the frequency band for the wireless bridge.
- 3. In the **AP Mode** field, select any of these options:
  - **AP Only**: Disables the Wireless Bridge function.
  - **WDS Only**: Enables the Wireless Bridge feature but prevents other wireless devices/stations from connecting to the router.
  - **HYBRID**: Enables the Wireless Bridge feature and allows other wireless devices/stations to connect to the router.

**NOTE:** In Hybrid mode, wireless devices connected to the ASUS wireless router will only receive half the connection speed of the Access Point.

- 4. In the **Connect to APs in list** field, click **Yes** if you want to connect to an Access Point listed in the Remote AP List.
- 5. In the **Control Channel** field, select the operating channel for the wireless bridge. Select **Auto** to allow the router to automatically select the channel with the least amount of interference.

NOTE: Channel availability varies per country or region.

6. On the Remote AP List, key in a MAC address and click the **Add** button (1) to enter the MAC address of other available Access Points.

**NOTE:** Any Access Point added to the list should be on the same Control Channel as the ASUS wireless router.

# 7. Click **Apply**.

# 4.1.4 Wireless MAC Filter

Wireless MAC filter provides control over packets transmitted to a specified MAC (Media Access Control) address on your wireless network.

	Logout Reboo	t	English 🔻							
Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firm SSID: <u>ASUS_2G</u> <u>ASUS_5G</u>	vare Version: <u>3.0.0.4.384_4360</u>	Арр 🔏 🖻 🗲							
General	General WPS WDS Wireless MAC	Filter RADIUS Setting Professional Roaming Bl	lock List							
Network Map	Wireless - Wireless MAC Filter									
Guest Network	Wireless MAC filter allows you to control packets from devices with specified MAC address in your Wireless LAN.									
AiProtection	Basic Config Band									
Adaptive QoS	Enable MAC Filter	O Yes ● No								
🗼. Traffic Analyzer	MAC Filter Mode									
Game Boost	MAC filter list (Max Limit : 64)									
A	Client	lame (MAC Address)	Add / Delete							
👸 USB Application										
AiCloud 2.0										
Advanced Settings	Арріу									
i Wireless										

## To set up the Wireless MAC filter:

- 1. From the navigation panel, go to **Advanced Settings** > **Wireless** > **Wireless MAC Filter** tab.
- 2. Tick Yes in the Enable Mac Filter field.
- 3. In the MAC Filter Mode dropdown list, select either Accept or Reject.
  - Select Accept to allow devices in the MAC filter list to access to the wireless network.
  - Select **Reject** to prevent devices in the MAC filter list to access to the wireless network.
- 4. On the MAC filter list, click the **Add** 💿 button and key in the MAC address of the wireless device.
- 5. Click Apply.

# 4.1.5 RADIUS Setting

RADIUS (Remote Authentication Dial In User Service) Setting provides an extra layer of security when you choose WPA-Enterprise, WPA2-Enterprise, WPA3-Enterprise or Radius with 802.1x as your Authentication Mode.

/ISUS	Logout Re	Logout Reboot									
Quick Internet	Operation Mode: Wireless router F SSID: ASUS_2G ASUS_5G	irmware Version: 3.0.0.4.384	4360	Арр 🔱 🖻 🔶							
General	General WPS WDS Wireless №	IAC Filter RADIUS Setting	Professional Roaming Block	List							
Network Map	Wireless - RADIUS Setting	Wireless - RADIUS Setting									
Guest Network	This section allows you to set up addition you select "Authentication Method" in "W			er. It is required while							
AiProtection	Band	2.4GHz 🔻									
Adaptive QoS	Server IP Address										
殺. Traffic Analyzer	Server Port:										
Game Boost	Connection Secret										
		Apply									

#### To set up wireless RADIUS settings:

1. Ensure that the wireless router's authentication mode is set to WPA-Enterprise, WPA2-Enterprise, or WPA3-Enterprise.

**NOTE:** Please refer to section **4.1.1 General** section for configuring your wireless router's Authentication Mode.

- 2. From the navigation panel, go to Advanced Settings > Wireless > RADIUS Setting.
- 3. Select the frequency band.
- 4. In the **Server IP Address** field, key in your RADIUS server's IP Address.
- 5. In the **Connection Secret** field, assign the password to access your RADIUS server.
- 6. Click Apply.

# 4.1.6 Professional

The Professional screen provides advanced configuration options.

**NOTE:** We recommend that you use the default values on this page.

General	General	WPS WDS	Wireless MAC Filter	RADIUS Setting	Professional	Roaming Block List					
Network Map	Wireless	Wireless - Professional									
Guest Network					for wireless. But	default values are recommended.					
AiProtection	* Reminder. Band	<u>The System time</u>	zone is different from you	r locale setting, GHZ V							
Adaptive QoS	Enable Rad	lio	• Y	ies 🔍 No							
, Traffic Analyzer	Enable wire	less scheduler	¥ ●	es O No							
Game Boost	Set AP Isol			es O No							
USB Application	Roaming as			ble TDisconnectic	lients with RSSI lo	wer than _55 dBm					
AiCloud 2.0	Bluetooth C	oexistence		able v ablev							
	Multicast R		Aut	_							
Advanced Settings	Preamble T	ype	Lor	Long v							
LAN	AMPDU RT	'8									
	RTS Thresh	nokl									
WAN	DTIM Interv	al	3								
Alexa & IFTTT	Beacon Inte			100							
1Pv6	Enable TX			Enable V							
VPN		M M No-Acknowled		Enable •							
Eirewall	Enable WM			Enable •							
Administration	Modulation	Scheme	Up	Up to MCS 11 (NitroQAM/1024-QAM) •							
System Log	Airtime Fair	ness		ble 🔻							
Network Tools	Multi-User I	OMINO									
	Explicit Bea			ble 🔻							
	Universal B	eamforming	Ena	ble v							
				Apply							
	🕑 Help & S	upport Manua	<u>Utility</u>   Feedback	Product Registration	FAQ						

In the **Professional Settings** screen, you can configure the followings:

- **Band**: Select the frequency band that the professional settings will be applied to.
- Enable Radio: Select Yes to enable wireless networking. Select No to disable wireless networking.

• Enable wireless scheduler: You can choose clock format as 24-hour or 12-hour. The color in the table indicates Allow or Deny. Click each frame to change the settings of the hour of the weekdays and click **OK** when done.

General	General WPS	WDS	Wireless MAC Filter	RADIUS S	etting Pi	rofessional	Roaming Block List	
Network Map	Wireless - Pro	fession	al					
Guest Network	* Reminder: The Sy		zone is different from you					
AiProtection	Clock Format	24-ho	ur • Allow		Den	У		
Adaptive QoS	Active Sche	dule	_	_				
Numbrane 602	System Time			Thu, Aug	23 06:59:	27 2018		
. Traffic Analyzer	Select All	Su	n Mon	Tue	Wed	Th	u Fri	Sat
	00~01							
Game Boost	01 ~ 02							
2	02 ~ 03							
USB Application	03 ~ 04							
	04 ~ 05							
AiCloud 2.0	05 ~ 06							
	06 ~ 07							
Advanced Settings	07 ~ 08							
Wireless	08 ~ 09							
ini diebb	09~10		_					
LAN	10~11		_					
	11 ~ 12		_			_		
WAN	12~13		_					
	13 ~ 14		_					
Alexa & IFTTT	14~15							
	15~16							
IPv6	16~17							
	17~18		_					
VPN	18 ~ 19 19 ~ 20					_		_
	19 ~ 20 20 ~ 21							
Firewall	20 ~ 21 21 ~ 22							_
	21 ~ 22							
Administration	22 ~ 23							_
System Log	23 N 24							
Network Tools			(	ancel	ок			

- Set AP isolated: The Set AP isolated item prevents wireless devices on your network from communicating with each other. This feature is useful if many guests frequently join or leave your network. Select **Yes** to enable this feature or select **No** to disable.
- **Multicast rate (Mbps)**: Select the multicast transmission rate or click **Disable** to switch off simultaneous single transmission.

- **Preamble Type**: Preamble Type defines the length of time that the router spent for CRC (Cyclic Redundancy Check). CRC is a method of detecting errors during data transmission. Select **Short** for a busy wireless network with high network traffic. Select **Long** if your wireless network is composed of older or legacy wireless devices.
- **RTS Threshold**: Select a lower value for RTS (Request to Send) Threshold to improve wireless communication in a busy or noisy wireless network with high network traffic and numerous wireless devices.
- **DTIM Interval**: DTIM (Delivery Traffic Indication Message) Interval or Data Beacon Rate is the time interval before a signal is sent to a wireless device in sleep mode indicating that a data packet is awaiting delivery. The default value is three milliseconds.
- **Beacon Interval**: Beacon Interval is the time between one DTIM and the next. The default value is 100 milliseconds. Lower the Beacon Interval value for an unstable wireless connection or for roaming devices.
- **Enable TX Bursting**: Enable TX Bursting improves transmission speed between the wireless router and 802.11g devices.
- Enable WMM APSD: Enable WMM APSD (Wi-Fi Multimedia Automatic Power Save Delivery) to improve power management between wireless devices. Select **Disable** to switch off WMM APSD.

# 4.2 LAN

# 4.2.1 LAN IP

The LAN IP screen allows you to modify the LAN IP settings of your wireless router.

**NOTE:** Any changes to the LAN IP address will be reflected on your DHCP settings.

General	LAN IP	DHCP Server	Route	IPTV	Switch Control							
Network Map	LAN - L	LAN - LAN IP										
Guest Network	Configure	Configure the LAN setting of RT-AX53U.										
AiProtection	Host Nar	me			RT-AX53U-0F60							
(a) QoS	RT-AX53	8U's Domain Name										
	IP Addre	ss			192.168.50.1							
👸 USB Application	Subnet M	Mask										
Advanced Settings					Apply							
Wireless												
LAN												

## To modify the LAN IP settings:

- 1. From the navigation panel, go to **Advanced Settings** > **LAN** > **LAN IP** tab.
- 2. Modify the IP address and Subnet Mask.
- 3. When done, click **Apply**.

# 4.2.2 DHCP Server

Your wireless router uses DHCP to assign IP addresses automatically on your network. You can specify the IP address range and lease time for the clients on your network.

Quick Internet	Operation Mode: Wireless router Firmw SSID: ASUS 26 ASUS 56	ware Version: <u>3.0.0.4.384_4360</u> App 🛞 🔁 🔶										
	LAN IP DHCP Server Route IPTV	Switch Control										
General												
Network Map	LAN - DHCP Server	LAN - DHCP Server										
Guest Network	DHCP (Dynamic Host Configuration Protocol) is a protocol for the automatic configuration used on IP networks. The DHCP server can assign each client an IP address and informs the client of the of DNS server IP and default gateway IP supports up to											
AiProtection	253 IP addresses for your local network. Manually Assigned IP around the DHCP list FAQ											
Adaptive QoS	Basic Config											
A. Traffic Analyzer	Enable the DHCP Server	O Yes O No										
4V.	Domain Name											
Game Boost	IP Pool Starting Address	192.168.50.2										
👸 USB Application	IP Pool Ending Address	192.168.50.254										
AiCloud 2.0	Lease time	86400										
	Default Gateway											
Advanced Settings	DNS and WINS Server Setting											
Wireless	DNS Server											
	WINS Server											
() WAN	Manual Assignment											
• Alexa & IFTTT	Enable Manual Assignment	● Yes O No										
(m) 1Pv6	Manually Assigned IP around the DHCF											
	Client Name (MAC Ac	ddress) IP Address Add / Delete										
	ea 10.11.06.11.01.10											
🚵 Firewall		No data in table.										
Administration		Αρρίγ										

#### To configure the DHCP server:

- 1. From the navigation panel, go to **Advanced Settings** > **LAN** > **DHCP Server** tab.
- 2. In the Enable the DHCP Server field, tick Yes.
- 3. In the **Domain Name** text box, enter a domain name for the wireless router.
- 4. In the **IP Pool Starting Address** field, key in the starting IP address.
- 5. In the **IP Pool Ending Address** field, key in the ending IP address.

6. In the **Lease Time** field, specify in seconds when an assigned IP address will expire. Once it reaches this time limit, the DHCP server will then assign a new IP address.

#### NOTES:

- We recommend that you use an IP address format of 192.168.50.xxx (where xxx can be any number between 2 and 254) when specifying an IP address range.
- An IP Pool Starting Address should not be greater than the IP Pool Ending Address.
- 7. In the **DNS and Server Settings** section, key in your DNS Server and WINS Server IP address if needed.
- 8. Your wireless router can also manually assign IP addresses to devices on the network. On the **Enable Manual Assignment** field, choose **Yes** to assign an IP address to specific MAC addresses on the network. Up to 32 MAC Addresses can be added to the DHCP list for manual assignment.

# 4.2.3 Route

If your network makes use of more than one wireless router, you can configure a routing table to share the same Internet service.

**NOTE:** We recommend that you do not change the default route settings unless you have advanced knowledge of routing tables.

C Quick Internet	Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.384_4360</u> SSID: <u>Asus 26_Asus 56</u> App & G
General	LAN IP DHCP Server Route IPTV Switch Control
Network Map	LAN - Route
💮 Guest Network	This function allows you to add routing rules into. It is useful if you connect several routers behind to share the same connection to the Internet.
AiProtection	Basic Config
Adaptive QoS	Enable static routes  • Yes • No
🙀. Traffic Analyzer	Static Route List (Max Limit : 32)           Network/Host IP         Netmask         Gateway         Metric         Interface         Add / Delete
Game Boost	
歲 USB Application	No data în table.
AiCloud 2.0	Арріу
Advanced Settings	
Wireless	
🕎 LAN	

## To configure the LAN Routing table:

- 1. From the navigation panel, go to **Advanced Settings** > **LAN** > **Route** tab.
- 2. On the Enable static routes field, choose Yes.
- 3. On the **Static Route List**, enter the network information of other access points or nodes. Click the **Add** or **Delete** button to add or remove a device on the list.
- 4. Click Apply.

## 4.2.4 IPTV

The wireless router supports connection to IPTV services through an ISP or a LAN. The IPTV tab provides the configuration settings needed to set up IPTV, VoIP, multicasting, and UDP for your service. Contact your ISP for specific information regarding your service.

Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.384_4360</u> App <u>8</u> C +
General	LAN IP DHCP Server Route IPTV Switch Control
Network Map	LAN - IPTV
Guest Network	To watch IPTV, the WAN port must be connected to the Internet. Please go to <u>WAN - Dual WAN</u> to confirm that WAN port is assigned to primary WAN.
AiProtection	LAN Port
Adaptive QoS	Select ISP Profile v
🗼. Traffic Analyzer	Choose IPTV STB Port None •
and Game Boost	Special Applications
dunie boost	Use DHCP routes Microsoft •
👸 USB Application	Enable multicast routing (IGMP Proxy) Disable •
AiCloud 2.0	UDP Praxy (Udpxy)
Advanced Settings	Αρρίγ
i Wireless	
UAN LAN	

# 4.3 WAN

# **4.3.1 Internet Connection**

The Internet Connection screen allows you to configure the settings of various WAN connection types.

General	Internet Connection	Dual WAN	Port Trigger	Virtual Server / Port Forwarding	DMZ	DDNS	NAT Passthrough				
Network Map	WAN - Internet Connection										
Guest Network	supports several connection types to WAN (wide area network). These types are selected from the dropdown menu beside WAN Connection Type. The setting fields differ depending on the connection type you selected.										
AiProtection		Configure the Ethernet WAN settings.									
Adaptive QoS	Basic Config	_									
	WAN Connection Type										
Traffic Analyzer	Enable WAN		О үе	s 🛡 No							
Game Boost	Enable NAT		• Ye	s 🔍 No							
👸 USB Application	Enable UPnP UPnF	FAQ	O Ye	s 🔍 No							
AiCloud 2.0	WAN DNS Setting										
	Connect to DNS Serve	r automatically	O Ye	s 🔍 No							
Advanced Settings	Account Settings		_								
i Wireless	Authentication		None	•							
LAN	Special Requireme	ent from ISP			-	-					
()) WAN	Host Name										
🚔 Alexa & IFTTT	MAC Address			MAG	: Clone						
(m) 1Pv6	DHCP query frequenc										
	Extend the TTL value		• Ye	s <b>O</b> No							
VPN	Spoof LAN TTL value		• Ye	s O No							
🏡 Firewall				Apply							
Administration											

#### To configure the WAN connection settings:

- 1. From the navigation panel, go to **Advanced Settings** > **WAN** > **Internet Connection** tab.
- 2. Configure the following settings below. When done, click **Apply**.
  - WAN Connection Type: Choose your Internet Service Provider type. The choices are Automatic IP, PPPOE, PPTP, L2TP or fixed IP. Consult your ISP if the router is unable to obtain a valid IP address or if you are unsure the WAN connection type.

- Enable WAN: Select Yes to allow the router Internet access. Select No to disable Internet access.
- Enable NAT: NAT (Network Address Translation) is a system where one public IP (WAN IP) is used to provide Internet access to network clients with a private IP address in a LAN. The private IP address of each network client is saved in a NAT table and is used to route incoming data packets.
- Enable UPnP: UPnP (Universal Plug and Play) allows several devices (such as routers, televisions, stereo systems, game consoles, and cellular phone), to be controlled via an IP-based network with or without a central control through a gateway. UPnP connects PCs of all form factors, providing a seamless network for remote configuration and data transfer. Using UPnP, a new network device is discovered automatically. Once connected to the network, devices can be remotely configured to support P2P applications, interactive gaming, video conferencing, and web or proxy servers. Unlike Port forwarding, which involves manually configuring port settings, UPnP automatically configures the router to accept incoming connections and direct requests to a specific PC on the local network.
- Connect to DNS Server: Allows this router to get the DNS IP address from the ISP automatically. A DNS is a host on the Internet that translates Internet names to numeric IP addresses.
- **Authentication**: This item may be specified by some ISPs. Check with your ISP and fill them in if required.
- Host Name: This field allows you to provide a host name for your router. It is usually a special requirement from your ISP. If your ISP assigned a host name to your computer, enter the host name here.

- MAC Address: MAC (Media Access Control) address is a unique identifier for your networking device. Some ISPs monitor the MAC address of networking devices that connect to their service and reject any unrecognized device that attempt to connect. To avoid connection issues due to an unregistered MAC address, you can:
  - Contact your ISP and update the MAC address associated with your ISP service.
  - Clone or change the MAC address of the ASUS wireless router to match the MAC address of the previous networking device recognized by the ISP.

# 4.3.2 Port Trigger

Port range triggering opens a predetermined incoming port for a limited period of time whenever a client on the local area network makes an outgoing connection to a specified port. Port triggering is used in the following scenarios:

- More than one local client needs port forwarding for the same application at a different time.
- An application requires specific incoming ports that are different from the outgoing ports.

Quick Internet Setup	Operation Mode: Wire SSID: ASUS_2G ASUS		Firmware Ve	rsion: <u>3.0.0.4.384_4360</u>		Арр	8 🕤 🔶
General	Internet Connection	Dual WAN	Port Trigger	Virtual Server / Por Forwarding	t DMZ	DDNS	NAT Passthrough
Network Map	WAN - Port Trigge	ər					
Guest Network				s when LAN devices require rwarding and port trigger. Po			
AiProtection				ort trigger only opens the in does not require static IP ad			
Adaptive QoS	multiple devices to sha Port Trigger FAQ	re a single open	port and port	trigger only allows one clien	t at a time to acces	s the open p	prt.
🙀. Traffic Analyzer	Basic Config						
Game Boost	Enable Port Trigger		• Yes	5 <b>O</b> No			
Game Boost	Well-Known Application	s					
👸 USB Application	Trigger Port List ( Max I	Limit : 32 ) 🕀					
AiCloud 2.0	Description		Trigger Port	Protocol	Incoming Port	Protoc	ol Delete
Advanced Settings							
Wireless				Apply			
()) WAN							

## To set up Port Trigger:

- 1. From the navigation panel, go to **Advanced Settings** > **WAN** > **Port Trigger** tab.
- 2. Configure the following settings below. When done, click **Apply**.
  - Enable Port Trigger: Choose Yes to enable Port Trigger.
  - Well-Known Applications: Select popular games and web services to add to the Port Trigger List.
  - **Description**: Enter a short name or description for the service.

- **Trigger Port**: Specify a trigger port to open the incoming port.
- Protocol: Select the protocol, TCP, or UDP.
- **Incoming Port**: Specify an incoming port to receive inbound data from the Internet.
- Protocol: Select the protocol, TCP, or UDP.

#### **NOTES:**

- When connecting to an IRC server, a client PC makes an outgoing connection using the trigger port range 66660-7000. The IRC server responds by verifying the username and creating a new connection to the client PC using an incoming port.
- If Port Trigger is disabled, the router drops the connection because it is unable to determine which PC is requesting for IRC access. When Port Trigger is enabled, the router assigns an incoming port to receive the inbound data. This incoming port closes once a specific time period has elapsed because the router is unsure when the application has been terminated.
- Port triggering only allows one client in the network to use a particular service and a specific incoming port at the same time.
- You cannot use the same application to trigger a port in more than one PC at the same time. The router will only forward the port back to the last computer to send the router a request/trigger.

# 4.3.3 Virtual Server/Port Forwarding

Port forwarding is a method to direct network traffic from the Internet to a specific port or a specific range of ports to a device or number of devices on your local network. Setting up Port Forwarding on your router allows PCs outside the network to access specific services provided by a PC in your network.

**NOTE:** When port forwarding is enabled, the ASUS router blocks unsolicited inbound traffic from the Internet and only allows replies from outbound requests from the LAN. The network client does not have access to the Internet directly, and vice versa.

General	Internet Connection	Dual WAN	Port Trigger	Virtual Server / Port Forwarding	DMZ	DDNS	NAT Passthrough				
Network Map	WAN - Virtual Se	rver / Port F	orwarding								
Guest Network				rs to connect to a specific c lications (such as BitTorren							
AiProtection	5 5	forwarding setting. Please refer to the P2P application's user manual for details. You can open the multiple port or a range of ports in router and redirect data through those ports to a single client on your network.									
⊘ QoS		If you want to specify a Port Range for clients on the same network, enter the Service Name, the Port Range (e.g. 10200:10300), the LAN IP address, and leave the Local Port blank.									
👸 USB Application				180 as the HTTP server's p U's web user interface.	ort range for yo	ur WAN setu	p, then your http				
Advanced Settings	<ul> <li>When you set 20:2 AX53U's native FT</li> </ul>		erver's port range	for your WAN setup, then y	our FTP serve	r would be in	conflict with RT-				
Wireless	<u>Virtual Server /</u>	' Port Forwa	rding FAQ								
EAN	Basic Config	_		-			_				
(iii) wan	Enable Port Forwardin	-	ON								
Amazon Alexa	Port Forwarding L	ist (Max Limit External Port	: 64) Internal Por	Internal IP Address	Protocol	Source IP	Edit Delete				
-	Service Name	External Port		lo data in table.	Protocol	Source IP	Edit Delete				
💮 ІРV6				o data in table.							
👥 VPN				Add profile							

#### To set up Port Forwarding:

- From the navigation panel, go to Advanced Settings > WAN > Virtual Server / Port Forwarding tab.
- 2. Configure the following settings below. When done, click **Apply**.
  - Enable Port Forwarding: Choose Yes to enable Port Forwarding.

- Famous Server List: Determine which type of service you want to access.
- **Famous Game List**: This item lists ports required for popular online games to work correctly.
- **FTP Server Port**: Avoid assigning the port range 20:21 for your FTP server as this would conflict with the router's native FTP server assignment.
- Service Name: Enter a service name.
- **Port Range**: If you want to specify a Port Range for clients on the same network, enter the Service Name, the Port Range (e.g. 10200:10300), the LAN IP address, and leave the Local Port empty. Port range accepts various formats such as Port Range (300:350), individual ports (566,789) or Mix (1015:1024,3021).

#### NOTES:

- When your network's firewall is disabled and you set 80 as the HTTP server's port range for your WAN setup, then your http server/web server would be in conflict with the router's web user interface.
- A network makes use of ports in order to exchange data, with each port assigned a port number and a specific task. For example, port 80 is used for HTTP. A specific port can only be used by one application or service at a time. Hence, two PCs attempting to access data through the same port at the same time would fail. For example, you cannot set up Port Forwarding for port 100 for two PCs at the same time.
  - Local IP: Key in the client's LAN IP address.

**NOTE:** Use a static IP address for the local client to make port forwarding work properly. Refer to section **4.2 LAN** for information.

- Local Port: Enter a specific port to receive forwarded packets. Leave this field blank if you want the incoming packets to be redirected to the specified port range.
- Protocol: Select the protocol. If you are unsure, select BOTH.

#### To check if Port Forwarding has been configured successfully:

- Ensure that your server or application is set up and running.
- You will need a client outside your LAN but has Internet access (referred to as "Internet client"). This client should not be connected to the ASUS router.
- On the Internet client, use the router's WAN IP to access the server. If port forwarding has been successful, you should be able to access the files or applications.

#### Differences between port trigger and port forwarding:

- Port triggering will work even without setting up a specific LAN IP address. Unlike port forwarding, which requires a static LAN IP address, port triggering allows dynamic port forwarding using the router. Predetermined port ranges are configured to accept incoming connections for a limited period of time. Port triggering allows multiple computers to run applications that would normally require manually forwarding the same ports to each PC on the network.
- Port triggering is more secure than port forwarding since the incoming ports are not open all the time. They are opened only when an application is making an outgoing connection through the trigger port.

## 4.3.4 DMZ

Virtual DMZ exposes one client to the Internet, allowing this client to receive all inbound packets directed to your Local Area Network.

Inbound traffic from the Internet is usually discarded and routed to a specific client only if port forwarding or a port trigger has been configured on the network. In a DMZ configuration, one network client receives all inbound packets.

Setting up DMZ on a network is useful when you need incoming ports open or you want to host a domain, web, or e-mail server.

**CAUTION!** Opening all the ports on a client to the Internet makes the network vulnerable to outside attacks. Please be aware of the security risks involved in using DMZ.

## To set up DMZ:

- From the navigation panel, go to Advanced Settings > WAN > DMZ tab.
- 2. Configure the setting below. When done, click **Apply**.
  - IP address of Exposed Station: Key in the client's LAN IP address that will provide the DMZ service and be exposed on the Internet. Ensure that the server client has a static IP address.

## To remove DMZ:

- 1. Delete the client's LAN IP address from the **IP Address of Exposed Station** text box.
- 2. When done, click **Apply**.

# 4.3.5 DDNS

Setting up DDNS (Dynamic DNS) allows you to access the router from outside your network through the provided ASUS DDNS Service or another DDNS service.

/1545	Logout		Reboot				English 🔻
Quick Internet	Operation Mode: Min SSID: ASUS_26 ASUS		E Firmware Ve	rsion: <u>3.0.0.4.384_4360</u>			upp 🔏 🔁 🔶
General	Internet Connection	Dual WAN	Port Trigger	Virtual Server / Port Forwarding	DMZ	DDNS	NAT Passthrough
Network Map	WAN - DDNS						
Guest Network	DDNS (Dynamic Domain Name System) is a service that allows network clients to connect to the wireless router, even with a dynamic public IP address, through its registered domain name. The wireless router is embedded with the ASUS DDNS service and other DDNS services. If you cannot use ASUS DDNS services, please go to <u>http://iplookup.asus.com/nslookup.ehp</u> to reach your internet IP address to use this service.						
AiProtection							
Adaptive QoS							
👯. Traffic Analyzer	This router may be in t						
Came Boost	Enable the DDNS Clier	it .	• Ye	s O No			
👸 USB Application				Apply			
AiCloud 2.0							
Advanced Settings							
(i) Wireless							
()) WAN							

## To set up DDNS:

- 1. From the navigation panel, go to **Advanced Settings** > **WAN** > **DDNS** tab.
- 2. Configure the following settings below. When done, click **Apply**.
  - **Enable the DDNS Client**: Enable DDNS to access the ASUS router via the DNS name rather than WAN IP address.
  - Server and Host Name: Choose ASUS DDNS or other DDNS. If you want to use ASUS DDNS, fill in the Host Name in the format of xxx.asuscomm.com (xxx is your host name).
  - If you want to use a different DDNS service, click FREE TRIAL and register online first. Fill in the User Name or E-mail Address and Password or DDNS Key fields.

• **Enable wildcard**: Enable wildcard if your DDNS service requires one.

#### NOTE:

DDNS service will not work under these conditions:

- When the wireless router is using a private WAN IP address (192.168.x.x, 10.x.x.x, or 172.16.x.x), as indicated by a yellow text.
- The router may be on a network that uses multiple NAT tables.

## 4.3.6 NAT Passthrough

NAT Passthrough allows a Virtual Private Network (VPN) connection to pass through the router to the network clients. PPTP Passthrough, L2TP Passthrough, IPsec Passthrough and RTSP Passthrough are enabled by default.

To enable / disable the NAT Passthrough settings, go to the **Advanced Settings** > **WAN** > **NAT Passthrough** tab. When done, click **Apply**.

/isus	Logout Rebo	ot	English 🔻		
Quick Internet	Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.384_4360</u> App         App         App         App         C				
General		ort Virtual Server / Port Iger Forwarding	DMZ DDNS NAT Passthrough		
Network Map	WAN - NAT Passthrough				
Guest Network	Enable NAT Passthrough to allow a Virtual Private Network (VPN) connection to pass through the router to the network clients.				
AiProtection	PPTP Passthrough	Enable 🔻			
Adaptive QoS	L2TP Passthrough	Enable •			
🗼. Traffic Analyzer	RTSP Passthrough	Enable •			
🙈 Game Boost	H.323 Passthrough	Enable 🔻			
👸 USB Application	SIP Passthrough				
AiCloud 2.0	Enable PPPoE Relay				
Advanced Settings		Apply			
wireless					
() wan					

# 4.4 IPv6

This wireless router supports IPv6 addressing, a system that supports more IP addresses. This standard is not yet widely available. Contact your ISP if your Internet service supports IPv6.

/islis	Logout Reboo	ıt	English 🔻
Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmu SSID: <u>ASUS_26</u> <u>ASUS_56</u>	vare Version: <u>3.0.0.4.384_4360</u>	Арр 🔏 🖻 🔶
General	IPv6		
Network Map	Configure the IPv6 Internet setting.		
Guest Network	Basic Config		
AiProtection	Connection type		
Adaptive QoS		Apply	
🕼. Traffic Analyzer			
Game Boost			
📸 USB Application			
AiCloud 2.0			
Advanced Settings			
i wireless			
🕎 LAN			
I WAN			
• Alexa & IFTTT			
IPv6			

## To set up IPv6:

- 1. From the navigation panel, go to **Advanced Settings** > **IPv6**.
- 2. Select your **Connection Type**. The configuration options vary depending on your selected connection type.
- 3. Enter your IPv6 LAN and DNS settings.
- 4. Click Apply.

**NOTE:** Please refer to your ISP regarding specific IPv6 information for your Internet service.

# 4.5 Firewall

The wireless router can serve as a hardware firewall for your network.

NOTE: The Firewall feature is enabled by default.

# 4.5.1 General

#### To set up basic Firewall settings:

- 1. From the navigation panel, go to **Advanced Settings** > **Firewall** > **General** tab.
- 2. On the Enable Firewall field, select Yes.
- 3. On the **Enable DoS** protection, select **Yes** to protect your network from DoS (Denial of Service) attacks though this may affect your router's performance.
- 4. You can also monitor packets exchanged between the LAN and WAN connection. On the Logged packets type, select **Dropped**, **Accepted**, or **Both**.
- 5. Click Apply.

## 4.5.2 URL Filter

You can specify keywords or web addresses to prevent access to specific URLs.

**NOTE:** The URL Filter is based on a DNS query. If a network client has already accessed a website such as http://www.abcxxx.com, then the website will not be blocked (a DNS cache in the system stores previously visited websites). To resolve this issue, clear the DNS cache before setting up the URL Filter.

#### To set up a URL filter:

1. From the navigation panel, go to **Advanced Settings** > **Firewall** > **URL Filter** tab.

- 2. On the Enable URL Filter field, select **Enabled**.
- 3. Enter a URL and click the 🕑 button.
- 4. Click **Apply**.

# 4.5.3 Keyword filter

Keyword filter blocks access to webpages containing specified keywords.

	Logout Reboot	English 🔻		
Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.384_4360</u> SSID: <u>ASUS_26_ASUS_56</u>	Арр 🔏 🔁 🔶		
General	General URL Filter Keyword Filter Network Services Filter			
Network Map	Firewall - Keyword Filter			
Guest Network	Keyword Filter allows you to block the clients' access to webpages containing the specified keywords.			
AiProtection	Limitations of the filtering function : 1. Compressed webpages that use HTTP compression technology cannot be filtered. <u>see here</u>	for more details.		
Adaptive QoS	2. Https webpages cannot be filtered.			
🗼. Traffic Analyzer	Basic Config Enable Keyword Filter   Enabled O Disabled			
🙈 Game Boost	Keyword Filter List (Max Limit : 64)			
👸 USB Application	Keyword Filter List	Add / Delete		
AiCloud 2.0	No data in table.	Ð		
Advanced Settings	Apply			
Wireless	- Address			
() WAN				
• Alexa & IFTTT				
() IPv6				
VPN				
🚵 Firewall				

## To set up a keyword filter:

- From the navigation panel, go to Advanced Settings > Firewall > Keyword Filter tab.
- 2. On the Enable Keyword Filter field, select **Enabled**.
- 3. Enter a word or phrase and click the **Add** button.

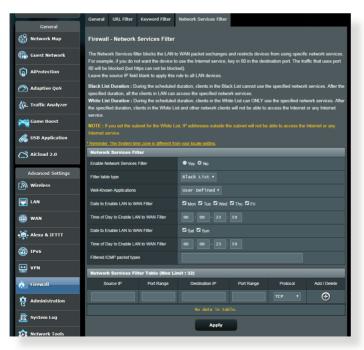
#### 4. Click Apply.

#### NOTES:

- The Keyword Filter is based on a DNS query. If a network client has already accessed a website such as http://www.abcxxx.com, then the website will not be blocked (a DNS cache in the system stores previously visited websites). To resolve this issue, clear the DNS cache before setting up the Keyword Filter.
- Web pages compressed using HTTP compression cannot be filtered. HTTPS pages also cannot be blocked using a keyword filter.

#### 4.5.4 Network Services Filter

The Network Services Filter blocks LAN to WAN packet exchanges and restricts network clients from accessing specific web services such as Telnet or FTP.



#### To set up a Network Service filter:

- 1. From the navigation panel, go to **Advanced Settings** > **Firewall** > **Network Service Filter** tab.
- 2. On the Enable Network Services Filter field, select Yes.
- 3. Select the Filter table type. **Black List** blocks the specified network services. **White List** limits access to only the specified network services.
- 4. Specify the day and time when the filters will be active.
- 5. To specify a Network Service to filter, enter the Source IP, Destination IP, Port Range, and Protocol. Click the 🙆 button.
- 6. Click Apply.

# 4.6 Administration

# 4.6.1 Operation Mode

The Operation Mode page allows you to select the appropriate mode for your network.



## To set up the operating mode:

- 1. From the navigation panel, go to Advanced Settings > Administration > Operation Mode tab.
- 2. Select any of these operation modes:
  - Wireless router mode (Default): In wireless router mode, the wireless router connects to the Internet and provides Internet access to available devices on its own local network.
  - Access Point (AP) mode: In this mode, the router creates a new wireless network on an existing network.
  - **Repeater mode**: This mode turns the router into a wireless repeater to extend the range of your signal.

#### 3. Click Save.

NOTE: The router will reboot when you change the modes.

# 4.6.2 System

The System page allows you to configure your wireless router settings.

#### To set up the System settings:

- 1. From the navigation panel, go to **Advanced Settings** > **Administration** > **System** tab.
- 2. You can configure the following settings:
  - **Change router login password**: You can change the password and login name for the wireless router by entering a new name and password.
  - **WPS button behavior**: The physical WPS button on the wireless router can be used to activate WPS.
  - Time Zone: Select the time zone for your network.
  - **NTP Server**: The wireless router can access a NTP (Network time Protocol) server in order to synchronize the time.
  - Enable Telnet: Click Yes to enable Telnet services on the network. Click No to disable Telnet.
  - Authentication Method: You can select HTTP, HTTPS, or both protocols to secure router access.
  - Enable Web Access from WAN: Select Yes to allow devices outside the network to access the wireless router GUI settings. Select No to prevent access.
  - **Only allow specific IP**: Click **Yes** if you want to specify the IP addresses of devices that are allowed access to the wireless router GUI settings from WAN.
  - **Client List**: Enter the WAN IP addresses of networking devices allowed to access the wireless router settings. This list will be used if you clicked **Yes** in the **Only allow specific IP** item.
- 3. Click Apply.

# 4.6.3 Firmware Upgrade

**NOTE:** Download the latest firmware from the ASUS website at <u>http://www.asus.com</u>.

#### To upgrade the firmware:

- 1. From the navigation panel, go to Advanced Settings > Administration > Firmware Upgrade tab.
- 2. In the **New Firmware File** field, click **Browse** to locate the downloaded file.
- 3. Click Upload.

#### NOTES:

- When the upgrade process is complete, wait for some time for the system to reboot.
- If the upgrade process fails, the wireless router automatically enters rescue mode and the power LED indicator on the front panel starts flashing slowly. To recover or restore the system, refer to section 5.2 Firmware Restoration.

# 4.6.4 Restore/Save/Upload Setting

#### To restore/save/upload wireless router settings:

- From the navigation panel, go to Advanced Settings > Administration > Restore/Save/Upload Setting tab.
- 2. Select the tasks that you want to do:
  - To restore to the default factory settings, click **Restore**, and click **OK** in the confirmation message.
  - To save the current system settings, click **Save**, navigate to the folder where you intend to save the file and click **Save**.
  - To restore from a saved system settings file, click **Browse** to locate your file, then click **Upload**.

**IMPORTANT!** If issues occur, upload the latest firmware version and configure new settings. Do not restore the router to its default settings.

# 4.7 System Log

System Log contains your recorded network activities.

NOTE: System log resets when the router is rebooted or powered off.

#### To view your system log:

- 1. From the navigation panel, go to **Advanced Settings** > **System Log**.
- 2. You can view your network activities in any of these tabs:
  - General Log
  - Wireless Log
  - DHCP leases
  - IPv6
  - Routing Table
  - Port Forwarding
  - Connections

/ISUS	Logout Reboo	ot English 🔻			
Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firm SSID: <u>ASUS 26 ASUS 56</u>				
General	General Log Wireless Log DHCP leas	ses IPv6 Routing Table Port Forwarding Connections			
Network Map	System Log - General Log				
Guest Network	This page shows the detailed system's activities.				
() AiProtection	System Time	Thu, Aug 23 07:15:34 2018			
Adaptive QoS	Uptime Remote Log Server	0 days 1 hours 18 minute(s) 11 seconds Apply			
Traffic Analyzer	Aug 23 06:51:04 miniupnpd(7139): ver	rsion 1.9 started			
Game Boost	<pre>Judy 23 0653104 #inituge0[7133]; HITPI listening on port 51202 Mug 23 0653105 #inituge0[7133]; HITPI listening on port 51202 Aug 23 0653105 #inituge0[7133]; HITPI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 065853 Bernel: -[003334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 065853 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 065853 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 065853 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0658557 Bernel: -[00334in]/NHTTI publy add [clow ASERT: (encourse_pathery := NATE_FLIWNI Aug 23 0707714 ani.support[733]; shortcamp der MinitPhrel Aug 23 0707714 ani.support[733]; shortcamp der MinitPhrel Aug 23 0707714 ani.support[733]; shortcamp der MinitPhrel Aug 23 0707714 ani.support[733]; shortcamp course Aug 23 0707714 ani.support[733]; shortcamp co</pre>				
👸 USB Application					
AiCloud 2.0					
Advanced Settings					
i Wireless					
🕎 LAN					
🌐 WAN					
👬 Alexa & IFTTT	<	•			
() IPv6		Clear Save			
VPN					
🚵 Firewall					
Administration					
E System Log					

## 5 Utilities

#### NOTES:

- Download and install the wireless router's utilities from the ASUS website:
  - Device Discovery v1.4.7.1 at <u>http://dlcdnet.asus.com/pub/ASUS/ LiveUpdate/Release/Wireless/Discovery.zip</u>
  - Firmware Restoration v1.9.0.4 at <u>http://dlcdnet.asus.com/pub/</u> <u>ASUS/LiveUpdate/Release/Wireless/Rescue.zip</u>
- The utilities are not supported on MAC OS.

### 5.1 Device Discovery

Device Discovery is an ASUS WLAN utility that detects an ASUS wireless router device, and allows you to configure the wireless networking settings.

#### To launch the Device Discovery utility:

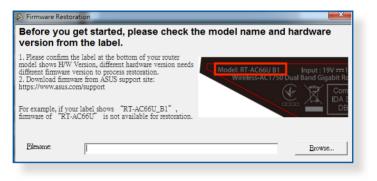
From your computer's desktop, click
 Start > All Programs > ASUS Utility > Wireless Router > Device Discovery.



**NOTE:** When you set the router to Access Point mode, you need to use Device Discovery to get the router's IP address.

### 5.2 Firmware Restoration

Firmware Restoration is used on an ASUS Wireless Router that failed during its firmware upgrading process. It uploads the firmware that you specify. The process takes about three to four minutes.



**IMPORTANT!** Launch the rescue mode on the router before using the Firmware Restoration utility.

NOTE: This feature is not supported on MAC OS.

## To launch the rescue mode and use the Firmware Restoration utility:

- 1. Unplug the wireless router from the power source.
- 2. Hold the Reset button at the rear panel and simultaneously replug the wireless router into the power source. Release the Reset button when the Power LED at the front panel flashes slowly, which indicates that the wireless router is in the rescue mode.
- 3. Set a static IP on your computer and use the following to set up your TCP/IP settings:

IP address: 192.168.1.x

Subnet mask: 255.255.255.0

- From your computer's desktop, click
   Start > All Programs > ASUS Utility > Wireless Router > Firmware Restoration.
- 5. Specify a firmware file, then click **Upload**.

**NOTE:** This is not a firmware upgrade utility and cannot be used on a working ASUS Wireless Router. Normal firmware upgrades must be done through the web interface. Refer to **Chapter 4: Configuring the Advanced Settings** for more details.

# 6 Troubleshooting

This chapter provides solutions for issues you may encounter with your router. If you encounter problems that are not mentioned in this chapter, visit the ASUS support site at:

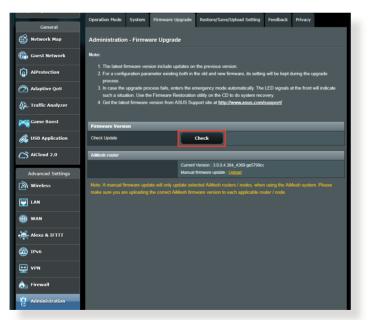
<u>https://www.asus.com/support/</u> for more product information and contact details of ASUS Technical Support.

### 6.1 Basic Troubleshooting

If you are having problems with your router, try these basic steps in this section before looking for further solutions.

#### Upgrade Firmware to the latest version.

 Launch the Web GUI. Go to Advanced Settings > Administration > Firmware Upgrade tab. Click Check to verify if the latest firmware is available.



2. If the latest firmware is available, visit the ASUS global website at <u>https://www.asus.com/Networking/RT-AX53U/HelpDesk/</u> to download the latest firmware.

- 3. From the **Firmware Upgrade** page, click **Browse** to locate the firmware file.
- 4. Click **Upload** to upgrade the firmware.

#### Restart your network in the following sequence:

- 1. Turn off the modem.
- 2. Unplug the modem.
- 3. Turn off the router and computers.
- 4. Plug in the modem.
- 5. Turn on the modem and then wait for 2 minutes.
- 6. Turn on the router and then wait for 2 minutes.
- 7. Turn on computers.

#### Check if your Ethernet cables are plugged properly.

- When the Ethernet cable connecting the router with the modem is plugged in properly, the WAN LED will be on.
- When the Ethernet cable connecting your poweredon computer with the router is plugged in properly, the corresponding LAN LED will be on.

## Check if the wireless setting on your computer matches that of your router.

• When you connect your computer to the router wirelessly, ensure that the SSID (wireless network name), encryption method, and password are correct.

#### Check if your network settings are correct.

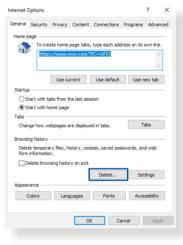
- Each client on the network should have a valid IP address. ASUS recommends that you use the wireless router's DHCP server to assign IP addresses to computers on your network.
- Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You can view the MAC address in the web GUI, Network Map > Clients page, and hover the mouse pointer over your device in Client Status.



### 6.2 Frequently Asked Questions (FAQs)

#### I cannot access the router GUI using a web browser

- If your computer is wired, check the Ethernet cable connection and LED status as described in the previous section.
- Ensure that you are using the correct login information. The default factory login name and password is "admin/admin". Ensure that the Caps Lock key is disabled when you enter the login information.
- Delete the cookies and files in your web browser. For Internet Explorer, follow these steps:
  - Launch Internet Explorer, then click Tools > Internet Options.
  - 2. In the General tab, under Browsing history, click Delete..., select Temporary Internet files and website files and Cookies and website data then click Delete.



#### NOTES:

- The commands for deleting cookies and files vary with web browsers.
- Disable proxy server settings, cancel the dial-up connection, and set the TCP/IP settings to obtain IP addresses automatically. For more details, refer to Chapter 1 of this user manual.
- Ensure that you use CAT5e or CAT6 ethernet cables.

# The client cannot establish a wireless connection with the router.

**NOTE:** If you are having issues connecting to 5GHz network, make sure that your wireless device supports 5GHz or features dual band capabilities.

- Out of Range:
  - Move the router closer to the wireless client.
  - Try to adjust antennas of the router to the best direction as described in section **1.4 Positioning your router**.
- DHCP server has been disabled:
  - Launch the web GUI. Go to General > Network Map> Clients and search for the device that you want to connect to the router.
  - If you cannot find the device in the Network Map, go to Advanced Settings > LAN > DHCP Server, Basic Config list, select Yes on the Enable the DHCP Server.

General	LAN IP DHCP Server Route IPTV Switch Control
Network Map	LAN - DHCP Server
Guest Network	DHCP (Dynamic Host Configuration Protocol) is a protocol for the automatic configuration used on IP networks. The DHCP server can assign each client an IP address and informs the client of the of DNS server IP and default gateway IP supports up to
AiProtection	253 IP addresses for your local network. <u>Manually Assigned IP around the DHCP list FAQ</u>
🔿 Adaptive QoS	Basic Config
A. Traffic Analyzer	Enable the DHCP Server O Yes O No
<b>V</b>	Domain Name
Game Boost	IP Pool Starting Address 192. 168. 50. 2
👸 USB Application	IP Pool Ending Address 192.168.50.254
AiCloud 2.0	Lease time 86400
Advanced Settings	Default Gateway
	DNS and WINS Server Setting
Wireless	DNS Server
	WINS Server
🌐 WAN	Manual Assignment
Alexa & IFTTT	Enable Manual Assignment • Yes • No
() 1Pv6	Manually Assigned IP around the DHCP list (Max Limit : 64)
++ VPN	Ctient Name (MAC Address) IP Address Add / Delete
🚵 Firewall	No data in table.

 SSID has been hidden. If your device can find SSIDs from other routers but cannot find your router's SSID, go to Advanced Settings > Wireless > General, select No on Hide SSID, and select Auto on Control Channel.

General	General	WPS	WDS	Wireless MAC Filte	RADIUS Setting	Professional	Roaming Block List	
Network Map	Wireless	s - Gen	eral					I.
Guest Network	Set up the	wireless	related in	nformation below.				
AiProtection	Enable Sr	nart Conr	nect		OFF			I.
Adaptive QoS	Band			2	4GHz ▼			I.
🔆 Traffic Analyzer	Network N	lame (SS	iD)		SUS_2G			I.
	Hide SSIE				Yes O No			I.
Game Boost	Wireless I	Mode		A	to 🔹 🗖 Oplimizer			I.
👸 USB Application	Channel b	andwidth		2	/40 MHZ 🔻			I.
AiCloud 2.0	Control Cl			A	to V Current Contro			I.
	Extension	Channel						
Advanced Settings	Authentica	ation Met	hod	W	A2-Personal			
Wireless	WPA Encr	ryption						U.
🕎 LAN	WPA Pre-	Shared K	ley					
() WAN	Protected	Manager	nent Fran	nes D				
Alexa & IFTTT	Group Ke	y Rotation	n Interval					
() IPv6					Apply			

- If you are using a wireless LAN adapter, check if the wireless channel in use conforms to the channels available in your country/area. If not, adjust the channel, channel bandwidth, and wireless mode.
- If you still cannot connect to the router wirelessly, you can reset your router to factory default settings. In the router GUI,click Administration > Restore/Initialize/Save/Upload and click Restore.

General	Operation Mode	System	Firmware Upgra	le Restore/	Save/Upload Setting	Feedback	Privacy
Network Map	Administration	n - Resto	re/Save/Upload	Setting			
Guest Network	This function allow	vs you to sav	ve current settings ti	a file, or load s	ettings from a file.		
(a) AiProtection	Factory default			Restore	Initialize		
Adaptive QoS	Save setting			Save			
🙀. Traffic Analyzer	Restore setting			Upload	湿撑槛案 非過度		
Game Boost							

#### Internet is not accessible.

- Check if your router can connect to your ISP's WAN IP address. To do this, launch the web GUI and go to General> Network Map, and check the Internet Status.
- If your router cannot connect to your ISP's WAN IP address, try restarting your network as described in the section Restart your network in following sequence under Basic Troubleshooting.



 The device has been blocked via the Parental Control function. Go to General > AiProtection > Parental Control and see if the device is in the list. If the device is listed under Client Name, remove the device using the Delete button or adjust the Time Management Settings.



- If there is still no Internet access, try to reboot your computer and verify the network's IP address and gateway address.
- Check the status indicators on the ADSL modem and the wireless router. If the WAN LED on the wireless router is not ON, check if all cables are plugged properly.

#### You forgot the SSID (network name) or network password

- Setup a new SSID and encryption key via a wired connection (Ethernet cable). Launch the web GUI, go to Network Map, click the router icon, enter a new SSID and encryption key, and then click Apply.
- Reset your router to the default settings. Launch the web GUI, go to Administration > Restore/Save/Upload Setting, and click Restore. The default login account and password are both "admin".

#### How to restore the system to its default settings?

 Go to Administration > Restore/Save/Upload Setting, and click Restore.

The following are the factory default settings:

User Name:	admin
Password:	admin
Enable DHCP:	Yes (if WAN cable is plugged in)
IP address:	192.168.50.1
Domain Name:	(Blank)
Subnet Mask:	255.255.255.0
DNS Server 1:	router.asus.com
DNS Server 2:	(Blank)
SSID (2.4GHz):	ASUS
SSID (5GHz):	ASUS_5G

#### Firmware upgrade failed.

Launch the rescue mode and run the Firmware Restoration utility. Refer to section **5.2 Firmware Restoration** on how to use the Firmware Restoration utility.

#### **Cannot access Web GUI**

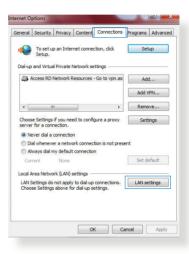
Before configuring your wireless router, do the steps described in this section for your host computer and network clients.

#### A. Disable the proxy server, if enabled.

#### **Windows®**

- 1. Click **Start > Internet Explorer** to launch the browser.
- Click Tools > Internet options > Connections tab > LAN settings.

- 3. From the Local Area Network (LAN) Settings screen, untick Use a proxy server for your LAN.
- 4. Click OK when done.



se of manua		may override man disable automatic (		
-	constant concerns	uration script		
Address				
	xy server fo VPN connec	or your LAN (Thes tions).	e settings	will not apply to
		Port:	80	Advanced
Address:				

#### **MAC OS**

- From your Safari browser, click Safari
   Preferences > Advanced > Change Settings...
- From the Network screen, deselect FTP Proxy and Web Proxy (HTTP).
- 3. Click **Apply Now** when done.

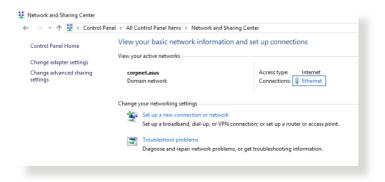
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FTP Proxy     Web Proxy     Secure Web     Streaming     SOCKS Prox     Gopher Pro	(HTTP) Proxy (HTTPS) Proxy (RTSP) Ky xy T	Proxy server requires password
Bypass proxy s these Hosts & I		1
✓ Use Passive	FTP Mode (PASV)	(?

**NOTE:** Refer to your browser's help feature for details on disabling the proxy server.

# B. Set the TCP/IP settings to automatically obtain an IP address.

#### **Windows®**

 Click Start > Control Panel > Network and Sharing Center, then click the network connection to display its status window.



- 2. Click **Properties** to display the Ethernet Properties window.
- Ethernet Status X General Connection IPv4 Connectivity: Internet IPv6 Connectivity: No network access Media State: Enabled Duration: 03:29:31 1.0 Gbps Speed: Details... Activity Received Sent -Bytes: 71,424,646 70,727,241 Disable Diagnose Properties

×

Configure...

Ethernet Properties

Connect using:

Networking Authentication

Intel(R) Ethemet Connection (2) I219-V

This connection uses the following items:

3. Select Internet Protocol Version 4 (TCP/IPv4) or Internet Protocol Version 6 (TCP/IPv6), then click Properties.

4. To obtain the IPv4 IP settings automatically, tick **Obtain an IP** address automatically.

To obtain the IPv6 IP settings automatically, tick **Obtain an IPv6 address automatically**.

5. Click OK when done.

V 4	QoS Packet	Scheduler					2
		ocol Version 4					
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		DP Protocol D					
		ocol Version 6					
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#### **MAC OS**

- Click the Apple icon located on the top left of your screen.
- 2. Click System Preferences > Network > Configure...
- 3. From the **TCP/IP** tab, select **Using DHCP** in the **Configure IPv4** dropdown list.
- 4. Click **Apply Now** when done.

	Locati	on: Automatic	;	
	Sh	ow: Built-in Ethernet	:	
_	TCP/IP	PPPoE AppleTalk Proxies	Ethernet	
	Configure IPv4: Us	ing DHCP	•	
	IP Address: 192	2.168.182.103	Renew DH	CP Lease
	Subnet Mask: 25	5.255.255.0 DHCP Client ID		
	Router: 193	2.168.182.250	(If required	)
	DNS Servers: 192	2.168.128.10		(Optional)
	Search Domains:			(Optional)
	IPv6 Address: fe80	0:0000:0000:0000:0211:24ff:fe32:	b18e	
	(	onfigure IPv6)		(?)

**NOTE:** Refer to your operating system's help and support feature for details on configuring your computer's TCP/IP settings.

#### C. Disable the dial-up connection, if enabled.

#### Windows®

- 1. Click **Start** > **Internet Explorer** to launch the browser.
- 2. Click Tools > Internet options > Connections tab.
- 3. Tick Never dial a connection.
- 4. Click OK when done.

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**NOTE:** Refer to your browser's help feature for details on disabling the dial-up connection.

# **Appendices**

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