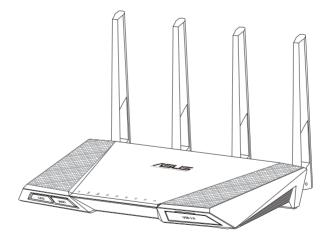
# **User Guide**

# **RT-AC87U Dual Band**

### 4x4 Wireless-AC 2400 Gigabit Router





E9689 Revised Edition V2 August 2014

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# Table of contents

1	Getting to know your wireless router
1.1	Welcome!
1.2	Package contents6
1.3	Your wireless router7
1.4	Positioning your router9
1.5	Setup Requirements
1.6	Router Setup11
	1.6.1 Wired connection11
	1.6.2 Wireless connection
2	Getting started
2.1	Logging into the Web GUI14
2.2	Quick Internet Setup (QIS) with Auto-detection
2.3	Connecting to your wireless network19
3	Configuring the General settings
3.1	Using the Network Map20
	3.1.1 Setting up the wireless security settings21
	3.1.2 Managing your network clients22
	3.1.3 Monitoring your USB device23
3.2	Creating a Guest Network
3.3	Using the Traffic Manager
	3.3.1 Managing QoS (Quality of Service) Bandwidth28
	3.3.2 Monitoring Traffic31
3.4	Setting up Parental Control
3.5	Using the USB Application
	3.5.1 Using AiDisk33
	3.5.2 Using Servers Center35
	3.5.3 3G/4G41

# Table of contents

Using	AiCloud	
3.6.1	Cloud Disk	44
3.6.2	Smart Access	46
3.6.3	Smart Sync	47
Config	guring the Advanced Settings	
Wirele	255	
4.1.1	General	48
4.1.2	WPS	51
4.1.3	Bridge	53
4.1.4	Wireless MAC Filter	55
4.1.5	RADIUS Setting	56
4.1.6	Professional	57
LAN		59
4.2.1	LAN IP	59
4.2.2	DHCP Server	60
4.2.3	Route	62
4.2.4	IPTV	63
WAN .		64
4.3.1	Internet Connection	64
4.3.2	Port Trigger	67
4.3.3	Virtual Server/Port Forwarding	69
4.3.4	DMZ	72
4.3.5	DDNS	73
4.3.6	NAT Passthrough	74
IPv6		75
VPN S	erver	76
Firewa	all	77
4.6.1	General	77
4.6.2	URL Filter	77
4.6.3	Keyword filter	78
	3.6.1 3.6.2 3.6.3 <b>Config</b> Wirele 4.1.1 4.1.2 4.1.3 4.1.4 4.1.5 4.1.6 LAN 4.2.1 4.2.2 4.2.3 4.2.4 WAN 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 IPv6 VPN S Firewa 4.6.1 4.6.2	3.6.2       Smart Access

# Table of contents

	4.6.4 Network Services Filter	79
4.7	Administration	81
	4.7.1 Operation Mode	81
	4.7.2 System	82
	4.7.3 Firmware Upgrade	83
	4.7.4 Restore/Save/Upload Setting	83
4.8	System Log	84
5	Utilities	
5.1	Device Discovery	85
5.2	Firmware Restoration	86
5.3	Setting up your printer server	87
	5.3.1 ASUS EZ Printer Sharing	87
	5.3.2 Using LPR to Share Printer	91
5.4	Download Master	96
	5.4.1 Configuring Bit Torrent download settings	97
	5.4.2 NZB settings	98
6	Troubleshooting	
6.1	Basic Troubleshooting	99
6.2	Frequently Asked Questions (FAQs)	102
Арр	oendices	
Notio	ces	112
ASUS	S Contact information	126
Netw	vorks Global Hotline Information	127

# 1 Getting to know your wireless router

# 1.1 Welcome!

Thank you for purchasing an ASUS RT-AC87U Wireless Router! The ultra-thin and stylish RT-AC87U features a 2.4GHz and 5GHz dual bands for an unmatched concurrent wireless HD streaming; SMB server, UPnP AV server, and FTP server for 24/7 file sharing; a capability to handle 300,000 sessions; and the ASUS Green Network Technology, which provides up to 70% power-saving solution.

# 1.2 Package contents

- ☑ RT-AC87U Wireless Router
- ✓ Network cable (RJ-45)

- Power adapter
- Quick Start Guide
- Support CD (Manual)

- 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**

<b>LED On/Off button</b> Press this button to turn on/off the backlight LED on the panel.
2 Wi-Fi On/Off button Press this button to turn on /off the Wi-Fi connection.
<ul> <li>Power LED</li> <li>Off: No power.</li> <li>On: Device is ready.</li> <li>Flashing slow: Rescue mode</li> </ul>
<ul> <li>2.4GHz LED / 5GHz LED</li> <li>Off: No 2.4GHz or 5GHz signal.</li> <li>On: Wireless system is ready.</li> <li>Flashing: Transmitting or receiving data via wireless connection.</li> </ul>
<ul> <li>5 LAN 1~4 LED</li> <li>Off: No power or no physical connection.</li> <li>On: Has physical connection to a local area network (LAN).</li> </ul>
<ul> <li>WAN (Internet) LED</li> <li>Red: No IP or no physical connection.</li> <li>On: Has physical connection to a wide area network (WAN).</li> </ul>
7 WPS LED Off: WPS verification process is off or completed. Flashing: WPS verification process is activated.
8 USB 3.0 port Insert USB 3.0 devices such as USB hard disks or USB flash drives into this port.

9	<b>USB 2.0 port</b> Insert USB 2.0 devices such as USB hard disks or USB flash drives into this port.
10	WPS button This button launches the WPS Wizard.
1	WAN (Internet) port Connect a network cable into this port to establish WAN connection.
12	LAN 3 ~ 4 ports Connect network cables into these ports to establish LAN connection.
13	LAN 1 ~ 2 ports (Teaming ports) Connect two network cables into to these ports for Link Aggregation.
14	<b>Reset button</b> This button resets or restores the system to its factory default settings.
15	<b>Power button</b> Press this button to power on or off the stystem.
16	<b>Power (DC-IN) port</b> Insert the bundled AC adapter into this port and connect your router to a power source.

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

DC Power adapter	DC Output: +19V with max 2.37A current			
Operating Temperature	0~40°C	Storage	0~70°C	
Operating Humidity	50~90%	Storage	20~90%	

# **1.4 Positioning your router**

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

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



# 1.5 Setup Requirements

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

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

- If your computer does not have built-in wireless capabilities, you may
  install an IEEE 802.11a/b/g/n/ac WLAN adapter to your computer to
  connect to the network.
- With its dual band technology, your wireless router supports 2.4GHz and 5GHz wireless signals simultaneously. This allows you to do Internet-related activities such as Internet surfing or reading/writing e-mail messages using the 2.4GHz band while simultaneously streaming high-definition audio/video files such as movies or music using the 5GHz band.
- 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.

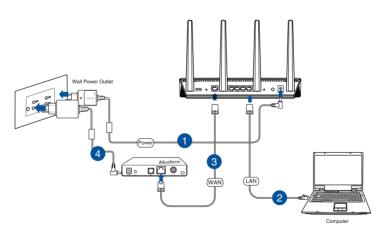
# 1.6 Router Setup

### **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 following:
  - If you are replacing an existing router, disconnect it from your network.
  - Disconnect the cables/wires from your existing modem setup. If your modem has a backup battery, remove it as well.
  - Reboot your cable modem and computer (recommended).

### **1.6.1 Wired connection**

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



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

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

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

**IMPORTANT!** Ensure that the LAN LED is blinking.

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



### **1.6.2 Wireless connection**

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

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

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

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

# 2 Getting started

# 2.1 Logging into the Web GUI

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

NOTE: The features may vary with different firmware versions.

### To log into the web GUI:

- 1. On your web browser, manually key in the wireless router's default IP address: **192.168.1.1** or enter <u>http://router.asus.com</u>.
- 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.



### Top command buttons

**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.

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

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

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

### for Automatic IP (DHCP)

ASUS Router					
Quick Internet Setup	Automatic IP connection setup				
(D) Check Connection	Host Name(optional): 3				
Internet Setup	MAC Address(optional) 👔 MAC Clone				
Router Setup	MAC (Media Access Control) address is a unique identifier that identifies your computer or device in the network. ISPs monitor the MAC addresses of devices that connect to their services, and would disallow Internet connection for new MAC addresses. To fix this issue, you can do either of the following:				
	<ul> <li>Contact your ISP and request to update the MAC address associated with your ISP subscription. Once this is done, you can on the router's setup wizard again.</li> <li>Cone or change the MAC address of the new device to match the MAC address of the original device. If you just replaced an old router, you will find the old router's MAC address from its label.</li> <li>If you previously connected your computer to the moder, you will mod the old router's MAC address or click "MAC Clone" to done your computer's MAC address.</li> </ul>				
	Previous Next				

### for PPPoE, PPTP, and L2TP

/ISUS Router	100	And the second se	
Quick Internet Setup	Account Setting		$\bigcirc$
Check Connection     Internet Setup	Please enter the required		
Router Setup	User Name Password		
Winer Strup		Show password	
	Obtain the account name a	nd password from your ISP.	
		Previous Next	

### for Static IP

Router			
Please refer to your ISP setting ernet Setup	, an	l input the related information.	٢
Use the following IP address			
IP Address			
Subnet Mask			
Default Gateway			
DNS Servers DNS Server1 DNS Server2	2		
MAC Address(optional)		MAC Clone	
		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 5 GHz wireless connection. Click **Apply** when done.

/SUS		
W Quick Intetnet Setup	reless Setting	٢
() Check Connection	Assign a unique name or SSID (Service Set Identifier) to help	identify your wireless network.
Internet Setup	2.4GHz - Security Network Name(SSID) ① ASUS	
Router Setup	Security Key 2	
	SGHz - Security Copy 2.4GHz to 5GHz settings Network Name(SSID)	
_	Security Key 👔	
	Apply	

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

	Completed Network Configuration Sur	nmary
Quick Internet Setup	System Time: Sat, Jan 01 (	00:02:51 2011 Change the time zone
Check Connection		
	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
_		MEXT

## 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, manage your network clients, and monitor your USB device.



### 3.1.1 Setting up the wireless security settings

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

### To set up the wireless security settings:

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

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

### 2.4GHz security settings



### **5GHz security settings**



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

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

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

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

### 3.1.2 Managing your network clients



### To manage your network clients:

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

### 3.1.3 Monitoring your USB device

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



- To use this feature, you need to plug a USB storage device, such as a USB hard disk or USB flash drive, to the USB 3.0/2.0 ports on the rear panel of your wireless router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the Plug-n-Share Disk Support List at <u>http://event.asus.com/networks/disksupport</u>
- The USB ports support two USB drives or one printer and one USB drive at the same time.

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

### To monitor your USB device:

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

- For more details, refer to the section **3.5.2 Using Servers Center** in this user manual.
- The wireless router works with most USB HDDs/Flash disks (up to 4TB size) and supports read-write access for FAT16, FAT32, NTFS, and HFS+.

### Safely removing the USB disk

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

### To safely remove the USB disk:

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



# 3.2 Creating a Guest Network

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

**NOTE:** RT-AC87U 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.

The Guest Network provides Internet co your Intranet	onnection for guests but	restricts access to
Enable	Enable	Enable
Enable	Enable	Enable
Enable	Enable	Enable
Chable		

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

Guess Network			
The gue:			hout accessing your
Network name:	ASUS_Guest1		
Wireless Security:			
Security key:		Create	Create
Access Time:	Limitless		
Access Intranet:			
	Modify		
Network name:	ASUS_5G_Guest1		
Wireless Security:			
Security key:		Create	Create
Access Time:	Limitless		
Access Intranet:			
	Modify		

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

# 3.3 Using the Traffic Manager

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

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

	Setup	QoS	Traffic Monitor						
	General	Tra	affic Manager - (	QoS				Automatic mo	de 🚽
品	Network Map			The	Quality of Service (QoS)	ensures the network's	speed performance	e. The default rule	
*	Guest Network			sets P2P	online gaming and web s applications (peer to pee	surfing as the highest ar applications such as	priority and are no BitTorrent). To e	of influenced by nable QoS	
M	Traffic Manager			function, Click the QoS alide awitch, and fill in the upload and download bandwidth fields. Get the bandwith information from your ISP. If you want to prioritize specific network applications and network devices, select your					
•	Parental control	1		preferred priority from the User defined QoS rules.					
k	USB application		008	_		OFF			
2	A iCloud					Save	1		
A	dvanced Settings					Save			
() ()	Wireless		User Specify Rule I	List					
			Service Name		Source IP or MAC	Destination Port	Protocol	Transferred	Priority
ካ	LAN		Web Surf			80	tcp	0~512	Highest
₽	WAN		HTTP S			443	tcp	0~512	Highest
•	IPv6		File Transfer						Low
~	VPN Server					443	tcp	512~	Low
\$									

### 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.

### 3.3.2 Monitoring Traffic

The traffic monitor function allows you to access the bandwidth usage and speed of your Internet, wired, and wireless networks. It allows you to monitor network traffic even on a daily basis.

accup	QoS Traffic Monitor						
General	Traffic Manager - Traffic Monitor						
Network Map	Traffic Monitor allows vo	Traffe Monitor allows you to monitor the incoming or outgoing packets of the following:					
😹 Guest Network		Internet	Wired	Wireless	Wireless		
🚧 Traffic Manager	Reception				s from wireless		
Parental control	Transmission			network Outgoing packet	ts from wireless		
USB application		e internet are evenly transmitted to the	wired and wireless devices.				
🚖 AiCloud	Traffic Monitor FAQ	d Wireless (2.4GHz) N	Wireless (SGHz)				
Advanced Settings	36.62 KB/s			Tue	04:52 am / 12.24 KB/s		
察 Wireless							
🟠 LAN	25.63 KB/s						
() wax	18.31 KB/s						
IPv6							
VPN Server	9.16 KB/s						
💟 Firew all							
Administration	Network	Current	Average	Maximum	Total		
System Log	Reception	Cullen	0.01 kan	0.90 kan	5976		
	Transmission	0.00 xanı	0.00 xanı	0.31 (02/1)	1920		
	Help & Support	<u>Manual   Utility</u>		FAQ	P		

**NOTE:** Packets from the Internet are evenly transmitted to the wired and wireless devices.

# 3.4 Setting up Parental Control

Parental Control allows you to control the Internet access time. Users can set the time limit for a client's network usage.

Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.260</u> SSID: <u>ASUS ASUS SS</u>	8	ũ 🔶 🗑
General	Parental control		
Hetwork Map	Parental control allows you to set the time limit for a client's parental control:	network usage.	To use
🚨 Guest Network	1. In the [Clients Name] column, select the client whose to control. You may also key in the clients MAC addin		
🚧 Traffic Manager	Address] column. 2. In the [Add / Delete] column, click the Edit icon.		4-
Parental control	3. Set up allowed time limits in the [Time Management] m     desired day/time.     4. Click (IOK) to save the settings made.	ap. Lirag and dro	op to
USB application	5. <u>Click to open sutorial video.</u>		
AiCloud	Clients Name Clients MAC Address	Time Management	Add / Delete
Advanced Settings			Ð
🛜 Wireless	No data in table.		
	Αρμ		

### To use the parental control function:

- 1. From the navigation panel, go to **General** > **Parental control**.
- 2. Click **ON** to enable Parental Control.
- 3. Select the client whose network usage you want to control. You may also key in the client's MAC address in the **Client MAC Address** column.

**NOTE:** Ensure that the client name does not contain special characters or spaces as this may cause the router to function abnormally.

- 4. Click 💿 or 🖸 to add or delete the client's profile.
- 5. Set up the allowed time limit in **Time Management** map. Drag and drop a desired time zone to allow client's network usage.
- 6. Click **OK**.
- 7. Click **Apply** to save the settings.

# 3.5 Using the USB Application

The USB Applications function provides AiDisk, Servers Center, Network Printer Server and Download Master submenus.

**IMPORTANT!** To use the server functions, you need to insert a USB storage device, such as a USB hard disk or USB flash drive, in the USB 2.0 port on the rear panel of your wireless router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the ASUS website at <u>http://event.asus.com/2009/networks/disksupport/</u> for the file system support table.

### 3.5.1 Using AiDisk

AiDisk allows you to share files stored on a connected USB device through the Internet. AiDisk also assists you with setting up ASUS DDNS and an FTP server.

### To use AiDisk:

- 1. From the navigation panel, go to **General** > **USB application**, then click the **AiDisk** icon.
- 2. From the Welcome to AiDisk wizard screen, click Go.



3. Select the access rights that you want to assign to the clients accessing your shared data.

Setup	_				
General	1	(2) $(3)$	١		
品 Network Map	<b>_</b>		)		
🞊 Guest Network 🛛 🕅	y FTP server is sha	red.: Decide how to share your folders.			
Manager Traffic Manager					
Parental control	Imitless access rights     Imitled access rights				
<b>•</b>	admin rights				
AiCloud	Account	Password	Read	Write	
Advanced Settings	admin				
察 Wireless	Family	Family			
					_
💮 WAN		Previous Next			
A					

 Create your domain name via the ASUS DDNS services, read the Terms of Service and then select I will use the service and accept the Terms of service and key in your domain name. When done, click Next.

Setup	
General	$\bigcirc \bigcirc $
Retwork Map	
🞎 Guest Network	Create your domain name via the ASUS DDNS services.
Manager	O I will use the service and accept Terms of service
Parental control	test ssuscomm.com
K USB application	Disable DDNS.
A iCloud	
Advanced Settings	Previous Next
🗇 Wineless	

You can also select **Skip ASUS DDNS settings** then click **Next** to skip the DDNS setting.

- 5. Click **Finish** to complete the setting.
- To access the FTP site that you created, launch a web browser or a third-party FTP client utility and key in the ftp link (ftp://<domain name>.asuscomm.com) you have previously created.

### 3.5.2 Using Servers Center

Servers Center allows you to share the media files from the USB disk via a Media Server directory, Samba share service, or FTP share service. You can also configure other settings for the USB disk in the Servers Center.

### **Using Media Server**

Your wireless router allows DLNA-supported devices to access multimedia files from the USB disk connected to your wireless router.

**NOTE**: Before using the DLNA Media Server function, connect your device to the RT-AC87U's network.

semp	Media Server Network Place(Samba) Share /	Cloud Disk FTP Share Miscellaneous setting
General	Media Server	
Hetwork Map	Set up the DLNA, iTunes, FTP and Network Place (	(Samba) server.
Ruest Network		
Manager	Enable DLNA Media Server	
Parental control	Enable iTunes Server?	OFF
-	Media server directory	/tmp/nnt Apply
USB application	Media Server Status	Idle
AiCloud	1 1000	
Advanced Settings	1	
🛜 Wireless	1/200	TV .
🟠 LAN		
🜐 wan	Ψ	
🛞 IРv6		Digital Media Player
VPN Server		
Firewall	Digital Media Server	
Administration		
System Log		Digital Media Player

To launch the Media Server setting page, go to **General** > **USB application** > **Servers Center** > **Media Servers** tab. Refer to the following for the descriptions of the fields:

• Enable DLNA Media Server: Select ON/OFF to enable/ disable the DLNA Media Server.

**Enable iTunes Server?**: Select ON/OFF to enable/disable the iTunes Server.

- **Media server directory**: Select your media server directory and click **Apply** to share files from the USB disk to media devices in the network.
- Media Server Status: Displays the status of the media server.

### Using Network Place (Samba) Share service

Network Place (Samba) Share allows you to set up the accounts and permissions for the Samba service.

	Logout Reboot English V
**** Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS ASUS SG</u> <u>&amp;</u> $\leftarrow$ <u>B</u>
🦉 Setup	Media Server Network Place(Samba) Share / Cloud Disk FTP Share Miscellaneous setting
General	
品 Network Map	USB Application - Network Place(Samba) Share / Cloud Disk
	Set the account and permission of network place(samba) service.
Guest Network	Disable Share Share with account Refresh page
🚧 Traffic Manage	
Parental control	l Router R/W R No
usb application	Kingston DT 101 G2
AiCloud	Apply

### To use Samba share:

1. From the navigation panel, go to **General** > **USB application** > **Servers Center**.

NOTE: Network Place (Samba) Share is enabled by default.

2. Follow the steps below to add, delete, or modify an account.

#### To create a new account:

- a) Click 🕑 to add new account.
- b) In the **Account** and **Password** fields, key in the name and password of your network client. Retype the password to confirm. Click **Add** to add the account to the list.

a	Add new account lace(Samba) Share / Clour,*)
L	New account has no read/write access rights.
L	Account:
L	Password:
Į.	Retype password:
ł	Add
l,	RT-AC66U

#### To delete an existing account:

- a) Select the account that you want to delete.
- b) Click \varTheta.
- c) When prompted, click **Delete** to confirm the account deletion.

#### To add a folder:

- a) Click 🖳
- b) Enter the folder name, and click **Add**. The folder that you created will be added to the folder list.

Add new folder in: sda <sub>e of</sub> Samba) Share / Cloud D <mark>X</mark> I
The default access rights for a new folder is read/write.
Folder Name:
Add

- 3. From the list of folders, select the type of access permission that you want to assign for specific folders:
  - R/W: Select this option to assign read/write access.
  - R: Select this option to assign read-only access.
  - No: Select this option if you do not want to share a specific file folder.
- 4. Click **Apply** to apply the changes.

## **Using the FTP Share service**

FTP share enables an FTP server to share files from USB disk to other devices via your local area network or via the Internet.

#### **IMPORTANT**:

- Ensure that you safely remove the USB disk. Incorrect removal of the USB disk may cause data corruption.
- To safely remove the USB disk, refer to the section **Safely removing** the USB disk under 3.1.3 Monitoring your USB device.

/6	545	Logout	Reboot		English 🔻
++++	Quick Internet	Operation Mode: Wirele	ss router Firmware Version:	SSID: ASUS ASUS_SG	8 🕫 < 🛛
<u> </u>	Setup	Media Server Network	Place(Samba) Share / Cloud Disk	FTP Share Miscellaneous setting	
	General				
品	Network Map	USB Application - F1 Set the account and permis			<u> </u>
×	Guest Network	Enable FTP		sh page	
<u> </u>	Traffic Manager	⊕ ⊖ (	0		4 E 🕅
	Parental control	admin	Router	R/W W R	No
٠	USB application	·	Kingston DT 101 G2		
<b>~</b>	AiCloud			Apply	
٨	dvanced Settings				

#### To use FTP Share service:

**NOTE:** Ensure that you have set up your FTP server through AiDisk. For more details, refer to the section **3.5.1 Using AiDisk**.

- 1. From the navigation panel, click **General** > **USB application** > **Servers Center** > **FTP Share** tab.
- 2. From the list of folders, select the type of access rights that you want to assign for specific folders:
  - **R/W**: Select to assign read/write access for a specific folder.
  - W: Select to assign write only access for a specific folder.
  - **R**: Select to assign read only access for a specific folder.
  - No: Select this option if you do not want to share a specific folder.
- 3. Click **Apply** to confirm the changes.
- 4. To access the FTP server, key in the ftp link **ftp://<hostname>.asuscomm.com** and your user name and password on a web browser or a third-party FTP utility.

## **Miscellaneous setting**

Miscellaneous setting allows you to configure other settings for the USB disk, including the maximum number of user logins, the device name, work group, and character set used on the FTP server.

## To configure Miscellaneous settings:

1. From the navigation panel, click **General** > **USB application** > **Servers Center** > **Miscellaneous setting** tab.

++++ Quick Internet	Operation Mode: <u>Wireless router</u> Firm	nware Version: SSID: ASUS	ASUS_SG &	ē 💠 🗉		
Setup	Media Server Network Place(Samba) Sha	are / Cloud Disk FTP Share	Miscellaneous setting			
General						
Retwork Map	USB Application - Miscellaneous se	tting				
	More detailed settings for the USB Disk.	More detailed settings for the USB Disk.				
Guest Network	Maximum Login User					
Manager	Device Name					
Parental control	Work Group	WORKGROUP				
-	Character set on FTP Server	UTF-8				
USB application						
AiCloud	Aicloud					

2. Configure the following settings:

## Maximum Login User

Set the maximum number of concurrent connections of the Network Neighborhood or FTP Server.

**NOTE:** Some FTP clients may establish more than one connection. Setting this number too low will lead to login failures.

## Device Name

Assigns the name of the device as shown on the network. For example, for a device with the name ABC, enter //ABC on the Internet Explorer address bar to access the Network Place service.

#### Work Group

Assigns the name of the local RT-AC87U network as seen in Network Neighborhood.

**NOTE:** For **Device Name** and **Work Group**, the standard input characters include letters (a-z, A-Z), digits (0-9), space, underscores(\_), and hyphens(-). The first and last character should not contain any spaces. An invalid workgroup name makes it harder for other devices to find your device in the network.

#### Character set on FTP Server

Select the appropriate encoding used during data exchange on the FTP server.

## 3.5.3 3G/4G

3G/4G USB modems can be connected to RT-AC87U to allow Internet access.

NOTE: For a list of verified USB modems, please visit: http://event.asus.com/2009/networks/3gsupport/

Quick Int		Operation Mode: <u>Wireless router</u> Fi SSID: <u>ASUS ASUS_SG</u>	mware Version: <u>3.0.0.4.260</u> 용 두 요	
Gener	ral	USB Modem	$\overline{\mathbf{O}}$	
船 Network		The current 3G/4G setting is set to 3G/4G Backup mode. If WAN port was disconnected, the network mode will automatically turn to 3G/4G mode.		
😹 Guest Ne	twork	Basic Config		
Martine M	anager	Enable USB Modem	© Yes ● No	
			Manual 🗸	
Parental	control	USB Modern	WCDMA (UMTS)	
uSB appl	lication	APN service(optional)	internet	
🚖 AiCloud			*99#	
Advanced S	_			
察 Wireless				
🔂 LAN		USB Adapter	auto	
💮 WAN			Apply	
•				

#### To set up 3G/4G internet access:

- 1. From the navigation panel, click **General** > **USB application** > **3G/4G**.
- 2. In the Enable USB Modem field, select Yes.
- 3. Set up the following:
  - Location: Select your 3G/4G service provider's location from the dropdown list.
  - **ISP**: Select your Internet Service Provider (ISP) from the dropdown list.
  - **APN (Access Point Name) service (optional)**: Contact your 3G/4G service provider for detailed information.
  - **Dial Number and PIN code**: The 3G/4G provider's access number and PIN code for connection.

**NOTE:** PIN code may vary from different providers.

- Username / Password: The username and password will be provided by the 3G/4G network carrier.
- **USB Adapter**: Choose your USB 3G / 4G adapter from the dropdown list. If you are not sure of your USB adapter's model or the model is not listed in the options, select **Auto**.
- 4. Click Apply.

NOTE: The router will reboot for the settings to take effect.

# 3.6 Using AiCloud

AiCloud is a cloud service application that allows you to save, sync, share, and access your files.



#### To use AiCloud:

- 1. From Google Play Store or Apple Store, download and install the ASUS AiCloud app to your smart device.
- 2. Connect your smart device to your network. Follow the instructions to complete the AiCloud setup process.

## 3.6.1 Cloud Disk

#### To create a cloud disk:

- 1. Insert a USB storage device into the wireless router.
- 2. Turn on Cloud Disk.



3. Go to <u>https://router.asus.com</u> and enter the router login account and password. For better user experience, we recommend that you use **Google Chrome** or **Firefox**.

Se ASUS Wireless Router Reu × ← → C Support/www.asusnetwork.net	
	AiCloud
	Welcome. Who's coming home?
	Your Name.

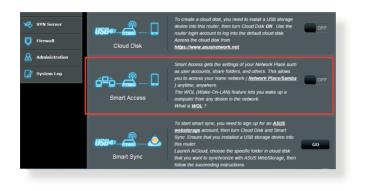
4. You can now start accessing Cloud Disk files on devices connected to the network.

**NOTE:** When accessing the devices that are connected to the network, you need to enter the device's user name and password manually, which will not be saved by AiCloud for security reason.

ASUS Wireless Router Rou × ▲ AiCloud     AiCloud     AiCloud     AiCloud	× 💌
AiCloudھ	Welcome home, admin
	/ RT-AC66U
•द• RT-AC66U	KINSTON

## 3.6.2 Smart Access

The Smart Access function allows you to easily access your home network via your router's domain name.



#### NOTES:

- You can create a domain name for your router with ASUS DDNS. For more details, refer to section **4.3.5 DDNS**.
- By default, AiCloud provides a secure HTTPS connection. Key in <u>https://[yourASUSDDNSname].asuscomm.com</u> for a very secure Cloud Disk and Smart Access usage.

## 3.6.3 Smart Sync

/iSUS	Logo	ıt Rei	boot		English 🔻
Quick Internet	Operation Mode	: <u>Wireless router</u>	Firmware Versi	on: SSID: <u>ASUS</u> <u>ASUS_5G</u>	8 @ <del>4</del> 8
setup	AiCloud Smart	Sync Settings Log			
General					
Retwork Map	AiCloud - Sm	art Sync			
Guest Network	Cuest Network		To start smart sync, you need to sign up for an <u>ASUS webstorage</u> account, then turn Cloud Dak and Smart Sync. Ensure that you installed a US B storage device into this router. Launch Alcolaud, choose the specific folder in cloud disk that you want to		
Manager Traffic Manager					
Parental control	0		synchronize with ASUS WebStorage, then follow the succeeding instructi ons.		
usb application					
AiCloud	Cloud List		_		
AICIOUU	Provider	User Name	Rule	Folder	Status Delete
Advanced Settings					
🛜 Wireless					
🔂 LAN			Add	iew account	

#### To use Smart Sync:

- 1. Launch AiCloud, click **Smart Sync** > **Go**.
- 2. Select **ON** to enable Smart Sync.
- 3. Click Add new account.
- 4. Enter your ASUS WebStorage account password and select the directory that you want to sync with WebStorage.
- 5. Click Apply.

# 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	Operation Mode: Wireless router Fi	irmware Version: SSID: ASUS_SG & B 🔂 🔶 8
semp	General WPS Bridge Wireless MA	C Filter RADIUS Setting Professional
General	Wireless - General	
Retwork Map	Set up the wireless related information below	
🞊 Guest Network	Frequency	2.4GHz 🗸
Manager Traffic Manager	SSID	
Parental control	Hide SSID	● Yes O No
USB application	Wireless Mode	Auto 🔽 🖬 b/g Protection
•	Channel bandwidth	20/40 MHZ 🔽
AiCloud	Control Channel	Auto 🗸
Advanced Settings	Authentication Method	Open System
察 Wireless	WEP Encryption	None
🖓 LAN		Apply

## To configure the basic wireless settings:

- 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 2.4 GHz 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 802.11AC, 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 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.
- 7. 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.

- 8. Select any of these authentication methods:
  - Open System: This option provides no security.
  - **Shared Key**: You must use WEP encryption and enter at least one shared key.

- WPA/WPA2 Personal/WPA Auto-Personal: This option provides strong security. You can use either WPA (with TKIP) or WPA2 (with AES). If you select this option, you must use TKIP + AES encryption and enter the WPA passphrase (network key).
- WPA/WPA2 Enterprise/WPA Auto-Enterprise: This option provides very strong security. It is with integrated EAP server or an external RADIUS back-end authentication server.
- Radius with 802.1x

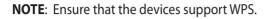
**NOTE:** Your wireless router supports the maximum transmission rate of 54Mbps when the **Wireless Mode** is set to **Auto** and **encryption method** is **WEP** or **TKIP**.

- 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: <u>Wireless router</u> F General WPS Bridge Wireless M			
General	Wireless - WPS	and secure establishment of a wireless network. You can configure WPS here via		
🔉 Guest Network	the PIN code or the WPS buttton.	-		
Traffic Manager	Enable WPS Current Frequency	ON 2.4GHz		
Parental control	Connection Status			
USB application	Configured AP PIN Code	Yes Reset 72013502		
Advanced Settings     Wireless     Wireless     Advanced Settings     Advanced Settings     Wireless     Advanced Settings     Advanced Seting advanced Setti				
WAN	same network name(SSID), and secu	● Push Button O Client PIN Code		
VPN Server	WP'S Method	Slart		

#### 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, and WPA2-Personal. WPS does not support a wireless network that uses a Shared Key, WPA-Enterprise, WPA2-Enterprise, and RADIUS encryption method.

- 3. In the WPS Method field, select **Push Button** or **Client PIN** code. If you select **Push Button**, go to step 4. If you select **Client PIN** code, go to step 5.
- 4. 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.
- 5. 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 Bridge

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.

Quick Internet	Operation Mode: <u>Wireless router</u> Fi	rmware Version: SSID: <u>ASUS</u> <u>ASUS_5G</u>	<u>8</u> 🕂 🖓					
	General WPS Bridge Wireless MA	C Filter RADIUS Setting Professional						
General								
Retwork Map	Wireless - Bridge Bridge (or named WDS - Wreless Distribution System) function allows your Router to connect to an access point wirelessly. WDS may also be considered a repeater mode. But with this method, the devices connected to the access point will only be							
Guest Network								
Manager	To enable WDS to extend the wireless signal	able to use half of the access point's original wireless speed. To enable WDS to extend the wireless signal, please follow these steps:						
Parental control	2. Select [WDS Only] or [Hybrid] mode a	m/NONE, Open System/WEP] security authentication m ind add MAC address of APs in Remote AP List. e AP you want to connect to use the same channel.	ethod.					
dist use application		4. Key in the remote AP mac in the remote AP list and open the remote AP's WDS management interface, key in the this						
AiCloud	(2.4GHz MAC) 10.8F:48:D8:49:78 (5GHz MAC) 10:8F:48:D8:49:7C 5. You are currently using the Auto cham	nel Click Here to motify						
Advanced Settings	Basic Config							
🛜 Wireless	Frequency	2.4GHZ 💌						
	AP Mode	AP only 💌						
	Connect to APs in list	• Yes • No						
💮 wan	Remote AP List							
IPv6	Remote AP List Add / Delete							
VPN Server								
	No data in table.							
Firewall	Apply							
Administration								

To set up the wireless bridge:

- From the navigation panel, go to Advanced Settings > Wireless > Bridge 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.

 On the Remote AP List, key in a MAC address and click the Add button (()) 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.

Quick Internet	Operation Mode: <u>Wireless router</u> I	Firmware Version: SSID: ASUS ASUS_5G	8 🕁 🔶 🖪	
Setup	General WPS Bridge Wireless M	AC Filter RADIUS Setting Professional		
General	Wireless - Wireless MAC Filter			
Retwork Map				
Guest Network	Wireless MAC filter allows you to control packets from devices with specified MAC address in your Wireless LAN.			
	Basic Config			
Traffic Manager	Frequency	2.4GHz 💌		
Parental control	MAC Filter Mode	Disabled 🗸		
-	MAC filter list			
USB application		MAC filter list	Add / Delete	
AiCloud		·	Ð	
	No data in table.			
Advanced Settings		Αρρίγ		

#### To set up the Wireless MAC filter:

- From the navigation panel, go to Advanced Settings > Wireless > Wireless MAC Filter tab.
- 2. In the **Frequency** field, select the frequency band that you want to use for the Wireless MAC filter.
- 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, or Radius with 802.1x as your Authentication Mode.

Quick Internet	Operation Mode: <u>Wireless router</u> Firm	nware Version: SSID: ASUS ASUS SG 🔠 🐣 🖻 🔶 😫								
	General WPS Bridge Wireless MAC	Filter RADIUS Setting Professional								
General	Wireless - RADIUS Setting									
Hetwork Map										
Guest Network		This section allows you to set up additional parameters for authorizing wireless clients through RADIUS server. It is required while you select "Authentication Method" in "Wireless - General" as "WPA-Enterprise/ WPA2-Enterprise/ Radius with 802.1x".								
Manager	Frequency	2.4GHz 💌								
0	Server IP Address									
Parental control	Server Port	1812								
USB application	Connection Secret									
AiCloud		Apply								
Advanced Settings	•									

#### To set up wireless RADIUS settings:

1. Ensure that the wireless router's authentication mode is set to WPA-Enterprise, WPA2-Enterprise, or Radius with 802.1x.

**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.

Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS ASUS 56</u> 🔏 🔁 🔶 🛛							
<ul> <li>Setup</li> </ul>	General WPS Bridge Wireless MA	C Filter RADIUS Setting Professional						
General								
Han Network Map	Wireless - Professional	Nireless - Professional						
👫 Guest Network	Wireless Professional Setting allows you to s	et up additional parameters for wireless. But default values are recommended.						
V Traffic Manager	Enable Radio	© Yes ● No						
Parental control	Date to Enable Radio (week days)	전 Mon 전 Tue 전 Wed 전 Thu 전 Fri						
disb application	Time of Day to Enable Radio Date to Enable Radio (weekend)	00 : 00 - 23 : 59						
AiCloud	Time of Day to Enable Radio	₩ Sat ₩ Sun						
Advanced Settings	Set AP Isolated	● Yes O No						
察 Wireless	Multicast Rate(Mbps)	Disable -						
🗘 LAN	Preamble Type	Long 🔽						
w	RTS Threshold							
💮 wan	DTIM Interval							
IPv6	Beacon Interval							
🔇 VPN Server	Enable TX Bursting	Enable 💌						
	Wireless Multicast Forwarding	Disable 🗧						
Firewall	Enable WMM APSD	Enable 🔽						
Administration	Tx power adjustment	80 mW Set the capability for transmission power. The maximum value is 200mW and the real						
System Log								
		Apply						

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

- **Frequency**: 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.
- Date to Enable Radio (weekdays): You can specify which days of the week wireless networking is enabled.
- **Time of Day to Enable Radio**: You can specify a time range when wireless networking is enabled during the week.

- Date to Enable Radio (weekend): You can specify which days of the weekend wireless networking is enabled.
- **Time of Day to Enable Radio**: You can specify a time range when wireless networking is enabled during the weekend.
- 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.

- Wireless multicast forwarding: Select Enable to allow the wireless router to forward multicast traffic to other wireless devices that support multicast. Select **Disable** to prevent the router from forwarding multicast transmissions.
- **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.
- **TX Power adjustment**: TX Power adjustment refers to the milliWatts (mW) needed to power the radio signal output of the wireless router. Enter a value between 0 to 100.

**NOTE**: Increasing the TX Power adjustment values may affect the stability of the wireless network.

## 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.

/545	Logout	Reboot	English 🔻		
Quick Internet	Operation Mode: Wireless	router Firmware Version: SSID: ASUS ASUS_5G	8 G 🔶 🛛		
- Samb	LAN IP DHCP Server Ro	oute IPTV Switch Control			
General					
品 Network Map	LAN - LAN IP				
-	Configure the LAN setting of Re	puter.			
Guest Network	IP Address	192.168.1.1			
Manager	Subnet Mask	255.255.255.0			
•					
Parental control		Apply			

### 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 Setup	Operation Mode: Wireless router F	irmware Version:	SSID: ASUS ASUS_SG	<u>a</u> 🔶 🗇 🔏				
		LAN IP DHCP Server Route IPTV	Switch Control						
	General	LAN - DHCP Server							
品	Network Map								
*	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. Manuall Jy. Assigned TP around the DHCP list(Jist_Taini:32) FAQ							
₩2	Traffic Manager	Basic Config	_						
A	Parental control	Enable the DHCP Server	🛛 Yes 🄍 No						
-		Router's Domain Name							
•	USB application	IP Pool Starting Address							
<u>a</u>	AiCloud	IP Pool Ending Address							
Ad	wanced Settings	Lease Time							
()o	Wireless	Default Gateway							
	LAN	DNS and WINS Server Setting	_						
សៅ	Din	DNS Server							
۲	WAN	WINS Server							
4	IPv6	Enable Manual Assignment							
YES.	VPN Server	Enable Manual Assignment	● Yes ● No						
10	VPN Server	Manually Assigned IP around the DHCP list(lis	st limit:32)						
Q	Firewall	MAC address		IP Address	Add / Delete				
8	Administration				Ð				
	Curture Lan								
œ	System Log		Арр	ly					

## 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 192.168.1.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.

Quick Internet Setup		irmware Version: SSID: ASUS	<u>NSUS_SG</u> 🛛 🖧 🖻 < 🖻					
General	LAN IP DHCP Server Route IPTV	Switch Control						
Hetwork Map	LAN - Route This function allows you to add routing rules i	nto Router. It is useful if you connect	several routers behind Router to share the					
Guest Network	same connection to the Internet.							
Manager	Enable static routes	● Yes O No						
Parental control	Static Route List							
usb application	Network/Host IP	Netmask Gatewa						
AiCloud	Ko data in table.							
Advanced Settings	dvanced Settings Apply							
🛜 Wireless								

## 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	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS ASUS SG</u>	€ ≞							
Betup	LAN IP DHCP Server Route IPTV Switch Control								
General	LAN - IPTV								
品 Network Map	Retwork Map								
🖧 Guest Network	Configure the IPTV setting of Router. Guest Network Port Port								
Manager	Select ISP Profile								
Parental control	Revental control								
📥	Special Applications								
USB application	Use DHCP routes Microsoft								
aiCloud	Enable multicast routing Disable 💌								
Advanced Settings	Enable efficient multicast forwarding								
察 Wireless	UDP Proxy(Udpxy)								
G LAN	Apply								

# 4.3 WAN

## **4.3.1 Internet Connection**

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

Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS ASUS SG</u>							
	Internet Connection Port Trigger Virtual Server / Port Forwarding DMZ DDNS NAT Passthrough							
General	WAN - Internet Connection							
Guest Network	Router 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.							
Manager	Basic Config							
	WAN Connection Type Automatic IP 🗸							
Parental control	Enable WAN O Yes O No							
uSB application	Enable NAT O Yes O No							
AiCloud	Enable UPnP UPnP FAQ O Yes No							
_	WAN DNS Setting							
Advanced Setting	Connect to DNS Server automatically O Yes  No							
察 Wireless	Account Setting							
	Authentication None 💌							
💮 WAN	Password							
	Special Requirement from ISP							
iPv6	Host Name							
VPN Server	MAC Address MAC Clone							
💭 Firewall	Αρρίγ							

## 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	less router	Firmware V	ersion: SSI	D: ASUS ASUS	<u>56</u>		8 @ <del>4</del> 8		
-	setup	Internet Connection	Port Trigger	Virtual Serve	r / Port Forwa	rding DMZ	DDNS	NAT Pass	hrough		
	General										
品	Network Map	WAN - Port Trigger									
*	Guest Network	Port Trigger allows you to temporarily open data ports when LAV devices require unrestricted access to the Internet. There are two methods for opening incoming data ports: port forwarding and port trigger. Port forwarding opens the specified data ports all the time and devices must use static iP addresses. Port trigger only points the incoming port when a LAV device requests									
<u> </u>	Traffic Manager access to the trigger port. Unlike port forwarding, port trigger does not require static IP addresses for LAN devices. Port forwarding allows multiple devices to share a single open port and port trigger only allows one client at a time to access the open										
ß	Parental control	port. Port Trigger FAQ									
	USB application	Basic Config									
		Enable Port Trigger		• Yes (							
â	AiCloud	Well-Known Applications				•					
٨	lvanced Settings	Trigger Port List									
6	Wireless	Description	Trigg	er Port	Protocol	Incoming Po	rt	Protocol	Add / Delete		
•					тср 👻			тср 👻	Ð		
AN No data in table.											
٢	WAN	Αρμίν									
	IPv6										

## 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.

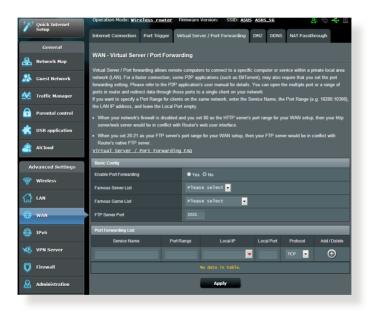
#### NOTES:

- 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.



#### 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.

78	545	Logout Reboot English V
+**	Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS ASUS SG</u>
_	Setup	Internet Connection Port Trigger Virtual Server / Port Forwarding DMZ DDNS NAT Passthrough
	General	W/W 2010
品	Network Map	WAN - DDNS
*	Guest Network	DONS (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.
₩	Traffic Manager	The wireless router currently uses a private WAN IP address (192.168.x.x, 10,x,x,x, or 172.16.x.x). This router may be in the multiple-NAT environment and DDNS service cannot work in this environment.
ß	Parental control	Enable the DONS Client    Yes   No
Ċ	USB application	Αρρίγ
<u></u>	AiCloud	

### 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.

#### NOTES:

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**.

<sup>+</sup> Quick Internet	Operation Mode: Wireless router	Firmware Version: SSID: ASUS ASUS 5G	8 🖻 🔶 🛙
Setup	Internet Connection Port Trigger	Virtual Server / Port Forwarding DMZ DDNS NAT	Passthrough
General			
Network Map	WAN - NAT Passthrough		
	Enable NAT Passthrough to allow a Virtu	al Private Network (VPN) connection to pass through the route	r to the network clients.
Guest Network	PPTP Passthrough	Enable 💌	
Traffic Manager	L2TP Passthrough	Enable 🔹	
Parental control	IPSec Passthrough	Enable 💌	
USB application	RTSP Passthrough	Enable -	
USB application	Enable PPPoE Relay	Disable 💌	
AiCloud		Apply	
Advanced Settings			

# 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.

/ISUS	Logout Reboo		English 🔻
+**+ Quick Internet	Operation Mode: <u>Wireless router</u> Fi	rmware Version: SSID: ASUS ASUS_SG	8 6 🔶 8
Śetup	IPv6		
General			
品 Network Map	IPv6		
🖧 Guest Network	Configure the IPv6 Internet setting of Router. <u>IPv6_FAQ</u>		
W Traffic Manager	Basic Config		
Trainc Manager	Connection type	Disable 🗾	
Parental control	Auto Configuration Setting		
discrete USB application	Enable Router Advertisement	Enable 👻	
AiCloud		Αρρίγ	

### 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 VPN Server

VPN (Virtual Private Network) provides a secure communication to a remote computer or remote network using a public network such as the Internet.

**NOTE**: Before setting up a VPN connection, you would need the IP address or domain name of the VPN server you are trying to access.

7	545	Logout Reboo	t	English 🔻	
****	Quick Internet Setup	Operation Mode: <u>Wireless router</u> Fi VPN Server VPN Details	rmware Version: SSID: <u>ASUS ASUS SG</u>	8648	
	General				
品	Network Map	VPN Server - Basic Config The VPN server allows you to access your home network anytime, anywhere. To use the VPN server. Please follow these steps.			
*	Guest Network				
₩.	Traffic Manager	(1) Enable the PPTP VPN server (2) Set the IP pool for client IP. (Maximum 10 (3) Set up the username and password for VF			
ß	Parental control	(4) Open the VPN connection program on you (5) Add a new PPTP VPN connection and the	ur computer or smartphone. • VPN server address is 0.0.0.0		
٠	USB application	(6) If your WAN IP address is dynamic, p] (7) <u>VPN_Server_FAQ</u>	(6) If your WAN IP address is dynamic, <u>please click here to set the DDNS.</u> (7) <u>VPN server FAQ</u>		
	AiCloud	Basic Config			
_		Enable PPTP Server	● Yes O No		
A	dvanced Settings	Network Place (Samba) Support	• Yes O No		
00	Wireless	Username and Password			
	LAN	User Name	Password	Add / Delete	
				Ð	
	WAN		No data in table.		
8	IPv6	Αρρίγ			
ø	VPN Server				

### To set up access to a VPN server:

- 1. From the navigation panel, go to **Advanced Settings** > **VPN Server**.
- 2. On the Enable PPTP Server field, select Yes.
- 3. On the Network Place (Samba) Support field, select Yes.
- 4. Enter the user name and password for accessing the VPN server. Click the 💮 button.
- 5. Click Apply.

**NOTE**: For advanced VPN server settings, click the **VPN Server** tab to configure broadcast support, authentication, MPPE Encryption, and Client IP address range.

# 4.6 Firewall

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

NOTE: The Firewall feature is enabled by default.

## 4.6.1 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.

## 4.6.2 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:

- 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.

## 4.6.3 Keyword filter

Keyword filter blocks access to webpages containing specified keywords.

<b>/</b> E	کناد	Logout Reboot	English 🔻	
+	Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: SSID: <u>ASUS</u> <u>ASU</u>	aus_sc 🔉 🖓 🔁 🔶 🖻	
-	Setup	General URL Filter Keyword Filter Network Services Filter		
	General	Firewall - Keyword Filter Keyword Filter allows you to block the clients' access to webpages containing the specified keywords. Limitations of the keyword filtering function : 1. Compressed webpages that use HTTP compression technology cannot be filtered. <u>see here for more details</u> .		
品	Network Map			
*	Guest Network			
<u>*/</u>	Traffic Manager			
£	Parental control	Basic Config		
*	USB application	Enable Keyword Filter    Enabled   Disabled		
~		Keyword Filter List		
2	AiCloud	Keyword Filter List	Add / Delete	
A	dvanced Settings		Ð	
00	Wireless	No data in table.		
ជ	LAN	Арріу		

## 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.

### 4.6.4 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.

# 4.7 Administration

# 4.7.1 Operation Mode

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



### To set up the operating mode:

- 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.
  - **Media Bridge**: This setup requires two wireless routers. The second router serves as a media bridge where multiple devices such as Smart TVs and gaming consoles can be connected via ethernet.
  - Access Point mode: In this mode, the router creates a new wireless network on an exising network.
- 3. Click **Apply**.

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

# 4.7.2 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 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**.

# 4.7.3 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**.

## 4.7.4 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**.

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

# 4.8 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
  - DHCP Leases
  - Wireless Log
  - Port Forwarding
  - Routing Table

/ISUS	Logout	Reboot	English	
2 Quick Internet Setup	Operation Mode: <u>Wireless</u> route		8 🖻 🔶	
General		eless Log Port Forwarding Routing Table		
Network Map	System Log - General Log This page shows the detailed system's	System Log - General Log		
Guest Network	System Time	Sat, Jan 01 00:49:51 2011		
🛃 Traffic Manager	Uptime	0 days 0 hours 49 minutes 50 seconds		
Parental control	Jan 1 00:31:27 kernel: eth2: Bro Jan 1 00:31:27 kernel: device et			
USB application	Jan 1 00:31:27 kernel: wlc_phy_ Jan 1 00:31:27 kernel: br0: por	t 2(eth1) entering listening state cal_init_acphy: NOT Implemented t 2(eth1) entering learning state ology change detected, propagating		
AiCloud	Jan 1 00:31:27 kernel: br0: por Jan 1 00:31:27 kernel: device e Jan 1 00:31:27 kernel: br0: por	t 2(eth1) entering forwarding state th2 entered promiscuous mode t 3(eth2) entering listening state		
Advanced Settings	Jan 1 00:31:27 kernel: device w Jan 1 00:31:27 kernel: br0: por Jan 1 00:31:27 kernel: br0: top	t 4(w10.1) entering listening state ology change detected, propagating		
Wireless	Jan 1 00:31:27 kernel: br0: por Jan 1 00:31:27 kernel: br0: top	t 3(eth2) entering forwarding state t 4(w10.1) entering learning state ology change detected, propagating t 4(w10.1) entering forwarding state		
값 LAN	Jan 1 00:31:39 dnsmasg-dhcp(510) Jan 1 00:31:39 dnsmasg-dhcp(510) Jan 1 00:32:12 dnsmasg-dhcp(510)	<pre>]: DHCPREQUEST(br0) 192.168.1.60 c4:6a:b7:89:8f:97 ]: DHCPACK(br0) 192.168.1.60 c4:6a:b7:89:8f:97 and ]: DHCPINFORM(br0) 192.168.1.197 10:bf:48:4c:b9:f0</pre>	roid-b9d80832df634239	
🧿 WAN	Jan 1 00:33:08 dnsmasq-dhcp(510 Jan 1 00:33:08 dnsmasq-dhcp(510	): DHCPACK(br0) 192.168.1.197 10:bf:48:4c:b9:f0 LG ): DHCPREQUEST(br0) 192.168.1.189 b0:ec:71:ac:f7:9 ): DHCPREQUEST(br0) 192.168.1.189 b0:ec:71:ac:f7:96 ): DHCPREQUEST(br0) 192.168.1.3 ac:d0:f8:be:11:74		
JPv6	Jan 1 00:33:34 dnsmasq-dhcp(510	: DHCPACK(br0) 192.168.1.3 3c:d0:f8:be:11:7d iPho	ne4s	
Server		lear Save Refresh		
Firewall				

# 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>
  - Windows Printer Utility v1.0.5.5 at <u>http://dlcdnet.asus.com/pub/</u> <u>ASUS/LiveUpdate/Release/Wireless/Printer.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 > RT-AC87U 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.

Firmware Resto	ration	×
<u>F</u> ilename:	l	<u>B</u> rowse
_ Status		
After locating	he firmware file, click Upload.	
	<u>U</u> pload <u>C</u> lose	

**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

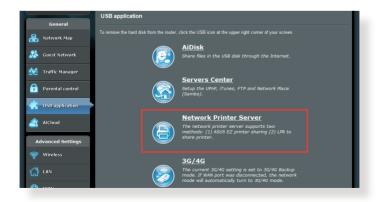
- From your computer's desktop, click
   Start > All Programs > ASUS Utility RT-AC87U Wireless
   Router > Firmware Restoration.
- 5. Specify a firmware file, then click **Upload**.

**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.

# 5.3 Setting up your printer server

# 5.3.1 ASUS EZ Printer Sharing

ASUS EZ Printing Sharing utility allows you to connect a USB printer to your wireless router's USB port and set up the print server. This allows your network clients to print and scan files wirelessly.



**NOTE:** The print server function is supported on Windows® XP, Windows® Vista, and Windows® 7.

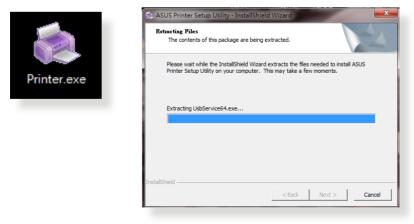
### To set up the EZ Printer sharing mode:

- 1. From the navigation panel, go to **General** > **USB Application** > **Network Printer Server**.
- 2. Click **Download Now!** to download the network printer utility.



**NOTE:** Network printer utility is supported on Windows<sup>®</sup> XP, Windows<sup>®</sup> Vista, and Windows<sup>®</sup> 7 only. To install the utility on Mac OS, select **Use LPR protocol for sharing printer**.

3. Unzip the downloaded file and click the Printer icon to run the network printer setup program.



4. Follow the onscreen instructions to set up your hardware, then click **Next**.

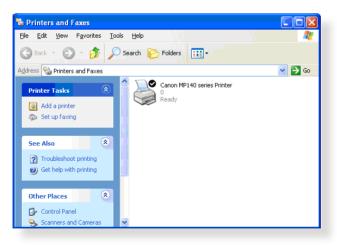


- 5. Wait a few minutes for the initial setup to finish. Click **Next**.
- 6. Click **Finish** to complete the installation.

7. Follow the Windows<sup>®</sup> OS instructions to install the printer driver.



8. After the printer's driver installation is complete, network clients can now use the printer.

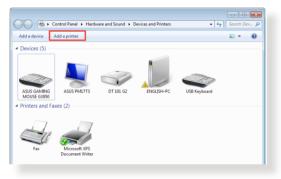


## 5.3.2 Using LPR to Share Printer

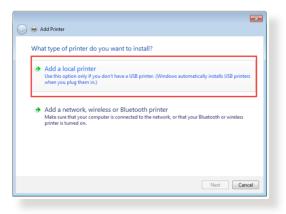
You can share your printer with computers running on Windows<sup>®</sup> and MAC operating system using LPR/LPD (Line Printer Remote/ Line Printer Daemon).

### Sharing your LPR printer To share your LPR printer:

1. From the Windows<sup>®</sup> desktop, click **Start** > **Devices and Printers** > **Add a printer** to run the **Add Printer Wizard**.



2. Select Add a local printer and then click Next.



3. Select Create a new port then set Type of Port to Standard TCP/IP Port. Click New Port.

🇿 🖶 Add Printer		×
Choose a printer port		
A printer port is a type of cor	nection that allows your computer to exchange informat	tion with a printer.
Use an existing port:	LPT1: (Printer Port)	~
Oreate a new port:		
Type of port:	Standard TCP/IP Port	•
		lext Cancel

4. In the **Hostname or IP address** field, key in the IP address of the wireless router then click **Next**.

🚱 🖶 Add Printer		<b>•••</b>
Type a printer hostnan	ne or IP address	
Device type:	TCP/IP Device	
Hostname or IP address:	192.168.1.1	
Port name:	192.168.1.1	
Query the printer and auto	matically select the driver to use	
		Next Cancel

- 5. Select **Custom** then click **Settings**.
  - Add Printer

     Additional port information required

     The device is not found on the network. Be sure that:

     1. The divice is truned on:

     The device is not found on the network. Be sure that:

     The device is not found on the network. Be sure that:

     The device is properly configured:
     The device is properly configured:
     The device is not correct, click Back to return to the previous page. Then correct the address is correct, select the device type below.

     Device Type
     Standard energy for Network Card
     Custom Settings.

     Net Carcel
- 6. Set **Protocol** to **LPR**. In the **Queue Name** field, key in **LPRServer** then click **OK** to continue.

Port Name:	192.168.1.1
Printer Name or IP Addres	55: 192.168.1.1
Protocol	
Raw	UPR
Raw Settings	
Port Number:	9100
LPR Settings	
Queue Name:	LPRServer
LPR Byte Counting E	inabled
SNMP Status Enable	d
Community Name:	public
	1
SNMP Device Index:	

7. Click **Next** to finish setting up the standard TCP/IP port.

🚱 🚔 Add Printer Additional port	information required
The device is not 1. The device is 1 2. The network i 3. The device is	found on the network. Be sure that: urned on. s connected. roperly configured.
If you think the a	the previous page is correct. ddress is not correct, click Back to return to the previous page. Then correct the mr another search on the network. If you are sure the address is correct, select the A
Standard	Generic Network Card *
Custom	Settings Net Cancel

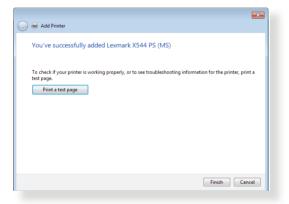
8. Install the printer driver from the vendor-model list. If your printer is not in the list, click **Have Disk** to manually install the printer drivers from a CD-ROM or file.

) 🖶 Ad	d Printer	×
Instal		from the list. Click Windows Update to see more models. rom an installation CD, click Have Disk.
Kyoce Lanier Lexma Micro	r ark	g is important
		Next Cancel

9. Click **Next** to accept the default name for the printer.



### 10. Click **Finish** to complete the installation.



# 5.4 Download Master

Download Master is a utility that helps you download files even while your laptops or other devices are switched off.

**NOTE:** You need a USB device connected to the wireless router to use Download Master.

### To use Download Master:

1. Click **General** > **USB application** > **Download Master** to download and install the utility automatically.

**NOTE:** If you have more than one USB drive, select the USB device you want to download the files to.

- 2. After the download process is finished, click the Download Master icon to start using the utility.
- 3. Click Add to add a download task.



4. Select a download type such as BitTorrent, HTTP, or FTP. Provide a torrent file or a URL to begin downloading.

**NOTE:** For details on Bit Torrent, refer to section **5.4.1 Configuring the Bit Torrent download settings**.

5. Use the navigation panel to configure the advanced settings.



## 5.4.1 Configuring Bit Torrent download settings

/ISUS		
Task	Bit Torrent Setting	
🧾 Task	Port	
Settings	Use the default port     Use the following port	
3	Incoming port	
Seneral	Speed Limits:	
	Maximum download speed:	KB/S
Bit Torrent	Maximum upload speed:	KB/S
	BitTorrent Network setting	
🌋 NZB	BitTorrent protocol encryption	Encryption disabled 💌
	Max peers allowed per torrent 1	00
	DHT network	Enable DHT to activate trackless torrent download.
		Apply

### To configure BitTorrent download settings:

- 1. From Download Master's navigation panel, click **Bit Torrent** to launch the **Bit Torrent Setting** page.
- 2. Select a specific port for your download task.
- 3. To prevent network congestion, you can limit the maximum upload and download speeds under **Speed Limits**.
- 4. You can limit the maximum number of allowed peers and enable or disable file encryption during downloads.

## 5.4.2 NZB settings

You can set up a USENET server to download NZB files. After entering USENET settings, **Apply**.

/ISUS	- And -		
Task	NZB Setting		
🧾 Task	Setup USENET server to download NZB files:		
Settings	USENET Server		
12.2m	USENET Server Port	119	
General	Maximum download speed		
Bit Torrent	SSL/TLS connection only		
12.2	Username		
NZB	Password		
	Confirm Password		
	Number of connections per NZB tasks	2	
		Apply	
		20:	1 ASUSTeK Computer Inc. All rights reserved.

# 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>http://support.asus.com/</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.

Quick Internet	Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.260</u> SSID: <u>Asus</u> <u>Asus</u> <u>B</u> 🖗 🖷
<ul> <li>Setup</li> </ul>	Operation Mode System Firmware Upgrade Restore/Save/Upload Setting
General	
品 Network Map	Administration - Firmware Upgrade
🞊 Guest Network	Please visit the ASUS support site ( http://support asus.com ) to get the latest firmware. Product ID RT-AC68U
Manager	Firmware Version 3.0.0.4.260 Check
Parental control	New Firmware File
dis USB application	Uplead
aiCloud	<ol> <li>For a configuration parameter existing both in the old and new firmware, its setting will be kept during the upgrade process.</li> </ol>
Advanced Settings	<ol> <li>In case the upgrade process fails, RT-AC68U enters the emergency mode automatically. The LED signals at the front of RT- AC66U will indicate such situation. Use the Firmware Restoration utility on the CD to do system recovery.</li> </ol>
察 Wireless	
🚮 LAN	
💮 WAN	
🧐 VPN Server	
Firewall	
🚊 Administration	

- 2. If the latest firmware is available, visit the ASUS global website at <u>http://www.asus.com/Networks/Wireless\_Routers/</u><u>RTAC87U/#download</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 computer.

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

### Check if your network settings are correct.

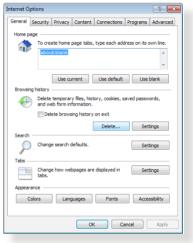
 Each client on the network should have a valid IP address. ASUS recommends that you use the wireless router's DHCP server to assign IP addresses to computers on your network.  Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You 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 8, follow these steps:
  - Launch Internet Explorer 8, then click Tools > Internet Options.
  - 2. In the **General** tab, under **Browsing history**, click **Delete...**, select **Temporary Internet Files** and **Cookies** 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.

/ISUS	Logout Rebo	ot	English 🔻
tyt Quick Internet	Operation Mode: <u>Wireless router</u> F	irmware Version: SSID: ASUS ASUS SG	8 G 🔶 A
Setup	LAN IP DHCP Server Route IPTV	Switch Control	
General	LAN - DHCP Server		
船 Network Map		) is a protocol for the automatic configuration used on IP ne	worke The DHCD canar
Guest Network		orms the client of the of DNS server IP and default gateway	
Manager Traffic Manager	Basic Config		
Parental control	Enable the DHCP Server	⊙ Yes ● No	
USB application	Router's Domain Name		
то озваррисации	IP Pool Starting Address	192.168.1.2	
AiCloud	IP Pool Ending Address	192.168.1.254	
Advanced Settings	Lease Time	86400	
🛜 Wireless	Default Gateway		
	DNS and WINS Server Setting		
00	DNS Server		
💮 WAN	WINS Server		
🚳 IРv6	Enable Manual Assignment		
VPN Server	Enable Manual Assignment	● Yes ● No	
	Manually Assigned IP around the DHCP list(li		
Firewall	MAC address	IP Address	Add / Delete
Administration			•
System Log		No data in table.	
		Apply	

 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.

/ISUS	Logout Reboo	st English 🔻
Quick Internet	Operation Mode: <u>Wireless router</u> F	irmware Version: SSID: ASUS ASUS_SG 🛛 🛔 🔁 🔶 🖻
	General WPS Bridge Wireless MA	C Filter RADIUS Setting Professional
General	Wireless - General	
Retwork Map	Set up the wireless related information below	s
Guest Network	Frequency	2.4GHz 🔽
Traffic Manager	SSID	ASUS
Parental control	Hide SSID	● Yes ◎ No
💼 USB application	Wireless Mode	Auto 🗾 🖾 big Protection
AiCloud	Channel bandwidth	20/40 мнz 🗸 Алто 🗸
Advanced Settings	Authentication Method	Open System
S Wireless	WEP Encryption	None
		Apply
<u>un</u>		
💮 wan		
IPv6		
VPN Server		
<b>Firewall</b>		

- 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/Save/Upload Setting and click Restore.

Operation Mode         System         Fermware Upgrade         Restore//Save/Upload Setting           Ceneral         Administration - Restore/Save/Upload Setting         Test Sectore/Save/Upload Setting           Network Map         Factory data         Restore/Save/Upload Setting           Ceneral         Administration - Restore/Save/Upload Setting           Ceneral         Restore/Save/Upload Setting           Some Caret Network         Factory data           Traffic Manager         Save Sating           Save Setting         Save           Provide Control         Restore	/ISUS	Logout Reboo	4	English
Central         Operation Node         System         Fermulare Lugoradin         Restore/Save/Lugload Setting           Image: Central Control         Administration - Restore/Save/Lugload Setting         Administration - Restore/Save/Lugload Setting           Image: Central Control         Traffic Manager         Restore         Restore           Image: Central Control         Save Setting         Save         Save		Operation Mode: Wireless router Fi	irmware Version: SSID: ASUS ASUS_SG	8 6 4 1
Network Map     Administration - Restore/SaveUpload Setting       Image: Setting Setti	Setup	Operation Mode System Firmware U	Ipgrade Restore/Save/Upload Setting	
Network Map         This function allows you to save current settings of Rodule to a file, or load settings from a file.           Cenest Network         Faday debut         Restore           Traffic Manager         Save setting         Save           Parental control         Restore         Save	General	Administration Restore/Savell Inl	and Soffing	
Scuest Network         Faldory default         Restore           Troffic Manager         Sale setting         Sale           Parential control         Restore setting         Sale	品 Network Map			
Yraffic Manager         Save stilling           Parental control         Restore sating         Save	🞊 Guest Network	This function allows you to save current setting	ngs of Router to a ble, or load settings from a ble.	
Parental control     Restors setting     Save	M	Factory default	Restore	
Restore setting Upload Choose File. No file chosen	Tranc Manager	Save setting	Save	
	Parental control	Restore setting	Upload Choose File No file chosen	
USB application	disb application			
AiCloud	AiCloud			

### 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 > 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.

/ISUS	Logout	Reboot		En	glish 🔻
Quick Internet Setup	Operation Mode: <u>Wir</u>	eless router Firmware Ve	rsion: SSID: ASUS ASUS	<u>-sc</u> & (	<u>-</u> - 9
General	Parental control				
Hetwork Map	_	Parental control allows you to parental control:	set the time limit for a client's	network usage. 1	o use
🞎 Guest Network			olumn, select the client whose to key in the clients MAC addre		
🔆 Traffic Manager		Address] column. 2. In the [Add / Delete] co			
Parental control	OFF		ts in the [Time Management]	map. Drag and dr	op to
💼 USB application		<ol> <li>Click [OK] to save the :</li> <li><u>Click to open the tuto</u>.</li> </ol>			
AiCloud		Clients Name	Clients MAC Address	Time	Add /
Advanced Settings			Cilents MAC Address	Management	Delete
察 Wireless			ata in table.		
🞧 LAN		-	Apply		
🜐 WAN					
IPv6					
VPN Server					
<b>Firewall</b>					
Administration					
System Log					
	Help & Support Man	ual   Utility	FAQ		Q

- 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:	192.168.1.1
Domain Name:	(Blank)
Subnet Mask:	255.255.255.0
DNS Server 1:	192.168.1.1
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.

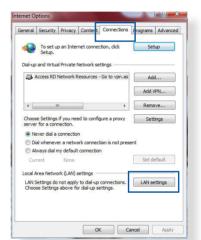
### **Cannot access Web GUI**

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<sup>°</sup> 7

- 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.

utomatic configuration Automatic configuration may use of manual settings, disal			
Automatically detect sett	ings		
Use automatic configurat	ion script		
Address			
oxy server			
Use a proxy server for yo dial-up or VPN connection		e settings	will not apply to
Address:	Port:	80	Advanced
			- (
Bypass proxy server	for local addre		
Bypass proxy server	for local addre	5565	

#### **MAC OS**

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

		Loca	tion: A	utomatic		:		
		s	now: B	uilt-in Ether	net	•		
	(T	CP/IP	PPPof	AppleTa	lk Proxie	es Etherne	at	
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<b>√</b> Use	Passive F	TP Mo	de (PAS)	0				(?)
								0

**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<sup>°</sup> 7

- 1. Click Start > Control Panel > Network and Internet > Network and Sharing Center > Manage network connections.
- 2. Select Internet Protocol Version 4 (TCP/IPv4) or Internet Protocol Version 6 (TCP/IPv6), then click Properties.

Networking	Authenticat	ion	
Connect us	sing:		
🔮 Rea	atek PCIe GB	E Family Controller	
			Configure
This conne	action uses th	e following items:	Configure
		soft Networks	
	oS Packet So		
		Sharing for Microsoft	Networks
		S 6.X SPR Protocol E	
	ternet Protoc	ol Version 6 (TCP/IP)	(6)
		ol Version 6 (TCP/IP) ol Version 4 (TCP/IP)	
	nternet Protoc	ol Vesion 4 (TCP/IP	v4) per 1/O Driver
	nternet Protoc	ol Version 4 (TCP/IP	v4) per 1/O Driver
	nk-Layer Top ink-Layer Top	ol Vesion 4 (TCP/IP	v4) per 1/O Driver
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3. 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**.

4. Click **OK** when done.

neral	Alternate Configuration				
nis cap	get IP settings assigned aut ability. Otherwise, you need appropriate IP settings.				
O Ob	tain an IP address automatic	ally			
O Us	e the following IP address:				
IP ad	dress:				
Subn	et mask:			×	
Defa	ult gateway:	¥ 1	100	а. С	
() Ob	tain DNS server address aut	omatically			
OUs	e the following DNS server a	ddresses:			
Prefe	rred DNS server:				
Alteri	hate DNS server:	•	1		
Va	alidate settings upon exit			Adv	anced

#### **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. Cllick **Apply Now** when done.

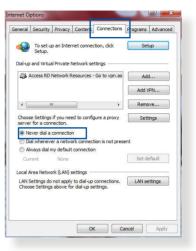
	Location: Automatic	;	
	Show: Built-in Ethernet	•	
	TCP/IP PPPoE AppleTalk	Proxies Ethernet	
Curtury L			
Configure I			_
IP Addr	ress: 192.168.182.103	Renew DHCP Leas	se)
Subnet M	ask: 255.255.255.0 DH	CP Client ID:	
Rou	uter: 192.168.182.250	(If required)	
DNS Serv	vers: 192.168.128.10	(Opt	ional)
Search Doma	ains:	(Opt	ional)
IPv6 Addr	ress: fe80:0000:0000:0000:021	1:24ff:fe32:b18e	
	Configure 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<sup>°</sup> 7

- 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.



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

# **Appendices**

# Notices

## **ASUS Recycling/Takeback Services**

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components, as well as the packaging materials. Please go to <u>http://csr.asus.com/english/Takeback.htm</u> for the detailed recycling information in different regions.

## REACH

Complying with the REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS REACH website at

## http://csr.asus.com/english/index.aspx

## **Federal Communications Commission Statement**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

**IMPORTANT**! This device within the 5.15 ~ 5.25 GHz is restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

#### WARNING!

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- Users must not modify this device. Modifications by anyone other than the party responsible for compliance with the rules of the Federal Communications Commission (FCC) may void the authority granted under FCC regulations to operate this device.
- For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

## **Prohibition of Co-location**

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

## **Safety Information**

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 25 cm between the radiator and your body. Use on the supplied antenna.

## Declaration of Conformity for R&TTE directive 1999/5/EC

Essential requirements - Article 3

Protection requirements for health and safety – Article 3.1a Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1 and EN 301 489-17 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum - Article 3.2

Testing for radio test suites according to EN 300 328 & EN 301 893 have been conducted. These are considered relevant and sufficient.

Operate the device in 5150-5250 MHz frequency band for indoor use only.

## **CE Mark Warning**

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This equipment may be operated in AT, BE, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LU, MT, NL, PL, PT, SK, SL, ES, SE, GB, IS, LI, NO, CH, BG, RO, RT.

## Canada, Industry Canada (IC) Notices

This device complies with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## **Radio Frequency (RF) Exposure Information**

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25 cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 25 cm de distance entre la source de rayonnement et votre corps.

## Canada, avis d'Industry Canada (IC)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### WARNING!

- Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type should be chosen so that the equivalent isotropically radiated power (e.i.r.p) is not more than that necessary for successful communication.
- [FRENCH] Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type should be chosen so that the equivalent isotropically radiated power (e.i.r.p) is not more than that necessary for successful communication.
- This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.
- [FRENCH] This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

#### WARNING!

- For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.
- Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.
- This device and it's antennas(s) must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with IC multi-transmitter product procedures.
- Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnement en association avec une autre antenne ou transmetteur.
- The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.
- Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

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Version 2, June 1991

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Telephone Austria	
(System/Notebook/Eee/LCD)	+43-820-240513
Support Fax	+49-2102-959911
Online support	support.asus.com

# **Networks Global Hotline Information**

Region	Country	Hotline Number	Service Hours
	Cyprus	800-92491	09:00-13:00;
	сургаз		14:00-18:00 Mon-Fri
	France	0033-170949400	09:00-18:00 Mon-Fri
		0049-1805010920	
	Germany	0049-1805010923	09:00-18:00 Mon-Fri
	Germany	(component support)	10:00-17:00 Mon-Fri
		0049-2102959911 ( Fax )	
	Hungary	0036-15054561	09:00-17:30 Mon-Fri
	Italy	199-400089	09:00-13:00 ; 14:00-18:00 Mon-Fri
	Greece	00800-44142044	09:00-13:00 ; 14:00-18:00 Mon-Fri
	Austria	0043-820240513	09:00-18:00 Mon-Fri
	Netherlands/ Luxembourg	0031-591570290	09:00-17:00 Mon-Fri
	Belgium	0032-78150231	09:00-17:00 Mon-Fri
Europe	Norway	0047-2316-2682	09:00-18:00 Mon-Fri
	Sweden	0046-858769407	09:00-18:00 Mon-Fri
	Finland	00358-969379690	10:00-19:00 Mon-Fri
	Denmark	0045-38322943	09:00-18:00 Mon-Fri
	Poland	0048-225718040	08:30-17:30 Mon-Fri
	Spain	0034-902889688	09:00-18:00 Mon-Fri
	Portugal	00351-707500310	09:00-18:00 Mon-Fri
	Slovak Republic	00421-232162621	08:00-17:00 Mon-Fri
	Czech Republic	00420-596766888	08:00-17:00 Mon-Fri
	Switzerland-German	0041-848111010	09:00-18:00 Mon-Fri
	Switzerland-French	0041-848111014	09:00-18:00 Mon-Fri
	Switzerland-Italian	0041-848111012	09:00-18:00 Mon-Fri
	United Kingdom	0044-8448008340	09:00-17:00 Mon-Fri
	Ireland	0035-31890719918	09:00-17:00 Mon-Fri
	Russia and CIS	008-800-100-ASUS	09:00-18:00 Mon-Fri
	Ukraine	0038-0445457727	09:00-18:00 Mon-Fri

Region	Country	Hotline Numbers	Service Hours
	Australia	1300-278788	09:00-18:00 Mon-Fri
	New Zealand	0800-278788	09:00-18:00 Mon-Fri
	Japan	0800-1232787	09:00-18:00 Mon-Fri
		0600-1252/6/	09:00-17:00 Sat-Sun
		0081-473905630	09:00-18:00 Mon-Fri
		(Non-Toll Free)	09:00-17:00 Sat-Sun
	Korea	0082-215666868	09:30-17:00 Mon-Fri
	Thailand	0066-24011717	09:00-18:00 Mon-Fri
		1800-8525201	
	Singapore	0065-64157917	11:00-19:00 Mon-Fri
Asia-Pacific		0065-67203835	11:00-19:00 Mon-Fri
		( Repair Status Only )	11:00-13:00 Sat
	Malaysia	0060-320535077	10:00-19:00 Mon-Fri
	Philippine	1800-18550163	09:00-18:00 Mon-Fri
	India	1800-2090365	09:00-18:00 Mon-Sat
	India(WL/NW)	1800-2090305	09:00-21:00 Mon-Sun
	Indonesia	0062-2129495000	09:30-17:00 Mon-Fri
		500128 (Local Only)	9:30 – 12:00 Sat
	Vietnam	1900-555581	08:00-12:00 13:30-17:30 Mon-Sat
	Hong Kong	00852-35824770	10:00-19:00 Mon-Sat
	USA	1-812-282-2787	8:30-12:00 EST Mon-Fri
Americas	Canada	1-012-202-2/0/	9:00-18:00 EST Sat-Sun
	Mexico	001-8008367847	08:00-20:00 CST Mon-Fri
			08:00-15:00 CST Sat

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Country	Hotlin o Numborg	
		Service Hours
		09:00-18:00 Sun-Thu
Saudi Arabia	800-1212787	09:00-18:00 Sat-Wed
UAE	00971-42958941	09:00-18:00 Sun-Thu
Turkey	0090-2165243000	09:00-18:00 Mon-Fri
South Africa	0861-278772	08:00-17:00 Mon-Fri
Israel	*6557/00972-39142800	08:00-17:00 Sun-Thu
	*9770/00972-35598555	08:30-17:30 Sun-Thu
Romania	0040-213301786	09:00-18:30 Mon-Fri
Bosnia Herzegovina	00387-33773163	09:00-17:00 Mon-Fri
Bulgaria	00359-70014411	09:30-18:30 Mon-Fri
Balkan	00359-29889170	09:30-18:00 Mon-Fri
Croatia	00385-16401111	09:00-17:00 Mon-Fri
Montenegro	00382-20608251	09:00-17:00 Mon-Fri
Serbia	00381-112070677	09:00-17:00 Mon-Fri
Slovenia	00368-59045400	08:00-16:00 Mon-Fri
	00368-59045401	
Estonia	00372-6671796	09:00-18:00 Mon-Fri
Latvia	00371-67408838	09:00-18:00 Mon-Fri
Lithuania-Kaunas	00370-37329000	09:00-18:00 Mon-Fri
Lithuania-Vilnius	00370-522101160	09:00-18:00 Mon-Fri
	Turkey South Africa Israel Romania Bosnia Herzegovina Bulgaria Croatia Montenegro Serbia Slovenia Estonia Latvia Lithuania-Kaunas	Egypt         800-2787349           Saudi Arabia         800-1212787           UAE         00971-42958941           Turkey         0090-2165243000           South Africa         0861-278772           Israel         *6557/00972-39142800           *9770/00972-35598555         *9770/00972-35598555           Romania         0040-213301786           Bosnia         00387-33773163           Herzegovina         00385-16401111           Nontenegro         00385-16401111           Montenegro         00382-20608251           Serbia         00381-112070677           Slovenia         00372-6671796           Estonia         00371-67408838           Latvia         00370-37329000

## **Networks Global Hotline Information**

**NOTE**: For more information, visit the ASUS support site at: <u>http://support.asus.com</u>

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