## **User Guide**

## **RT-AC1200G+**

### Wireless-AC1200 Dual Band USB Router





E11854 Revised Edition V3 July 2016

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# 1 Getting to know your wireless router

## 1.1 Welcome!

Thank you for purchasing an ASUS RT-AC1200G+ Wireless Router! The ultra-thin and stylish RT-AC1200G+ features both 2.4GHz and 5GHz dual bands which delivers super fast gigabit wireless-AC speeds up to 867 Mbps on the 5 GHz band & 300 Mbps on the 2.5 GHz band concurrently.

## **1.2 Package contents**

☑ RT-AC1200G+ Wireless Router

Power adapter

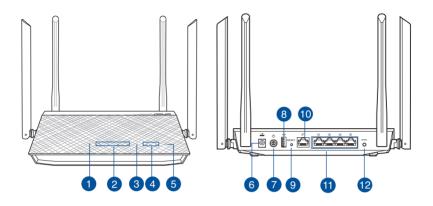
☑ Network cable (RJ-45)

🗹 Quick Start Guide

☑ Warranty card

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

## **1.3 Your wireless router**



1	Power LED
	Off: No power.
	<b>On</b> : Device is ready.
	Flashing slow: Rescue mode
	Flashing quick: WPS is processing.
2	LAN 1~4 LEDs
	<b>Off</b> : No power or no physical connection.
	<b>On</b> : Has physical connection to a local area network (LAN).
3	WAN (Internet) LED
	Off: No power or no physical connection.
	<b>On</b> : Has physical connection to a wide area network (WAN).
4	2.4GHz LED / 5GHz LED
	<b>Off</b> : No 2.4 GHz or 5 GHz signal.
	<b>On</b> : Wireless system is ready.
	Flashing: Transmitting or receiving data via wireless connection.
5	USB LED
	Off: No power or no physical connection.
	<b>On</b> : Has physical connection to USB device.
6	Power (DC-IN) port
	Insert the bundled AC adapter into this port and connect your router to a power source.
7	Power button
	Press this button to power on or off the system.

8	<b>USB 2.0 port</b> Insert a USB device such as USB hard disk or USB flash drive into the port. Insert your iPad's USB cable into the port to charge your iPad.
9	<b>Reset button</b> This button resets or restores the system to its factory default settings.
10	WAN (Internet) port Connect a network cable into this port to establish WAN connection.
1	LAN 1 ~ 4 ports Connect network cables into these ports to establish LAN connection.
12	WPS button This button launches the WPS Wizard.

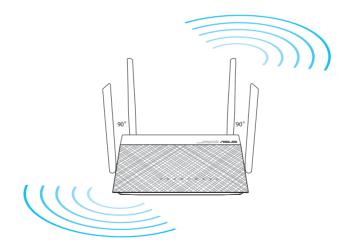
- Use only the adapter that came with your package. Using other adapters may damage the device.
- Specifications:

DC Power adapter	DC Output: +12V with max 2A 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 802.11b/g 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 two 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)
- 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 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.

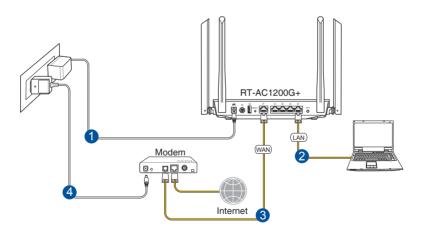
## 1.6 Router Setup

#### **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.



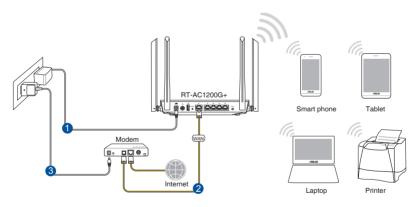
#### To set up your wireless router via wired connection:

- 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:

- On your web browser, manually key in the wireless router's default IP address: 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.



## **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.

router.asus.com		
← → C ↑ router.asus.com		
	Authentication Required	×
	The server http://touler.asus.com requires a username a password. The server says: RT-1200G+.	nd
	User Name: Password:	]
	Log In Can	cel

- By default, the login username and password for your wireless router's Web GUI is admin. For details on changing your wireless router's login username and password, refer to section 4.6.2 System.
- The wireless router's login username and password is different from the 2.4GHz/5GHz network name (SSID) and security key. The wireless router's login username and password allows you to log into your wireless router's Web GUI to configure your wireless router's settings. The 2.4GHz/5GHz network name (SSID) and security key allows Wi-Fi devices to log in and connect to your 2.4GHz/5GHz network.

2. The wireless router automatically detects if your ISP connection type is **Dynamic IP**, **PPPoE**, **PPTP** and **L2TP**. 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)

Previous Next	<ul> <li>Skip Setup Wizard</li> <li>Quick Internet Setup</li> <li>Check Connection</li> <li>Internet Setup</li> <li>Internet Setup</li> <li>Router Setup</li> </ul>	Automatic IP connection setup: Media Cadrena Connection Connectica Connectic
---------------	---	--

for PPPoE, PPTP and L2TP

-		
品 Skip Setup Wizard	Account Setting	
Quick Internet Setup		
Check Connection	Please enter your username and password	
(2) Internet Setup	User Name 😨	Internet Connection Information
Router Setup	Password   Show password	Enter the account name and password or your Internet services provider.
-	MAC Address(optional) @ MAC Clone	Account Name ******* • Password ******
	Enable VPN client	User Name 🔹
	Special Requirement from ISP	Password @
	Previous Next	Enter the user name and password for your Internet connection information. These settings were given by your Internet Service Provider (ISP).

- 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.

	A DESCRIPTION OF THE OWNER AND
品 Skip Setup Wizard	Wireless Setting
	Do you want to use the previous wireless security settings?   Yes  No
Quick Internet Setup	Assign a unique name or SSID (Service Set Identifier) to help identify your wireless network.
Check Connection	2.4 GHz - Security
Internet Setup	Network Name (SSID) () ASUS_2.4G
	Network Key 😰
3 Router Setup	5 GHz - Security Copy 2.4 GHz to 5 GHz settings.
	Network Name (SSID) 😨 ASUS_5G
	Network Key 🕡
	Enter a network key between 8 and 63 characters/fetters, numbers or a combination) or 64 hex digits. The default wireless security setting is WPA2-Pensonal AES. If you do not want to set the network security, leave the security key field blank, but this exposes your network to unauthorized access.

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

🔒 Skip Setup Wizard Co	ompleted Network Configuration S	Summary
Quick Internet Setup	System Time: Mon, Feb 09 07: Wireless	59:03 2015 (GAT)
Check Connection	Network Name (SSID) Wireless Security	ASUS Open System
Internet Setup	Wireless (5GHz) Network Name (SSID) Wireless Security	ASUS_5G Open System
3 Router Setup	WAN WAN Connection Type	Open System
_	WAN IP	192 168 123 174
_	LAN IP MAC	192 168 50 1 00 0C 43 26 60 40
_		Next
_		

## 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**

Status

ON

3. On the Wireless name (SSID) field, key in a unique name for vour 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 a USB port for connecting USB devices or USB printer to allow you to share files and printer with clients in your network.



**NOTE:** 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 port on the rear panel of your wireless router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the Plug-n-Share Disk Support List at <u>http://event.asus.com/networks/disksupport</u>

**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, or Samba. For more details, refer to the section **3.5.Using the USB Application** 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 2TB size) and supports read-write access for FAT16, FAT32, EXT2, EXT3, and NTFS.

## Safely removing the USB disk

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

#### To safely remove the USB disk:

- 1. From the navigation panel, go to **General** > **Network Map**.
- 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-AC1200G+ 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 conr your Intranet.	ection for guests but re	stricts access to
Enable	Enable	Enable
Enable	Enable	enable
Enable	Enable	Enable
C MIDIN	Chable	

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

Guess Network			
The guest private n			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.

/ISUS RT-AC1200	G+ Logout	Reboot	English 🔻			
Quick Internet Setup	Operation Mode: <u>Wireless router</u> SSID: <u>26 PSW:12345678</u> <u>56 PSW:1</u> QoS Traffic Monitor	Firmware Version: <u>3.0.0.4.380_355</u> 2345678	<del>م</del> ب ط			
General	Traffic Manager - QoS					
Han Network Map	Qual	lity of Service (QoS) ensures bandwidtl	n for minritized tasks and annlications			
🚨 Guest Network	1000	Traditional QoS ensures inbound	onal QoS ensures inbound and outbound bandwidth on both wired and s connections for prioritized applications and tasks via manual user-defined			
Manager Traffic Manager	anning and	parameters. • Bandwidth Limiter helps you to c	ontrol download and upload max speed of your			
Parental Controls	<b>265</b>	client devices.				
USB Application		nable QoS function, click the QoS slide	switch and fill in the upload and download.			
Advanced Settings	Enable QoS					
🛜 Wireless	QoS Type	O Traditional QoS O Bandwid	th Limiter			
🔂 LAN	Upload Bandwidth	0 Mb/s	Get the bandwidth information from ISP or go to <u>Speedlest</u> to check bandwidth			
💮 wan	Download Bandwidth	0 Mb/s	The default is 0, which means unlimited bandwidth			
🚳 1Рv6						
🧩 VPN		Apply				

## To set up bandwidth priority:

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

NOTE: Get the bandwidth information from your ISP.

#### 3. Click Save.

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

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

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

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

#### NOTES:

- Low-priority packets are disregarded to ensure the transmission of high-priority packets.
- Under Download Bandwidth table, set Maximum Bandwidth Limit for multiple network applications in corresponding order. The higher priority upstream packet will cause the higher priority downstream packet.
- If there are no packets being sent from high-priority applications, the full transmission rate of the Internet connection is available for lowpriority packets.
- 6. Set the highest priority packet. To ensure a smooth online gaming experience, you can set ACK, SYN, and ICMP as the highest priority packet.

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

## 3.3.2 Monitoring Traffic

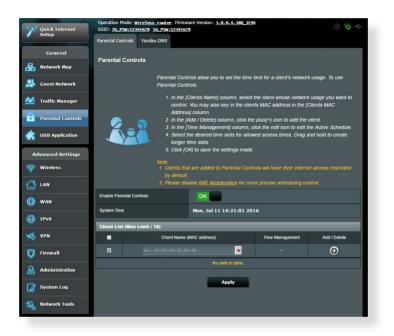
The traffic monitor function allows you to access the bandwidth usage and speed of your Internet, wired, and wireless networks. It allows you to monitor network traffic even on a daily basis.

* <b>/</b> **	Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.380.3594</u> SSID: <u>26.PSH:12345678</u> <u>56.PSH:12345678</u> QoS Traffic Monitor								
	General	Traffic Manager - Traffic Monitor Real-time 🔹								
品	Network Map									
**	Guest Network	Traffic Monitor allows you to monitor the incoming or outgoing packets of the following:								
N	Traffic Manager		Internet		Wired			Wireless		
<u> </u>	Traffic Manager	Reception         Incoming internet packets         Incoming packets from wired network         Incoming packets from wired								
	Parental Controls	Transmission								
*	USB Application	NOTE: Packets from the Internet are evenly transmitted to the wired and wireless devices.								
Ad	lvanced Settings	and the state of the state	cceleration is	enabled, the wired r				may affect the ac	curacy of Traffic M	onitor.
(lto	Wireless	Traffic Monitor FAQ								
3	LAN	Internet W 85.45 KB/s	ired Wir	eless (2.4GHz)	Wireless	(5GHz)		Mo	n 02:50 pm / 70.31	KB/s
E	WAN									
(B)	IPv6	59.81 KB/s								
×	VPN									
Q	Firewall	42.72 KB/s								
&	Administration									
	System Log	21.36 KB/s								
2	Network Tools							·	.A.L	A
		Current		Average		Maximum			Total	
		2.67 KB/s		0.79 KE	Ns				475.98 KB	
		1.77 K	3/5	1.19 кв				714.89 кв		

**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.



### 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 O or O 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.



4. 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.



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-AC1200G+'s network.

+x+ Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.380_3594</u> SSID: <u>26_PS#:12345678_56_PS#:12345678</u>		
Setup	Media Server Network Place (Samba) Shar	re FTP Share	
General	Media Server	S	
Retwork Map	Setup the UPnP media server.		
🞊 Guest Network	Tunes Server	OFF	
Manager	Media Server		
Parental Controls	Enable UPnP Media Server		
USB Application	Media Server Name		
	Media Server Status		
Advanced Settings	Media Server Path Setting	O All Disks Shared   Manual Media Server Path	
		Apply	

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.

++++ Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.380_3594</u> SSID: <u>26 PSW:12345678</u> <u>56 PSW:12345678</u>					
Setup	Media Server Network Place (Samba) Share FTP Share					
General						
Han Network Map	USB Application - Network Place (Samba) Share					
Guest Network	Set the account and permission of network place(samba) service.					
Guest Network	Enable Share ON					
Manager Traffic Manager	Allow guest login OFF Username and password is necessary to log in network					
Parental Controls	place(Samba)					
	Device Name RT-AC1200G-68D0					
USB Application	Work Group WORKGROUP					
Advanced Settings	Apply					
Services Wireless						

## 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.

	Add new account (ace(Samba) Share / Cloud <sup>X</sup> O
l	New account has no read/write access rights.
l	Account:
l	Password:
	Retype password:
	Add
	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: sdate(Samba) Share / Cloud DXI
The default access rights for a new folder is read/write.
able Share Share with account 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.

Quick Internet	Operation Mode: <u>Wireless</u> re SSID: <u>26_PSW:12345678_56</u>	outer Firmware Version: <u>3.0.0.4.380</u> PSW:12345678	3594	8 🖻 🗢
seup	Media Server Network Plac	e (Samba) Share FTP Share		
General				
Han Network Map	USB Application - FTP			
Suest Network	Set the account and permission	n of FTP service.		
	Enable FTP	OFF		
Manager	Allow anonymous login	OFF Usemam	ne and password is necessary to log in	FTP service.
Parental Controls				
-	Maximum number of concurrent	nt connections 5		
USB Application	Character set on FTP Server			
Advanced Settings		Apply		
🛜 Wireless	⊕ ⊝ ⊘			A E 🕅
🔂 LAN	2 admin	RT-AC1200G+	R/W W R	No
💮 WAN			save Permission	
IPv6				
VPN	🗞 VPN			
Firewall				

#### 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.

## 3.5.3 3G/4G

3G/4G USB modems can be connected to RT-AC1200G+ to allow Internet access.

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

Quick Internet	Operation Mode: <u>WireDess_conter</u> _Firmware Version: <u>3.0.0.4.380</u> 3594 SSID: <u>2C.PSW:12245678_5C.PSW:12345678</u>				
General	USB Modem / USB Tethering	<b>S</b>			
Retwork Map	Switch to USB mode to use a 3G/4G USB w	ireless dongle or Android phone as a USB modern.			
	Basic Contig				
Guest Network	Enable USB Mode	ON			
Manager Traffic Manager	Select USB Device	USB Modem 🔹			
Parental Controls	APN Contiguration	Automatic •			
	Telecommunications Standards	WCDMA (UMTS) / LTE			
USB Application	APN Service(optional)	internet			
Advanced Settings	Dial Number	*99#			
🛜 Wireless	Username				
	Password				
💮 wan	Authentication	None T			
-	PIN code				
5 19v6	USB Adapter	Auto			
VPN	USB MTU	0			
C Firewall 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.

# 4 Configuring the Advanced Settings

## 4.1 Wireless

## 4.1.1 General

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

Setup	General WPS WDS Wireless MAC Fi	Iter RADIUS Setting Professional				
General	Wireless - General					
Guest Network	Set up the wireless related information below					
Traffic Manager	Band Network Name (SSID)	5GH2 • 5G_PSN:12345678				
Parental Controls	Hide SSID	• Yes O No				
USB Application	Wireless Mode	Auto				
Advanced Settings	Channel bandwidth Control Channel					
🛜 Wireless	Extension Channel					
	Authentication Method	wPA2-Personal •				
💮 wan	WPA Encryption	AES •				
1Pv6	WPA Pre-Shared Key Protected Management Frames	12345678				
VPN	Group Key Rotation Interval	3600				

#### 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.

Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.380</u> 3594 SSID: <u>26\_PSw:12345678</u> <u>56\_PSw:12345678</u> 8 6 4 Quick Internet General WPS WDS Wireless MAC Filter RADIUS Setting Profes ess - WPS Network Mar PS (Wi-Fi Protected Setup) pr e PIN code or the WPS buttto ON nt Frequence 2.4GH Parental Con ection Status USB Applicati Reset Advanced Settings AP PIN Code ice (or press the physical WPS button on the I wait for about three minutes to make the cor WAN 🙈 IPv6 K VPN Push button O Client PIN Code WPS Method Firewal Start System Log Network Tool

NOTE: Ensure that the devices support WPS.

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

- 1. From the navigation panel, go to **Advanced Settings** > **Wireless** > **WPS** tab.
- 2. In the Enable WPS field, move the slider to ON.
- 3. 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 Wireless MAC Filter

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

+ At Quick Internet	vare Version: <u>3.0.0.4.380_3594</u>	8 6 4					
Setup	SSID: 2G PSW:12345678 SG PSW:123456 General WPS WDS Wireless MAC		_				
	General WPS WDS Wireless MAC	Filter RADIUS Setting Professional					
General							
Retwork Map	Wireless - Wireless MAC Filter		2000 23231				
Suest Network	Wireless MAC filter allows you to control pa	Wireless MAC filter allows you to control packets from devices with specified MAC address in your Wireless LAN.					
Guest Network	Basic Config	Basic Config					
Manager Traffic Manager	Band						
Parental Controls	Enable MAC Filter	O Yes ● No					
-	MAC Filter Mode	Accept *					
USB Application	MAC filter list (Max Limit : 64)						
Advanced Settings		l Name (MAC address)	Add / Delete				
			Ð				
ᠿ LAN	No data in table.						
🕀 WAN	Apply						

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

- 1. 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.

## 4.1.4 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> Firmware Version: <u>3.0.0.4,380.3594</u> SSID: <u>26.P994:12345678</u> <u>56.P994:12345678</u>					
Jean	General WPS WDS Wireless MAC Filter RADIUS Setting Professional					
General						
Retwork Map	reless - RADIUS Setting					
😹 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".					
Manager	Band SGHz *					
Parental Controis	Server IP Address					
-	Server Port 1812					
USB Application	Connection Secret					
Advanced Settings	Apply					
察 Wireless						
💮 WAN						
🔯 ІРv6						

#### 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.

## 4.1.5 Professional

The Professional screen provides advanced configuration options.

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

+ + + Ouick Internet	Operation Mode: <u>wireless router</u> Firmware Version: <u>3.0.0.4.380_3594</u> SSID: 26_PSW:12345678_56_PSW:12345678					
/ Setup	General WPS WDS Wireless MAC F					
General						
Retwork Map	Wireless - Professional					
Guest Network	Wireless Professional Setting allows you to	set up additional parameters for wireless. But default values are recommended.				
Guest Network	Band					
Manager Traffic Manager	Enable Radio	O Yes ● No				
Parental Controls	Enable wireless scheduler	● Yes O No				
disb Application	Set AP Isolated	● Yes O No				
	Roaming assistant	Disable 🔻				
Advanced Settings	Enable IGMP Snooping					
🛜 Wireless	Multicast Rate(Mbps)					
🔂 LAN	AMPDU RTS	Enable • 2347				
💮 wan	RTS Threshold					
🚓 1Pv6	DTIM Interval					
	Beacon Interval					
VPN	Enable TX Bursting					
Firewall	Enable WMM APSD					
Administration	Airtime Fairness					
System Log		Apply				
Network Tools						

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.

+**	Quick Internet Setup	Operation Mode: Wireless router Firmware Version: 3.0.0.4.380 3594 SSID: 26 PSM:12345678 56 PSM:12345678				
		LAN IP	DHCP Server	Route	IPTV	Switch Control
	General		AN 10			
品	Network Map	LAN - L	ANIP			
	Guest Network	Configure	the LAN setting	of RT-AC	C1200G+	
		IP Address			192.168.1.1	
<u>~</u>	Traffic Manager	Subnet M	lask			255.255.255.0
ß	Parental Controls					Apply
*	USB Application					
Ac	lvanced Settings					
llo	Wireless					
ដ	LAN					

#### To modify the LAN IP settings:

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

## 4.2.2 DHCP Server

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

+**	Quick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4, 380 3594</u> SSID: <u>26. PSW:12345678 56. PSW:12345678</u>	28 🖻 🔶		
-	Setup	LAN IP DHCP Server Route IPTV Switch Control			
	General	LAN - DHCP Server			
晶	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. RT- ACI2006+ supports up to 253 IP addresses for your local network.			
₩.	Traffic Manager	Basic Config			
A	Parental Controls	Enable the DHCP Server O Yes  No			
*	USB Application	RT-AC1200G+'s Domain Name			
		IP Pool Starting Address			
A	dvanced Settings	IP Pool Ending Address			
00	Wireless	Lease time			
ដ	LAN	Default Gatoway			
۲	WAN	DNS and WINS Server Setting			
	IPv6	DNS Server			
100	1940	WINS Server			
×	VPN	Enable Manual Assignment			
Q	Firewall	Enable Manual Assignment O Yes  No			
&	Administration	Manually Assigned IP around the DHCP list (Max Limit : 64)			
	System Log	Client Name (MAC address) IP Addres	is Add / Delete		
2	Network Tools	ex: 34:97:F6:3E:68:D0	Ð		
-0		No data in table.			
		Арріу			

#### 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	Operation Mode: Wirele SSID: 26 PSW:12345678 LAN IP DHCP Server	5G_PSW:12345678	e Version: <u>3.0.0.4.380 3594</u> Switch Control			8 E 🗲	
*	General Network Map	LAN - Route						
**	Enable static routes    Yes   No				-			
*	Parental Controls USB Application	Static Route List (Ma	x Limit : 32) Netmask	Gateway	Metric	Interface	Add / Delete	
Advanced Settings Wireless Apply								
ିଳ ⊕	LAN WAN							

#### 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> Firmwa SSID: <u>2G PSW:12345678</u> <u>SG PSW:12345678</u>				
Jeup	LAN IP DHCP Server Route IPTV	Switch Control			
General	LAN - IPTV				
Retwork Map					
Guest Network	Configure the IPTV setting of RT-AC1200G+				
Guest Network	LAN Port				
Manager Traffic Manager	Select ISP Profile	None T			
Parental Controls	Choose IPTV STB Port	None +			
USB Application	Special Applications				
	Use DHCP routes	Microsoft •			
Advanced Settings	Enable multicast routing (IGMP Proxy)	Disable 🔻			
🛜 Wireless	Enable efficient multicast forwarding (IGMP Snooping)	Disable •			
	UDP Proxy (Udpxy)	0			
💮 wan	Apply				

## 4.3 WAN

## **4.3.1 Internet Connection**

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

Prick Internet	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4, 380 3594</u> 🖉 👘 🔶			
Setup	Internet Connection Port Trigger Virtual	Server / Port Forwarding DMZ DDNS NAT Passthrough		
General				
品 Network Map	WAN - Internet Connection			
🕂 Guest Network	RT-AC1200G+ 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	Configure the Ethernet WAN settings of RT-AC1200G+.			
•	Basic Config			
Parental Controls	WAN Connection Type	Automatic IP •		
USB Application	Enable WAN	O Yes ● No		
Advanced Settings	Enable NAT	O Yes ● No		
🛜 Wireless	Enable UPnP UPnP FAQ	O Yes ● No		
	Enable Internet Detect	O Yes ● No		
<u>س</u> س	WAN DNS Setting			
💮 wan	Connect to DNS Server automatically	O Yes ● No		
IPv6	Account Settings			
VPN	Authentication	None •		
	Special Requirement from ISP			
Firewall	Host Name			
Administration	MAC Address	MAC Clone		
System Log	DHCP query frequency	Aggressive Mode •		
Network Tools	Extend the TTL value	● Yes ○ No		
		Apply		

#### 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: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.380</u> 3594 SSID: <u>26.PSM:12345678</u> <u>56.PSM:12345678</u>					8 @ <del>4</del>	
	Internet Connection Po	ort Trigger Virtu	ual Server / Port Forw	arding DMZ	DDNS	NAT Passthrou	gh
General							
Hetwork Map	WAN - Port Trigger						
Guest Network	Port Trigger allows you to temporarily open data ports when LAN 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 opens the incoming port when a LAN device requests						
Manager	access to the brigger port. Unlike port forwarding, port brigger 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 port. <u>Trigger EAQ</u>						
Darental Controls							
tuse Application Basic Config							
	Enable Port Trigger • Yes • No						
Advanced Settings	Well-Known Applications						
🛜 Wireless	Trigger Port List (Max Limit : 32)						
	Description	Trigger P	ort Protocol	Incoming	Port	Protocol	Add / Delete
💮 WAN							Ð
IPv6	No data in table.						
VPN	Apply						
_							

## 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.

Quick Internet	Operation Mode: <u>Mincless.router</u> Firmware Version: <u>3.0.0.4.380 3594</u> SSID: <u>26.p594:12345678</u> <u>56.p591:12345678</u>			
	Internet Connection Port Trigger Virtu	al Server / Port Forwarding DMZ DDNS NAT Passthroug	h	
General				
Retwork Map	WAN - DDNS DDNS (Dynamic Domain Name System) is a service that allows network clients to connect to the wireless router, even with a dynamic public IP address, through its registered domain name. The wireless router is embedded with the ASUS DDNS service and other DDNS services. If you cannot use ASUS DDNS services, please go to <u>http://iplookup.asus.com/nslookup.php</u> to reach your internet IP address to use this service. The wireless router currently uses a private WAN IP address. This router may be in the multiple NAT environment and DDNS service cannot work in this environment.			
Guest Network				
Yraffic Manager				
Parental Controls				
USB Application	Enable the DDNS Client	• Yes • No		
Advanced Settings		Apply		
察 Wireless				
🔂 LAN				
💮 WAN				
IPv6				

#### 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**.

+*	**** Quick Internet Setup	Operation Mode: <u>Wireless router</u> Firmware Version: <u>3.0.0.4.380_3594</u> SSID: <u>26_P34:12345678</u> <u>56_P34:12345678</u>				a 🔁 🕹
_		Internet Connection	Port Trigger	Virtual Server / Port Forwarding D	MZ DDNS	NAT Passthrough
	General	WAN - NAT Passthrough				
品	Network Map					
	Guest Network	Enable NAT Passthrough to allow a Virtual Private Network (VPN) connection to pass through the router to the network clients.				
		PPTP Passthrough		Enable 🔻		
₩.	Traffic Manager	L2TP Passthrough		Enable 🔻		
Ē	Parental Controls	IPSec Passthrough		Enable 🔻		
	USB Application	RTSP Passthrough				
		H.323 Passthrough				
	Advanced Settings SIP Passthrough					
00	Wireless	Enable PPPoE Relay				
ដ	LAN	Apply				
۲	WAN					
	IPv6					

## 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.

Quick Internet Setup	Operation Mode: <u>Wireless routor</u> Firmware Version: <u>3.0,0.4,380,3534</u> SSID: <u>26, P34:12345678</u> <u>56, P34:12345678</u> IPv6			
General				
Retwork Map	IPv6			
🞊 Guest Network	Configure the IPv6 Internet setting of RT-AC1200G+. <u>IPv6_FAQ</u>			
Manager	Basic Config			
-	Connection type	Disable 🔻		
Parental Controls		Apply		
USB Application				
Advanced Settings				
察 Wireless				
💮 wan				
IPv6				

#### To set up IPv6:

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

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

## 4.5 Firewall

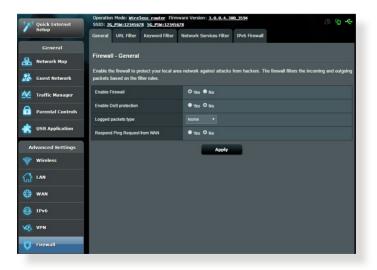
The wireless router can serve as a hardware firewall for your network.

NOTE: The Firewall feature is enabled by default.

## 4.5.1 General

#### To set up basic Firewall settings:

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



## 4.5.2 URL Filter

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

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

#### To set up a URL filter:

- From the navigation panel, go to Advanced Settings > Firewall > URL Filter tab.
- 2. On the Enable URL Filter field, select **Enabled**.
- 3. Enter a URL and click the 🕑 button.
- 4. Click Apply.

## 4.5.3 Keyword filter

Keyword filter blocks access to webpages containing specified keywords.

#### To set up a keyword filter:

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

#### NOTES:

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

#### 4.5.4 Network Services Filter

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



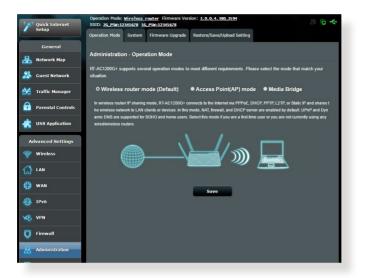
#### To set up a Network Service filter:

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

## 4.6 Administration

## 4.6.1 Operation Mode

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



#### To set up the operating mode:

- 1. From the navigation panel, go to Advanced Settings > Administration > Operation Mode tab.
- 2. Select any of these operation modes:
  - Wireless router mode (default): In wireless router mode, the wireless router connects to the Internet and provides Internet access to available devices on its own local network.
  - Access Point mode: In this mode, the router creates a new wireless network on an existing network.
- 3. Click Apply.

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

## 4.6.2 System

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

## To set up the System settings:

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

## 4.6.3 Firmware Upgrade

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

#### To upgrade the firmware:

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

#### NOTES:

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

## 4.6.4 Restore/Save/Upload Setting

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

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

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

# 4.7 System Log

System Log contains your recorded network activities.

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

### To view your system log:

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

Quick Internet	Operation Mode: Wireless router Firmw SSID: 26 PSW:12345678 56 PSW:1234567		8 🖬 🗲
Setup	General Log Wireless Log DHCP lease	s IPv6 Routing Table Port Forwarding Connections	
General			
Network Map	System Log - General Log		
Guest Network	This page shows the detailed system's acti	vities.	
	System Time	Mon, Jul 11 14:33:25 2016	
Traffic Manager	Uptime	0 days 0 hours 13 minute(s) 42 seconds	
Parental Controls	Jul 11 14:25:48 WAN Connection: WAN Jul 11 14:25:48 start nat rules: app		-
USB Application	Jul 11 14:26:44 start, nat_rules: apply the nat_rules(/tap/nat_rules_etb)( hul 11 14:26:29 MarGommeetrics: 13P* BHC due to function progetly. hul 11 14:36:29 starg_nat_rules: apply the refixed, rules( hul 11 14:36:44 start, nt rules: apply the nut rules/(tap/nat_rules etb) etb)) hul 11 14:36:44 start, nt rules: apply the nut rules(/tap/nat_rules etb) etb))		
Advanced Settings	Jul 11 14:27:21 WAN Connection: ISP Jul 11 14:27:21 stop_nat_rules: appl Jul 11 14:27:32 WAN Connection: WAN	y the redirect_rules( was restored.	
Wireless	50.11.14:27.32 start_nst_tales_apply the mat_rules(tap/ms_rules_stabl_stabl): 10.11.14:27.48 MAX Connection: TSP's MERC Gidn not function properly. 10.11.14:27.48 stop_mat_rules: apply the redirect_rules! 10.11.14:27.08 MAX Connection: MAX was restored.		
👌 LAN		ly the nat_rules(/tmp/nat_rules_eth0_eth0)! a DHCP did not function properly.	
WAN	Jul 11 14:30:33 WAN Connection: WAN Jul 11 14:30:33 start_nat_rules: app Jul 11 14:31:09 WAN Connection: ISP	vas restored. ly the nat_rules(/tmp/nat_rules_eth0_eth0)! s DHCP did not function properly.	
IPv6		vas restored. ly the nat_rules(/tmp/nat_rules_eth0_eth0)!	
VPN	Jul 11 14:31:50 WAN Connection: ISP Jul 11 14:31:50 stop_nat_rules: appl Jul 11 14:32:05 WAN Connection: WAN Jul 11 14:32:05 start nat rules: app	y the redirect_rules!	
Firewall	4		▼
Administration	Clear	Save Refresh	
System Log			

# 5 Utilities

#### NOTES:

- Download and install the wireless router's utilities from the ASUS website:
  - Device Discovery v2.0.0.0 at <u>http://dlcdnet.asus.com/pub/</u> <u>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 > Wireless Router > Device Discovery.

/isus		100	TN	-×
Device	SSID	IP Address	Subnet Mask	Printer
RT-AC1200	ASUS	192.168.50.1	255.255.255.0	ļ
Number of devic		igure	Search	<u>E</u> xit

**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.

limmware Restoration	_	<b></b>
<u>F</u> ilename:		<u>B</u> rowse
-Status- After locating the firmware fi	le, click Upload.	
	d <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 > 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

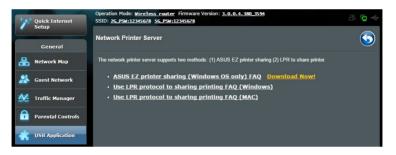
ASUS EZ Printing Sharing utility allows you to connect a USB printer to your wireless router's USB port and set up the print server. This allows your network clients to print and scan files wirelessly.



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

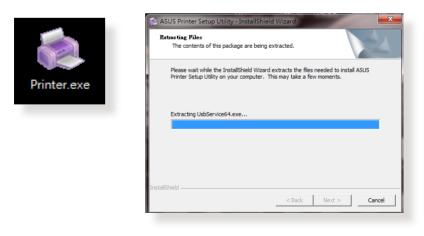
#### To set up the EZ Printer sharing mode:

- 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**.

	A Printer Setup Utility
	This utility will help you set up the USB printer. Connect your PC with the router through wired/wireless connection, then connect your printer to the router and power on it. Click "Next" to start printer installation.
	L <sub>uss</sub> _İ Ü <sub>LM</sub> J
/	<u>N</u> ext <u>Cancel</u>

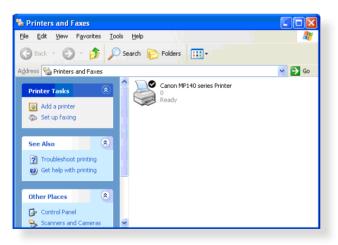
- 5. Wait a few minutes for the initial setup to finish. Click Next.
- 6. Click **Finish** to complete the installation.

/isus Printer S	Setup Utility
You have connected to the direction to install printer d	e following wireless router. Please follow Windows triver now.
IP Address:	192.168.50.1
Wireless Router:	RT-AC1200
Please follow the Windows OS	's directions to install printer driver.
	Einish

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.

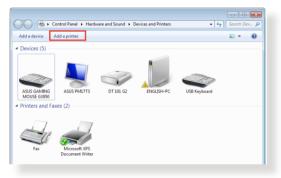


## 5.3.2 Using LPR to Share Printer

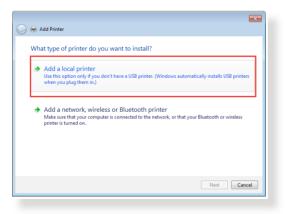
You can share your printer with computers running on Windows<sup>®</sup> and MAC operating system using LPR/LPD (Line Printer Remote/ Line Printer Daemon).

#### 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.



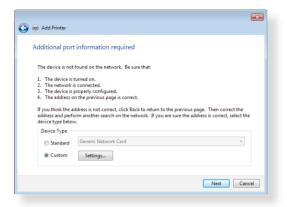
3. Select Create a new port then set Type of Port to Standard TCP/IP Port. Click New Port.

		<b>X</b>		
🍃 🖶 Add Printer				
Choose a printer port				
A printer port is a type of connection that allows your computer to exchange information with a printer.				
Use an existing port:	LPT1: (Printer Port)	-		
Oreate a new port:				
Type of port:	Standard TCP/IP Port	•		
Type of port:	Standard TCP/IP Port	•		
		Next Cancel		

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

🅞 🖶 Add Printer	×			
Type a printer hostnan	Type a printer hostname or IP address			
Device type:	TCP/IP Device *			
Hostname or IP address:	192.168.50.1			
Port name:	192.168.50.1			
☑ Query the printer and auto	matically select the driver to use			
	Next Cancel			

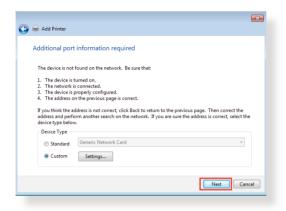
5. Select **Custom** then click **Settings**.



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

nfigure Standard TCP/IP Port	Monitor	X
Port Settings		
Port Name:	192.168.50.1	
Printer Name or IP Address:	192.168.50.1	
Protocol		LPR
Raw Settings		
Port Number:	9100	
LPR Settings		
Queue Name:	LPRServer	
LPR Byte Counting Ena	bled	
SNMP Status Enabled		
Community Name:	public	
SNMP Device Index	1	
		OK Cancel

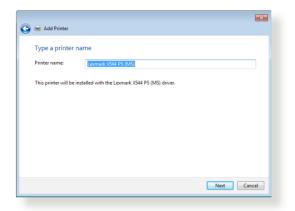
7. Click **Next** to finish setting up the standard TCP/IP port.



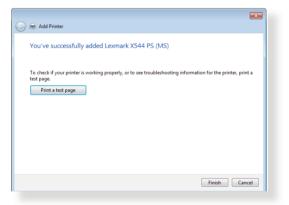
8. Install the printer driver from the vendor-model list. If your printer is not in the list, click **Have Disk** to manually install the printer drivers from a CD-ROM or file.

🚱 🖶 Add Printer		<b>—</b>
<b>S</b>	r from the list. Click Windows Update to see more models. rom an installation CD, click Have Disk.	
Manufacturer Kyocera Lanier Lexmark Microsoft Anne This driver is digitally sign Tell me why driver signin		•
	Next Car	cel

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



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



# 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.

Operation Mode: <u>WireLess router</u> Firmware Version: <u>3.0.0.4.380</u> 3594 SSID: <u>26.P34:32856/8</u> <u>56.P34:32856/8</u>		
/ Setup	Operation Mode System Firmware I	pgrade Restore/Save/Upload Setting
General	Administration - Firmware Upgra	de
Guest Network	Note: 1. The latest firmware version include	
Manager Traffic Manager	process.	ng both in the old and new firmware, its setting will be kept during the upgrade
Parental Controls	of RT-AC1200G+ will indicate such	T-AC1200G+ enters the emergency mode automatically. The LED signals at the front a situation. Use the Firmware Restoration utility on the CD to do system recovery. ASUS Support site at <u>http://www.asus.com/support/</u>
USB Application		
Advanced Settings	Product ID	RT-AC1200G+
察 Wireless	Firmware Version	3.0.0.4.380_3594-ga4f7f78 Check
🕼 LAN	New Firmware File	Choose File No file chosen
wan		Upload
IPv6		
K VPN		
<b>Firewall</b>		
Administration		

- 2. If the latest firmware is available, visit the ASUS global website at <u>http://www.asus.com/Networks/Wireless\_Routers/</u><u>RTAC1200/#download</u> to download the latest firmware.
- 3. From the **Firmware Upgrade** page, click **Choose File** 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 method, and password are correct.

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

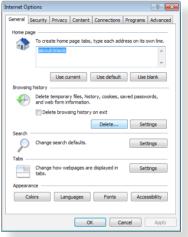
 Each client on the network should have a valid IP address. ASUS recommends that you use the wireless router's DHCP server to assign IP addresses to computers on your network.  Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You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



# 6.2 Frequently Asked Questions (FAQs)

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

- If your computer is wired, check the Ethernet cable connection and LED status as described in the previous section.
- Ensure that you are using the correct login information. The default factory login name and password is "admin/admin". Ensure that the Caps Lock key is disabled when you enter the login information.
- Delete the cookies and files in your web browser. For Internet Explorer 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.

🙀 Quick Internet	Operation Mode: <u>wireless router</u> Firmware Version: 3.0.0.4.376_3792 SSID: ASUS ASUS 56 9 8 9 4 0			
Setup	LAN IP DHCP Server Route			
General				
船 Network Map	LAN - DHCP Server			
Suest Network		Protocol) is a protocol for the automatic config sign each client an IP address and informs the		
Manager		F-AC1200 supports up to 253 IP addresses for		
Parental Controls	Basic Config			
📥 USB	Enable the DHCP Server	© Yes ● No		
Application	RT-AC1200's Domain Name			
aiCloud 2.0	IP Pool Starting Address	192.168.50.2		
Advanced Settings	IP Pool Ending Address			
察 Wireless	Lease time	86400		
🔂 LAN	Default Gateway			
🕀 WAN	DNS and WINS Server Setting	DNS and WINS Server Setting		
-	DNS Server			
IPv6	WINS Server			
Firewall	Enable Manual Assignment			
Administration	Enable Manual Assignment	• Yes • No		
📝 System Log	Manually Assigned IP around the DHCP list (Max Limit : 64)			
Network	MAC address	IP Address	Add / Delete	
Network Tools			Ð	
		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.

Quick Internet Setup	Operation Mode: Wireless rout Version: 3.0.0_4.376_3792 SS General WPS Wireless MAC Fi	SID: ASUS ASUS_SG
General		
品 Network Map	Wireless - General	
Suest Network	Set up the wireless related informati	on below.
Manager	Frequency	2.4GHz
🗛 Parental	SSID	ASUS
Controls	Hide SSID	• Yes • No
Application	Wireless Mode	Auto 🛛 🛱 b/g Protection
🚖 AiCloud 2.0	Channel bandwidth	20/40 MHz
Advanced Settings	Control Channel	Auto 🔹
Wireless	Extension Channel	Auto 🔹
	Authentication Method	Open System
	Apply	
💮 WAN		
🚳 IPv6		

- 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.

Quick Internet Setup	Operation Mode: Wireless rout Version: 3.0.0.4.376_3792 SS Operation Mode System Firm	SID: ASUS ASUS_5G
General		
船 Network Map	Administration - Restore/Save/Upl	oad Setting
Suest Network	This function allows you to save cur	rent settings of RT-AC1200 to a file, or load settings from a file.
Manager	Factory default	Restore
Parental Controls	Save setting	Save
discussion USB	Restore setting	Upload Choose File
AiCloud 2.0		

#### 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.

V Quick Internet Setup	Operation Mode: <u>vireless router</u> Firmware Version: 3.0.0.4.376_3792 SSID: ASUS ASUS_SG
General	Parental Controls
Network Map     Guest     Network Map     Guest     Network     Traffic     Controls     Controls     Supplication     Aicloud 2.0     Advanced Settings     Wireless	Parental Controls allow you to set the time limit for a client's network usage To use Parental Controls.  1. In the [Clients Name] column, select the client whose network usage you want to control. You may also key in the client MAC address in the [Clients MAC Address] column. 1. In the [Add / Delete] column, click the plus(+) (con to add the client. 1. In the [Add / Delete] column, click the plus(+) (con to add the client. 2. In the [Add / Delete] column, click the plus(+) (con to add the client. 3. Select the desired time slots for allowed access times. Drag and hold to create longer time slots. 3. Click (DK) to save the selfings made. 3. Click to open the lubrial video. 3. Click to open the lubria
💮 LAN	Note: Clients that are added to Parenetal Controls will have their internet access restricted by default.
<ul> <li>IPv6</li> <li>Firewall</li> </ul>	Enable Parental Controls ON BOD 07:58:17 System Time Administration System Time Administration your locale setting.
& Administration	Client List (Max Limit : 16)
System Log	Clients Name     Clients MAC Address     Time     Add / Management     Delete
	a - 📀
	No data in table.
	Apply

- 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:	router.asus.com
Domain Name:	(Blank)
Subnet Mask:	255.255.255.0
DNS Server 1:	192.168.1.1
DNS Server 2:	(Blank)
SSID (2.4GHz):	Refer to the label at the bottom of the router
SSID (5GHz):	Refer to the label at the bottom of the router

## 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.

**NOTE:** The screenshots provided are for Windows<sup>®</sup> 7 only. The steps and options may be different for Windows<sup>®</sup> 8 and Windows<sup>®</sup> 8.1.

#### Windows<sup>®</sup> 7/8

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

Internet Properties	? <b>×</b>
. Internet Properties	
General Security Privacy Content Connections	Programs Advanced
To set up an Internet connection, dick Setup.	Setup
Dial-up and Virtual Private Network settings	
SVPN Connection	A <u>d</u> d
	Add V <u>P</u> N
	Remove
Choose Settings if you need to configure a proxy server for a connection.	Settings
Never dial a connection	
Dial whenever a network connection is not pres	ent
Always dial my default connection	
Current None	Set default
Local Area Network (LAN) settings	
LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.	LAN settings
ок с	ancel Apply

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

se of manual		able automatic o		gs. To ensure the ion.
	atic configur			
	y server for IPN connecti		e settings	will not apply to
Address:		Port:	80	Advanced
Bynass	proxy serve	er for local addre	sses	

### **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.

		Locati		itomatic			:		
		Sh	ow: Bu	ilt-in Eth	ernet		;		
	T	CP/IP	PPPoE	AppleT	Talk Prop	cies l	thernet	)	
Select	a proxy s	erver to	configu	re:	FTP Pro	xy Serve	r		
	TP Proxy			n		_	_	:	
	(eb Proxy ( ecure Web		IT IPS)		Prox	y server	require	s passwor	d
	treaming P			J		Set P	assword		
	OCKS Prox opher Pro:			×.					
	s proxy se Hosts & D								
_				_					
<b>✓</b> Use	Passive F	TP Mod	e (PASV)						(?)

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

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

#### Windows<sup>°</sup> 7/8

- 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.

nnect using: Realitek PCIe GBE Family Controller	
· · · · · · · · · · · · · · · · · · ·	
Configure	- I
s connection uses the following items:	
Client for Microsoft Networks	
QoS Packet Scheduler	
File and Printer Sharing for Microsoft Networks	
<ul> <li>Internet Protocol Version 6 (TCP/IPv6)</li> </ul>	
Internet Protocol Version 4 (TCP/IPv4)	
Link-Layer Topology Discovery Mapper 1/U Driver	
🖞 🔺 Link-Layer Topology Discovery Responder	
Install Uninstall Properties	
Description	-
Transmission Control Protocol/Internet Protocol. The default	
wide area network protocol that provides communication	
across diverse interconnected networks.	

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	n get IP settings assigned a bability. Otherwise, you nee appropriate IP settings.					
() Oł	otain an IP address automa	tically	1			
OUs	se the following IP address:	)				
IP ac	ddress:		5			
Subr	net mask:		8		X	
Defa	ult gateway:		<b>i</b> ();	Sec.	а. С	
() Oł	otain DNS server address a	utomatica	ally			
OUs	se the following DNS server	addresse	s:			
Prefe	erred DNS server:					
Alter	nate DNS server:		10	19	9	
V	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. Click **Apply Now** when done.

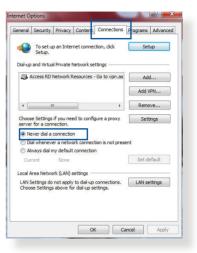
	Network	(
how All Displays So	ound Network Startup Disk	
	Location: Automatic	
	Show: Built-in Ethernet	
ТС	P/IP PPPoE AppleTalk Proxies Ethernet	
Configure IPv4	: Using DHCP 🗘	
IP Address	: 192.168.182.103 Renew DHCF	Lease
Subnet Mark	: 255.255.255.0 DHCP Client ID:	_
	(If required)	
Router	192.168.182.250	
DNS Servers	: 192.168.128.10	(Optional)
Search Domains		(Optional)
IPv6 Address	: fe80:0000:0000:0000:0211:24ff:fe32:b18e	
	Configure IPv6	(?)
		0

**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> 7/8

- 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.

**CAUTION**: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **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.

## **Safety Information**

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna.

## Canada, Industry Canada (IC) Notices

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.

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**

The radiated output power of the ASUS Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The ASUS Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate ("SAR") limits when installed in specific host products operated in portable exposure conditions (antennas are less than 20 centimeters of a person's body).

This device has been certified for use in Canada. Status of the listing in the Industry Canada's REL (Radio Equipment List) can be found at the following web address: http://www.ic.gc.ca/app/sitt/reltel/srch/nwRdSrch.do?lang=eng

Additional Canadian information on RF exposure also can be found at the following web: http://www.ic.gc.ca/eic/site/smt-gst. nsf/eng/sf08792.html

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

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.

Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent a ecter son fonctionnement.

## NCC 警語

經型式認證合格之低功率射頻電機,非經許可,公司、商號或 使用者均不得擅自變更頻率、加大功率或變更原設計之特性及 功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通 信;經發現有干擾現象時,應立即停用,並改善至無干擾時方 得繼續使用。前項合法通信,指依電信法規定作業之無線電通 信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電 波輻射性電機設備之干擾。

電磁波曝露量 MPE 標準值 1mWcm2,送測產品實測值為:。

## **GNU General Public License**

## **Licensing information**

This product includes copyrighted third-party software licensed under the terms of the GNU General Public License. Please see The GNU General Public License for the exact terms and conditions of this license. All future firmware updates will also be accompanied with their respective source code. Please visit our web site for updated information. Note that we do not offer direct support for the distribution.

## **GNU GENERAL PUBLIC LICENSE**

Version 2, June 1991

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## Preamble

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Online support	http://qr.asus.com/techserv

#### ASUS COMPUTER GmbH (Germany and Austria)

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Online contact	http://eu-rma.asus.com/sales

#### **Technical Support**

Telephone	+49-2102-5789555
Support Fax	+49-2102-959911
Online support	http://qr.asus.com/techserv

# **Networks Global Hotline Information**

Region	Country	Hotline Number	Service Hours
	Cyprus	800-92491	09:00-13:00 ; 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	+44-1442265548	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

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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
		0000-1252/0/	09:00-17:00 Sat-Sun
		0081-570783886	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
	Cinganana	1800-8525201	11.00 10.00 Mars Fri
Asia-Pacific	Singapore	0065-64157917	11:00-19:00 Mon-Fri
Asia-Facilic		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) Indonesia	0062-2129495000	09:00-21:00 Mon-Sun 09:30-17:00 Mon-Fri
	indonesia		9:30 – 12:00 Sat
		500128 (Local Only)	9:50 - 12:00 Sat 08:00-12:00
	Vietnam	1900-555581	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
	Canada	1-012-202-2707	9:00-18:00 EST Sat-Sun
Americas	Mexico	001-8008367847	08:00-20:00 CST Mon-Fri
			08:00-15:00 CST Sat
	Egypt	800-2787349	09:00-18:00 Sun-Thu
	Saudi Arabia	800-1212787	09:00-18:00 Sat-Wed
Middle East + Africa	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

Region	Country	Hotline Numbers	Service Hours
	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
		00359-29889170	09:30-18:00 Mon-Fri
	Croatia	00385-16401111	09:00-17:00 Mon-Fri
Balkan	Montenegro	00382-20608251	09:00-17:00 Mon-Fri
Countries	Serbia	00381-112070677	09:00-17:00 Mon-Fri
	Slovenia	00368-59045400	08:00-16:00 Mon-Fri
		00368-59045401	06:00-10:00 MON-FN
	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

## **Networks Global Hotline Information**

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> Sat. to Sun. 9:00am-6:00pm EST (6:00am-3:00pm PST)

#### BRAZIL

Hotline Number: 4003 0988 (Capital) / 0800 880 0988 (demais localidades) Language: Portuguese

Availability: **Mon. to Fri.** 9:00am-18:00

#### Manufacturer

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