

User Guide

RT-N12 Series

Superspeed Wireless N Router

E7901

First Edition

November 2012

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1 Overview

Package contents

- RT-N12 Series wireless router
- Network cable (RJ-45)
- Power adapter
- Quick Start Guide
- Warranty card



NOTE:





- The RT-N12 Series wireless router includes the RT-N12 D1 and RT-N12 HP models. This manual discusses features for both models.
 - If any of the items is 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.
-

Hardware features

Front








Status indicators

LED	Status	Indication
 Power	Off	No power or wireless signal is disabled
	On	System ready
	Flashing slowly	Rescue mode
	Flashing quickly	WPS in progress
 Wireless	Off	No power
	On	Wireless system ready
	Flashing	Transmitting or receiving data (wireless)
 WAN Wide Area Network	Off	No power or no physical connection
	On	Has physical connection to an Ethernet network
	Flashing	Transmitting or receiving data (through Ethernet cable)
 LAN 1-4 Local Area Network	Off	No power or no physical connection
	On	Has physical connection to an Ethernet network
	Flashing	Transmitting or receiving data (through Ethernet cable)





Rear (RT-N12 D1)



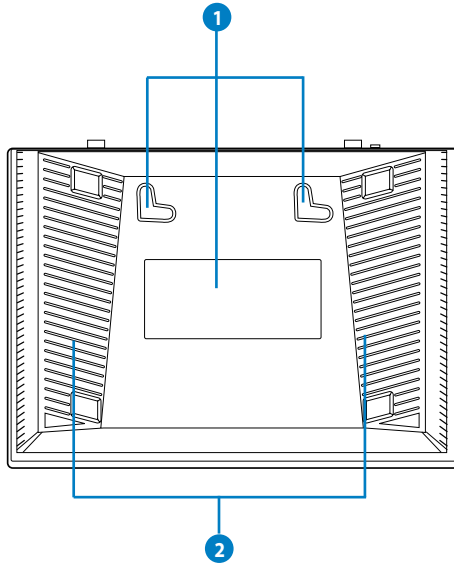
Label	Description
 Reset	Press this button for more than five seconds to restore the system to its factory default settings.
 Power	Press this button to power on/off the wireless router.
 DCIN	Insert the AC adapter into this port to connect your router to a power source.
 LAN1-LAN4	Connect RJ-45 Ethernet cables to these ports to establish LAN connection.
 WAN	Connect an RJ-45 Ethernet cable to this port to establish WAN connection.
WPS	Press this button for more than four seconds to establish a secure wireless connection with a WPS-supported wireless device.

Rear (RT-N12 HP)



Label	Description
WPS	Press this button for more than four seconds to establish a secure wireless connection with a WPS-supported wireless device.
 LAN1-LAN4	Connect RJ-45 Ethernet cables to these ports to establish LAN connection.
 WAN	Connect an RJ-45 Ethernet cable to this port to establish WAN connection.
 Reset	Press this button for more than five seconds to restore the system to its factory default settings.
 Power	Press this button to power on/off the wireless router.
<u>DCIN</u>	Insert the AC adapter into this port to connect your router to a power source.

Bottom panel



Item	Description
1	Mounting hooks Use the mounting hooks to mount your router on concrete or wooden surfaces using two round head screws.
2	Air vents These vents provide ventilation to your router.



NOTE: Mounting the wireless router to a wall is not recommended as it reduces wireless performance.

2 Setting up your wireless network

Positioning your router

To get the best wireless network performance from your wireless router, follow the recommendations below:

- Place the wireless router at the center of your network for maximum wireless coverage.
- Keep the device away from metal obstructions and away from direct sunlight.
- Keep the device away from 802.11g or 20MHz only Wi-Fi devices, 2.4GHz computer peripherals, Bluetooth devices, cordless phones, transformers, heavy-duty motors, fluorescent lights, microwave ovens, refrigerators, and other industrial equipment to prevent signal interference or loss.
- For the best front-to-rear wireless coverage, place the wireless router in an upright position.
- For the best upward and downward wireless coverage, place the wireless router in an inclined position.
- Always update to the latest firmware. Visit the ASUS website at <http://support.asus.com> to get the latest firmware updates.

What you need

To set up your network, you need one or two computers that meet the following system requirements:

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



NOTE:

- If your computer does not have built-in wireless capabilities, install an IEEE 802.11b/g/n WLAN adapter to your computer to connect to the network.
 - The Ethernet RJ-45 cables used to connect the network devices should not exceed 100 meters.
-

Setting up your wireless router



IMPORTANT!

- Use a wired connection when setting up your wireless router to avoid possible wireless setup issues.
 - 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. If your modem has a backup battery, remove it as well.
 - Reboot your computer (recommended).
-

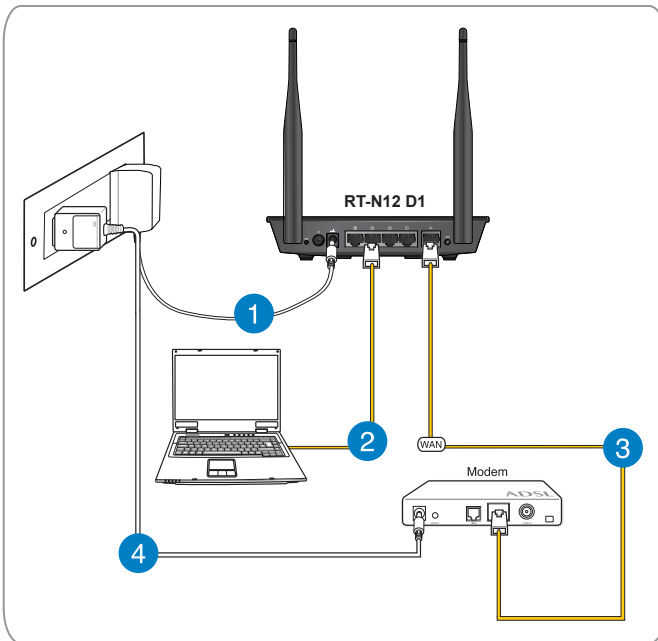
Wired connection

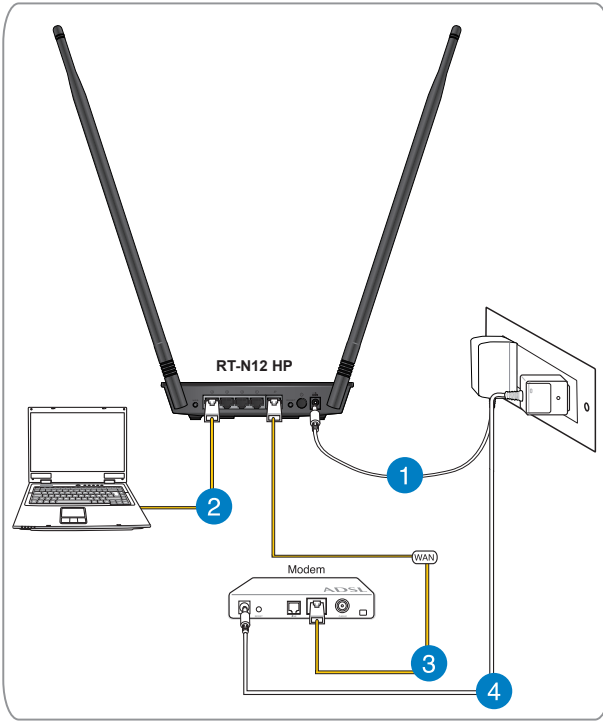


NOTE: Your wireless router supports both a straight-through or crossover cable when setting up a wired connection.

To set up a network using a 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.

Wireless connection

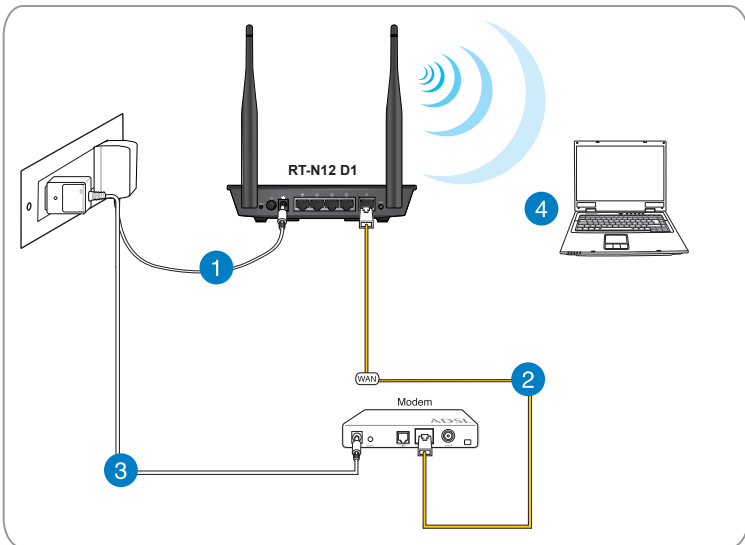
To set up your wireless network:

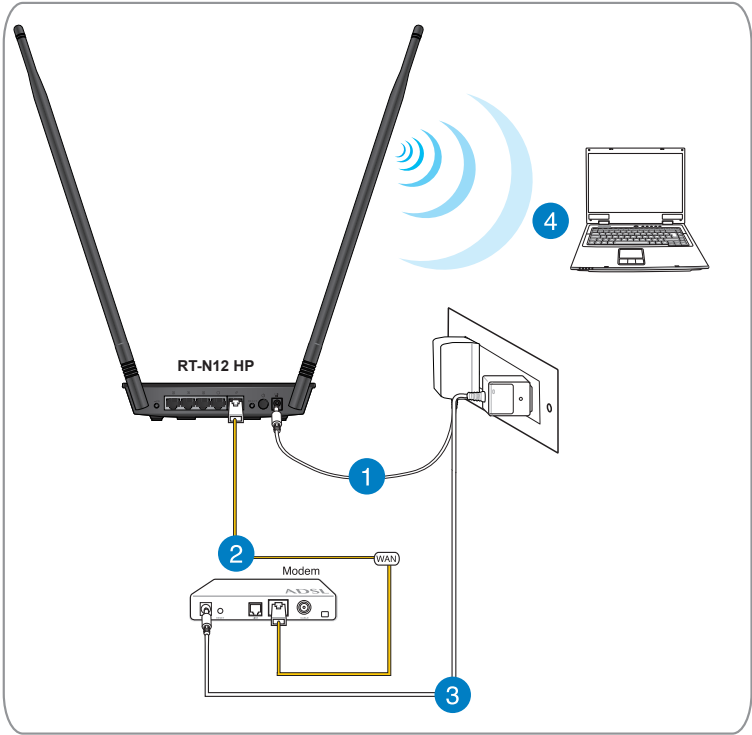
1. Insert your wireless router's AC adapter to the DC-In port and plug it to a power outlet.
2. Using the bundled network cable, connect your modem to your wireless router's WAN port.
3. Insert your modem's AC adapter to the DC-In port and plug it to a power outlet.
4. Install an IEEE 802.11b/g/n WLAN adapter on your computer.



NOTE:

- 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 wireless security**.





Before you proceed

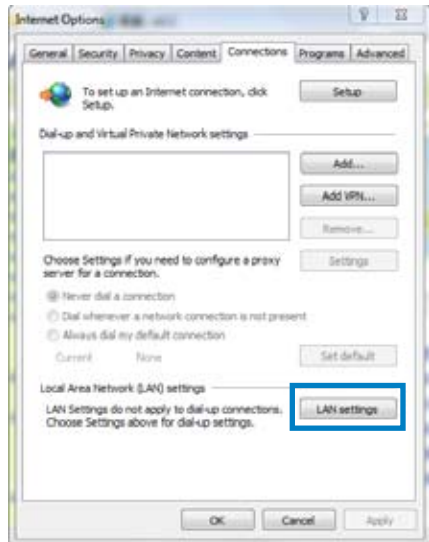


NOTE: Before configuring your wireless router, apply the steps described in this section to each computer on the network to avoid problems connecting to the wireless network.

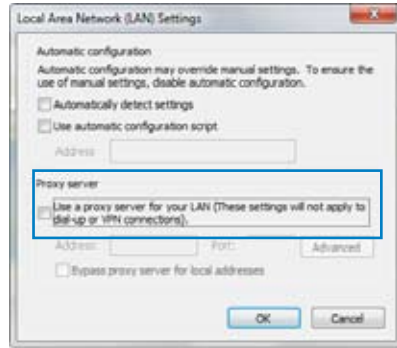
A. Disable any configured proxy servers.

Windows® 7

1. Click **Start > Internet Explorer**.
2. Click **Tools > Internet options > Connections tab > LAN settings**.

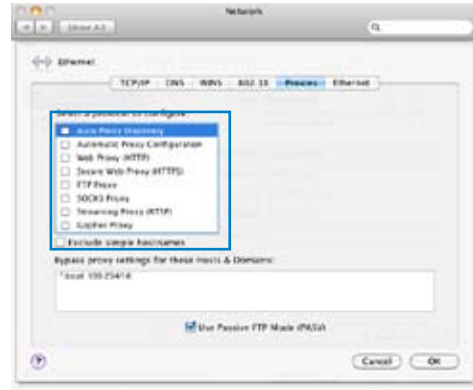


- From the Local Area Network (LAN) Settings window, uncheck **Use a proxy server for your LAN**.
- Click **OK** then **Apply**.



MAC OS X

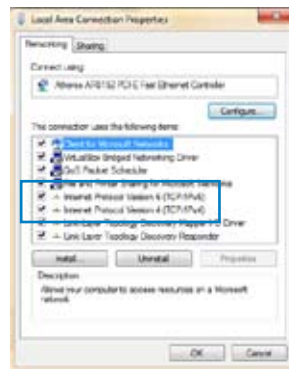
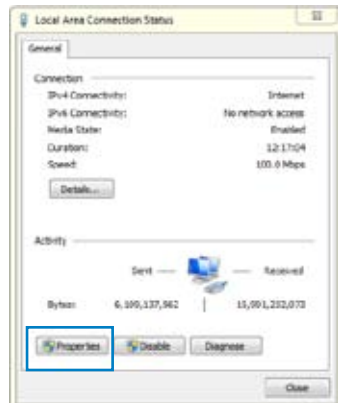
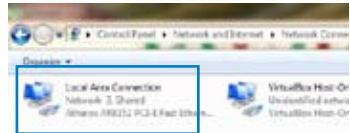
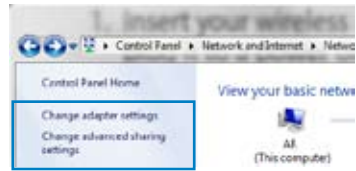
- From your **Apple Safari** browser, click **Safari > Preferences > Advanced**. On the **Proxies** item, click **Change Settings...**
- From the **Network** screen, uncheck **FTP Proxy** and **Web Proxy (HTTP)**.
- Click **OK** then **Apply**.



B. Configure TCP/IP settings to automatically obtain an IP address.

Windows® 7

1. Click **Start > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings**.
2. On the Network Connections window, click on **Local Area Connection**.
3. On the Local Area Connection Network Status window, click **Properties**.
4. Select Internet Protocol Version 4 (TCP/IPv4) or Internet Protocol Version 6 (TCP/IPv6), then click **Properties**.



6. Tick **Obtain an IP address automatically**.
7. Click **OK**.

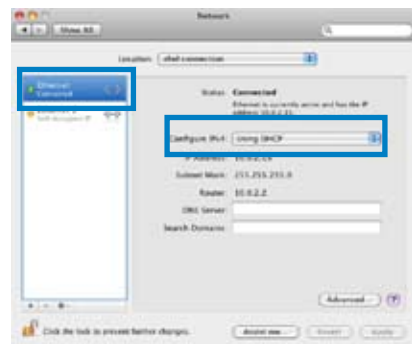


MAC OS X

1. Click **Apple Menu**
>**System Preferences** >
Network



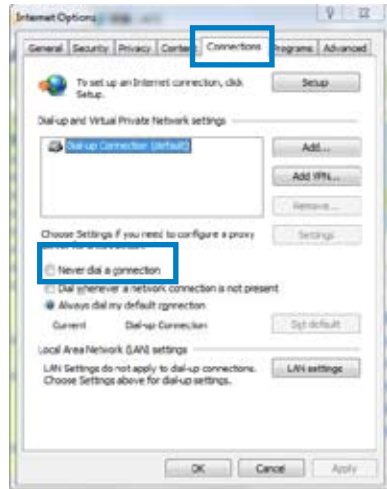
2. Click **Ethernet** on the left panel.
3. On the Configure IPv4, item select **Using DHCP**.
4. Click **Apply**.



C. Disable dial-up networking

Windows® 7

1. Click **Start > Internet Explorer**.
2. Click **Tools > Internet Options > Connections** tab.
3. Tick **Never dial a connection**.
4. Click **Apply** then **OK**.



3 Network configuration using the web GUI

Logging in to the web GUI

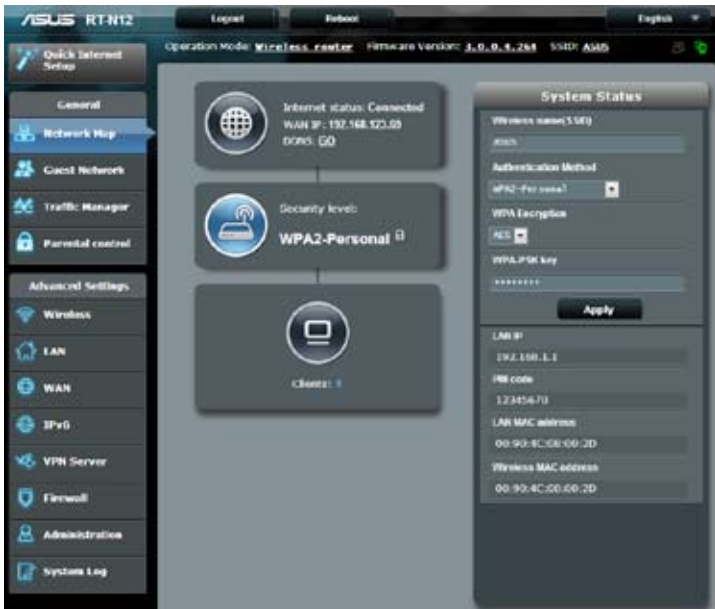
Your ASUS Wireless Router uses a web-based user interface that allows you to configure the router using any web browser such as Internet Explorer, Mozilla Firefox, Apple Safari, or Google Chrome.

To log in to the web GUI:

1. Launch your web browser and manually key in the wireless router's default IP address: **192.168.1.1**
2. On the login page, key in the default user name (**admin**) and password (**admin**).



3. The wireless router GUI provides access to various configuration settings.



Setting up the Internet connection



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

Quick Internet Setup (QIS) with auto-detection

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

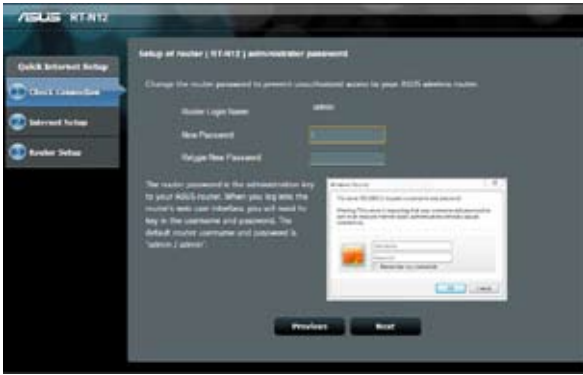
To use QIS with auto-detection:

1. Launch a web browser such as Internet Explorer, Mozilla Firefox, Apple Safari, or Google Chrome.
2. Quick Internet Setup will launch automatically. Click **Next**.



- If QIS failed to launch automatically, manually launch your wireless router's web GUI to access the QIS page. To do this, follow these steps:
 1. On your web browser, key in <http://192.168.1.1>
 2. On the login page, key in the default username **admin** and password **admin**.
 3. Click **Quick Internet Setup** on the navigation panel.

3. Key in a new administrator password to prevent unauthorized access to the router. Click **Next**.



4. Select Wireless router mode, Repeater mode, or Access Point (AP) mode. Click **Next**.



NOTE: To set up a wireless network with Internet access, use **Wireless router mode**.



5. The wireless router will attempt to identify your connection type. If needed, select the necessary connection type and key in any necessary information required, such as your ISP user name and password.



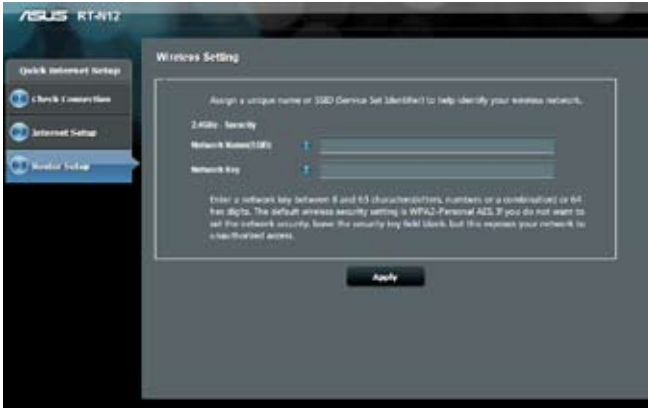
IMPORTANT! Obtain the necessary information about your Internet connection type and additional login information from your Internet Service Provider.



NOTE:

- 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.
-

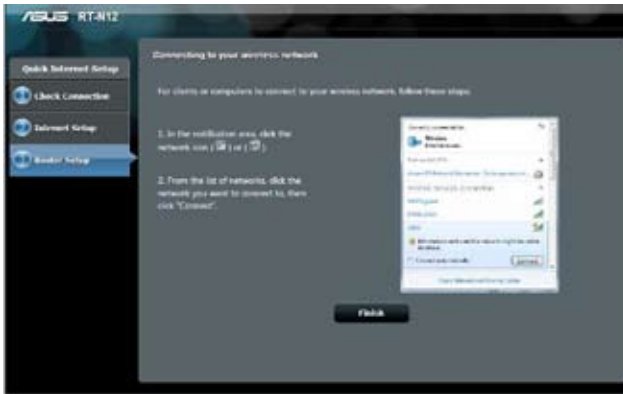
8. In the Wireless setting screen, key in a **network name (SSID)** and assign a security key for your wireless connection. Click **Apply**.



9. A summary of your network settings will be displayed. Click **Next** to continue.



10. Read the **Wireless Network Connection Tutorial**. Click **Finish**.



Setting up wireless security

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

To set up the wireless security settings:

1. Key in **192.168.1.1** on your web browser.
2. On the login screen, key in the default user name (**admin**) and password (**admin**), then click **OK**. The wireless router's web GUI launches.
3. On the Network Map screen, the **System Status** area displays the SSID (Service Set Identifier), Authentication Method, and security key settings of your wireless network.



4. On the **Wireless name (SSID)** field, key in a unique name for your wireless network.
5. From the **Authentication Method** dropdown list, select the encryption method for your wireless network.



The IEEE 802.11n 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.

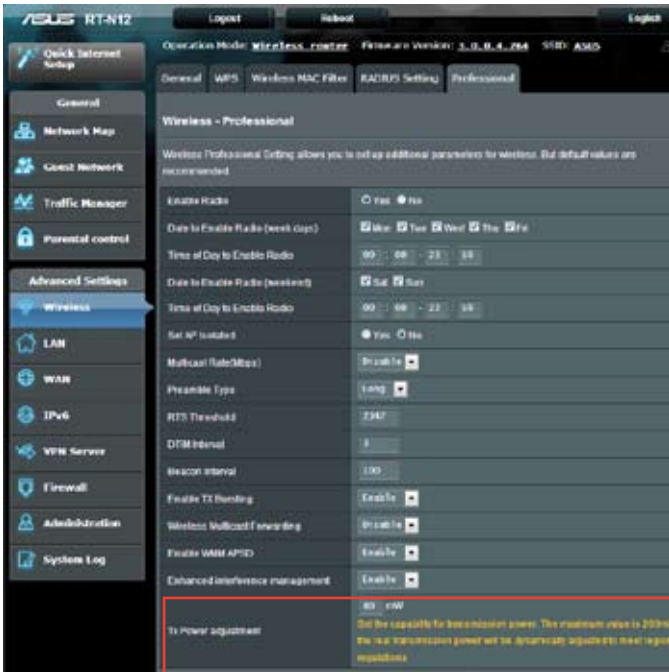
6. Key in your security passkey.
7. Click **Apply**.

Tx Power adjustment (For RT-N12 HP only)

Tx Power adjustment refers to the milliWatts (mW) needed to power the radio signal output of the wireless router. The RT-N12 HP router can support a maximum transmission power of 200 mW.

To adjust TX Power adjustment:

1. Click **Wireless** on the navigation panel.
2. Click the **Professional** tab.
3. On the **Tx Power adjustment** item, enter a value between 0 and 200 mW.



The screenshot shows the ASUS RT-N12 web interface. The left navigation panel has 'Wireless' selected under 'Advanced Settings'. The main content area is titled 'Wireless - Professional' and contains various settings. At the bottom, the 'Tx Power adjustment' setting is highlighted with a red box, showing a value of '80 mW'. A yellow tooltip is visible next to the value, stating: 'Set the capability for transmission power. The maximum value is 200mW, the max transmission power will be dynamically adjusted to meet legal regulations.'



NOTE: Increasing the Tx Power adjustment values may affect the stability of the wireless network and the life of the wireless router.

Creating your Guest Network

Setting up a Guest Network provides wireless Internet connectivity for temporary visitors while restricting access to your private network.

To create your guest network:

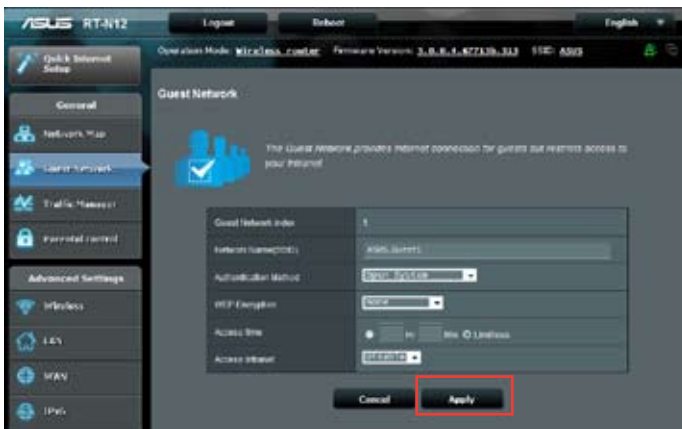
1. Click **Guest Network** on the navigation panel.
2. Click **Enable**.



3. To configure additional options, click any of the items listed.



4. Assign a wireless name for your temporary network on the **Network Name (SSID)** field.
5. Select an **Authentication Method**.
6. Select a **WEP Encryption** method.
7. Specify the **Access time** or click **Limitless**.
8. Select Disable or Enable on the **Access Intranet** item.
9. Click **Apply**.



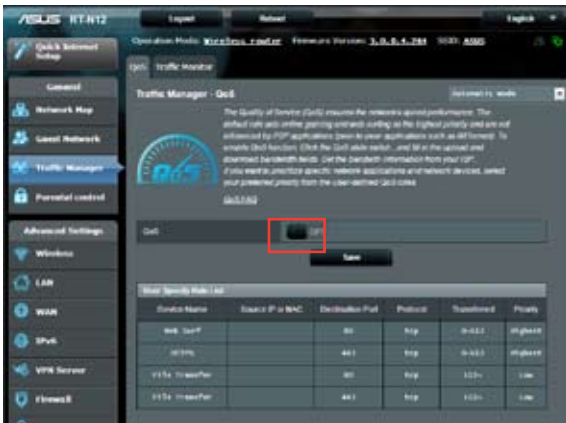
Using the Traffic Manager

Managing QoS (Quality of Service) Bandwidth

The **Quality of Service** feature allows you to set the bandwidth priority and manage network traffic.

To set up QoS:

1. Click **Traffic Manager** on the navigation panel and click the **QoS** tab.
2. Click **ON** to enable QoS.
3. Click **Save**.



Your bandwidth information is available from your ISP.

- If you want to prioritize specific network applications and network services, click **User-defined Priority** on the upper-right hand corner.
- Adjust the values as needed. Click **Apply**.

Operation Mode: **wireless_router** Firmware Version: **3.9.6.1-286** SSID: **ADM5**

QoS: **Traffic Monitor**

Traffic Manager - QoS User-defined Priority

From the User-defined QoS rules dropdown list, you can prioritize the network applications or services into five levels. Based on priority level, QoS uses the following methods in sending data packets:

- Change the order of upstream network packets, which refer to the order in which packets are sent to the internet.
- Low priority packets are disregarded to ensure the transmission of high-priority packets. The higher priority upstream packet will cause the higher priority downstream packet.
- If there are no packets being sent from high-priority applications, the full transmission rate of the Internet connection is available for low-priority packets.

• **Enable QoS then set up the upload and download rate limits.**

Set up the Upload and Download rate limits:

Upload bandwidth				Download bandwidth		
Upload Priority	Minimum Reserved Bandwidth	Maximum Bandwidth Limit	Current Settings	Download Priority	Maximum Bandwidth Limit	Current Settings
Highest	40 %	100 %	0 - 0 Kbps	Highest	100 %	0 - 0 Kbps
High	10 %	100 %	0 - 0 Kbps	High	100 %	0 - 0 Kbps
Medium	5 %	100 %	0 - 0 Kbps	Medium	100 %	0 - 0 Kbps
Low	3 %	100 %	0 - 0 Kbps	Low	100 %	0 - 0 Kbps
Lowest	2 %	80 %	0 - 0 Kbps	Lowest	100 %	0 - 0 Kbps

The Highest priority packet

The default ACK, RST and ICMP packets are used to bypass the queue bandwidths.

ACK DNS FTP RST ICMP

Apply

Monitoring Traffic

Click the **Traffic Monitor** tab to view real-time or historical bandwidth information of your Internet, Wired, and Wireless connections.



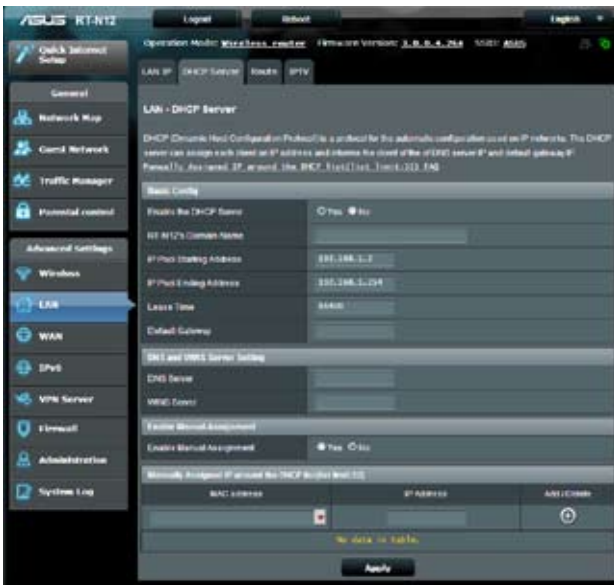
Configuring Advanced settings

Setting up the 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.

To configure the DHCP server:

1. Click **LAN** on the navigation panel.
2. Click the **DHCP Server** tab.



3. In the **Enable the DHCP Server** field, tick **Yes**.
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.



-
- ASUS recommends 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.
-

Upgrading the firmware



Download the latest firmware from the ASUS website at <http://support.asus.com>

To upgrade the firmware:

1. Click **Administration** from the navigation panel.
2. Click the **Firmware Upgrade** tab.
3. In the **New Firmware File** item, click **Browse**. Navigate to the downloaded firmware file.
4. Click **Upload**.



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, use the Firmware Restoration utility.

Restoring/Saving/Uploading settings

To restore/save/upload wireless router settings:

1. Click **Administration** on the navigation panel.
2. Click the **Restore/Save/Upload Setting** tab.



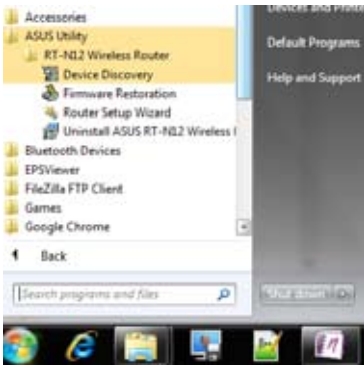
4. Select a task from the configuration options:
 - To restore to default factory settings, click **Restore**, and click **OK** once prompted.
 - To save the current system settings, click **Save**, navigate to the folder where you intend to save the file and click **Save**.
 - To restore from a saved system settings file, click **Browse** to locate your file, then click **Upload**.

4 Using the utilities



ASUS wireless router utilities can be downloaded from <http://support.asus.com>

After downloading and installing the setup file for the ASUS wireless utilities, the Device Discovery and Firmware Restoration utilities will be added to your applications.



Device Discovery

Device Discovery is an ASUS WLAN utility that detects any ASUS wireless routers available on the wireless network and allows you to configure the device.

To launch the Device Discovery utility:

- Click **Start > All Programs > ASUS Utility > RT-N12 Wireless Router > Device Discovery.**



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

Firmware Restoration

Firmware Restoration is used on an ASUS Wireless Router after a failed firmware upgrade. This utility uploads a firmware file to the wireless router. The process takes about three to four minutes.



Launch rescue mode before using the Firmware Restoration utility.

To launch rescue mode and use the Firmware Restoration utility:

1. Unplug the wireless router from its power source.

2. While holding down the Reset button at the back of the wireless router, plug the wireless router into a power source. Release the Reset button when the Power LED at the front panel begins to flash slowly, which indicates that the wireless router is in rescue mode.
3. Use the following to set up your TCP/IP settings:
IP address: 192.168.1.x
Subnet mask: 255.255.255.0
4. From your computer's desktop, click **Start > All Programs > ASUS Utility > RT-N12 Wireless Router > Firmware Restoration.**



5. Click **Browse** to navigate to the firmware file, then click **Upload.**



The Firmware Restoration utility is not used to upgrade the firmware of a working ASUS Wireless Router. Normal firmware upgrades must be done through the web GUI. Refer to **Upgrading the firmware** for more details.

5 Troubleshooting



If you encounter problems that are not mentioned in this chapter, contact ASUS Technical Support.

Troubleshooting

I cannot access the router GUI for configuring the router.

- Delete the cookies and temporary files in your web browser. To do this in Internet Explorer 8:
 1. Launch your web browser, then click **Tools > Internet Options**.
 2. On the General tab, click **Delete** under Browsing history.
 3. Tick **Temporary Internet Files** and **Cookies**. Click **Delete**.



Instructions for deleting cookies and temporary Internet files vary with the web browser.

- Disable the proxy server settings, remove any dial-up connections, and set the TCP/IP settings to obtain IP addresses automatically. For more details, refer to the section **Before you proceed** in this user manual.

The client cannot establish a wireless connection with the router.

Out of Range:

- Place the router closer to the wireless client.
- Change the channel settings.

Authentication:

- Use a wired connection to connect to the router.
- Check the wireless security settings.
- Press the Reset button at the rear panel for more than five seconds.

Cannot find the router:

- Press the Reset button at the rear panel for more than five seconds.
- Check the settings in the wireless adapter such as SSID and encryption method.

Cannot access the Internet using a wireless LAN adapter.

- Place the router closer to the wireless client.
- Check whether the wireless adapter is connected to the correct wireless router.
- Check whether the wireless channel in use conforms to the channels available in your country/area.
- Check the encryption settings.
- Check if the ADSL or Cable connection is connected.
- Use a different Ethernet cable.

Internet is not accessible.

- Check the status indicators on the ADSL modem and the wireless router.
- Check if the WAN LED on the wireless router is on. If the LED is off, switch Ethernet cables and try again.

The ADSL Modem “Link” light is ON (steady and not blinking) and means Internet access is possible, but I still cannot browse the Internet.

- Restart your computer.
- Check if the WAN LED on the wireless router is on.
- Check the wireless encryption settings.
- Check if the computer can get an IP address (using both a wired or wireless connection).
- Check that your web browser is configured to use the local LAN and is not configured to use a proxy server.

If the ADSL “LINK” light blinks continuously or stays off, Internet access is not possible - the Router is unable to establish a connection with the ADSL network.

- Ensure that all your cables are properly connected .
- Disconnect the power cord from the ADSL or cable modem, wait a few minutes, then reconnect the cord.
- If the ADSL light continues to blink or stays OFF, contact your Internet service provider.

Network name or encryption keys are forgotten.

- Set up a wired connection and reconfigure the wireless security settings.
- Press the Reset button at the rear panel of the wireless router for more than five seconds.

How do you restore the system to its default settings?

- Press the Reset button at the rear panel of the wireless router for more than five seconds.
- Refer to the section **Restoring/Saving/Uploading settings** of this user manual.

The following are the factory default settings:

User name:	admin
Password:	admin
Enable DHCP:	Yes (if WAN cable is plugged in)
IP address:	192.168.1.1
Domain name:	(Blank)
Subnet Mask	255.255.255.0
DNS Server 1:	192.168.1.1
DNS Server 2:	(Blank)
SSID:	ASUS

ASUS DDNS Service

RT-N12 Series routers support the ASUS DDNS service. If you have registered for the ASUS DDNS service but need to exchange devices at the service center, inform the service center that you want to keep the original domain name and retain the DDNS service. Visit your local service center for more information.



-
- If there is no activity in the domain - such as reconfiguring the router or accessing the registered domain name - within 90 days, the system automatically deletes the registered information.
 - If you encounter any problem or difficulty in using your device, contact the service center.
-

Frequently Asked Questions (FAQs)

1. Will the registered information be lost or registered by others?

If you have not updated the registered information in 90 days, the system automatically deletes the registered information and the domain name may be registered by others.

2. I did not register the ASUS DDNS for the router I bought six months ago. Can I still register it?

Yes, you can still register the ASUS DDNS service for your router. The DDNS service is embedded in your router, so you can register the ASUS DDNS service anytime. Before registering, click **Query** to check if the hostname has been registered or not. If the hostname is available, the system registers the hostname automatically.

3. I have registered a domain name before and it has been working well until my friends told me that they could not access my domain name.

Check the following:

1. Internet connection is available.
2. The DNS server is working properly.
3. The last time you updated the domain name.

If there are still problems in accessing your domain name, contact the service center.

4. Can I register two domain names so I can access my HTTP and FTP servers separately?

No, you cannot. You can only register one domain name for one router. You can use port mapping to implement security in the network.

5. After restarting the router, why is it that I see a different WAN IP address in MS-DOS and in the router configuration page?

This is normal. The interval time between the ISP DNS server and ASUS DDNS results in different WAN IPs in MS-DOS and in the router configuration page. Different ISPs may have different interval times for updating IP addresses.

6. Is the ASUS DDNS service free, or is it just a trial version?

The ASUS DDNS service is a free and embedded service in some ASUS routers. Check your ASUS router if it supports the ASUS DDNS service.

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 <http://csr.asus.com/english/Takeback.htm> 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.



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.

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

Essential requirements – Article 3

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

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

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328- 2 has been conducted. These are considered relevant and sufficient.

CE Mark Warning

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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 Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The 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 affecter son fonctionnement.

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Area	Hotline Number	Support Languages	Working Hour	Working Day
Australia	1300-2787-88	English	8:00-20:00	Mon. to Fri.
Austria	0043-820240513	German	9:00-18:00	Mon. to Fri.
Belgium	0032-78150231	Dutch /French	9:00-17:00	Mon. to Fri.
China	400-620-6655	Simplified Chinese	9:00-18:00	Mon. to Sun.
Denmark	0045-3832-2943	Denish/English	9:00-17:00	Mon. to Fri.
Finland	00358-9693-7969	Finnish/English/Swedish	10:00-18:00	Mon. to Fri.
France	0033-170949400	France	9:00-17:45	Mon. to Fri.
Greece	00800-44-14-20-44	Greek	9:00-13:00; 14:00-18:00	Mon. to Fri.
Hong Kong	3582-4770	Cantonese/ Chinese/ English	10:00-20:00 10:00-17:00	Mon. to Fri. Sat.
Ireland	0035-31890719918	English	9:00-17:00	Mon. to Fri.
Italy	199-400089	Italian	09:00-13:00 14:00-18:00	Mon. to Fri.
Japan	0800-123-2787	Japanese	9:00-18:00 9:00-17:00	Mon. to Fri. Sat. to Sun.
Malaysia	+603 2148 0827 (Check Repair Detail Status Only) +603-6279-5077	Bahasa Melayu/ English	10:00-19:00	Mon. to Fri.
Netherlands / Luxembourg	0031-591-570290	Dutch / English	9:00-17:00	Mon. to Fri.
New Zealand	0800-278-788 / 0800-278-778	English	8:00-20:00	Mon. to Fri.
Norway	0047-2316-2682	Norwegian /English	9:00-17:00	Mon. to Fri.
Philippine	+632-636 8504; 180014410573	English	9:00-18:00	Mon. to Fri.
Poland	00225-718-033 00225-718-040	Polish	9:00-17:00 8:30-17:30	Mon. to Fri.
Portugal	707-500-310	Portuguese	9:00-17:00	Mon. to Fri.

Area	Hotline Number	Support Languages	Working Hour	Working Day
Russia	+8-800-100-ASUS; +7-495-231-1999	Russian/ English	9:00-18:00	Mon. to Fri.
Singapore	+65-6720-3835 (Check Repair Detail Status Only) -66221701	English	11:00-19:00	Mon. to Fri.
Slovak	00421-232-162-621	Czech	8:00-17:00	Mon. to Fri.
Spain	902-88-96-88	Spanish	9:00-18:00	Mon. to Fri.
Sweden	0046-8587-6940	Swedish/ English	9:00-17:00	Mon. to Fri.
Switzerland	0041-848111010	German	9:00-18:00	Mon. to Fri.
	0041-848111014	French		Mon. to Fri.
	0041-848111012	Italian		Mon. to Fri.
Taiwan	0800-093-456; 02-81439000	Traditional Chinese	9:00-12:00; 13:30-18:00	Mon. to Fri.
Thailand	+662-679-8367 -70; 001 800 852 5201	Thai/English	9:00-18:00	Mon. to Fri.
Turkey	+90-216-524-3000	Turkish	09:00-18:00	Mon. to Fri.
United Kingdom	0044-870-1208340; 0035-31890719918	English	9:00-17:00	Mon. to Fri.
USA/Canada	1-812-282-2787	English	8:30-12:00am EST (5:30am- 9:00pm PST) 9:00am- 6:00pm EST (6:00am- 3:00pm PST)	Mon. to Fri. Sat. to Sun.



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

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