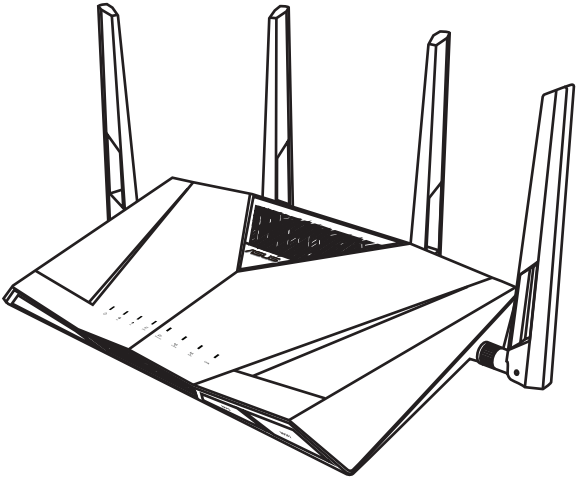
User Guide

CM-32

Wireless-AC2600 DOCSIS 3.0 Cable Modem Router



ASUS
IN SEARCH OF INCREDIBLE

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Table of contents

Table of contents

4 Configuring the Advanced Settings

Table of contents

1 Getting to know your cable modem router

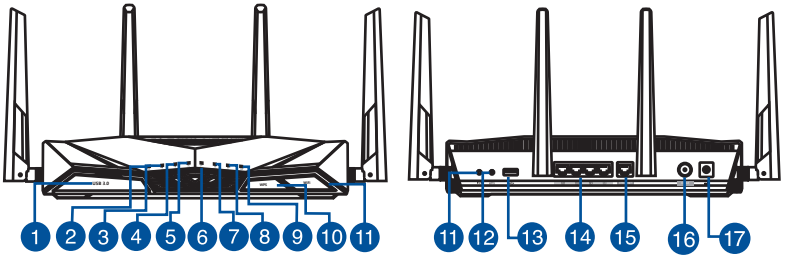
1.1 Package contents

- ☑ CM-32_AC2600 DOCSIS 3.0 Cable Modem Router
- ☑ Network cable (RJ-45)
- ☑ Support CD (Manual & Device Discovery utility)
- ☑ AC adapter
- ☑ Quick Start Guide

NOTES:

- 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.

1.2 Your cable modem router



1	**USB 2.0 port** Insert USB 2.0 devices such as USB hard disks or USB flash drives into this port.
2	**Power LED** Off: No power. On: Device is ready.

3	**Downlink LED** Off: No power. Flashing: Scanning for downstream cable signal. White: Locked on DOCSIS 3.0 downstream signal. Blue: Locked on DOCSIS 2.0 downstream signal.
4	**Uplink LED** Off: No power or not locked on downstream. Flashing: Ranging White: Ranging complete DOCSIS 3.0 bonded upstream. Blue: Ranging complete DOCSIS 2.0 bonded upstream.
5	**Cable WAN LED** Off: No power or ranging is not complete. Flashing: DHCP and registration On: Online
6	**Ethernet WAN LED** Off: No Ethernet WAN connected. On: Ethernet WAN connected.
7	**2.4GHz LED / 5GHz LED** Off: No 2.4GHz or 5GHz signal. On: Wireless system is ready. Flashing: Transmitting or receiving data via wireless connection.
8	**Link LED** Off: No LAN devices connected. Flashing: A Gigabit LAN device is connected to a LAN port. Blue: Only a 10/100 LAN device is connected to a LAN port.
9	**LED On/Off button** Press this button to turn on/off the backlight LED on the panel.
10	**Wi-Fi On/Off button** Press this button to turn on /off the Wi-Fi connection.
11	**Reset button** This button resets or restores the system to its factory default settings.
12	**WPS button** This button launches the WPS Wizard.
13	**USB 2.0 port** Insert USB 2.0 devices such as USB hard disks or USB flash drives into this port.
14	**LAN 1 ~ 4 ports** Connect network cables into these ports to establish LAN connection.

15	**WAN (Internet) port** Connect a network cable into this port to establish WAN connection.
16	**Coaxial port** Connect a coaxial cable into this port to establish DOCSIS connection.
17	**Power (DC-IN) port** Insert the bundled AC adapter into this port and connect your router to a power source.

NOTES:

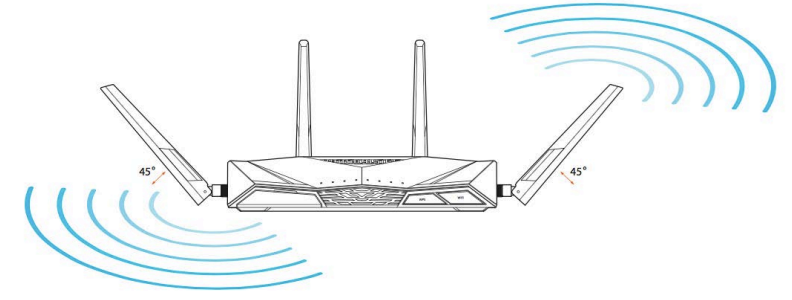
- Use only the adapter that came with your package. Using other adapters may damage the device.
- **Specifications:**

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

1.3 Positioning your router

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

- Place the cable modem 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.
- To prevent signal interference or loss, 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.
- Always update to the latest firmware. Visit the ASUS website at **http://www.asus.com** to get the latest firmware updates.
- To ensure the best wireless signal, orient the four detachable antennas as shown in the drawing below.



1.4 Product label

The product label at the bottom of your cable modem router contains the default Wi-Fi network name (SSID), Wi-Fi password, login information for the web graphical user interface (web GUI), serial number, MAC address, and other information.

1.5 Hardware Setup

1.5.1 Setup Requirements

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

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

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NOTES:

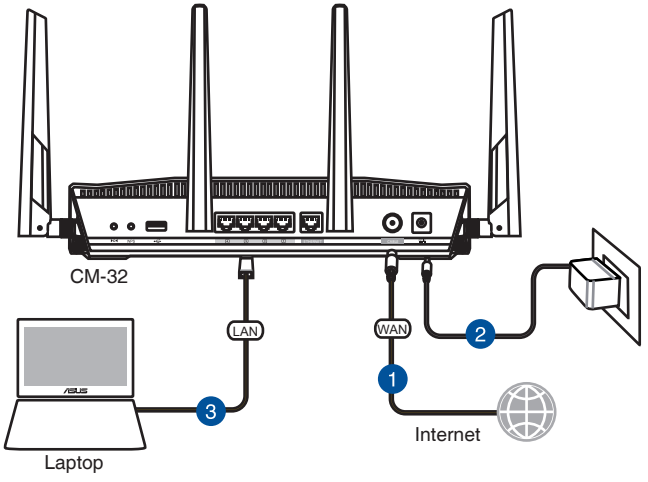
- If your computer does not have built-in wireless capabilities, you may install an IEEE 802.11a/b/g/n/ac WLAN adapter to your computer to connect to the network.
- CM-32 is certified by Comcast, Charter, Time Warner, and Cox cable services.
- Some IEEE 802.11n devices that you want to connect to your 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.

1.5.2 Setting up your cable modem router

You can connect your CM-32 as a cable modem router or use it as a standalone Wi-Fi router.

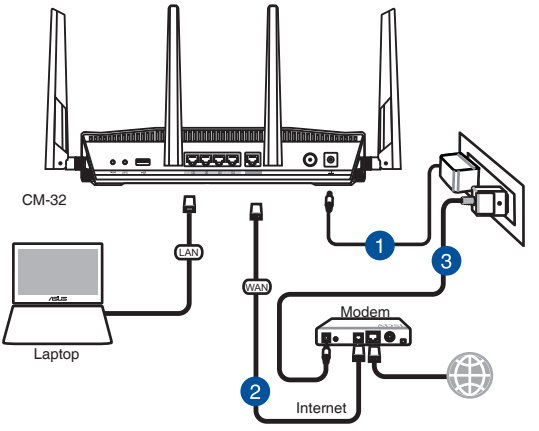
IMPORTANT! Use a wired connection when setting up your cable modem router to avoid possible setup problems.

Setting up as a cable modem router



1. Using your ISP-provided coaxial cable, connect your CM-32 to a wall outlet or a line splitter.
2. Insert the power adapter to your CM-32 DC-In port and plug to a power outlet.
3. The Downstream and Upstream LED light white when the cable connection succeeded.
4. Using the bundled network cable, connect your CM-32 to your computer.
5. Please proceed to **2.1 Activate your Internet Service** for the next step.

Setting up your CM-32 as a standalone Wi-Fi router



1. Insert your cable modem 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 cable modem router's LAN port.
3. Insert your modem's AC adapter to the DC-IN port and plug it to a power outlet.
4. Launch your browser and go to http://router.asus.com or http://192.168.1.1.
5. Enter default login name "admin" and password "admin" or your personal settings if you have set before.
6. Click **Skip Setup Wizard** to go to the Network Map (if you have set up before, ignore this step).
7. Go to **Advanced Settings** > **WAN** > **Dual WAN**, select "Ethernet" as primary WAN and click **Apply**.
8. You can now use CM-32 as a standalone wireless router.

2 Connecting to the Internet

2.1 Activate your Internet service

Visit your ISP's website and follow the onscreen instructions to activate your Internet service. CM-32 is certified by Charter, Comcast, Cox and Time Warner Cable services.

Charter	1-888-438-2427 https://install.charter.com/
Comcast	1-800-266-2278 https://www.comcast.com/activate
Cox	1-877-891-2899 https://activation.cox.net/
Time Warner Cable	1-800-892-2253 https://www.timewarnercable.com/

The Downstream and Upstream LEDs light white when the cable connection succeeded. If you subscribed to automatic IP (DHCP) service, the Internet is accessible now.

NOTES:

- Your ISP's contact information may change. Visit your ISP's website or check your Internet service billing statement for the latest contact information.
- If your CM-32 still does not connect to the Internet, contact your ISP and do the following:
  1. Provide your CM-32's serial number and MAC address located on the product label, and confirm with your ISP if it is already active.
  2. If your CM-32 is visible to your ISP but there is still no Internet connection, reboot your CM-32 and check the online status again.
  3. If your CM-32 is still not visible to your ISP or your ISP can not provide technical support, do the following:

     1) Go to **router.asus.com** or **http://192.168.1.1**.

     2) Click **Skip Setup Wizard** on the top left of the screen and you will be directed to the Network Map.

     3) On the left-side menu, click **Cable** > **CM Debug**, and click **Save** to obtain a .txt log file.

     4) On the left-side menu, click **System log** > **General log**, and click **Save** to obtain a .txt file.

     5) Send these files to cm_feedback@asus.com. We will reply to you as soon as possible.

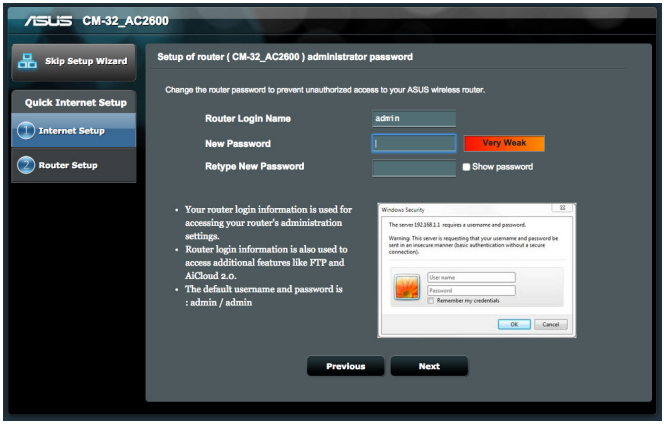
2.2 Quick Internet Setup

If you subscribed to static IP service, you need to go through the Quick Internet Setup Wizard to key in your IP and DNS information.

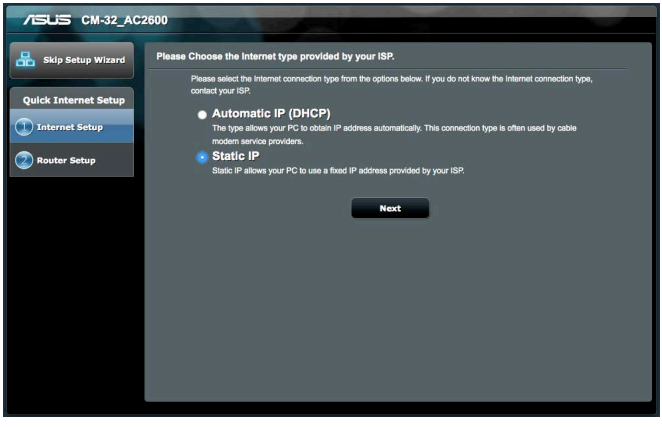
To quickly set up your Internet settings:

1. Ensure that the 2.4 GHz and 5 GHz LEDs light up.
2. Launch your web browser and go to http://router.asus.com or http://192.168.1.1.
3. Enter default login name "admin" and password "admin" when prompted.
4. On the welcome page, click **Go** to proceed.

5. Set up a new login name and password for your CM-32, then click **Next**.

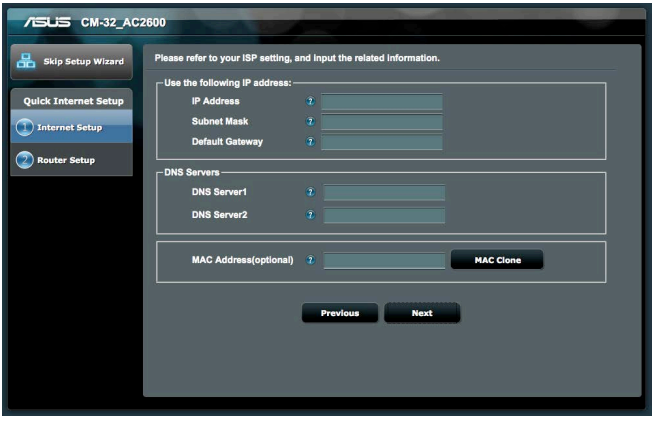


5. Select **Static IP**, click **Next**.



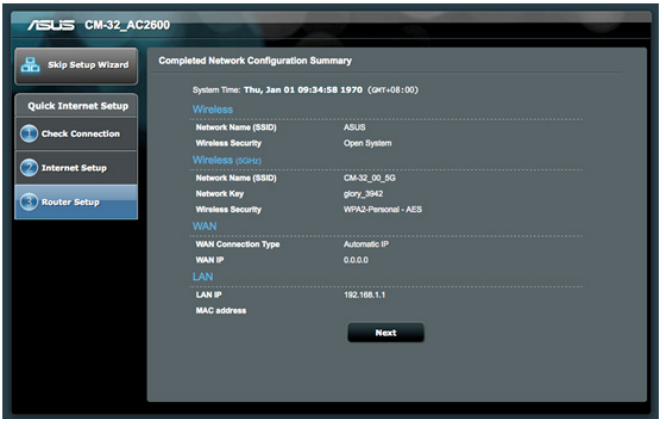
6. Enter the IP address and DNS information provided by your ISP, click **Next**.

NOTE: CM-32 supports Automatic IP (DHCP) and Static IP Internet type only.



7. Confirm the wireless network name (SSID) and security key for your 2.4GHz and 5 GHz wireless connection. You can keep the default wireless settings or assign new ones. Click **Apply** when done.

8. Your Internet and wireless settings are displayed. Click **Next** to finish.



2.4 Connecting to your wireless network

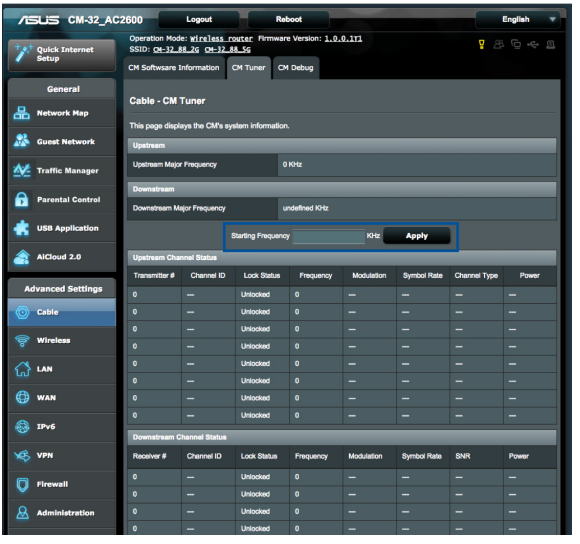
1. On your computer or other network device, click the network icon in the taskbar to display the available wireless networks.
2. Connect to your CM-32's SSID and when prompted, enter the password.
3. If you have changed the CM-32's SSID and password during the basic network setup process, enter the information you have set up.

2.5 Specify the starting frequency (optional)

When your ISP requires it, specify the starting frequency.

To specify the starting frequency:

1. Ensure that the 2.4 GHz and 5 GHz LEDs light up.
2. Launch your web browser and go to http://router.asus.com or http://192.168.1.1.
3. Enter default login name "admin" and password "admin" or your personal login name and password if you have set.
4. On the left-side menu, click **Cable**, then click **CM Tuner** tab.
5. In the **Starting Frequency** field, enter a number and click **Apply**.



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 Changing the wireless security settings

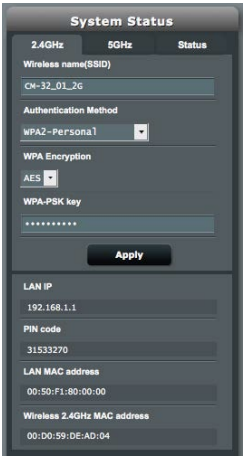
CM-32 comes with a set of unique default wireless security settings. You can change the settings if you like to.

To change the wireless security settings:

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

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

2.4GHz security settings



5GHz security settings

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

   If you select WPA-Personal or WPA-2 Personal as the authentication method, key in the WPA-PSK key or security passkey.

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.

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5 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 **Clients** icon to display your network client's information.
3. To block a client's access to your network, select the client and click the open lock icon.

3.1.3 Monitoring your USB device

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

NOTES:

- To use this feature, you need to plug a USB storage device, such as a USB hard disk or USB flash drive, to the USB2.0 ports on the front and rear panel of your cable modem router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the Plug-n-Share Disk Support List at **http://event.asus.com/networks/disksupport**
- The USB ports support two USB drives or one printer and one USB drive at the same time.

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

To monitor your USB device:

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

NOTES:

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

Safely removing the USB disk

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

To safely remove the USB disk:

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

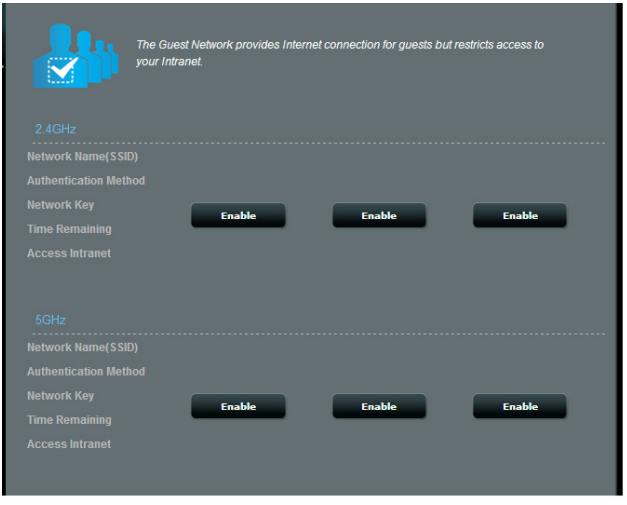
3.2 Creating a Guest Network

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

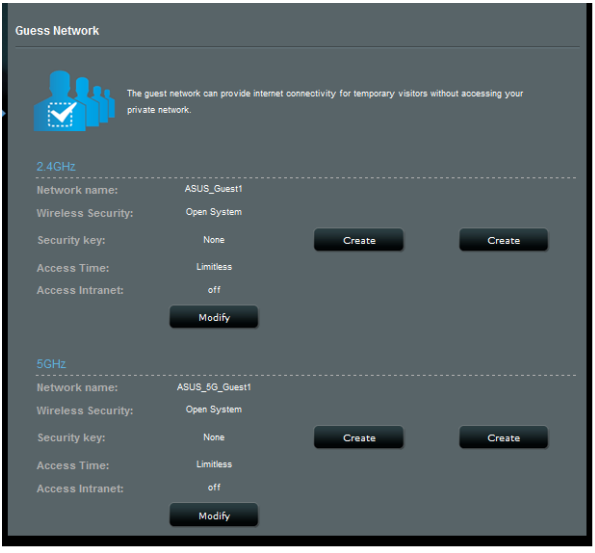
NOTE: CM-32 supports up to six SSIDs (three 2.4GHz and three 5GHz SSIDs).

To create a guest network:

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



4. To change a guest's settings, click the guest settings you want to modify. Click **Remove** to delete the guest's settings.
5. Assign a wireless name for your temporary network on the Network Name (SSID) field.



6. Select an Authentication Method.
7. If you select a WPA authentication method, select a WPA Encryption.
8. Specify the Access time or choose **Limitless**.
9. Select **Disable** or **Enable** on the Access Intranet item.
10. When done, click **Apply**.

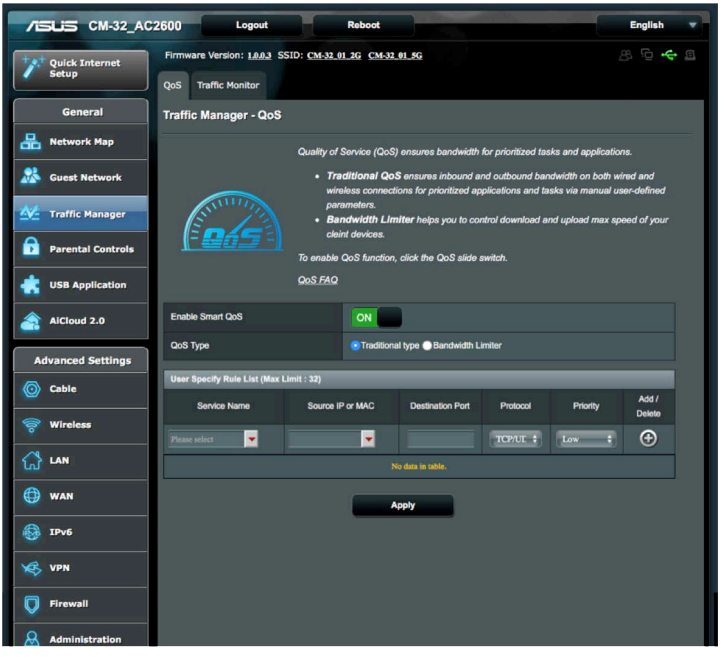
3.3 Using the Traffic Manager

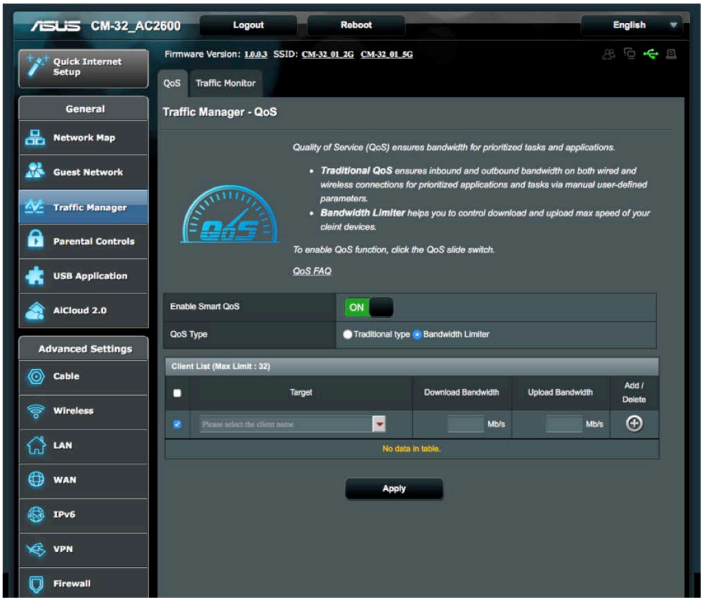
3.3.1 Managing QoS (Quality of Service) and bandwidth

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

To set up QoS:

1. From the navigation panel, go to **General** > **Traffic Manager** > **QoS** tab.
2. Click **ON** to enable QoS.
3. Choose **Traditional QoS** to set priority for different applications or choose **Bandwidth Limiter** to set up bandwidth limitation for each device. Click **Apply** when done.



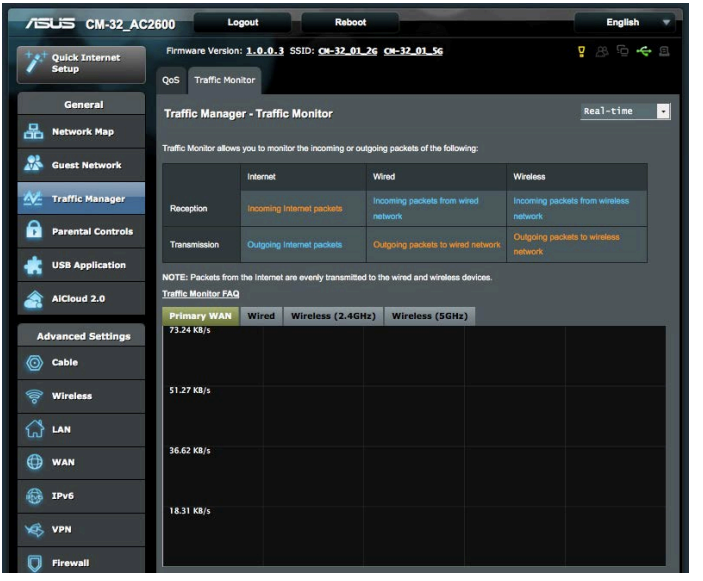


NOTES:

- Traditional QoS and Bandwidth limiter do not work simultaneously.
- 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".

3.3.2 Monitoring Traffic

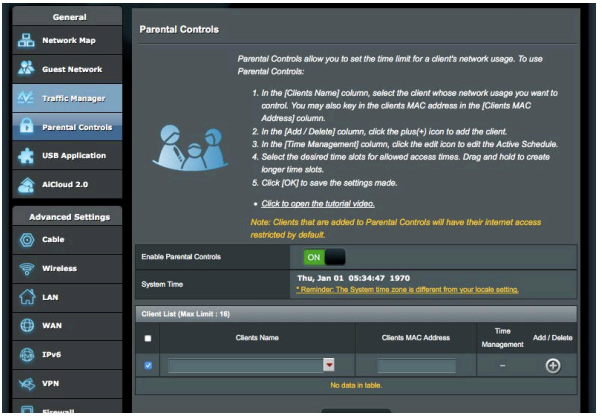
The traffic monitor function allows you to access the bandwidth usage and speed of your Internet, wired, and wireless networks. It allows you to monitor network traffic even on a daily basis.



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

3.5 Using the USB Application

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

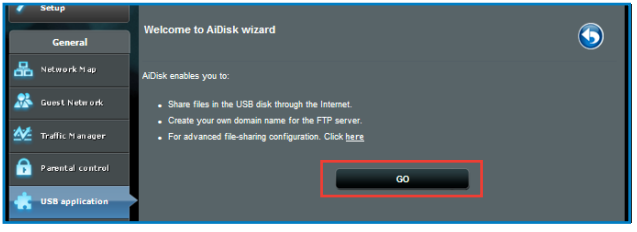
IMPORTANT! To use the server functions, you need to insert a USB storage device, such as a USB hard disk or USB flash drive, in the USB 2.0 ports on the front and rear panel of your cable modem router. Ensure that the USB storage device is formatted and partitioned properly. Refer to the ASUS website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

3.5.1 Using AiDisk

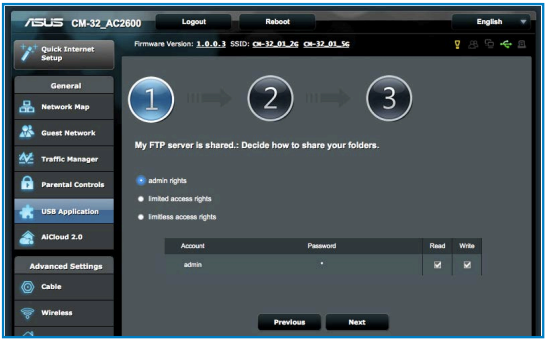
AiDisk allows you to share files stored on a connected USB device through the Internet. AiDisk also assists you with setting up ASUS DDNS and an FTP server.

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.
6. 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

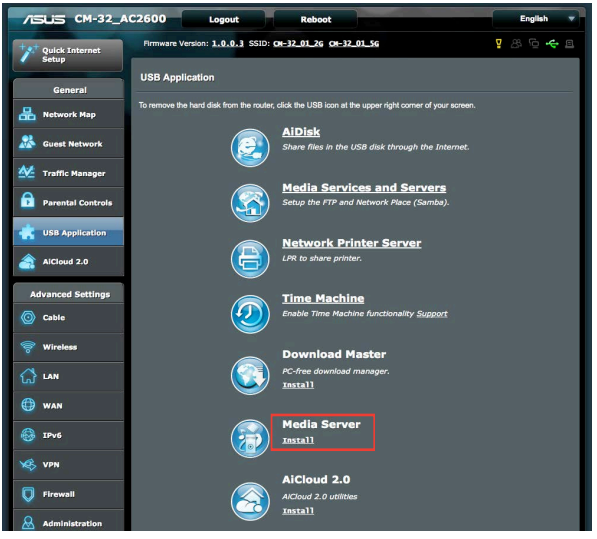
Servers Center allows you to share the media files from the USB disk via a Media Server directory, Samba share service, or FTP share service. You can also configure other settings for the USB disk in the Servers Center.

Using Media Server

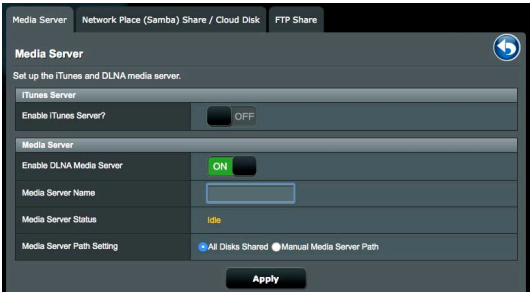
Your cable modem router allows DLNA-supported devices to access multimedia files from the USB disk connected to it.

Go to **General** > **USB application**, click **Install** under **Media Server** to install to your USB disk.

NOTE: Before using the DLNA Media Server function, connect your device to the CM-32's network.



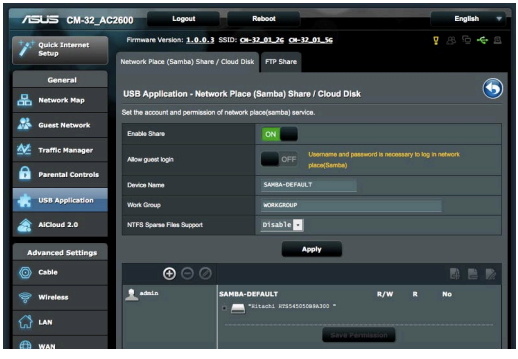
Then, go to **General** > **USB application** > **Servers Center** > **Media Servers** tab to configure. Refer to the following for the descriptions of the fields:



- **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.



To use Samba share:

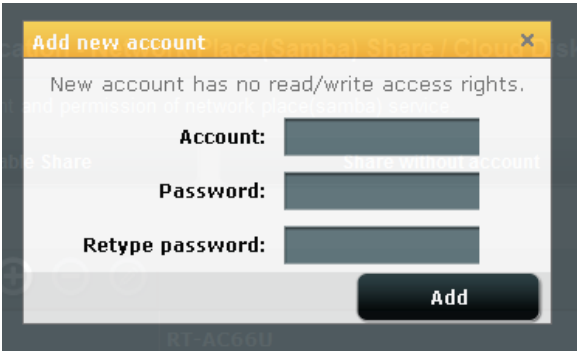
1. From the navigation panel, go to **General** > **USB application** > **Servers Center**.

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.



To delete an existing account:

a) Select the account that you want to delete.

b) Click ⊖.

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.

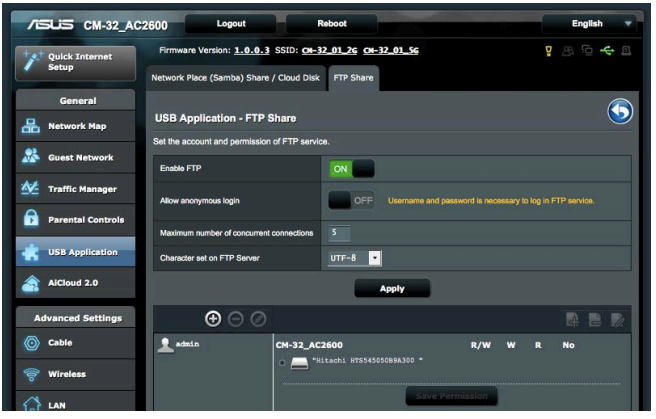
3. From the list of folders, select the type of access permission that you want to assign for specific folders:
   - **R/W:** Select this option to assign read/write access.
   - **R:** Select this option to assign read-only access.
   - **No**: Select this option if you do not want to share a specific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



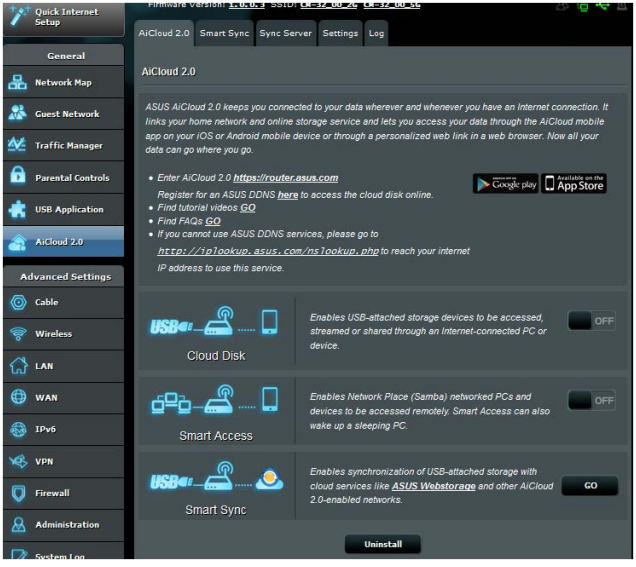
To use FTP Share service:

NOTES: 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.

3.6 Using AiCloud 2.0

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



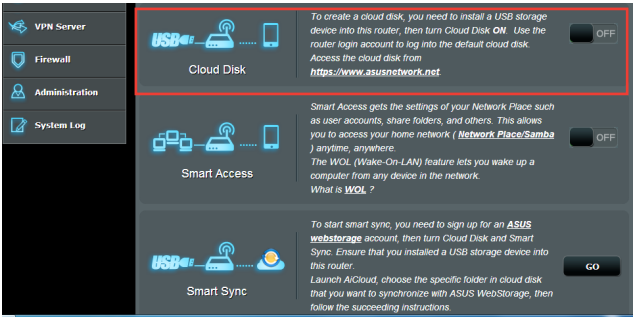
To use AiCloud:

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

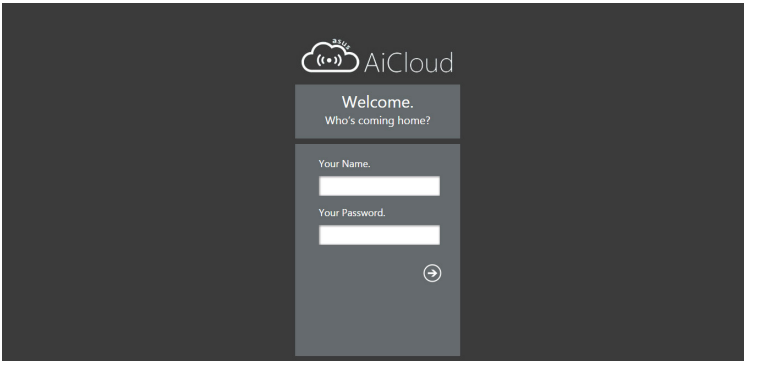
3.6.1 Cloud Disk

To create a cloud disk:

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

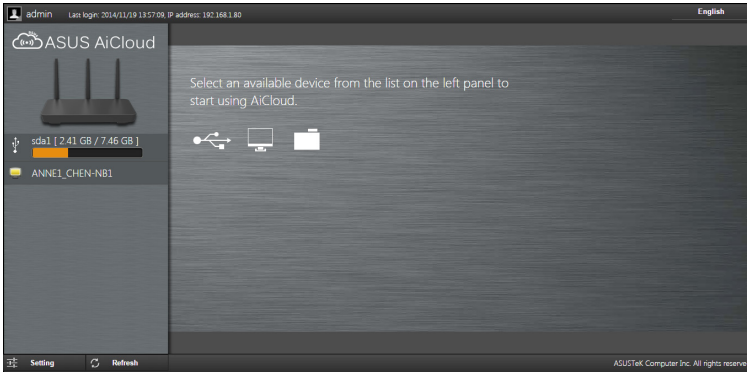


3. Goto **https://router.asus.com** and enter the router login account and password. For better user experience, we recommend that you use **Google Chrome** or **Firefox**.



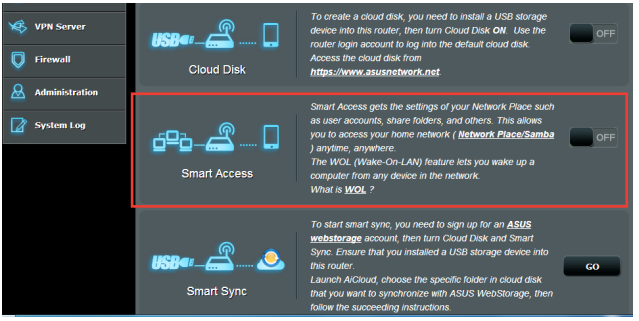
4. You can now start accessing Cloud Disk files on devices connected to the network.

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



3.6.2 Smart Access

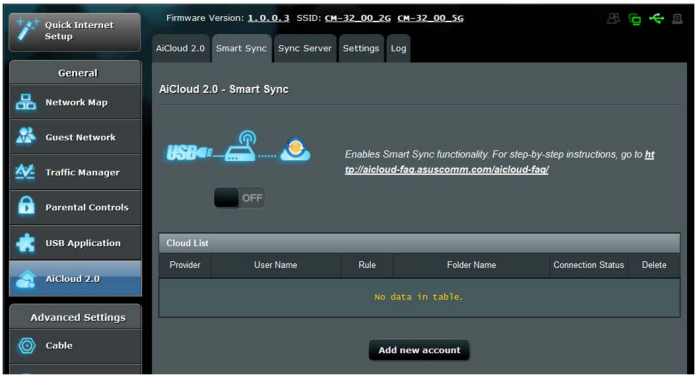
The Smart Access function allows you to easily access your home network via your router's domain name.



NOTES:

- You can create a domain name for your router with ASUS DDNS. For more details, refer to section **4.3.6 DDNS**.
- By default, AiCloud provides a secure HTTPS connection. Key in https://[yourASUSDDNSname].asuscomm.com for a very secure Cloud Disk and Smart Access usage.

3.6.3 Smart Sync



To use Smart Sync:

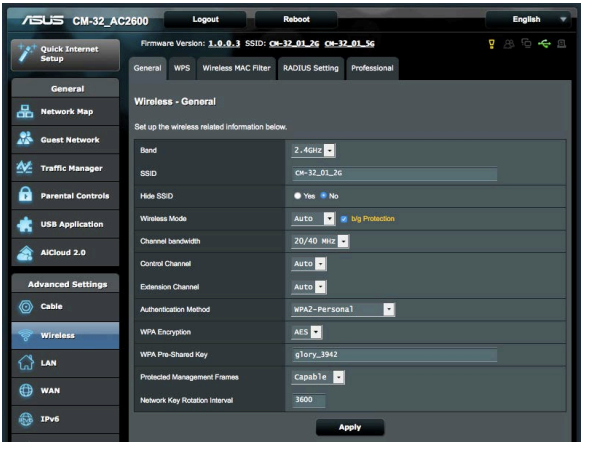
1. Launch AiCloud, click **Smart Sync** > **Go**.
2. Select **ON** to enable Smart Sync.
3. Click **Add new account**.
4. Enter your ASUS WebStorage account password and select the directory that you want to sync with WebStorage.
5. Click **Apply**.

4 Configuring the Advanced Settings

4.1 Wireless

4.1.1 General

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



To configure the basic wireless settings:

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

NOTE: You can assign unique SSIDs for the 2.4 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**

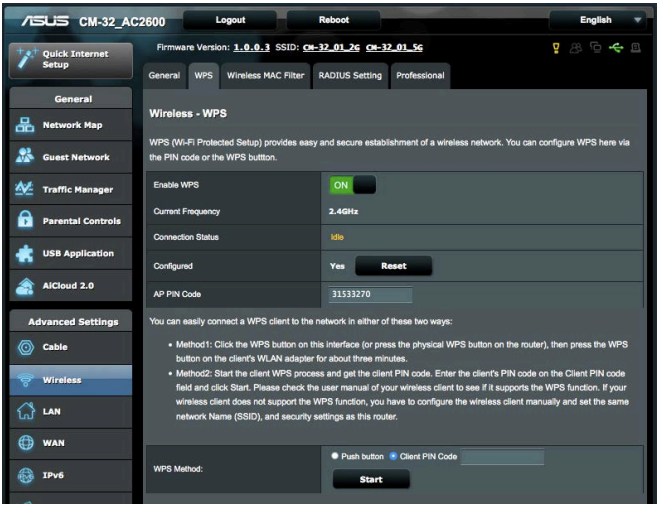
NOTE: Your wireless router supports the maximum transmission rate of 54Mbps when the **Wireless Mode** is set to **Auto** and **encryption method** is **WEP** or **TKIP**.

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.

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.

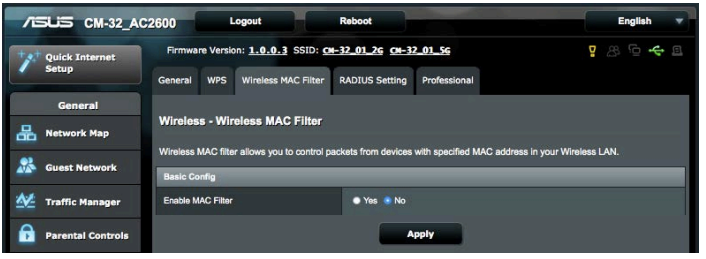
3. In the WPS Method field, select **Push Button** or **Client PIN** code. If you select P**ush Button**, go to step 4. If you select **Client PIN** code, go to step 5.
4. To set up WPS using the router's WPS button, follow these steps:
   a. Click **Start** or press the WPS button found at the rear 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.

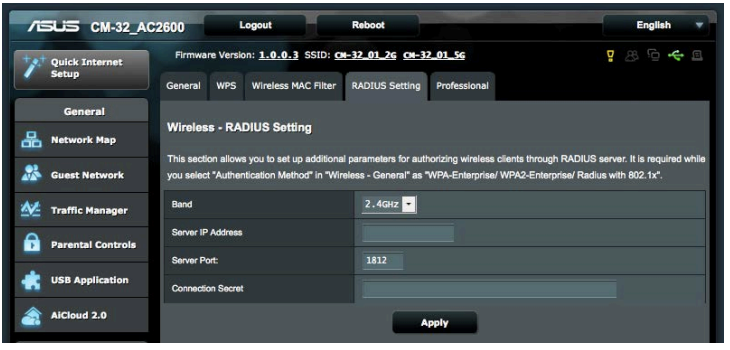


To set up the Wireless MAC filter:

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.



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.

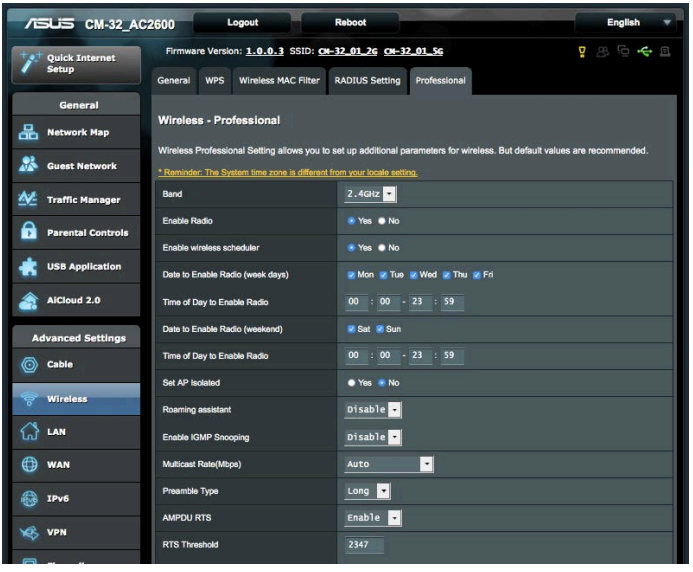
NOTE: Please refer to section **4.1.1 General** section for configuring your wireless router's Authentication Mode.

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.



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.
- **Roaming assist:** The roaming assist disconnects wireless devices on your network when its signal is too weak. This allows the wireless device to connect to another stronger source in your home automatically.
- **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.

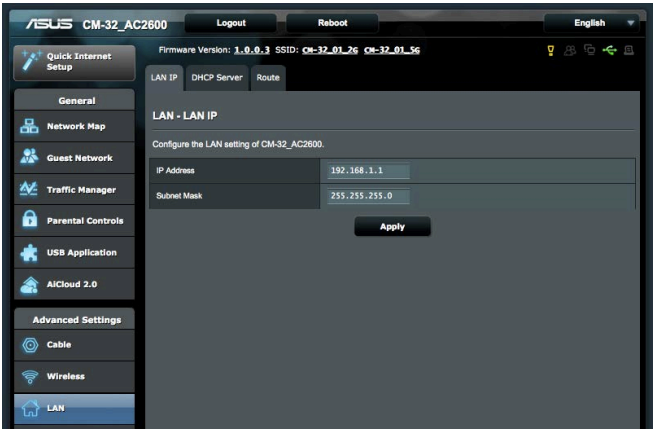
NOTE: Increasing the TX Power adjustment values may affect the stability of the wireless network.

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.

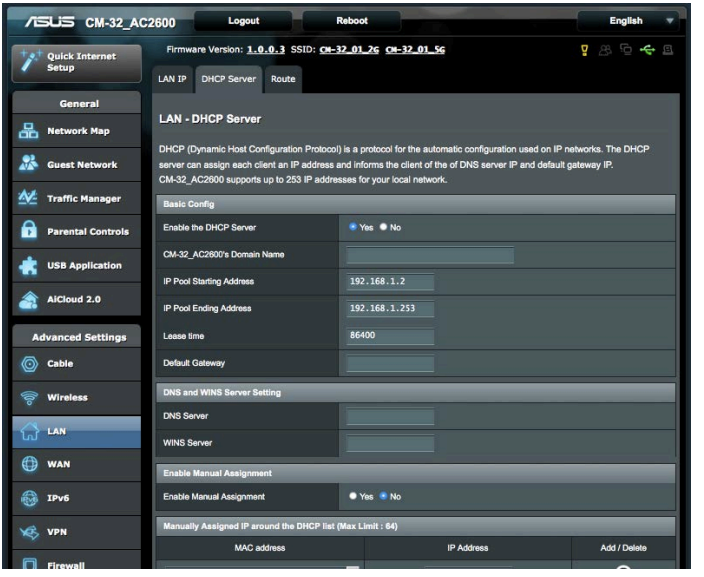


To modify the LAN IP settings:

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.



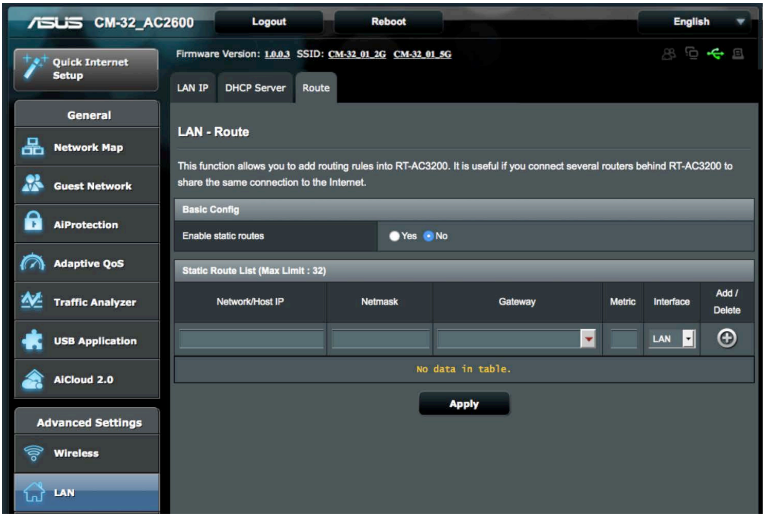
To configure the DHCP server:

1. From the navigation panel, go to **Advanced Settings** > **LAN** > **DHCP Server** tab.
2. In the **Enable the DHCP Server** field, tick **Yes**.

4.2.3 Route

If your network makes use of more than one 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.



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**.

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:

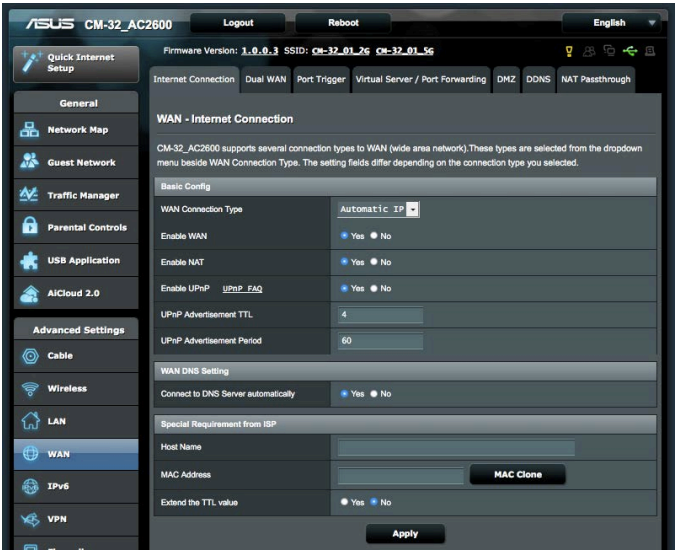
- We recommend that you use an IP address format of 192.168.1.xxx (where xxx can be any number between 2 and 254) when specifying an IP address range.
- An IP Pool Starting Address should not be greater than the IP Pool Ending Address.

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.

4.3 WAN

4.3.1 Internet Connection

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



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 or Static 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.

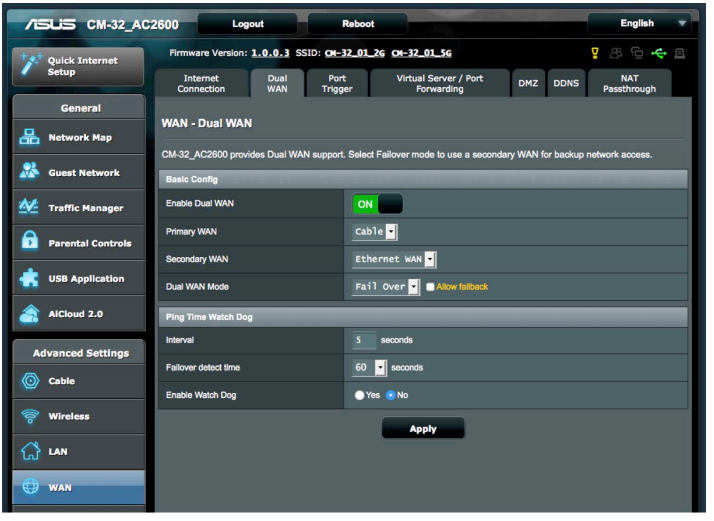
- **Enable NAT:** NAT (Network Address Translation) is a system where one public IP (WAN IP) is used to provide Internet access to network clients with a private IP address in a LAN. The private IP address of each network client is saved in a NAT table and is used to route incoming data packets.
- **Enable 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 Dual WAN

Your ASUS wireless router provides dual WAN **failover** and **failback** support.

To set up dual WAN:

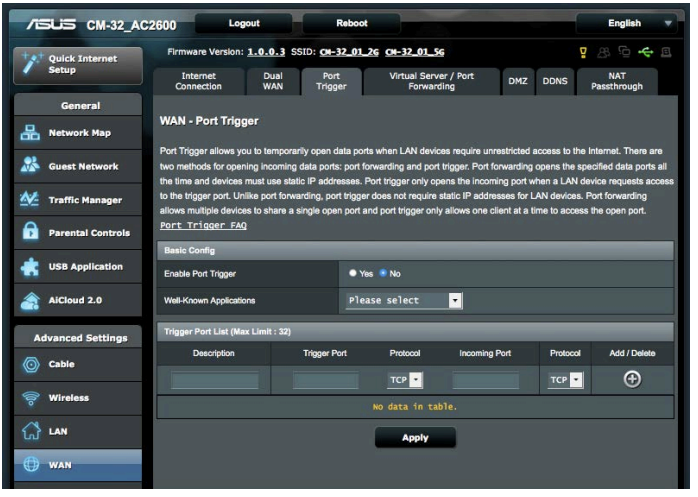
1. From the navigation panel, go to **Advanced Settings** > **WAN > Dual WAN** tab.
2. Configure **Primary WAN**, **Secondary WAN**, check **Failback** if you need.
3. If necessary, you can enable **Ping Time Watch Dog** to monitor the connection between the CM-32 and the remote host. Click **Apply** to save.
    - **Interval:** the time interval between two ping packets.
    - **Failover detect time:** the length of time to send ping packet.



4.3.3 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.



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.

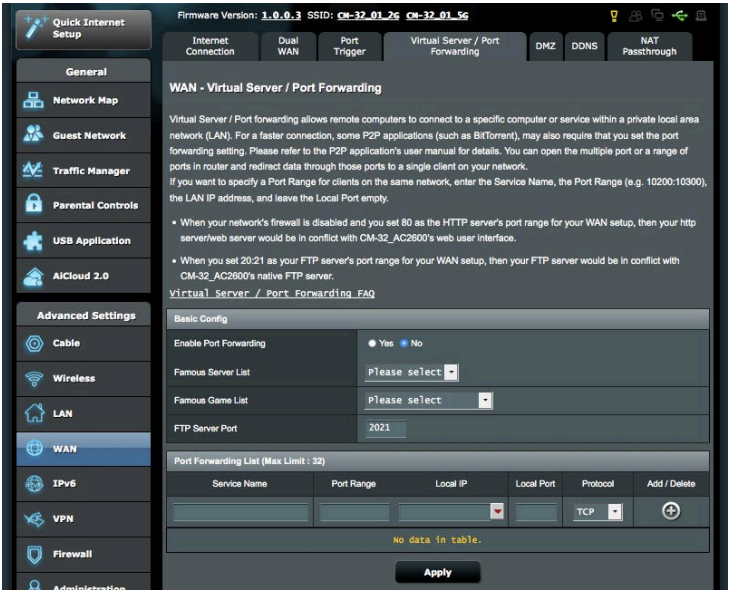
NOTES:

- 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.

4.3.4 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:

1. 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.

4.3.5 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:

1. From the navigation panel, go to **Advanced Settings** > **WAN** > **DMZ** tab.
2. Configure the setting below. When done, click **Apply**.

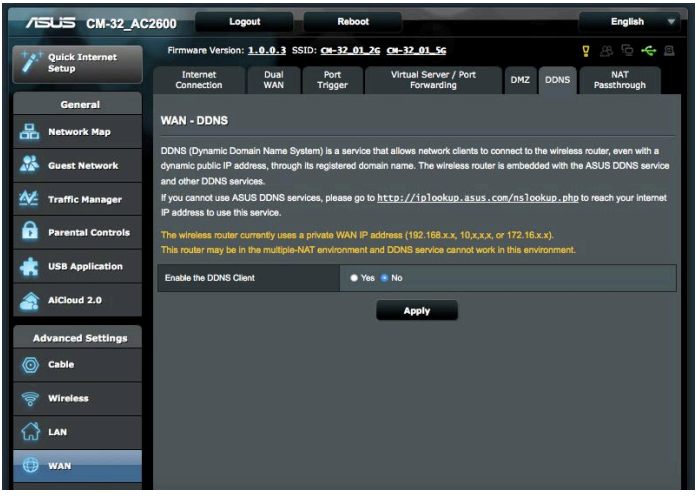
- **IP address of Exposed Station:** Key in the client's LAN IP address that will provide the DMZ service and be exposed on the Internet. Ensure that the server client has a static IP address.

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**.

4.3.6 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.



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:

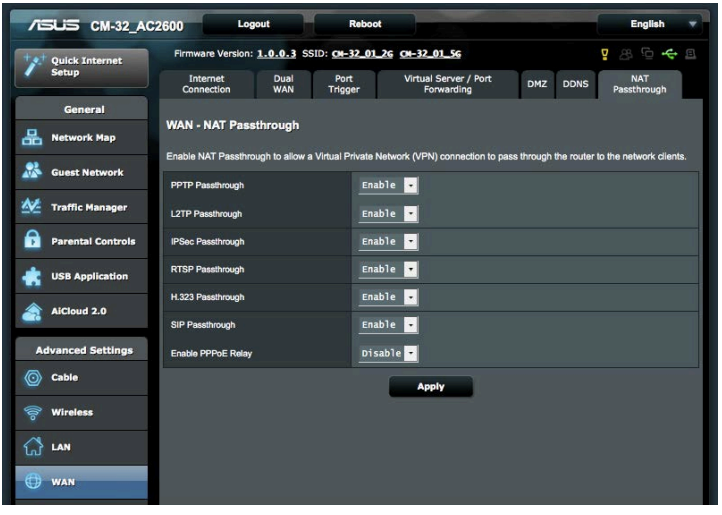
DDNS service will not work under these conditions:

- 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.

4.3.7 NAT Passthrough

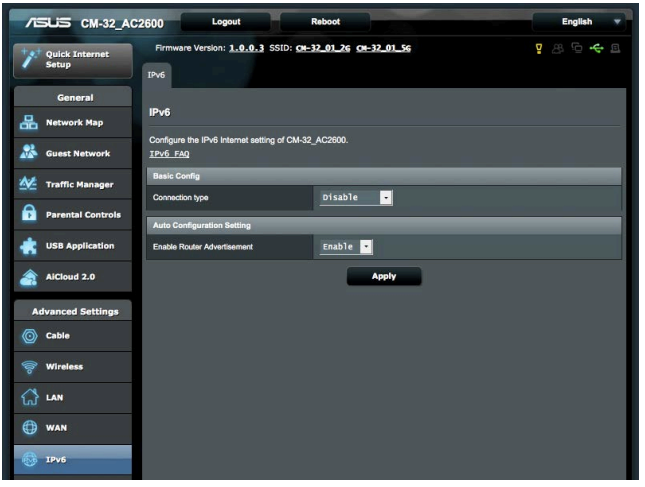
NAT Passthrough allows a Virtual Private Network (VPN) connection to pass through the router to the network clients. PPTP Passthrough, L2TP Passthrough, IPsec Passthrough and RTSP Passthrough are enabled by default.

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



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.



To set up IPv6:

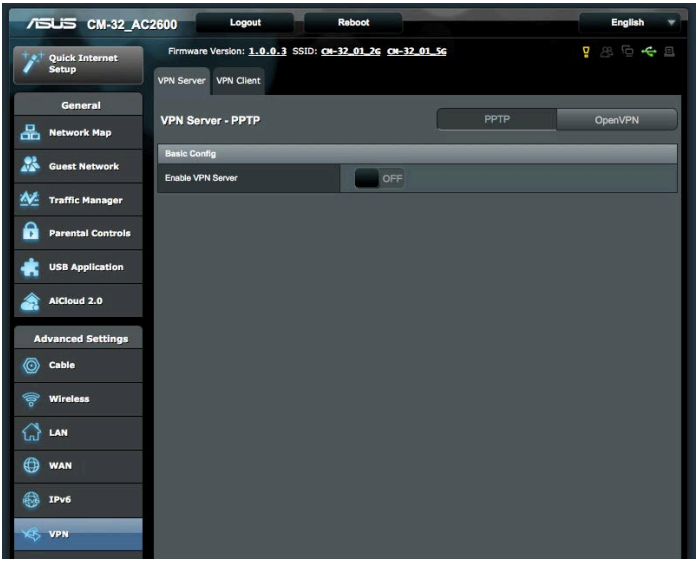
1. From the navigation panel, go to **Advanced Settings** > **IPv6**.
2. Select your **Connection Type**. The configuration options vary depending on your selected connection type.
3. Enter your IPv6 LAN and DNS settings.
4. Click **Apply**.

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

4.5 VPN Server

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

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



To set up access to a VPN server:

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

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

4.6 Firewall

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

NOTE: The Firewall feature is enabled by default.

4.6.1 General

To set up basic Firewall settings:

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

4.6.2 URL Filter

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

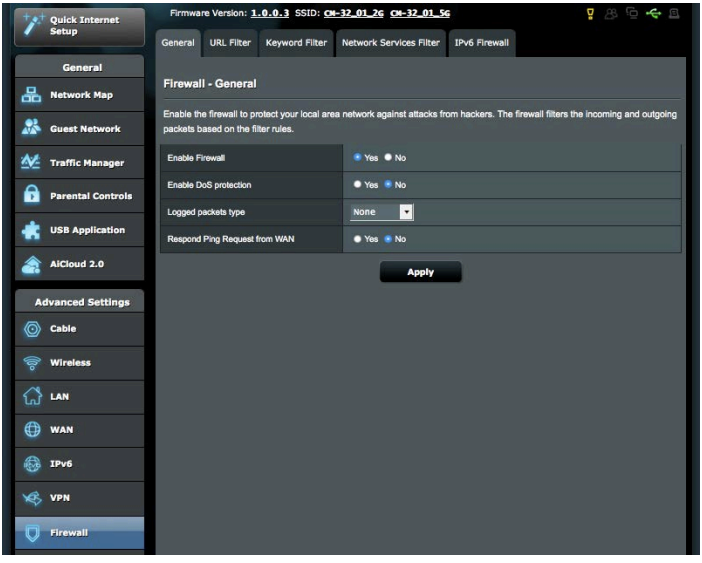
NOTE: The URL Filter is based on a DNS query. If a network client has already accessed a website such as http://www.abcxxx.com, then the website will not be blocked (a DNS cache in the system stores previously visited websites). To resolve this issue, clear the DNS cache before setting up the URL Filter.

To set up a URL filter:

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

4.6.3 Keyword filter

Keyword filter blocks access to webpages containing specified keywords.



To set up a keyword filter:

1. From the navigation panel, go to **Advanced Settings** > **Firewall** > **Keyword Filter** tab.
2. On the Enable Keyword Filter field, select **Enabled**.

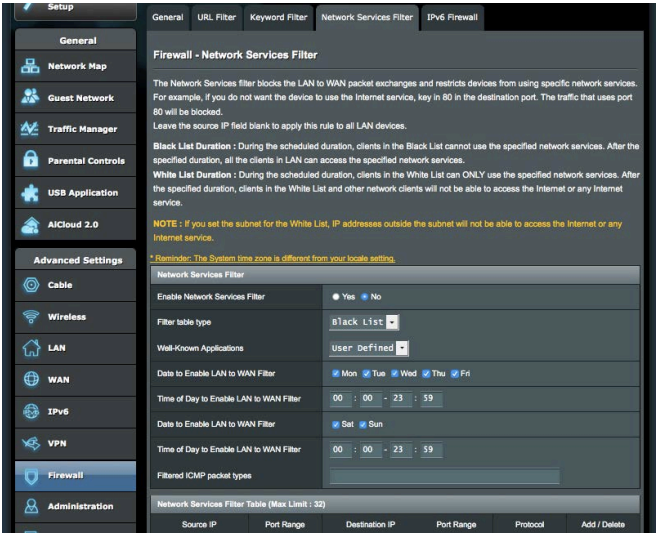
3. Enter a word or phrase and click the **Add** button.
4. Click **Apply**.

NOTES:

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

4.6.4 Network Services Filter

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

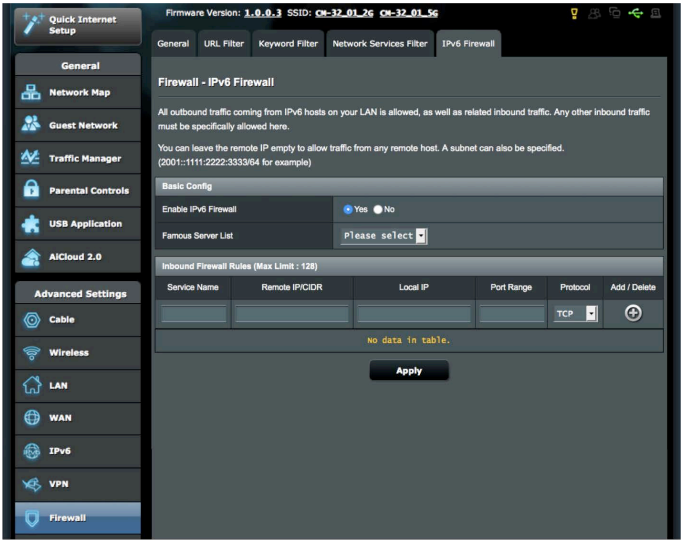


To set up a Network Service filter:

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

4.6.5 IPv6 Firewall

By default, your ASUS wireless router blocks all unsolicited incoming traffic. The IPv6 Firewall function allows incoming traffic coming from specified services to go through your network.



4.7 Administration

4.7.1 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 to prevent access.
   - **Only allow specific IP**: Click **Yes** if you want to specify the IP addresses of devices that are allowed access to the wireless router GUI settings from WAN.
   - **Client List**: Enter the WAN IP addresses of networking devices allowed to access the wireless router settings. This list will be used if you clicked **Yes** in the **Only allow specific IP** item.
3. Click **Apply**.

4.7.2 Restore/Save/Upload Setting

To restore/save/upload cable modem router settings:

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

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

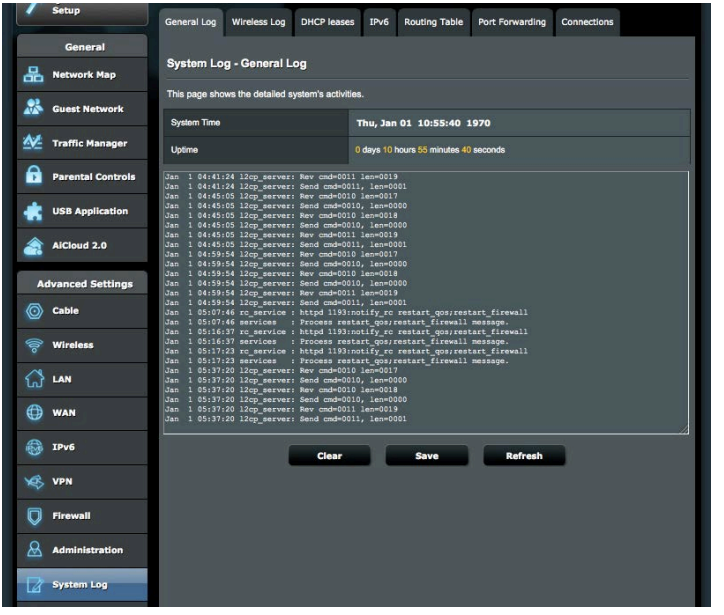
4.8 System Log

System Log contains your recorded network activities.

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

To view your system log:

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



NOTE: To download cable log, go to **Advanced Settings** > **Cable** > **CM debug**.

5 Utilities

NOTES:

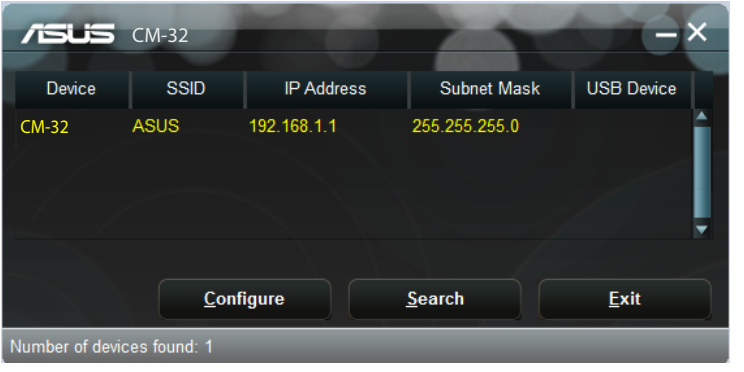
- Install the cable modem router's utilities from the bundled support CD.
- If Autorun is disabled, run **setup.exe** from the root directory of the support CD.
- The utilities are not supported on MAC OS.

5.1 Device Discovery

Device Discovery is an ASUS WLAN utility that detects an ASUS 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** > **CM-32 Wireless Router** > **Device Discovery**.

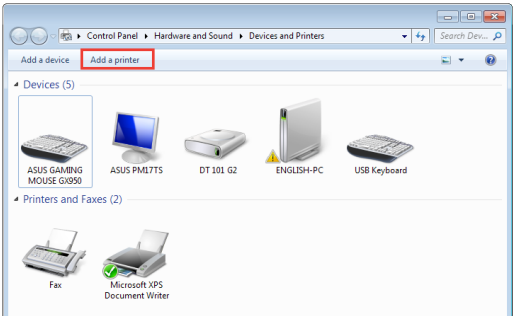


5.2 Setting up your printer server

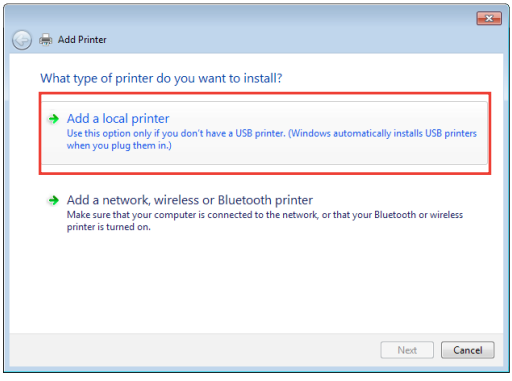
You can share your printer with computers running on Windows® and MAC operating system using LPR/LPD (Line Printer Remote/ Line Printer Daemon).

To share your LPR printer:

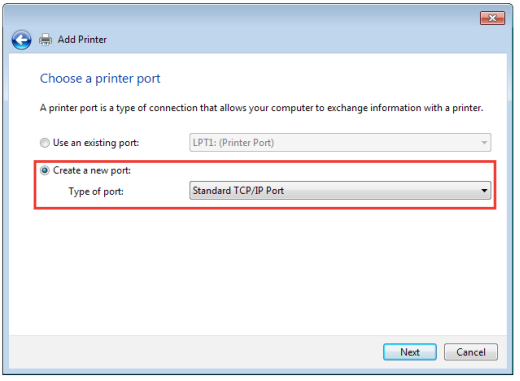
1. From the Windows® desktop, click **Start** > **Devices and Printers** > **Add a printer** to run the **Add Printer Wizard**.



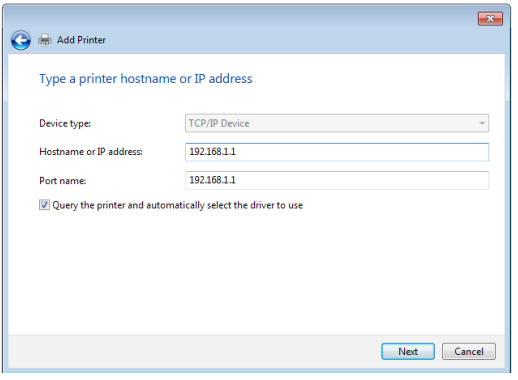
2. Select **Add a local printer** and then click **Next**.



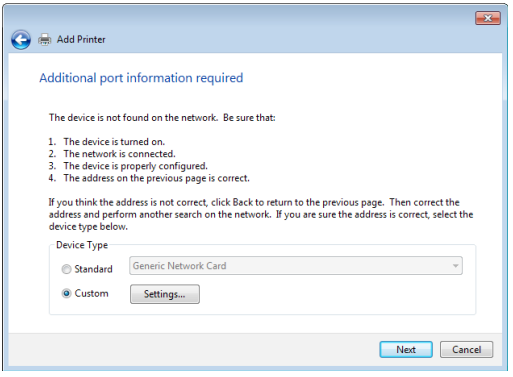
3. Select **Create a new port** then set **Type of Port** to **Standard TCP/IP Port**. Click **New Port**.



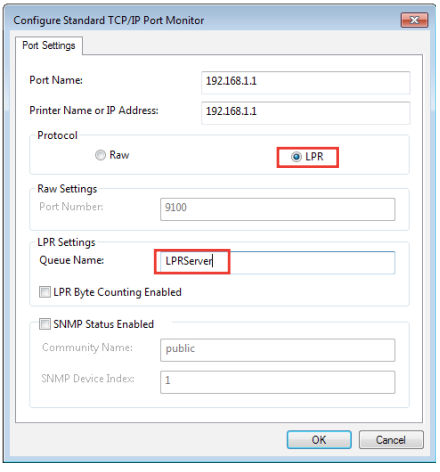
4. In the **Hostname or IP address** field, key in the IP address of the wireless router then click **Next**.



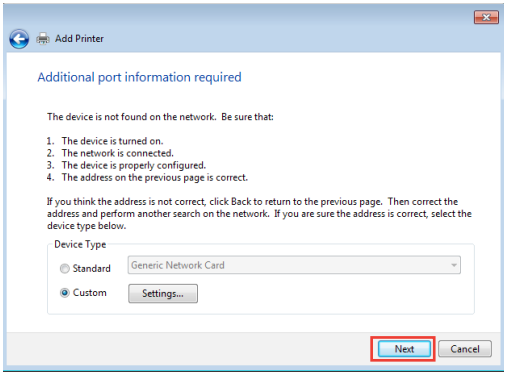
5. Select **Custom** then click **Settings**.



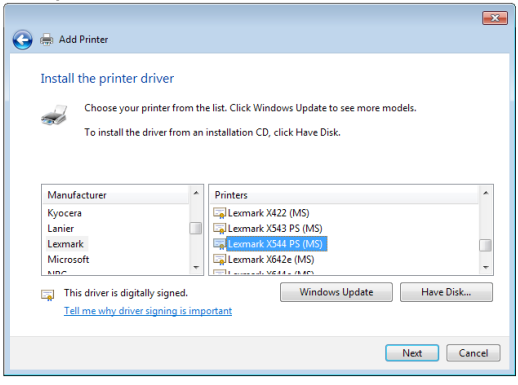
6. Set **Protocol** to **LPR**. In the **Queue Name** field, key in **LPRServer** then click **OK** to continue.



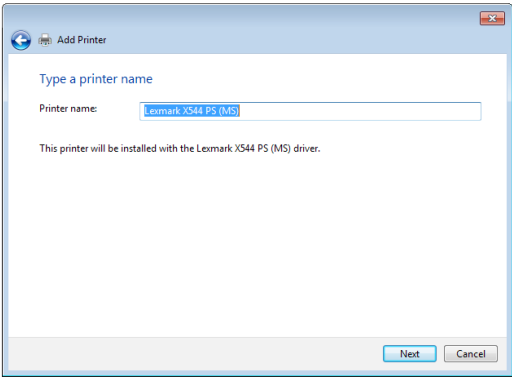
7. Click **Next** to finish setting up the standard TCP/IP port.



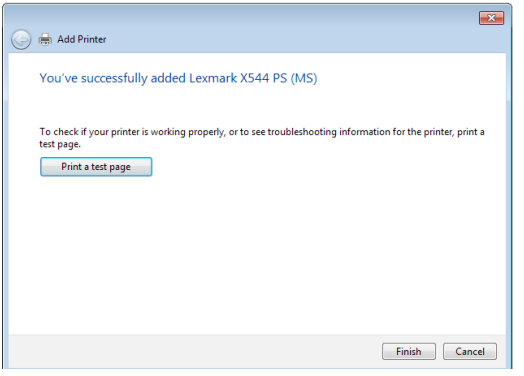
8. Install the printer driver from the vendor-model list. If your printer is not in the list, click **Have Disk** to manually install the printer drivers from a CD-ROM or file.



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



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



5.3 Download Master

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

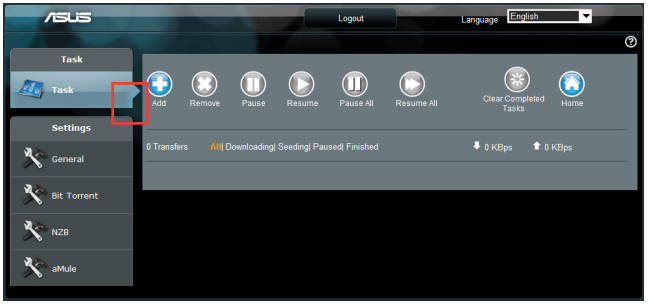
NOTE: You need a USB device connected to the wireless router to use Download Master.

To use Download Master:

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

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

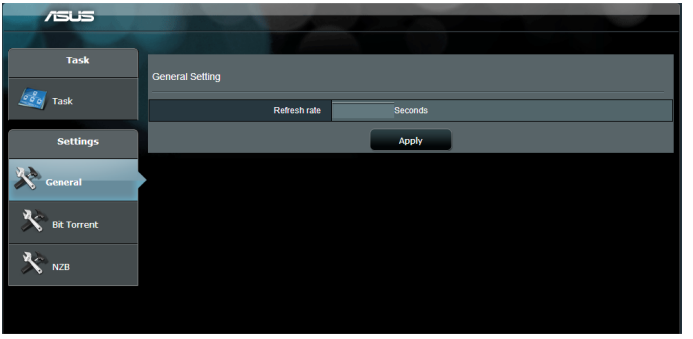
2. After the download process is finished, click the Download Master icon to start using the utility.
3. Click **Add** to add a download task.



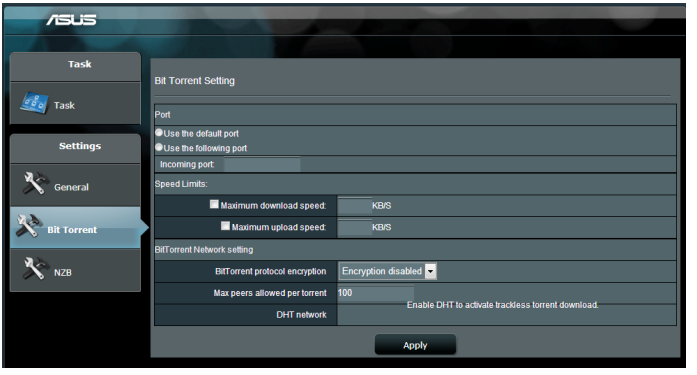
4. Select a download type such as BitTorrent, HTTP, or FTP. Provide a torrent file or a URL to begin downloading.

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

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



5.3.1 Configuring Bit Torrent download settings



To configure BitTorrent download settings:

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

5.3.2 NZB settings

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

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: http://support.asus.com/ 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

When the cable modem router is plugged in but all the LEDs are off:

1. Check if the power cord is properly plugged to the modem router and wall outlet.
2. Check if you are using the ASUS power adapter supplied for this product.
3. If the error persists, it could indicate a hardware problem. Contact our support hotline.

When the power cord is plugged but the power LED never turn on:

1. Check if the power cord is properly plugged to the modem router and wall outlet.
2. Check if you are using the ASUS power adapter supplied for this product.
3. If the error persists, it could indicate a hardware problem. Contact our support hotline.

When LAN LED is off with an Ethernet connection on any of the LAN ports:

1. Check if the Ethernet cable is secured at the modem router and at the computer.
2. Check if you are using a RJ45 Ethernet cable.
3. Try to use another Ethernet cable.
4. If still can not access to the GUI via a LAN port, contact support hotline.

Restart your network in the following sequence:

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

Check if your Ethernet cables are plugged properly.

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

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

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

Check if your network settings are correct.

- Each client on the network should have a valid IP address. ASUS recommends that you use the router's DHCP server to assign IP addresses to computers on your network.

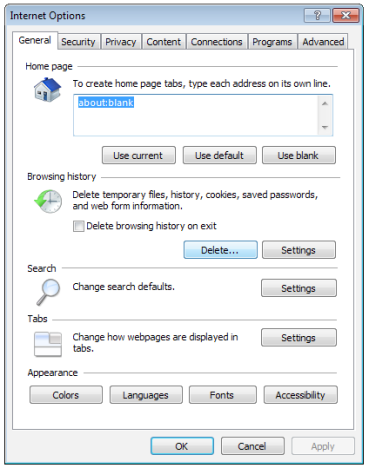
- Some cable modem service providers require you to use the MAC address of the computer initially registered on the account. You can view the MAC address in the web GUI, **Network Map** > **Clients** page, and hover the mouse pointer over your device in **Client Status**.

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:

  1. 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**.



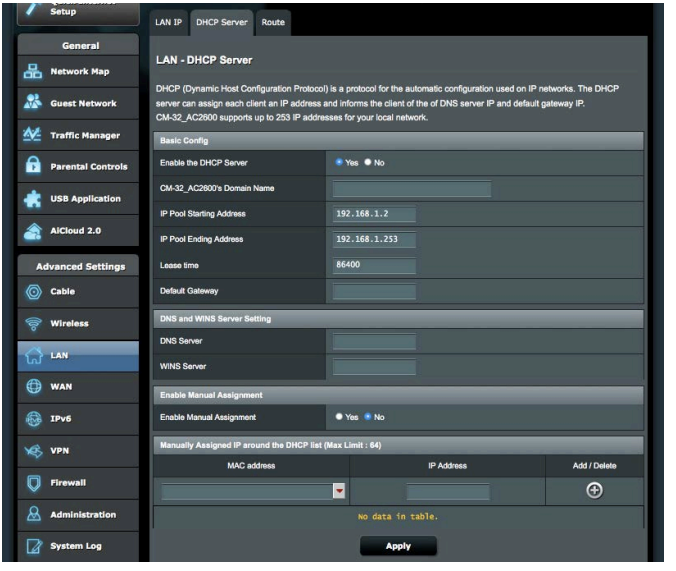
NOTES:

- 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.

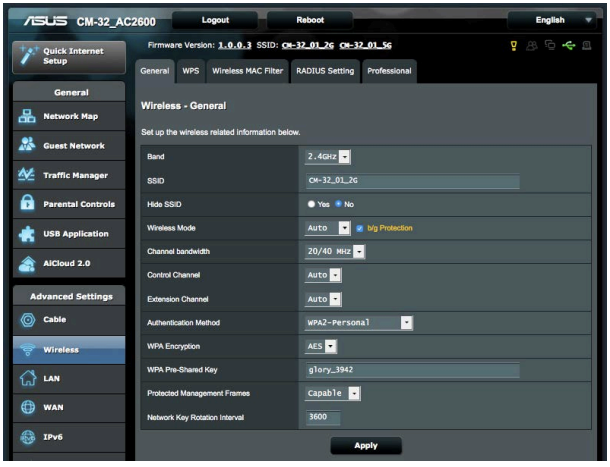
The client cannot establish a wireless connection with the router.

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

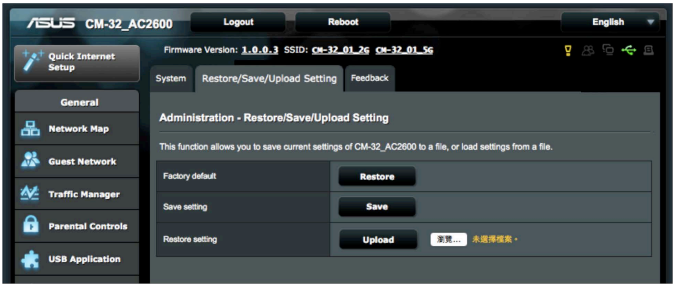
- **Out of Range:**
  - Move the router closer to the wireless client.
  - Try to adjust antennas of the router to the best direction as described in section **1.4 Positioning your router**.
- **DHCP server has been disabled:**
  1. Launch the web GUI. Go to **General** > **Network Map**> **Clients** and search for the device that you want to connect to the router.
  2. 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**.



- 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**.

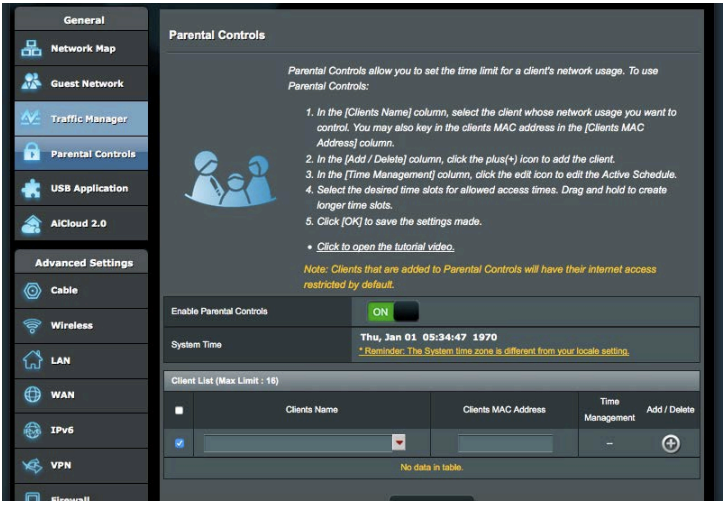


- If you are using a wireless LAN adapter, check if the wireless channel in use conforms to the channels available in your country/area. If not, adjust the channel, channel bandwidth, and wireless mode.
- If you still cannot connect to the router wirelessly, you can reset your router to factory default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



Internet is not accessible.

- 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.



- Try to reboot your computer and verify the network's IP address and gateway address.

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".

You forgot your personal login name and password

- You have to reset the cable modem router to the default setting. Hold the reset button on the back panel for over 5 seconds and wait till the 2.4 GHz and 5 GHz LEDs light white, then you can use the default settings to log in.

How to restore the system to its default settings?

- Hold the reset button on the back panel for over 5 seconds and wait till the 2.4 GHz and 5 GHz LEDs light white, then you can use the default settings to log in.
- Or, go to **Administration** > **Restore/Save/Upload Setting**, and click **Restore**.

The following are the factory default settings:

Login name:	admin
Password:	admin
Enable DHCP:	Yes (if WAN cable is plugged in)
IP address:	192.168.1.1
Domain Name:	http://router.asus.com
Subnet Mask:	255.255.255.0
DNS Server 1:	192.168.1.1
DNS Server 2:	(Blank)
SSID (2.4GHz):	Please see the product label on
SSID (5GHz):	the bottom of the modem router

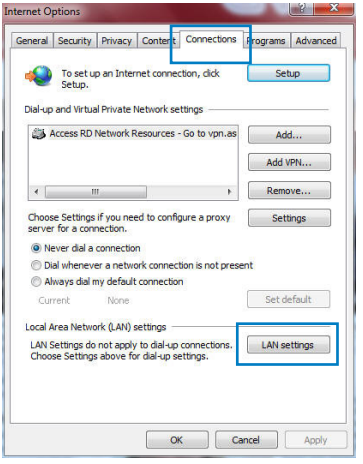
Cannot access Web GUI

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

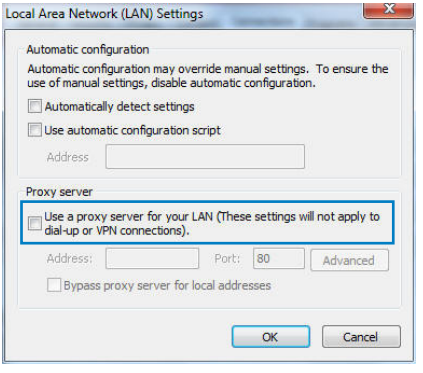
A. Disable the proxy server, if enabled.

Windows® 7

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

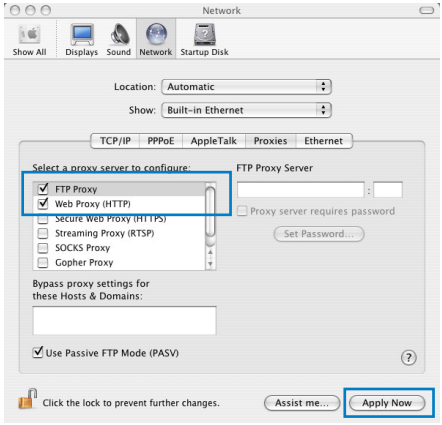


3. From the Local Area Network (LAN) Settings screen, untick **Use a proxy server for your LAN**.
4. Click **OK** when done.



MAC OS

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

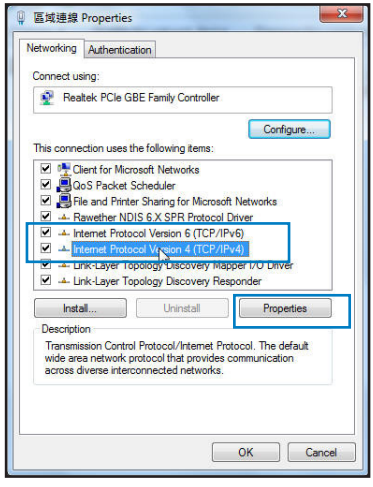


NOTE: Refer to your browser's help feature for details on disabling the proxy server.

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

Windows® 7

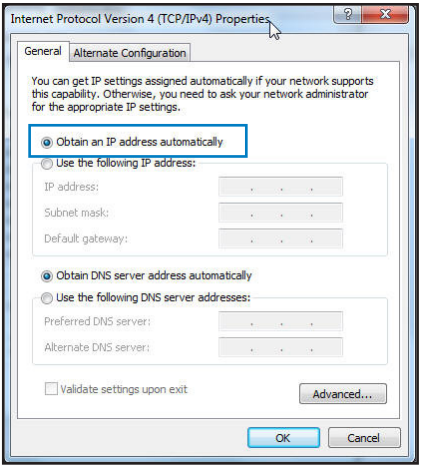
1. Click **Start** > **Control Panel** > **Network and Internet** > **Network and Sharing Center** > **Manage network connections.**
2. Select **Internet Protocol Version 4 (TCP/IPv4)** or **Internet Protocol Version 6 (TCP/IPv6)**, then click **Properties**.



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

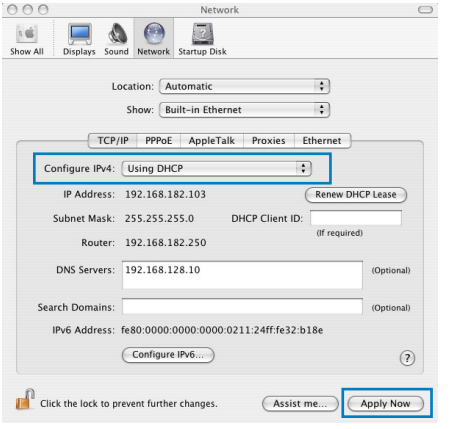
   To obtain the IPv6 IP settings automatically, tick **Obtain an IPv6 address automatically**.

4. Click **OK** when done.



MAC OS

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

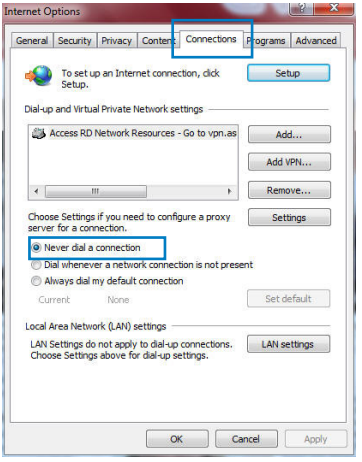


NOTE: Refer to your operating system's help and support feature for details on configuring your computer's TCP/IP settings.

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

Windows® 7

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



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

Appendices

Notices

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components, as well as the packaging materials. Please go to 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 cpnnected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 37cm between the radiator & your body.

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.

Note to System Installer

For this apparatus, the cable shield/screen shall be grounded as close as practical to the point of entry of the cable into the building. For products sold in the US and Canada, this reminder is provided to call the system installer's attention to Article 800-93 and Article 800-100 of the NEC (or Canadian Electrical Code Part 1), which provides guidelines for proper grounding of the cable shield.

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Service Hours	8:30-12:00 EST Mon-Fri 9:00-18:00 EST Sat-Sun

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