X10R/X10/X10S
AC1300 IoT Router

User Manual

Version 1.0
Published January 2017
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- This device must accept any interference received, including interference that may cause undesired operation.

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user is encouraged to try and correct the interference by one or more of the following measures:

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- Consult the dealer or an experienced radio/TV technician for help.

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IMPORTANT NOTE:

Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirement, please follow operation instructions as documented in this manual.

FCC 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 20cm between the radiator and your body.

Industry Canada Statement:
This device complies with RSS standards of the Industry Canada Rules. Operation is subjext to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme a la norme CNR- standards d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes:
(1) le dispositif ne doit pas produire de brouillage prejudiciable, et
(2) ce dispositif doit accepter tout brouillage recu, y compris un brouillage susceptible de provoquer un fonctionnement indesirable.

IMPORTANT NOTE

Radiation Exposure Statement:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Déclaration d'exposition aux radiations:
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Caution: The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Avertissement: les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

Electrical Powering

The powering of the product must adhere to the power specifications indicated on the marking labels.
The power supply must be class II and a Limited Power Source in accordance with the requirements of IEC60950-1/EN60950-1, Clause 2.5 and rated as indicated on the label on your product. It must be tested and approved to national or local standards.

Alimentation électrique

L'alimentation du produit doit respecter les caractéristiques énergétiques indiquées sur les étiquettes de marquage. L'alimentation électrique doit être de classe II et une source d'alimentation limitée conformément aux exigences de la norme IEC60950-1/EN60950-1, Clause 2.5 et calibrée comme indiqué sur l'étiquette de votre produit. Elle doit être testée et approuvée selon les normes nationales ou locales.

ATTENTION

ASRock AC1300 X10 IoT Router is also designed for wall-mounted installation. Please use the screws with head diameter of 8-9mm when mounting X10 on the wall (the distance between two screws is 174mm). Please note that danger may occur if using improper screws.

ATTENTION

Le routeur ASRock AC1300 X10 IoT est également conçu pour une installation murale. Veuillez utiliser les vis avec un diamètre de tête de 8-9 mm si vous montez le X10 au mur (la distance en_tre deux vis est de 174 mm). Veuillez noter que l'utilisation de vis inappropriées peut causer un danger.

ASRock Website: http://www.asrock.com

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Chapter 1 Introduction

ASRock AC1300 X10 IoT Router is a powerful router with various IoT functions (Internet of Things). Equipped with three high-performance external antennas, two for wireless communication and one for the optional LoRa (Low Power Wide Area Network) feature, the X10 router offers you superb wireless connectivity and is ideal for home usage.

ASRock X10 works as a central hub for your smart home as well. It connects wirelessly with hundreds of compatible various smart devices, allowing you to monitor, control, and secure your home from anywhere. When you leave or approach home, ASRock X10 enables you to turn on or off air conditioner or any other electrical devices in advance or last minute. ASRock X10 makes your life more convenient and much easier.

1.1 Package Contents

- ASRock AC1300 X10 IoT Router

- Power Adapter

- Network RJ45 Cable

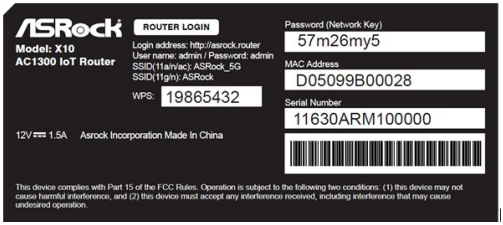
- Quick Installation Guide

Keep the original packaging material in case you would need future warranty services such as repair or replacement.

English

1.2 The Wireless Router Label

View the label on the back of the wireless router to identify the serial number, port connectors, and default login information.



**The images in this document are examples only and may be different from the product you purchase.*

The label on the router shows the login information, WiFi network name and network password, MAC address and serial number for warranty service.

1.3 Positioning Your Router

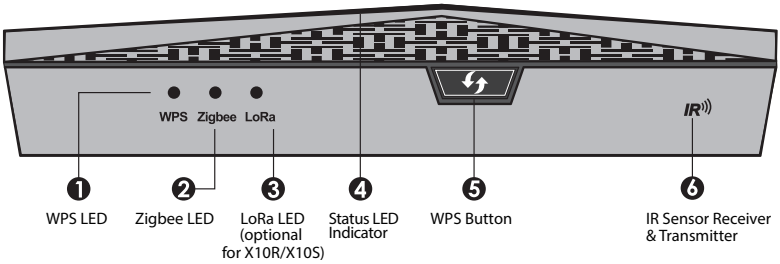
For the best wireless signal transmission between the wireless router and the connected client device, please follow the guidelines below to position your router.

- Place the wireless router in a centralized area for maximum wireless coverage for other network devices.
- Place the wireless router on an elevated location, minimizing the number of walls and ceilings between the router and other devices.
- Place the wireless router away from large metal surfaces, large glass surfaces, and insulated walls.
- Make sure that the wireless router is within reach of an AC power outlet and near Ethernet cables for wired computers.

Chapter 2 Wireless Router Overview

This chapter provides diagrams showing the location of important components of the Wireless Router.

2.1 The Front View



No.	Description	Function
1	Router Status LED Indicator	The status LED on the top allows you to verify router's conditions.
2	WPS Connection Status LED Indicator	The LED on the front allows you to verify WPS connection status.
3	LoRa Status LED Indicator	The LED on the front allows you to verify LoRa status.
4	Zigbee Status LED Indicator	The LED on the front allows you to verify Zigbee status.
5	WPS Button	Press to connect to a wireless network without password using WPS on 5GHz band.
6	Infrared Sensor Receiver and Transmitter	Send and receive IR signals

English

Status LED Definitions

- Router Status LED Indicator

Flashing Blue	Starting up
Solid Blue	Connected to the internet
Flashing Red	ADSL modem not detected / WPS connection failed
Solid Red	Modem detected but no internet connection

- WPS Connection Status LED Indicator

Flashing White	Connecting to a WPS-enabled device
Solid White	WPS connected

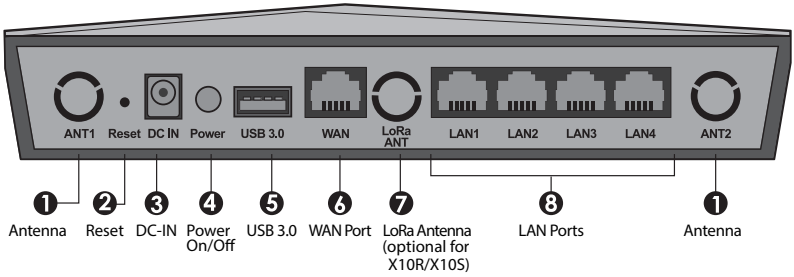
- LoRa Status LED Indicator

Flashing White	Pairing to a LoRa device
Solid White	LoRa device connected

- Zigbee Status LED Indicator

Flashing White	Pairing to a Zigbee device
Solid White	Zigbee device connected

2.2 The Rear View

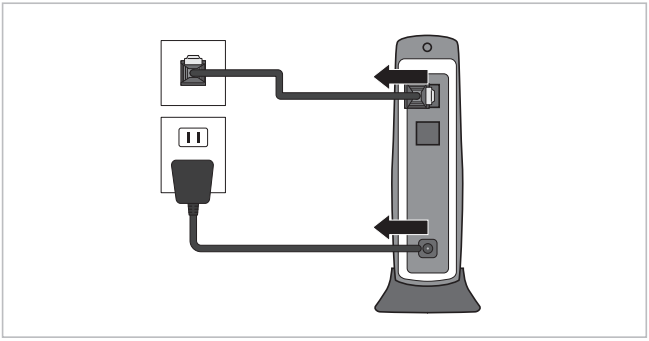


No.	Description	Function
1	Antenna Ports	Connect the provided WiFi 2.4/5 GHz Antennas to these ports.
2	Reset Button	Press to reset the system or press and hold the button for more than 10 seconds to restore the factory default settings.
3	DC-in Port	Connect the provided AC power adapter to this port.
4	Power Button	Press to power on or off the router.
5	USB3.0 Port	Plug the USB printers, flash drives, and other USB devices into this port to share the network connection
6	WAN Port	Connect a network cable into this port to establish a WAN connection.
7	LoRa Antenna Port	Connect the provided LoRa Antenna to this port.
8	LAN1~4	Four local Ethernet ports for connecting local computers and other wired network devices

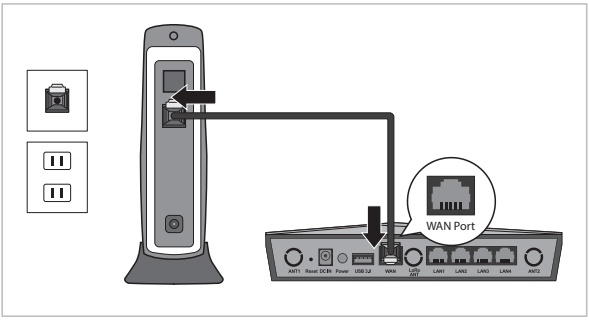
Chapter 3 Setting up the Wireless Router

3.1 Connecting the Equipments

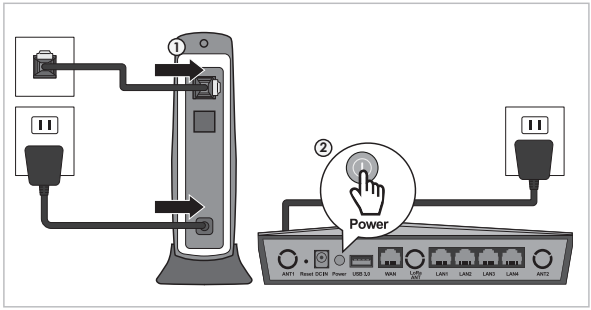
1. Turn off your modem. Unplug the power cord and all ethernet cables from your modem.



2. Connect one end of the supplied yellow RJ45 cable to the WAN port on the rear of ASRock X10 and the other end to the WAN port on your modem.



3. Plug all cords back and reboot your modem.
4. Connect one end of the power cord to the DC IN port on the rear of ASRock X10 and the other end to a power outlet.
5. Press the Power button to turn on the ASRock X10 router.
6. The status LED on the router start blinking blue. Please wait for a while until the router is ready when the LED turns to solid blue.

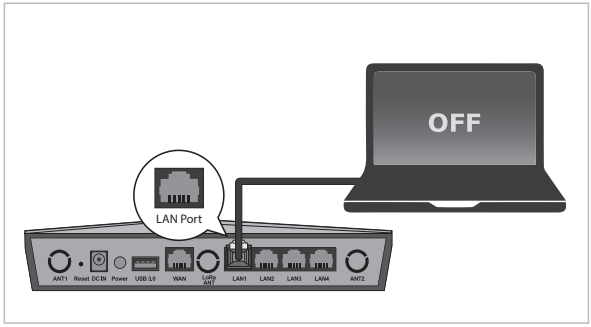


3.2 Setting up an Internet Connection

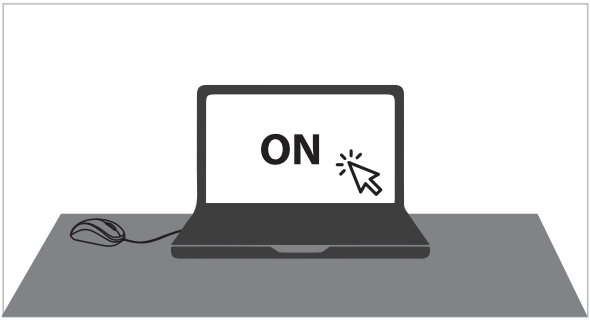
There are two methods to connect your computer, tablet or smartphone to the network on the ARsock X10 Router: Wired connection or wireless connection.

3.2.1 Wired Connection

1. Connect one end of a RJ45 cable to any LAN port (LAN1, LAN2, LAN3, LAN4) on the rear of ASRock X10 and the other end to a LAN port on your your computer or laptop.



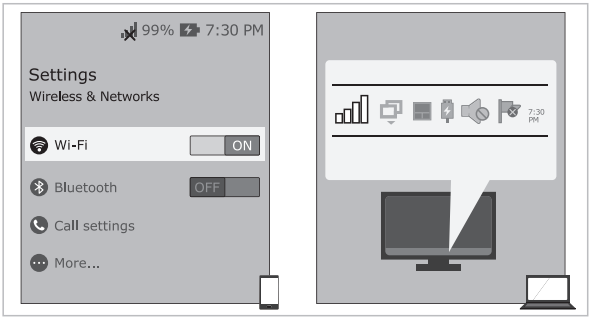
2. Turn on your computer or laptop.
3. Make sure that the status LED on the router lights up blue.
4. Now start to set up basic configruations. (see “Setup Wizard”)



3.2.2 Wireless Connection

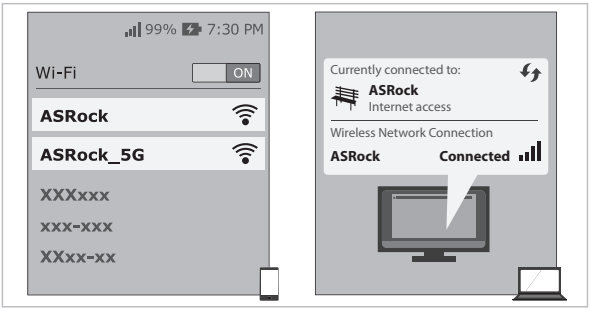
Before you start, turn on your device and make sure your device is wireless-enabled.

** For computers, a wireless card or adaptor is required. For handheld devices, visit your device's WiFi Settings menu and ensure that WiFi is turned on.*



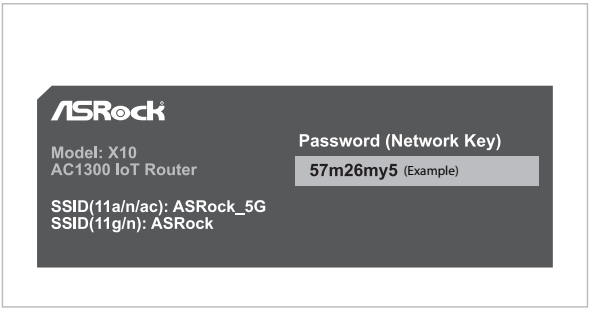
Your device can connect to the wireless network on the ASRock X10 router in two ways: Manual method or WPS method

(1) Manual Method: Using the SSID and password to establish a wireless connection



1. On your device, locate and select the Wi-Fi network name (SSID), "ASRock" or "ASRock_5G" in a list of available networks.
2. Enter your default password listed on the bottom of the router.

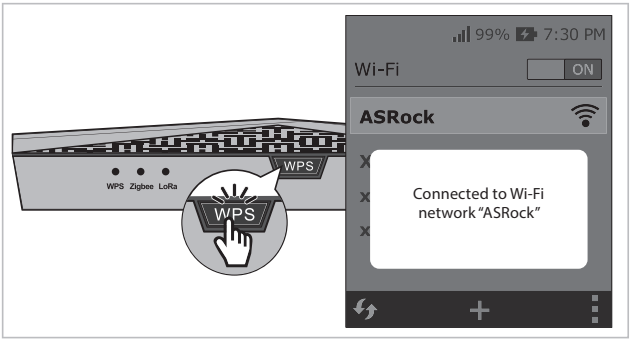
SSID	Password (Network Key)
ASRock or ASRock_5G	(Check product label on the bottom of the router)



3. Select "Connect".

(2) WPS Method: Using the WPS (Wi-Fi Protected Setup) push button to establish a wireless connection

WPS stands for Wi-Fi Protected Setup and it is a wireless networking standard that tries to make connections between a router and wireless devices faster and easier.



1. If your device supports WPS*, press and hold the WPS button on the front of the ASRock X10 router for more than 5 seconds. The WPS status LED on the front will flash white at this stage.
2. Press the WPS button on your device to join the X10's Wi-Fi network.

	If you use a handheld device, locate and press the WPS button shown as two curved arrows to connect.
	If you use a computer, locate and select the Wi-Fi network name (SSID), "ASRock" or "ASRock_5G". Select "Connect".

3. When WPS is connected successfully, the WPS status LED indicator on the front turns to a solid light white.

**The WPS function may or may not be supported depending on your device.*

4. Make sure that the status LED on the router lights up blue.
5. Now start to set up basic configruations. (see "Setup Wizard")

Chapter 4 Setup Wizard

4.1 Starting the Setup Wizard for the First Time

Your ASRock router comes with an intuitive wizard that allows you to easily configure its various features through a web browser, such as the Internet Explorer, Firefox, Safari, or Google Chrome.

1. When your device is successfully connected to the Internet, open your web browser (Google Chrome recommended).
2. If Setup Wizard does not launch automatically, enter the default IP address: **http://192.168.1.1** or "**ASRock.router**" into the browser address bar. Press Enter.

3. If asked to enter the default username and password, input “admin” for both fields.

4.2 Setting up Basic Configurations

Step 1. Change Login Password

1. When the Setup Wizard appears, you need to change the default login password to proceed.

NOTE: It is required to change the login password at this step to secure your network and the router. Changing the login username is optional.

IP address	**http://192.168.1.1** or **ASRock.router**
Default Username	**admin (Optional to be changed)**

Password	**(Required to be changed)** **Passwords must be at least 5 characters and are case sensitive.*

2. Write down your new username and password on your Quick Start Guide or somewhere else that you can keep it carefully.

3. Press "Next" to continue. Then follow the step-by-step Setup Wizard to complete the basic configuration.

NOTE: You need to re-login if idle for more than 5 minutes.

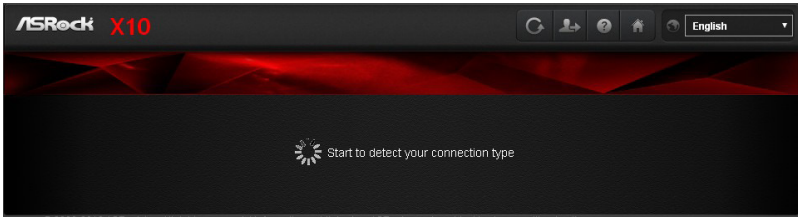
Step 2. Update firmware if required

When you proceed, if a new version of firmware is available, you will see the screen below. Select “Yes” to update the firmware immediately. If your firmware is already up-to-date, you will skip this step.

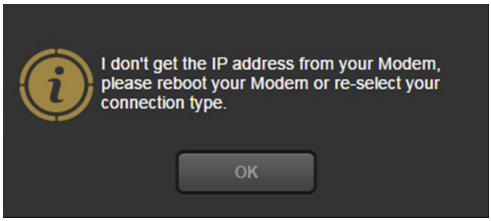
ATTENTION! Please do NOT turn off your router while updating the firmware. When the update is complete, the router will restart automatically.

Step 3. Connect to the Internet

The setup wizard will automatically detect the Internet connection type provided by your ISP and guide you to finish all necessary steps.



If auto-detection failed, you will see the message below. Press "OK" and start to manually set up your router.



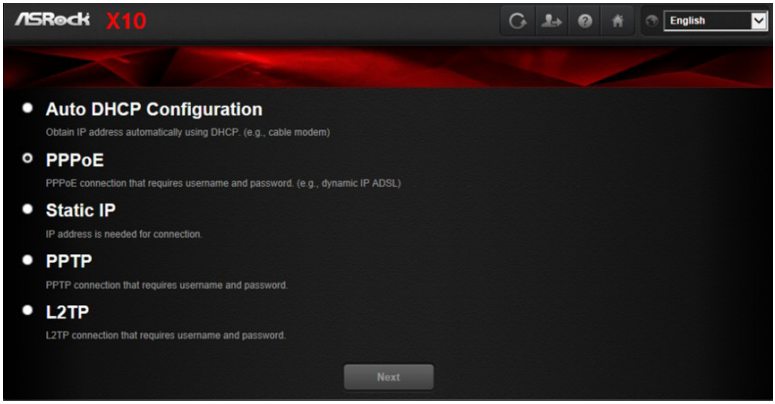
You might need the following information to set up your router:

- Fixed or static IP address setting. (Special deployment by ISP)
- ISP login name and password.
- ISP configuration information for your DSL account.

If you do not have the information above , ask your ISP to provide it.

A digital subscriber line (DSL) modem is a device used to connect a computer or router to a telephone line which provides the digital subscriber line service for connectivity to the Internet.

1. Choose your Internet connection type.



2. Select "Next" to continue.
3. Follow the setup instructions and enter the required information for your ISP connection type.

NOTE: After you complete the Setup Wizard configuration, you can always change the settings afterwards. See 6.3 WAN Settings.

Step 4. Change default wireless name(SSID) and password

When the Wireless Security Setting page appears, you can check your default wireless name and password.

We strongly recommend you to change the default wireless name and password immediately for better network security.

1. Select "I want to change the wireless name and password".
2. Enter the wireless name and password you desire in the text boxes.

NOTE: A valid password must be comprised of at least 8 characters.

3. If you select "Copy 2.4G setting to 5G", the identical password is used for both 5G and 2.4G networks.
4. Press "Next" to continue.

If you are asked to enter the login information to proceed, enter the wireless name and password you have set in the Step 4.

5. Then the Dashbaord page appears. Please see "Dashboard" for more instructions.

Chapter 5 Dashboard

5.1 Overview

The dashboard allows you to easily check the status and basic information of X10 as well as provides quick access to various general settings. You can configure your network's security settings, manage your network clients, monitor your USB device, and control the general and advanced functions.

No	Item	Description
1	WAN	Displays router's WAN information
2	Router	Displays router's operation mode and firmware version
3	Client	View the information of the clients that are connected to your router
4	USB	View the information of the connected USB device
5	Reboot	Press to reboot the ASRock X10 router
6	Login/Logout	Press to log in or log out the site.
7	Help	Press to go to ASRock's support website.
8	Home	Press to go to the dashboard page.
9	Language	The language is set to English by default. Users can select different languages in the drop down list.
10	Setup Wizard	Launch the Setup Wizard
11	VPN	Enable or disable the VPN feature
12	Parental Control	Parental control configurations

13	Smart Home	Displays status and information of smart home devices
14	Advanced	Press "Enter" to enter the Advanced Settings page.
15	WAN	Displays WAN (wide area network) information
16	Self-Healing	Enable or disable the Self-Healing feature
17	Lighting	Enable or disable the LED indicators on the router
18	Guest	Guest network configurations
19	WIFI	Enable or disable the wireless SSID broadcast

On the dashboard homepage, you can check and configure general settings. After the configuration, press "Apply" to save the settings and reboot the router for the settings to take effect.

5.2 WAN Information

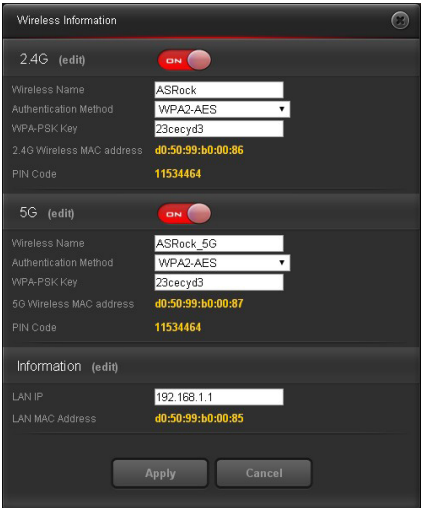
Press "WAN" to open up the pop up window where you can configure your WAN information and enable or disable your connection.

- WAN Connection: Allows the router Internet access. The default is set to ON.
- Connection Type: Displays your internet service provider type.
- WAN IP: Displays the WAN IP address.
- WAN MAC Address: Displays the WAN MAC address.
- DNS Information: Displays the DNS address.
- Gateway Information: Displays the Gateway address.
- Port Scan: Protects your network from port scan attacks. The default is set to ON.
- DoS Protection: Protects your network from DoS (Denial of Service) attacks though this may affect your router's performance. The default is set to OFF.

Press "Apply" to save the settings and reboot the router.

5.3 Wireless Information

Press "Operation Mode: Router" on the dashboard to open up the pop up window where you can easily configure your wireless information.



2.4G

- Wireless Name: Displays the unique name of your wireless network. You can modify the name in the field.
- Authentication Method: Displays the encryption method for your wireless network.
- WPA-PSK Key: Displays the WPA-PSK key.
- 2.4G Wireless MAC Address: Displays the 2.4G wireless MAC address.
- PIN Code: Displays the PIN code.

Press "edit" (or go to **Advanced > Wireless > Wireless-2.4G)** to configure more Wireless-2.4GHz settings.

5G

- Wireless name: Displays the unique name of your wireless network. You can modify the name in the field.
- Authentication Method: Displays the encryption method for your wireless network.
- WPA-PSK Key: Displays the WPA-PSK key.
- 5G Wireless MAC Address: Displays the 5G wireless MAC address.
- PIN Code: Displays the PIN code.

Press "edit" (or go to **Advanced > Wireless > Wireless-5G)** to configure the Wireless-5G settings.

Information

- LAN IP address: Displays the default LAN IP address.
- LAN MAC address: Displays the LAN MAC address.

Press "edit" (or go to **Advanced > LAN)** to configure the LAN settings.

Press "Apply" to save the settings.

5.4 Client Information

Press "Client" to open up the pop up window where you can check your client information. You will see the IP address, device name, MAC address of all the devices (wired and wireless), connected to your router.

5.5 USB Information

Press “USB” to open up the pop up window where you can check the device name, total space, free space of the connected USB device(s).

- Safely Remove USB Device: Check the check box(es) to select the USB device(s) you want to remove and press "Safely Remove USB Device" to disconnect the USB

device(s) safely.

- Advanced: Press "Advanced" (or go to **Advanced > USB Application)** to configure advanced settings.

When a USB device is reconnected to the router, press "Home" to go to the dashboard page and refresh the status.

5.6 Setup Wizard

Press “Setup Wizard” to run the Setup Wizard again manually.
To know more about the Setup Wizard, please see Chpater 4. Setup Wizard.

5.7 VPN Configuration

Press “VPN” (or press **Advanced > VPN**) to enter the VPN setting page.
To know more about VPN configuration, please see the section entitled "Advanced Settings - VPN".

5.8 Parental Control

Press “Parental Control” (or press "Advanced" > "Parental Control") to enter the Parental Control setting page.
To know more about Parental Control function and configruation, please see the section entitled "Advanced Settings - Parental Control".

5.9 Smart Home

5.10 Advanced Settings

Press "Advanced" to enter the Advanced Settings page. Once you enter the Advanced Settings page, you will see a preview of information about the router, Internet Port, and Wireless-2.4G and Wireless-5G connections. Select an item on the left panel to configure its advanced settings. For more detailed information, please see the section entitled "Advanced Settings".

5.11 WAN Connection

Press "WAN" to switch the WAN connection on or off. Press "Apply" to confirm the change.
When it is switched OFF, the status LED indicator on the top of the router lights up red.

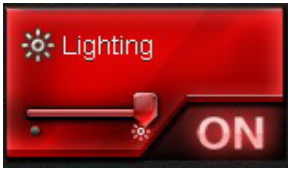
When it is switched ON, the staus LED indicator on the top of the router lights up blue.

5.12 Self Healing

Press "Self Healing" to switch the Self Healing function on or off. To know more about Self Healing function and configruation, please see the section entitled "Advanced Settings - Self Healing".

5.13 Lighting

Press "Lighting" to enable or disable the LED indicators on the router.
You can drag the slide bar to control the brightness of the LED indicators.



5.14 Guest

Press "Guest" to enable or disable your guest network and set the guest access passwords and durations. For more options, go to **Advanced > Wireless > Guest**.

5.15 WIFI

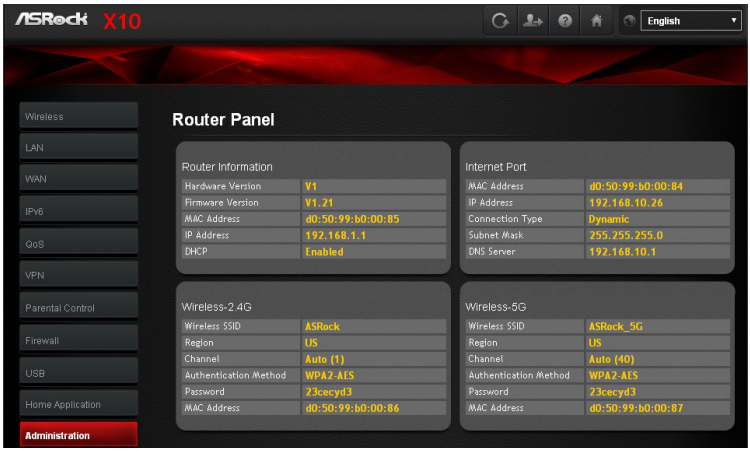
Press "WIFI" to enable or disable the wireless SSID broadcast.

NOTE: To re-enable the WiFi connections, please use wired connections to connect your device to the router and log in the router site where you can enable the WiFi.

Chapter 6 Advanced Settings

The Advanced page contains a variety of advanced settings, including Wireless, LAN, WAN, IPv6, QoS, VPN, Parental Control, Firewall, USB, Home Application and Administration.

Press "Advanced" to enter the Advanced Settings page. Once you enter the Advanced Settings page, you will see a preview of information about the router, Internet Port, and Wireless-2.4G and Wireless-5G connections.



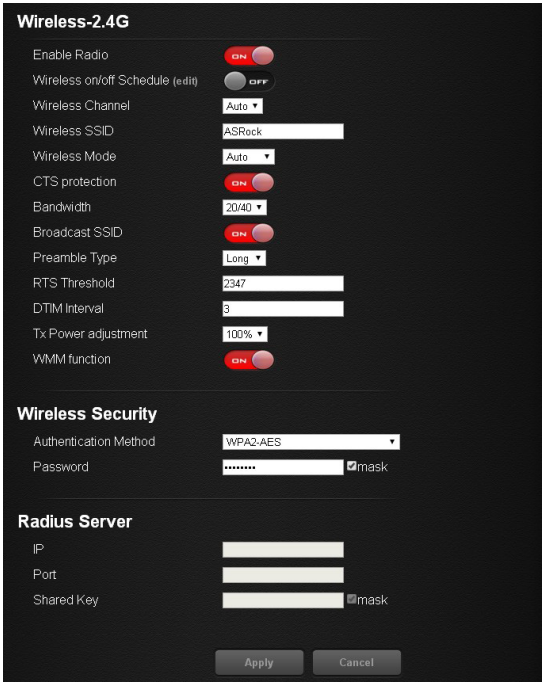
Select an item on the left panel to configure its advanced settings.
After configuration, press "Apply" to enable the settings.

6.1 Wireless Settings

The router's internal wireless radios broadcast signals in the 2.4GHz and 5GHz range. By default, they are on so that you can connect wirelessly to the router. When the wireless radios are off, you can still use an Ethernet cable for a LAN connection to the router.

6.1.1 Wireless

Wireless - **2.4G/5G**



- Enable Radio: Enable or disable wireless radios. By default, the radios are "on". If you turn off the wireless radios, you can't log in to the router.
- Wireless On/Off Schedule: You can specify which days of the week wireless networking are enabled

  Press "edit"
- Wireless Channel: You can change your WiFi router channel to optimize your wireless signal. If you are not sure how to pick the right channel, keep the default "Auto".

- Wireless SSID: The Service Set Identifier (SSID) is a name used to connect to a wireless network so you can identify your network.
- Wireless Mode: By default, the wireless mode is set to “Auto”. 802.11ac, 802.11n, 802.11g and 802.11b devices are allowed to be connected to the wireless router.
- CTS Protection: Clear to send (CTS) Protection mode is a wireless setting that ensures computers on a network can connect to a wireless router when many communications devices are present. When an 802.11b and an 802.11g device are both connected to the access point, set the CTS Protection to "ON" (Default). Since an 802.11b device is unable to detect when an 802.11g device is transmitting, CTS protection ensures that each device takes turns transmitting in order to avoid collisions. If the wireless devices connected to the access point are either all 802.11b or all 802.11g, set the CTS protection to "OFF".
- Bandwidth: For best performance in a 2.4GHz network using wireless-B, wireless-G and wireless-N devices, keep the default, “20/40”. For a bandwidth of 20MHz, select 20MHz only. For the best performance in a 5GHz network, keep the default 20/40/80MHz.
- Broadcast SSID: When wireless clients survey the local area for wireless networks to associate with, they will detect the SSID broadcast by the router. Keep the default “ON” to broadcast the router’s SSID. Select “OFF” if you do not want to broadcast the router’s SSID.
- Preamble Type: By default, the preamble type is set to "Auto". 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: Adjusts the size of RTS (Request to Send) data packets. By default, the RTS value is 2347. Lower values reduce throughput, but allow the system to recover quicker from interference or collisions. Higher values provide the fastest throughput.
- DTIM Interval: The Delivery Traffic Indication Message (DTIM) interval helps routers to broadcast wireless traffic to multiple hosts with greater efficiency. DTIM 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 3 milliseconds.
- Tx Power Adjustment: Tx power adjustment refers to the milliwatts (mW) needed to power the radio signal output of the wireless router.
- WMM Function: Prioritizes multimedia data over the wireless network.

Wireless Security

- Authentication Method: Select an Authentication method for the wireless network.
- Password: Enter a password for protecting your wireless network. Select "mask" to hide the entry.

Radius Server

RADIUS (Remote Authentication Dial-In User Service) authenticates the local and remote users on a network. The RADIUS server is identified by its IP address and UDP port numbers for the different services it provides.

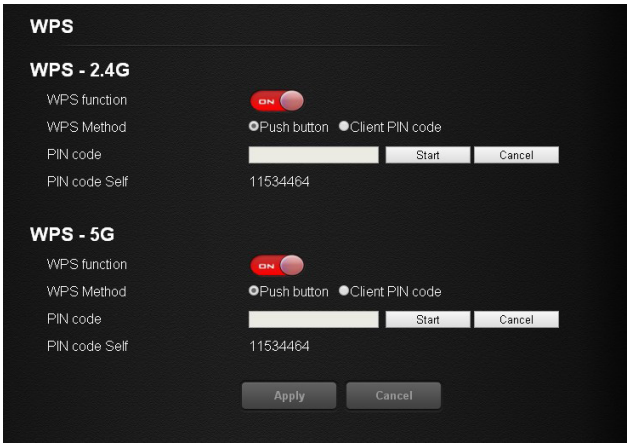
- IP: Enter the IP address of the RADIUS server.
- Port: Make sure that the port number RADIUS uses for authentication appears in the Port text box.
- Shared Key: Enter the shared secret key for the RADIUS server.

6.1.2 Guests

Guest Network - 2.4G/5G

The guest network provides temporary visitors with internet connectivity via access to separate SSIDs or networks without providing access to your private network.
Check the checkbox to enable the selected SSID broadcast and set the guest access password and duration. Press "Apply" to save the settings and reboot the router.

6.1.3 WPS



WPS - 2.4G / WPS -5G

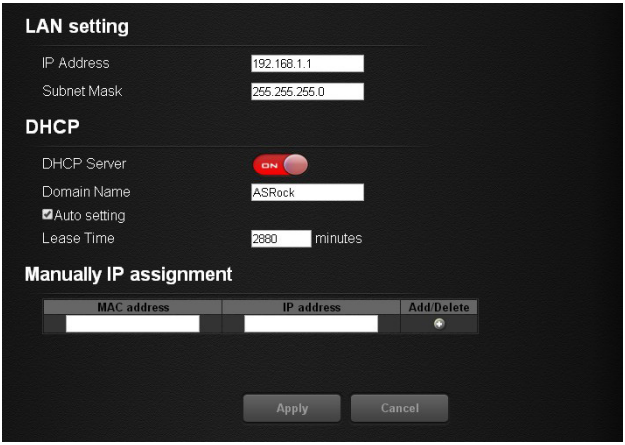
WPS (Wi-Fi Protected Setup) is a wireless security standard that allows you to connect devices to a wireless network.

- WPS Function: Enable or disable the WPS function. The default is set to “ON”.
- WPS Method: Choose whether you want to push the WPS "Push button" on the router or enter the "Client PIN code". The default is set to "Push button".
- PIN Code: Specify the PIN code by pressing "Start" to initiate WPS. Press the WPS button on the router within two minutes.
- PIN Code Self: View the PIN Code of the router.

6.2 LAN Settings

The LAN IP screen allows you to modify the LAN, IPTV and VLAN settings of your wireless router.

6.2.1 LAN



LAN Setting

- IP address: The default IP address is "192.168.1.1". You can change the IP address of the router.
- Subnet Mask: The default subnet mask is "255.255.255.0".

DHCP

- DHCP Server: By default, the DHCP server is set to "ON".
- Domain Name: Enter a domain name for the wireless router.
- Starting IP Address: You can specify the IP address range. Enter the starting IP address for assigning IP addresses to connecting devices.
  NOTE: This option is skipped when "Auto Setting" is selected.
- Ending IP Address: You can specify the IP address range. Enter the last IP address for assigning IP addresses to connecting devices.
  NOTE: This option is skipped when "Auto Setting" is selected.
- Lease Time: 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.

Manual IP Assignment

Select a client's MAC address from the drop down list. Assign a fixed IP address for your client device. Press under the Add/Delete column to add the client to the list.

Press "Apply" to save the settings and reboot the router.

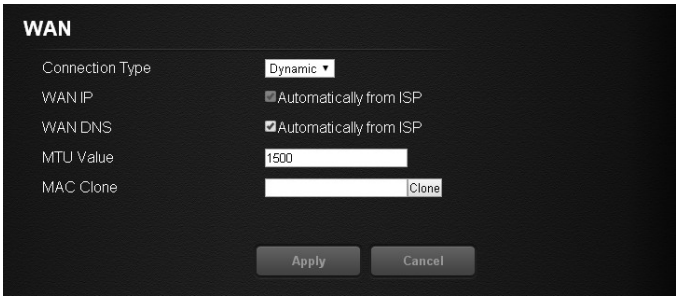
6.2.2 IPTV

6.2.3 VLAN

6.3 WAN Settings

You can view or configure Wide Area Network (WAN) settings for the internet port. You can set up a demilitarized zone (DMZ) server, change the maximum transmit unit (MTU) size, and so on.

6.3.1 Internet

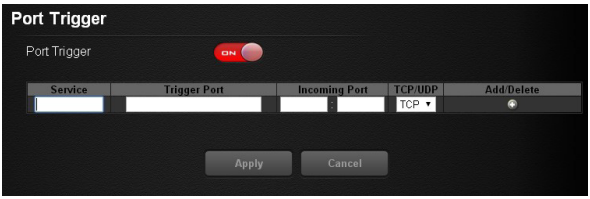


- Connection Type: Choose your internet service provider type. Options include: Dynamic IP, PPPoE, PPPoA, L2TP, and PPTP.
- WAN IP: By default, the IP address is acquired from your ISP automatically.
- WAN DNS: By default, the DNS address is acquired from your ISP automatically.
- MTU Value: The Maximum Transmit Unit (MTU) defines the largest size of packets that an interface can transmit without the need to fragment. Change the MTU value only when it is necessary for your ISP connection.
- MAC Clone: The Router can use a MAC (Media Access Control) address that you define as its own. This is often used when an internet provider only authorizes one MAC address to access the internet.

Press "Apply" to save the settings and reboot the router.

6.3.2 Port Trigger

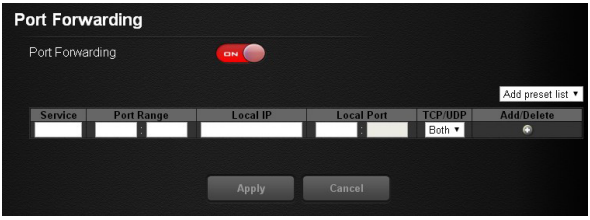
Some internet applications use alternate ports to communicate between the server and LAN host. When you want to use these applications, enter the triggering (outgoing) port and alternate incoming port in the port triggering table. Then the router will forward the incoming packets to the specified LAN host.



- Service: Enable Port Trigger and add a service.
- Trigger Port: Enter the port number for the service.
- Incoming Port: Enter the starting and ending port numbers of the trigger port range.
- TCP/UDP: Choose the protocol.
- : Add a service.

6.3.3 Port Forwarding

You may use this function to establish a web server or FTP server via an IP gateway. Make sure that you enter a valid IP address. (You may need to establish a static IP address in order to properly run an internet server.) For added security, internet users will be able to communicate with the server, but they will not actually be connected. The packets will simply be forwarded through the router.



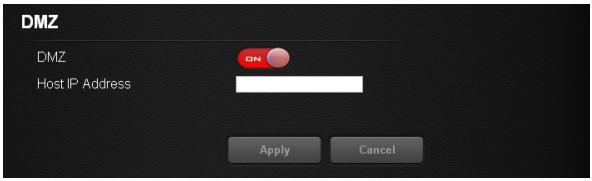
- Service: Enable Port Forwarding and add a service.
- Port Range: Enter the port range.
- Local IP: Enter the LAN IP address of the server that you want the internet users to access.

- Local Port: Enter a specific port to receive forwarded packets.
- TCP/UDP: Choose the required protocol.
- : Add a service.

6.3.4 DMZ

The router is programmed to recognize some of the applications and to work correctly with them, but other applications might not function well. In some cases, one local computer can run the application correctly if the IP address for that computer is entered as the default DMZ server. Using DMZ (Demilitarized Zone) can eliminate the need to specify many individual port forwarding rules. However, by exposing all the ports on the local device, the local device may become more susceptible to attacks.

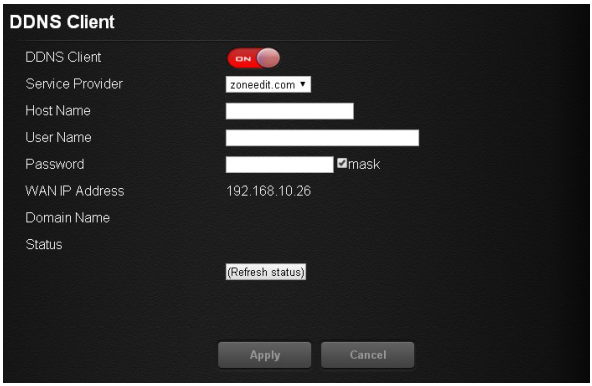
WARNING:
DMZ servers pose a security risk. A computer designed as the default DMZ server loses much of the protection of the firewall and is exposed to exploits from the internet. If compromised, the DMZ server computer can be used to attack other computers on your networks.



- Host IP Address: Enable DMZ and select an IP address.

6.3.5 DDNS

Setting up DDNS allows you to access the router from outside your network through the DDNS service.

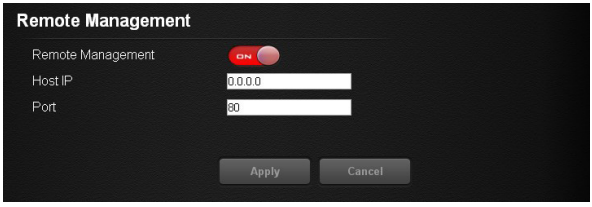


- Service Provider: Enable DDNS and choose a service provider for DDNS.
- Host Name: Enter the host name.
- User Name: Enter the user name for your account.
- Password: Enter the password for your DDNS account.

Press "Apply" to save the settings and reboot the router.

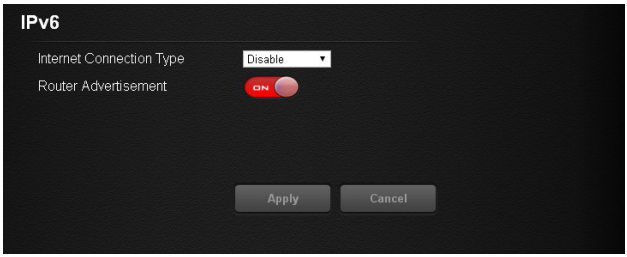
6.3.6 Remote Management

Setting



6.4 IPv6 Settings

You can view or configure



6.5 QoS Settings

QoS

Add Gaming Boost web page.

- Gaming Boost: Enable or disable the Gaming Boost.

Bandwidth

The router supports Gaming Boost natively, which identifies and intelligently manages your internet traffic. Allocating more bandwidth for your online games or video game consoles automatically, so that gamers may have more stable and

smoother gameplay. Please set the correct bandwidth to ensure the best gaming and streaming quality.

1. Press "Speed Test" to find out your actual uplink and downlink speed.
2. Enter the values of your uplink and downlink.

NOTE: For reaching the optimal performance, please connect the client and router through a network cable.

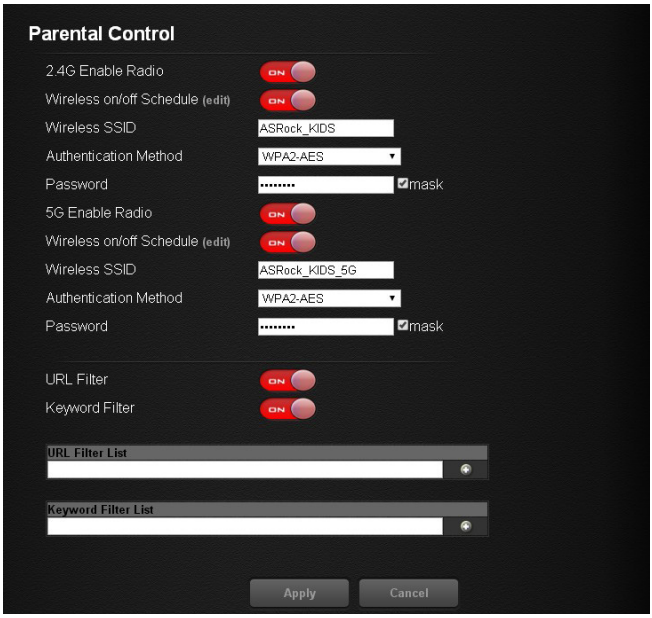
Priority

The table lists the devices connected to your router. Press "Refresh Status" to get the latest information.

Select the priority of the connected devices to allocate the bandwidth from the drop down list.

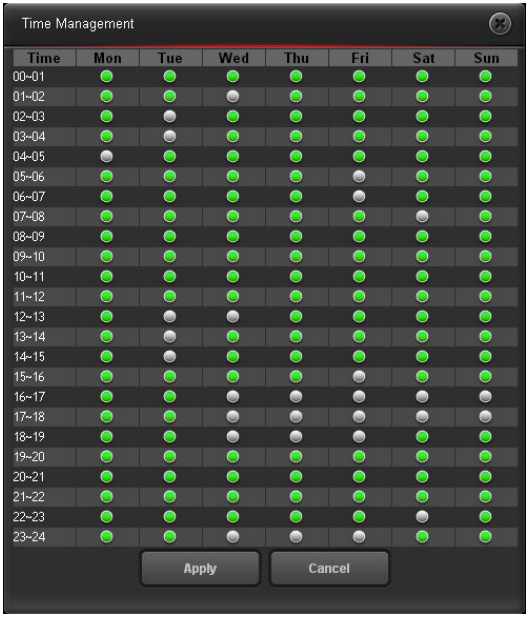
6.5 Parental Control

Parental Control allows you to control the internet access time, by setting the time limit for a client's network usage.



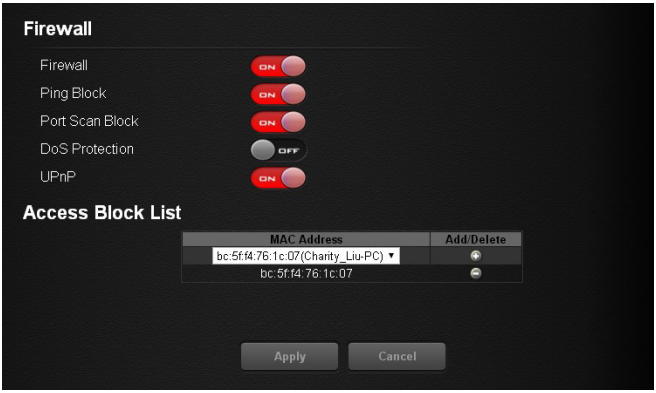
- Enable Parental Control: The default is "OFF". Switch the button to enable the service.

- Client Information: Select the client whose network usage you want to control.
- Schedule: Set up the allowed time limit in time management table. Press to open up a time management schedule and deselect the time allowed to be access the network. The green dots mean the network will be accessible. The gray dots mean the network will not be accessible.
- : Add or delete the client's profile.



6.6 Firewall

The router provides a firewall for your network.



Firewall

- Firewall: Enable or disable the firewall.
- Ping Block: Enable or disable the ICMP ping block.
- DoS Protection: Protect your network from DoS (Denial of Service) attacks though this may affect your router's performance.
- Port Scan Block: Protect your network from port scan attacks.

Access Block List

You can deny certain devices from connecting to the internet if necessary.

1. Select the devices from the drop down list.
2. Press to add it into the list.

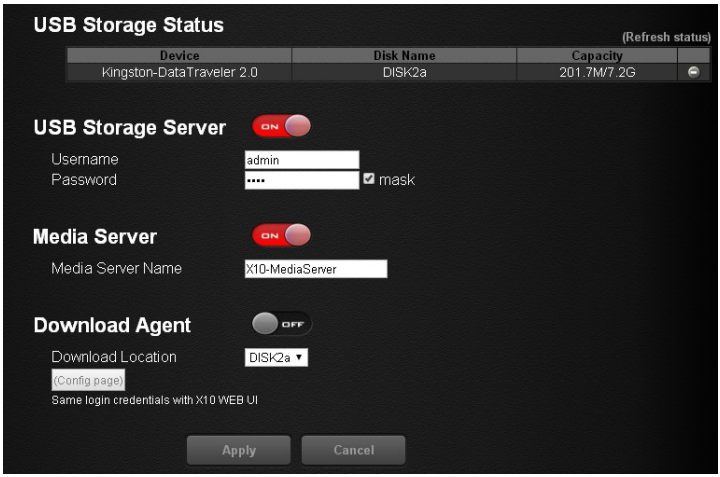
Press "Apply" to save the settings and reboot the router.

6.7 USB Application

The USB Application function provides the information of USB storage status and USB printer status, and allows you to configure USB storage server, media server, and download agent.

Insert a USB storage device, such as a flash driver or external hard drive to the USB port on the back of the router. The computer must be connected to the router to access the storage

device. You may also want to map the network drive so it shows up as a standard drive on your computer for easier access.



USB Storage Status

Displays the information of the connected device(s). Press to remove the USB device(s) safely. Press "Refresh Status" to update the status.

USB Printer Status

Displays the information of the connected device(s). Press "Refresh Status" to update the status.

USB Storage Server

Enable or disable the USB storage server.

- Account: Specify the account to access the USB storage server.
- Password: Specify the password to access the USB storage server.

Media Server

- Media Server Name: Enable the media server and specify the media server name.

6.8 Administration

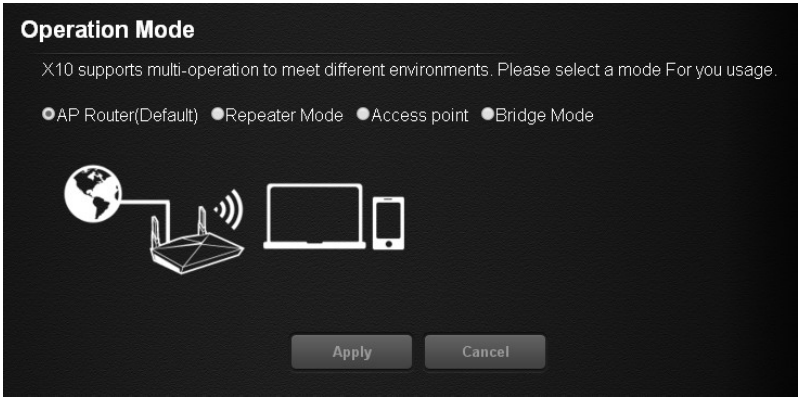
6.8.1 Router Status

Here displays the router status and usage information.

1. Select **Advanced** > **Administration** > **Router Status**.
2. View the information.

6.8.2 Operation Mode

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



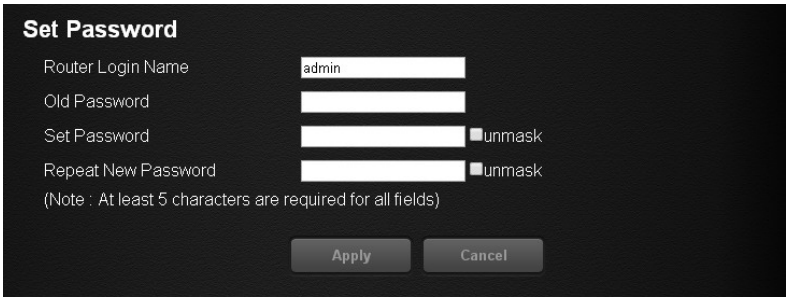
To set up the operation mode.

1. Select **Advanced** > **Administration** > **Operation Mode**.
2. Select any of these operation modes:

- Wireless router mode (Default): In wireless router mode, the router connects to the internet and provides internet access to available devices on its own local network.
- Repeater mode: In wireless repeater mode, the repeater will extend your current wireless signal for smart devices.

6.8.3 Set Password

Lets you change the default password and user name to log in the router. This password is not the one that you use for wireless access.



To set a new password and user name:

1. Select **Administration > Set Password**.
2. Router Login Name: Type the new log-in name for your router. The default is "admin".
3. Old Password: Display the default password or type the previously set password.
4. Set Password: Type the new password for your router.
5. Repeat New Password: Type the new password for your router again to double check.
6. Press "Apply" to change the setting. Reboot the router for the settings to take effect.

6.8.4 Firmware Upgrade

The router firmware is stored in flash memory. You can check to see if new firmware is available and update your product.

To check for new firmware and update your router:

1. Select **Administration > Firmware Upgrade**.
2. Press “Check & Update”. If there is newer firmware available on the server, you will see a message: “New firmware available and download process initiating”.
3. Press “OK”. Start to download the new firmware.

WARNING: To avoid the risk of corrupting the firmware, do not turn off the router and interrupt the upgrade.

Manual Update

To manually update the new firmware for your router, press "Select Files" and then "Select and Update".

6.8.5 Self Healing

The self-healing feature is a way to have the router automatically rebooted itself.

Select **Advanced > Administration > Self Healing**.

- Self Healing: Press the button to ON/OFF the function.
- Time Schedule: Press "Edit" to set a time for the self-healing. In the table, press

to select the time to reboot the router automatically.

6.8.6 Restore / Save

The configuration settings of the router are stored within the router in a configuration file. You can export this file to your computer, restore it, or reset it to the factory default settings.

Restore to Factory Default Setting

You can erase the current configuration and restore the default settings.

1. Select **Advanced** > **Administration** > **Restore/Save**.
2. Press the **Restore** button.

The factory default settings are restored. The user name is "admin", the password is "admin", and the LAN IP address is 192.168.1.1.

You can also press and hold the "Reset" button for more than 10 seconds on the rear of the router to restore the default settings.

LED Indicator Variations:

Exporting Router Configurations

1. Select **Advanced** > **Administration** > **Restore/Save**.
2. Press the **Export** button.

A copy of the current setting is saved in the location you specified.

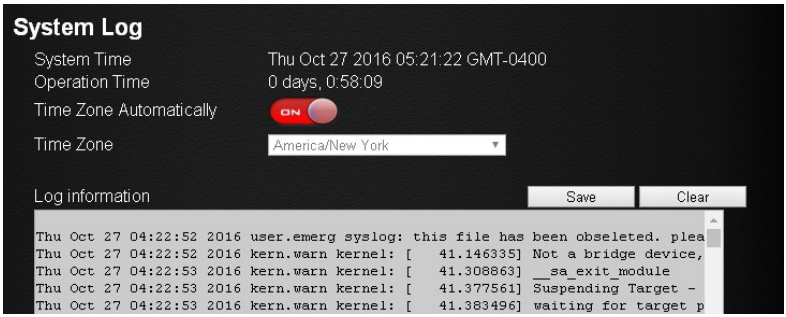
Importing Router Configuration

1. Select **Advanced** > **Administration** > **Restore/Save**.
2. Press the **Select Files** button.
3. Press the **Upload** button.

The file is uploaded to the router and the router will reboot.

6.8.7 System Log

The log is a detailed record of the websites you access or attempted to access and other router actions.



1. Select **Advanced** > **Administration** > **System Log**.
2. You can view the history of your network activities.

Press "Save" to save a copy of the event log to your device. Press "Restore" to clear event logs.

Chapter 7 Troubleshooting

This section describes tips for troubleshooting some common problems.

7.1 How to Restart Your Network

When you need to restart your network, follow this sequence:

1. Turn off and unplug the modem.
2. Turn off the router
3. Plug in the modem and turn it on.
4. Turn on the router and wait.

7.2 Wireless Settings

Make sure that the wireless settings on the computer and router match exactly. The wireless network name (SSID) and wireless security settings of the router and wireless computer must match exactly.

If you set up an access list in the Advanced Wireless Settings screen, you must add each wireless computer's MAC address to the router's access list.

7.3 Standard LED Behavior When the Router Is Powered On

After you turn on power to the router, the following sequence of events occurs:

Flashing Dark Blue	Solid Dark Blue	Flashing Yellow	Solid Yellow	Flashing Light Blue	Solid Light Blue
Starting up	Connected to the internet	ADSL modem not detected / WPS connection failed	Modem detected but no internet connection	Connecting to a WPS-enabled device	WPS connected

7.4 Unable Log In to the Router

If you cannot log in to the router from a computer or wireless devices on your local network, please check the following:

- If you use an Ethernet connected computer, check if the Ethernet connection between the computer and the router is working.
- If you use a wireless connected computer or wireless devices, check if the wireless SSID connection between computer and wireless devices are working.
- If your router's IP address was changed and you do not know the current IP address, clear the router's configuration to factory default. This sets the router's IP address to 192.168.1.1.
- Make sure that you are using the correct login information. The default user name is "admin", and the default password is "admin". Make sure that Caps Lock is off when you enter this information.

7.5 Unable Access the Internet

If you can access your router but not the internet, check to see if the router can obtain an IP address from your internet service provider (ISP). Unless your ISP provides a fixed IP address, your router requests an IP address from the ISP.

To check the WAN IP address:

1. Launch a web browser from a computer or wireless device that is connected to the network.
2. Select an external site such as www.asrock.com.tw.
3. Type asrock.router or 192.168.1.1. A login screen should appear.
4. Enter the router's user name and password. The default user name is "admin", and the default password is "admin".
5. Press ADVANCED > Next button. The ADVANCED home screen should appear.
6. Check if a valid IP address is shown for the internet port. If 0.0.0.0 is shown, it means your router has not obtained an IP address from your ISP. If your router cannot obtain an IP address from the ISP, you may need to force your cable or DSL modem to recognize your new router by restarting your network.

If your router is still unable to obtain an IP address from the ISP, the problem might be one of the following:

- Your internet service provider (ISP) might require a login program.
- If your ISP requires a login, the login name and password might be set incorrectly.
- Your ISP might check for your computer's host name.
- If your ISP allows only one Ethernet MAC address to connect to internet and checks

for your computer's MAC address, do one of the following:

- Inform your ISP that you bought a new network device and ask them to use the router's MAC address.
- Configure your router to clone your computer's MAC address.

7.6 Wireless Connectivity

If you are having trouble to connect wireless to the router, try to isolate the problem:

Does the wireless device or computer that you are using find your wireless network?

- If you disable the router's SSID broadcast, then your wireless network will be hidden and will not be displayed in your wireless client's scanning list.
- If not, check the dashboard Wi-Fi on/off button from the Web GUI. If it is off, you can press the Wi-Fi on/off button on the dashboard to turn the router wireless radios back on.

If your wireless device finds your network but the signal strength is weak, check these conditions:

- Is your router too far from your computer or too close? Place your computer near the router but at least 6 feet away and see whether the signal strength improves.

7.7 Restore to the factory default settings

You can return the router to its factory settings. Use the end of a paper clip or a similar object to press and hold the Reset button on the back of the router for at least ten seconds.

Go to **Advanced** > **Administration** > **Restore/Save**, and press "Restore".

Appendix - Factory default settings

The router resets and returns to the factory configuration settings shown in the following table.

Feature		Default Behavior
Router Login	User Login URL	192.168.1.1 or ASRock.router
	User Name	admin
	Login Password	admin
Internet Connection	WAN MAC Address	Use default hardware address
	WAN MTU Size	1436
	Port Speed	AutoSensing
Local Network (LAN)	LAN IP	192.168.1.1
	Subnet Mask	255.255.255.0
	DHCP Server	Enable
	DHCP Range	192.168.1.2 to 192.168.1.254
	DHCP Starting IP Address	192.168.1.2
	DHCP Ending IP Address	192.168.1.254
Wireless	Wireless Radio	Enable
	Wireless Name	See router label
	Security	WPA2-AES
	Broadcast SSID	Enable
	Country/Region	Varies by region
	RF Channel	Auto for 2.4GHz/5GHz
	Operating Mode	Router Mode: Up to 800Mbps at 2.4GHz, 1733Mps at 5GHz