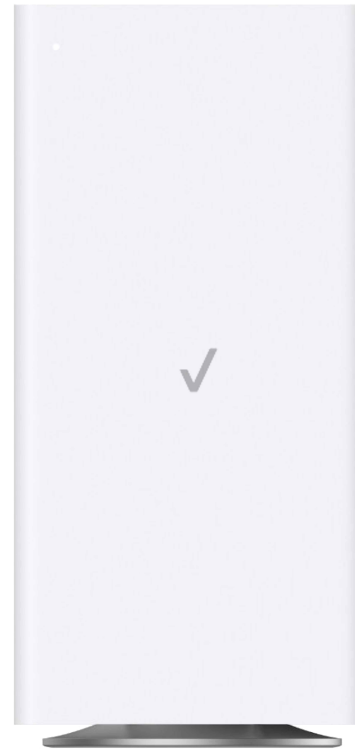
verizon

Verizon Router USER GUIDE



Model CR1000B

CONTENTS

01/

INTRODUCTION

Verizon Router lets you transmit and distribute digital entertainment and information to multiple devices in your home/office.

Your Verizon Router supports networking using coaxial cables, Ethernet, or Wi-Fi, making it one of the most versatile and powerful routers available.

PACKAGE CONTENTS, SYSTEM REQUIREMENTS AND FEATURES

1.0/ PACKAGE CONTENTS

Your package contains:

- Verizon Router
- Power adapter
- Ethernet cable, three meters (white)

1.1/ SYSTEM REQUIREMENTS

System and software requirements are:

- A computer or other network device supporting Wi-Fi or wired Ethernet
- A web browser, such as Chrome™, Firefox®, Internet Explorer 8® or higher, or Safari® 5.1 or higher

1.2/ FEATURES

Your Verizon Router features include:

- Support for multiple networking standards, including
  - WAN – 10 Gigabit Ethernet
  - LAN – 802.11 a/b/g/n/ac/ax, 10/2.5 Gigabit Ethernet and MoCA 2.5 interfaces
- Integrated wired networking with 3-port Ethernet switch and Coax (MoCA)
  - Ethernet supports speeds up to 10 Gbps

  - MoCA 2.5 LAN enabled to support speeds up to 2500 Mbps over coaxial cable
- One Type-C USB 3.0 port
- Integrated Wi-Fi networking with 802.11a/b/g/n/ac/ax access point featuring:
  - backward compatible to 802.11a/b/g/n/ac
  - 2.4 GHz 11ax 4x4
  - 5 GHz 11ax 4x4
  - 6 GHz 11ax 4x4
- Enterprise-level security, including:
  - Fully customizable firewall with Stateful Packet Inspection (SPI)
  - Content filtering with URL-keyword based filtering, parental controls, and customizable filtering policies per computer
  - Intrusion detection with Denial of Service protection against IP spoofing attacks, scanning attacks, IP fragment overlap exploit, ping of death, and fragmentation attacks
  - Virtual server functionality; providing protected access to internet services such as web, FTP, email, and telnet
  - DMZ (demilitarized zone) host support of a network security neutral zone between a private network and the internet
  - Event logging
  - Home Network Protection
  - SIP ALG

FEATURES

  - Static NAT
  - Port forwarding
  - Port triggering
  - Access control
  - Advanced Wi-Fi protection featuring WPA2 & WPA3 Modes and MAC address filtering
  - Wi-Fi Multimedia (WMM) for Wi-Fi QoS (quality-of-service)
- Dual-stack network configuration of IPv4 and IPv6
- DHCP server
- WAN interface auto-detection
- Dynamic DNS
- DNS server
- LAN IP and WAN IP address selection
- MAC address cloning
- QoS support (end to end layer 2/3) featuring: Differentiated Services (Diffserv), 802.1p/q prioritization, and pass-through of WAN-side DSCPs, Per Hop Behaviors (PHBs), and queuing to LAN-side devices
- Secure remote management using HTTPS or Verizon app
- Static routing
- VPN (VPN pass through only)
- IGMP
- Daylight savings time support

1.3/ GETTING TO KNOW YOUR VERIZON ROUTER

1.3a/ FRONT PANEL

The Router Status LED will be solid white when your Verizon Router is turned on, connected to the internet, and functioning normally.

Front Panel router status LED

Router Status LED

Condition Status	LED Color	Verizon Router
Normal	WHITE	Normal operation (50% solid)
		Setup complete (solid)
		Router is booting (soft blink)
		System restart (fast blink)
	BLUE	Pairing mode (hard blink)
		WPS pairing successful (fast blink)
	GREEN	Wi-Fi has been turned off (solid)
Issue(s)	YELLOW	No internet connection (solid)
	RED	Hardware/System failure detected (hard blink)
		Overheating (fast blink)
		WPS pairing failure (fast blink)
Power	OFF	Power off

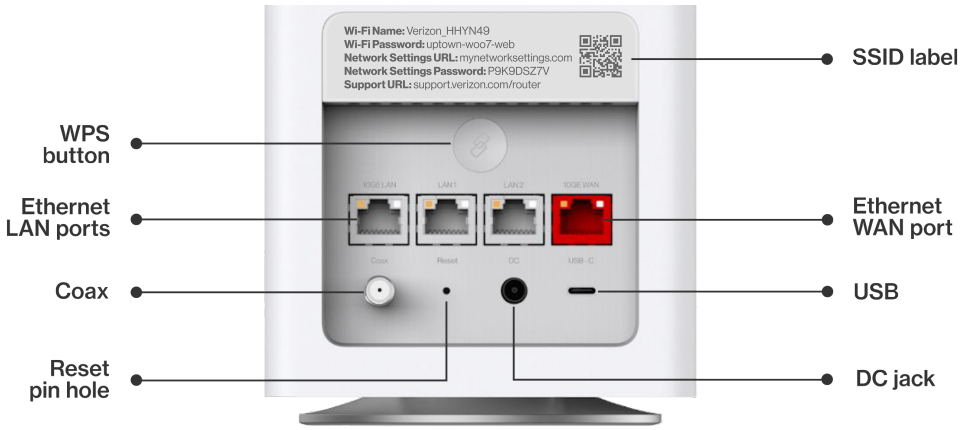
GETTING TO KNOW YOUR VERIZON ROUTER

1.3b/ REAR PANEL

The rear panel of your router has a label that contains important information about your device, including the default settings for the Verizon Router's Wi-Fi name (SSID), Wi-Fi password (WPA2 key), local URL for accessing the router's network settings, and network settings password. The label also contains a QR code that you can scan with your smartphone, tablet, or other camera-equipped Wi-Fi device to allow you to automatically connect your device to your Wi-Fi network without typing in a password (requires a QR code reading app with support for Wi-Fi QR codes).

Wi-Fi Name: Verizon_HHYN49
Wi-Fi Password: uptown-woo7-web
Network Settings URL: mynetworksettings.com
Network Settings Password: P9K9DSZ7V
Support URL: support.verizon.com/router

The rear panel has six ports; F-type coax, Ethernet LAN (three), Ethernet WAN, and USB. The rear panel also includes a DC power jack and a reset button.



- **WPS Button** - allows quick access to the Wi-Fi Protected Setup (WPS) feature and pairing mode.

The WPS button is used to initiate Wi-Fi Protected Setup. This is an easy way to add WPS capable devices to your Wi-Fi network. To activate the WPS function, press and hold the WPS button located on the rear of your Verizon Router for more than two seconds. When WPS is initiated from your router, the Router Status LED slowly flashes blue for up to two minutes, allowing time to complete the WPS pairing process on your Wi-Fi device (also known as a Wi-Fi client). When a device begins connecting to your router using WPS, the Router Status LED rapidly flashes blue for a few seconds, and then solid white as the connection completes.

If there is an error during the WPS pairing process, the Router Status LED rapidly flashes red for two minutes after the error occurs.

Refer to the “Connecting A Wi-Fi Device Using WPS” on page 33 for more details. In addition, the Router Status LED also provides a quick view of the operational state of the Verizon Router using various colors as indicated in the chart above.

- **Ethernet LAN** - connects devices to your Verizon Router using Ethernet cables to join the local area network (LAN). The three Ethernet LAN ports:
  - one 10GE LAN port is 100 Mbps, 1/2.5/5/10 Gbps auto-sensing
  - the other two 2.5GE LAN ports are 10/100 Mbps, 1/2.5 Gbps auto-sensing

GETTING TO KNOW YOUR VERIZON ROUTER

- **Type-C USB** - provides up to 1000 mA at 5 VDC for attached devices. For example, you could charge a cell phone.
- **10Gbps Ethernet WAN** - connects your Verizon Router to the internet using an Ethernet cable.
- **Coax LAN** - connects your router to other MoCA devices using a coaxial cable.

  Warning: The coax port is intended for connection to Verizon devices only. It must not be connected to any exterior or interior coaxial wires not designated for Verizon devices.
- **Reset Button** - allows you to reset your router to the factory default settings. To perform a soft reboot, press and hold the button for at least three seconds. To reset your router to the factory default settings, press and hold the button for at least ten seconds.
- **Power** - connects your Verizon Router to an electrical wall outlet using the supplied power adapter.

  Warning: The included power adapter is for home use only, supporting voltages from 105-125 voltage in AC. Do not use in environments with greater than 125 voltage in AC.

1.3c/ REAR LIGHTED INDICATORS

LAN/WAN Ethernet

- Unlit – Indicates no Ethernet link or dims after 5 minutes idle

Left LED

- Solid yellow – Indicates less than 1 Gbps link
- Flash yellow – Indicates LAN/WAN activity. The traffic can be in either direction.

Right LED

- Solid white – Indicates 1/2.5/5/10 Gbps link
- Flash white – Indicates LAN/WAN activity. The traffic can be in either direction.

1.3d/ MOUNTING THE VERIZON ROUTER TO A WALL

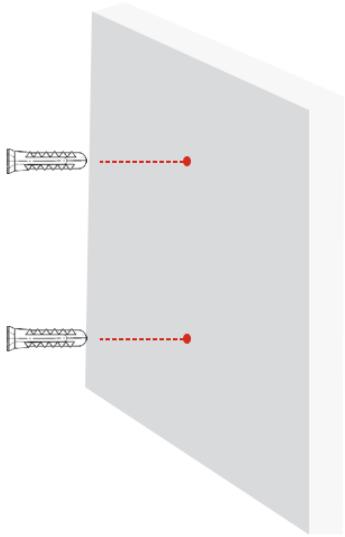
For optimum performance, the Verizon Router is designed to stand in a vertical upright position. Verizon does not recommend wall mounting the Verizon Router. However, if you wish to mount your Verizon Router, you can purchase a wall mount bracket from the Verizon Accessories Store at verizon.com/home/accessories/networking-wifi

To mount your Verizon Router to a wall:

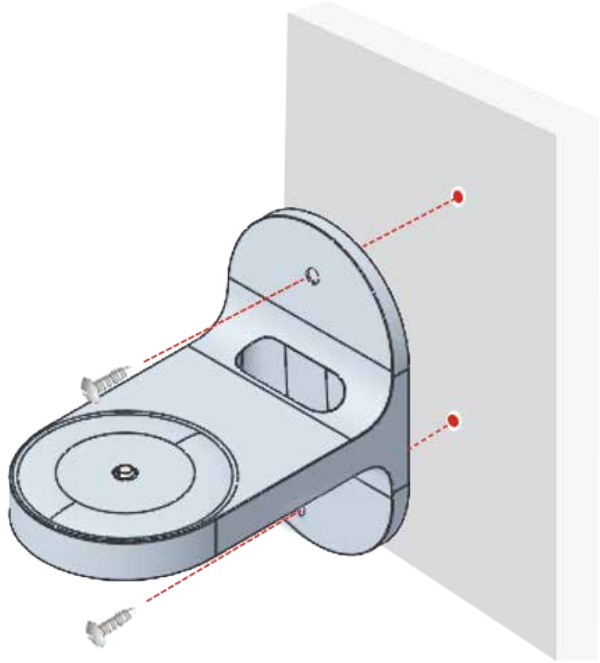
1. Select a mounting spot near a power outlet and the Ethernet port of the device that provides internet on your premises.

GETTING TO KNOW YOUR VERIZON ROUTER

2. Mark screw hole positions on the wall. Drill holes for the wall anchors using a 1/4 inch (6.35 mm) drill bit.
3. Insert the anchors in the drilled holes and hammer until they are flush with the wall.

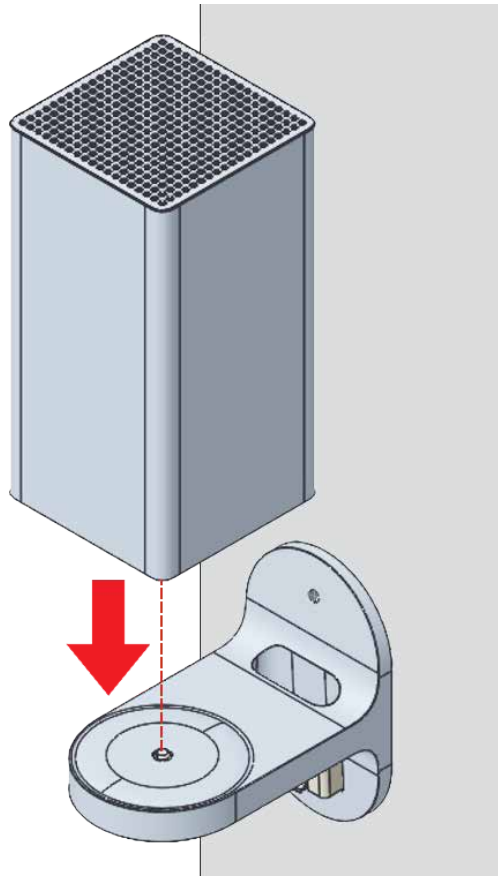


4. Place the screws into the small holes of the bracket and tighten the screws into your wall for securing the wall mount bracket.

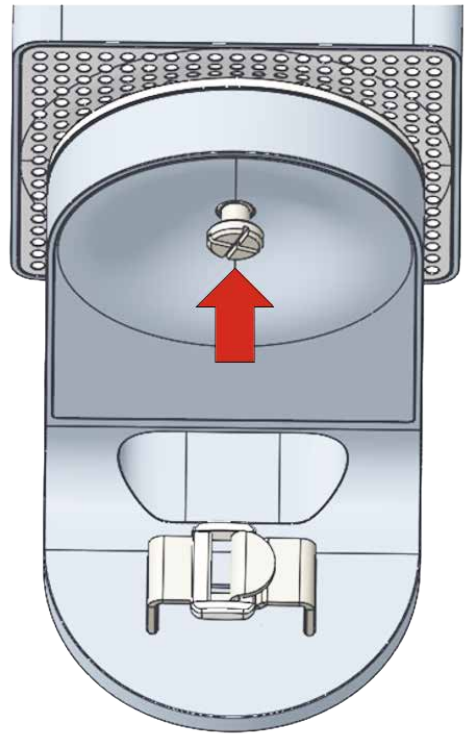


GETTING TO KNOW YOUR VERIZON ROUTER

5. Align the mounting hole located on the bottom of the router to the screw of the wall mount bracket.

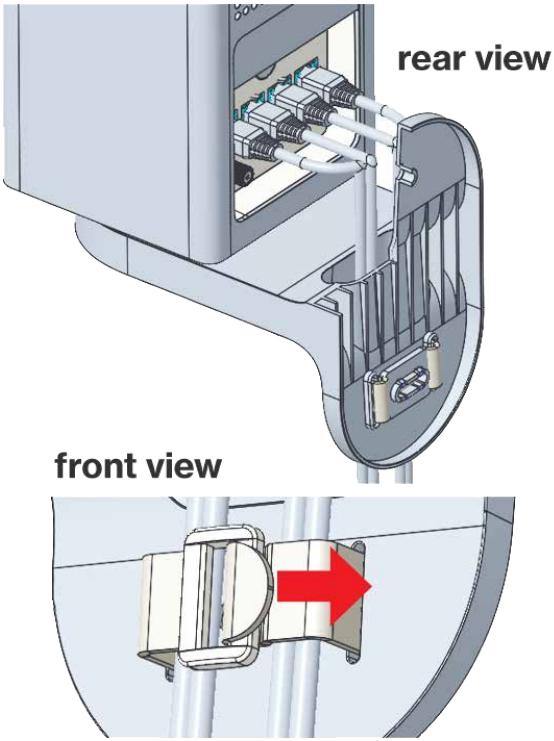


6. Rotate and align the router to the preferred position. While using the hole in the mounting bracket, connect the Ethernet cable providing internet to the router's WAN port and other cables as needed. Tighten the bracket screw to lock the device in place.



GETTING TO KNOW YOUR VERIZON ROUTER

7. To fasten the attached cables of the router, manage the cables, then tighten the Velcro® strap with buckle.



02 /

CONNECTING YOUR VERIZON ROUTER

Connecting your Verizon Router and accessing its web-based User Interface (UI) are both simple procedures.

Accessing the UI may vary slightly, depending on your device's operating system and web browser.

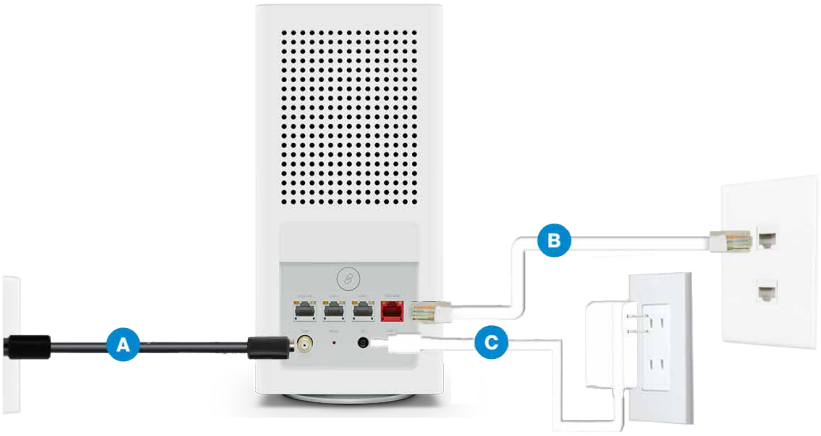
SETTING UP YOUR VERIZON ROUTER

2.0/ SETTING UP YOUR VERIZON ROUTER

Before you begin, if you are replacing an existing router, disconnect it. Remove all old router components, including the power supply. They will not work with your new Verizon Router.

2.0a/ INSTALLATION INSTRUCTIONS

1. CONNECT YOUR CABLES
   - A. Connect the coax cable from the coax port on your router to a coax outlet. (Required for Fios TV; skip for 5G Home installation)
     - Separate subscription required for Fios TV; not available in all areas.
   - B. Connect the Ethernet cable from your router's WAN port to an Ethernet outlet. (Required for internet speeds greater than 100 Mbps)
   - C. Connect the power cord to your router then to an electrical outlet.



D. Router will take up to 10 minutes to update completely. Move on when the front light is solid white.

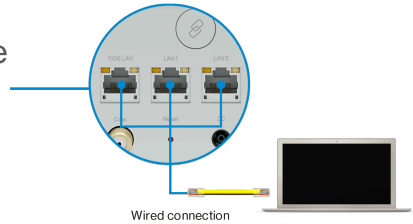
2. CONNECT YOUR DEVICES

Wired or Wi-Fi? Your choice.

Wired

A. Connect the Ethernet cable to any LAN port on your router.

B. Connect the other end to your computer.


Wired connection

Wi-Fi

A. Get the Wi-Fi name and password off the label on your router.

Router label

B. On your device, choose your Wi-Fi name when it appears.

C. Enter the Wi-Fi password exactly as it is on your router label.

SETTING UP YOUR VERIZON ROUTER

Wi-Fi Network

The Verizon Router has one Wi-Fi name supporting 2.4 and 5 GHz signals. 6 GHz can be enabled and included as well with heightened security, WPA3. The Self-Organizing Network (SON) feature lets your devices move between these signals automatically for an optimized Wi-Fi connection.

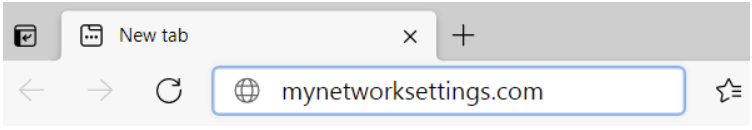
3. COMPLETE ACTIVATION

   Activate your service by opening a web browser on your computer and following the prompts.

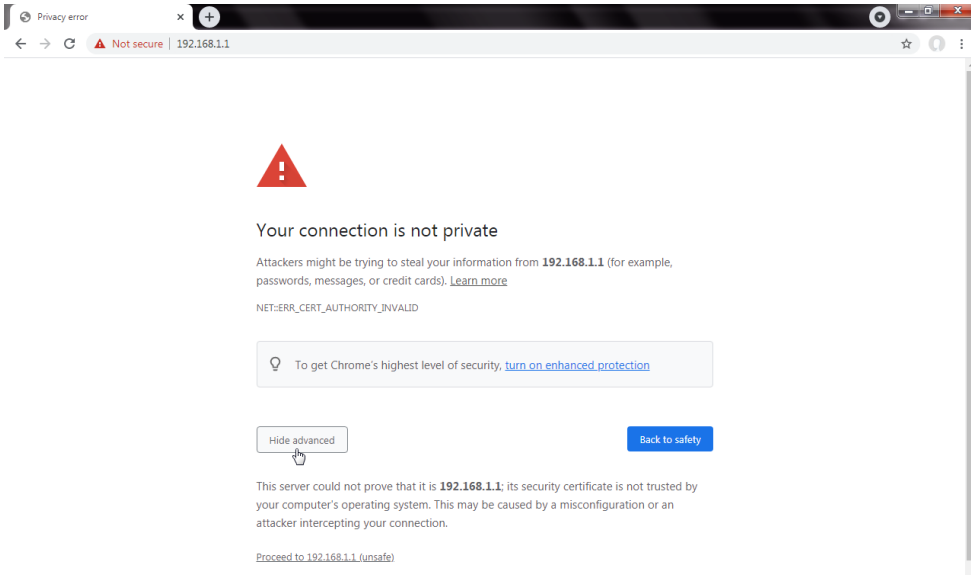
2.0b/ CONFIGURE YOUR VERIZON ROUTER

1. Open a web browser on the device connected to your Verizon Router network.
2. In the browser address field (URL), enter: mynetworksettings.com, then press the **Enter** key on your keyboard.

   Alternately, you can enter: https://192.168.1.1



3. You may see a security message warning that **Your connection is not private** when you visit mynetworksettings.com (https://192.168.1.1) for GUI management. To get to the login screen, click the **ADVANCED** button, then on **Proceed to 192.168.1.1 (unsafe)** link.

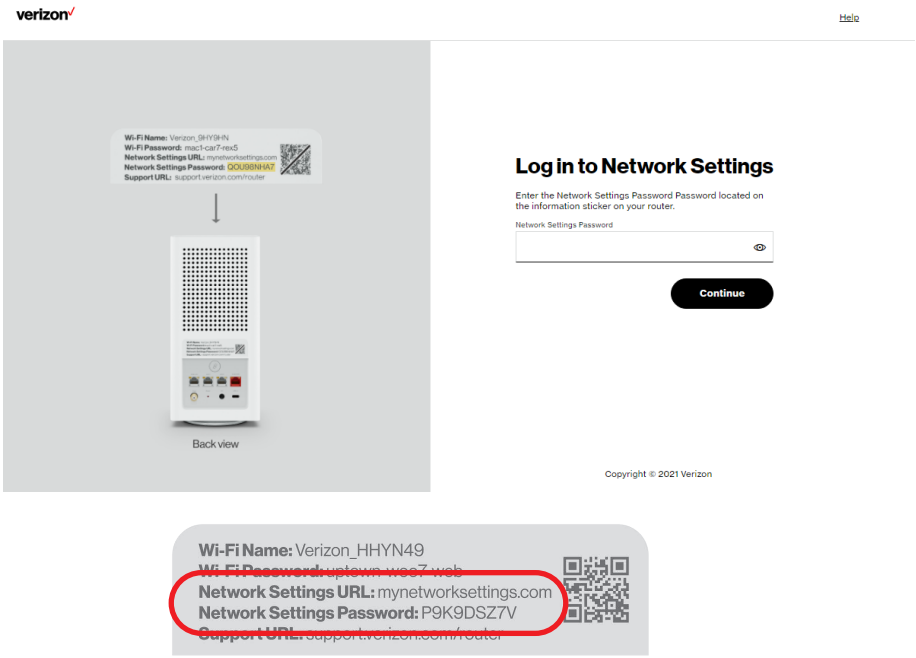


4. The login screen will appear.

   The first time you access your Verizon Router, an Easy Setup Wizard displays to help step you through the setup process.

5. On the **Step 1: Please log in to your router** screen, enter the password that is printed next to the Network Settings Password on the label on the rear of your router. Click **Continue**.

SETTING UP YOUR VERIZON ROUTER



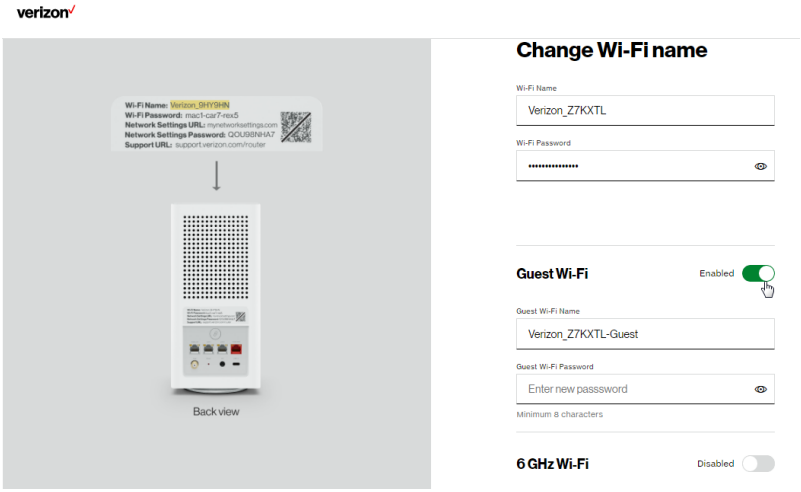
6. The **Change Wi-Fi name** screen displays. You can continue with the default settings or customize them as needed. For your protection, your Verizon Router is pre-set at the factory to use WPA2 (Wi-Fi Protected Access II) encryption for your Wi-Fi network. This is the best setting for most users and allows the most devices to securely connect.
7. You can optionally set up the **Guest Wi-Fi** network by toggling the selection to **On**. You can continue with the default settings or customize them as needed.

8. You can optionally enable the **6 GHz Wi-Fi** band by toggling the selection to **On**. Review the notification that enabling 6 GHz will modify the existing 2.4 & 5 GHz security from WPA2 to WPA2/WPA3 and 6 GHz will be enabled using WPA3. You can continue to use one Wi-Fi Name and Password across all Wi-Fi bands.

   The IoT Wi-Fi will also be enabled for any devices that do not support WPA3, and this will use a unique Wi-Fi name and password based on the default SSID & Password. Devices on this Wi-Fi will be able to communicate with other devices on the Primary network with no firewall restrictions separating them.

9. Click **Continue** to review your settings.
10. The **Apply Wi-Fi changes** screen is displayed. Review your current settings. You may optionally save your settings as an image on your device by selecting the button, **Save as Image**. Click **Apply** to save the Wi-Fi changes to your Verizon Router.

SETTING UP YOUR VERIZON ROUTER

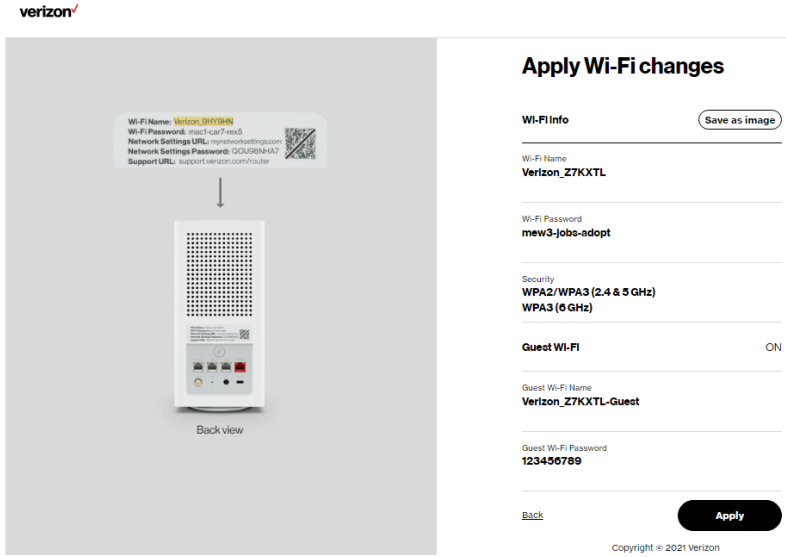


For your protection, your Verizon Router is pre-set at the factory to use WPA2 (Wi-Fi Protected Access II) encryption for your Wi-Fi network. This is the best setting for most users and provides security.

11. Click **Continue**. The **Apply Wi-Fi changes** screen appears. You have an option of saving the Wi-Fi settings as an image on your device by clicking the **Save as image** button. After you click **Save as image** to save your Wi-Fi settings as an image, click **Apply** to save the Wi-Fi changes to your Verizon Router.

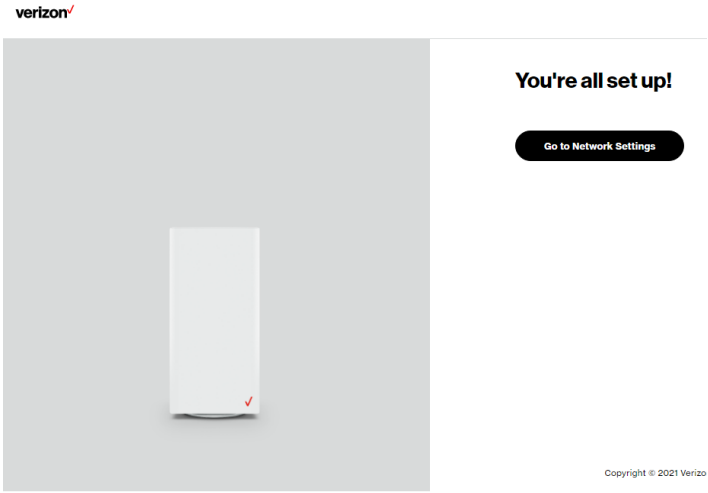
*Note: If you select **Save as image**, the image file is saved to your web browser's download folder.*

Important: If you are on a Wi-Fi device when setting up your Verizon Router and changes are made to the Wi-Fi name or password, then you will be disconnected from the Wi-Fi network. When this occurs, review the Wi-Fi networks available and choose the network name when it appears. Enter the Wi-Fi password you have applied, and your device will reconnect to the Verizon Router.



SETTING UP YOUR VERIZON ROUTER

The **You're all set up!** screen displays once your Verizon Router verifies the final settings and has successfully connected to the internet and is ready for use. You can click on **Go to Network Settings** to access the main screen of the Verizon Router.



If your Verizon Router is subsequently reset to the factory default settings, the settings printed on the label will again be in effect.

If your Verizon Router fails to connect, follow the troubleshooting steps in the Troubleshooting section of this guide.

2.1/ COMPUTER NETWORK CONFIGURATION

Each network interface on your computer should either automatically obtain an IP address from the upstream Network DHCP server (default configuration) or be manually configured with a statically defined IP address and DNS address. We recommend leaving this setting as it is.

2.1a/ CONFIGURING DYNAMIC IP ADDRESSING

To configure a computer to use dynamic IP addressing:

WINDOWS 7/8

1. In the Control Panel, locate **Network and Internet**, then select **View Network Status and Tasks**.
2. In the **View your active networks – Connect or disconnect** section, click **Local Area Connection** in the **Connections** field. The Local Area Connection Status window displays.
3. Click **Properties**. The Local Area Connection Properties window displays.
4. Select **Internet Protocol Version 4 (TCP/IPv4)**, then click **Properties**. The Internet Protocol Version 4 (TCP/IPv4) Properties window displays.
5. Click the **Obtain an IP address automatically** radio button.
6. Click the **Obtain DNS server address automatically** radio button, then click **OK**.

7. In the Local Area Connection Properties window, click **OK** to save the settings.
8. To configure Internet Protocol Version 6 (TCP/IPv6) to use dynamic IP addressing, repeat steps 1 to 7. However for step 4, select **Internet Protocol Version 6 (TCP/IPv6)** in the **Properties** option (refer to IPv6 section for Verizon Router configuration).

WINDOWS 10

1. On the Windows desktop, click on the **Start** icon. Select **Settings** and click **Network & Internet**.
2. In the Network & Internet, click **Ethernet**.
3. Select **Network and Sharing Center**. The **View your basic network information and set up connections** window displays.
4. In the **View your active networks**, click **Ethernet** in the **Connections** field. The **Ethernet Status** window displays.
5. Click **Properties**. The **Ethernet Properties** window displays.
6. Select **Internet Protocol Version 4 (TCP/IPv4)**, then click **Properties**. The **Internet Protocol Version 4 (TCP/IPv4) Properties** window displays.
7. Click the **Obtain an IP address automatically** radio button.
8. Click the **Obtain DNS server address automatically** radio button, then click **OK**.

9. In the **Local Area Connection Properties** window, click **OK** to save the settings.
10. To configure Internet Protocol Version 6 (TCP/IPv6) to use dynamic IP addressing, repeat steps 1 to 9. However for step 6, select **Internet Protocol Version 6 (TCP/IPv6)** in the **Properties** option (refer to IPv6 section for Verizon Router configuration).

MACINTOSH OS X

1. Click the **Apple** icon in the top left corner of the desktop. A menu displays.
2. Select **System Preferences**. The System Preferences window displays.
3. Click **Network**.
4. Verify that **Ethernet**, located in the list on the left, is highlighted and displays **Connected**.
5. Click **Assist Me**.
6. Follow the instructions in the **Network Diagnostics Assistant**.

2.1b/ CONNECTING OTHER COMPUTERS AND NETWORK DEVICES

You can connect your Verizon Router to other computers or set top boxes using an Ethernet cable, Wi-Fi connection (Wi-Fi), or coaxial cable.

COMPUTER NETWORK CONFIGURATION

ETHERNET

1. Plug one end of an Ethernet cable into one of the open Ethernet ports on the back of your Verizon Router.
2. Plug the other end of the Ethernet cable into an Ethernet port on the computer.
3. Repeat these steps for each computer to be connected to your Verizon Router using Ethernet. You can connect up to three.

CONNECTING A WI-FI DEVICE USING WPS

Wi-Fi Protected Setup (WPS) is an easier way for many devices to set up a secure Wi-Fi network connection. Instead of manually entering passwords or multiple keys on each Wi-Fi client, such as a laptop, printer, or external hard drive, your Verizon Router creates a secure Wi-Fi network connection.

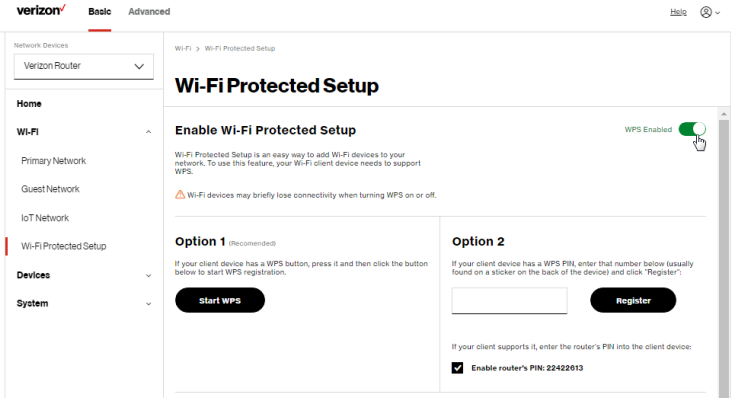
In most cases, this only requires the pressing of two buttons – one on your Verizon Router and one on the Wi-Fi client. This could be either a built-in button or one on a compatible Wi-Fi adapter/card, or a virtual button in software. Once completed, this allows Wi-Fi clients to join your Wi-Fi network.

To initialize the WPS process, you can either press and hold the WPS button located on the rear of your Verizon Router for more than two seconds or use the UI and press the on-screen button.

You can easily add Wi-Fi devices to your Wi-Fi network using the WPS option if your Wi-Fi device supports the WPS feature.

To access WPS using the user interface:

1. From the **Basic** menu, select **Wi-Fi** settings, then click **Wi-Fi Protected Setup**.



2. Enable the protected setup by moving the selector to **on**.
3. Use one of the following methods:
   - If your Wi-Fi client device has a WPS button, press the WPS button on your router for more than two seconds, then click the **start WPS** button in the **Option 1** to start the WPS registration process.
   - If your client device has a WPS PIN, locate the PIN printed on the client's label or in the client documentation. Enter the PIN number in the **Enter PIN** field. The **Client WPS PIN** field is located in the **Option 2** on the user interface.
   - Click **Register**.

- Alternatively, you can enter the router's PIN shown on this screen into the WPS user interface of your device, if this PIN mode is supported by your Wi-Fi device.

4. After pressing the WPS button on your router, you have two minutes to press the WPS button on the client device before the WPS session times out.

   When the WPS button on your router is pressed, the Router Status LED on the front of your router begins flashing blue. The flashing continues until WPS pairing to the client device completes successfully. At this time, the Router Status LED turns solid white.

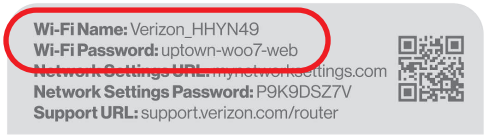
   If WPS fails to establish a connection to a Wi-Fi client device within two minutes, the Router Status LED on your router flashes red for two minutes to indicate the WPS pairing process was unsuccessful. After flashing red, the light returns to solid white to indicate that Wi-Fi is on.

Note: Wi-Fi Protected Setup (WPS) cannot be used if WPA3 security is enabled or SSID broadcast is disabled or if MAC address authentication is enabled with an empty white list.

CONNECTING A WI-FI DEVICE USING A PASSWORD

1. Verify each device that you are connecting with Wi-Fi has built-in Wi-Fi or an external Wi-Fi adapter.
2. Open the device's Wi-Fi settings application.

3. Select your Verizon Router's Wi-Fi network name (SSID) from the device's list of discovered Wi-Fi networks.
4. When prompted, enter your Verizon Router's Wi-Fi password (WPA2 or WPA3 key) into the device's Wi-Fi settings. Your router's default Wi-Fi network name and password are located on the sticker on the rear panel of your Verizon Router.



5. Verify the changes were implemented by using the device's web browser to access a site on the internet.
6. Repeat these steps for every device that you are connecting with Wi-Fi to your router.

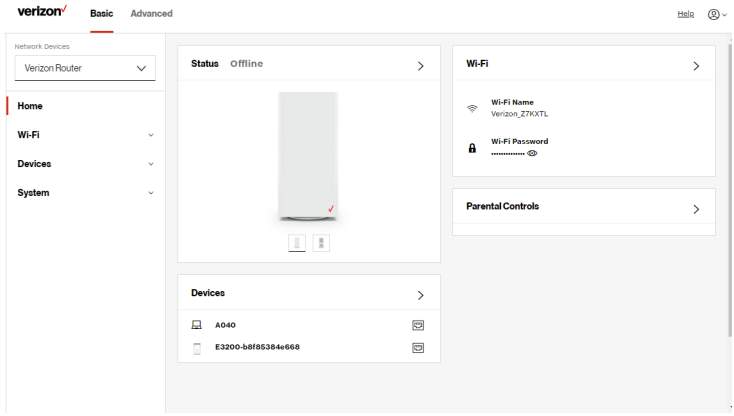
COAX

1. Verify all coax devices are turned off.
2. Disconnect any adapter currently connected to the coaxial wall jack in the room where your router is located.
3. Connect one end of the coaxial cable to the coaxial wall jack and the other end to the coax port on your network device.
4. Power up the network device.

MAIN SCREEN

2.2/ MAIN SCREEN

When you log into your router, the dashboard main page displays the navigation menus of Basic and Advanced settings, Wi-Fi settings, Devices, Parental Controls, and connection status, and Basic quick links.



The configuration options available via the left-hand main menu are described in the following chapters:

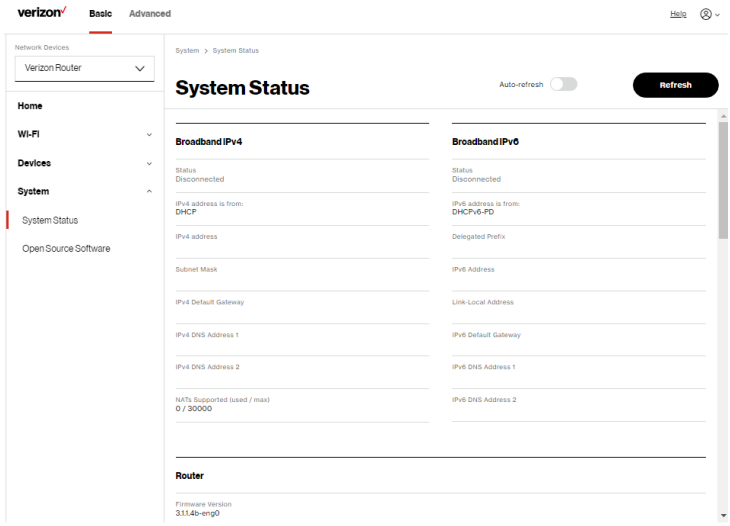
- Basic Settings
  - System - this chapter
  - Wi-Fi - Chapter 3
  - Devices - Chapter 4
- Advanced Settings - Chapter 5

2.2a/ SYSTEM

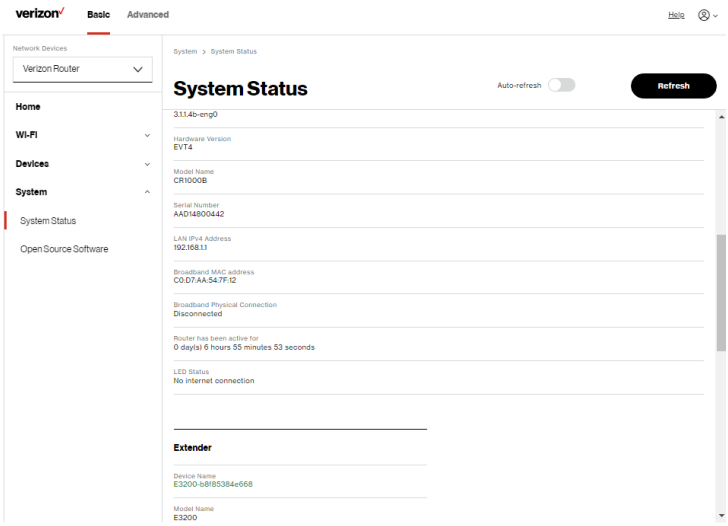
SYSTEM STATUS

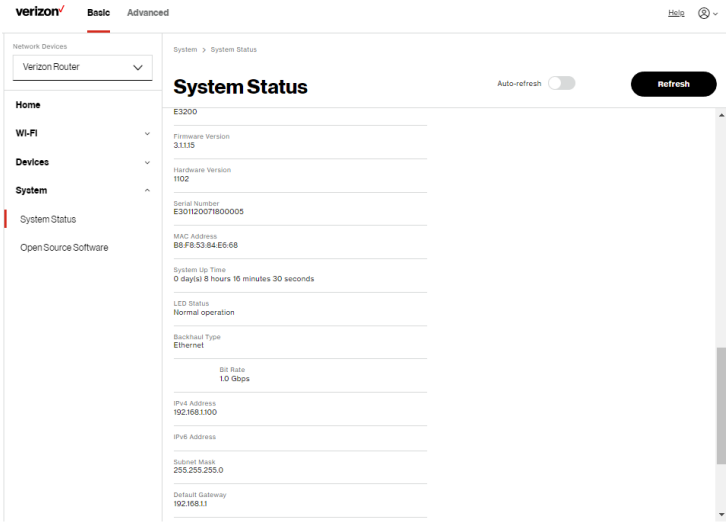
To view the status:

1. Access the dashboard **Home** page.
2. You can quickly view your router's status by clicking **System\System Status** on the screen. This section displays the status of your router's local network (LAN) and internet connection (WAN), firmware and hardware version numbers, MAC Address, IP settings of Verizon Router and Extender Mini(s) (if connected).

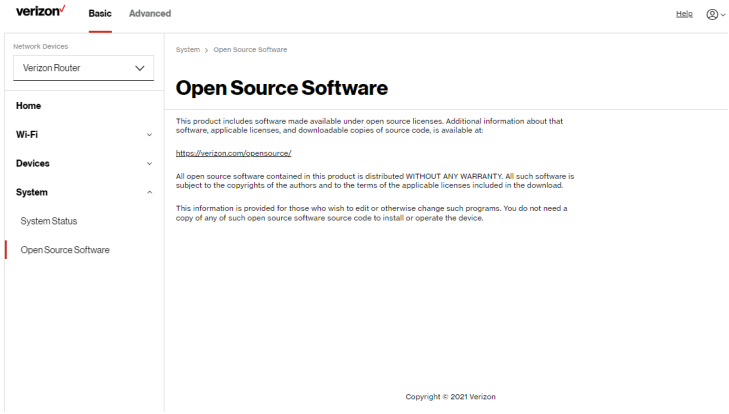


MAIN SCREEN


verizon
Basic
Advanced
Help
Network Devices
Verizon Router
Home
WI-FI
Devices
System
System Status
Open Source Software
System > System Status
System Status
Auto-refresh
Refresh
3.1.1.4b-eng0
Hardware Version
EVT4
Model Name
CR1000B
Serial Number
AAD14800442
LAN IPv4 Address
192.168.1.1
Broadband MAC address
C0:D7:AA:54:7F:12
Broadband Physical Connection
Disconnected
Router has been active for
0 day(s) 6 hours 55 minutes 53 seconds
LED Status
No internet connection
Extender
Device Name
E3200-b8185384e668
Model Name
E3200


verizon
Basic
Advanced
Help
Network Devices
Verizon Router
Home
WI-FI
Devices
System
System Status
Open Source Software
System > System Status
System Status
Auto-refresh
Refresh
E3200
Firmware Version
3.1.1.15
Hardware Version
1.1.0.2
Serial Number
E301120071800005
MAC Address
B8:F8:53:84:E6:68
System Up Time
0 day(s) 8 hours 16 minutes 30 seconds
LED Status
Normal operation
Backhaul Type
Ethernet
Bit Rate
1.0 Gbps
IPv4 Address
192.168.1.100
IPv6 Address
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1

2.2b/ OPEN SOURCE SOFTWARE



To view: From the **Basic** menu, select **System** from the left pane and then click **Open Source Software**.

03/

WI-FI SETTINGS

Wi-Fi networking enables you to free yourself from wires, making your devices more accessible and easier to use.

You can create a Wi-Fi network, including accessing and configuring Wi-Fi security options.

OVERVIEW

3.0/ OVERVIEW

Your Verizon Router provides you with Wi-Fi connectivity using the 802.11a, b, g, n, ac or ax standards. These are the most common Wi-Fi standards.

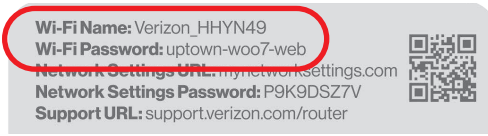
The Verizon Router contains 2.4 GHz, 5 GHz and 6 GHz Wi-Fi bands, and the operation modes and speeds are listed as follows:

- 2.4 GHz
  - Legacy operation mode: supports IEEE 802.11b/g/n with maximum theoretical rate at 600 Mbps
  - Compatibility mode: supports IEEE 802.11ax
    - backward compatible with IEEE 802.11b/g/n/ac
    - maximum theoretical rate up to 1.1 Gbps
- 5 GHz
  - Legacy operation mode: supports IEEE 802.11a/n/ac with maximum theoretical rate at 2.2 Gbps
  - Compatibility mode: supports IEEE 802.11ax
    - backward compatible with IEEE 802.11a/n/ac
    - maximum theoretical rate up to 2.4 Gbps
- 6 GHz
  - Operation mode: supports IEEE 802.11ax
  - Maximum rate up to 4.8 Gbps

Note: 802.11a, 802.11b, and 802.11g are legacy modes and are not recommended. Even one such device connected to the network will slow your entire Wi-Fi network.

The Wi-Fi service and Wi-Fi security are activated by default. The level of security is preset to WPA2 encryption using a unique default WPA2 key (also referred to as a passphrase or password) pre-configured at the factory. This information is displayed on a sticker located on the rear of your router.

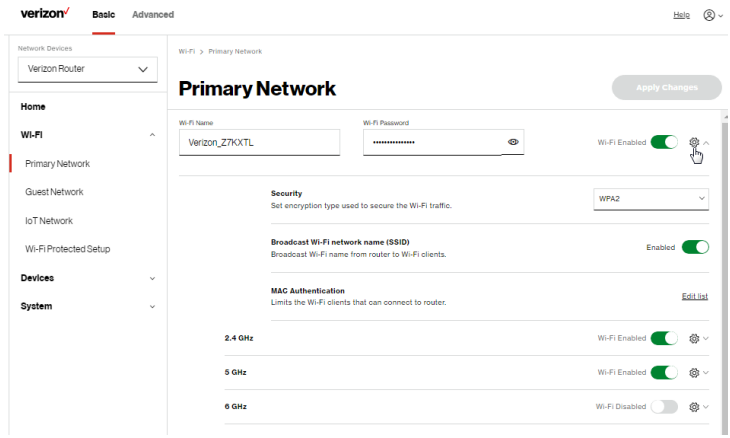
Your router integrates multiple layers of security. These include Wi-Fi Protected Access, and firewall.



3.1/ BASIC SETTINGS

3.1a/ PRIMARY NETWORK

You can configure the basic security settings for 2.4 GHz, 5 GHz or 6 GHz of your Wi-Fi network.



BASIC SETTINGS

To configure the Primary Wi-Fi name & password and security settings:

1. From the **Basic** menu, select **Wi-Fi** from the left pane and then click **Primary Network**.
2. To activate the Wi-Fi radio, move the selector to **on**. If the radio is not enabled, no Wi-Fi devices will be able to connect to the home network.
3. If desired, enter a new name and password for the Wi-Fi network or leave the default name and password that displays automatically.

Note: The SSID is the network name. All devices must use the same SSID.

4. To configure the Wi-Fi **Security**, click the setup ⚙ button and select **WPA2** or **WPA3**.

Caution: These settings should only be configured by experienced network technicians. Changing the settings could adversely affect the operation of your router and your local network.

- **Broadcast Wi-Fi network name (SSID)**

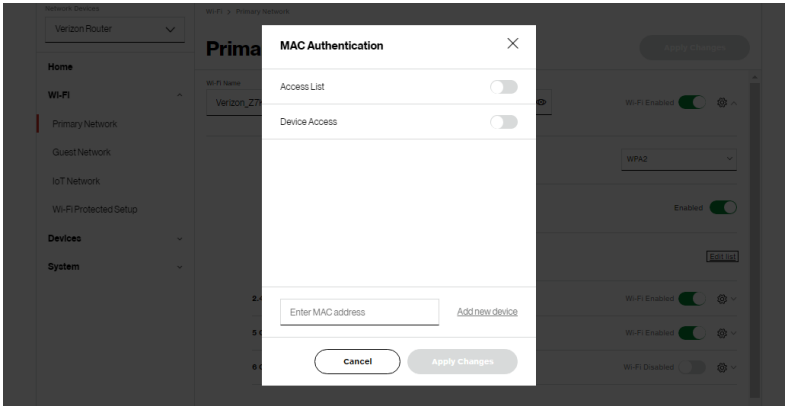
You can configure the Verizon Router's SSID broadcast capabilities to allow or disallow Wi-Fi devices from automatically using a broadcast SSID name to detect your router Wi-Fi network.

– To enable SSID broadcasting, move the selector to **on**. SSID broadcast is enabled by default. The SSID of the Wi-Fi network will be broadcast to all Wi-Fi devices.

– To disable SSID broadcasting, move the selector to **off.** The public SSID broadcast will be hidden from all Wi-Fi devices. You will need to manually configure additional Wi-Fi devices to join the Wi-Fi network.

- **MAC Authentication**

You can configure your router to limit access to your Wi-Fi network to only those devices with specific MAC addresses.



To set Wi-Fi MAC authentication:

1. To setup access control, click on the **Edit list**.
2. Select either:
   - **Access List** – allows the listed devices to access the Wi-Fi network.

Warning: This will block Wi-Fi network access for all devices not in the list. Only devices in the list will be able to connect to the Wi-Fi network.

- **Device Access** – Wi-Fi devices will be able to access the Wi-Fi network if they use the correct Wi-Fi password.

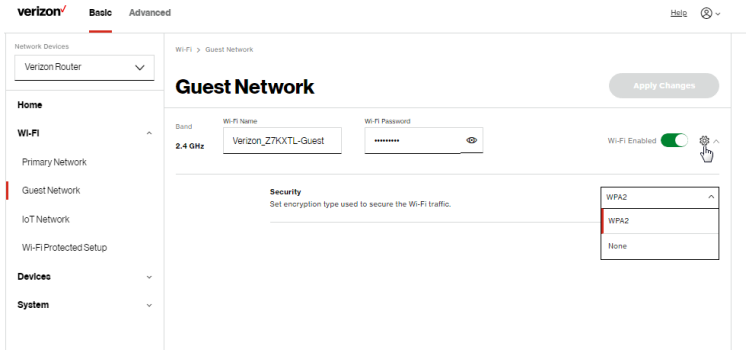
3. Enter the MAC address of a device and click **Add new device**.
4. Repeat step 2 and step 3 to add additional devices, as needed.
5. When all changes are complete, click **Apply Changes** to save the changes.

3.1b/ GUEST NETWORK

The **Guest Network** is designed to provide internet connectivity to your guests but restricts access to your primary network and shared files. The primary network and the guest network are separated from each other through firewalls. You create one Guest Wi-Fi SSID and one password, and use it for all guests. The guest network SSID does not change when you make a change to your primary network SSID.

The Verizon Router is shipped from the factory with Guest Wi-Fi turned off. The default SSID for Guest Wi-Fi is preconfigured at the factory to the default Wi-Fi network name (SSID) which is displayed on a sticker located at the rear of the router followed by

hyphen guest (-Guest). For example – if the router is shipped with a default SSID of “Fios-ABCDE” then the default SSID for Guest Wi-Fi is “Fios-ABCDE-Guest”.



To configure the security settings for your guest network:

1. From the **Basic** menu, select **Wi-Fi** and then click **Guest Network**.
2. Move the selector to **on**.
3. If desired, enter a new name and password for the Wi-Fi network or leave the default name and password that displays automatically.
4. Press **Apply Changes** to save the changes.

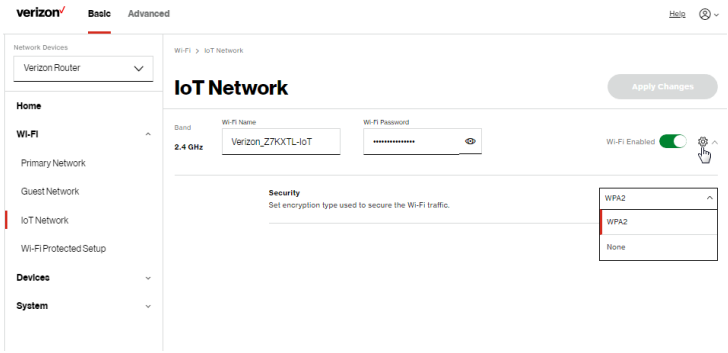
Important: It is not recommended to create a guest network without a password.

BASIC SETTINGS

3.1c/ IOT NETWORK

The router supports connection of multiple IoT devices on a separate Wi-Fi SSID. The IoT Network is designed to provide an easier setup experience for your Internet of Things (IoT) devices which benefit from connecting to the 2.4 GHz band while keeping your Primary Network settings unchanged. IoT devices and Primary devices can communicate with no firewall restrictions separating them.

The Verizon Router is shipped from the factory with IoT Wi-Fi turned off. The default SSID for IoT Wi-Fi is preconfigured at the factory to the default Wi-Fi network name (SSID) which is displayed on a sticker located at the rear of the router followed by hyphen IoT (-IoT). For example – if the router is shipped with a default SSID of “Fios-ABCDE” then the default SSID for IoT Wi-Fi is “Fios-ABCDE-IoT”.



To enable IoT Wi-Fi link:

1. From the **Basic** menu, select **Wi-Fi** and then click **IoT Network**.
2. Move the selector to **on.**
3. If desired, enter a new name and password for the Wi-Fi network or leave the default name and password that displays automatically.
4. Press **Apply Changes** to save the changes.

3.1d/ WI-FI PROTECTED SETUP (WPS)

Wi-Fi Protected Setup (WPS) is an easier way for many devices to set up a secure Wi-Fi network connection. Instead of manually entering passwords or multiple keys on each Wi-Fi client, such as a laptop, printer, or external hard drive, your Verizon Router creates a secure Wi-Fi network connection.

In most cases, this only requires the pressing of two buttons – one on your Verizon Router and one on the Wi-Fi client. This could be either a built-in button or one on a compatible Wi-Fi adapter/card, or a virtual button in software. Once completed, this allows Wi-Fi clients to join your Wi-Fi network.

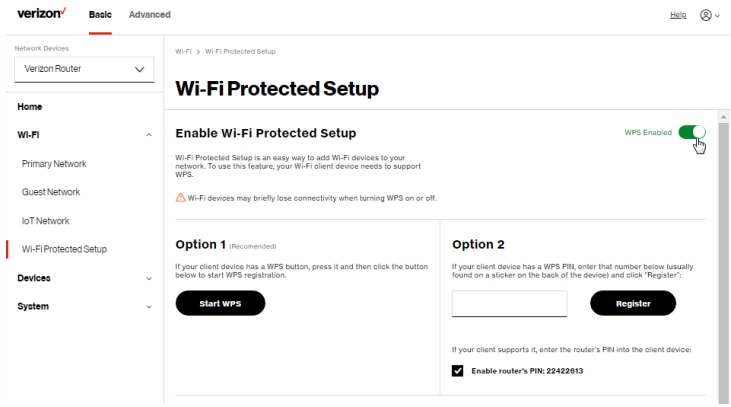
To initialize the WPS process, you can either press and hold the unified button located on the front of your Verizon Router for more than two seconds or use the UI and press the on-screen button.

BASIC SETTINGS

You can easily add Wi-Fi devices to your Wi-Fi network using the WPS option if your Wi-Fi device supports the WPS feature.

To access WPS using the user interface:

1. From the **Basic** menu, select **Wi-Fi** and then click **Wi-Fi Protected Setup (WPS)**.



2. Enable the protected setup by moving the selector to **on**.
3. Use one of the following methods:
   - If your Wi-Fi client device has a WPS button, press the unified button on your router for more than two seconds, then click the **start WPS** button in the **Option 1** to start the WPS registration process.
   - If your client device has a WPS PIN, locate the PIN printed on the client's label or in the client documentation. Enter the PIN number in **Option 2** on the user interface.

- Click **Register**.
- Alternatively, you can enter the router's PIN shown on this screen into the WPS user interface of your device, if this PIN mode is supported by your Wi-Fi device.

4. After pressing the unified button (WPS) on your router, you have two minutes to press the WPS button on the client device before the WPS session times out.

   When the unified button (WPS) on your router is pressed, the Router Status LED on the front of your router begins flashing blue. The flashing continues until WPS pairing to the client device completes successfully. At this time, the Router Status LED turns solid blue.

   If WPS fails to establish a connection to a Wi-Fi client device within two minutes, the Router Status LED on your router flashes red for two minutes to indicate the WPS pairing process was unsuccessful. After flashing red, the light returns to solid white to indicate that Wi-Fi is on.

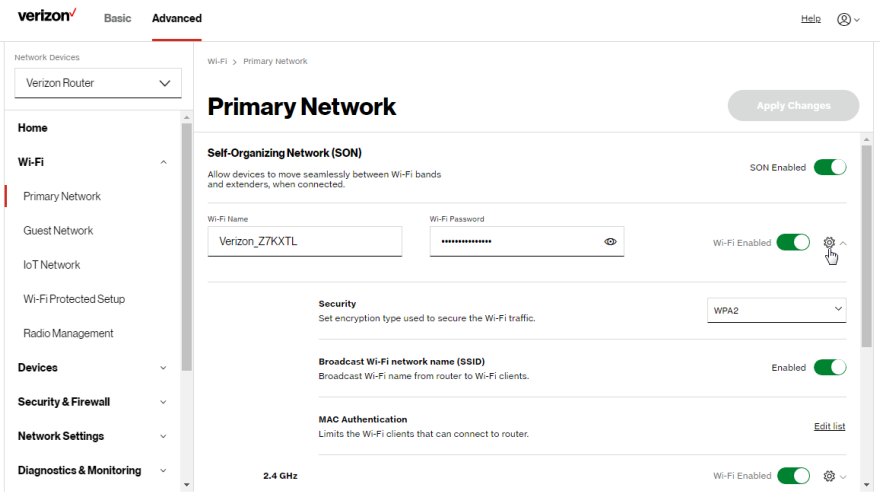
Note: Wi-Fi Protected Setup (WPS) cannot be used if WPA3 security is enabled or SSID broadcast is disabled or if MAC address authentication is enabled with an empty white list.

ADVANCED SETTINGS

3.2/ ADVANCED SETTINGS
3.2a/ PRIMARY NETWORK

Self-Organizing Network (SON)

The Verizon Router supports 2.4 GHz, 5 GHz and 6 GHz signals. The Self-Organizing Network (SON) feature lets your devices move between these signals automatically for an optimized Wi-Fi connection.



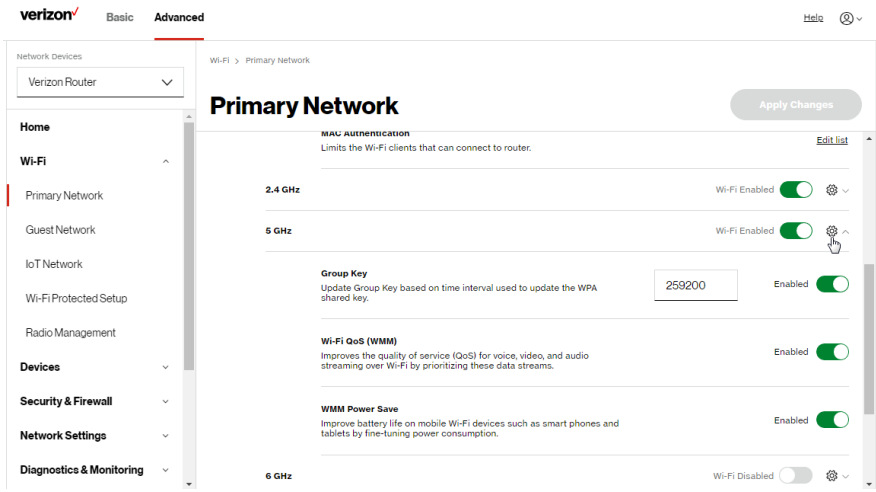
To configure SON, Wi-Fi radio, SSID and security settings:

1. From the **Advanced** menu, select **Wi-Fi** from the left pane and then click **Primary Network**.
2. To enable SON, move the selector to **on**.

3. To activate the Wi-Fi radio, move the selector to **on**. If the radio is not enabled, no Wi-Fi devices will be able to connect to the primary network.
4. If desired, enter a new name and password for the Wi-Fi network or leave the default name and password that displays automatically.

Note: The SSID is the network name. All devices must use the same SSID.

5. To configure the Wi-Fi security, click the setup ⚙ button.



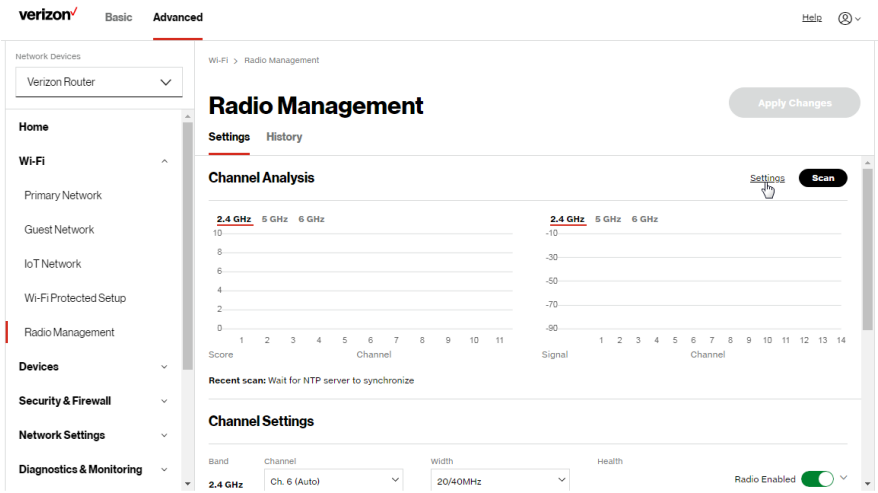
Caution: These settings should only be configured by experienced network technicians. Changing the settings could adversely affect the operation of your router and your local network.

ADVANCED SETTINGS

- **Group key** - to update the WPA shared key, move the selector to **on**.
- **Wi-Fi QoS (WMM)** - improves the quality of service (QoS) for voice, video, and audio streaming over Wi-Fi by prioritizing these data streams.
- **WMM Power Save** - improves battery life on mobile Wi-Fi devices such as smart phones and tablets by fine-tuning power consumption.

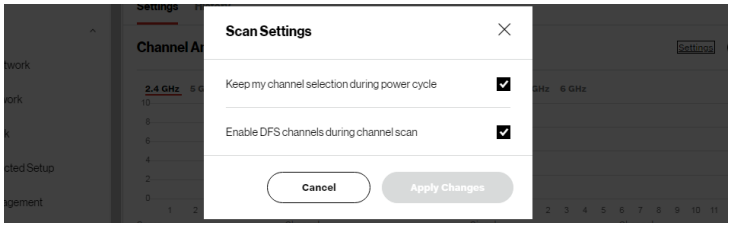
3.2b/ RADIO MANAGEMENT

You can configure the channel settings for the 2.4 GHz, 5 GHz and 6 GHz band(s) of your Wi-Fi network.



To view and configure the channel settings:

1. From the **Advanced** menu, select **Wi-Fi** and then click **Radio Management**.
2. Click on **Settings** on the top right-hand side of the **Radio Management** page to configure the channel scan settings:



- Select the **Keep my channel selection during power cycle** check box to save your channel selection when your Verizon Router is rebooted.
- **Enable DFS channels during channel scan**: DFS channels are enabled by default during channel scans.

Note: DFS channels are a subset of the 5 GHz network that is shared with radar systems. Some consumer devices do not support these channels and cannot connect to routers using them. Examples include some media streaming devices. Disabling this feature will allow the router to select the best available channel to broadcast on and allow these devices to connect.

- Press **Apply Changes** to save the changes.

ADVANCED SETTINGS

3. Click **Scan** to perform channel availability scan for the Verizon Router accommodating the best radio channel and providing the best Wi-Fi performance.
4. On the **Channel Settings** page for either 2.4 GHz, 5 GHz or 6 GHz, the following information displays and can be configured:
   - **Channel Analysis** - scans and displays channel bandwidth and signal strength of available APs. **Channel Score** displays a network congestion score of one to ten in each Wi-Fi channel. It can be used to determine which channels to use or to avoid. Higher score indicates less congestion in a channel.
   - **Channel Settings** - this is the radio channel used by the Wi-Fi router and its clients to communicate with each other. The channel must be the same on the router and all of its Wi-Fi clients. Select the channel you want the Wi-Fi radio to use to communicate, or accept the default **(Auto)** channel selection. Then the router will automatically assign itself a radio channel.
   - **Width** - displays the Wi-Fi channel currently in use on each band. Users can select from available channels.

- **802.11 Mode**

  You can limit the Wi-Fi access to your network by selecting the 2.4 GHz and 5 GHz Wi-Fi communication standard best suited for the devices you allow to access your Wi-Fi network.

  Select the Wi-Fi mode as follows:

  – Compatibility – This is the default mode setting on 5 GHz, providing a good balance of performance and interoperability with existing Wi-Fi devices. 802.11a,n,ac and ax devices can connect.

  – Legacy – This is the default mode setting on 2.4 GHz, providing broad connection support for old and new Wi-Fi devices. 802.11a,b,g,n and ac devices can connect.

Notes:

802.11n is available on both 2.4 GHz and 5 GHz frequencies.

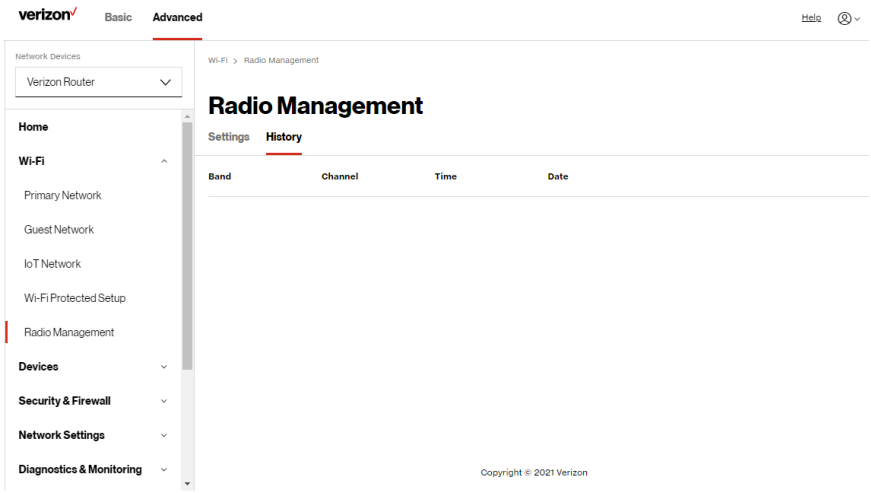
Connecting 802.11a, b or g devices will cause your Wi-Fi network to slow on that radio and is not recommended.

- **Transmit Power** – adjusts the power of the Wi-Fi signal.

ADVANCED SETTINGS

To view the channel settings history:

1. From the **Advanced** menu, select **Wi-Fi** and then click **Radio Management**.
2. Click on **History** to display the channel settings history.



04 /

CONNECTED DEVICES

You can view the settings of the network devices connected to your Verizon Router's network.

The abundance of harmful information on the internet poses a serious challenge for employers and parents alike as they ask "How can I regulate what my employee or child does on the internet?"

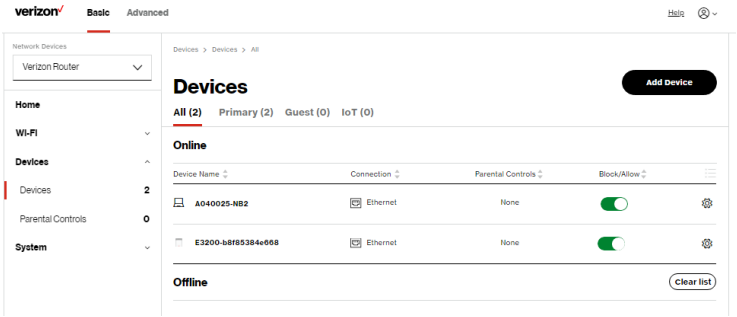
With that question in mind, your Verizon Router's Parental Controls were designed to allow control of internet access on all locally networked devices.

DEVICE SETTINGS

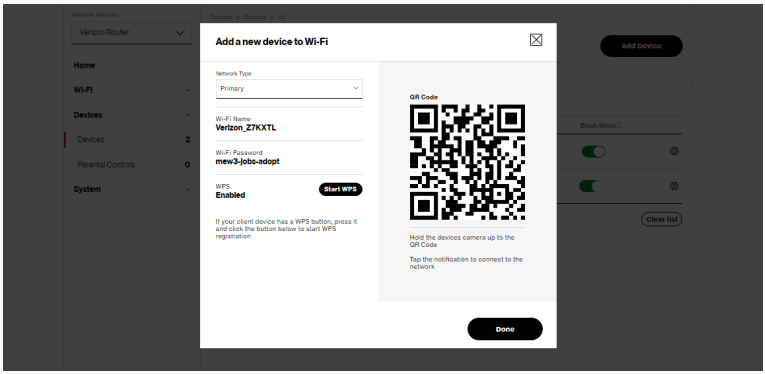
4.0/ DEVICE SETTINGS

To view and manage the connected devices on your network:

1. From the **Basic** menu, select **Devices** from the left pane.
2. The screen displays information about connected devices including **Device Name** and identifiers, **Parental Controls**, the type of network connection, and settings that you can view and configure.



3. To easily add a new device to the network:
   i. Click **Add Device** button on the screen.
   ii. Select the preferred **Network Type** from the dropdown list (**Primary**, **Guest** or **IoT**).
   iii. Scan the provided QR code with the device's camera.
   iv. Tap the push notification to connect the device to your network.



v. You can add the new device to your Wi-Fi network using the WPS option if your Wi-Fi device supports the WPS feature. Refer to “3.1d/ Wi-Fi Protected Setup (WPS)” on page 50.

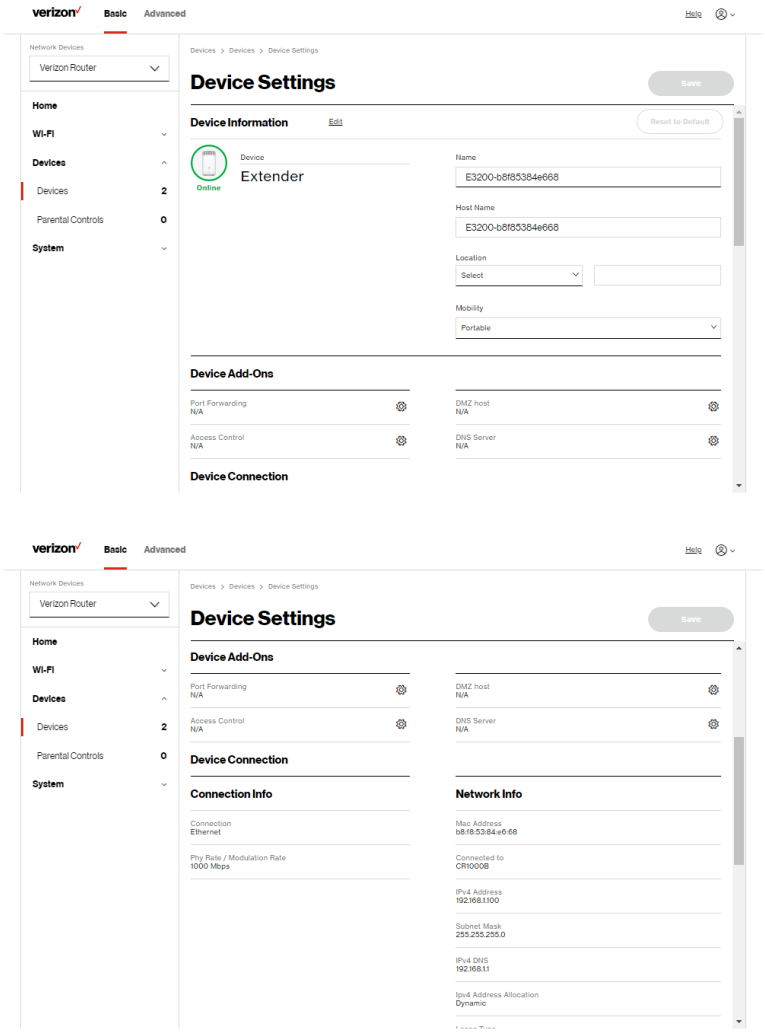
vi. Click **Done** to save the changes.

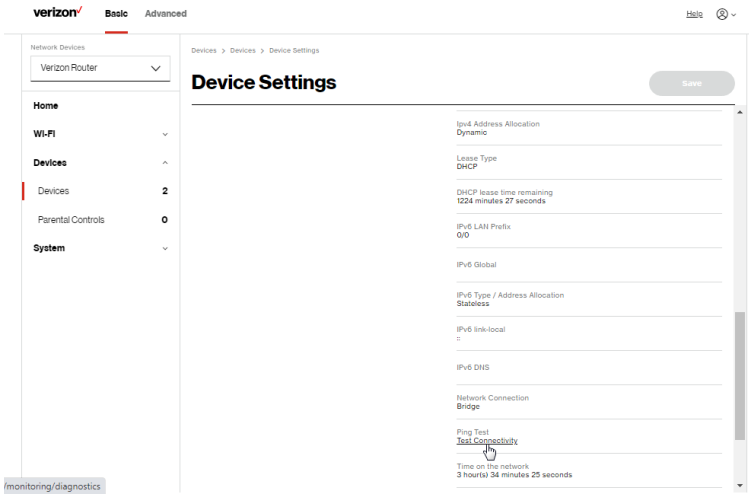
4. Click the **Block/Allow** option to quickly disable/enable a device from having internet access.

   For additional information about blocking websites, refer to “Setting Parental Controls” on page 67.

DEVICE SETTINGS

5. Click the Settings icon to access the **Device Settings** page for that device:





– **Device Information**:

  - **Device Type, Name/Host Name, Location,** and **Mobility** - Displays the current known information of the device. These can be updated or corrected as needed. Click **Edit** and **Save** to apply any changes.
  - This section also provides the device MAC Address, Access Point information the device is connected to as well as the IPv4 Address of the device.

– **Device Add-Ons**

  Port Forwarding - Port Forwarding allows your network to be exposed to the internet in specific limited and controlled ways. For example, you could allow specific applications, such as gaming, voice, and chat, to access

servers in the local network. To access the Port Forwarding page, click the setup button.

For additional information, refer to the Port Forwarding section in Chapter 5 Configuring Advanced Settings.

Access Control - Access Control restricts access from the local network to the internet. To access the Access Control page, click the setup button.

For additional information, refer to the Access Control section in Chapter 5 Configuring Advanced Settings.

DMZ host - DMZ host allows a single device on your primary network to be fully exposed to the internet for special purposes such as internet gaming. To access the DMZ host page, click the setup button.

For additional information, refer to the section in Chapter 5 Configuring Advanced Settings.

DNS Server - DNS Server manages the DNS server host name and IP address. To access the DNS Server page, click the setup button.

For additional information, refer to the section in Chapter 5 Configuring Advanced Settings.

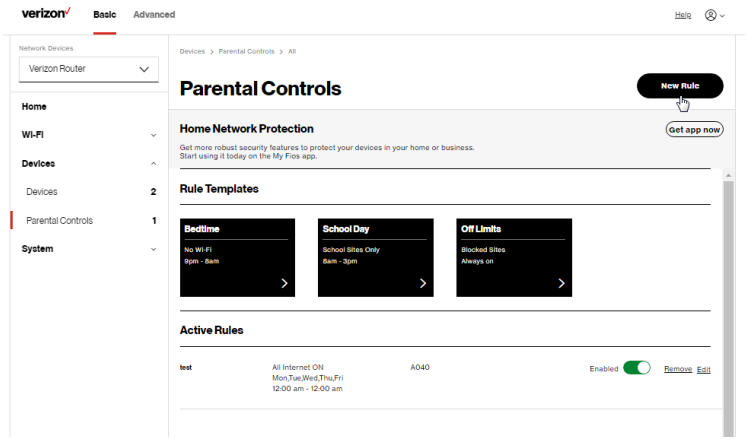
– **Device Connection**

This section displays Connection information of how and how well the device is connected to the Access Point. It also displays the Network related information, including IPv6 addresses and a **Ping Test** option.

4.1/ SETTING PARENTAL CONTROLS
4.1a/ ACTIVATING PARENTAL CONTROLS

You can create a basic access policy or using the provided **Rule Templates** for any computer or device on your Verizon Router network. Parental controls limit internet access to specific websites based on a schedule that you create.

Access can be limited on specific websites or keywords embedded in a website. For example, you can block access to the 'www.anysite.com' as well as block any website that has the word 'any' in its site name.

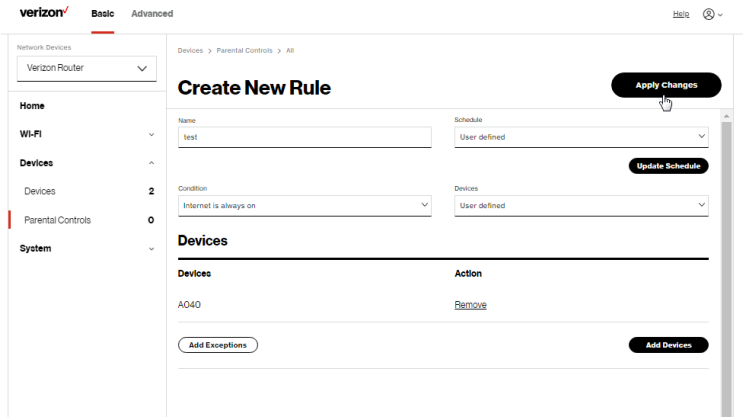


To limit device access:

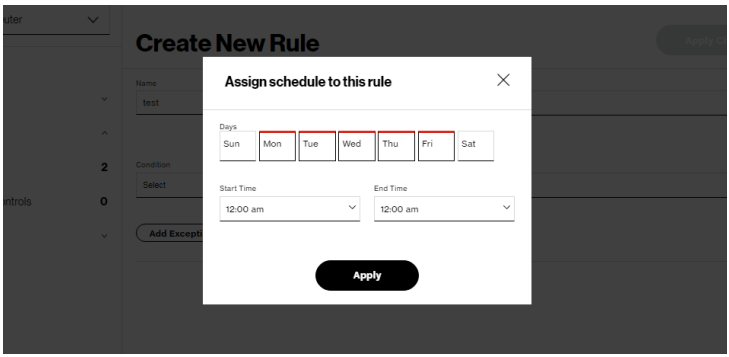
1. From the **Basic** menu, select **Devices** from the left pane and then click **Parental Controls**.

SETTING PARENTAL CONTROLS

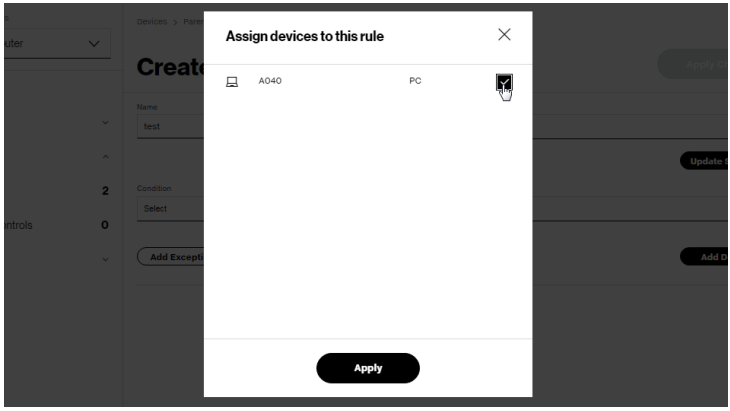
2. To use the default **Rule Templates,** select one of the pre-defined rules as shown on screen to quickly setup access policy for devices on your network.
3. To create a new access policy, click on the **New Rule** and the configuration page displays.



4. Create a rule name.
5. Create a schedule by selecting **User defined** from the dropdown list.



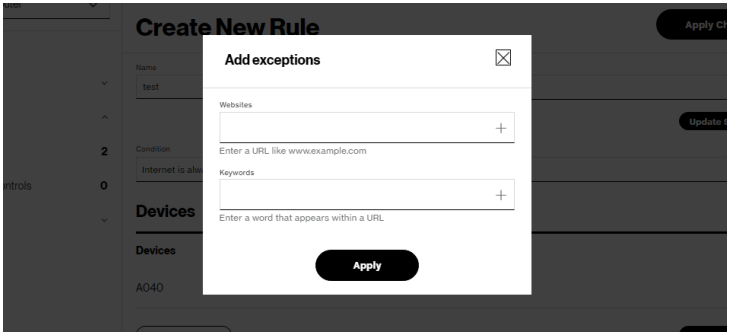
6. Select the days of the week when the rule will be active or inactive.
7. Set the time when the rule will be active or inactive, then specify the start time and end time.
8. Click **Apply** to save changes.
9. Select the **Condition** rule of **Internet is always off/Internet is always on** to block/allow the access to all internet websites.
10. Create the **Devices** rule by selecting **User defined** from the dropdown list and select the computers or clicking **Add Devices** to add a device where you are limiting access.



11. Click **Apply** to save changes.
12. To remove a device from the list, click **Remove** to the assigned device.

SETTING PARENTAL CONTROLS

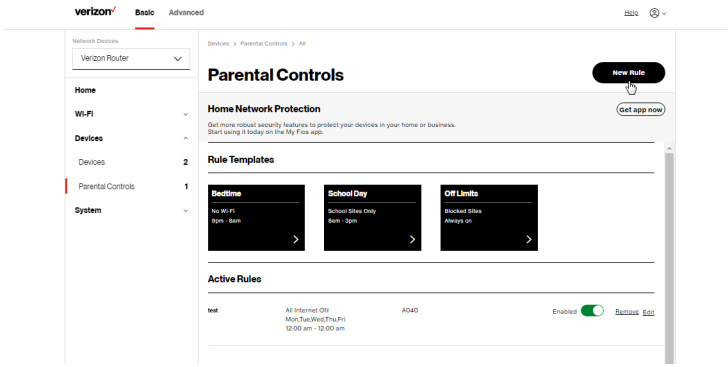
13. Click **Add Exceptions** for the following exception options:
    - Enter the name of the website or keywords within a URL to block/allow the specified websites and websites with names containing the specified keyword.



14. Click **Apply** to save changes.

4.1b/ ACTIVE RULES

You can view the rules created for your Verizon Router shown on the **Parental Controls** page.



4.2/ UNIVERSAL PLUG & PLAY

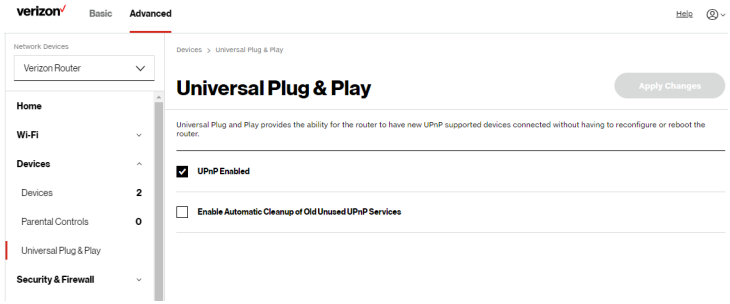
You can use Universal Plug and Play (UPnP) to support new devices without configuring or rebooting your Verizon Router.

In addition, you can enable the automatic cleanup of invalid rules. When enabled, this functionality verifies the validity of all UPnP services and rules every five minutes. Old and unused UPnP defined services are removed, unless a user-defined rule depends on it.

UPnP services are not deleted when disconnecting a computer without proper shutdown of the UPnP applications, such as messenger. Services may often not be deleted and eventually this leads to the exhaustion of rules and services. No new services can be defined. The cleanup feature locates the invalid services and removes them, preventing services exhaustion.

To access this setting:

1. From the **Advanced** menu, select **Devices** from the left pane and then click **Universal Plug & Play**.



UNIVERSAL PLUG & PLAY

2. To enable UPnP and allow UPnP services to be defined on any network hosts, select the **UPnP Enabled** check box.
3. To enable automatic cleanup of invalid rules, select **Enable Automatic Cleanup of Old Unused UPnP Services** check box.
4. Click **Apply changes** to save changes.

05/

CONFIGURING ADVANCED SETTINGS

Advanced settings cover a wide range of sophisticated configurations for your Verizon Router's firmware, security setup and network.

Verizon Router's security suite includes comprehensive and robust security services, such as stateful packet inspection, firewall security, user authentication protocols, and password protection mechanisms.

These and other features help protect your computers from security threats on the internet.

This chapter covers the following advanced features:

Security & Firewall

- General Firewall - select the security level for the firewall.
- Access Control - restrict access from the local network to the internet.
- DMZ Host - allows a single device on your primary network to be fully exposed to the internet for special purposes such as internet gaming.
- IPv6 Pinholes - provide access tunnel to a service on a host for a particular application.
- Port Forwarding - enable access from the internet to specified services provided by computers on the local network.
- Port Forwarding Rules – displays port forwarding rules.
- Port Triggering - define port triggering entries to dynamically open the firewall for some protocols or ports.
- Scheduler Rules Settings – limits the activation of firewall rules to specific time periods.
- SIP ALG - supports the Application Layer Gateway for Session Initiation Protocol.

Network Settings

- ARP Table – displays active devices with their IP and MAC addresses.
- DNS Server - manages the DNS server host name and IP address.
- Dynamic DNS - allows a static domain name to be mapped to the dynamic IP address.
- IPv4/IPv6 Address Distribution - adds computers configured as DHCP clients to the network.
- IPv6 – enables IPv6 support.
- MAC Cloning – clones the MAC address.
- NDP (Neighbor Discovery Protocol) Table – displays active devices with their IPv6 and MAC addresses of DHCP connection.
- Network Connections – displays and manages the details of a specific network connection.
- Network Objects – defines a group, such as a group of computers.
- Port Configuration – sets up the Ethernet ports as either full- or half-duplex ports, at either 10 Mbps, 100 Mbps, or 1000 Mbps.
- Routing – manages the routing and IP address distribution rules.
- Static NAT - allow multiple static NAT IP addresses to be designated to devices on the network.

Diagnostics & Monitoring - performs diagnostic tests and displays the details and status of:

- Bandwidth Monitoring
- System Logging
- Full Status/System wide Monitoring of Connections/Traffic Monitoring
- Backhaul Logging

Advanced System Settings

- Date & Time Settings – sets the time zone and enables automatic time updates.
- Factory Reset – resets your Verizon Router to its default settings.
- LED Brightness - controls the Router Status LED light to either dim or brighten.
- Reboot Router – restarts your Verizon Router.
- Remote Administration – enable remote configuration of your Verizon Router from any internet-accessible computer.
- System Settings - sets up various system and management parameters.

5.0/ SECURITY & FIREWALL

The firewall is the cornerstone of the security suite for your Verizon Router. It has been exclusively tailored to the needs of the residential or office user and is pre-configured to provide optimum security.

The firewall provides both the security and flexibility that home and office users seek. It provides a managed, professional level of network security while enabling the safe use of interactive applications, such as internet gaming and video conferencing.

Additional features, including surfing restrictions and access control, can also be configured locally through the user interface or remotely by a service provider.

The firewall regulates the flow of data between the local network and the internet. Both incoming and outgoing data are inspected, then either accepted and allowed to pass through your Verizon Router or rejected and barred from passing through your Verizon Router, according to a flexible and configurable set of rules. These rules are designed to prevent unwanted intrusions from the outside, while allowing local network users access to internet services.

The firewall rules specify the type of services on the internet that are accessible from the local network and types of services in the local network that are accessible from the internet.

SECURITY & FIREWALL

Each request for a service that the firewall receives is checked against the firewall rules to determine whether the request should be allowed to pass through the firewall. If the request is permitted to pass, all subsequent data associated with this request or session is also allowed to pass, regardless of its direction.

For example, when accessing a website on the internet, a request is sent to the internet for this site. When the request reaches your Verizon Router, the firewall identifies the request type and origin, such as HTTP and a specific computer in the local network. Unless your Verizon Router is configured to block requests of this type from this computer, the firewall allows this type of request to pass to the internet.

When the website is returned from the web server, the firewall associates the website with this session and allows it to pass; regardless HTTP access from the internet to the local network is blocked or permitted. It is the origin of the request, not subsequent responses to this request, which determines whether a session can be established.

5.0a/ SETTING FIREWALL CONFIGURATION

You can select a normal, high, or low security level to limit, block, or permit all traffic. The following table shows request access for each security level.

Security Level	Internet Requests Incoming Traffic	Local Network Requests Outgoing Traffic
High	Blocked	Limited
Normal	Blocked	Unrestricted
Low	Unrestricted	Unrestricted

The request access is defined as:

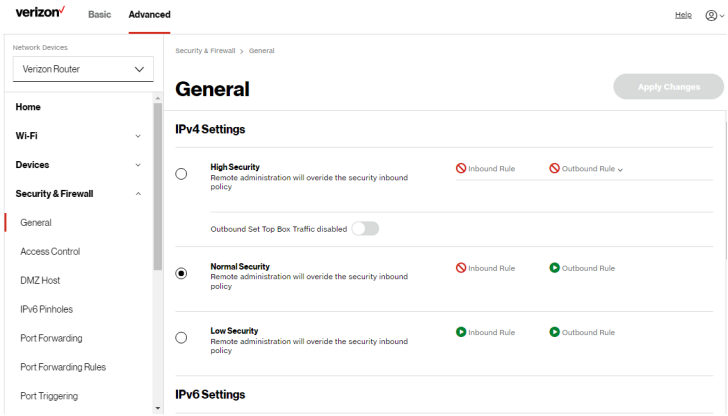
- Blocked traffic - no access allowed, except as configured in Port Forwarding and Remote Access
- Limited - permits only commonly used services, such as email and web browsing
- Unrestricted - permits full access of incoming traffic from the internet and allows all outgoing traffic, except as configured in Access Control

SPECIFYING GENERAL SETTINGS FOR IPV4 OR IPV6

To set your firewall configuration:

1. From the **Security & Firewall General** settings page, click on desired **IPv4 settings/IPv6 settings** option to configure IPv4/IPv6 security.

SECURITY & FIREWALL



2. Select a security level by clicking one of the radio buttons. Using the **Low Security** setting may expose the local network to significant security risks, and should only be used for short periods of time to allow temporary network access.
3. Click **Apply Changes** to save changes.

5.0b/ ACCESS CONTROL

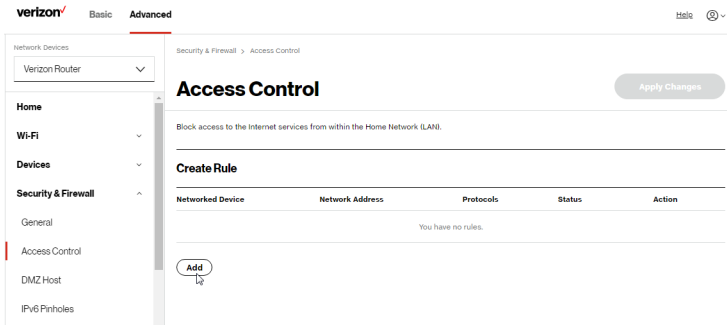
You can block individual computers on your local network from accessing specific services on the internet. For example, you could block one computer from accessing the internet, then block a second computer from transferring files using FTP as well as prohibit the computer from receiving incoming email.

Access control incorporates a list of preset services, such as applications and common port settings.

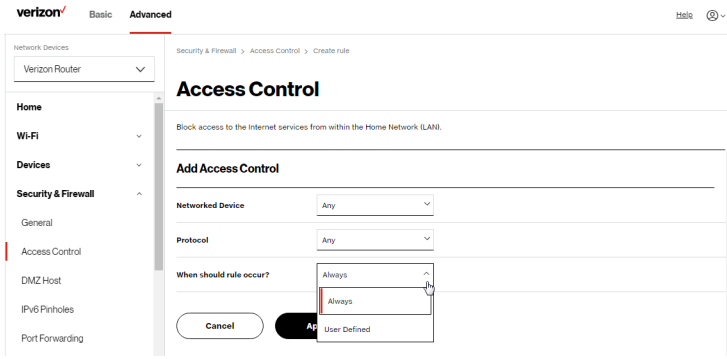
ALLOW OR RESTRICT SERVICES

To allow or restrict services:

1. From the **Advanced** menu, select **Security & Firewall** from the left pane and then click **Access Control**. The **Access Control** page opens with the Allows and Blocked sections displayed. The Allowed section only displays when the firewall is set to maximum security.

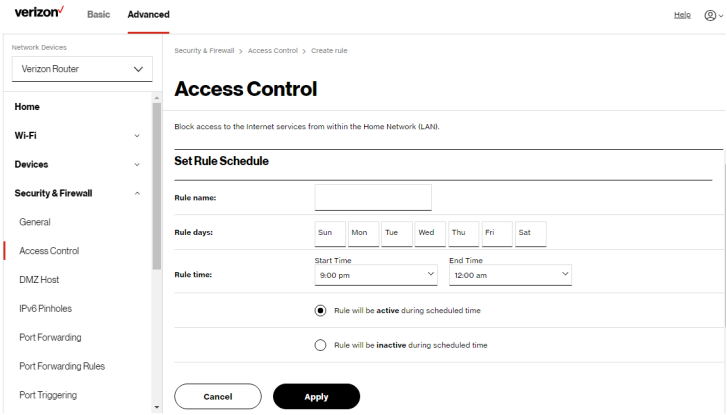


2. To block a service, click **Add**. The **Add Access Control** page displays.



SECURITY & FIREWALL

3. To apply the rule to:
   - Networked Computer/Device - select **Any**.
   - Specific devices only - select **User Defined**.
4. In the **Protocol** field, select the internet protocol to be allowed or blocked. If the service is not included in the list, select **User Defined**. The **Edit Service** page displays. Define the service, then click **Apply**. The service is automatically added to the **Add Access Control** section.
5. Specify when the rule is active as **Always** or **User Defined**.



6. Enter the rule name, specify days of the week, and set the start time and end time when the rule will be active or inactive.
7. Click **Apply** to save changes.
8. The **Access Control** page displays a summary of the new access control rule.

DISABLE ACCESS CONTROL

You can disable an access control and enable access to the service without removing the service from the Access Control table. This can make the service available temporarily and allow you to easily reinstate the restriction later.

- To disable an access control, clear the check box next to the service name.
- To reinstate the restriction, select the check box next to the service name.
- To remove an access restriction, select the service and click **Remove**. The service is removed from the Access Control table.

5.0c/ DMZ HOST

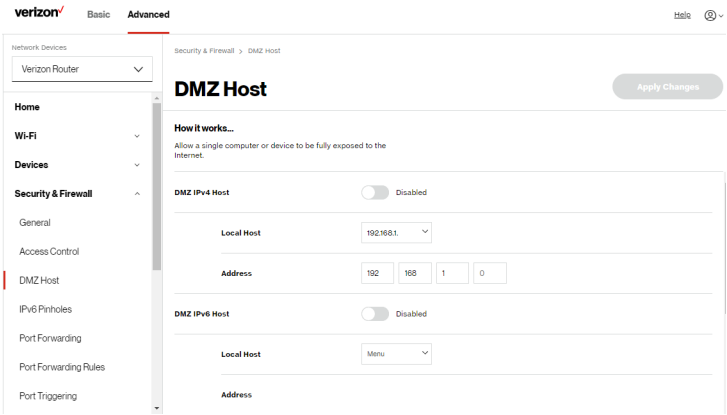
DMZ Host allows a single device on your primary network to be fully exposed to the internet for special purposes like internet gaming.

Warning: Enabling DMZ Host is a security risk. When a device on your network is a DMZ Host, it is directly exposed to the internet and loses much of the protection of the firewall. If it is compromised, it can also be used to attack other devices on your primary network.

Follow these steps to designate a device on your primary network as a DMZ Host:

1. From the **Advanced** menu, select **Security & Firewall** and then click **DMZ Host**.
2. Select **Enable** for the DMZ Host.

3. Enter the IP address or select the MAC address of the device you want to designate as the DMZ Host.



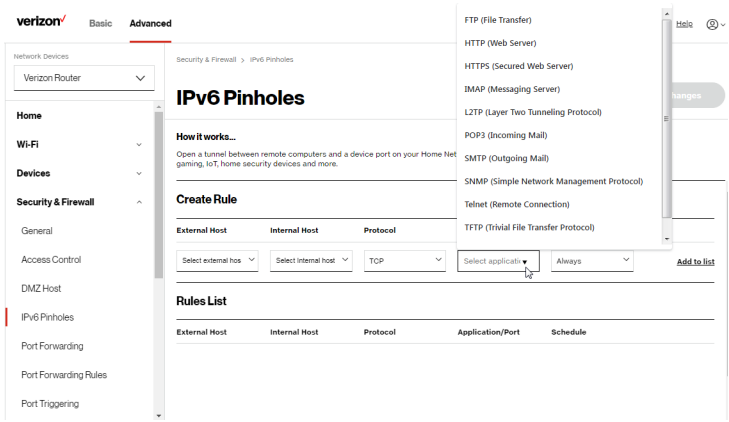
4. Click **Apply Changes** to save changes.

5.0d/ IPV6 PINHOLES

The IPv6 Pinhole feature of the Verizon Router allows an application to send incoming packets for a certain port number to the destination computer by setting up the rule of authorization.

To configure the rules:

1. From the **Advanced** menu, select **Security & Firewall** and then click **IPv6 Pinhole**.



2. Select external and internal host, protocol and the application port type.
3. To schedule the rule, select either **Always** or **User Defined** in the **Schedule** list box.
4. Click **Add to list**. The screen displays opened pinhole port and its status. It shows the IP addresses of remote device and connected device on your network.
5. Click **Apply Changes** to save changes.

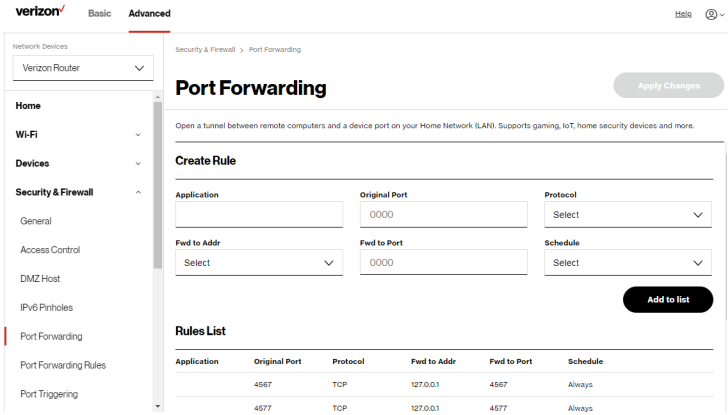
5.0e/ PORT FORWARDING

You can activate port forwarding to expose the network to the internet in a limited and controlled manner. For example, enabling applications, such as gaming and voice, to work from the local network as well as allowing internet access to servers within the local network.

SECURITY & FIREWALL

To create port forwarding rules:

1. From the **Advanced** menu, select **Security & Firewall** from the left pane and then click **Port Forwarding**. The **Port Forwarding** page opens with the current rules displayed.



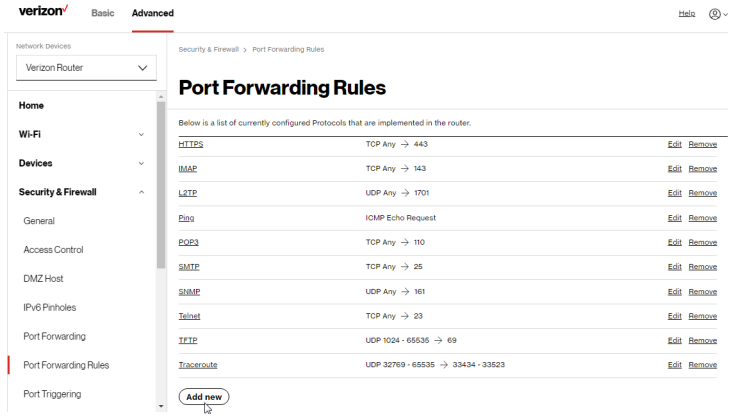
2. To create a new rule, enter the application name, configure its inbound and outbound port numbers, forwarding destination address, then select the protocol.
3. To schedule the rule, select either **Always** or **User Defined** in the **Schedule** list box.
4. Click **Add to list**. The rule displays in the **Rules List** section.
5. Click **Apply Changes** to save changes.

5.0f/ PORT FORWARDING RULES

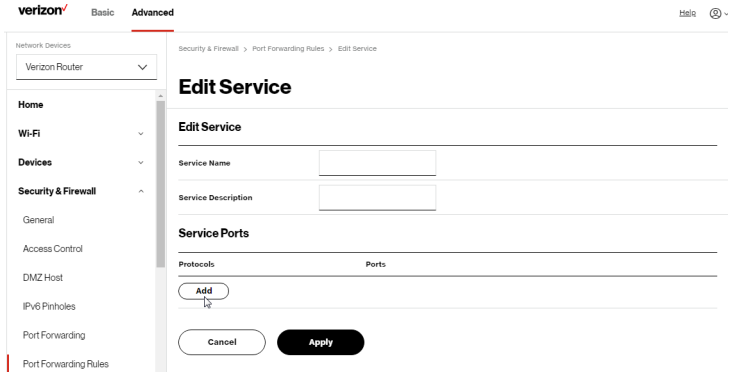
You can view, modify, and delete port forwarding rules.

To access the rules:

1. Select **Port Forwarding Rules** in the **Security & Firewall** section.

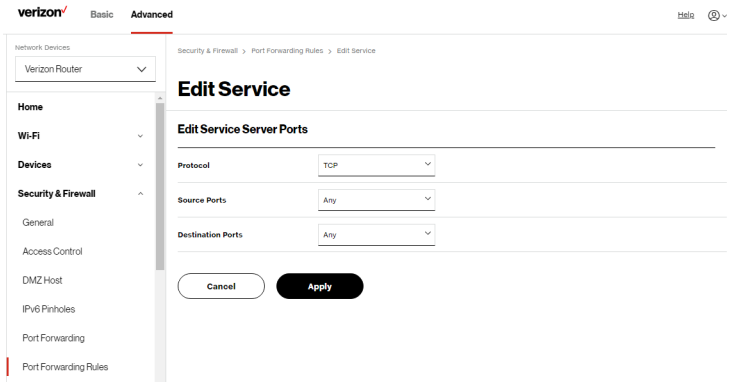


2. To create or edit a protocol rule, click the **Add new** or **Edit** icon in the action column. The **Edit Service** page displays.



SECURITY & FIREWALL

3. Modify the **Service Name** and **Service Description**, as needed.
4. To add server ports, click **Add**.
5. To modify the current protocol, click the **Edit** icon in the action column. The **Edit Service Server Ports** page displays.



6. Enter the **Protocol, Source Ports** and **Destination Ports**, as needed.
7. Click **Apply** to save changes.

5.0g/ PORT TRIGGERING

Port triggering can be described as dynamic port forwarding. By setting port triggering rules, inbound traffic arrives at a specific network host using ports that are different than those used for outbound traffic. The outbound traffic triggers the ports where the inbound traffic is directed.

For example, a gaming server is accessed using UDP protocol on port 2222. The gaming server then responds by connecting the user using UDP on port 3333, when a gaming session is initiated.

In this case, port triggering must be used since it conflicts with the following default firewall settings:

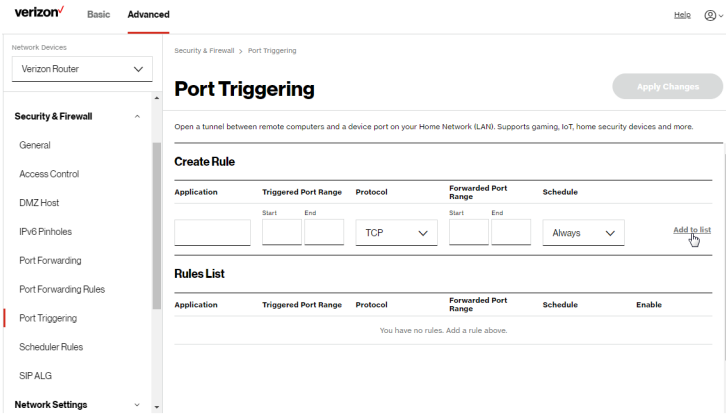
- Firewall blocks inbound traffic by default.
- Server replies to your Verizon Router IP, and the connection is not sent back to the host since it is not part of a session.

To resolve the conflict, a port triggering entry must be defined, which allows inbound traffic on UDP port 3333 only after a network host generated traffic to UDP port 2222. This results in your Verizon Router accepting the inbound traffic from the gaming server and sending it back to the network host which originated the outgoing traffic to UDP port 2222.

To configure port triggering:

1. From the **Advanced** menu, select **Security & Firewall** and then click **Port Triggering**.

SECURITY & FIREWALL



2. To add a service as an active protocol, enter the application name, configure its inbound and outbound (triggered/ forwarded) port range, then select the protocol.
3. To schedule the rule, select either **Always** or **User Defined** in the **Schedule** list box.
4. Click **Add to list**. The rule displays in the **Rules List** section.
5. Click **Apply Changes** to save changes.

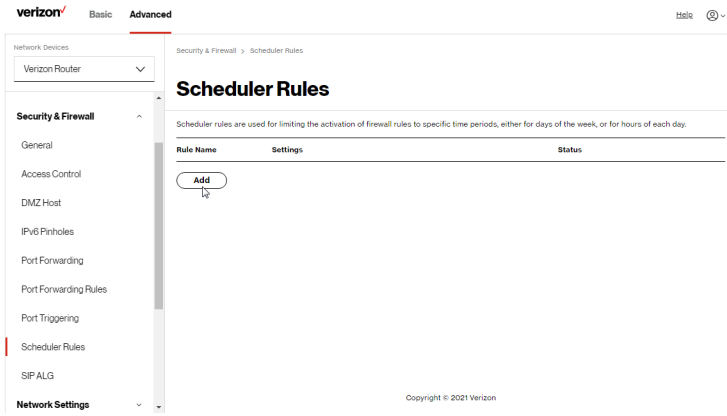
5.0h/ SCHEDULER RULES

Scheduler Rules are used for limiting the activation of firewall rules to specific time periods. The time periods are either for days of the week or for hours of each day based on activity or inactivity.

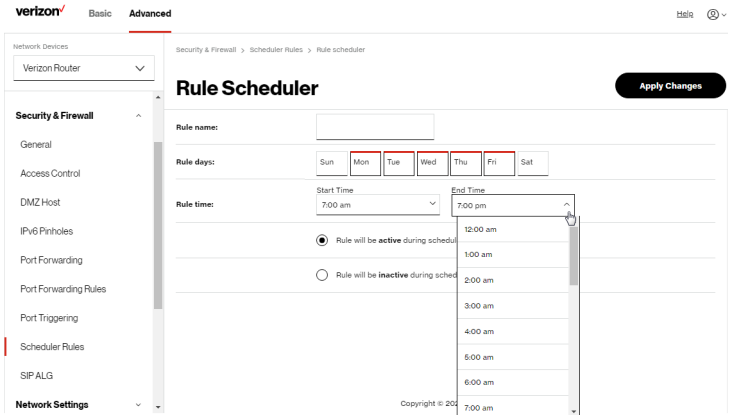
To define a rule:

1. Verify that the date and time of your Verizon Router is correct.

2. Select **Scheduler Rules** in the **Security & Firewall** section.



3. Click **Add**. The **Rule Schedule** page displays.



4. Enter the name of the rule, select the active or inactive days of the week and the start and end time range.

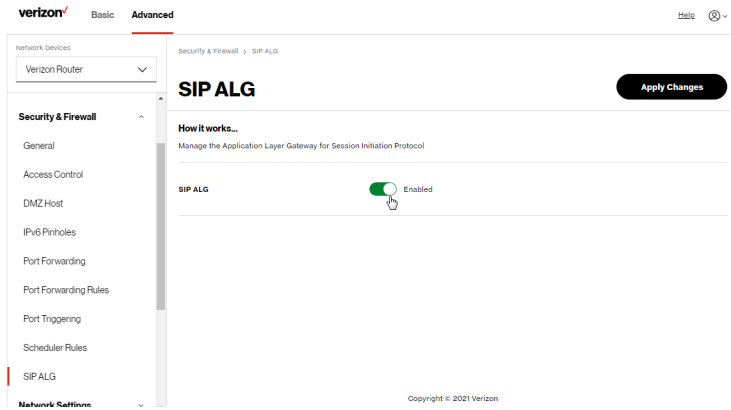
5. Specify if the rule is **active** at the scheduled time or **inactive** at the scheduled time.
6. Click **Apply changes** to save changes.

5.0i/ SIP ALG

SIP ALG (Application Level Gateway) - supports various multiple application protocols by allowing dynamic ephemeral TCP/ UDP ports to communicate with the known ports which a particular client application (such as FTP, VoIP service, net meeting or streaming media) requires.

To enable the SIP ALG settings:

1. From the **Advanced** menu, select **Security & Firewall** and then click **SIP ALG**.
2. Select **Enabled** for the SIP ALG.



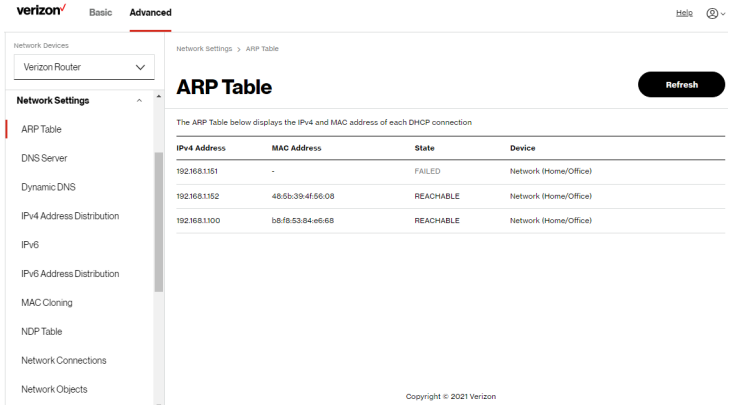
3. Click **Apply Changes** to save changes.

5.1/ NETWORK SETTINGS

5.1a/ ARP TABLE

You can view the IPv4 and MAC addresses of each DHCP connection.

To view the IPv4 and MAC addresses for each device: From the **Advanced** menu, select **Network Settings** and then click **ARP Table**.



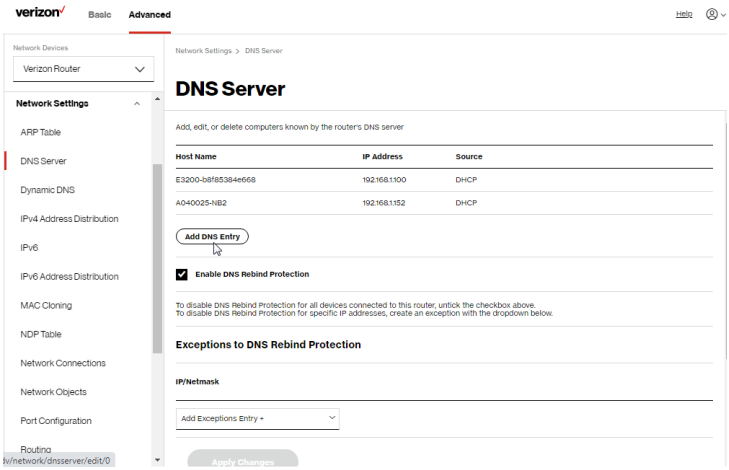
5.1b/ DNS SERVER

You can edit the host name and/or IP address, if the host was manually added to the DNS table. If not, you can only modify the host name.

To access the DNS server:

1. From the **Advanced** menu, select **Network Settings** and then click **DNS Server**.

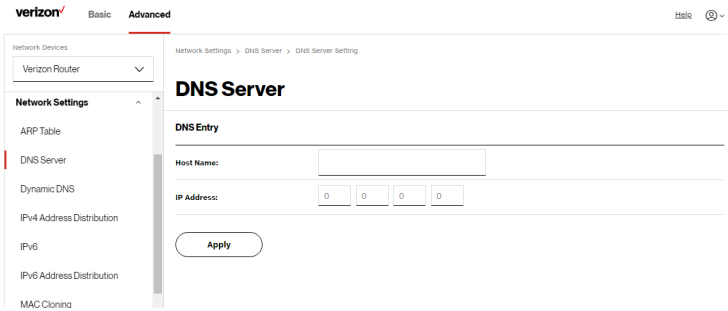
NETWORK SETTINGS



2. To disable DNS rebind protection for all devices connected to the Verizon Router, untick the check box of **Enable DNS Rebind Protection.**

Warning: Disabling this protection may create a risk of cybersecurity attack to devices connected to this router.

3. To add a computer stored in the **DNS** table, click **Add DNS Entry**. The **DNS Entry** page displays.



4. In the **Host Name** field, enter the name of the computer, then enter the **IP address** and click **Apply** to save changes.
5. Then the **DNS Server** page displays.
6. To add a new IP address entry, select the **Add Exceptions Entry** in the **Exceptions to DNS Rebind Protection** section. The **Add Exceptions List** page displays. Edit the IP address.
7. To remove a host from the DNS table, click the **Remove** icon on the screen.
8. Click **Apply changes** to save changes.

5.1c/ DYNAMIC DNS

Typically, when connecting to the internet, your router is assigned an unused public IP address from a pool, and this address changes periodically.

Dynamic DNS allows a static domain name to be mapped to the dynamic IP address, allowing a computer within your network to be more easily accessible from the internet.

When using Dynamic DNS, each time the public IP address changes, the DNS database is automatically updated with the new IP address. In this way, even though the IP address changes often, the domain name remains constant and accessible.

To set up dynamic DNS:

1. Select **Dynamic DNS** in the **Network Settings** section.