



# Fios Home Router

# USER GUIDE



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# 01 /

# INTRODUCTION

- 1.0** Package Contents
- 1.1** System Requirements
- 1.2** Features
- 1.3** Getting to Know Your Fios Home Router

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

Your Fios Home 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

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## 1.0/ PACKAGE CONTENTS

*Your package contains:*

- Fios Home Router
- Power adapter
- Ethernet cable, three meters (white)
- OSS (Open Source Software) insert guide

## 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 Fios Home Router features include:*

- Support for multiple networking standards, including
  - WAN – Gigabit Ethernet and MoCA 1.1 interfaces
  - LAN – 802.11 a/b/g/n/ac/ax, Gigabit Ethernet and MoCA 2.5 interfaces
- Integrated wired networking with 4-port Ethernet switch and Coax (MoCA)

- 
- Ethernet supports speeds up to 1000 Mbps
  - MoCA 2.5 LAN enabled to support speed up to 2500 Mbps over coaxial cable
  - MoCA 1.1 WAN enabled to support speed up to 100 Mbps over coaxial cable
  - One USB3.0 for LTE (optional) WAN backup
  - IoT - bluetooth and zigbee
  - Integrated wireless networking with 802.11a/b/g/n/ac/ax access point featuring:
    - backward compatible to 802.11a/b/g/n/ac
    - 2.4G 11ax 4x4
    - two 5G 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

# FEATURES

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- Event logging
- McAfee secure home platform
- Static NAT
- Port forwarding
- Port triggering
- Access control
- Advanced wireless protection featuring WPA2/WPA Mixed Mode and MAC address filtering
- Wi-Fi Multimedia (WMM) for wireless QoS (quality-of-service)
- Compatible with Wi-Fi Mesh system
- 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 My Fios app
- Static routing

- VPN (VPN pass through only)
- IGMP
- Daylight savings time support

## 1.3/ GETTING TO KNOW YOUR FIOS HOME ROUTER

### 1.3a/ FRONT PANEL

The front panel's unified button allows quick access to the Wi-Fi Protected Setup (WPS) feature and pairing mode.

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



#### *Router Status LED*

Condition Status	LED Color	Fios Home Router
Normal	WHITE	Normal operation (solid) Router is booting (fast blink)
	BLUE	Pairing mode (slow blink) Pairing successful (solid)
	GREEN	Wi-Fi has been turned off (solid)
Issue(s)	YELLOW	No internet connection (solid)
	RED	Hardware/System failure detected (solid) Overheating (fast blink) Pairing Failure (slow blink)
	OFF	Power off

# GETTING TO KNOW YOUR FIOS HOME ROUTER

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The WPS button is used to initiate Wi-Fi Protected Setup. This is an easy way to add WPS capable devices to your wireless network. To activate the WPS function, press and hold the unified button located on the front of your Fios Home 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 wireless device (also known as a wireless client). When a device begins connecting to your router using WPS, the Router Status LED rapidly flashes blue for a few seconds, and turns solid blue and then solid white as the connection completes.

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

Refer to the “Connecting A Wi-Fi Device Using WPS” for more details. In addition, the unified button also provides a quick view of the operational state of the Fios Home Router using various colors as indicated in the chart above. Please refer to section 9.0h for details on the rear LEDs.

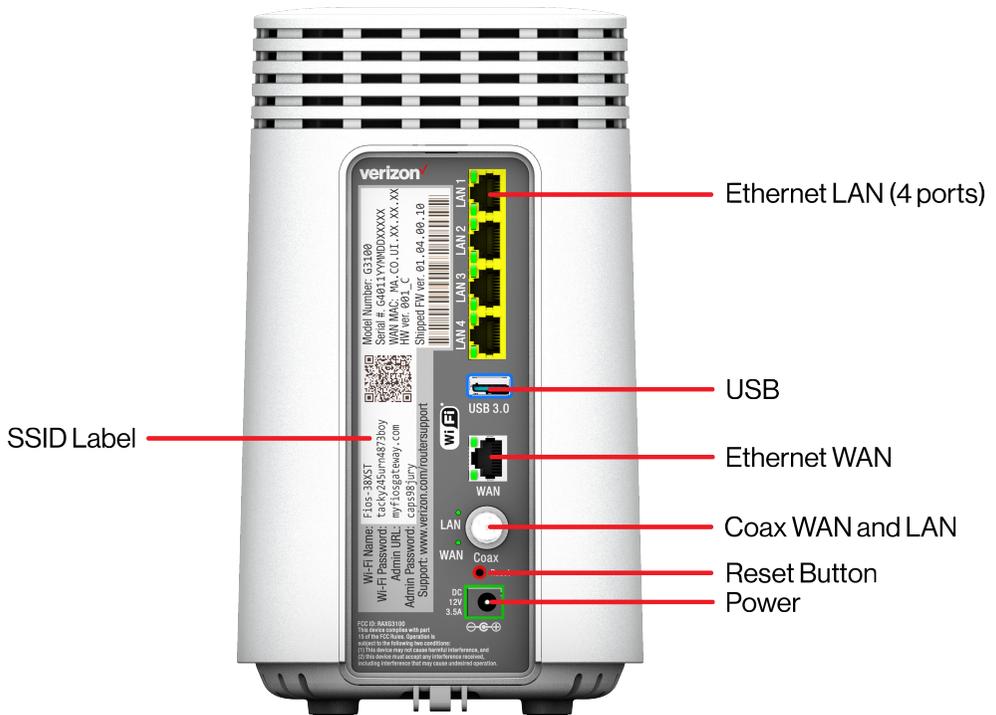
### 1.3b/ REAR PANEL

The rear panel of your router has a label that contains important information about your device, including the default settings for the Fios Home Router's Wi-Fi name (SSID), wireless password (WPA2 key), local URL for accessing the router's administrative pages, and administrator 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:	Fios-38XST	
Wi-Fi Password:	tacky245urn4873boy	
Admin URL:	myfiosgateway.com	
Admin password:	caps98jury	
Support: <a href="http://www.verizon.com/routersupport">www.verizon.com/routersupport</a>		

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

# GETTING TO KNOW YOUR FIOS HOME ROUTER



- **Ethernet LAN** - connects devices to your Fios Home Router using Ethernet cables to join the local area network (LAN). The four Ethernet LAN ports are 10/100/1000 Mbps auto-sensing and can be used with either straight-through or crossover Ethernet cables.
- **USB** - provides up to 1000 mA at 5 VDC for attached devices. For example, you could charge a cell phone. With a firmware upgrade, the USB host functionality may be available for other devices, such as external storage and cameras. Firmware updates are performed automatically by Verizon.

- **Ethernet WAN** - connects your Fios Home Router to the internet using an Ethernet cable.
- **Coax WAN and LAN** - connects your router to the internet and/or to other MoCA devices using a coaxial cable.

*Warning: The WAN coax port is intended for connection to Verizon Fios only. It must not be connected to any exterior or interior coaxial wires not designated for Verizon Fios.*

- **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 Fios Home 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.*

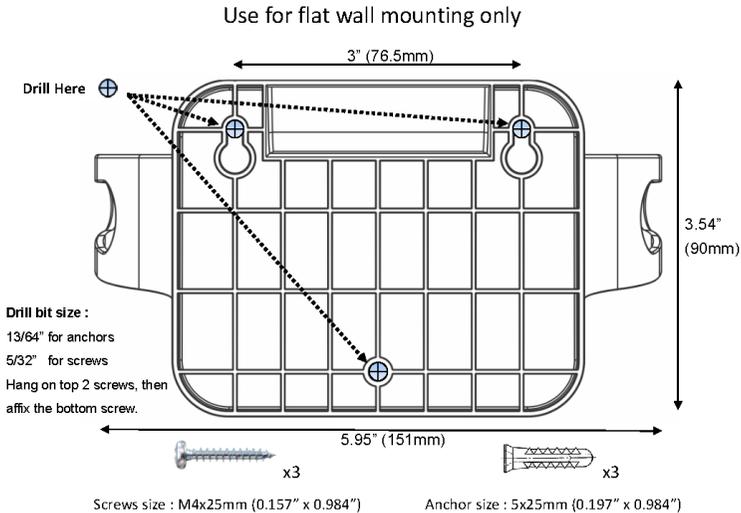
### **1.3c/ MOUNTING THE FIOS HOME ROUTER TO A WALL**

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

# GETTING TO KNOW YOUR FIOS HOME ROUTER

To mount your Fios Home Router to a wall:

1. You may use the wall-mount template sheet for positioning the Fios Home Router.
2. Mark the mounting holes using the template sheet as shown below.



3. Drive two screws into the wall. Leave the screws extended about 0.2 inches from the wall.
4. Verify the screws are positioned correctly by placing the wall bracket on the screws. Then remove the wall bracket from the wall.



5. There are two mounting slots located on the bottom of the Fios Home Router. It allows you to securely attach your router to the wall. Align the slots with the wall mount bracket.



6. Attach the router to the wall mount bracket through an easy twist and lock action.



# GETTING TO KNOW YOUR FIOS HOME ROUTER

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7. Align the wall mount bracket with the attached router to the screws, then slide the bracket down until it locks in place.



8. To secure the bracket, place one screw into the small hole of the bracket and tighten the screw into your wall.



**Note:** To release the lock, twist the router counter-clockwise and press down on the small clip on the bottom of the bracket.



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02 /

# CONNECTING YOUR FIOS HOME ROUTER

- 2.0** Setting up Your Fios Home Router
- 2.1** Expanding Wi-Fi coverage
- 2.2** Computer Network Configuration
- 2.3** Main Screen

Connecting your Fios Home Router and accessing its web-based Graphical User Interface (GUI) are both simple procedures.

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

# SETTING UP YOUR FIOS HOME ROUTER

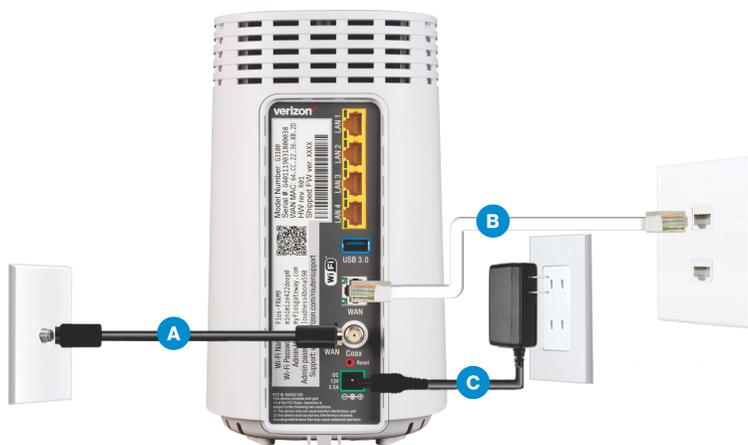
## 2.0/ SETTING UP YOUR FIOS HOME ROUTER

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 Fios Home Router.

### 2.0a/ INSTALLATION INSTRUCTIONS

#### 1. MAKE THE CONNECTIONS

- A. Connect the coax cable from the coax port on your router to a coax outlet.
- B. If you ordered internet speeds greater than 100 Mbps, connect the Ethernet cable from the WAN port on your router to an Ethernet outlet.
- C. Connect the power cord from the router to an electrical outlet.



## 2. POWER UP

Router will take up to 15 minutes to power up and turn on completely. You're ready to move on when the front light is solid white.

## 3. CONNECT YOUR DEVICES

### Wi-Fi

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



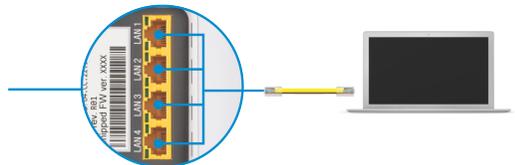
- B. On your device, choose your Wi-Fi name when it appears.
- C. Enter the Wi-Fi password exactly as it appears on your router label.

### Wi-Fi Network

The Fios Home Router has one Wi-Fi name that supports both 2.4GHz and 5GHz signals. The Self-Organizing Network (SON) feature allows your devices to move between the two signals automatically for an optimized Wi-Fi connection.

### Wired

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



- B. Connect the other end to your computer.

# SETTING UP YOUR FIOS HOME ROUTER

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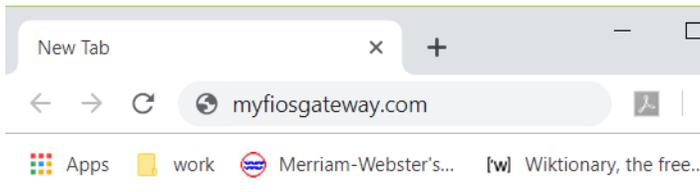
## 4. COMPLETE ACTIVATION

Activate your router by opening an internet browser and following the prompts.

## 2.0b/ CONFIGURE YOUR FIOS HOME ROUTER

1. Open a web browser on the device connected to your Fios Home Router network.
2. In the browser address field (URL), enter: [myfiogateway.com](https://myfiogateway.com), then press the **Enter** key on your keyboard.

Alternately, you can enter: <https://192.168.1.1>



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

3. On the **Step 1: Please log in to your router** screen, enter the password that is printed next to the Admin password on the label on the rear of your router.

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**Let's get started with Wi-Fi setup in 3 easy steps!**

**Step 1: Please log in to your router**

Enter the Admin Password located on the side of your router.

Admin Password

Show Password

**Next** Cancel and perform later



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Wi-Fi Name:	Fios-38XST	
Wi-Fi Password:	tacky245urn4873boy	
Admin URL:	myfiosgateway.com	
Admin password:	caps98jury	
Support:	www.verizon.com/routersupport	

4. Click **Next**. The **Step 2: Personalize Your Wi-Fi Settings** screen displays. Click on the check box next to **Setup and Enable Your Guest Wi-Fi (Optional)** to personalize your Guest Wi-Fi Name and Password.

# SETTING UP YOUR FIOS HOME ROUTER

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**Step 2: Personalize Your Wi-Fi Settings**

Your router is pre-configured with the Wi-Fi settings below. You may use the defaults or change the name and password to something easier to remember.

Wi-Fi Name  
Fios-7zEK4 ⓘ

Wi-Fi Password  
fever9228oar8aet ⓘ **Wi-Fi Password must be at least 8 characters.**

**Restore defaults >**

**Setup and Enable Your Guest Wi-Fi (Optional)**

A Guest Wi-Fi network is a simple and secure (encrypted) secondary network. Users on this network have "Internet Only" access and will not be able to connect to devices running on your Primary "Home" network.

Keep your Primary "Home" network secure by creating a Guest Network just for your guests!

Guest Wi-Fi Name  
Fios-7zEK4-Guest

Guest Wi-Fi Password  
 ⓘ **Guest Wi-Fi Password must be at least 8 characters.**

Create a guest network without a password (not recommended)

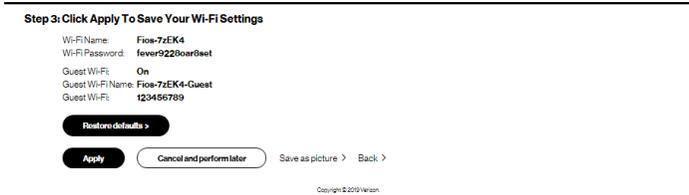
**Next** **Cancel and perform later** **Back >**

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

5. Click **Next**. The **Step 3: Click Apply to Save Your Wi-Fi Settings** screen appears. You have an option of saving the Wi-Fi settings as an image on your device by clicking the **Save as picture** button. After you click **Save as picture** to save your Wi-Fi settings as an image, click **Apply** to save the Wi-Fi changes to your Fios Home Router.

**Important:** *If you are on a Wi-Fi device when setting up your Fios Home Router, you will be disconnected from the Wi-Fi network when you change the Wi-Fi name or Wi-Fi password. When this occurs, your Fios Home Router will detect this situation and prompt you to reconnect using the new settings.*



The **Congratulations! You're all set up.** screen displays once your Fios Home Router verifies the final settings and has successfully connected to the internet and is ready for use. You can click on Main router settings to access the main screen of the Fios Home Router or click on Start browsing and you will be directed to the Verizon.com website.



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

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

# EXPANDING WI-FI COVERAGE

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## **2.1/ EXPANDING WI-FI COVERAGE**

Connecting Verizon's Fios Home Wi-Fi Extender to the Fios Home Router allows you to extend Wi-Fi signal range of the Fios Home Router for eliminating Wi-Fi dead zones on your Wi-Fi network.

### **2.1a/ WI-FI INSTALLATION**

1. Place the Fios Home Wi-Fi Extender directly next to the Fios Home Router.
2. Connect the power cord from the extender to an electrical outlet.
3. When the light on the extender is solid yellow, press and hold the buttons on your router and extender for 2+ seconds until they slowly begin to blink blue.
4. The lights on the router and extender should turn solid blue while the Wi-Fi connection is initiating and solid white when the connection is complete.
5. Once the Wi-Fi connection is complete, you can unplug and move the extender to an area between your router and an area with spotty Wi-Fi coverage. Once plugged in again, the light should turn solid white again within a few minutes.

You're all set! Your devices will connect automatically with the same Wi-Fi network name and password as your Fios Home Router.

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## **2.1b/ WIRED INSTALLATION**

1. Place the Fios Home Wi-Fi Extender and Fios Home Router near a coax outlet – ideally in an area with spotty Wi-Fi coverage.
2. Connect the coax cable from the extender to a coax outlet. (If the coax outlet is already in use, you can use the coax splitter included in the shipping box.)
3. Connect the power cord from the extender to an electrical outlet.
4. The light on the extender should turn solid white within a few minutes, indicating the connection is complete.

You're all set! Your devices will connect automatically with the same Wi-Fi network name and password as your Fios Home Router.

## **2.2/ 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.

# COMPUTER NETWORK CONFIGURATION

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## **2.2a/ 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 step 1 to 7. However for step 4, select **Internet Protocol Version 6 (TCP/IPv6)** in the **Properties** option (refer to IPv6 section for Fios Home Router configuration).

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## 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 step 1 to 9. However for step 6, select **Internet Protocol Version 6 (TCP/IPv6)** in the **Properties** option (refer to IPv6 section for Fios Home Router configuration).

# COMPUTER NETWORK CONFIGURATION

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## 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.

## **2.2b/** CONNECTING OTHER COMPUTERS AND NETWORK DEVICES

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

## ETHERNET

1. Plug one end of an Ethernet cable into one of the open yellow Ethernet ports on the back of your Fios Home 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 Fios Home Router using Ethernet. You can connect up to four.

## 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 Fios Home Router creates a secure Wi-Fi network.

In most cases, this only requires the pressing of two buttons – one on your Fios Home 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.

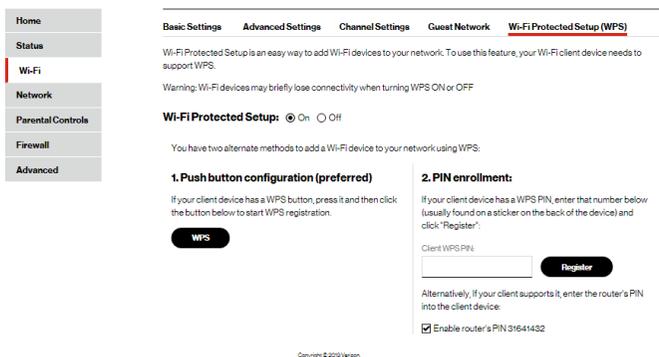
To initialize the WPS process, you can either press and hold the unified button located on the front of your Fios Home Router for more than two seconds or use the GUI and press the on-screen button.

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 main menu, select **Wi-Fi** settings, then select **Wi-Fi Protected Setup (WPS)**.

# COMPUTER NETWORK CONFIGURATION



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 WPS button on your Wi-Fi device (client) 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 **Client WPS PIN** field. The **Client WPS PIN** field is located in the section **2 - PIN enrollment** 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.

## **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 Fios Home Router's Wi-Fi network name (SSID) from the device's list of discovered Wi-Fi networks.
4. When prompted, enter your Fios Home Router's Wi-Fi password (WPA2 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 Fios Home Router.

# MAIN SCREEN

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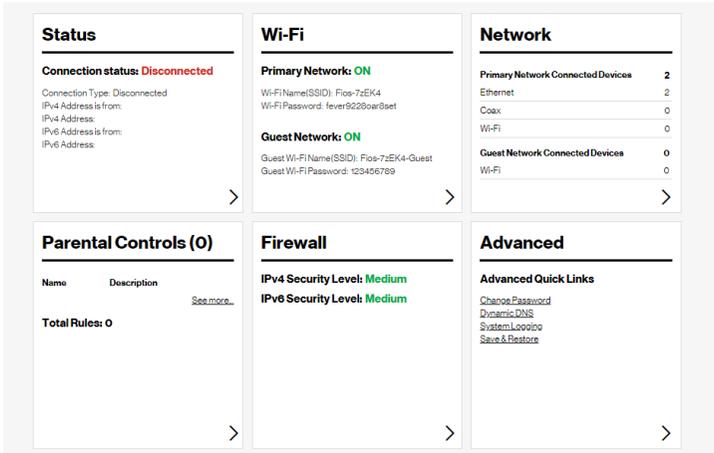
5. Verify the changes were implemented by using the device's web browser to access a site on the internet.
6. Repeat these steps for every device that you are connecting with Wi-Fi to your router.

## 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.

## 2.3/ MAIN SCREEN

When you log into your router, the dashboard main page displays the main navigation menu of connection status, Wi-Fi settings, network settings, parental control, firewall security level, and advanced quick links.



## 2.3a/ Menu

The main menu contains the following configuration options and chapters:

- Status - this chapter
- Wi-Fi - Chapter 3
- Network - Chapter 4 and Chapter 5
- Parental Controls - Chapter 6
- Firewall - Chapter 7
- Advanced - Chapter 8

# MAIN SCREEN

## 2.3b/ STATUS

### Router Status

This section displays firmware and hardware version numbers, and the status of your router's local network (LAN) and internet connection (WAN).

Home	<b>Router Status</b>
Status	<b>Firmware Version:</b> 1.3.6.21
Wi-Fi	<b>Hardware Version:</b> R08
Network	<b>Model Name:</b> G3100
Parental Controls	<b>Serial Number:</b> G40119012200078
Firewall	<b>Broadband MAC Address:</b> 78:DD:12:C9:9D:A3
Advanced	<b>Broadband Physical Connection:</b> Disconnected
	<b>Broadband IPv4 Connection Status:</b> <span style="color: red;">Disconnected</span>
	IPv4 Address is from:
	IPv4 Address:
	Subnet Mask:
	Default Gateway:
	IPv4 DNS Address:
	NATs Supported (Used/Max): 0/30000
	<b>Broadband IPv6 Connection Status:</b> <span style="color: red;">Disconnected</span>
	IPv6 Address is from:
	IPv6 Address:
	Prefix:
	Link-Local Address:
	Default Gateway:
	IPv6 DNS Address:
	<b>Active Status (Router Has Been Active For)</b> 4:08:25
	<span>Close</span> Automatic Refresh on > <span>Refresh</span> >
	Copyright © 2019 Verizon

---

# 03 /

## WI-FI SETTINGS

- 3.0** Overview
- 3.1** Wi-Fi Status
- 3.2** Basic Settings
- 3.3** Advanced Settings
- 3.4** Channel Settings
- 3.5** Guest Network

---

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

802.11b has a maximum data rate of 11 Mbps, 802.11g has a maximum data rate of 54 Mbps, 802.11n has a maximum data rate of 450 Mbps, 802.11ac has a maximum data rate of 3.12 Gbps, and 802.11ax has a maximum data rate of 4.8 Gbps.

802.11b and g standards operate in the 2.4 GHz range. 802.11ac operates in the 5 GHz range. 802.11n and ax operate in both the 2.4 GHz and 5 GHz ranges.

*Note: 802.11 b is a legacy mode and is not recommended. Even one 802.11b 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 (WPA/WPA2), and firewall.



## 3.1/ WI-FI STATUS

Use the Wi-Fi status feature to view the status of your router's Wi-Fi network.

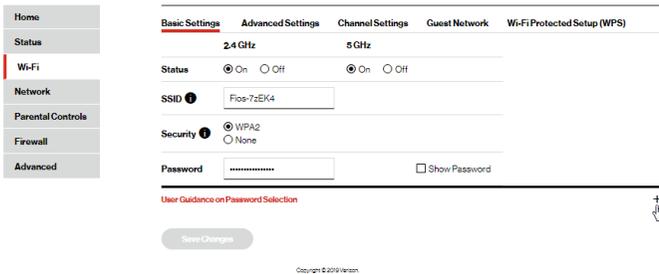
*To view the status:*

1. Access the dashboard main page. You can quickly view your router's Wi-Fi status in the **Wi-Fi** column.
2. In the **Wi-Fi** column for **Primary Network** and **Guest Network**, the following information displays:
  - **ON/OFF** - displays whether the Wi-Fi radio is active. When the radio is not enabled, no Wi-Fi devices will be able to connect to the home network.
  - **Wi-Fi Name (SSID)** - displays the SSID (Service Set Identifier) shared among all devices on a Wi-Fi network. The SSID is the network name. All devices must use the same SSID.
  - **Wi-Fi Password** - displays the Pre-Shared Key of the Wi-Fi security.

# BASIC SETTINGS

## 3.2/ BASIC SETTINGS

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



To configure the basic security radio, SSID and security settings:

1. Select Wi-Fi from the left pane, and then click **Basic Settings**.
2. To activate the Wi-Fi radio, click the **On** radio button.
3. If desired, enter a new name for the Wi-Fi network in the SSID field or leave the default name that displays automatically.
4. To activate the Wi-Fi security, click the **WPA2** radio button.
5. Enter the PSK (Pre-Shared Key) password.
6. Click **Save Changes** to save the changes.

## 3.3/ ADVANCED SETTINGS

You can change your advanced Wi-Fi security settings, such as disable your SSID broadcast to secure your Wi-Fi traffic; stop your Fios Home Router from broadcasting your SSID; set Wi-Fi MAC authentication to limit access to specific Wi-Fi devices; and change the Wi-Fi mode to limit or allow access to your Wi-Fi network based on the type of technology as well as other advanced Wi-Fi options.

	2.4 GHz	5 GHz
<b>Broadcast</b>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<b>MAC Authentication</b>	<input type="checkbox"/> Enable Access List <input type="radio"/> Accept all devices listed below <input checked="" type="radio"/> Deny all devices listed below <input type="button" value="Add"/>	<input type="checkbox"/> Enable Access List <input type="radio"/> Accept all devices listed below <input checked="" type="radio"/> Deny all devices listed below <input type="button" value="Add"/>
<b>802.11 Mode</b>	Legacy Mode (802.11b/g/n)	Compatibility Mode (802.11a/n/ac/ax) Compatibility Mode (802.11a/n/ac/ax) Legacy Mode (802.11a/n/ac) Wi-Fi S Only (802.11ac)
<b>Other Advanced Wi-Fi Options</b>		
<b>SON Wi-Fi Enabled:</b>	<input checked="" type="radio"/> On <input type="radio"/> Off	
<b>Group Key Update Interval time</b>	<input checked="" type="checkbox"/> Enable 259200 seconds	<input checked="" type="checkbox"/> Enable 259200 seconds
<b>Transmit Power</b>	<input type="text" value="100"/> %	<input type="text" value="100"/> %
<b>Wi-Fi QoS (WMM)</b>	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled
<b>WMM Power Save</b>	<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Enabled

# ADVANCED SETTINGS

---

## 3.3a/ BROADCAST

You can configure the Fios Home 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.

1. Select **Wi-Fi** from the left pane, and then click **Advanced Settings**.
2. To enable SSID broadcasting, click the **Enable** radio button. 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, click the **Disable** radio button. 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.

3. When all changes are complete, click **Save Changes** to save the changes.

## 3.3b/ MAC AUTHENTICATION

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

*To set Wi-Fi MAC authentication:*

1. To enable access control, select the **Enable Access List** check box.

2. Select either:

- **Accept all devices listed below** – allows only 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.*

- **Deny all devices listed below** – denies access to the listed devices. All other 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, then click the **Add** button.

4. Repeat step 2 and step 3 to add additional devices, as needed.

5. To remove a specific device's MAC address, click the **Remove** button next to the specific MAC address.

6. When all changes are complete, click **Save Changes** to save the changes.

### 3.3c/ 802.11 MODE

From the 802.11 Mode page, you can limit the Wi-Fi access to your network by selecting the 2.4 GHz and 5 GHz Wi-Fi communication standard (mode) best suited or compatible with the devices you allow access to your Wi-Fi network.

# ADVANCED SETTINGS

---

Select the Wi-Fi mode as follows:

- **Compatibility** – This is the default mode setting, providing a good balance of performance and compatibility with existing Wi-Fi devices. 802.11a,n,ac and ax devices can connect.
- **Legacy** – For older Wi-Fi devices. Only 802.11a,n and ac devices can connect. Both 802.11n and 802.11ac are available on the 5 GHz frequencies. 802.11a (legacy mode) will cause your Wi-Fi network to slow and is not recommended.
- **Wi-Fi 5 Only** – This provides maximum performance. 802.11ac devices will have exclusive use of the 5 GHz frequencies and 802.11n devices will not be able to connect at 5 GHz.
- When all changes are complete, click **Save Changes** to save the changes.

## **3.3d/ OTHER ADVANCED WI-FI OPTIONS**

You can view additional Wi-Fi options.

***Comment:** Recommend leaving defaults as is unless otherwise directed.*

*View the following options:*

***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.*

- 
- SON Wi-Fi Enabled - allows for smart roaming to provide reliable Wi-Fi network with full signal strength in all areas.
  - Group key update – to update the WPA shared key, click the **Enable** checkbox.
  - Interval time – time interval used to update the WPA shared key (used to generate the group key).
  - Transmit Power – adjusts the power of the Wi-Fi signal.
  - 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.

***Important:** WMM (Wi-Fi Multimedia) QoS and Power Save require a Wi-Fi client device which also supports WMM.*

# CHANNEL SETTINGS

## 3.4/ CHANNEL SETTINGS

You can configure the channel settings for either 2.4 GHz or 5 GHz of your Wi-Fi network.

- Home
- Status
- Wi-Fi
- Network
- Parental Controls
- Firewall
- Advanced

Basic Settings   **Advanced Settings**   Channel Settings   Guest Network   Wi-Fi Protected Setup (WPS)

### 1. Channel

To change the channel of the frequency band at which the Router communicates, please enter it below. Then click save changes to save your settings. On the 5 GHz, the range of channels from 62-140 is excluded from manual selection.

2.4 GHz Channel:  Current Channel: 1      5 GHz Channel:  Current Channel: 149

Keep my channel selection during power cycle.

[View Channel History >](#)

### 2. Channel Width

2.4 GHz Channel Width: 20 MHz       5 GHz Channel Width: 80 MHz

### 3. Channel Analyzer:

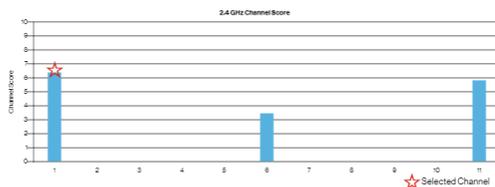
Perform an analysis of the available channels for each band. Upon completion, the best channel will be automatically selected.  
*Note: Manual channel selection will be removed.*

[Perform New Scan >](#)

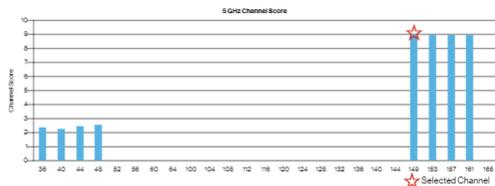
### 4. Channel Score:

The router scans all available channels for a number of factors, such as the number of nearby Wi-Fi access points, their signal strength, and the interference these may cause. The router then uses these to rank and select the best available channel on each band at the time.

#### 2.4 GHz Channel Score



#### 5 GHz Channel Score



Results from scan performed. Wait for NTP server to synchronize



# GUEST NETWORK

---

- **Channel Width** - scans and displays the channel the Wi-Fi connection is currently using.
- **Channel Analyzer** - displays the analysis of channel availability. Click **Perform New Scan** to perform channel availability scan for the Fios Home Router accommodating the best radio channel and providing the best Wi-Fi performance.
- **Channel Score** - scans and 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 Analysis** - scans and displays channel bandwidth and signal strength of available APs.

## 3.5/ 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. **Guest Wi-Fi** can be managed using either the Fios Home Router's web interface, or via the Verizon MyFios app. The guest network SSID does not change when you make a change to your primary network SSID.

The Fios Home 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”.

### 3.5a/ GUEST WI-FI

*To enable Guest Wi-Fi:*

1. From the main menu, select **Wi-Fi**, then select **Guest Network**.
2. Click the **On** radio button and enter a valid **SSID** and **Password**.
3. Press **Save Changes** to save the changes.

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

# GUEST NETWORK

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## **3.5b/ GUEST WI-FI DEVICES**

The devices on the **Guest Network** can be viewed on the **Guest Wi-Fi device list**. If the admin toggles the button next to a device to **Off**, that device will be blocked from accessing the internet.

*Refer to “Connecting A Wi-Fi Device Using WPS” on page 32 for the Wi-Fi Protected Setup (WPS) setup.*

---

# 04 /

## **CONFIGURING NETWORK SETTINGS**

**4.0** Accessing Network Settings

**4.1** Using Network Settings

You can configure the basic network settings for your Fios Home Router's network.

# ACCESSING NETWORK SETTINGS

*Caution:* The settings described in this chapter should only be configured by experienced network technicians. Changes could adversely affect the operation of your router and your local network.

## 4.0/ ACCESSING NETWORK SETTINGS

The **Network** section allows you to view and manage your network connections and devices. You can block websites and internet services, set port forwarding, view device details, and rename devices.

### 4.0a/ NETWORK STATUS

To view your network connections:

1. Select **Network** from the left pane, and then click **Network status**.

**Home**  
**Status**  
**Wi-Fi**  
**Network**  
**Parental Controls**  
**Firewall**  
**Advanced**

**Network status** Network connections

**Primary network** Show All

**A040025-NB2** Device options

Connected to: G3100  
Connection: Ethernet  
IP4 Address: 192.168.1.151  
IP4 Address is from: DHCP  
IP6 Global:  
IP6 Link-local: fe80::11f6:b296:bd9:91d7  
IP6 Address Allocation: Stateless  
MAC address: 48:0B:39:4F:56:08  
Status: Active

**E3200-64cc22169542** Device options

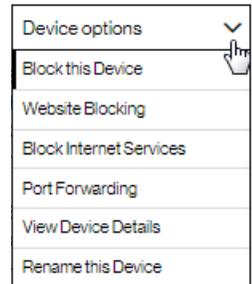
Connected to: G3100  
Connection: Ethernet  
IP4 Address: 192.168.1.101  
IP4 Address is from: DHCP  
IP6 Global:  
IP6 Link-local: fe80::66cc:22f1:fe16:9542  
IP6 Address Allocation: Stateless  
MAC address: 64:CC:22:16:95:42  
Status: Active

**Connected devices**

Ethernet:	2
5 GHz Wi-Fi:	0
2.4 GHz Wi-Fi:	0
Coax:	0

**Guest network** Show All

2. To view and edit the details of a specific network connection, click the hyperlinked name from the **Device options** drop-down menu. The following sections detail the types of network connection settings that you can view and configure.



## 4.1/ USING NETWORK SETTINGS

You can access and configure common network parameters:

- **Block this Device/Un-Block this Device** - Click this option to quickly enable/disable a device from having internet access.
- **Website Blocking** - To block specific websites, click Website Blocking. The Parental Controls page displays. For additional information about blocking websites, refer to Chapter 8 Setting Parental Controls.
- **Block Internet Services** - Internet services blocking prevents a device on your network from accessing specific services, such as receiving email or downloading files from FTP sites. Block Internet services by locating the device, then clicking Block Internet Services. The Access Control page displays. For additional information on blocking internet services, refer to the Access Control section in Chapter 7 Configuring Security Settings.

# USING NETWORK SETTINGS

---

- **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 Port Forwarding.

For additional information, refer to the Port Forwarding section in Chapter 7 Configuring Security Settings.

- **View Device Details** - Click View Device Details to display the Device Information page and view the selected device's information, such as IP Address, MAC address, Network Connection, Lease Type, Port Forwarding Services, as well as the **Ping Test** option.
- **Rename this Device** - To change the name of a specific device, click Rename this Device. The Rename Device page displays. If desired, enter the new device name and/or select a different icon. Click **Apply** to save changes. The Network status page will open with the new name and icon displayed.

---

05 /

# USING NETWORK CONNECTIONS

- 5.0** Accessing Network Connections
- 5.1** Network (Home/Office) Connection
- 5.2** Wi-Fi Access Point Connection
- 5.3** Ethernet Connection
- 5.4** Broadband Connection (Ethernet/Coax)

Your Fios Home Router supports various local area network (LAN) and wide area network (WAN), or internet connections using Ethernet or coaxial cables.

You can configure aspects of the network and internet connections as well as create new connections.

# ACCESSING NETWORK CONNECTIONS

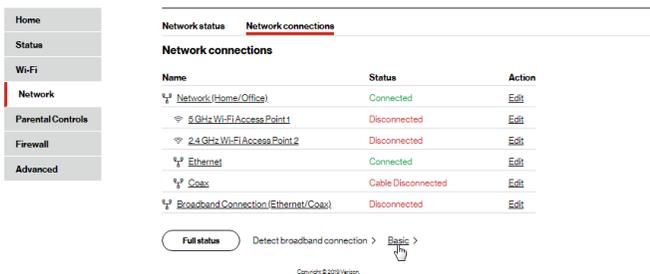
*Caution:* The settings described in this chapter should only be configured by experienced network technicians. Changes could adversely affect the operation of your router and your local network.

## 5.0/ ACCESSING NETWORK CONNECTIONS

You can access your network connections and view the connections by connection type.

To access the network connections:

1. Select **Network**, then select **Network Connections**.
2. To display all connection entries, click the **Advanced** button.



Name	Status	Action
Network (Home/Office)	Connected	Edit
5.0GHz Wi-Fi Access Point 1	Disconnected	Edit
2.4GHz Wi-Fi Access Point 2	Disconnected	Edit
Ethernet	Connected	Edit
Coax	Cable Disconnected	Edit
Broadband Connection (Ethernet/Coax)	Disconnected	Edit

Full status Detect broadband connection > Basic >

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3. To view and edit the details of a specific network connection, click the hyperlinked name or the action icon. The following sections detail the types of network connections that you can view.

## 5.1/ NETWORK (HOME/OFFICE) CONNECTION

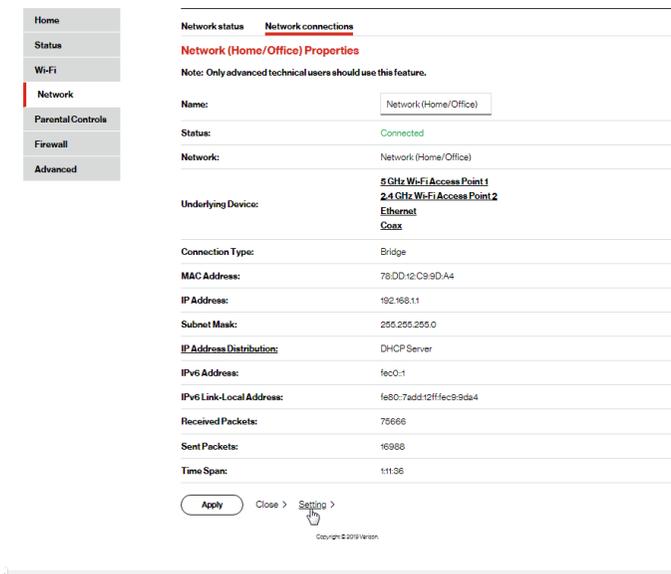
You can view the properties of your local network. This connection is used to combine several network interfaces under one virtual network. For example, you can create a home/office network connection for Ethernet and other network devices.

*Note: When a network connection is disabled, the formerly underlying devices connected to it will not be able to obtain a new DHCP address from that Fios Home Router network interface.*

*To view the connection:*

1. On the **Network Connections** page, click the **Network (Home/Office)** connection link. The **Network (Home/ Office) Properties** page displays.

# NETWORK (HOME/OFFICE) CONNECTION



2. To rename a network connection, enter the new network name in the **Name** field.
3. Click **Apply** to save the changes.

## 5.1a/ CONFIGURING THE HOME/OFFICE NETWORK

*To configure the network connection:*

1. In the **Network (Home/Office) Properties** page, click **Settings**. The configuration page displays.

- Home
- Status
- Wi-Fi
- Network**
- Parental Controls
- Firewall
- Advanced

**Network status**   **Network connections**

**Network (Home/Office) Properties**

Note: Only advanced technical users should use this feature.

**General**

Status: Connected

Network:

Connection Type:

Physical Address:

MTU:

Internet Protocol:

IP Address:

Subnet Mask:

**Bridge**

Name	VLAN	Status	Action
<input type="checkbox"/> Network (Home/Office)	Disable	<span style="color: green;">Connected</span>	
<input type="checkbox"/> Broadband Connection (Ethernet/Coax)	Disable	<span style="color: red;">Disconnected</span>	<a href="#">Edit</a>
<input checked="" type="checkbox"/> 5 GHz Wi-Fi Access Point 1	Disable	<span style="color: red;">Disconnected</span>	<a href="#">Edit</a>
<input checked="" type="checkbox"/> 2.4 GHz Wi-Fi Access Point 2	Disable	<span style="color: red;">Disconnected</span>	<a href="#">Edit</a>
<input checked="" type="checkbox"/> Ethernet	Disable	<span style="color: green;">Connected</span>	<a href="#">Edit</a>
<input checked="" type="checkbox"/> Coax	Disable	<span style="color: red;">Cable Disconnected</span>	<a href="#">Edit</a>

IP Address Distribution:

Start IP Address:

End IP Address:

WINS Server:

Lease Time in Minutes:

IP Address Distribution According to DHCP Option 60 (Vendor Class Identifier)

Vendor Class ID:	IP Address:	MAC Address:	QoS
Verizon BHRv1 DHCP Detect	192.168.1.101	64:CC:22:15:95:42	
MSFT 5.0	192.168.1.151	48:5B:39:4F:56:08	

**Routing Table**

Name	Destination	Gateway	Netmask	Metric	Status	Action
<input type="button" value="Add new route +"/>						
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>						

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2. Configure the following sections, as needed.

# NETWORK(HOME/OFFICE)CONNECTION

---

## GENERAL

In the **General** section, verify the following information:

- **Status** - displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** - displays the type of connection interface.
- **Physical Address** - displays the physical address of the network card used for the network.
- **MTU** - displays the Maximum Transmission Unit (MTU) indicating the largest packet size permitted for internet transmissions:
  - **Automatic:** sets the MTU (Maximum Transmission Unit) at 1500.
  - **Automatic by DHCP:** sets the MTU according to the DHCP connection.
  - **Manual:** allows you to manually set the MTU.
- **Internet Protocol**

In the Internet Protocol section, specify one of the following:

- **No IPv4 Address:** the connection has no IP address. This is useful if the connection operates under a bridge.
- **Obtain an IPv4 Address Automatically:** the network connection is required by Verizon to obtain an IP address automatically. The server assigning the IP

address also assigns a subnet mask address, which can be overridden by entering another subnet mask address.

- **Use the Following IP Address:** the network connection uses a permanent or static **IP address** and **Subnet Mask** address, provided by Verizon or experienced network technician.

## BRIDGE

In the **Bridge** section of the **Network (Home/Office) Properties**, you can configure the various LAN interfaces.

***Caution:** Do not change these settings unless specifically instructed to by Verizon. Changes could adversely affect the operation of your Fios Home Router and your local network.*

Verify the following information:

- **Status** – displays the connection status of a specific network connection.
- **Action** – contains an **Edit** hyperlink that, when clicked, generates the next level configuration page for the specific network connection or network device.

## IP ADDRESS DISTRIBUTION

The **IP Address Distribution** section is used to configure the Dynamic Host Configuration Protocol (DHCP) server parameters of your Fios Home Router.

# NETWORK(HOME/OFFICE)CONNECTION

---

Once enabled and configured, the DHCP server automatically assigns IP addresses to any network devices which are set to obtain their IP address dynamically.

If DHCP Server is enabled on your Fios Home Router, configure the network devices as DHCP Clients. There are 2 basic options in this section: **Disabled** and **DHCP Server**.

*To set up the Fios Home Router's network bridge to function as a DHCP server:*

1. In the **IP Address Distribution** section, select the **DHCP server**. Once enabled, the DHCP server provides automatic IP assignments (also referred to as IP leases) based on the preset IP range defined below.
  - **Start IP Address** – Enter the first IP address in the IP range that the Fios Home Router will automatically begin assigning IP addresses from. Since your Fios Home Router's IP address is 192.168.1.1, the default Start IP Address is 192.168.1.2.
  - **End IP Address** – Enter the last IP address in the IP range that the Fios Home Router will automatically stop the IP address allocation at. The maximum end IP address range that can be entered is 192.168.1.254.
2. If Windows Internet Naming Service (WINS) is being used, enter the **WINS Server** address.

3. In the **Lease Time in Minutes** field, enter the amount of time a network device is allowed to connect to the Fios Home Router with its currently issued dynamic IP address.
4. Click **Apply** to save changes.

## IP ADDRESS DISTRIBUTION ACCORDING TO DHCP OPTION 60 (VENDOR CLASS IDENTIFIER)

DHCP vendor class is related to DHCP option 60 configuration within the router. Adding option 60 configurations allows for particular vendor to get lease from a specified pool of address.

## ROUTING TABLE

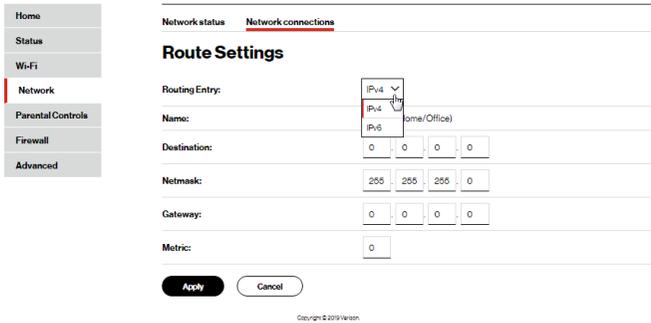
You can configure your Fios Home Router to use static or dynamic routing.

- **Static routing** – specifies a fixed routing path to neighboring destinations based on predetermined metrics.
- **Dynamic routing** – automatically adjusts how packets travel on the network. The path determination is based on network/device reachability and status of network being traveled.

*To configure routing:*

1. In the **Routing Table** section, click **Add new route** button to display and modify the new route configuration page.

# WI-FI ACCESS POINT CONNECTION



2. To save your changes click **Apply**.

## 5.2/ WI-FI ACCESS POINT CONNECTION

A Wi-Fi Access Point network connection allows Wi-Fi devices to connect to the local area network (LAN) using the 2.4 GHz or 5 GHz Wi-Fi network.

*Note: Once disabled, all Wi-Fi devices connected to that Wi-Fi network will be disconnected from the LAN network and internet.*

To view the connection settings:

1. In the **Network Connections** page, click the **Network(Home/Office)** connection link.
2. To access the **5.0GHz Wi-Fi Access Point 1 Properties** or **2.4GHz Wi-Fi Access Point 2 Properties** page, click the **5.0GHz Wi-Fi Access Point 1** or **2.4GHz Wi-Fi Access Point 2** link listed under the **Underlying Device** section.

Network status **Network connections**

**5 GHz Wi-Fi Access Point 1 Properties**

Note: Only advanced technical users should use this feature.

**Disable >**

Name:	5 GHz Wi-Fi Access Point 1
Status:	Disconnected
Network:	Network: (Home/Office)
Connection Type:	5 GHz Wi-Fi Access Point
MAC Address:	78:dd:12:c9:8da6
<u>IP Address Distribution:</u>	Disable
Received Packets:	0
Sent Packets:	13477
Time Spent:	115:36

**Apply** Close > **Setting >**

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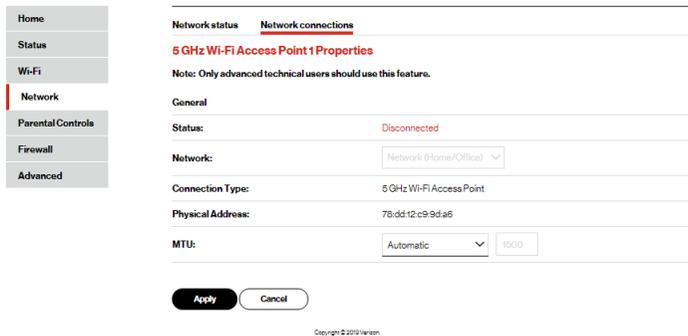
3. To disable the connection, click the **Disable** button.
4. To rename the connection, enter a name in the **Name** field.
5. Click **Apply** to save the changes.
6. Reboot your Fios Home Router.

## 5.2a/ CONFIGURING Wi-Fi ACCESS POINT PROPERTIES

*To configure the connection:*

1. In the **5.0GHz Wi-Fi Access Point 1 Properties** or **2.4GHz Wi-Fi Access Point 2 Properties** page, click **Setting**. The configuration page displays.

# WI-FI ACCESS POINT CONNECTION



## 2. Verify the following information:

- **Status** - displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** - displays the type of connection interface.
- **Physical Address** - displays the physical address of the network card used for the network.
- **MTU** - specifies the largest packet size permitted for internet transmissions:
  - **Automatic:** set the MTU (Maximum Transmission Unit) at 1500.
  - **Automatic by DHCP:** sets the MTU according to the DHCP connection.
  - **Manual:** allows you to manually set the MTU.

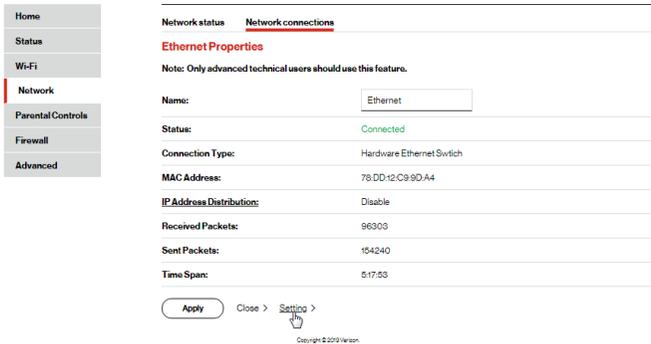
## 3. Click **Apply** to save changes.

## 5.3/ ETHERNET CONNECTION

You can view the properties of your Ethernet LAN connection using an Ethernet cable inserted into one of your Fios Home Router's Ethernet LAN ports.

*To view the connection settings:*

1. In the **Network Connections** page, click the **Network(Home/Office)** connection link.
2. Next, to access the **Ethernet Properties** page, click the **Ethernet** link listed under the **Underlying Device** section.



3. To rename the network connection, enter the new name in the **Name** field.
4. Click **Apply** to save changes.

# ETHERNET CONNECTION

## 5.3a/ CONFIGURING ETHERNET PROPERTIES

To configure the connection:

1. In the **Ethernet Properties** page, click **Settings**. The configuration page displays.

Network status	
Network connections	
<b>Ethernet Properties</b>	
Note: Only advanced technical users should use this feature.	
General	
Status:	Connected
Network:	Network (Home/Office)
Connection Type:	Hardware Ethernet Switch
Physical Address:	78:DD:12:C9:9D:A4
MTU:	Automatic 1500
HW Switch Ports:	
Port:	Status
Port1:	Disconnected
Port2:	Disconnected
Port3:	Connected 100 Mbps Full-Duplex
Port4:	Connected 1000 Mbps Full-Duplex

2. Configure the following settings, as needed.

## GENERAL

Verify the following information:

- **Status** - displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** - displays as **Hardware Ethernet Switch**.

- **Physical Address** - displays the physical address of the network card used for the network.
  - **MTU** - specifies the largest packet size permitted for
    - **Automatic**: sets the MTU (Maximum Transmission Unit at 1500).
    - **Automatic by DHCP**: sets the MTU according to the DHCP connection.
    - **Manual**: allows you to manually set the MTU.
  - **HW Switch Ports** - displays the status of each LAN port.
3. Click **Apply** to save the changes.

## 5.4/ BROADBAND CONNECTION (ETHERNET/COAX)

You can view the properties of your broadband connection (your connection to the internet). This connection may be via either Ethernet or Coaxial cable.

*To view the connection settings:*

1. In the **Network Connections** page, click the **Broadband Connection (Ethernet/Coax)** or **Coax** link.

# BROADBAND CONNECTION

The screenshot shows a web interface with a sidebar on the left containing menu items: Home, Status, Wi-Fi, Network (highlighted), Parental Controls, Firewall, and Advanced. The main content area is titled 'Network connections' and displays 'Broadband Connection (Ethernet/Coax) Properties'. A 'Disable >' button is at the top right. The properties are listed as follows:

Name:	Broadband Connection (Ethernet)
Status:	Disconnected
Network:	Broadband Connection
Connection Type:	Disconnected
MAC Address:	
IPv4 WAN Address:	0.0.0.0
Subnet Mask:	0.0.0.0
Default Gateway:	0.0.0.0
IPv4 DNSs:	0.0.0.0
IP Address Distribution:	Disable
Received Packets:	
Sent Packets:	
Coax Channel:	Cable Disconnected

At the bottom, there are buttons for 'Apply', 'Close >', and 'Setting >'. A mouse cursor is pointing at the 'Setting >' button. A small copyright notice 'Copyright © 2019 Verizon' is visible at the bottom center.

## Coax Properties

The screenshot shows the same web interface as above, but with 'Coax Properties' displayed. A 'Disable >' button is at the top right. The properties are listed as follows:

Name:	Coax
Status:	Cable Disconnected
Network:	Network (Home/Office)
Connection Type:	Hardware MoCA
MAC Address:	78:DD:12:C9:9D:A8
IP Address Distribution:	Disable
Received Packets:	0
Sent Packets:	0
Coax Channel:	Cable Disconnected

At the bottom, there are buttons for 'Apply', 'Close >', and 'Setting >'. A mouse cursor is pointing at the 'Setting >' button. A small copyright notice 'Copyright © 2019 Verizon' is visible at the bottom center.

2. To rename the network connection, enter the new name in the **Name** field.
3. Click **Apply** to save changes.

## 5.4a/ CONFIGURING THE ETHERNET/COAX CONNECTION

To configure the connection:

1. In the **Broadband Connection (Ethernet/Coax) Properties** page, click **Settings**. The configuration page displays.

Home  
Status  
Wi-Fi  
**Network**  
Parental Controls  
Firewall  
Advanced

Network status **Network connections**

**Broadband Connection (Ethernet/Coax) Properties**

Note: Only advanced technical users should use this feature.

General

Status: Disconnected

Network:

Connection Type: Disconnected

Physical Address:

MTU:

Coax Link

Privacy:  Enable

Automatically connect  
 Manual entry of privacy password:

Enable/Disable Coax Link: **Disable**

Coax Connection State: [Go to WAN Coax Stats](#)

\*WAN Coax Connection Speeds\*

Router Tx (Mbps): 0.00  
Router Rx (Mbps): 0.00

Internet Protocol:

Override Subnet Mask:

DHCP Lease: **Release** **Renew**

Expires In:

IPv4 DNS:

[Internet Connection Firewall](#)  Enable

(This feature provides the ability to change the default firewall setting on this interface. We highly recommend that you not change the default setting.)

**Apply**

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2. Configure the following settings, as needed.

# BROADBAND CONNECTION

---

## GENERAL

Verify the following information:

- **Status** - displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** - displays the type of connection interface.
- **Physical Address** - displays the physical address of the network card used for the network.
- **MTU** - specifies the largest packet size permitted for internet transmissions:
  - **Automatic**: sets the MTU (Maximum Transmission Unit at 1500).
  - **Automatic by DHCP**: sets the MTU according to the DHCP connection.
  - **Manual**: allows you to manually set the MTU.

## COAX LINK

- **Privacy** - to set **Privacy**, select the **Enabled** check box. This causes all devices connected to the coaxial cable to use the same password. This is recommended. To set the password, enter the Coax Link password in the **Password** field.
- To enable or disable the Coax link, click **Disable** or **Enable**.

- 
- To view the devices connected using the coaxial cable, click the **Go to WAN Coax Status** link.
  - In the **Internet Protocol** section, specify one of the following:
    - **No IPv4 Address:** the connection has no IP address. This is useful if the connection operates under a bridge.
    - **Obtain an IPv4 Address Automatically:** the network connection is required by Verizon to obtain an IP address automatically. The server assigning the IP address also assigns a subnet mask address, which can be overridden by entering another subnet mask address.
    - **Use the Following IP Address:** the network connection uses a permanent or static **IP address** and **Subnet Mask** address, provided by Verizon or experienced network technician.
  - To override the subnet mask, select the **Override Subnet Mask** check box, then enter the new subnet mask.
  - Click **Release/Renew** in the **DHCP Lease** field to drop/get an IP address from the DHCP server.
  - In the **Expires In** field, enter the amount of time a network device is allowed to connect to the Fios Home Router with its currently issued dynamic IP address.

# BROADBAND CONNECTION

---

- **IPv4 DNS** - selects **Obtain IPv4 DNS Address Dynamically** for using Dynamic DNS. Each time the public IP address changes, the DNS database is automatically updated with the new IPv4 address. In this way, even though the IP address changes often, the domain name remains constant and accessible.
  - **Internet Connection Firewall** - allows you to enable or disable the firewall configuration on this interface.
3. Click **Apply** to save changes.

---

06 /

# SETTING PARENTAL CONTROLS

**6.0** Activating Parental Controls

**6.1** Rule Summary

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 Fios Home Router’s Parental Controls were designed to allow control of internet access on all locally networked devices.

# ACTIVATING PARENTAL CONTROLS

---

## 6.0/ ACTIVATING PARENTAL CONTROLS

You can create a basic access policy for any computer or device on your Fios Home 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 computer access:*

1. Select **Parental Controls**.
2. In Step 1 (optional), select the computers or device where you are limiting access in the **Primary Network & Guest Network Device List** box, then click **Add**. The devices display in the **Selected Devices** section.
3. To remove a device from the **Selected Devices** list box, select the device, then click **Remove**. The device displays in the **Primary Network & Guest Network Device List** list box.
4. In Step 2, click one of the following options in the **Limit Access By** section:
  - **Block the following Websites and Embedded Keywords within a URL** – blocks the specified websites and websites with names containing the specified keyword.
  - **Allow the following Websites and Embedded Keywords within a URL** – allows the specified websites and websites with names containing the specified keyword.
  - **Block ALL Internet Access** – blocks the access to all internet websites.

## 5. Enter the name of the Website or Embedded keyword within a URL, then click Add.

ome

status

i-Fi

etwork

arental Controls

rewall

vanced

### Parental Controls Rule Summary

The router enables a user to set up Parental Controls made up of a list of website addresses and/or keywords embedded in website addresses that will limit the computer user's internet access. Simply follow the 3 Steps below and click the Apply button to set up your Parental Controls.

Verizon is now offering Home Network Protection which offers more robust security features to protect your devices in your home or business. [Click here](#) to learn more and get started using it today on the My Fios app.



**Verizon My Fios**  
The My Fios App is compatible with iPad®, iPhone® and Android™

[Download on the App Store](#) | [GET IT ON Google Play](#)

**Step 1: Select the Primary/Guest Network Device for this Allow or Block Rule.**

(?) [What's this?](#)

Primary Network & Guest Network Device List

AQ40025-NB2	<input type="button" value="Add"/>	Selected Devices
	<input type="button" value="Remove"/>	

**Step 2: Create the Parental Control Rules and Schedules.**

Limit Access By: (?) [What's this?](#)

Block the following Websites and Embedded Keywords within a URL  
 Allow the following Websites and Embedded Keywords within a URL  
 Blocking ALL Internet Access

Website

	<input type="button" value="Add"/>	
--	------------------------------------	--

Example: www.example.com

Embedded keyword within a URL

	<input type="button" value="Remove"/>	
--	---------------------------------------	--

Example: "sample" within www.sample.com

**Create Schedule** (?) [What's this?](#)

Days

Monday  Tuesday  Wednesday  Thursday  Friday  Saturday  Sunday

Times

Rule will be Active at the Scheduled Time  
 Rule will be Inactive at the Scheduled Time

Start Time:

01 : 00  AM /  PM

End Time:

06 : 00  AM /  PM

**Create Rule Name** (?) [What's this?](#)

Create your rule name and description

Rule Name

Block\_Selected

Description

Block any websites with a

**Step 3: Click the Apply button to save and apply your settings.**

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# RULE SUMMARY

- To remove a website or keyword, select the word, then click **Remove**.
- Create a schedule by selecting the days of the week when the rule will be active or inactive.
- Set the time when the rule will be active or inactive, then specify the start time and end time.
- Create a rule name and description.
- Click **Apply** to save changes.

**NEW!** The *Verizon My Fios app* provides robust security to protect your home and business networks. Click the **Click here** link to download the My Fios app for using the My Fios app on the iOS or Android OS.

## 6.1/ RULE SUMMARY

You can view the rules created for your Fios Home Router.

To view the rule summary, select **Rule Summary**. The Rule Summary page opens with the rule name, description, and computer or device displayed.

Parental Controls		Rule Summary				
Rule Name	Description	Computer/Device	Enable Rule	View Rule	Edit Rule	Delete Rule
Block_Selected	Block any websites with any of the listed words in their URLs.	A040025-NB2	<input checked="" type="checkbox"/>	<a href="#">View</a>	<a href="#">Edit</a>	<a href="#">Remove</a>

**Apply**

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You can enable, view, edit, or delete the rule; refer to Scheduler Rules for additional setting details.

---

# 07 /

# CONFIGURING SECURITY SETTINGS

- 7.0** Firewall
- 7.1** Access Control
- 7.2** Port Forwarding
- 7.3** Port Triggering
- 7.4** DMZ Host
- 7.5** Static NAT
- 7.6** IPv6 Pinholes

Your Fios Home 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.

# FIREWALL

---

*This chapter covers the following security features:*

- Firewall - select the security level for the firewall.
- Access Control - restrict access from the local network to the internet.
- Port Forwarding - enable access from the internet to specified services provided by computers on the local network.
- Port Triggering - define port triggering entries to dynamically open the firewall for some protocols or ports.
- DMZ Host - allows a single device on your primary network to be fully exposed to the internet for special purposes such as internet gaming.
- Static NAT - allow multiple static NAT IP addresses to be designated to devices on the network.
- IPv6 Pinhole - provide access tunnel to a service on a host for a particular application.
- Security Log - view and configure the security log.

## **7.0/**FIREWALL

The firewall is the cornerstone of the security suite for your Fios Home 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 Fios Home Router or rejected and barred from passing through your Fios Home 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.

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 Fios Home Router, the firewall identifies the request type and origin, such as HTTP and a specific computer in the local network. Unless your Fios Home Router is configured to block requests of this type from this computer, the firewall allows this type of request to pass to the internet.

# FIREWALL

---

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.

## 7.0a/ SETTING FIREWALL CONFIGURATION

You can select a maximum, typical, or minimum security level to block, limit, 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
Maximum	Blocked	Limited
Typical	Blocked	Unrestricted
Minimum	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

## 7.0b/ SPECIFYING GENERAL SETTINGS FOR IPV4 OR IPV6

To set your firewall configuration:

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

Home  
Status  
Wi-Fi  
Network  
Parental Controls  
**Firewall**  
Advanced

**General** Access Control Port Forwarding Port Triggering DMZ Host Static NAT IPv6 Pinholes

### IPv4 settings

**Maximum Security (high)**  
Inbound Policy: **Reject**.  
Remote Administration settings will override the security inbound policy.  
Outbound Policy: **Reject**.  
Outbound access is allowed to the following services: DHCP, DNS, IMAP, SMTP, POP3, HTTPS, HTTP, FTP, Telnet.  
 Allow outbound Set Top Box traffic

**Typical Security (medium)**  
Inbound Policy: **Reject**.  
Remote Administration settings will override the security inbound policy.  
Outbound Policy: **Accept**.

**Minimum Security (low)**  
Inbound Policy: **Accept**.  
Outbound Policy: **Accept**.

### IPv6 settings

**Maximum Security (high)**  
Inbound Policy: **Reject**.  
Outbound Policy: **Reject**.  
Outbound access is allowed to the following services: DHCP, DNS, IMAP, SMTP, POP3, HTTPS, HTTP, FTP, Telnet.

**Typical Security (medium)**  
Inbound Policy: **Reject**.  
Outbound Policy: **Accept**.

**Minimum Security (low)**  
Inbound Policy: **Accept**.  
Outbound Policy: **Accept**.

Apply

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2. Select a security level by clicking one of the radio buttons. Using the **Minimum 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** to save changes.

# ACCESS CONTROL

## 7.1/ 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.

### 7.1a/ ALLOW OR RESTRICT SERVICES

*To allow or restrict services:*

1. From the Firewall page, select **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.



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

Home Status Wi-Fi Network Parental Controls Firewall Advanced

General Access Control Port Forwarding Port Triggering DMZ Host Static NAT IPv6 Pinholes

### Add Access Control Rule

Networked Computer/Device  
Any

Protocol  
Any

When should this rule occur?  
Always  
Always  
User Defined

Cancel

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- To apply the rule to:
  - Networked Computer/Device - select **Any**.
  - Specific devices only - select **User Defined**.
- 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 **OK**. The service is automatically added to the **Add Access Control Rule** section.
- Specify when the rule is active as **Always** or **User Defined**.

Home Status Wi-Fi Network Parental Controls Firewall Advanced

General Access Control Port Forwarding Port Triggering DMZ Host Static NAT IPv6 Pinholes

### Set Rule Schedule

Rule Name  
Scheduler Rule

**Rule Settings**

Rule will be Active at the Scheduled Time  
 Rule will be Inactive at the Scheduled Time

**Rule Schedule** Action

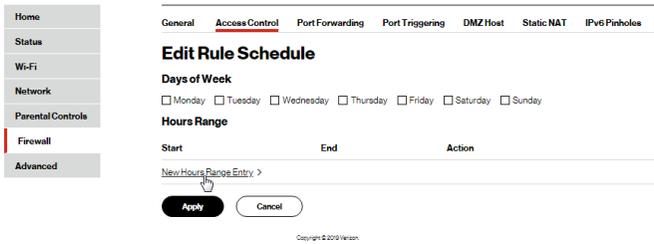
[Add rule schedule >](#)

Apply Cancel

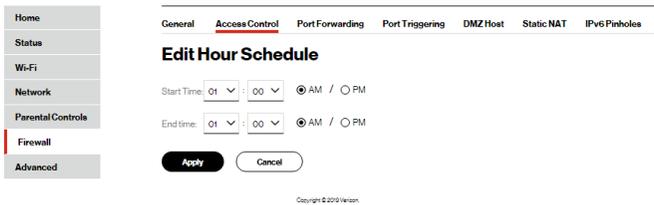
Copyright © 2019 Verizon

- Then click **Add rule schedule** to specify the days of the week when the rule will be active.

# ACCESS CONTROL



7. Click **New Hours Range Entry** and set the start time and end time when the rule will be active.



8. Click **Apply** to save changes.
9. Click **Apply** again to save all changes.
10. The Access Control page displays a summary of the new access control rule.

## 7.1b/ 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.

## 7.2/ 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.

*To create port forwarding rules:*

1. From the **Firewall** page, select **Port Forwarding**. The **Port Forwarding** page opens with the current rules displayed.

**Home**  
**Status**  
**Wi-Fi**  
**Network**  
**Parental Controls**  
**Firewall**  
**Advanced**

**General** **Access Control** **Port Forwarding** **Port Triggering** **DMZ Host** **Static NAT** **IPv6 Pinholes**

This feature enables applications (Games, Webcams, IM & Others) by opening a tunnel between remote (Internet) computers and a specific device port inside your local area network (LAN).

Create new port forwarding rule:  
Select IP from menu Application To Forward...

Add > Reset > Cancel > **Advanced** >

**Applied rules:**

Networked Computer/Device	Applications & Ports Forwarded	Status	Action
localhost 127.0.0.1	Verizon Fios Service TCP Any->4567 TCP Any->4577	Active	

**Apply**

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# PORT FORWARDING

2. To create a new rule, select the IP address in the **Select IP from menu** drop down.
3. Select the application in the **Application To Forward** drop down.
4. Click **Add**. The rule displays in the **Applied Rules** section.
5. Click **Apply** to save changes.

## 7.2a/ ADVANCED PORT FORWARDING RULES

You can configure advanced port forwarding rules.

*To configure the rules:*

1. In the **Port Forwarding** page, select **Advanced**.

Home  
Status  
Wi-Fi  
Network  
Parental Controls  
Firewall  
Advanced

General Access Control **Port Forwarding** Port Triggering DMZ Host Static NAT IPv6 Pinholes

This feature enables applications (Games, Webcam, IM & Others) by opening a tunnel between remote (Internet) computers and a specific device port inside your local area network (LAN).

Create new port forwarding rule.

Select IP from menu Custom Ports

**Advanced Settings**

Protocol Source Ports Destination Ports

TCP Any Any

Forward to Port Schedule

Same as Incoming Port Always

Add > Reset > Cancel > Basic >

**Applied rules:**

Network Computer/Device	Applications & Ports Forwarded	Status	Action
localhost 127.0.0.1	Verizon Fios Service TCP Any -> 4567 TCP Any -> 4577	Active	

Apply

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2. If needed, to select a port to forward communication to, select an option in the **Custom Ports** drop down.

3. If a single port or range of ports is selected, text boxes display. Select the **Protocol** and the port numbers.
4. To schedule the rule, select either **Always** or **User Defined** in the **Schedule** list box.
5. Click **Add**. The rule displays in the **Applied Rules** section.
6. Click **Apply** to save changes.

## 7.3/ 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:

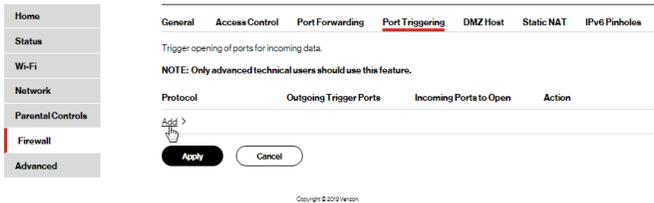
- Firewall blocks inbound traffic by default.
- Server replies to your Fios Home Router IP, and the connection is not sent back to the host since it is not part of a session.

# PORT TRIGGERING

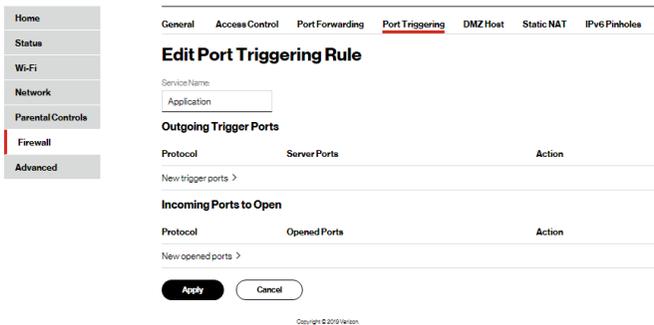
To resolve the conflict, a port triggering entry must be defined, which allows inbound traffic on UDP port 3333 only after a network host generated traffic to UDP port 2222. This results in your Fios Home Router accepting the inbound traffic from the gaming server and sending it back to the network host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

*To configure port triggering:*

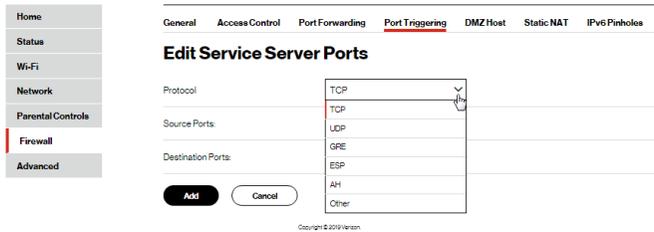
1. Select Port Triggering.



2. To add a service as an active protocol, click **Add**. The **Edit Port Triggering Rule** page displays.



3. Enter the service name then configure its inbound and outbound trigger ports. Click **Add** to save changes.



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

## 7.4/ DMZ HOST

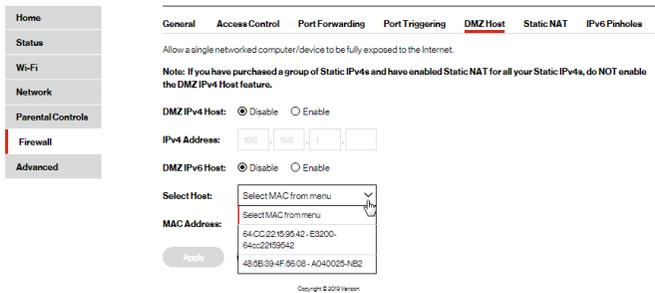
DMZ Host allows a single device on your primary network to be fully exposed to the internet for special purposes like internet gaming.

***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 **Firewall** page, select **DMZ Host**.
2. Select **Enable** for the DMZ Host.
3. Enter the IP address of the device you want to designate as the DMZ Host.
4. Click **Apply**.

# STATIC NAT



## 7.5/ STATIC NAT

Static NAT allows devices located behind a firewall that is configured with private IP addresses to appear to have public IP addresses to the internet. This allows an internal host, such as a web server, to have an unregistered (private) IP address and still be accessible over the internet.

*To configure static NAT:*

### 1. Select Static NAT.



### 2. To create a static NAT, click **Add**. The **Add NAT/NAPT Rule** page displays.

Home  
Status  
Wi-Fi  
Network  
Parental Controls  
Firewall  
Advanced

General Access Control Port Forwarding Port Triggering DMZ Host Static NAT IPv6 Pinholes

### Add NAT/NAPT Rule

Local Host  
Specify Address 192.168.1.0

Public IP Address  
0 0 0 0

Enable Port Forwarding For Static NAT

Apply Cancel

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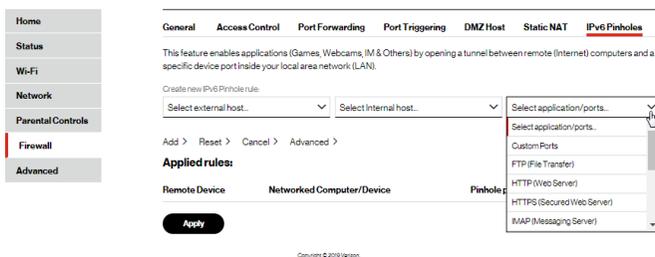
3. Select a source address in the **Specify Address** field or enter an IP address in the text box.
4. Enter the **Public IP Address**.
5. If using port forwarding, select the **Enable Port Forwarding for Static NAT** check box.
6. Click **Apply** to save changes.
7. Repeat these steps to add additional static IP addresses.

# IPV6 PINHOLES

## 7.6/ IPV6 PINHOLES

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

You can view the Pinhole rules created for your Fios Home Router. To view the rule summary, select **IPv6 Pinhole**. The screen displays opened pinhole port and its status. It shows the IP addresses of remote device and connected device on your network.



You can enable, view, edit, or delete the rules as shown on the above screen.

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08 /

# CONFIGURING ADVANCED SETTINGS

**8.0** Using Advanced Settings

**8.1** Utilities

**8.2** Network Settings

**8.3** Date And Time

**8.4** DNS Settings

**8.5** Monitoring

**8.6** System Settings

Advanced settings cover a wide range of sophisticated configurations for your Fios Home Router's firmware and network.

# USING ADVANCED SETTINGS

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*Caution:* Many of the settings described in this section should only be configured by experienced network technicians. Changes could adversely affect the operation of your Fios Home Router and local network.

## 8.0/ USING ADVANCED SETTINGS

You can access the following settings:

<p><b>Utilities</b></p> <hr/> <p><a href="#">Diagnostics</a> <a href="#">Save &amp; Restore</a> <a href="#">Reboot Router</a> <a href="#">MAC Cloning</a> <a href="#">ARP Table</a> <a href="#">NDP Table</a> <a href="#">Users</a> <a href="#">Remote Administration</a></p>	<p><b>Network Settings</b></p> <hr/> <p><a href="#">Network Objects</a> <a href="#">Universal Plug and Play</a> <a href="#">Port Forwarding Rules</a> <a href="#">IPv6</a> <a href="#">Routing</a> <a href="#">IPv4 Address Distribution</a> <a href="#">IPv6 Address Distribution</a> <a href="#">Port Configuration</a></p>	<p><b>Date &amp; Time</b></p> <hr/> <p><a href="#">Date and Time</a> <a href="#">Scheduler Rules</a></p>
<p><b>DNS Settings</b></p> <hr/> <p><a href="#">Dynamic DNS</a> <a href="#">DNS Server</a></p>	<p><b>Monitoring</b></p> <hr/> <p><a href="#">System Logging</a> <a href="#">Full Status/System-wide Monitoring of Connections/Traffic Monitoring</a> <a href="#">Bandwidth Monitoring</a></p>	<p><b>System</b></p> <hr/> <p><a href="#">System Settings</a></p>

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To access the advanced settings:

1. Select **Advanced** from the left pane.
2. Select a topic by clicking the topic name.

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## 8.1/ UTILITIES

You can access the following advanced settings:

- Diagnostics – performs diagnostic tests.
- Save and Restore – resets your Fios Home Router to its default settings.
- Reboot Router – restarts your Fios Home Router.
- MAC Cloning – clones the MAC address.
- ARP Table – displays active devices with their IP and MAC addresses.
- NDP (Neighbor Discovery Protocol) Table – displays active devices with their IPv6 and MAC addresses of DHCP connection.
- Users – creates and manages remote users.
- Remote Administration – enable remote configuration of your Fios Home Router from any internet-accessible computer.

# UTILITIES

## 8.1a/ DIAGNOSTICS

You can use diagnostics to test network connectivity.

*To diagnose network connectivity:*

1. Select **Diagnostics** in the **Utilities** section.
2. To ping an IP address, enter the IP address or domain name in the **Destination** field and click **Go**.

The screenshot shows a web interface for network diagnostics. On the left is a vertical navigation menu with the following items: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (which is highlighted with a red bar). The main content area is titled "Diagnostics" and contains a brief description: "Diagnostics can assist in testing network connectivity. This feature pings (ICMP echo) an IP address and displays the results, such as the number of packets transmitted and received, round trip time, and success status." Below this, there are two sections for pinging:

- IPv4 Ping (ICMP Echo)**: Includes a "Destination:" input field, a "Go" button, a "Number of Pings:" input field with the value "4", and a "Status:" label.
- IPv6 Ping (ICMP Echo)**: Includes a "Destination:" input field, a "Go" button, a "Number of Pings:" input field with the value "4", and a "Status:" label.

At the bottom of the main content area is a "Close" button. A small copyright notice "Copyright © 2019 Verizon" is visible at the very bottom of the page.

The diagnostics will display the number of pings, status, packets sent, and round trip time.

If no diagnostic status displays, click refresh in your web browser.

3. Click **Close** to exit the session.

## 8.1b/ SAVE AND RESTORE

You can use this functionality to save and load configuration files. These files are used to backup and restore the current configuration of your Fios Home Router.

Only configuration files saved on a specific Fios Home Router can be applied to that Fios Home Router. You cannot transfer configuration files between Fios Home Routers.

**Warning:** Manually editing a configuration file can cause your Fios Home Router to malfunction or become completely inoperable.

### Save Options

To save the configuration file:

1. Select **Save & Restore** in the **Utilities** section.

The screenshot shows the 'Save & Restore Router Configuration' page. On the left is a navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted). The main content area has the title 'Save & Restore Router Configuration' and a description: 'Saving your router configuration allows you to backup your custom settings on the router, such as your Wi-Fi names, passwords, DNS Settings, Firewall, Port Forwarding Rules, etc. These can be used in the event changes are made which make the router perform poorly or in the case of a device change.' Below this are two sections: 'Save Options' and 'Restore Options'. 'Save Options' includes radio buttons for 'Save to router and VZ Cloud' and 'Save as a File', with a 'Save configuration' button. 'Restore Options' includes radio buttons for 'Automated Backups (Set to "On" by default until disabled below)', 'Manual Backup', 'Restore Factory Defaults', 'Load a File', and 'Restore From Account'. The 'Automated Backups' option has a 'Disable & Delete Automated backups' checkbox and a 'Not Available' button. The 'Manual Backup' option has a 'Not Available' button. The 'Restore Factory Defaults' option has a 'Default Settings' dropdown menu. The 'Load a File' option has a 'Choose File' button and 'No file chosen' text. The 'Restore From Account' option has a note: 'To complete this action, use the My Fios App or My Verizon account to view your recently saved settings and restore them to the router.'

# UTILITIES

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2. Select **Save to router and VZ Cloud** or **Save as a File** to save the current configuration, then click **Save configuration**.
3. If you select **Save as a File**, the configuration file is saved to your web browser's download folder.

## Restore Options

You can restore your configuration settings to your Fios Home Router factory default settings. Restoring the default settings erases the current configuration, including user defined settings and network connections. All connected DHCP clients must request new IP addresses. Your Fios Home Router must restart.

Prior to restoring the factory defaults, you may want to save your current configuration to a file. This allows you to reapply your current settings and parameters to the default settings, as needed.

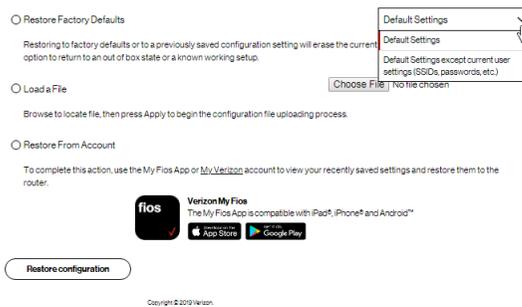
***Note:** When restoring defaults, the setting and parameters of your Fios Home Router are restored to their default values. This includes the administrator password. A user-specified password will no longer be valid.*

*To backup your Fios Home Router's settings:*

1. Select **Save & Restore** in the **Utilities** section.
2. To take a backup of the current settings, click **Automated Backups** or **Manual Backup**. You will be prompted to save a file with the extension ".enc".
3. Click **Backup** to begin the configuration backup process.

To restore your Fios Home Router's factory default settings:

1. Select **Save & Restore** in the **Utilities** section.
2. Click **Restore Factory Defaults**.



- Default Settings – will erase all router current settings including user settings for SSID and Passwords.
  - Default Settings except current user settings – will erase all router settings but will retain the user settings for SSID and passwords.
3. Click **Restore configuration** button. The factory default settings are applied and your Fios Home Router restarts. Once complete, the Login page for the First Time Easy Setup Wizard displays.

To load the configuration file:

1. Select **Save & Restore** in the **Utilities** section.
2. To load a previously saved configuration file, click **Choose File**.

# UTILITIES

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3. Browse to the location of the file, and click **Apply** to begin the configuration uploading process.
4. Accessing the **My Fios** app or the **My Verizon** account also allows you to restore the previously saved settings.
5. Click **Restore configuration** button. Your Fios Home Router will automatically restart with that configuration.

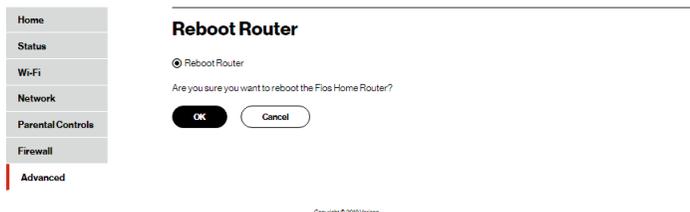
## 8.1c/ REBOOT FIOS HOME ROUTER

*Warning: Only select Reboot Router if instructed to do so by Verizon support.*

You can reboot your Fios Home Router using the Reboot Router Only feature. Refer to 1.3b/ REAR PANEL for power button options.

*To reboot your Fios Home Router using the user interface:*

1. Select **Reboot Router** in the **Utilities** section.



2. To reboot, click **OK**. Your router will reboot. This may take up to a minute.
3. To access your Fios Home Router user interface, refresh your web browser.

4. After the Router Status LED on the front panel turns solid white, you will automatically be sent to the web browser login page.

## 8.1d/ MAC CLONING

A MAC address is a hexadecimal code that identifies a device on a network. All networkable devices have a unique MAC address.

When replacing a network device on your Fios Home Router, you can simplify the installation process by copying the MAC address of the existing device to your Fios Home Router.

*To copy the MAC address of the existing device:*

1. Select **MAC Cloning** in the **Utilities** section.

The screenshot shows the router's configuration page for MAC Cloning. On the left is a navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (which is highlighted with a red bar). The main content area is titled "MAC Cloning" and includes the following text: "MAC Address Cloning provides the ability to emulate the routers MAC address to appear identical to the original hardware address. Use this feature only if your ISP requires MAC Address authentication." Below this, there are two sections: "Set MAC of Device" with a "To Physical Address" label and a text input field containing "78 : DD : 12 : C9 : 9D : A3"; and "Broadband Connection (Ethernet)" with a "Restore factory MAC address >" link. At the bottom of the form are "Apply" and "Close" buttons. A small copyright notice "Copyright © 2019 Verizon" is visible at the bottom center.

2. In the **To Physical Address** field, enter the MAC address of your new device.
3. To locate the MAC address, refer to the documentation from the device manufacturer.
4. Click **Apply** to save changes.

# UTILITIES

## 8.1e/ ARP TABLE

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

*To view the IPv4 and MAC addresses:*

1. Select **ARP Table** in the **Utilities** section.



**ARP Table**

The ARP Table below displays the IP and MAC address of each DHCP connection

IPv4 Address	MAC Address	State	Device
192.168.1.101	48:db:39:4f:56:08	REACHABLE	<a href="#">Network (Home/Office)</a>
192.168.1.101	64:cc:22:16:95:42	REACHABLE	<a href="#">Network (Home/Office)</a>

[Close](#) [Refresh >](#)

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2. Review the IPv4 and MAC address for each device.
3. When complete, click **Close**.

## 8.1f/ NDP TABLE

You can view the IPv6 and MAC addresses of each DHCP connection.

*To view the IPv6 and MAC addresses:*

1. Select **NDP (Neighbor Discovery Protocol ) Table** in the **Utilities** section.

IPv6 Address	MAC Address	State	Router	Device
fe80::11f6:b296:bd99:91d7	48:8b:39:4f:56:08	REACHABLE	No	Network (Home/Office)

2. Review the IPv6 and MAC address for each device.
3. When complete, click **Close**.

## 8.1g/ USERS

You can view the users that can currently access your Wi-Fi network. In addition, you can modify their login password and name as well as manage the number of unsuccessful login attempts a user can enter before your Fios Home Router temporarily denies all further login attempts by that user.

*To view users:*

1. Select **Users** in the **Utilities** section.

Full Name	User Name	Permissions	Action
Administrator	admin	Administrator	<a href="#">Edit</a>

# UTILITIES

2. In the **Login Configuration** section, enter the maximum number of unsuccessful login attempts.
3. To edit usernames and passwords, click the **Edit** in the **Action** column. The **User Settings** page displays.

**User Settings**

Full Name: Administrator

User Name (case sensitive): admin

Set a new password  
● [Tips for creating secure passwords](#)

New Password:

Retype New Password:

Show Password

Permissions: Administrator

**Apply** **Cancel**

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4. Edit the username and set a new password, as needed.
5. To add a new user, specify the following parameters:
  - **Full Name** - name of the user.
  - **User Name** – name the user enters to remotely access the home or office network. This field is case-sensitive.
6. To set a new Password, select the **Set a new password** check box. The **New Password** fields display.
7. Verify the level of access for the user in the **Permissions** field.
8. Click **Apply** to save changes. The **Users** page opens with the user information displayed.
9. Click **Apply** again to save changes and exit.

## 8.1h/ REMOTE ADMINISTRATION

*Caution: Enabling Remote Administration places your Fios Home Router network at risk from outside attacks.*

You can access and control your Fios Home Router not only from within the local network, but also from the internet using **Remote Administration**.

*You can allow incoming access to the following:*

- **Allow incoming WAN Access to Web Management** - used to obtain access to your Fios Home Router's GUI and gain access to all settings and parameters through a web browser.
- **Diagnostic Tools** - used for troubleshooting and remote system management by a user or Verizon.

Web Management remote administration access may be used to modify or disable firewall settings. Web Management services should be activated only when absolutely necessary.

*To enable remote administration:*

1. Select **Remote Administration**.

The screenshot shows the router's configuration interface. On the left is a navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and **Advanced**. The main content area is titled "Remote Administration" and contains the following text: "Configure Remote Administration to the router. Attention: With Remote Administration enabled, your local network will be at risk from outside attacks." Below this, there are two sections: "Allow Incoming WAN Access to Web-Management" with an unchecked checkbox "Using Primary HTTPS Port (443)", and "Diagnostic Tools" with two checked checkboxes: "Allow Incoming WAN ICMP Echo Requests (e.g. pings and ICMP traceroute queries)" and "Allow Incoming WAN UDP Traceroute Queries". At the bottom of the settings area are "Apply" and "Cancel" buttons.

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# NETWORK SETTINGS

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2. To enable access, select the check box.
3. Click **Apply** to save changes.
4. To remove access, clear the check box.
5. Click **Apply** again to save changes.

## 8.2/ NETWORK SETTINGS

You can configure the following network settings:

- **Network Objects** – defines a group, such as a group of computers.
- **Universal Plug and Play (UPnP)** – checks the validity of all UPnP services and rules.
- **Port Forwarding Rules** – displays port forwarding rules.
- **IPv6** – enables IPv6 support.
- **Routing** – manages the routing and IP address distribution rules.
- **IPv4/IPv6 Address Distribution** - adds computers configured as DHCP clients to the network.
- **Port Configuration** – sets up the Ethernet ports as either full- or half-duplex ports, at either 10 Mbps, 100 Mbps, or 1000 Mbps.

## 8.2a/ NETWORK OBJECTS

Network objects define a group, such as a group of computers, on your Fios Home Router network by MAC address, IP address, and/or host name. The defined group becomes a network object. You can apply settings, such as configuring system rules, to all devices defined in the network object.

For example, instead of setting the same website filtering configuration individually to five computers one at a time, you can define the computers as a network object. Website filtering can then be simultaneously applied to all the computers.

You can use network objects to apply security rules based on host names, instead of IP addresses. This is useful since IP addresses change from time to time. In addition, you can define network objects according to MAC address to make the rule application more persistent against network configuration settings.

*To define a network object:*

1. Select **Network Objects** in the **Network Settings** section.



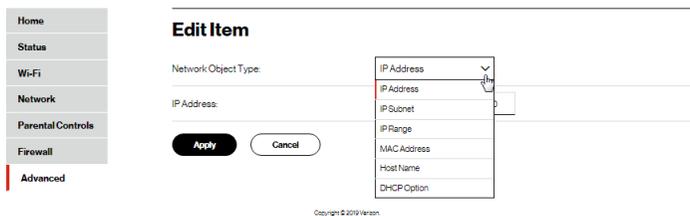
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# NETWORK SETTINGS

- To define a network object, click **Add**. The **Edit Network Objects** page displays.



- In the **Description** field, enter a name for the network object.
- Click **Add**. The **Edit Item** page displays.



- Select the type of network object as IP address, IP subnet, IP range, MAC address, host name, or DHCP option, and click **Apply** to save changes.
- Repeat the above steps to create additional network objects.
- When complete, click **Apply** to save changes.

## 8.2b/ UNIVERSAL PLUG AND PLAY

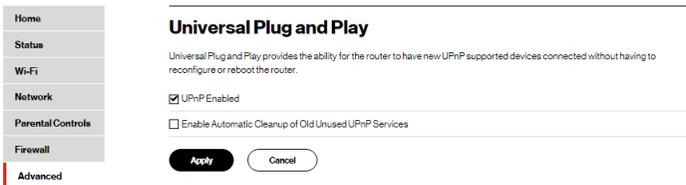
You can use Universal Plug and Play (UPnP) to support new devices without configuring or rebooting your Fios Home Router.

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. Select **Universal Plug and Play (UPnP)** in the **Network Settings** section.



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# NETWORK SETTINGS

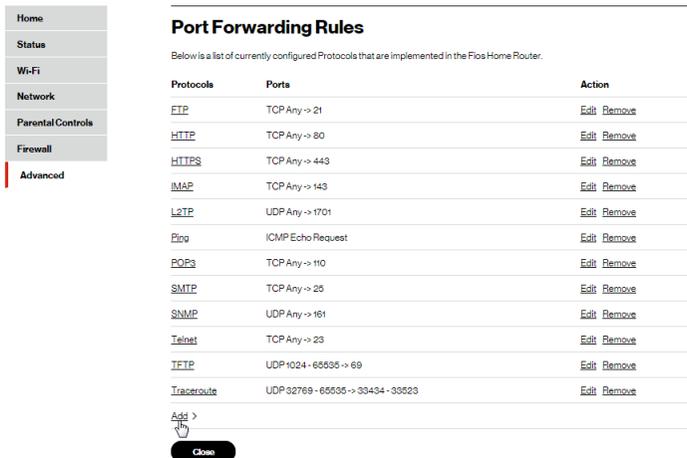
2. To enable UPnP and allow UPnP services to be defined on any network hosts, select the **UPnP Enabled** check box.
3. To enable automatic cleanup of invalid rules, select **Enable Automatic Cleanup of Old Unused UPnP Services** check box.
4. Click **Apply** to save changes.

## 8.2c/ PORT FORWARDING RULES

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

*To access the rules:*

1. Select **Port Forwarding Rules** in the **Network Settings** section.



The screenshot shows a sidebar menu on the left with the following items: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced. The 'Advanced' item is highlighted with a red vertical bar. The main content area is titled 'Port Forwarding Rules' and contains a table of currently configured protocols. Below the table is an 'Add >' button and a 'Close' button.

Protocols	Ports	Action
FTP	TCP Any -> 21	<a href="#">Edit</a> <a href="#">Remove</a>
HTTP	TCP Any -> 80	<a href="#">Edit</a> <a href="#">Remove</a>
HTTPS	TCP Any -> 443	<a href="#">Edit</a> <a href="#">Remove</a>
IMAP	TCP Any -> 143	<a href="#">Edit</a> <a href="#">Remove</a>
L2TP	UDP Any -> 1701	<a href="#">Edit</a> <a href="#">Remove</a>
Ping	ICMP Echo Request	<a href="#">Edit</a> <a href="#">Remove</a>
POP3	TCP Any -> 110	<a href="#">Edit</a> <a href="#">Remove</a>
SMTP	TCP Any -> 25	<a href="#">Edit</a> <a href="#">Remove</a>
SNMP	UDP Any -> 161	<a href="#">Edit</a> <a href="#">Remove</a>
Telnet	TCP Any -> 23	<a href="#">Edit</a> <a href="#">Remove</a>
FTP	UDP 1024 - 65535 -> 69	<a href="#">Edit</a> <a href="#">Remove</a>
Traceroute	UDP 32769 - 65535 -> 33434 - 33523	<a href="#">Edit</a> <a href="#">Remove</a>

Add >  
Close

- To edit a protocol rule, click the **Edit** icon in the Action column. The **Edit Service** page displays.

The screenshot shows a web interface with a sidebar on the left containing navigation links: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "Edit Service". It includes two text input fields: "Service Name:" with the value "GlobalApplication" and "Service Description:". Below these is a section titled "Server Ports" with a table header: "Protocol", "Server Ports", and "Action". Under the "Protocol" column, there is a link "Add server ports >". At the bottom of the form are two buttons: "Apply" and "Cancel". A small copyright notice "Copyright © 2019 Verizon" is visible at the bottom right of the form area.

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

The screenshot shows the same web interface as the previous one, but the main content area is titled "Edit Service Server Ports". It features three dropdown menus: "Protocol" (set to "TCP"), "Source Ports" (set to "Any"), and "Destination Ports" (set to "Any"). There is an "Exclude" checkbox next to the "Protocol" dropdown. At the bottom are "Add" and "Cancel" buttons. The copyright notice "Copyright © 2019 Verizon" is also present.

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

# NETWORK SETTINGS

## 8.2d/ IPv6

Use the IPv6 feature settings to enable, disable, or configure an IPv6 Internet connection and IPv6 LAN settings.

1. To configure your network to use the IPv6 Internet connection type, select IPv6 from the Advanced page to display the IPv6 service options:

The screenshot shows a network settings interface with a sidebar on the left containing menu items: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "IPv6 Configuration Control" and is divided into three sections:

- 1. Enable IPv6 Support**: Contains two radio buttons, "Enable" (which is selected) and "Disabled".
- 2. Specify the method to be used to obtain your WAN IPv6 Address**: Includes a dropdown menu for "IPv6 WAN Configuration" with options: DHCPv6-PD, None, DHCPv6-PD, Static (Auto-Configure), and Static (Manually Configure). Below this are fields for "Delegated Prefix:", "Expires In:", and "Prefix Lifetime:". At the bottom of this section are two radio buttons: "Obtain IPv6 DNS Server address automatically" (selected) and "Use the following IPv6 DNS Server addresses".
- 3. Specify the method to be used to assign LAN IPv6 addresses**: Includes a dropdown menu for "IPv6 LAN Configuration" set to "Stateless". Below this are fields for "LAN Prefix:" (set to "/64"), "IPv6 LAN Address:" (set to "fec0:1"), and "LAN Link-Local Address:" (set to "fe80::7ad412ffec99da4").

2. Select **Enable** in the **Enable IPv6 Support** field. (Once IPv6 is enabled the default setting will be IPv6 WAN as DHCPv6 and IPv6 LAN as Stateless).
3. Select the appropriate IPv6 connection method from the drop-down list (DHCPv6 or Static) to specify the method to be used to obtain your WAN IPv6 Address.
4. Click **Apply** to have changes take effect.

*Note: The Internet IPv6 service is required for this feature to work over the internet.*

- To disable the IPv6 service, click on the **Disable** option in the **Enable IPv6 Support** field.
- Click **Apply** to have changes take effect.

Once configured using valid IPv6 WAN and LAN configurations, you should not see any errors when you click on the **Apply** button and the **Status** page on the main menu will reflect the router's new IPv6 address.

You should also see the IPv6 address for all IPv6 supported devices on your local network displayed on the Network/Network Status page.

The screenshot displays the 'Network status' page with a sidebar on the left containing navigation options: Home, Status, Wi-Fi, Network (highlighted), Parental Controls, Firewall, and Advanced. The main content area is titled 'Network connections' and features a 'Show All' dropdown menu. It lists two network connections:

- Primary network** (ID: A040025-NB2):
  - Connected to: G3100
  - Connection: Ethernet
  - IPv4 Address: 192.168.1.151
  - IPv4 Address la from: DHCP
  - IPv6 Global: fe80::11f6:b296:bd9:91d7
  - IPv6 Link-local: fe80::11f6:b296:bd9:91d7
  - IPv6 Address Allocation: Stateless
  - MAC Address: 48:5b:99:4f:56:08
  - Status: Active
- E3200-64cc:22159542** (ID: E3200-64cc:22159542):
  - Connected to: G3100
  - Connection: Ethernet
  - IPv4 Address: 192.168.1.101
  - IPv4 Address la from: DHCP
  - IPv6 Global: fe80::66cc:22ff:fe15:9542
  - IPv6 Link-local: fe80::66cc:22ff:fe15:9542
  - IPv6 Address Allocation: Stateless
  - MAC Address: 64:CC:22:15:95:42
  - Status: Active

Below the connections, there is a 'Guest network' section with a 'Show All' dropdown. On the right side, a 'Connected devices' table shows the following counts:

Device Type	Count
Ethernet	2
5 GHz Wi-Fi	0
2.4 GHz Wi-Fi	0
Coax	0

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# NETWORK SETTINGS

## Static - WAN IPv6 Address Connection

The IPv6 WAN Static configurations are IPv6 settings that you enter manually. These specific IPv6 addresses and settings are not expected to change frequently.

1. To configure IPv6 WAN Static mode, select the **Static** option on the **IPv6 Configuration Control** page as shown below:

The screenshot shows the 'IPv6 Configuration Control' page. On the left is a navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled 'IPv6 Configuration Control' and contains three sections:

- 1. Enable IPv6 Support**: Includes radio buttons for 'Enable' (selected) and 'Disabled'.
- 2. Specify the method to be used to obtain your WAN IPv6 Address**: Includes a dropdown menu for 'IPv6 WAN Configuration' with options: 'Static (Auto-Configure)' (selected), 'None', 'DHCPv6-PD', 'Static (Auto-Configure)', and 'Static (Manually Configure)'. Below this are input fields for 'Assigned Prefix', 'IPv6 WAN Address', 'Default Gateway', 'IPv6 DNS Address 1', and 'IPv6 DNS Address 2'. A note states: 'Note: To reconfigure back to default values, re-select the IPv6 WAN Configuration: "Static (Auto-Configure)" menu option.'
- 3. Specify the method to be used to assign LAN IPv6 addresses**: Includes a dropdown menu for 'IPv6 LAN Configuration' with the option 'Stateless'. Below this are input fields for 'LAN Prefix' and 'IPv6 LAN Address'.

2. Specify the **Static** method to be used to obtain your WAN IPv6 Address by entering:
  - **IPv6 WAN Configuration** (select Static)
  - **Assigned Prefix** (A numeric value between 16 and 128)
  - **IPv6 WAN Address**
  - **Default Gateway:** Fios Home Router

- IPv6 (Primary) DNS Address 1
  - IPv6 (Secondary) DNS Address 2
3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## Static WAN with LAN IPv6 Stateful Settings

1. To configure IPv6 LAN Stateful mode with **Static WAN**, select the **Stateful (DHCPv6)** option on the **IPv6 Configuration Control** page as shown below:

WAN Link-Local Address:

Obtain IPv6 DNS Server address automatically  
 Use the following IPv6 DNS Server addresses

**3. Specify the method to be used to assign LAN IPv6 addresses**

IPv6 LAN Configuration: Stateful (DHCPv6)

LAN Prefix: Stateful (DHCPv6)

IPv6 LAN Address: fec0:1

DHCPv6 Client Address Range: 1000 - 2000

LAN Link-Local Address: fe80:7add:12ff:fec9:9da4

Subnet ID: 0

Router Advertisement Lifetime: 15 minutes (0-150)

IPv6 Address Lifetime: 60 minutes (3-150)

**Option**

Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side

**Apply** **Cancel**

2. Specify the **Stateful (DHCPv6)** settings to be used to assign LAN IPv6 addresses by entering the following details:
- **IPv6 LAN Configuration** (select Stateful from the dropdown list)
  - **LAN Prefix** (automatically populated)

# NETWORK SETTINGS

---

- **IPv6 LAN Address** (automatically populated)
  - **DHCPv6 Client Address Range** (start and end)
  - **LAN Link Local Address** (automatically populated)
  - **Subnet ID** - set the site topology for your internal site
  - **Router Advertisement Lifetime** (minutes between 0-150)
  - **IPv6 Address Lifetime** (minutes between 3-150)
  - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP
3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## **Static WAN with LAN IPv6 Stateless Settings**

1. To configure IPv6 LAN Stateless mode with **Static WAN**, select the **Stateless** option on the **IPv6 Configuration Control** page as shown below:

The screenshot shows the 'Firewall' settings page with the 'Advanced' tab selected. The 'Delegated Prefix' is /0, 'Expires In' is 0, and 'Prefix Lifetime' has 'Release' and 'Renew' options. Under 'WAN Link-Local Address', the 'Obtain IPv6 DNS Server address automatically' option is selected. A section titled '3. Specify the method to be used to assign LAN IPv6 addresses' contains the following fields: 'IPv6 LAN Configuration' (Stateless), 'LAN Prefix' (/64), 'IPv6 LAN Address' (fec0:1), 'LAN Link-Local Address' (fe80::7add12ff:fec9:9da4), 'Subnet ID' (0), and 'Router Advertisement Lifetime' (15 minutes). An 'Option' section has a checked box for 'Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side'. 'Apply' and 'Cancel' buttons are at the bottom.

Firewall

Advanced

Delegated Prefix: /0

Expires In: 0

Prefix Lifetime: Release > Renew >

WAN Link-Local Address:

Obtain IPv6 DNS Server address automatically

Use the following IPv6 DNS Server addresses

**3. Specify the method to be used to assign LAN IPv6 addresses**

IPv6 LAN Configuration: Stateless

LAN Prefix: /64

IPv6 LAN Address: fec0:1

LAN Link-Local Address: fe80::7add12ff:fec9:9da4

Subnet ID: 0

Router Advertisement Lifetime: 15 minutes (0-150)

**Option**

Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side

Apply Cancel

2. Specify the settings to be used to assign LAN IPv6 addresses by entering the following details:
  - **IPv6 LAN Configuration** (select Stateless from the drop-down list)
  - **LAN Prefix** (automatically populated)
  - **IPv6 LAN Address** (automatically populated)
  - **LAN Link Local Address** (automatically populated)
  - **Subnet ID** - set the site topology for your internal site
  - **Router Advertisement Lifetime** (minutes between 0-150)
  - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP

# NETWORK SETTINGS

3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## DHCPv6 PD - WAN IPv6 Address Connection

The IPv6 WAN DHCPv6 configurations are IPv6 settings that you enter that will allow your IPv6 connection to be updated by the ISP as needed.

1. To configure IPv6 WAN Stateful (DHCPv6) mode, select the **DHCPv6-PD** option on the **IPv6 Configuration Control** page as shown below:

The screenshot shows the 'IPv6 Configuration Control' page. On the left is a navigation menu with 'Advanced' selected. The main content area has three sections:

- 1. Enable IPv6 Support**:  Enable  Disabled
- 2. Specify the method to be used to obtain your WAN IPv6 Address**:
  - IPv6 WAN Configuration: **DHCPv6-PD** (selected in a dropdown menu)
  - Delegated Prefix: DHCPv6-PD
  - Expires In: [blank]
  - Prefix Lifetime: Release > Renew >
  - WAN Link-Local Address:
    - Obtain IPv6 DNS Server address automatically
    - Use the following IPv6 DNS Server addresses
- 3. Specify the method to be used to assign LAN IPv6 addresses**:
  - IPv6 LAN Configuration: Stateless
  - LAN Prefix: /64
  - IPv6 LAN Address: fec0:1
  - LAN Link-Local Address: fe80:7add12ffec99da4

2. Check to either **Obtain IPv6 DNS Server address automatically**, or **Use the following IPv6 DNS Server addresses**
3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## DHCPv6 WAN with LAN IPv6 Stateful (DHCPv6) Settings

1. To configure IPv6 WAN Stateful (DHCPv6) mode, select the **Stateful (DHCPv6)** option on the **IPv6 Configuration Control** page as shown below:

The screenshot displays the IPv6 Configuration Control page. On the left, there are navigation tabs for Parental Controls, Firewall, and Advanced. The main content area is divided into two sections: WAN and LAN configuration.

**WAN Configuration:**

- IPv6 WAN Configuration: DHCPv6-PD
- Delegated Prefix: /0
- Expires In: 0
- Prefix Lifetime: Release > Renew >
- WAN Link-Local Address: Obtain IPv6 DNS Server address automatically (selected) / Use the following IPv6 DNS Server addresses

**3. Specify the method to be used to assign LAN IPv6 addresses**

**LAN Configuration:**

- IPv6 LAN Configuration: Stateful (DHCPv6) (selected in dropdown)
- LAN Prefix: fe80::
- IPv6 LAN Address: fe80::1
- DHCPv6 Client Address Range: 1000 - 2000
- LAN Link-Local Address: fe80::7add:12ff:fec9:9da4
- Subnet ID: 0
- Router Advertisement Lifetime: 15 minutes (0-150)
- IPv6 Address Lifetime: 60 minutes (3-150)

**Option**

- Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side

Buttons: Apply, Cancel

2. Specify the **Stateful (DHCPv6)** settings to be used to assign LAN IPv6 addresses by entering the following details:
  - **IPv6 LAN Configuration** (select Stateful from the dropdown list)
  - **LAN Prefix** (automatically populated)
  - **IPv6 LAN Address** (automatically populated)
  - **DHCPv6 Client Address Range** (start and end)
  - **LAN Link Local Address** (automatically populated)

# NETWORK SETTINGS

- **Subnet ID** - set the site topology for your internal site
  - **Router Advertisement Lifetime** (minutes between 0-150)
  - **IPv6 Address Lifetime** (minutes between 3-150)
  - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP
3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## DHCPv6 WAN with LAN IPv6 Stateless Settings

1. To configure IPv6 LAN Stateless mode with DHCPv6 WAN, select the **Stateless** option on the **IPv6 Configuration Control** page as shown below:

The screenshot shows the 'Advanced' tab of the IPv6 Configuration Control page. The 'Delegated Prefix' is set to /0, 'Expires In' is 0, and 'Prefix Lifetime' is 'Release > Renew >'. Under 'WAN Link-Local Address', the 'Obtain IPv6 DNS Server address automatically' option is selected. A section titled '3. Specify the method to be used to assign LAN IPv6 addresses' contains the 'IPv6 LAN Configuration' dropdown menu, which is set to 'Stateless'. Other fields include 'LAN Prefix' (/64), 'IPv6 LAN Address' (fec0:1), 'LAN Link-Local Address' (fe80::7add12ffec99da4), 'Subnet ID' (0), and 'Router Advertisement Lifetime' (15 minutes). At the bottom, the 'Option' section has the checkbox 'Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side' checked. 'Apply' and 'Cancel' buttons are at the bottom.

Delegated Prefix:	/0
Expires In:	0
Prefix Lifetime:	Release > Renew >
WAN Link-Local Address:	
<input checked="" type="radio"/> Obtain IPv6 DNS Server address automatically	
<input type="radio"/> Use the following IPv6 DNS Server addresses	
<b>3. Specify the method to be used to assign LAN IPv6 addresses</b>	
IPv6 LAN Configuration:	Stateless
LAN Prefix:	/64
IPv6 LAN Address:	fec0:1
LAN Link-Local Address:	fe80::7add12ffec99da4
Subnet ID:	0
Router Advertisement Lifetime:	15 minutes (0-150)
<b>Option</b>	
<input checked="" type="checkbox"/> Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

- 
2. Specify the settings to be used to assign LAN IPv6 addresses by entering the following details:
    - **IPv6 LAN Configuration** (select Stateless from the drop-down list)
    - **LAN Prefix** (automatically populated)
    - **IPv6 LAN Address** (automatically populated)
    - **LAN Link Local Address** (automatically populated)
    - **Subnet ID** - set the site topology for your internal site
    - **Router Advertisement Lifetime** (minutes between 0-150)
    - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP
  3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

# NETWORK SETTINGS

## LAN IPv6 Configuration without An IPv6 WAN Connection

1. To configure IPv6 to use either the IPv6 LAN Stateful or Stateless mode without using an IPv6 Internet WAN connection, select the **None** option on the **IPv6 Configuration Control** page.

The screenshot shows a network settings page with a sidebar on the left containing menu items: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "IPv6 Configuration Control" and is divided into three sections:

- 1. Enable IPv6 Support**: Includes radio buttons for "Enable" (selected) and "Disabled".
- 2. Specify the method to be used to obtain your WAN IPv6 Address**: Features a dropdown menu for "IPv6 WAN Configuration" with options: DHCPv6-PD, None (highlighted in red), DHCPv6-PD, Static (Auto-Configure), Static (Manually Configure), Release >, and Renew >. Below this is a "WAN Link-Local Address" section with radio buttons for "Obtain IPv6 DNS Server address automatically" (selected) and "Use the following IPv6 DNS Server addresses".
- 3. Specify the method to be used to assign LAN IPv6 addresses**: Features a dropdown menu for "IPv6 LAN Configuration" set to "Stateless". Below this are fields for "LAN Prefix" (set to "/64"), "IPv6 LAN Address" (set to "fec0:1"), and "LAN Link-Local Address" (set to "fe80:7add12ffec99de4").

2. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## LAN IPv6 Stateful (DHCPv6) with No WAN Settings

1. To configure IPv6 LAN Stateful mode with No WAN connection, select the Stateful option on the IPv6 Configuration Control page as shown below:

The screenshot shows the IPv6 Configuration Control page. On the left, there are tabs for 'Firewall' and 'Advanced'. The main content area is titled '3. Specify the method to be used to assign LAN IPv6 addresses'. It includes a dropdown menu for 'IPv6 LAN Configuration' with 'Stateful (DHCPv6)' selected. Other fields include 'LAN Prefix', 'IPv6 LAN Address', 'DHCPv6 Client Address Range', 'LAN Link-Local Address', 'Subnet ID', 'Router Advertisement Lifetime', and 'IPv6 Address Lifetime'. There is also an 'Option' section with a checked checkbox for 'Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side'. At the bottom, there are 'Apply' and 'Cancel' buttons.

Delegated Prefix:	/0
Expires In:	0
Prefix Lifetime:	Release > Renew >
WAN Link-Local Address:	
<input checked="" type="radio"/> Obtain IPv6 DNS Server address automatically	
<input type="radio"/> Use the following IPv6 DNS Server addresses	
<b>3. Specify the method to be used to assign LAN IPv6 addresses</b>	
IPv6 LAN Configuration:	Stateful (DHCPv6)
LAN Prefix:	Stateful (DHCPv6)
IPv6 LAN Address:	fec0:1
DHCPv6 Client Address Range:	1000 - 2000
LAN Link-Local Address:	fe80::7add121ffec9:9da4
Subnet ID:	0
Router Advertisement Lifetime:	15 minutes (0-150)
IPv6 Address Lifetime:	60 minutes (3-150)
<b>Option</b>	
<input checked="" type="checkbox"/> Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side	
<b>Apply</b> <b>Cancel</b>	

2. Specify the **Stateful (DHCPv6)** settings to be used to assign LAN IPv6 addresses by entering the following details:
  - **IPv6 LAN Configuration** (select Stateful from the dropdown list)
  - **LAN Prefix** (automatically populated)
  - **IPv6 LAN Address** (automatically populated)
  - **DHCPv6 Client Address Range** (start and end)

# NETWORK SETTINGS

- **LAN Link Local Address** (automatically populated)
  - **Subnet ID** - set the site topology for your internal site
  - **Router Advertisement Lifetime** (minutes between 0-150)
  - **IPv6 Address Lifetime** (minutes between 3-150)
  - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP
3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

## LAN IPv6 Stateless with No WAN Settings

1. To configure IPv6 LAN Stateless mode with No WAN connection, select the **Stateless** option on the **IPv6 Configuration Control** page as shown below:

The screenshot shows the 'Advanced' tab of the IPv6 Configuration Control page. The 'WAN Link-Local Address' section has two radio buttons: 'Obtain IPv6 DNS Server address automatically' (selected) and 'Use the following IPv6 DNS Server addresses'. Below this is a section titled '3. Specify the method to be used to assign LAN IPv6 addresses'. The 'IPv6 LAN Configuration' dropdown menu is set to 'Stateless'. Other fields include 'LAN Prefix' (/64), 'IPv6 LAN Address' (fec0:1), 'LAN Link-Local Address' (fe80:7add12ff:fec9:9da4), 'Subnet ID' (0), and 'Router Advertisement Lifetime' (15 minutes (0-150)). At the bottom, there is an 'Option' section with a checked checkbox for 'Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side'. Two buttons, 'Apply' and 'Cancel', are at the bottom.

Advanced

Delegated Prefix: /0

Expires In: 0

Prefix Lifetime: Release > Renew >

WAN Link-Local Address:

Obtain IPv6 DNS Server address automatically

Use the following IPv6 DNS Server addresses

**3. Specify the method to be used to assign LAN IPv6 addresses**

IPv6 LAN Configuration: Stateless

LAN Prefix: /64

IPv6 LAN Address: fec0:1

LAN Link-Local Address: fe80:7add12ff:fec9:9da4

Subnet ID: 0

Router Advertisement Lifetime: 15 minutes (0-150)

**Option**

Allow ICMPv6 Echo Requests for LAN devices using their Global IPv6 Address from WAN side

Apply Cancel

- 
2. Specify the settings to be used to assign LAN IPv6 addresses by entering the following details:
    - **IPv6 LAN Configuration** (select Stateless from the drop-down list)
    - **LAN Prefix** (automatically populated)
    - **IPv6 LAN Address** (automatically populated)
    - **LAN Link Local Address** (automatically populated)
    - **Subnet ID** - set the site topology for your internal site
    - **Router Advertisement Lifetime** (minutes between 0-150)
    - **Option: Allow ICMPv6 Echo Request for LAN devices using their Global IPv6 Address from WAN side** - requesting an IPv6 address from any available DHCPv6 servers available on the ISP
  3. After entering all appropriate IPv6 settings, click **Apply** to have changes take effect.

# NETWORK SETTINGS

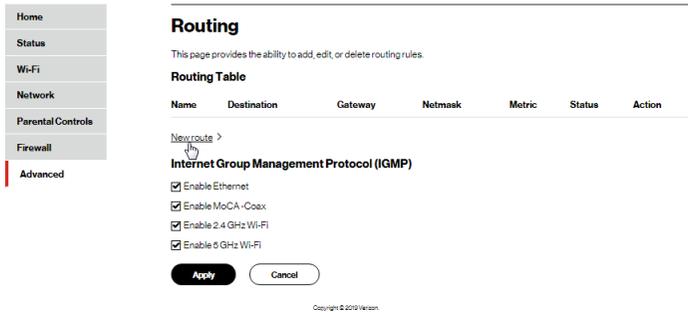
## 8.2e/ ROUTING SETTINGS

You can view the routing and IP address distribution rules as well as add, edit, or delete the rules.

### Routing Table

To view the rules:

1. Select **Routing** in the **Network Settings** section.



The screenshot shows the Network Settings interface. On the left is a sidebar with menu items: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "Routing" and includes the text: "This page provides the ability to add, edit, or delete routing rules." Below this is a "Routing Table" header and a table with columns: Name, Destination, Gateway, Netmask, Metric, Status, and Action. A "New route" link with a right-pointing arrow is visible. Below the table is the "Internet Group Management Protocol (IGMP)" section, which has four checked checkboxes: "Enable Ethernet", "Enable MoCA -Coax", "Enable 2.4 GHz Wi-Fi", and "Enable 5 GHz Wi-Fi". At the bottom of this section are "Apply" and "Cancel" buttons. A small copyright notice "Copyright © 2019 Verizon" is at the very bottom.

2. To add a new Route, click **New route**.



The screenshot shows the "Route Settings" page. The sidebar on the left is the same as in the previous screenshot. The main content area is titled "Route Settings" and contains a "Routing Entry:" label. Below it is a dropdown menu currently showing "IPv4", with a mouse cursor hovering over it. The dropdown options are "IPv4" and "IPv6". The "Name:" field contains "Home/Office". The "Destination:" field is a dotted IP address field with "0" in each of the four octets. The "Netmask:" field is a dotted IP address field with "255" in the first three octets and "0" in the fourth. The "Gateway:" field is a dotted IP address field with "0" in each of the four octets. The "Metric:" field contains "0". At the bottom are "Apply" and "Cancel" buttons. A small copyright notice "Copyright © 2019 Verizon" is at the very bottom.

3. Specify the following parameters:
  - **Name** – select the network type.
  - **Destination** - enter the destination IP of the destination host, subnet address, network address, or default route. The destination for a default route is 0.0.0.0.
  - **Netmask** – enter the network mask. This is used in conjunction with the destination to determine when a route is used.
  - **Gateway** – enter the IP address of your Fios Home Router.
  - **Metric** – enter a measurement preference of the route. Typically, the lowest metric is the most preferred route. If multiple routes exist to a specific destination network, the route with the lowest metric is used.
4. Click **Apply** to save changes.

## Internet Group Management Protocol (IGMP)

IGMP allows for managing a single upstream interface and multiple downstream interfaces of the IGMP/MLD (Multicast Listener Discovery)-based forwarding. This function enables the system to send IGMP host messages on behalf of hosts that the system discovers through standard IGMP interfaces. Also, IGMP snooping allows an Ethernet switch to “listen in” on the IGMP conversation between hosts and routers, while IGMP querier will send out periodic IGMP queries.

# NETWORK SETTINGS

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*To enable this function:*

1. Choose the IGMP interfaces by clicking on the checkboxes on the screen.
2. Click **Apply** to save changes.

## **8.2f/ IPv4 ADDRESS DISTRIBUTION**

You can easily add computers configured as DHCP clients to the network. The DHCP server provides a mechanism for allocating IP addresses to these hosts and for delivering network configuration parameters to the hosts.

For example, a client (host) sends a broadcast message on the network requesting an IP address for itself. The DHCP server then checks its list of available addresses and leases a local IP address to the host for a specific period of time and simultaneously designates this IP address as taken. At this point, the host is configured with an IP address for the duration of the lease.

The host can renew an expiring lease or let it expire. If it renews a lease, the host receives current information about network services, as it did during the original lease, allowing it to update its network configurations to reflect any changes that occurred since the first connection to the network.

If the host wishes to terminate a lease before its expiration, it sends a release message to the DHCP server. This makes the IP address available for use by other hosts.

*The DHCP server performs the following functions:*

- Displays a list of all DHCP host devices connected to your Fios Home Router
- Defines the range of IP addresses that can be allocated in the network
- Defines the length of time the dynamic IP addresses are allocated
- Provides the above configurations for each network device and can be configured and enabled or disabled separately for each network device
- Assigns a static lease to a network computer to receive the same IP address each time it connects to the network, even if this IP address is within the range of addresses that the DHCP server may assign to other computer
- Provides the DNS server with the host name and IP address of each computer connected to the network

*To view a summary of the services provided by the DHCP server:*

1. Select **IPv4 Address Distribution** in the **Network Settings** section.



### IPv4 Address Distribution

IPv4 Address Distribution provides the ability to allocate and configuration parameters to selected hosts.

Name	Service	Subnet Mask	Dynamic IP Range	Action
Network/(Home/Office)	DHCP Server	255.255.255.0	192.168.1.2-192.168.1.254	<a href="#">Edit</a>

[Connection List](#) [Close](#)

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# NETWORK SETTINGS

2. You can edit the DHCP server settings for a device. On the **IPv4 Address Distribution** page, click the **Edit** icon in the **Action** column. The DHCP Settings page opens with the device information displayed.
3. To enable the DHCP server, select **DHCP Server** in the **IPv4 Address Distribution** field.
4. Once enabled, the DHCP server provides automatic IP assignments (IP leases) based on the preset IP range defined below.

**DHCP Settings for Network (Home/Office)**

Service

IPv4 Address Distribution:

DHCP Server

Start IP address:

End IP address:

WINS Server:

Lease Time in Minutes:

IPV4 Address Distribution According to DHCP Option 60(Vendor Class Identifier)

Vendor Class ID:	IP Address:	MAC Address:	QoS
Verizon BRx1 DHCP Detect	192.168.1.101	64:CC:22:15:95:42	
MSFT 5.0	192.168.1.151	48:5B:39:4F:56:08	

5. To configure the DHCP server, complete the following fields:
  - **Start IP Address** – enter the first IP address that your Fios Home Router will automatically begin assigning IP addresses from. Since your Fios Home Router’s default IP address is 192.168.1.1, the default start IP address should be 192.162.1.2.

- **End IP Address** – enter the last IP address that your Fios Home Router will stop at for the IP address allocation. The maximum end IP address range that can be entered is 192.168.1.254.
- **WINS Server** – determines the IP address associated with a network device.
- **Lease Time in Minutes** – assigns the amount of time in minutes that each device is assigned an IP address by the DHCP server when it connects to the network.

When the lease expires, the server determines if the computer has disconnected from the network. If it has, the server may reassign this IP address to a newly connected computer.

6. Click **Apply** to save changes.

## **IPv4 Address Distribution According to DHCP option 60 (Vendor Class Identifier)**

DHCP vendor class is related to DHCP option 60 configuration within the router. User can add option 60 configurations such that particular vendor can get lease from a specified pool of address. The existing vendor class ID, IP address, MAC address and QoS are shown on the screen above.

# NETWORK SETTINGS

## DHCP Connection List

You can view a list of the connections currently assigned and recognized by the DHCP server.

To view a list of computers:

1. On the **IPv4 Address Distribution** page, click **Connection List**.
2. To define a new **Static** Connection with a fixed IP address, click **Add Static Connection**.
3. Enter the host name.
4. Enter the fixed IP address to be assigned.
5. Enter the MAC address of the network interface of the computer used with this DHCP static connection.
6. Click **Apply** to save changes.

## 8.2g/ IPv6 ADDRESS DISTRIBUTION

To view a summary of the services provided by the DHCP server:

1. Select **IPv6 Address Distribution** in the **Network Settings** section.

Home
Status
Wi-Fi
Network
Parental Controls
Firewall
Advanced

### IPv6 Address Distribution

IPv6 Address Distribution provides the ability to allocate and configuration parameters to selected hosts.

Name	Service	Prefix	IP Range	Action
Network (Home/Office)	Stateless	/64	-	-

Connection List

Close

- 
2. You can edit the DHCP server settings for a device. On the **IPv6 Address Distribution** page, click the **Edit** icon in the **Action** column. The DHCP Settings page opens with the device information displayed.
  3. To configure the DHCP server complete the following fields:
    - **Start IPv6 Address** – the starting IPv6 address in the consecutive list of addresses that makes up this LAN pool for the DHCPv6 server.
    - **End IPv6 Address** – the ending IPv6 address in the consecutive list of addresses that makes up this LAN pool for the DHCPv6 server.
    - **Lease Time in Minutes** – assigns the amount of time in minutes that each device is assigned an IP address by the DHCP server when it connects to the network.

When the lease expires, the server determines if the computer has disconnected from the network. If it has, the server may reassign this IP address to a newly connected computer.
  4. Click **Apply** to save changes.

# NETWORK SETTINGS

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## DHCP Connection List

You can view a list of the connections currently assigned and recognized by the DHCP server.

To view a list of computers:

1. On the **IPv6 Address Distribution** page, click **Connection List**.
2. To define a new **Static Connection** with a fixed IP address, click **Add Static Connection**.
3. Enter the host name.
4. Enter the fixed IP address to be assigned.
5. Enter the MAC address of the network interface of the computer used with this DHCP static connection.
6. Click **Apply** to save changes.

## 8.2h/ PORT CONFIGURATION

Ethernet port configuration allows you to set up the Ethernet ports as either full- or half-duplex ports, at either 10 Mbps, 100 Mbps, or 1000 Mbps.

*To configure the ports:*

1. Select **Port Configuration** in the **Network Settings** section.

**Ethernet Port Configuration**

Port	Speed & Duplex	Status
WAN Port	Auto	Disconnected
LAN Port 1	Auto	Disconnected
LAN Port 2	Auto	Disconnected
LAN Port 3	1000 Mbps Full-Duplex	Connected
LAN Port 4	100 Mbps Full-Duplex	Connected

**Apply** **Cancel**

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2. To emulate the speed and duplex configuration of the port with which it's communicating, select **Auto** or select the port speed and duplicity.
3. Click **Apply** to save changes.

# DATE AND TIME

## 8.3/ DATE AND TIME

You can configure the following settings:

- Date and Time Settings – sets the time zone and enables automatic time updates.
- Scheduler Rules Settings – limits the activation of firewall rules to specific time periods.

### 8.3a/ DATE AND TIME SETTINGS

You can set the time zone and enable automatic time updates.

*To configure the settings:*

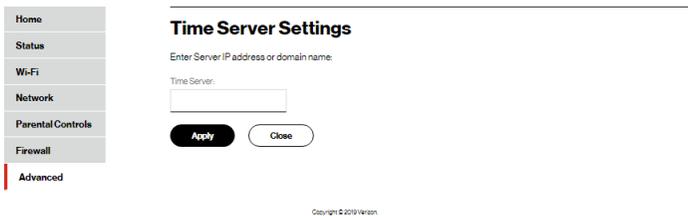
1. Select Date and Time in the Date and Time section.

The screenshot shows a web interface for configuring date and time settings. On the left is a vertical navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "Date and Time" and is divided into several sections:

- Localization**: Includes "Local Time:" and "Time Zone:" with a dropdown menu currently set to "Eastern\_Time (Default)".
- Automatic Time Update**: A checkbox labeled "Enabled" is checked. Below it, the "Protocol:" is set to "Network Time Protocol (NTP)".
- Time Server**: A table with two columns, "Time Server" and "Action". It lists two servers: "0.north-america.pool.ntp.org" and "1.north-america.pool.ntp.org", each with "Edit" and "Remove" links.
- Add**: A button with a plus sign and a hand cursor icon.
- Status**: Shows "Time update disabled." and "Last update:".
- Footer**: A note says "Press the Refresh button to update the status." Below this are three buttons: "Apply" (black), "Close" (white), and "Refresh" (white with a right arrow). A "Clock set" label is positioned between "Close" and "Refresh".

At the bottom center, there is a small copyright notice: "Copyright © 2019 Verizon."

2. Select the local time zone. Your Fios Home Router automatically detects daylight saving times for selected time zone.
3. In the **Automatic Time Update** section, select the **Enabled** check box to perform an automatic time update.
4. Define the time server addresses by clicking **Add**. The **Time Server Settings** page displays.



5. Enter the IP address or domain name of the time server, then click **Apply** to save changes.

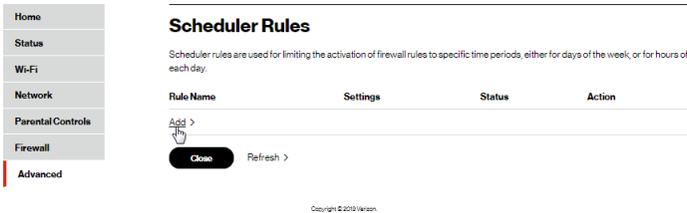
## 8.3b/ SCHEDULER RULES

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.

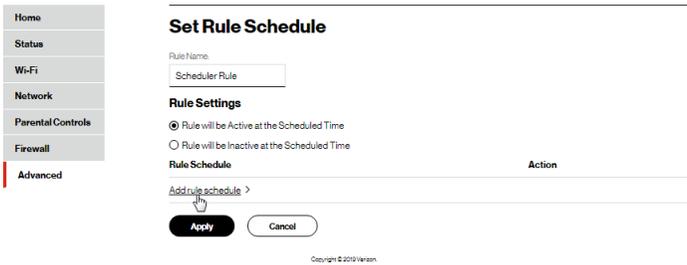
*To define a rule:*

1. Verify that the date and time of your Fios Home Router is correct.
2. Select Scheduler Rules in the Date and Time section.

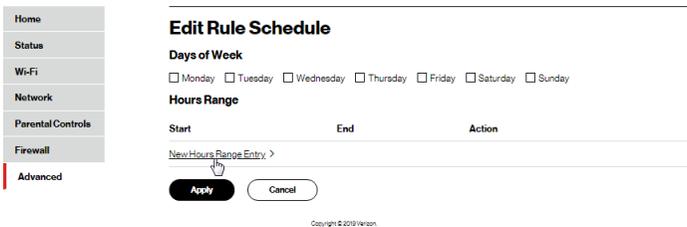
# DATE AND TIME



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



4. Enter the name of the rule.
5. In the **Rule Settings** section, specify if the rule is active at the scheduled time or inactive at the scheduled time.
6. Click the **Add rule schedule**. The **Edit Rule Schedule** page displays.



7. Select the active or inactive days of the week.

- To define a new active or inactive hourly range, click **New Hours Range Entry**.

Home  
Status  
Wi-Fi  
Network  
Parental Controls  
Firewall  
Advanced

### Edit Hour Schedule

Start Time: 01 : 00  AM /  PM

End time: 01 : 00  AM /  PM

**Apply** Cancel

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- Enter the start and end time, then click **Apply** to save changes.
- Click **Apply** again to save the rule schedule.

## 8.4/ DNS SETTINGS

You can view and manage the DNS server host name and IP address as well as add a new computer. The DNS server does not require configuration.

### 8.4a/ 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.

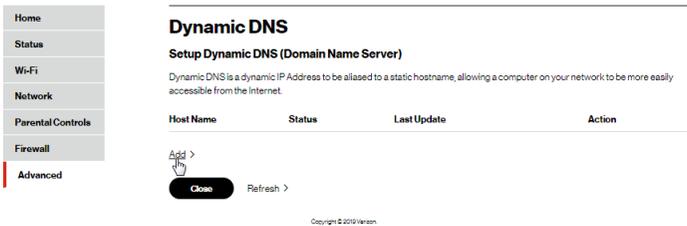
Dynamic DNS allows a static domain name to be mapped to the dynamic IP address, allowing a computer within your network to be more easily accessible from the internet.

# DNS SETTINGS

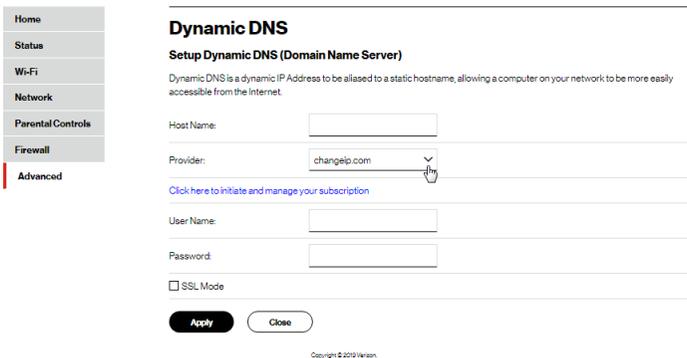
When using Dynamic DNS, each time the public IP address changes, the DNS database is automatically updated with the new IP address. In this way, even though the IP address changes often, the domain name remains constant and accessible.

To set up dynamic DNS:

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



2. To set up a new entry, click the **Add** button.



3. Configure the following parameters:
  - **Host Name** – enter the full domain name for your Dynamic DNS domain.
  - **Provider** – select the Dynamic DNS account provider from the menu.
  - **User Name** – enter your user name for your Dynamic DNS account.
  - **Password** – enter the password for your Dynamic DNS account.
  - **SSL Mode** – select if your Dynamic DNS service supports SSL.
4. Click **Apply** to save your changes.

*To edit the host name or IP address:*

1. In the **Action** column, click the **Edit** icon. The DNS Entry page displays.
2. Edit the settings.
3. Click **Apply** to save the changes.

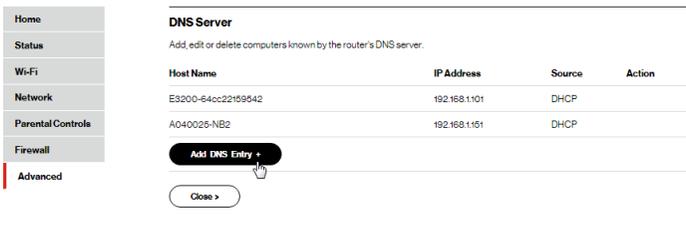
# DNS SETTINGS

## 8.4b/ DNS SERVER

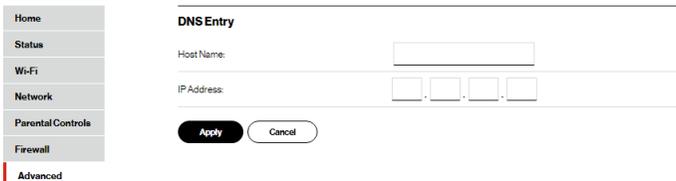
You can edit the host name and/or IP address, if the host was manually added to the DNS table. If not, you can only modify the host name.

*To access the DNS server:*

1. Select **DNS Server** in the **DNS** section.



2. To view and add computers stored in the **DNS** table, click **Add DNS Entry**. The **DNS Entry** page displays.



3. In the **Host Name** field, enter the name of the computer, then enter the **IP address** and click **Apply** to save changes.
4. Then the **DNS Server** page displays.

5. To edit the host name or IP address, click the **Edit** icon in the **Action** column. The **DNS Entry** page displays. Edit the host name and/or IP address, then click **Apply** to save changes.
6. To remove a host from the DNS table, click the **Delete** icon in the **Action** column.

## 8.5/ MONITORING

You can view the details and status of:

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

### 8.5a/ SYSTEM LOGGING

System logging provides a view of the most recent activity of your Fios Home Router. In addition, you can view additional logs, such as the security, advanced, firewall, WAN, DHCP, and LAN DHCP.

*To view the system log:*

1. In the **Monitoring** section, click the **System Logging** link.

# MONITORING

The screenshot displays the router's monitoring interface. On the left is a navigation menu with options: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted). The main content area shows a log table with columns for Time, Event-Type, Log Level, and Details. Above the table are tabs for System Log, Security Log, Advanced Log, Firewall Log, WANDHCP Log, and LANDHCP Log. Below the tabs are controls: View options (highlighted), Close, Clear log, Save log, and Refresh.

Time	Event-Type	Log Level	Details
Mar 18 05:52:53 2019	named[32671]	err<139>	client 192.168.1.251#59390 (onecs-live.azureedge.net):view internal-clients.query failed (SERVFAIL) for onecs-live.azureedge.net/IN/A at query.c:7837
Mar 18 05:52:53 2019	named[32671]	err<139>	client 192.168.1.251#61785 (www.bing.com):view internal-clients.query failed (SERVFAIL) for www.bing.com/IN/A at query.c:7837
Mar 18 05:52:52 2019	named[32671]	err<139>	client 192.168.1.251#53569 (beacons5.gvt3.com):view internal-clients.query failed (SERVFAIL) for beacons5.gvt3.com/IN/A at query.c:7837
Mar 18 05:52:50 2019	named[32671]	err<139>	client 192.168.1.251#60570 (time.windows.com):view internal-clients.query failed (SERVFAIL) for time.windows.com/IN/A at query.c:7837
Mar 18 05:52:49 2019	named[32671]	err<139>	client 192.168.1.251#55845 (edf.eset.com):view internal-clients.query failed (SERVFAIL) for edf.eset.com/IN/A at query.c:7837
Mar 18 05:52:48 2019	named[32671]	err<139>	client 192.168.1.251#52457 (time.windows.com):view internal-clients.query failed (SERVFAIL) for time.windows.com/IN/A at query.c:7837
Mar 18 05:52:46 2019	named[32671]	err<139>	client 192.168.1.251#53179 (clients2.google.com):view internal-clients.query failed (SERVFAIL) for clients2.google.com/IN/A at query.c:7837

2. To view a specific type of log event such as Security Log, WAN DHCP Log, etc., click the appropriate link in the menu on the top.
3. To update the data, click **Refresh**.

## 8.5b/ FULL STATUS/SYSTEM WIDE MONITORING OF CONNECTIONS

You can view a summary of the monitored data collected for your Fios Home Router.

*To view your Fios Home Router's full system status and traffic monitoring data:*

1. In the **Monitoring** section, click **Full Status/System wide Monitoring of Connections/Traffic Monitoring**.

- Home
- Status
- Wi-Fi
- Network
- Parental Controls
- Firewall
- Advanced

**Network connections**

Name	Network (Home/Office)	Broadband Connection (Ethernet/Coax)	5 GHz Wi-Fi Access Point 1	2.4 GHz Wi-Fi Access Point 2	Ethernet	Coax
Status	Connected	Disconnected	Disconnected	Disconnected	Connected	Cable Disconnected
Network	Network (Home/Office)	Broadband Connection (Ethernet/Coax)	Network (Home/Office)	Network (Home/Office)	Network (Home/Office)	Network (Home/Office)

Underlying Device  
[5 GHz Wi-Fi Access Point 1](#)  
[2.4 GHz Wi-Fi Access Point 2](#)  
[Ethernet](#)  
[Coax](#)

Connection type	Bridge	Disconnected	5 GHz Wi-Fi Access Point 1	2.4 GHz Wi-Fi Access Point 2	Ethernet	Hardware MoCA
MAC Address	78:DD:12:C9:9D:A4		78:dd:12:c9:9d:a6	78:dd:12:c9:9d:a5	78:DD:12:C9:9D:A4	78:DD:12:C9:9D:A8
Subnet Mask	255.255.255.0	0.0.0.0				
Default Gateway	192.168.1.1	0.0.0.0				

IPv4 DNS 0.0.0.0

IP Address Distribution	DHCP Server	Disable	Disable	Disable	Disable	Disable
-------------------------	-------------	---------	---------	---------	---------	---------

IPv6 Address fec0::1

IPv6 Link-Local Address fe80:7add:12ff:fec9:9da4 fe80:7add:12ff:fec9:9da6 fe80:7add:12ff:fec9:9da5 fe80:7add:12ff:fec9:9da4 fe80:7add:12ff:fec9:9da4

IPv6 DNS Address 1

IPv6 DNS Address 2

Received Packets	330760	0	0	0	88741	0
Sent Packets	60264	0	48381	48387	159462	0
Receive Bytes	56234929	0	0	0	14346472	0
Sent Bytes	16916881	0	13690888	13691370	35989356	0
Receive Errors	0	0	0	0	0	0
Receive Drops	32	0	31	40	0	0
Time Span	4:18:05		4:18:05	4:18:05	4:18:06	

Automatic refresh > Reset statistics > Refresh >

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# MONITORING

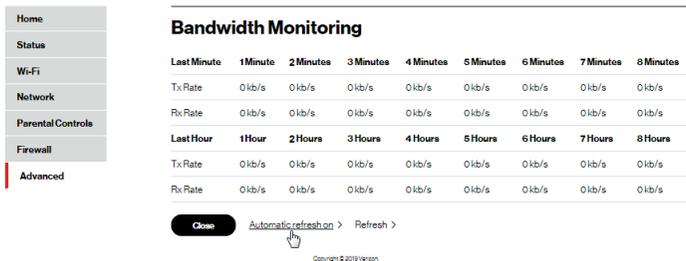
2. To modify the connection properties, click the individual connection links.
3. To refresh the page, click **Refresh**.
4. To continuously refresh the page, click **Automatic refresh on**.

## 8.5c/ BANDWIDTH MONITORING

You can view and monitor the recorded bandwidth usage measured in Kbps.

*To view the bandwidth:*

1. In the **Monitoring** section, select **Bandwidth Monitoring**.



The screenshot shows a web interface with a sidebar menu on the left and a main content area. The sidebar menu includes: Home, Status, Wi-Fi, Network, Parental Controls, Firewall, and Advanced (highlighted with a red bar). The main content area is titled "Bandwidth Monitoring" and contains two tables. The first table shows bandwidth usage for the last 8 minutes, and the second table shows usage for the last 8 hours. Both tables have columns for Tx Rate and Rx Rate. At the bottom of the main content area, there are three buttons: "Close", "Automatic refresh on" (with a mouse cursor pointing to it), and "Refresh".

	Last Minute	1 Minute	2 Minutes	3 Minutes	4 Minutes	5 Minutes	6 Minutes	7 Minutes	8 Minutes
Tx Rate	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s
Rx Rate	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s

	Last Hour	1 Hour	2 Hours	3 Hours	4 Hours	5 Hours	6 Hours	7 Hours	8 Hours
Tx Rate	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s
Rx Rate	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s	0 kb/s

Close Automatic refresh on Refresh

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2. To refresh the page, click **Refresh**.
3. To continuously refresh the page, click **Automatic refresh on**.

## 8.6/ SYSTEM SETTINGS

You can configure various system and management parameters.

*To configure system settings:*

1. Select System Settings in the **System** section.

**System Settings**

**Router Status**

Fios Home Router's Hostname:

Local Domain:

**Fios Home Router**

Automatic Refresh of System Monitoring Web Pages

Prompt for Password When Accessing via LAN

Warn User Before Configuration Changes

Session Lifetime:  Seconds

Configure number of concurrent users that can be logged into the router:

**Remote Administration**

**Management Application Ports**

Primary HTTPS Management Port:

**System Logging**

Enable Logging

Remote System Notify Level:

**Security Logging**

Remote Security Notify Level:

**Auto WAN Detection**

DHCP Timeout:  Seconds

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# SYSTEM SETTINGS

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2. In the **Router Status** section, configure the following:
  - **Fios Home Router's Hostname** – enter the host name or URL address of your Fios Home Router. Both names are the same.
  - **Local Domain** – view the local domain of the network.
3. In the **Fios Home Router** section, configure the following by selecting the check box:
  - **Automatic Refresh of System Monitoring Web Pages** – activates the automatic refresh of system monitoring web pages.
  - **Prompt for Password when Accessing via LAN** – causes your Fios Home Router to ask for a password when trying to connect to the network.
  - **Warn User Before Configuration Changes** – activates user warnings before network configuration changes take effect.
4. In the **Session Lifetime** field, specify the length of time required before re-entering a user name and password after your Fios Home Router has been inactive.
5. In the **Configure number of concurrent users that can be logged into the router** field, select the number of users that can access your Fios Home Router at the same time.
6. Select **Remote Administration** to configure the remote administration to your Fios Home Router.

7. In the **Management Application Ports** section, change the primary HTTP management and SSH ports.  
Refer to 8.1h Remote Administration for using this feature.
8. In the **System Logging** section, configure the following system log options:
  - **Enable Logging** – activates system logging.
  - **Remote System Notify Level** – specify the type of information, such as none, error, warning, and information, received for remote system logging.
9. In the **Security Logging** section, configure the following security logging options:
  - **Low Capacity Notification Enabled** – activates low capacity notification. This works in conjunction with the **Allowed Capacity before Email Notification** and **System Log Buffer Size**.
  - **Allowed Capacity before Email Notification** – specify the capacity before an email notification is sent.
  - **System Log Buffer Size** – specify the size of the system log buffer.
10. In the **Auto WAN Detection** section, specify the DHCP timeout.
11. Click **Apply** to save changes.

---

09 /

# TROUBLE SHOOTING

**9.0** Troubleshooting Tips

**9.1** Frequently Asked Questions

---

This chapter lists solutions for issues that may be encountered while using your Fios Home Router as well as frequently asked questions.

Although the majority of the Fios Router's internet connectivity is automatic and transparent, if an issue does occur accessing the internet (e.g. complete loss of connectivity, inability to access services, etc.), you may need to take additional steps to resolve the problem.

# TROUBLESHOOTING TIPS

---

*Note: The advanced settings should only be configured by experienced network technicians to avoid adversely affecting the operation of your Fios Home Router and your local network.*

## **9.0/ TROUBLESHOOTING TIPS**

### **9.0a/ IF YOU ARE UNABLE TO CONNECT TO THE INTERNET:**

- The first thing to check is whether your Fios Home Router is powered on and is connected to the internet. Check the Router Status LED on the front of the Fios Home Router. Be sure to refer to the “1.3a/ FRONT PANEL” on page 10 to determine status of the Fios Home Router. Check the WAN cable (Ethernet or coaxial) connecting your Fios Home Router to the internet to make sure it is properly connected on both ends.
- If the prior tips do not resolve your connection issue, try restarting (rebooting) the router portion of the Fios Home Router by manually pressing the protruding ‘red’ reset power button on the rear panel of the Fios Home Router for 2-4 seconds (the Router Status LED should go off) to begin rebooting your Fios Home Router. Your Fios Home Router will begin rebooting and will return to service in 3 - 5 minutes depending on your network connection. Check Router Status LED and if it is solid white, try again to access the internet.

- If rebooting your router does not resolve your connection issue, try power cycling the Fios Home Router by unplugging the power cable from the adapter or the wall and wait 2 minutes. During the 2 min. wait period, also power cycle the network device (e.g. the computer, tablet, etc.) and then plug the power cable back into the Fios Home Router. After 3-5 minutes, recheck the Router Status LED and try again to access the internet.

### **9.0b/ IF YOU ARE UNABLE TO CONNECT TO YOUR FIOS HOME ROUTER USING WI-FI:**

- Be sure your Wi-Fi device is within range of your Fios Home Router; move it closer to see if your connection improves.
- Check your network device's Wi-Fi settings to be sure your device's Wi-Fi is on (enabled) and that you have the correct Wi-Fi network and password (if using a Wi-Fi password) as configured on your Fios Home Router.
- Be sure you are connecting to the correct Wi-Fi network; check to be sure you are using your Fios Home Router's SSID. In some cases, if using a Wi-Fi password, you may need to enter the Wi-Fi password into your network device again to be sure your device accepts the password.
- Check to be sure you are running the latest software for your network device.

# TROUBLESHOOTING TIPS

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- Try turning your network device's Wi-Fi off and on, and try to connect.
- If you have made any changes in your network settings and turning your network device's Wi-Fi off and on does not help, try to restart your network device.
- You may need to turn the Wi-Fi settings from on to off, and back to on again and apply the changes.
- If you are still unable to access your Fios Home Router, you may need to try connecting to the Fios Home Router using another network device. If the issue goes away with another network device, the issue is likely with that individual network device's configuration.

## **9.0c/ ACCESSING YOUR FIOS HOME ROUTER IF YOU ARE LOCKED OUT**

- If your Fios Home Router connection is lost while making configuration changes, a setting that locks access to your Fios Home Router's GUI may have inadvertently been activated.

*The common ways to lock access to your Fios Home Router are:*

- Scheduler - If a schedule has been created that applies to the computer over the connection being used, your Fios Home Router will not be accessible during the times set in the schedule.
- Access Control - If the access control setting for the computer is set to block the computer, access to your Fios Home Router is denied.

To gain access, restore the default settings to your Fios Home Router.

## **9.0d/ RESTORING YOUR FIOS HOME ROUTER'S DEFAULT SETTINGS**

There are two ways to restore your Fios Home Router's default settings. It is important to note that after performing either procedure, all previously save settings on your Fios Home Router will be lost.

For additional information regarding the Restore Defaults feature, refer to section 8.1/ Utilities/Save And Restore.

- Using the tip of a ballpoint pen or pencil, press and hold the Reset button on the back of your Fios Home Router for three seconds.
- Access the GUI and navigate to the Advanced Settings page. Select the 8.1b Save and Restore option. After saving your configuration, if desired, click the Restore Factory Defaults radio button. For additional details, refer to the 8.1/ Utilities/Save And Restore section of this guide.

**Note:** *If you reset or reboot your Fios Home Router, you may also need to disconnect your Fios Home Router's power supply for a few minutes (3 or more) and then reconnect the power cable. However, in order to provide full synchronization to the coaxial network, disconnecting and reconnecting the power may be required.*

# TROUBLESHOOTING TIPS

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## **9.0e/ LAN CONNECTION FAILURE**

*To troubleshoot a LAN connection failure:*

- Verify your Fios Home Router is properly installed, LAN connections are correct, and that the Fios Home Router and communicating network devices are all powered on.
- Confirm that the computer and Fios Home Router are both on the same network segment.

If unsure, let the computer get the IP address automatically by initiating the DHCP function, then verify the computer is using an IP address within the default range of 192.168.1.2 through 192.168.1.254. If the computer is not using an IP address within the correct IP range, it will not connect to your Fios Home Router.

- Verify the subnet mask address is set to 255.255.255.0.

## **9.0f/ TIMEOUT ERROR OCCURS WHEN ENTERING THE URL OR IP ADDRESS**

*Verify the following:*

- All computers are working properly.
- IP settings are correct.
- Fios Home Router is on and connected properly.
- Fios Home Router settings are the same as the computer.

---

*For connections experiencing lag or a slow response:*

- Check for other devices on the network utilizing large portions of the bandwidth and if possible temporarily stop their current utilization and recheck the connection.
- If lag still exists, clear the cache on the computer and if still needed, unplug the Ethernet cable or disable the Wi-Fi connection to the computer experiencing the slow connection and then reconnect or enable the Wi-Fi connection and try the connection again.

*In rare cases you may also need to:*

- Unplug the Ethernet cable to Fios Home Router and restart the Fios Home Router, wait 1-2 mins. and insert the Ethernet cable again.
- Under limited circumstances you may use a port forwarding configuration on the router, based on the application you are using (refer to the 7.2/ Port Forwarding section or Verizon's support online help for more details).

# TROUBLESHOOTING TIPS

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## 9.0g/ FRONT UNIFIED BUTTON

The front panel's Unified Button allows quick access to the Wi-Fi Protected Setup (WPS) feature and handset paging/paring mode. In addition, the Unified Button provides a visual display of the Fios Home Router's current condition. Refer to the chart below for details.

Condition Status	LED Color	Fios Home Router
Normal	WHITE	Normal operation (solid) Router is booting. (fast blink)
	BLUE	Pairing mode (slow blink) Pairing successful (solid)
	GREEN	Wi-Fi has been turned off. (solid)
Issue(s)	YELLOW	No internet connection (solid)
	RED	Hardware/System failure detected (solid) Overheating (fast blink) Pairing Failure (slow blink)
Power	OFF	Power off

## 9.0h/ REAR LIGHTED INDICATORS

### Flash Speed

- Slow flash – Two times per second
- Fast flash – Four times per second

## **WAN Ethernet**

- Unlit – Indicates no Ethernet link
- Solid green – Indicates a network link
- Fast flash green – Indicates network activity. The traffic can be in either direction.

## **LAN Ethernet – Upper LED**

- Unlit – Indicates no 1 Gbps link
- Solid green – Indicates 1 Gbps link
- Fast flash green – Indicates LAN activity. The traffic can be in either direction.

## **LAN Ethernet – Lower LED**

- Unlit – Indicates no 10/100/1000 Mbps link
- Solid green – Indicates 10/100/1000 Mbps link

## **LAN Coax**

- Unlit – Indicates no MoCA network connection to the device
- Solid green – Indicates network link

## **WAN Coax**

- Unlit – Indicates no link to the upstream MoCA device
- Solid green – Indicates network link
- Fast flash green – Indicates LAN activity. The traffic can be in either direction

# FREQUENTLY ASKED QUESTIONS

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## 9.1/ FREQUENTLY ASKED QUESTIONS

### 9.1a/ I'VE RUN OUT OF ETHERNET PORTS ON MY FIOS HOME ROUTER. HOW DO I ADD MORE COMPUTERS OR DEVICES?

Plugging in an Ethernet hub or switch expands the number of ports on your Fios Home Router.

- Run a straight-through Ethernet cable from the Uplink port of the new hub to the Fios Home Router.

Use a crossover cable if there is no Uplink port/switch on your hub, to connect to the Fios Home Router.

- Remove an existing device from the yellow Ethernet port on your Fios Home Router and use that port.

### 9.1b/ HOW DO I CHANGE THE PASSWORD ON MY FIOS HOME ROUTER GUI?

*To change the password:*

1. On the main screen, select **Advanced**, then select **Users** in the **Utilities** section.
2. Click the **Edit** in the **Action** column. The **User Settings** page displays.
3. Edit the user name and set a new password.

---

**9.1c/ IS THE WI-FI OPTION ON BY DEFAULT ON MY FIOS HOME ROUTER?**

Yes, your Fios Home Router's Wi-Fi option is activated out of the box.

**9.1d/ IS THE WI-FI SECURITY ON BY DEFAULT WHEN THE WI-FI OPTION IS ACTIVATED?**

Yes, with the unique WPA2 (Wi-Fi Protected Access II) key that is printed on the sticker on the rear panel of your Fios Home Router.

**9.1e/ WHICH CONNECTION SPEEDS DOES MY FIOS HOME ROUTER SUPPORT?**

The Ethernet WAN Internet connection supports 10/100/1000 Mbps. The LAN Ethernet connections support 10/100/1000 Mbps. The 802.11ax Wi-Fi connection supports up to 4800 Mbps. The 802.11ac Wi-Fi connection supports up to 3120 Mbps and the 802.11n supports up to 450 Mbps, depending on signal quality.

**9.1f/ ARE MY FIOS HOME ROUTER'S ETHERNET PORTS AUTO-SENSING?**

Yes. Either a straight-through or crossover Ethernet cable can be used.

# FREQUENTLY ASKED QUESTIONS

---

## **9.1g/ CAN I USE AN OLDER WI-FI DEVICE TO CONNECT TO MY FIOS HOME ROUTER?**

Yes, your Fios Home Router can interface with 802.11b, g, n, ac or ax devices. Your Fios Home Router also can be setup to handle only n Wi-Fi cards, g Wi-Fi cards, b Wi-Fi cards, or any combination of the three.

## **9.1h/ CAN MY WI-FI SIGNAL PASS THROUGH FLOORS, WALLS, AND GLASS?**

The physical environment surrounding your Fios Home Router can have a varying effect on signal strength and quality. The denser the object, such as a concrete wall compared to a plaster wall, the greater the interference. Concrete or metal reinforced structures experience a higher degree of signal loss than those made of wood, plaster, or glass.

## **9.1i/ HOW DO I LOCATE THE IP ADDRESS THAT MY COMPUTER IS USING?**

In Windows 7 or Windows 10, click the Windows button and select Control Panel, then click View Network Status and Tasks. In the next window, click Local Area Connection. In the Local Area Network Connection Status window, click Details.

On Mac OS X, open System Preferences and click the Network icon. The IP address displays near the top of the screen.

---

**9.1j/ I USED DHCP TO CONFIGURE MY NETWORK. DO I NEED TO RESTART MY COMPUTER TO REFRESH MY IP ADDRESS?**

No. In Windows 7, Windows 10 and OSX, unplug the Ethernet cable or Wi-Fi card, then plug it back in.

**9.1k/ I CANNOT ACCESS MY FIOS HOME ROUTER GUI. WHAT SHOULD I DO?**

If you cannot access the GUI, verify the computer connected to your Fios Home Router is set up to dynamically receive an IP address.

**9.1l/ I HAVE A FTP OR WEB SERVER ON MY NETWORK. HOW CAN I MAKE IT AVAILABLE TO USERS ON THE INTERNET?**

For a web server, enable port forwarding for port 80 to the IP address of the server. Also, set up the web server to receive that port. Configuring the server to use a static IP address is recommended.

For a FTP server, enable port forwarding for port 21 to the IP address of the server. Also, set up the web server to receive that port. Configuring the server to use a static IP address is recommended.

# FREQUENTLY ASKED QUESTIONS

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## **9.1m/ HOW MANY COMPUTERS CAN BE CONNECTED THROUGH MY FIOS HOME ROUTER?**

Your Fios Home Router is capable of 254 connections, but we recommend having no more than 45 connections. As the number of connections increase, the available speed for each computer decreases.

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# **SPECIFICATIONS**

**10.0** General Specifications

**10.1** LED Indicators

**10.2** Environmental Parameters

The specifications for your Fios Home Router are as follows.

This includes standards, cabling types and environmental parameters.

# GENERAL SPECIFICATIONS

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*Note: The specifications listed in this chapter are subject to change without notice.*

## **10.0/ GENERAL SPECIFICATIONS**

Model Number: G3100

Standards: IEEE 802.3x, 802.3u  
IEEE 802.11a/b/g/n/ac/ax

IP: IP versions 4 and 6

MoCA WAN: 975 - 1025 MHz  
175 Mbps

MoCA LAN: 1125 – 1675 MHz  
2500 Mbps

Speed: Wired WAN Ethernet:  
10/100/1000 Mbps auto-sensing  
  
Wired LAN Ethernet:  
10/100/1000 Mbps auto-sensing  
  
Cabling Type: Ethernet 10BaseT:  
UTP/STP Category 3 or 5  
  
Ethernet 100BaseT: UTP/STP  
Category 5  
  
Ethernet 1000BaseT: UTP/STP  
Category 5e

Firewall: ICSA certified

## 10.1/ LED INDICATORS

Front Panel:	Unified Button: Router Status LED
Rear Panel:	WAN Coax, LAN Coax, WAN Ethernet, and LAN Ethernet [4]

## 10.2/ ENVIRONMENTAL PARAMETERS

### DIMENSIONS AND WEIGHT

Fios Home Router (unit only):

Size: 5.32" wide x 9.27" high x 5.94" deep

Weight: 2.50 lbs / 1.138 kg

Complete System (inc. packaging):

Size: 12.24" wide x 6.26" high x 7.09" deep

Weight: 4.00 lbs ~ 4.05 lbs / 1.81 kg ~ 1.83 kg

Power: External, 12V, 3.5A

Screws (optional): PH TP+N: 0.157" x 0.984"  
Anchor PE: 0.197" x 0.984"

Certifications: FCC, UL 60950-1

# ENVIRONMENTAL PARAMETERS

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Operating Temperature: 5° C to 40° C (41° F to 104° F)

Storage Temperature: -5° C to 50° C (23° F to 122° F)

Operating Humidity: 5% to 85%

Storage Humidity: 5% to 93% (non-condensing)

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# NOTICES

**11.0** Regulatory Compliance Notices

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This chapter lists various compliance and modification notices, as well as the NEBS requirements and GPL.

# REGULATORY COMPLIANCE NOTICES

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## **11.0/ REGULATORY COMPLIANCE NOTICES**

### **11.0a/ Class B Equipment**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This device complies with Part 15 of the FCC Rules. Operation is subject 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.

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

RF Exposure:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 32 cm between the radiator & your body.

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

2.4GHz operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

This device is restricted for indoor use.

# REGULATORY COMPLIANCE NOTICES

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## **11.0b/ Safety Warning:**

1. The circuit of cable distribution system under consideration is TNV-1 circuit.
2. The common sides or earthed side of the circuit are connected to the screen of the coaxial cable through an antenna connector of tuner and to all accessible parts and circuits (SELV, LCC and accessible metal parts).
3. The screen of the coaxial cable is intended to be connected to earth in the building installation.

## **11.0c/ Alerte de sécurité:**

1. Le circuit de distribution par câble considéré est le circuit TNV-1.
2. Les côtés communs ou côté terre du circuit sont connectés à l'écran du câble coaxial via un connecteur d'antenne du syntoniseur et à toutes les parties et circuits accessibles (SELV, LCC et parties métalliques accessibles).
3. L'écran du câble coaxial est destiné à être mis à la terre dans l'installation du bâtiment.

The cable distribution system should be grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, Grounding of Outer Conductive Shield of a Coaxial Cable.

Le système de distribution par câble doit être mis à la terre conformément à ANSI / NFPA 70, Code national de l'électricité (NEC), en particulier à la section 820.93, Mise à la terre du blindage conducteur extérieur d'un câble coaxial.

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**11.0d/ NEBS (Network Equipment Building System) Statement**

An external SPD is intended to be used with G3100/E3200.

**WARNING:** The intra-building ports of the equipment or subassembly is suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building port(s) of the equipment or subassembly **MUST NOT** be metallicityally connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 4 ports as described in GR-1089) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metallicityally to OSP wiring.

# REGULATORY COMPLIANCE NOTICES

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*Caution: The Broadband Home Router must be installed inside the home. The Router is not designed for exterior installation.*

## **11.0e/ GENERAL PUBLIC LICENSE**

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<http://verizon.com/opensource/>

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