



BUSINESS

YOUR HITRON CGNV4 ROUTER

QUICK REFERENCE GUIDE



WELCOME TO YOUR NEW HITRON BROADBAND ROUTER FROM VIRGIN MEDIA BUSINESS

Ultrafast is our most intense broadband experience of the Internet, running at up to 300Mbit/s. But this isn't just about speed – it's an instant upgrade for every device and app in your business. How many new things you do with this whole universe of possibility is up to you.

Do more, sell more, be more.
Are you ready to **#VOOM**?



CONTENTS

Getting To Know Your Hitron CGNV4 Router	6
Top Tips	8
Setting Up Your Router	10
Making A WiFi Connection	12
Wireless Network Settings	14
Configuring Your Wireless	16
Setting Your Router Manually	18
How To Add A New Device To Your Wireless Network	26
How To Set Up A Wired Connection	27
What Is Dual Concurrent WiFi?	28
IP Addressing Explained	30
Need More Help?	32

GETTING TO KNOW YOUR HITRON CGNV4 ROUTER



BEFORE YOU BEGIN,
PLEASE CHECK YOUR
HITRON BOX CAME
WITH THE FOLLOWING
EQUIPMENT:

- 12v 2.5 Amp (30W) power adapter for UK mains
- RJ45 Ethernet cable (1.8 metres long)

ABOUT YOUR HITRON ROUTER:

IT EQUIPMENT

Cable modem to connect your devices to the Internet.

WIRELESS

WLAN supporting dual concurrent band wireless 'n' at 2.4GHz and 5GHz and wireless 'ac' at 5GHz. Both bands use IEEE 802.11n/ac WiFi access and are backward compatible with A/B/G devices.

WIRED DEVICES

Gigabit LAN switch and 4 port Gigabit Ethernet.

SECURITY

Configurable software firewall for setting filters and controls.

TOP TIPS

TO GET THE BEST WIRELESS CONNECTION, YOU NEED TO MAKE SURE IT'S IN A HAPPY PLACE. HERE'S HOW TO MAKE SURE YOUR KIT WORKS AT ITS BEST.

1. Stand your router upright

Stand your router on its back with the lights on the front facing into the room.



2. Don't hide your router away

Putting it inside a filing cabinet or closed shelving can block your wireless signal.



3. Get a clearer signal

Keep your router away from other electrical devices and remember the more space around it the better the signal. Your computer or device may also perform better by changing from 2.4GHz to 5GHz if your device is compatible with 5GHz functionality.



4. Switch channel by rebooting

Your router transmits a radio signal on a particular wireless channel within the 2.4GHz band. If another nearby wireless device is transmitting on the same channel, the two will be fighting it out for the airwaves. By rebooting your router it will automatically pick the least congested channel, so it's a good idea to do this every now and again just in case a new wireless device is competing for the airwaves.



5. Some devices are better for wireless than others

For example, the more modern your computer the better the wireless performance is likely to be. But it isn't just about how old your device is. Tablets and smartphones are a brilliant way to access the Internet, but they can't give you the same wireless performance as modern computers just yet.



6. You can add additional devices to your wireless network

If you use all your WiFi devices at the same time, your speed is shared across all of them and your broadband speed might suffer. Try to stagger downloading large files or run updates outside office hours to ease congestion.



7. Access your Hitron Network Manager to personalise your settings to suit your business' needs

Connect your device to the router wirelessly or using an Ethernet cable. In your web browser address bar, enter 'ADMIN'. Enter your password in the Hitron Network Manager, which will be your WPS PIN and click the **Sign In** button.



8. Taking advantage of dual concurrent WiFi

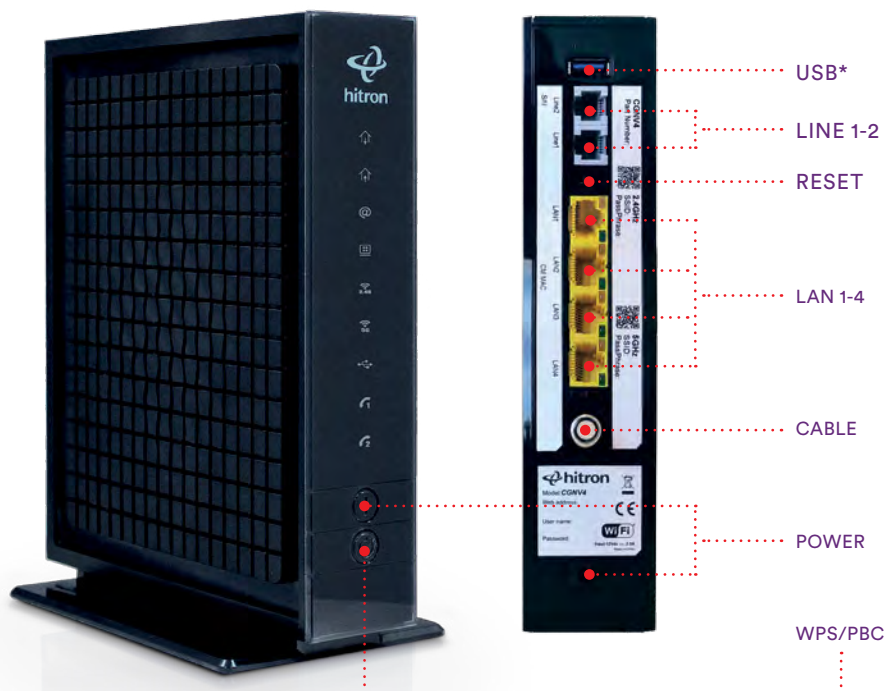
If your device is compatible you'll see the WiFi network name finishing with 5G (e.g. VM123456-5G).



SETTING UP YOUR ROUTER

WE'LL INSTALL THE ROUTER
FOR YOU. BUT TO ENSURE YOUR
ROUTER IS RUNNING AS IT SHOULD,
PLEASE CHECK THE LIGHTS.

The lights indicate the router is operating correctly. If you
move or unplug your equipment, please check the status of the
lights to ensure that things are working as they should.

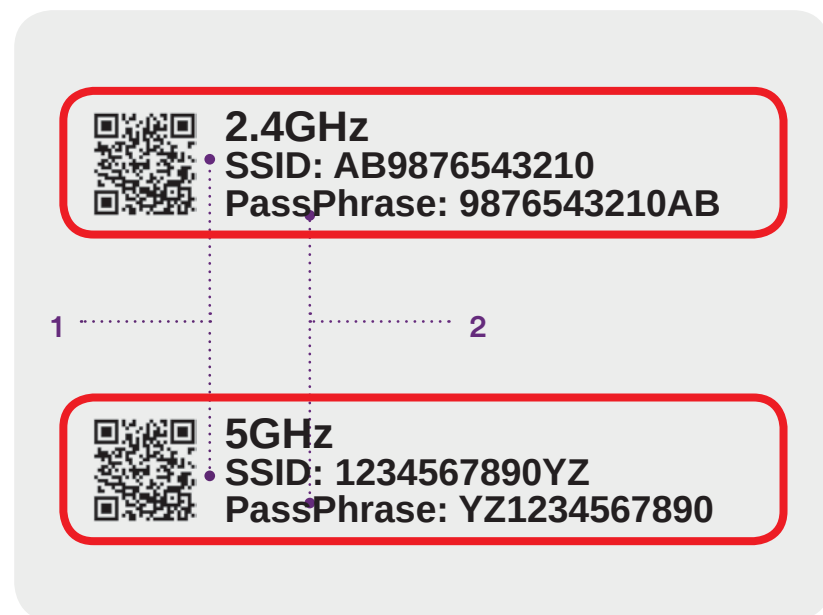


LED	STATUS	DESCRIPTION
	Green, flashing	The router is searching for a downstream frequency on the CABLE connection.
	Green, steady	The router has successfully located and locked onto a downstream frequency on the CABLE connection.
	Blue	The router is engaged in channel bonding on the downstream connection.
	Off	There is no downstream activity on the CABLE connection.
	Green, flashing	The router is searching for an upstream frequency on the CABLE connection.
	Green, steady	The router has successfully located and locked onto an upstream frequency on the CABLE connection.
	Blue	The router is engaged in channel bonding on the upstream connection.
	Off	There is no upstream activity on the CABLE connection.
	Flashing	The router's cable modem is registering with the service provider's CMTS.
	On	The router's cable modem has successfully registered with the service provider and is ready for data transfer.
	Off	No device is connected to one of the LAN ports.
	Green, steady	A device is connected to one of the LAN ports via a Fast Ethernet (100Mbit/s) link, but is not transmitting or receiving data.
	Blue, steady	A device is connected to one of the LAN ports via a Gigabit Ethernet (1000Mbit/s) link, but is not transmitting or receiving data.
	Off	The 2.4GHz wireless network is not enabled.
	Green, steady	The 2.4GHz wireless network is enabled and no data is being transmitted or received over the 2.4GHz wireless network.
	Green, flashing	The 2.4GHz wireless network is enabled and data is being transmitted or received over the 2.4GHz wireless network.
	Off	The 5GHz wireless network is not enabled.
	Green, steady	The 5GHz wireless network is enabled and no data is being transmitted or received over the 5GHz wireless network.
	Green, flashing	The 5GHz wireless network is enabled and data is being transmitted or received over the 5GHz wireless network.
LINE 1 and 2	—	Use these ports to connect your analogue phones for VoIP services, using cables with RJ11 connectors.
RESET	—	Use this button to reboot or reset your router to its factory default settings. To reboot: press the button and hold it for less than five seconds. The router restarts, using your existing settings. To reset: press the button and hold it for more than ten seconds. All user-configured settings are deleted, and the router restarts using its factory default settings.
LAN 1, 2, 3 and 4	—	Use these ports to connect your computers and other network devices, using Category 5 or 6 Ethernet cables with RJ45 connectors.
WPS/PBC	—	Press this button to begin the WiFi Protected Setup (WPS) Push-Button Configuration (PBC) procedure. Press the PBC button on your wireless clients in the coverage area within two minutes to enable them to join the wireless network.

*Please note: The USB port on your router will not be available and has been deactivated.

MAKING A WIFI CONNECTION

THE STICKER ON THE BACK OF YOUR ROUTER CONTAINS THE INFORMATION YOU NEED TO MAKE A WIRELESS CONNECTION.



HERE ARE THE KEY BITS EXPLAINED:

1. WIFI NETWORK NAME (SSID)

This is the network name broadcasted by your router. You need to select either 2.4GHz or 5GHz network name (if shown) from your computer or device's wireless manager to connect wirelessly. The Hitron router has a dual concurrent WiFi feature.

2. PASSPHRASE

This is the passphrase (or WiFi password) you will be prompted to enter after selecting your WiFi network name (SSID).

WIRELESS NETWORK SETTINGS

TO CHECK THE DEVICE'S CONNECTION STATUS YOU'LL NEED TO LOG INTO THE HITRON NETWORK MANAGER THEN CLICK THE WIRELESS NETWORK SETTINGS BUTTON ON THE LEFT HAND SIDE.



YOU'LL SEE THE FOLLOWING:

WIRELESS

Select the relevant tick box to Enable / Disable 2.4GHz or 5GHz wireless functionality on your router. Please see page 28 for more information.

SECURITY MODE

We recommend you select the 'WPA Auto' option. This gives you good security and the connection will be supported on most computers and devices.

SSID

This is the Service Set Identified (the name for your wireless network). Simply leave it as the default, or change the name to something else if you prefer.

PASSPHRASE

You'll find this on the back of your router. You can change it so it's more secure if you like.

CHANNEL

Your router will automatically scan and set itself to the best available channel – but if you want to you can choose any channel you like. This is handy if there are signal interruptions caused by microwaves, DECT phones or something similar.

Please note: The user experience quality may deteriorate if the number of concurrent WiFi users increases above 20 users.

CONFIGURING YOUR WIRELESS

EVERYTHING YOU NEED TO MAKE
YOUR WIRELESS SETUP WORK
FOR YOU, WHICHEVER DEVICE
YOU'RE CONNECTING UP.



GUEST NETWORKS:

You can create your own wireless guest network name. This can be anything up to 32 (case sensitive) alpha/numeric characters. When connecting any wireless enabled devices, you need to search for this name. In order to ensure your wireless network remains secure, it's important you use wireless security.

Failure to do so will leave your network and internet connection accessible to third parties. On top of standard WLAN SSID you can set up two guest networks per wireless channel (2.4GHz and 5GHz). Just go to advanced settings on the Hitron Network Manager and click on the network you wish to amend:

- 2.4GHz 1st guest wireless network
- 2.4GHz 2nd guest wireless network
- 5GHz 1st guest wireless network
- 5GHz 2nd guest wireless network

Now visitors have access to your network, and the Internet, for as long as you need them to. Don't forget, guest networks use locally administered MAC addresses. And remember, anyone using your network can potentially make it unstable.

CONNECTING A WIRELESS DEVICE:

There are two ways to connect a wireless device to your router. Either follow the simple WPS push-button method below, or follow the manual method on page 18 depending on your operating system e.g. for Windows Vista please go to page 23.

SIMPLE WPS PUSH-BUTTON METHOD

Step 1: Press and hold the round WPS button until it flashes.

Step 2: Open your device's Network Manager, or find the WPS button on your device. Make sure you do this within two minutes of the button flashing. If you can't find it, follow the manual method on the next few pages, or check your device's user manual.

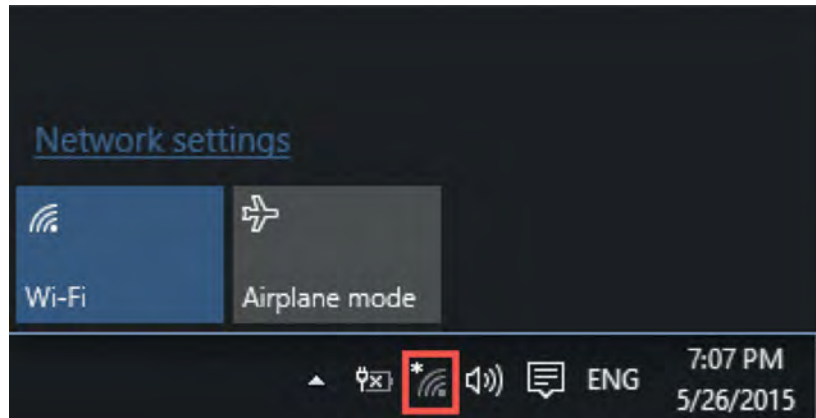
SETTING YOUR ROUTER MANUALLY

HERE ARE INSTRUCTIONS FOR YOUR COMPUTER'S OPERATING SYSTEM.

WINDOWS 10 SET UP

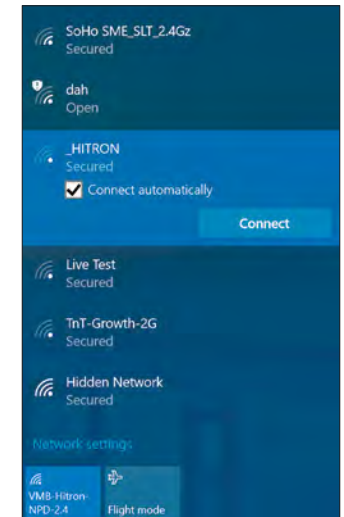
Step 1

To access the list of available wireless networks in Windows 10, click or tap the **Network** icon () from the system tray.



Step 2

Locate your **VMB SSID** and click or tap on its name and select the option that says **Connect automatically**. This way, whenever your device is within the network's range, it will automatically connect.

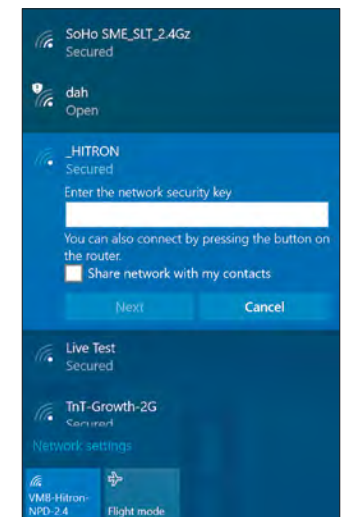


Step 3

Once you click or tap **Connect**, Windows scans for the security settings of the network. It will ask you for its security key that can be located. Once you have entered the passphrase required by the network, click or tap **Next**.

If you want to double check the accuracy of the passphrase, click or tap the **Eye** icon () before you press **Next**.

That's it! You should now be connected.



WINDOWS 8 SET UP

Step 1

From the **Start** menu move your cursor to the top right or bottom right corner of the Start screen. A sidebar with five icons will open.



Step 2

Click the icon at the bottom of the sidebar and the settings panel will open.



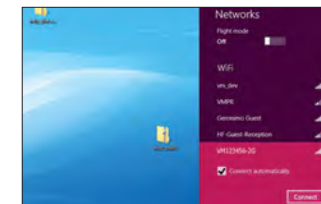
Step 3

Click the **Available** icon to show a list of WiFi connections available.



Step 4

Depending on the type of device, one or two Virgin Broadband WiFi networks (also known as SSID) will appear and will be something like **VM123456-2G** and/or **M123456-5G**.



We recommend you connect to the 5GHz wireless network connection if your device is compatible (if your device isn't compatible it won't show you this option). See page 28 for more information.

Click the network name and then click **Connect**. If you don't see these in the list, click **Flight mode** to **On** and then **Off** to scan again for available wireless networks.

Step 5

Tick **Connect automatically** and click **Connect** if you want this to be your default wireless connection. Otherwise just click **Connect**.

Step 6

Finally, you'll be asked to enter the Network Security Key (WiFi password) for your router. This is printed on the back of the unit. Once entered, click **Next** (or click **Next** and just press the WPS button on the front of the router).



That's it! You should now be connected.

WINDOWS 7 SET UP

Step 1

First locate the wireless network icon in the system tray on the bottom right hand corner of your screen.



Step 2

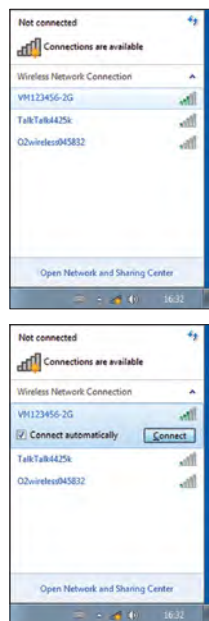
Click on the icon to show a list of wireless network connections available.

Depending on the type of device, one or two Virgin Broadband wireless network connections (also known as SSID) will appear and will be something like **VM123456-2G** and/or **VM123456-5G**.

We recommend you connect to the 5GHz wireless network connection if your device is compatible (if your device isn't compatible it won't show you this option). See page 28 for more information.

Click the network name and then **Connect**.

Note: If you don't see your connection, try clicking the double arrow in the top right corner of the menu to scan for available wireless networks.



Step 3

Next, you should be prompted for the security key or passphrase. This is printed on the back of your router. Enter the security key and then click **Connect**. To hide the security key on the screen as you type it, tick the box **Hide characters**.

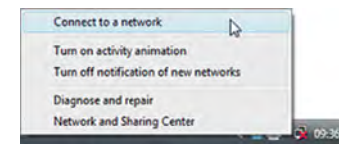
That's it! You should now be connected.



WINDOWS VISTA SET UP

Step 1

Locate the wireless network icon in the system tray on the bottom right hand corner of your screen. Right click and select **Connect to a network**.



Step 2

You should now see all the available wireless networks.

Depending on the type of device, one or two Virgin Broadband wireless network connections (also known as SSID) will appear and will be something like **VM123456-2G** and/or **VM123456-5G**.

We recommend you connect to the 5GHz wireless network connection if your device is compatible (if your device isn't compatible it won't show you this option). See page 28 for more information.

Click the network name and then **Connect**.

Please note: If you don't see your connection, try clicking the double arrow in the top right corner to scan again for available wireless networks.



Step 3

Next, you should be prompted for the security key or passphrase. This is printed on the back of your router. Enter the security key and then click **Connect**. To show the security key on the screen as you type it, tick the box **Display characters**.

That's it! You should now be connected.



WINDOWS XP SET UP

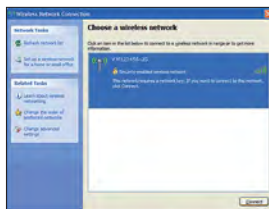
Step 1

Locate the wireless network icon in the system tray on the bottom right hand corner of your screen. Right click on the icon and select **View Available Wireless Networks**.



Step 2

You should now see all the available wireless networks. If you don't see any wireless networks listed, click on **Refresh network list** on the left hand side.



Depending on the type of device, one or two Virgin Broadband wireless network connections (also known as SSID) will appear and will be something like **VM123456-2G** and/or **VM123456-5G**.

We recommend you connect to the 5GHz wireless network connection if your device is compatible (if your device isn't compatible it won't show you this option). See page 28 for more information.

Click the network name and then **Connect**.

Step 3

Next, you should be prompted for the network key. The default network key is printed on the back of your router. Enter the network key (passphrase) and then click **Connect**. You may need to re-enter your network key (passphrase).

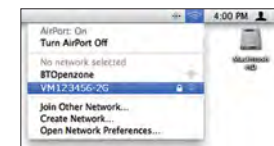


That's it! You should now be connected.

MAC OS SET UP

Step 1

First click the AirPort wireless icon in the top right of the screen, near the clock.



If you don't see this icon, you'll need to connect to your wireless router via:

- > Apple
- > System Preferences
- > Network
- > AirPort

or, on older Macs, via:

- > Applications
- > Internet Connect

Your router should appear in the list as **VM123456-2G** and/or **VM123456-5G**.

The actual network name (known as the SSID) can be found on the back of the router.

Step 2

Click the network name.



If you have the option of '2G' which is 2.4GHz, or '5G' which is 5GHz, we recommend that you select 5G – see page 28 for more information.

You should then be prompted for the password. The default password (passphrase) can be found printed on the back of your router.

Then click **OK**.

That's it! You should now be connected.

HOW TO ADD A NEW DEVICE TO YOUR WIRELESS NETWORK

FROM COMPUTERS AND LAPTOPS, TO PRINTERS AND SMARTPHONES – YOU’LL BE SURPRISED AT HOW MANY DEVICES YOU CAN CONNECT TO YOUR ROUTER.

Step 1

Bring your device into the same room as the Hitron router. This will give you the strongest wireless connection. (Don’t worry, once it’s connected you can move around the office.)

Step 2

Select your wireless network from those available. Open the wireless settings or Network Manager on your device, then select your wireless network. Depending on the type of device, one or two WiFi network names (SSID) will appear and will be something like **VM123456-2G** and/or **VM123456-5G**. Your WiFi network names (SSID) can be found on the label on the back of your router. We recommend you connect to the 5GHz SSID if your device is compatible (if your device isn’t compatible it won’t show you this option).



Step 3

Enter the password (passphrase) for your network when asked. You can also find this on the back of your router.

That’s it! Your device should now be connected.



HOW TO SET UP A WIRED CONNECTION

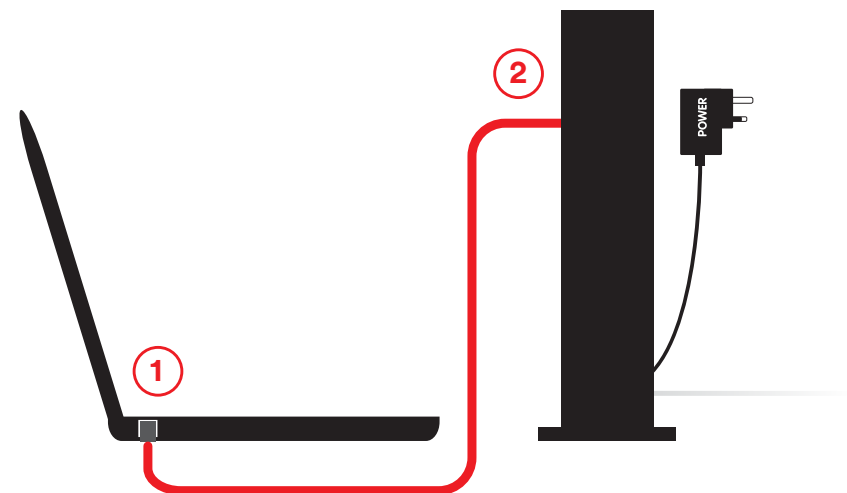
WHEN YOU NEED TO SETUP A DIRECT NETWORK TO VARIOUS DEVICES USING ETHERNET CABLING.

Step 1

Check that your computer has an Ethernet socket (it’s usually marked LAN) and plug it in.

Step 2

Plug the other end of the Ethernet cable into one of the four Ethernet ports at the back of the Hitron router. You can add 3 more wired devices by using the remaining ports.



WHAT IS DUAL CONCURRENT WIFI?

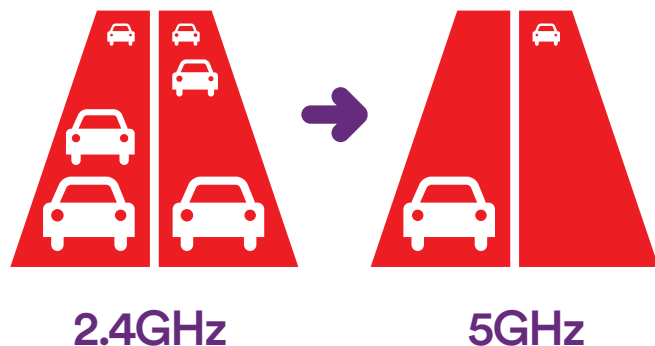
HOW YOUR ROUTER MANAGES THE GROWING DEMAND OF DAY-TO-DAY INTERNET TRAFFIC.

What is dual concurrent WiFi?

When you're online, your WiFi connection uses radio waves to pass information to and from your computer and wireless devices like tablets and smartphones. Right now, just about all broadband providers use the same radio band, which is 2.4GHz.

2.4GHz is a bit like a busy motorway. With so many people using the same band at the same time, there's lots of congestion so information travels slower. It's also affected by other things like microwaves and DECT phones because they use the same band to function too.

The router lets you connect to a different and less busy band which is 5GHz.



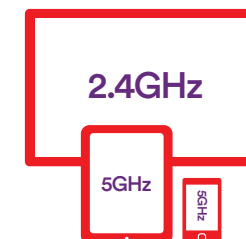
What's the difference between a 2.4GHz and 5GHz signal?

As a general rule, the 5GHz band has a shorter range but is great for demanding activities like downloading large files. The 2.4GHz band is better for long range but is more likely to suffer from interference. An easy way to make sure you're getting the best connection is to check your wireless manager and check the connection strength by the number of bars showing.



How do I connect to dual concurrent WiFi?

If your device is 5GHz compatible it will automatically pick up both the 2.4GHz and 5GHz WiFi network names (SSID). All you need to do is select the 5GHz SSID for compatible devices and you're away! If your device is not 5GHz compatible you'll only have the option to connect to the 2.4GHz SSID. What's also great is that you can connect multiple devices on both 2.4GHz and 5GHz at the same time, so all your devices can access the best possible WiFi available. To access, you simply click on the WiFi network name (SSID) finishing with '2G' or '5G' in your wireless manager, enter the WiFi password and you're up and running straight away.



IP ADDRESSING EXPLAINED

STATIC AND DYNAMIC IP ADDRESSES, WHAT'S THE DIFFERENCE?

There are two types of IP addresses – static and dynamic

Static IP addresses are the same every time you connect to the Internet. They're used by all major websites, email services, FTP services and so on. Dynamic IP addresses may change each time you connect to the Internet and every time you send a message over the Internet.

When would I need dynamic IP addresses?

You may require dynamic IP addresses if you use our broadband services for any of the following:

1. Browsing the Internet
2. Sending and receiving emails via an off-site mail server (the normal method and typically using your ISPs mail server) or a typically web based mail service such as Gmail, Hotmail, Yahoo etc
3. Downloading or uploading files (using FTP or HTTP)
4. Instant messaging services or chat services
5. Running services such as web or FTP servers that ONLY require access from your local area network (single site) or perhaps within a multi-site corporate network, and DO NOT require or allow access from the Internet.

When would I need a static IP address?

You may require one or more static IP addresses if you're using our broadband service for any of the following:

1. Run one or more web servers directly on your site that require external access from the Internet

2. Run one or more email servers directly on your site that require external access from the Internet
3. Run one or more FTP servers directly on your site that require external access from the Internet
4. Run one or more DNS servers directly on your site that require external access from the Internet
5. Run any other service or apps that require external access from the Internet. Some licensed applications use a static IP address for licensing purposes.

You require or allow incoming video or audio services or run an on-site IPPBX. However, in some cases audio and/or video client applications (including some IPPBXs) will require you to connect, or register, with an external server which will forward incoming traffic. When using these types of clients/applications you may not need a static IP address. Please check the details with us.

IP addresses on your router

A single dynamic public IP address will automatically be allocated to your Business Broadband service. Dynamic IP addresses can change if you reset your gateway device or switch it off and on again. IP addressing within your network is then managed by the DHCP (Dynamic Host Control Program) server built into the gateway. Each connected device will be dynamically allocated an IP address when it's connected to one of your networks. Once allocated a private IP address, each of your devices can communicate with other devices and services on your network and the public Internet via the Hitron Network Address Translation (NAT) function.

We can supply static IP addressing but you need to request this at the time of ordering. The available options are 1, 5 or 13 usable public IP addresses. Multiple static IP addresses will be allocated as a sub-net of sequential addresses. Once allocated, IP address sub-nets cannot be extended. In the case that a larger allocation is required the old sub-net must be replaced with a new one. This will require reconfiguration of the gateway and the connected devices.

NEED MORE HELP?

FROM TIME TO TIME, YOU MAY DISCOVER A LITTLE GLITCH WITH YOUR WIRELESS CONNECTION. WE'LL HAVE YOU BACK UP AND RUNNING IN NO TIME.

60/60

Turn everything off and wait for a full minute. Then turn on your router, wait another minute, then turn on your computer or device.

Check the connections to your router

Check all router cables and connections are properly in and the power is on.

Check the WiFi network name

Check you've chosen the correct SSID (WiFi network name) from the list of available wireless networks on your computer. Check you've entered your network security key (WiFi password) correctly. It's on the sticker on the back of your router. If it's been changed or forgotten, retrieve it by accessing the Hitron Network Manager and view the wireless network settings page.

Check your wireless is switched on

For a laptop, check for a small side button. Some tablets also have a function to turn wireless on and off.

Check your device's wireless set up

For PCs you can normally find it by clicking on an icon in the bottom right hand corner of your screen. Try clicking 'Troubleshoot problems'.

Switching between 2.4GHz and 5GHz

If your computer displays both SSIDs try switching from 2.4GHz to 5GHz or vice-versa. For more information, see page 28. Your router won't work at full capacity if you've got other, slower wireless devices connected. If you don't have inbuilt wireless you'll need to install wireless adapters before configuring (you can buy USB adapters from us).

Please note: Once installed, we're no longer responsible for your local network or device support. But rest assured, we'll make sure the Hitron router we provide is replaced if it breaks down.

There's also plenty of helpful information online if you don't see what you need here. Or you can call us and we'll do our best to help you.



0800 052 0800



virginmediabusiness.co.uk/broadbandhelp

ENGINEER INSTALL ONLY:

WiFi network name (SSID):

Network key (passphrase):

Date:

Account number:

Router management application:

Web address: <http://192.168.0.1>

Password: changeme (enter in web browser address bar)



BUSINESS

Registered Office: Media House, Bartley Wood Business Park, Hook, Hampshire, RG27 9UP. Registered in England and Wales No. 01785381.

CODE: QSG-UFBB-1215