



wireless

broadband information



what is wireless?

When we talk about a 'Wireless' connection we are referring to the way you connect your PC or laptop to your router.

Wireless broadband, also known as Wi-Fi, allows you to connect to the Internet at high speed without using any wires or cables. Therefore any Wi-Fi enabled device can be online without being directly wired to the router.

How does it work? Well, the modem inside the wireless router detects your Internet connection and then broadcasts the signal using radio waves to the immediate surrounding area. Any Wi-Fi enabled device within range can then pick up the signal.

Please note Manx Telecom does not offer support for wireless issues.

We endeavour to help you connect wirelessly as best we can, by assisting in the basic configuration and testing of Manx Telecom supplied routers.

The vast majority of wireless issues are related to settings or software on the connecting devices (i.e. the laptops or PCs) or wireless interference from an external source and as such, it is recommended you seek assistance from your router manufacturer, PC supplier or from an IT specialist if you are still experiencing wireless problems.

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equipment needed

Equipment Needed For a Wireless Connection

- A wireless modem/router - such as the Netgear DGN1000 & Netgear DGN2200 sold by Manx Telecom.
- For a desktop computer - unless it has a built in wireless card you will need a wireless adaptor.
- Wireless adaptors usually have USB connections and as a rule of thumb it is best to use the same make of adaptor as the router e.g. a Netgear adaptor with a Netgear router.
- For a laptop you will need to ensure that your laptop has a built in wireless device.



Netgear WNA1100 USB Wireless N Adaptor



Netgear DGN1000



Netgear DGN2200

equipment needed

Powerline adaptors

- If you are experiencing problems with the wireless signal strength around your home powerline adaptors, also known as homeplugs, are a way to improve the connection.
- Manx Telecom sell ethernet and wireless extender kits. These allow you to extend your network by using the power sockets around your home and create a secure ethernet or wireless network in another part of the house.
- Simply plug a homeplug in to your router and another in to the room where you want to extend your network. No new cables, no drilling, no mess!
- Plug and Play installation, no technical knowledge needed, perfect for properties with Manx Stone walls.

Wireless Security

- Wireless security is simple to set up and it will prevent accidental or unauthorised use. Your wireless connection will still work without security, however the signal will be broadcast to anyone within range and is unencrypted, allowing anyone access to your broadband connection.
- You may pay for capped broadband, why let anyone use your limited data?
Also, if your connection is unsecured, someone could perform potentially illegal activity using your line so why take the risk?
- The first step in securing your network is to change the default connection name (the SSID) to something more identifiable, bearing in mind that your SSID by default is also broadcast so it's best to keep it simple and something you identify with. Do not use any passwords you may have as your SSID.

There are four main options for wireless security

WEP - offers the most accessibility, allowing most wireless-capable devices to connect to your router with fewer chances that there will be incompatibilities. However WEP has been superseded by WPA and more recently WPA2.

WPA - WPA-protected networks require users to enter a network key or pre-shared key (this type of access is referred to as WPA-PSK) in order to access a wireless network.

WPA2 - WPA2 incorporates stricter security standards than WPA, and again requires users to enter a passphrase in order to access a wireless network.

WPA + WPA2 - also known as mixed, allows equipment to connect using both WPA & WPA2 security. Choose this option if you are unsure if all your computers/laptops support WPA2 but would like to use it.

- When choosing which security option you are going to use you will need to take into account the age of the equipment you will be trying to connect wirelessly. Older computers/laptops may not support the current standards.
- Any computer running Windows XP prior to Service Pack 2 will need a WEP connection for compatibility. You should ensure that your computer is fully up-to-date with the latest updates from Microsoft.
- Employ 'best practice' when setting your passphrase/network key (this applies to any password) that you are going to connect with. Try and use a non dictionary word, a mix of upper/lower case letters and number(s). This is all the more important when you are using WEP or WPA. A password guide is available on our Support site www.manxtelecom.com, just type "secure password" in the search box.
- The password for your wireless connection is not held by Manx Telecom so please ensure that you make a note of it and keep it somewhere safe.

Wireless Issues

- If you use a laptop or notebook with built-in wireless connectivity, ensure that the wireless switch and / or wireless button is switched on before you begin. For details, please refer to the documentation that came with your laptop or notebook.
- Causes of wireless interference include: microwave ovens, cordless phones, Bluetooth devices, wireless game controllers, fluorescent lights, electric central heating thermostats, baby monitors, christmas tree lights, mirrors, fish tanks, large metal ornaments/items, floors, walls and doors.
- Many of these will cause intermittent problems as they are not continually in use. Other equipment will only cause a problem if the power unit is faulty, eg televisions, DVD players, etc.
- Location, location, location – Try to place your router at least one metre away from other electrical equipment, raise it off the floor and stand it away from the wall. If possible pick a central location in the house to give the best coverage.
- Other networks – if your neighbours all have wireless networks you may experience the equivalent of “congestion”. Try changing the wireless channel – refer to your router documentation on how to do this.
- Try changing the position of the antenna if your router has one.
- Alternatively, look into devices that extend the range of your broadband connection. Manx Telecom sell Powerline Adaptors that use your existing power sockets to provide a wired or wireless connection into any other room in the house with a power socket.
- Ensure your firmware is up to date for your wireless router and your wireless card or adaptor. For assistance with this please refer to the router’s information, contact the manufacturers Helpdesk or a computer support company.

Connection Issues

- Your wireless is turned on but you still can’t connect to your router? Connect using the Ethernet cable and check your wireless settings via your router’s admin pages. Try changing the wireless network name (SSID) and the password.
- For Windows XP & Apple Mac- disconnect the Ethernet cable and try connecting wirelessly again.
- For Windows Vista - leave the cable connected and try connecting wirelessly. If successful then disconnect the cable.
- If you are still unable to connect wirelessly, disconnect the cable and turn the router and computer/laptop off and back on.

Browser Issues

- Unable to browse? Ensure you are connected to your wireless connection by hovering the mouse over your connection icon at the bottom right of your screen or by clicking on your Airport icon top right hand corner of the screen.



- Call the Service Centre on **624 624** to check that your router is correctly connected.
- If all is okay with your router connection, try connecting the Ethernet cable. If it browses with the cable connected, disconnect the cable and turn your router and computer/laptop off and back on. Allow your computer/laptop to connect to the router and try browsing again.
- Use the Microsoft Windows tool “system restore” to put your settings back to the last date you know it was working. Occasionally Windows Updates can cause browsing issues.

Please note - Any programs/software downloaded after the date selected will be lost. If in doubt, do not use and seek a computer support company.

Abbreviations and Helpful Information

WEP - Wired Equivalent Protocol

WPA - Wi-Fi Protected Access

SSID - Service Set Identifier

TKIP - Temporal Key Integrity Protocol. This is the security method applied when you choose to use the WPA option

AES - Advanced Encryption Standard. This is the security method applied when you choose to use the WPA2 option and is the most secure.

Network Key / Passphrase - This is the wireless password you set when configuring your router. **Please note:** Manx Telecom does not keep a record of wireless passwords as these are individual to each customer.

WPS - usually a button located on the Netgear router which when pressed will create an SSID and wireless password for you. It then connects the laptop automatically with those details.

PIN Number - some newer wireless adaptors/laptops may ask you to enter a PIN number when first connecting to your wireless router. This is generally found on the bottom of the router. Any difficulties, please contact the router manufacturer's Helpdesk for further assistance.

Internet Links

www.manxtelecom.com/support

www.netgear.co.uk

www.voyager.bt.com/wireless_devices/voyager_2110/product_info.htm

www.microsoft.com/athome/setup/wirelesstips.aspx

windows.microsoft.com/en-GB/windows-vista/Troubleshoot-problems-finding-wireless-networks

www.pctipsbox.com/10-tips-to-improve-your-wireless-network/

As you can imagine there are many more websites which offer advice, hints and tips on problems connecting wirelessly and the above is just a selection of these.

The best place to start is always at the router or laptop/computer manufacturer's homepage

(e.g. www.netgear.co.uk, www.dell.co.uk) and their support section.

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