# Checking your network connections

How the system works

Most people use a router to get onto broadband rather than a Modem.

You can tell if you have a router by:

1. there is a separate box plugged into the phone line with its own mains power connection;
2. the lights remain lit on this box when the computer is powered down;
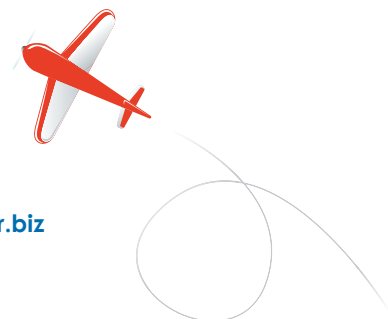3. you do not need to dial into the internet.

Most routers also have a number of sockets on the back for ethernet cables. Here is an example:
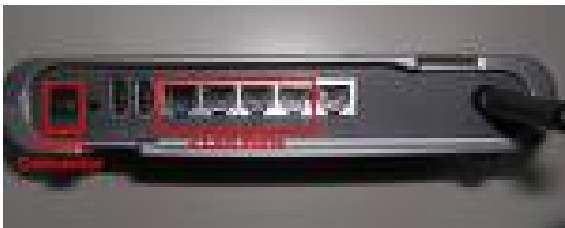
All routers create a network. Your computer(s) connect to this network and the network connects to the internet.

If you can't get onto the internet or get emails, there are three potential points of failure:

- Computer connection to the router
- Router connection to broadband
- Service provider

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Analysis

If other computers using the same router will connect to the internet, then the problem is in your computer.
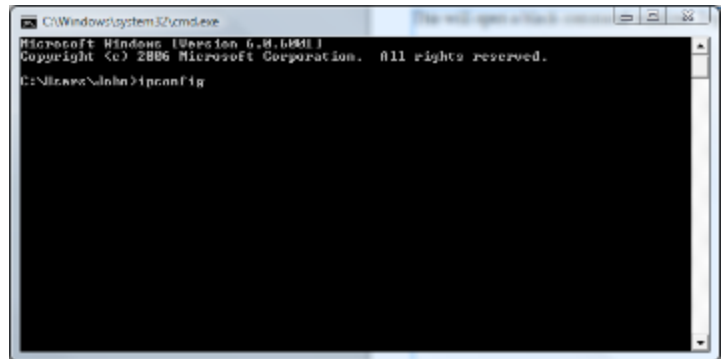
First we need to start a command window. Press 'start' and 'run' to get this window:

Type 'cmd' and press OK.
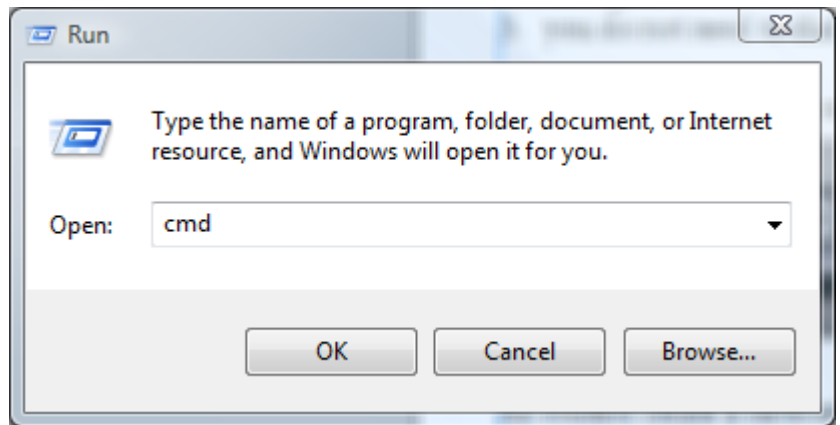
This will open a black command window.

Type 'ipconfig'

The computer will respond, if all is well, with a set of figures.

We can see one connection here. If there is a number by default gateway on at least one of the connections listed, then you are linked to the router. The IP address is the local network address of your computer and the default gateway is the router. The address of the default gateway will not change unless you change the router. In this example it is 192.168.0.1
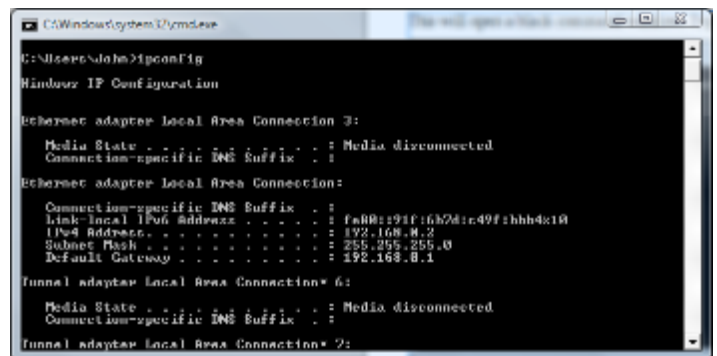

If you don't have a default gateway listed, then you have no connection to the router. Check your connection cables are plugged in or that your wireless (Wlan) is switched on and connected. Type 'ipconfig' again. Try powering the router off and on.

Now we will test the connection to the router. Type 'ping xxx.xxx.x.x' where xxx.xxx.x.x is the address of the default gateway.

In this example I type 'ping 192.168.0.1'
If you get some 'reply' messages quickly, then the connection to the router is working.
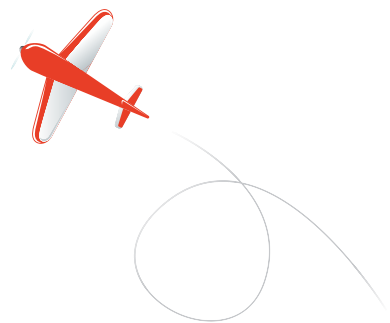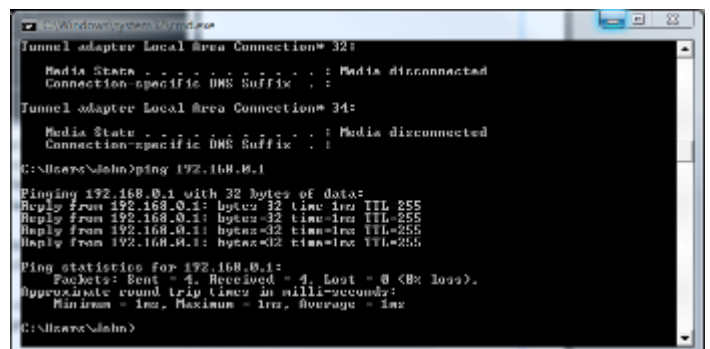
If you get any other response, the router is not responding. Turn the router off and on again. If necessary, reconnect the Wlan. Ping again.

If you get a response from the router, the next stage is to try the internet. 'Ping' a site that you know is working, such as Google.

If you get replies, then the whole system is working. If your web browser still won't connect, then you have a different problem such as your firewall.

If you can't ping external sites, then there are two potential failure points: your connection to the service provider or their connection to the internet.

The stage below is for those familiar with their computers and you do this at your discretion:

Open a web browser and type in the address of the default gateway where you would normally enter a website. Press enter.

This will take you to the router control panel via a user name and password challenge. These vary router to router but try one of these:
Nothing
'Admin'/'admin'
'Admin'/'password'

Either on the home page or a status page you will see numbers for 'domain name servers' or DNS.

If you can ping that, then you can talk to the service provider and the problem is their connection to the internet, which is outside your control.