Broadband Self Help

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This article specifically applies to installations served by copper wire either directly from the telephone exchange or from a fibre enabled cabinet.

There are two elements to self help. The first is to make sure that the house installation is as good as it can be, the second is to report poor performance to your Internet Service Provider (ISP).

Home installations

We are a rural community and although Superfast Broadband is now available through fibre enabled roadside Green Cabinets many people are still at the end of a direct line from an exchange therefore for them and now to a lesser extent Superfast users the quality of our home installations is critical to internet performance. A 50% loss to some one who is used to 5 - 10 Mbps will hardly be noticed but to someone who is barely used to 1.5 Mbps it is significant. Therefore to get the best out of what is available we have to invest in the best equipment we can afford and install it to highest standard. The following advice is applicable to all since even Superfast relies on the quality of the final length of copper wire from the roadside Green Cabinet to the home installation.

Keeping the computer running efficiently is the first step but just as important is the need to protect the broadband signal from degradation due to electrical interference, called "noise". There are many websites devoted to advice but generally they all say the same thing:

- Connect the broadband router/hub/modem directly to the BT master socket via an ADSL filter using the DSL cable normally provided with the router.

- Connect the computer to the router using the Ethernet cable normally provided with the router (but see below re DSL/Ethernet extension cables).

- Keep the cables clear of other electrical equipment especially TVs, cordless phones, microwave ovens, fluorescent lights etc.

All easy to say but all our installations are not the same. They were installed at different times by different people using different technologies and it would be impossible to go through all the variations but the common culprits are:

- **Old GPO or BT (or other make) master telephone sockets and connection boxes containing screw down terminals.** The screws work loose to give intermittent connection. If they get damp Verdi-gris sets in to help corrode the connections which then impedes the signal. Spiders and woodlice find them comfortable places to breed and that induces damp conditions etc.

- The modern BT (NTE5) box shown above and to the right is bigger than the original single faceplate boxes provided by BT and has upper and lower face plates. The upper faceplate contains the connections to the BT cable from the telephone wire outside the house. This enables the provision of a standard telephone socket, now called a "test socket", into which the lower faceplate fits. The lower section is designed to accept a standard faceplate for telephone connection and use for internet connection via an ADSL filter on a lead. Alternatively the latest gadget shown above and to the left is an I-plate with a built-in ADSL filter and connection socket which can be fitted in place of the standard single telephone socket faceplate. This allows direct connection to your router.

- **Telephone extension cables acting as superb noise collectors**. They run through the house picking up interference from electrical equipment and then transfer it onto the BT master socket. BT provided cable should be to CAT5 standard and the wiring inside should be in the form of pairs of wires twisted round each other to help cancel out picked up interference. Cheaper flat cable with straight wires is a magnet for noise. BT have designed the I-plate (sometimes called a Broadband Accelerator or Splitter) to keep the extension wiring clear of the ADSL connection socket so minimising the impact of any noise on the telephone extension wires.

- **Cheap telephone extension cable used for DSL extension.** As above this is a magnet for noise pickup and must not be used as the connection from the BT Master socket to the router/hub/modem especially if it is a fair distance from the socket. Better the router/hub/modem is connected to the BT master socket with the cable supplied and the computer is connected to the router by a longer CAT5 standard Ethernet cable.
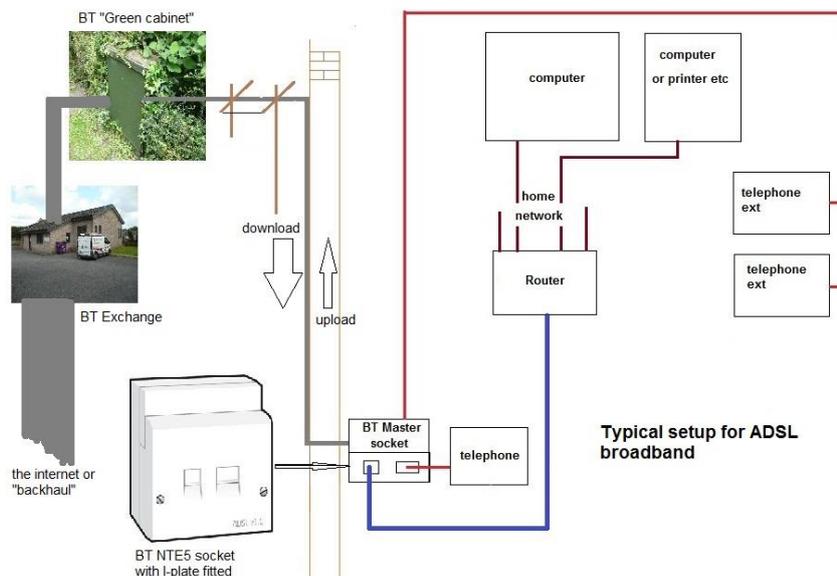
Please be aware that if you are not up to doing any installation work yourself on the home side of the BT master socket there may be cost implications. Also if you need to have the master socket changed to the modern version in order to accept the Accelerator/Splitter/Iplate then BT may even want to charge you for the pleasure - if the BT master socket has not been installed by them or there is any issue about who installed the extensions from the back of their socket. If however you already have a modern BT master socket with an upper and lower faceplate then the I-plate option is relatively cheap to buy and easy to fit by a person competent to transfer the extension wiring to the I-plate. It will probably be worth discussing the effectiveness of the I-plate option given your circumstances (BT?) before deciding to use it in favour of a standard ADSL splitter that plugs into the telephone socket.

Report poor performance to your Internet Service Provider (ISP)

The more that is reported the more visibility problems get and the more likely some notice will be taken. If you are supposed to get 10 Mbps and you only getting 5 Mbps its probably something you can live with but the person that only gets 2 Mbps at the end of the line is suffering and nobody is taking any notice………..