



Guide to getting B4RN

Halton

Version 0.4

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Introduction

This guide is meant to be a brief overview of the B4RN project in Halton, what B4RN means to you how to get B4RN and how you can get involved if you wish.

This guide is not meant to be an in depth technical guide, or to answer every question, but is intended to give practical advice about the B4RN rollout and answer the most common questions, while giving some guidance and background information. If you have queries after reading this guide, please contact your local champion. If they cannot answer your question, they will direct it to someone who can.

Overview

The B4RN Network

B4RN started as a simple neighbourly project amongst farmers who couldn't get a decent internet connection. While there are many technical hurdles, a large part of the cost of providing rural internet is simply the cost of upgrading large distances of wiring and the poor payback for commercial providers if they only serve a small number of customers.

The original B4RN project used community effort to dig in the connections across fields, rather than the much higher cost of paying to dig up roads. This model was rapidly replicated across a large area of Lancashire, Cumbria and Yorkshire with smaller spin off projects in East Anglia and Cheshire.

While deploying the network, it was decided to future proof the network by deploying fibres right the way to the property (FTTP) rather than relying on traditional copper cables. This means B4RN is much better placed to provide reliable, high performing internet connections in future.

The normal mode of operation was that groups of local volunteers would dig the connections in along the backs of houses, through fields and by 'garden-to-garden' digging.

The Halton Problem

The model of garden-to-garden digging worked well in very small, rural communities. In Halton, the project started in 2015 but made little progress in many areas of the village due to a small number of people refusing wayleaves (permission to route across their gardens/land). This was compounded by the large number of road crossing (adding cost).

In early 2020, B4RN applied for government funding to try a deployment in Halton. This involves buying new equipment to 'micro-trench' the pavements. This reduces the time and materials taken to dig and therefore reduces cost and speeds up deployment.

We are currently trying to demonstrate the demand exists in Halton for B4RN to fully commit to this project.

The B4RN Difference

Fibre to the Property

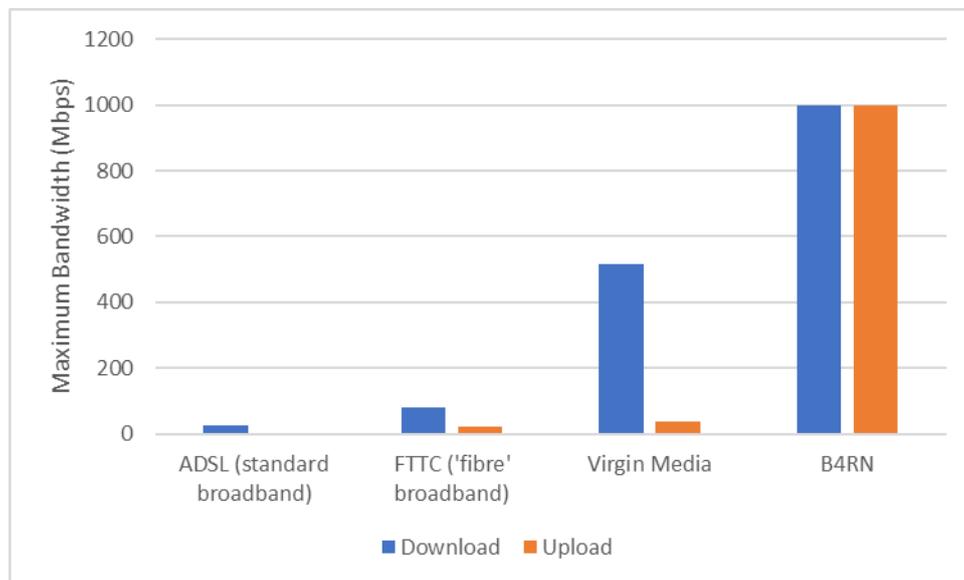
Most internet is currently provided along twisted copper wires to individual houses – a technology that was developed for telegraph lines over 100 years ago! Over the years, better and better methods have been developed to get data down these antiquated wires but they are fast becoming obsolete.

Fibre optics have long formed the backbone of major communications networks because they can handle huge amounts of data, are highly reliable and can carry data very long distances without interference.

Over the last few years, dial up became broadband (ADSL), ADSL+, then Fibre to the Cabinet (FTTC) where the fibre is brought to a cabinet much nearer your house. Each of these brought increased speeds, but nothing like what B4RN is capable of.

As well as high speeds, fibres are not affected by distance like copper or by water so your connection will be more reliable and consistent than copper.

B4RN will initially provide 1000Mbps upload and download, but the fibre is capable of much higher speeds with improved equipment at the ends. It's just that most people can't use more than 1000Mbps!



Community Owned

B4RN is formed as a community interest company, owned by local people who hold shares. Investing in B4RN is possible and the aim is for the company to pay interest on shares of 5% per annum. Investing in B4RN is not a commercial speculation such as investing in most businesses – there is no way for profits beyond the 5% interest to be returned to shareholders.

If you are interested in investing in B4RN, please visit <https://b4rn.org.uk/community/investors/>

Local Support

If you've been frustrated trying to deal with a far away call centre, especially when something isn't working, you're not the only one! B4RN is headquartered and run out of Melling, and while there isn't 24/7 customer service, you can call a real, named person or even visit them in person!

Additionally, the model of B4RN using local volunteers to help build the network means you're likely to have a local champion who might be able to solve your problem directly or help you resolve it with B4RN.

Process

Because B4RN involves building an entirely new network fit for providing internet in the 21st Century and beyond, it is not quite as simple as signing up online and everything else being taken care of. It's not as complex as it might at first seem though! The overall process is shown below and individual steps where you need to do something are explained in more detail in the sections below.



Registering Interest

Simply go to <https://b4rn.org.uk/postcode-checker>, enter your postcode then fill out the service request form. **Please ensure you complete the both steps, otherwise your request will not be logged!**

Completing this form is an expression of interest. You sign a contract only at the point where B4RN has been installed and you take the service.

Main points from The B4RN contract below:

- The minimum period of the contract is one year from the live date, but there is no early exit penalty.
- After one year the contract will automatically renew for a one-month period on a monthly basis unless notified as per point 6 and 7 below.
- Your contract can be terminated by giving B4RN one month's notice in writing.

In effect, you have a 12-month contract that you can leave at no cost to you.

It is also important to note that by filling in the form at the 'Get B4RN' you have not committed to anything. You are, at this moment, showing an intention to take a connection in the future. You are free to change your mind with no obligation or penalty after you complete the form.

Connection Fees and Dig Grants

B4RN charges a one-off connection fee for the physical connection. This is £150 and payable when you sign the contract to take service.

Monthly fees for domestic and small businesses up to 5 people are £30/month.

Fees for larger businesses, caravan parks, hotels etc. are listed at <https://b4rn.org.uk/b4rn-service/charges/>.

If B4RN applies for and claims government funding for your property **and you carry out your own work to install ducting from the edge of your property to your termination point**, you will receive a £150 'Dig Grant'. You will need to confirm that the B4RN service has gone live by clicking a link in an email, but this is a simple process.

If you are unable or unwilling to install your own ducting and termination point, it may be possible for B4RN volunteers to do so for you. **In this case you will not receive the Dig Grant and the funds will go into the B4RN for Halton pot to further B4RN and other projects around Halton.**

Please note it may not be possible for volunteers to dig through hard surfaces such as drives and patios, but your local champion may be able to help you identify an easier route.

Where you pay a contractor to install ducting for you, then you will count as having self-installed that component for the purposes of the Dig Grant, but you must of course pay the contractor. Please note that the Dig Grant may not follow as quickly as the contractor's bill or cover the entire amount!

If you invest £1,500 in B4RN, you can claim a free connection. See <https://b4rn.org.uk/community/investors/> for more details.

Laying Duct from your Property Boundary

The Toby box at the edge of your property will contain a 7mm diameter tube called a duct. Your local champion will provide you with further orange and/or black duct which will connect from the Toby box to your house. The orange duct must be buried and protected from sunlight if left out for more than a few days. Damaged duct may fail and if this happens, a new duct will need to be installed!

You will need to install the duct to the point where you have agreed the termination point (TP, see next section) will go. Before the duct comes out of the ground, you will need to cut the orange duct and use a push-fit connector to install a length of black duct. Leave this black duct long ready for the termination point to be installed.

All duct must be kept clean inside. It is normal to tape over ends using electrical tape to stop dirt getting in. Dirt or water inside ducts may make it impossible to blow a fibre through (and we're back to digging in a new duct – especially annoying if you've just put back all the soil!).

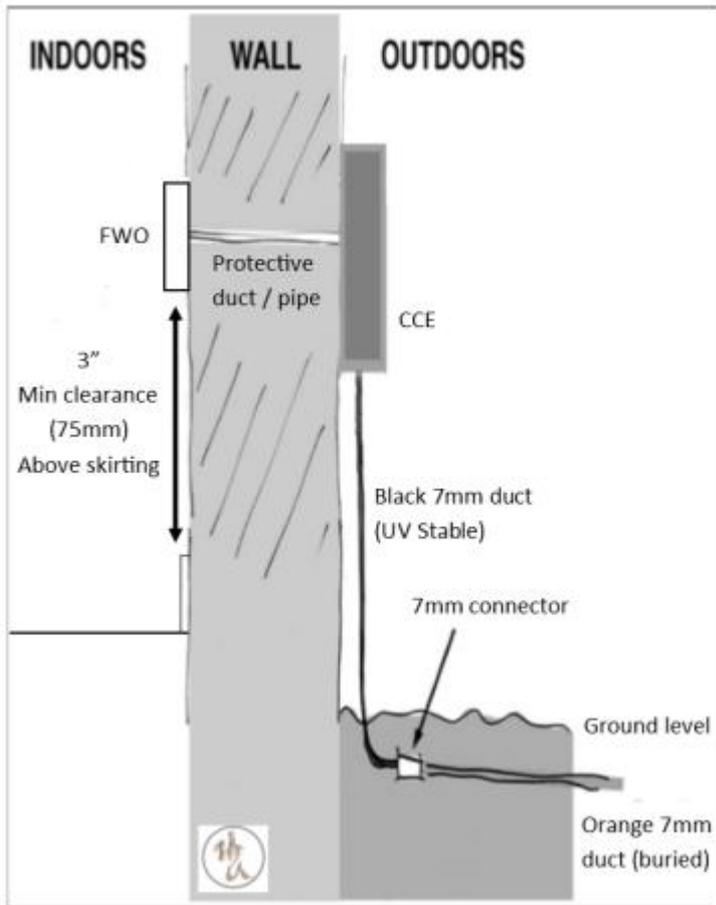
When cutting duct for the push fit connectors, you will need to use a pipe cutter which leaves a clean, round end (not squashed). If in doubt, ask your local champion.

All ducts must not be bent sharply around corners – the tightest should be no less than around 1¹/₃₀cm radius. Fewer, gentler bends are always better as they will offer less resistance to the fibre being blown. If in doubt, please ask your local champion. If duct has been kinked, it is damaged and will need to be replaced to allow the fibre to be blown even if you straighten it out.

Your local champion may also be able to supply or recommend materials to reinforce the duct where prone to damage – such as below vegetable patches and through walls.

Installing the Termination Point (TP)

This will be carried out by a local volunteer once you have your ducting in place through the garden. The house kit installation involves Customer Connection Enclosure (CCE) on the outside of the property (the 'grey box', about the size of a paperback book) and the Fibre Wall Outlet (FWO or 'white box', size of a single power socket) on the inside of the property. A standard install has these 'back-to-back' with a hole through the wall between them.



If a more complex installation is required, the local volunteer will ask you to run a length of white ducting between the 'grey' and 'white' box locations. This should be kept as straight and as short as possible, ideally less than ~3m. Your local volunteer will give further guidance if required.



FWO ('white box') and CCE ('grey box').

Going Live

Once the fibre has been blown and spliced, you will need to complete a contract, Direct Debit instruction and pay the connection fee to be made live. Your local champion should provide these documents and you can return them to them or to B4RN directly.

At this point, you will be provided with a router to plug into the termination point and that's it!

Getting Involved

B4RN started very much as a 'DIY' approach to getting an internet connection, and although all the highly technical work is now carried out by professionals, it still relies on volunteers to deliver the project.

If you're keen to get involved, please get in touch with any volunteer or contact b4rn@haltoncentre.org.

Below is a brief summary of some ways to get involved, but these are not all! Making the odd cup of tea for volunteers or informally encouraging neighbours are useful and much appreciated!

Local Champion

A local champion is responsible for a particular area of the village. This may be a street, a few streets or a phase of construction. They will:

- Drum up support from that area and encourage people to sign up.
- Provide updates on progress to their area – maybe via local WhatsApp groups or similar.
- Co-ordination of work with the B4RN project manager.
- Help co-ordinate volunteer digs to install ducting and termination points.
- Ensure B4RN issued materials are available in your area.
- Provide help and guidance!

Digging Volunteer

Volunteer digs need people who are willing to get their hands dirty and help people to dig in their ducting. Some digging will be hard and physical while some will be delicate (think flowerbeds!). No experience is needed, just ask to be put on the list and turn up when a dig is announced (often on a Saturday).

House Kit Fitter

These volunteers fit the termination point into people's homes. This would suit someone who is a keen DIYer and is confident to work in other people's homes.

Whilst some experience may be useful, an attention to detail is important as the fibre is very delicate and we are drilling holes into people's homes. Full training will be given though if you want to help with this role!

Other help

Can't see what you want to do here but think you could be useful? Do get in touch!

FAQs

I don't want B4RN until my current contract expires – why do I need to sign up now?

By expressing an interest via the page at , B4RN are able to apply for government vouchers which contribute to the cost of building the network. Even if you don't want or need an immediate connection, these vouchers are paid up to 12 months after they are issued.

Why do I need to dig in a duct if I don't want service for 8 months?

B4RN will need to install the actual fibre within the duct that is connected to each house (known as 'blowing'). This is much more straightforward if all houses in an area are 'blown' at one time. For this reason, we suggest that if you intend to take service in the next year or so, you dig the duct in early. You'll also benefit from the enthusiasm of seeing your neighbors do the same.

It is possible to install up to the CCE (grey box) only at this point. The internal socket can be installed later on when you want service.

Technical Matters

We hope to add some further technical details here, for those of you wanting to get the most out of your new B4RN connection.

[Landline Telephones and B4RN](#)

Coming soon...

[WiFi, Ethernet and Powerline Networking](#)

Coming soon...