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# 1 Financials

## 1.1 How much does it cost?

B4RN costs £30 per month for an internet connection of 1Gbps (1 Gigabit per second, or 1000 Megabits per second) in both directions (upload and download).

There is a £150 connection fee, which is waived if you have invested at least £1500 in B4RN shares or have a business registered at the address.

## 1.2 Interested? You need to act now!

If you're interested in getting B4RN, there are two good reasons to apply right away:

- B4RN – with our volunteers – are already digging the Levens Parish routes. Once an area is dug, we will move on to the next and you may have to wait some time if you miss the first pass.
- The UK Government is currently running a voucher scheme but this ends in March 2021. This helps fund the project and may be worth £150 to you personally – see section 2.4 below.

Visit B4RN's website at <https://b4rn.org.uk/postcode-checker/> and fill in your information as soon as possible. You should then receive an email from DCMS (the Department of Digital, Culture, Media and Sport) giving your details and your voucher number.

## 1.3 What is the contractual obligation when taking B4RN?

As part of the voucher scheme, you initially agree to a minimum contract length of 12 months. However, unlike most service providers, you are free to cancel the contract with B4RN at any point by giving 30 days' notice. See <https://b4rn.org.uk/wp-content/uploads/2015/10/TCB4RN.pdf>

## 2 Installation

### 2.1 How will properties be connected?

B4RN want to ensure everyone in the parish will have the opportunity of taking their service.

in the 'hard dig' central area of Levens village, a contractor (Safeplace) will install a connection box ("Toby box") outside every property, on public land outside but right up against the property boundary. (Provision is also being made for properties yet to be built where this is known.)

In the 'soft dig' outlying areas, B4RN's traditional method will be used, bringing a connection duct to the property from a neighbouring field or garden.

### 2.2 What business has Safeplace digging up my verge?

Safeplace will take all reasonable precautions to minimise the disruption throughout the parish. As per regulations, they will only install on public land up to the edge of property boundary.

Exceptionally, where there is no verge nor pavement, they will install on private property with the householder's agreement. Some road crossings will be needed but inconvenience to vehicle and pedestrian traffic will be minimised as much as possible.

### 2.3 What happens if Safeplace want to dig up my drive?

Where possible, householders are consulted about the location for the Toby box outside their property's boundary in order to facilitate best access to the house. Disturbance of well made-up drives of block paving, concrete, or neat tarmac are avoided in almost all circumstances, even if this means locating the Toby box on a remoter part of the boundary. Note that utility companies are legally entitled to use the 'services strip' located across the width of any drives which cross a verge.

### 2.4 How will the connection be brought across my garden/drive etc.?

It is the property owner's responsibility to get a (7mm diameter) duct from the boundary of their property to their building. B4RN can advise on the best route. Ideally this will be buried (orange) duct, but surface-mounted, rodent-proof ducts can be used overground if absolutely required.

Friends, neighbours or local volunteers can help with the installation, or you may prefer to employ a contractor. Where a government voucher was issued, B4RN will pay out a dig grant to help with this very job – details are at <https://b4rn.org.uk/wp-content/uploads/2020/09/B4RN-Residents-Vouchers-Leaflet.pdf>.

The property owner is also responsible for recording the route (e.g., by taking photographs).

### 2.5 How will the connection enter my building?

The orange duct that has been laid through the grounds is connected to black (UV-stable) duct as it comes above ground. This runs up the wall to a small external box (CCE - Customer Connection Enclosure - size 255 h x 115 w x 306 d mm).

A small hole is drilled through the property wall, and an internal box (FWO - Fibre Wall Outlet - size 95 h x 85 w x 23 d mm) is fitted. From the FWO a white cable, containing optic fibres, is fed through the wall to the external CCE. This can be done by DIY-savvy property owners, or trained volunteers. The duct is then ready for B4RN to 'blow' fibre to the property, terminate and fuse it to the optic fibre in the CCE, and then fit the B4RN Wi-Fi/router inside the house.

See <https://b4rn.org.uk/wp-content/uploads/2020/04/House-Kit-Install-Guide-Zyxxel-v4.0.pdf>.

## 2.6 Where will the router be located?

It can be put wherever you want it in the house, either wall-mounted or on a tabletop. Ideally, it should be near the rooms where you use the Internet most so that Wi-Fi can be used to maximum effect. However, location will largely depend on limiting disruption at the property; it is easier to run duct through lawn and flower beds than tarmac and concrete. B4RN volunteers may be able to advise on a suitable location.

The router needs to be mounted near an electric socket. It comes with a 50cm cable for connecting to the B4RN box, but Levens volunteers can supply a 1m or 2m length on request. 3m, 5m and 10m lengths are also available for a small charge. Note these cables are susceptible to damage if not appropriately situated and protected.

It may be handy to have the router near a telephone socket if you wish to put your home phone circuit onto VoIP. But many people now use only their mobile phones for calls and, so, can terminate their landline – see 6.3 below.

Any work required to place the router beyond a convenient location (for example, routing white ducting under floors or through a loft) will be down to the property owner.

## 2.7 What specification is the B4RN router?

The Zyxel B4RN router is capable of serving all the devices in your household. It is supplied as part of B4RN's monthly service fee so costs you nothing extra (but remains the property of B4RN).

There are four LAN (Local Area Network) sockets on the router for gigabit-capable ethernet cables (grade Cat5E and above). You could run ethernet cables to your computer, Smart TV and games consoles. Gigabit switches can be added to give you more connections.

The router supplies Wi-Fi connections at both 2.4Ghz and 5Ghz. 2.4Ghz has greater range but limited speed whereas the 5Ghz has faster speed but limited range. Both are active so you can mix and match, letting devices decide automatically.

B4RN has enough bandwidth to ensure lots of users can be busy online at the same time with no frustration. Because B4RN is so fast you will find none of the connections feel slow even if lots of users in your house are busy online at the same time. See <https://b4rn.org.uk/wp-content/uploads/2020/06/Quick-Start-A3-v1.4.pdf>

By logging into the router, you can set up parental controls to block access to the Wi-Fi by certain devices or set schedules for when the Wi-Fi is available.

## **2.8 How can I get the connection to the TV and around my house?**

Whilst B4RN will not install networking cable/kit inside your house, they can help you. Volunteers from the Computer Club – which runs at B4RN Melling HQ on Fridays between 2-4pm – can advise on the best ways to extend your connection round your home.

Running ethernet cables to fixed devices is the best solution for making the most of your gigabit connection. Installing a network cable is similar to running a telephone extension cable; it can be run under the edge of the carpet or tacked to skirting boards. Most electricians are able install network sockets in walls for a tidier solution.

Powerline adapters that plug into your electrical sockets are another solution. The speed and quality of the connection will depend on the state and layout of your wiring; they generally work best if both sockets are on the same circuit (see your fuse board).

Thick walls, foil-lined plasterboard, insulated walls and mirrors may degrade your Wi-Fi signal strength. Other possibilities include installing extra Wi-Fi access points or a Wi-Fi mesh (a set of synchronised repeaters).

There is a dedicated PDF guide to extending your connection and Wi-Fi around your property at <https://b4rn.org.uk/wp-content/uploads/2019/05/Home-network-help-V2.pdf>.

## **2.9 What if I want the connection installing but I don't want the service yet?**

There won't be any funding available for this activity so the individual will have to do the dig work themselves. We can fit a house kit to a property if we think the service will be activated in the future. It is for the project group Route Coordinator to make the decision on this. A router is only given once we have a go live date / plan for the property and usually only just before or after the service is made live.

## 3 Using B4RN

### 3.1 What is included in B4RN's service?

An Internet Service Provider is an organisation which provides you with connectivity to the Internet. As an ISP, B4RN will give you a fast, reliable gateway to the Internet.

What else does an ISP do? Well, strictly speaking, nothing. Once you are online you can access any services available on the Internet. We are all familiar with the idea of clicking on the icon for Facebook, YouTube, iPlayer or Netflix (and hundreds of others). These services and apps have nothing to do with your ISP.

Traditionally, ISPs offered bundled services as well – for example an email account. (Note that it's generally better not to take email accounts from your ISP as it locks you into them long term; most people use a free, independent service – such as Gmail or Outlook – which will be available no matter which ISP you use.)

At one time ISPs also offered web hosting and storage but again there are numerous alternative providers who offer much better deals.

### 3.2 Will I need to change my email address?

Most people have an email address which is not tied to an Internet Service Provider (for example, a Gmail or Outlook address). However, some people took up email addresses with their ISP when they signed up to a package with them (e.g., btinternet.com). What happens when you are ready to cancel your contract differs, depending on the provider. Some will completely delete the email account while others let you keep it – though they may charge a fee.

### 3.3 Is B4RN really so much faster than my current connection?

An Ofcom report published in 2019 said the average download speed for rural properties with an ADSL connection (that's copper cables all the way from the exchange to the property) was just 7.2Mbps. The same report said the average download speed for rural properties with an FTTC connections (that's fibre to the street cabinet, but copper to the property) was 43.8Mbps.

B4RN's full fibre gold standard gigabit network is 1,000Mbps download (and upload too). Respectively, that's 138x faster for rural properties with ADSL; and nearly 23x faster for rural properties with FTTC.

We're often asked by potential customers: what am I even going to do with 1,000Mbps?

It might be more helpful to think of it like this: a B4RN broadband service removes the internet connection as being the bottleneck it traditionally has been. The limitation then becomes the user equipment in the home and the remote servers with which you are communicating. Most customers seem to get a few hundred Mbps. While this is unbelievably fast, and almost all people will say they don't need this, the world is ever-changing and who can predict what the internet will mean to us in 10 years' time? It's also important to remember that speed isn't everything, and a lot of people just want a reliable broadband connection that works perfectly all of the time, whenever you need it. The B4RN service is designed solely to deliver a world-class broadband service, using the same fibre-optic cables that link data centres and countries, all the way from the internet exchange in Manchester to your property. It doesn't make use of ageing infrastructure and cables that were designed and laid decades ago to deliver something else: a telephone service. As such, the glitches, slow speeds and temporary outages that we are all used to should be a thing of the past for B4RN customers.

### 3.4 What is the customer support like at B4RN?

Although B4RN don't have a 24hr overseas call-centre, they do have a dedicated local support team that can be called (in office hours) or emailed. They will not rest until your problem is sorted; experience shows problems get fixed far quicker with B4RN than with any other telecoms provider. Contact B4RN's customer support tech desk at 01524 238499 or email: [techdesk@b4rn.org.uk](mailto:techdesk@b4rn.org.uk)

### 3.5 How secure is B4RN?

We take data security very seriously. Our network's 24/7 backup is provided by TNP (The Networking People) – they look after lots of other networks, including for schools.

Our network is constantly monitored to ensure any breaches of security would be dealt with immediately.

We do not keep people's bank details. We use a company called Go Cardless to manage our direct debits. This means if we are compromised nobody can get your bank details; and if Go Cardless are compromised nobody can get your personal details. This makes B4RN more secure than other ISPs.

### 3.6 Could B4RN become overloaded?

(For example, if everyone was streaming the next big Netflix release at the same time.)

There is enough bandwidth in any given parish for many thousands of HD video streams. B4RN can keep up with whatever the future holds for home entertainment. If more bandwidth is required, upgrades can be made easily.

### 3.7 Do I get a fixed public IP address, or a block of IP addresses?

By default, B4RN will issue 1 fixed (static) public IP address per connection.

Some users (especially businesses) may want additional IP addresses. At extra cost, B4RN can allocate additional addresses or blocks of addresses but the end user has to know what to do with them and make a case to have them. That's because we have to justify our address blocks to RIPE (the Regional Internet Registry for Europe) – who will want to see the case for assigning them.

We expect many users to install a gateway/router/firewall/Wi-Fi hub on the end of the line and that will handle additional internal address allocations and use NAT to share the single address. If the user is taking VoIP services connected directly to our CPE switch then an additional IP address will be allocated for that.

Since IPv4 addresses are nearly exhausted, we may have to assign IPv6 numbering if a user wants a block. The B4RN network supports both protocol stacks.

### 3.8 Am I still free to shop around for other internet service providers?

No, not on the B4RN fibre network; it is a closed system. You can cancel B4RN at any time with one month's notice. You can then use any supplier you wish on your landline (the one supplied by Openreach) as regulated by government, as you can now.

## 4 Telephones

### 4.1 How do I make phone calls using B4RN?

Many people will decide that, once they have B4RN, they no longer need a landline phone and move entirely to using a mobile phone, or Internet-based services such as WhatsApp.

However, if you do wish to retain a landline-type service, you will need to sign up to a third-party VoIP (Voice over Internet Protocol) service. This provides a telephone service that uses your internet connection. The calls are generally cheaper than on a traditional phone service, and any monthly costs will be much cheaper than traditional line rental.

The VoIP provider provides a small device that will plug into your B4RN router. Your home phones will be plugged into this in the same way your phones are currently plugged into your master socket. There are different types of boxes, but they are all small and unobtrusive.

B4RN subscribers have found market leaders Vonage provide a good, consumer-friendly service, however, there are many alternatives you can find by googling for “VoIP service”.

For instructions on using Vonage, see <https://b4rn.org.uk/wp-content/uploads/2020/09/Vonage-phone-line-help-file-v11-2020.pdf>.

### 4.2 Can I keep my existing landline phone number and telephones?

With most telephone providers – including BT – the answer is yes. Your existing number can be ported over to your VoIP provider of choice – just like you can port your mobile number when you switch provider.

Note: You must get the new VoIP service working first and then move your phone number to VoIP, before cancelling your current landline else you will lose your number.

Existing phones will still work on most VoIP services as long as they use tone dialling.

### 4.3 Do I still need my old telephone line?

If you move to using a mobile phone or VoIP service, you can terminate your landline service with your current provider.

### 4.4 How can I keep my connection working in a power cut?

If you currently have a landline with a wired telephone connected, then you can use that in the event of a power cut. Your internet connection and therefore your VoIP telephone would not be usable in the event of a power loss. This may not be an issue if you have a mobile phone and good signal.

Customers may wish to invest in a battery backup called a UPS (Uninterruptible Power Supply). See <https://b4rn.org.uk/wp-content/uploads/2018/04/Emergency-Power-Solutions.pdf>

## 5 Television

### 5.1 How can my TV make use of B4RN?

With the right equipment, you can access free streaming services like BBC iPlayer or ITV Hub. There are numerous other streaming services which require a paid subscription, like Netflix or Disney+.

Smart TVs are able to stream video directly from many services via the internet. For the best quality, a wired Ethernet connection is recommended, although most will connect via Wi-Fi.

If you don't have a smart TV, a streaming internet player, such as Amazon Firestick, Sky's NowTV box or a Google Chromecast will do the same thing. These generally use Wi-Fi to connect.

See [https://b4rn.org.uk/wp-content/uploads/2020/09/Streaming\\_Film\\_and\\_TV\\_Services\\_over\\_the\\_Internet-V2-1.pdf](https://b4rn.org.uk/wp-content/uploads/2020/09/Streaming_Film_and_TV_Services_over_the_Internet-V2-1.pdf)

### 5.2 Can we use B4RN to watch live TV?

BBC iPlayer streams live what would otherwise be its terrestrial output. Other major broadcasters may follow suit. but it may be sensible to keep your TV aerial or satellite dish, for now.

However you watch television, note that you should continue paying your TV Licence. Watching over the internet does not exempt you from needing one.

### 5.3 Can I watch BT Sport via B4RN?

As of December 2019, you can watch BT Sport without BT Broadband with a BT Sport Monthly Pass. The individual package costs £25 a month, contract free.

## 6 Levens Charity

### 6.1 What is the Voluntary Donation for?

B4RN local volunteer groups have to cover their own costs and are financed in different ways. Your Levens B4RN group is staffed solely by volunteers who are completely unpaid. The Levens B4RN project has been working with B4RN for over four years to bring this project to fruition.

As well as an immense amount of planning, this involves publicity, leafleting, newsletters, website, installation, training and volunteer coordination. As a group our costs include printing, software, website costs, tools for groundworks, and associated consumables, which were all needed up front. These costs have been met by a grant from The Levens Charity.

During the current installation period, householders may, for exceptional cases, request assistance and advice from our volunteers – or, if DIY-ing – borrow our powerful drill (and long bits), or other specialised equipment.

In recognition of this immense effort, we respectfully ask all Levens B4RN customers to complete a 'B4RN Levens – Levens Charity donation form' and donate at least £50 – or however much they may feel they can afford – to 'The Levens Charity', adding Gift Aid where possible. This should be done at the same time that they receive B4RN's router and sign their B4RN service agreement. In this way they can say "Thank you" for the support given, and the local community continues to benefit from our (totally voluntary) work.