

What happens to my B4RN connection (and internet telephone) when the power goes off?

Most B4RN users switch to getting their phone service through their B4RN connection e.g. by signing up to Vonage. But some worry about what will happen to their phone when the power goes off.

BT landlines have their own power feed, so as long as your phone doesn't need a separate mains power supply (i.e. you just plug it into the phone socket and nothing else) then they will work when the power goes off.

But wanting a phone that's immune to power-cuts isn't a reason for continuing to waste money on a BT landline!

There are 3 options for proofing yourself against power cuts.

1. Uninterruptible Power Supply UPS

This is a specialised battery pack. You plug it into the mains, and plug your devices into the UPS. In the normal situation it uses mains electricity to keep the battery topped up, at the same time as feeding electricity to the devices. When power fails (or drops) it automatically switches to using the battery to maintain a constant supply to the devices.

If you use a desktop computer, you should have a UPS already! If power goes off you can lose data, and if it fails during a disk write operation, you can end up with an irretrievably knackered disk. A UPS gives you time to close programs and shut down the computer.

B4RN users can also use a UPS to provide short-term back-up during power cuts. You can plug into it your;

- B4RN router
- Vonage box *
- Dect Phone base station* (if applicable)

**** you don't have to connect these to the UPS if you have a smart mobile with the Vonage Extensions App installed; with it you can answer calls made to your landline number on your mobile phone (the mobile connects to Vonage via your WiFi so you don't actually need the Vonage box or DECT base to be powered).***

How long a UPS will last depends on its internal battery capacity, these are normally sealed lead/acid cells. The energy stored in a battery is given in AmpHours (Ah) or Milli-AmpHours (mAh). How much power it can safely supply is often stated in volt-amps (VA), this is not the same as the more recognisable measure of watts, 700VA is about equivalent to 400Watts. In the event of a mains power supply the UPS converts the stored energy in the batteries and converts it into a substitute source of 240V. The efficiency of the conversion process is not simple and depends upon a number of factors, primarily the number of watts that it needs to support.

Assuming you **aren't** relying upon the Vonage Extensions App and a mobile, the B4RN router and the Vonage adaptor together need a maximum of 36Watts of power to run, with a typical DECT Phone requiring about another 5 watts to operate. The actual power demand will be lower if you are not using the phone.

A small UPS like the APC 325 (BE325-UK) will allow the B4RN Router, Vonage Adaptor and DECT phone to operate for an absolute minimum of 15 Minutes, and in normal circumstances could be good for 40 minutes power interruption.



Cost ~£70.

With the same equipment connected a medium UPS like the APC 400 (BE400-UK) it should be good for an absolute minimum of 60 minutes and in normal circumstances could be good for 90 minutes power interruption.



Cost ~£70

With the same equipment connected to a slightly larger UPS like the APC 700 (BE700G-UK), the equipment should operate for an absolute minimum of 80 minutes and in normal circumstances could be good for up to 120 minutes.



Cost ~£90

All the performance figures quoted are based on the manufacturers data, if you have an APC UPS or similar and can provide some real world data we'd love to know what you achieve.

2. Power packs

There are two basic types, one is essentially a lead acid battery like that used in cars, but with a built-in inverter and a 240V AC output socket. Look in Halfords, not PC World! You charge it from the mains (as you would a mobile phone). You would keep it plugged in so that it is always fully charged, and when the power goes off, plug your B4RN router etc. into the AC socket.

The second type relies upon a Lithium-Ion battery like that used in a laptop. These power-packs are marketed as a way of recharging your mobile devices when you can't get to mains power, however with care they can be used as an alternative power supply. There are lots of Li-Ion power-packs advertised but one that has a good reputation for excellent product and customer support is Anker.

Anker is the manufacturer of all sorts of power adaptors and battery powered supplies. One of these is the "Astro Pro2 20000mAh Multi-Voltage". It's a Lithium-Ion battery pack that supports a wide range of voltage output options: USB output: 5V, 2A; DC output: 12V / 4A, 16V / 3.5A or 19V / 3A. Its normal purpose is to recharge the battery of a mobile device (phone, tablet or laptop) and it is supplied with a huge range of adaptors for this purpose, a very useful function if you are away from mains power for any length of time.

It's about the size of a paperback book and normally retails around the £120 mark, but is often discounted by retailers to £60. Anker give an 18month warranty and typically a pack should last 300-500 recharge cycles.



By setting the 12V/16V/19V output to 12Volts and using a separately purchased 2 way split adaptor it is possible to power both the B4RN Genexis router and the Vonage adaptor directly with the 12V DC that they need to operate.

A “5.5x2.1mm 1 Female to 2 Male Splitter 2 Way DC Power Cable 8.75 Length for CCTV Camera” costs about £1 from Amazon.

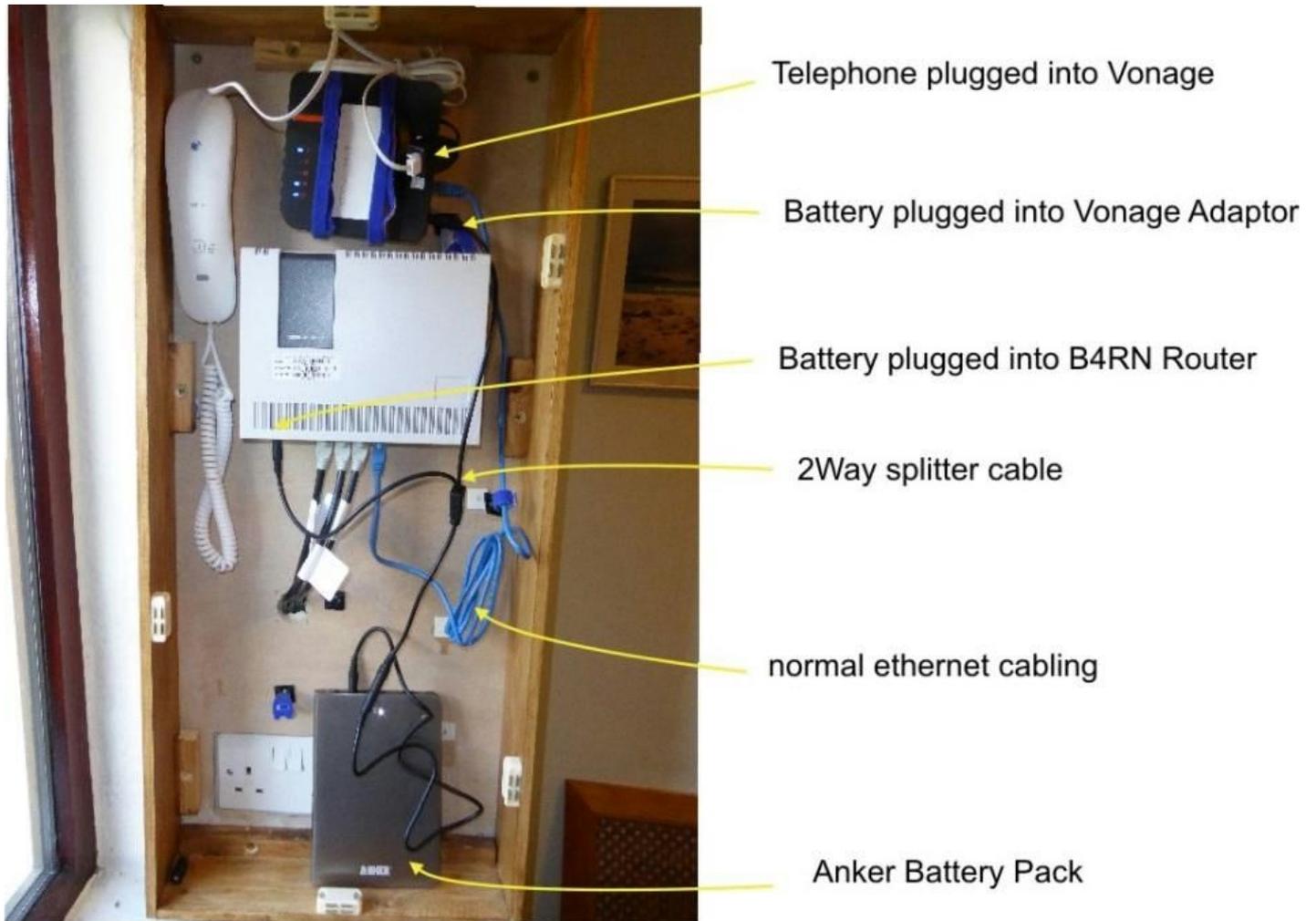


During the mains power interruption, the normal AC/DC adaptors plugged into the router and Vonage adaptor are disconnected and replaced by the two way splitter connectors and this is in turn connected to the Anker battery pack. Once mains power is restored simply disconnect the battery pack and reconnect the normal AC/DC adaptors.

Before connecting it is **absolutely essential** that the battery output switch is set to 12V DC, or you will damage your equipment and be liable for any repair costs. The picture shows the slide switch on the pack set the output to 12V DC.



The picture below shows the Anker pack connected to the B4RN Router and the Vonage adaptor. A simple telephone handset is plugged into the Vonage telephone socket, to ensure you can make calls when the mains power is off.



If fully charged the battery pack will power the equipment for up to 5 and half hours of normal use and potentially much longer if you are not using the phone or Wifi.

The Anker battery pack will hold its charge for many months. However, it is worth noting that the battery's chemicals will become less active if left unused for extended periods. To extend your battery's life and to be certain it's charged when you need it, you should discharge and recharge it at least once every 4 months.

The benefits for B4RN users are exactly the same as for UPS, but without the seamless transition.

3. Petrol generator

No capacity worries, but could be viewed as OTT! On the other hand, if it allows you to be shot of BT, it will pay for itself in 2-3 years. For more info on brands and products, just Google the headings above.