



Baltic Backpack

The Baltic Backpack is a lightweight, mobile, high performance bonded 4G WiFi Access Point giving webcasters, event organisers and production companies, highly available and high speed internet access at any location.

Whether you require connectivity in natural disaster zones or on location in remote areas, Baltic Backpack's bonded network capabilities help you to get online from the most challenging places. The Backpack allows anybody to surf the web, check their email, upload files, or even stream live audio & video online from areas they otherwise were unable to.

At the heart of Bonded Backpack is the Baltic Box, a high performance bonding router that supports bit rates up to 300Mbps and a boot-to-live time of 30 seconds.

The backpack is available on a daily, weekly and monthly hire, available "dry hire" (without an on-site Baltic Engineer) or with an Engineer.

The ergonomic, lightweight, and weather resistant, backpack includes 4 x CAT6 cellular modems that support 4G (LTE) and is available in a choice of two modes of operation:

High Availability (HAL): enabling a highly resilient connection by sending a copy of your data across all 4G connections simultaneously (using the first copy to arrive at the remote end as valid data) so that the loss of any one link is immediately covered by the others.

Bonded for Speed (BFS): enabling speeds up to 300Mbps by combining (bonding) together multiple 4G modems into a single high speed connection

High Availability Option (HAL)

How it works

Our High Availability backpack version creates four separate 4G connections to four different UK mobile operators (EE, Vodafone, O2 and Three). A copy of your data is sent/received down all four connections simultaneously. Our delivery algorithm uses the first copy of the data to arrive at the remote end, ensuring high data availability & reliability while ensuring a timely delivery.

This unique functionality adds a solid layer of resilience and reliability to your data, providing your application with substantial availability link at all times, ideal for video/audio streaming, live conferences and latency sensitive applications whereby time between capture and user viewing need to be kept to a minimum. All four mobile connections would need to be lost or degraded for customers data to be interrupted therefore providing an error free link.

Use Case

The High Availability (HAL) option is generally used by customers whereby stability and consistency of data is more important than actual bandwidth speeds, which is typical of a Broadcast environment (for use in streaming applications) with minimal packet loss, jitter and lost video frames.

Customers who currently hire the High Availability (HAL) version tend to be :

- Providing streaming for Concerts, live events, radio stations, TV Stations, conferences and live TV link-ups to remote studios or Live streaming to Social media streaming channels like Facebook, Instagram, Periscope etc
- Business applications that run zoom calls at a remote location, require IP phone services or have a remote office in a field location
- Pub and licensed venues that need to watch a live broadcast (Football, Olympics etc) and need a reliable feed for a fix period of time without having to upgrade key infrastructure
- Customers who need a reliable layer 2 network connection between two remote locations, allowing them full control over network traffic and routing, effectively acting as a LAN cable between point A and point B.

Bonded for Speed Option (BFS)

How it works

Our Bonded for Speed (BFS) backpack version makes four separate 4G connections to four different UK mobile operators (EE, Vodafone, O2 and Three). Each time data is sent/received it is "bonded" across all four connections, creating a large single data tunnel that is optimised for the fastest speeds available within the area.

With available speeds of upto 300Mbps download with 100Mbps upload, this bonded solution is ideal for applications that require the fastest of internet speeds with less focus on resilience and availability, for example the uploading of film rushes from a remote set, content access, accessing data from a cloud and the provision of general internet connectivity for example WiFi.

Use Case

Our Bonded for Speed (BFS) version is generally used by customers whereby the fastest speeds available is more important than reliability, which is typical of heavy upload/download applications for large data sets (content) that need to reach a target endpoint quickly from creation.

Customers who currently hire the Our Bonded for Speed (BFS) option tend to be :

- Film companies who need to upload their rushes to post production from a film set within a constrained time-frame from a remote location
- Photographers, Social Media Content creators who need to upload/download content in the field and need the fastest connection possible
- A business conference, event or social gathering that wants to provide Guest WiFi for a period of time that is expected to have a lot of WiFi users simultaneously using the system
- Customers who need a high speed internet connection for a VPN or similar to provide a private encrypted tunnel between studios and location, cloud provider or even their own office

Technical Specification (both versions)

- High Performance Bonded 4G WiFi Access Point
- 4 performance 3G / 4G/ LTE modems
- 4 x 3.5dBi IP67 Externally Mounted 2G/3G/4G LTE puck antennas
- Boot-to-live time of 30 seconds
- Fully waterproof and airport safe
- 2.4 / 5GHz | 802.11ac WiFi with 200 meter range
- Built in 50 Ah battery provides 8hrs of continuous use
- Silent operation with internal fan based cooling
- Baltic Broadband Static IP addresses included
- Unlimited data during hire window
- Provided with WiFi and a wired ethernet port (recommended for streaming)
- Optional built in ethernet switch for connecting multiple wired devices
- Built in 230V mains charger (7 hrs for full charge)
- No subscriptions, licences or forms to complete, simply switch-on and use
- Total weight 4 Kg
- Can be operated continuously while charging (mains)
- Fully insured (weather, theft etc)
- Real-time battery life indicator showing % left of battery
- Comes with 200w Mains Power Inverter for charging from car cigarette lighter port

Extra add-on Features

Backpack to Backpack Link - Request a second ethernet port to be made available in the backpack that connects directly to another backpack or any of our mobile solutions for other sites. This layer 2 link acts as a virtual ethernet cable between both backpacks (geographically separated), enabling remote set to remote set private links that is ideal for remote camera operation, corporate network setups, lighting control rigs etc.

Power Station Hook Up - The Backpack can easily be hooked up to a larger roller bag that contains a fuel cell power system, capable of supplying enough power to keep the Backpack operational for 90 days continuous without charging and still at silent operation, ideal for remote installations

Frequently Asked Questions

Why use the back backpack when I could just buy a 4G modem box?

The Baltic Backpack and a 4G modem are no comparison. Many customers that come to us for this service have used regular 4G services and been let down by its performance, restricted by Carrier Grade NAT (CGNAT) and lack of support.

Here are just a few of the differences between the BackPack and 4G modem:

- Increase your chances of your data getting through. By utilising four simultaneous mobile connections you'll increase your chances of connection reliability especially during crowded events whereby other 4G users are all competing with each other for bandwidth and mobile mast airtime
- The backpack uses **Carrier Aggregation** on each 4G connection (making use of multiple mobile carriers frequencies resulting in higher speeds in areas of high amount of mobile users)
- We use Business grade (non-consumer grade) unlimited data SIM cards for each connection as such it's not constrained by the mobile carriers fair use policies for excessive use
- You get a static IP address(s) that remains consistent for the life of the hire, or it can remain permanent for all future hires (by arrangement)
- It has higher gain antennas that connects to various mobile masts and an high gain interference rejection filter, something that regular 4G modems don't have
- We connect directly to the mobile operators RAN (Radio Access Network), allowing us to provide our own internet "over the top" and therefore don't use the the highly contented, bandwidth shaped and performance managed broadband that they usually provide (you will have Baltic's Internet)
- We optimise your connection by automatically shortening the path between you and your end point (for example, we directly peer with YouTube and many more (have a direct connection with them) in order to keep latency, packet loss and dropped frames as low as possible)

Can I add more mobile connections in order to bond speed or add further redundancy to my connection?

Yes, you can add additional devices (up to 24 more) for example mobile phones, and you can also add an ethernet from ADSL/DSL lines, Cable, Leased Lines and even satellite internet connections into the High Availability or Bonded group.

How Long Does it last on a single charge?

During our testing and with feedback from customers, 8 hours is a realistic duration on a single charge. The battery can be charged at any time whilst in use. Baltic also supplies a spare battery with the setup.

How does the Baltic BackPack Link work?

If you hire multiple backpacks, you can ask for a private link to be created between them.

This link acts as a flat Layer 2 connection (like a long network cable between both backpacks) connecting them together on the same physical network. Customers use this feature to connect together various equipment types or when they need all devices on a single flat network that they control (the backpacks could be on the other side of the country from each other!), which is a handy feature to have.

Customers that tend to use this feature are IT companies, Film Companies (that connect together film set equipment), Music Festivals (backend lighting control) and talk back channels for remote crews.

Other available Equipment

We also offer larger and even more powerful versions of our High Availability and Bonded Solutions that are available as a rolling rack (about the size of a suitcase), Car Box (attached into a car roof rack) and is also available for installation within a vehicle.

Photos



Backpack, showing left hand side with waterproof Ethernet Cable connector exposed and ready for hardwired connection (used for streaming etc)



Ethernet Port connector, allowing a 1Gbps connection into any device. Devices can be provided with a regular RFC 1918 IP address upon connection, or be provided directly with a public IP4 IP address if required.

Baltic can also supply an 8 port portable switch that can connect into the above port, so you can connect additional hard-wired devices.



Battery compartment zip, showing it's concealment and low profile.



Showing top bag pocket that contains the Backpack charger. Charge time is around 7 hours to full charge, from zero.

The backpack can also be run continuously when plugged into the mains, providing a service while charging.

Photos of Use Case/Examples



Backpack in operation for a local music festival, showing user with a DSLR camera connected via WiFi to the Backpack. Photos were uploaded instantly to a cloud drive folder at very high speed (thanks to the Bonded version bonding 4 mobile phones masts simultaneously), to allow a post production crew to edit and publish in almost real-time.

Photos below, showing use at the 2021 Cream Classic's event (12,000 people attended) in Liverpool. User was able to broadcast full HD continuous stream to YouTube and various other video endpoints with minimal dropped frames, thanks to the HAL mode of the Backpack.









Want to know more?

Email us at sales@balticbroadband.com or call 0151 279 1000.