Live Tracking and Conspicuity

SkyEcho ADS-B transponder

ADS-B (Automatic Dependent Surveillance–Broadcast) is a modern aviation technology that allows aircraft to determine their position via satellite navigation and periodically broadcast it, enabling them to be tracked in real-time by air traffic control and other aircraft.

Core Components

- ADS-B Out: The "transmitter" side. Required for most aircraft, it broadcasts GPS location, altitude, and velocity to ground stations and other aircraft.
- ADS-B In: The "receiver" side. Optional for many, it allows pilots to see nearby traffic and receive free weather (FIS-B) and traffic (TIS-B) updates on cockpit displays.

The SkyEcho ADS-B transponder is the only practical option for paragliding. It requires an Aircraft (Transportable) Radio License from Ofcom at a cost of £15 per year.

You need to apply for to the CAA (NISC@caa.co.uk) for a unique ICAO 24-Bit Aircraft Address. This code is a 6-digit Hexadecimal number. If you're unfamiliar with Hexadecimal it has a base 16 system 0-9 A-F.

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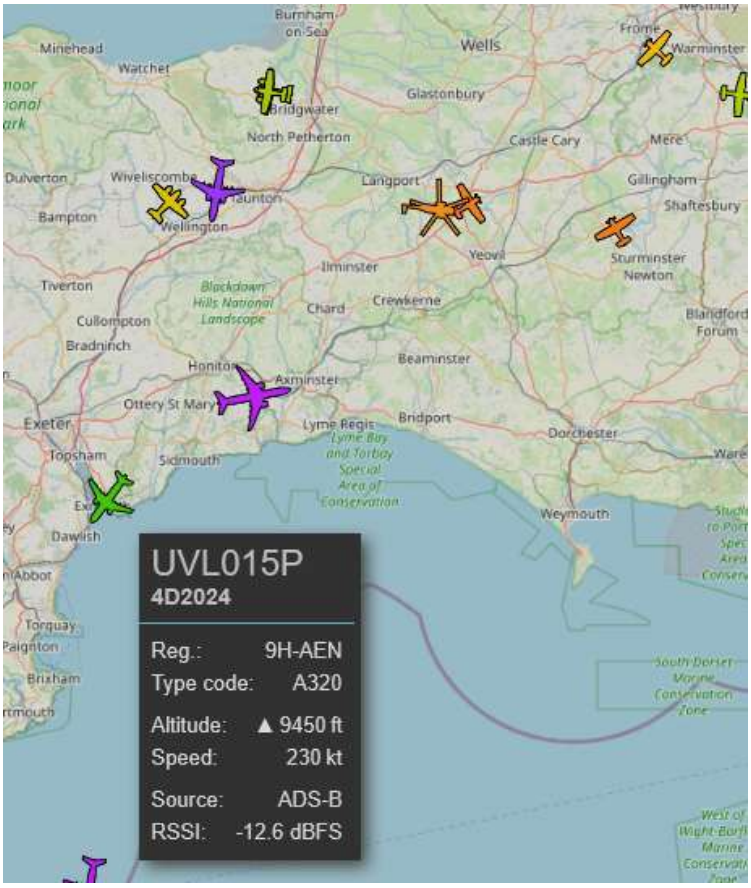
As a one-off setup you web into the SkyEcho. Enter your unique ICA identification code. Set the Emitter Category to Glider / Sailplane. Choose your own Callsign. I chose PARA8356 as meaning a Paraglider and 8356 is my BHPA number. Don't choose something stupid.



In flight you will appear on the Global ADS-B exchange map along with your callsign and flight track and information which is permanently recorded.

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FLARM and FANET

FLARM (Flight Alarm)

- Purpose: Primarily collision avoidance, acting as an electronic "see-and-avoid" system.
- How it Works: Uses a GPS receiver and a barometric sensor to predict future flight paths, transmitting this data to nearby equipped aircraft.
- Users: Used by airplanes, helicopters, drones, and gliders.
- Range: Works offline without cellular service.

FANET (Flying Ad-hoc NETwork)

- Purpose: A low-cost, open-source method for live tracking, identifying, and sharing information between users, particularly in paragliding and hang gliding.
- How it Works: Uses LoRa technology to share data over long distances.
- Features: Helps pilots track buddies, see airspaces, and get weather data without internet.

FANET+ (Hybrid System)

- Components: Combines a FLARM transmitter (Tx) with a FANET transmitter/receiver (TxRx).
- Function: Makes paragliders/hang gliders visible to other aircraft (via FLARM) while offering local, direct tracking of other FANET devices.
- Benefit: Provides maximum safety by being visible to planes/helicopters, while offering situational awareness and tracking without internet.

Common devices, such as the Naviter Oudie N, integrate this technology to enhance safety and connectivity for free-flight pilots.

Many modern flight instruments incorporate FLARM / FANET+. Each as a unique OGN address expressed as a 6-digit Hexadecimal number such as 0A0CB8. If you know your buddies' addresses they can appear on your flight instrument display by name. A record of names is kept at https://docs.google.com/spreadsheets/d/1yyUNG9cSwjMy5ecde3pAGSO5OK4a40nJMQ2ZR_ITU88/edit?gid=0#gid=0

Please add your details. Remember to use the number 0 and not the letter o in the OGN address.

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XCTRACK

XCTRACK is an android fight software app that is free to use and provides live tracking capabilities. It is akin to the apple FlySkyHy

With XCTRACK you first need to register on XContest (https://www.xcontest.org/world/en/registration/)

Once you've set your XContest username and password within the XCTRACK app and enabled live tracking it automatically transmits your location to XContest once you start the app. Be sure to allow Unrestricted App Battery Usage otherwise it will stop working when the screen is blank.

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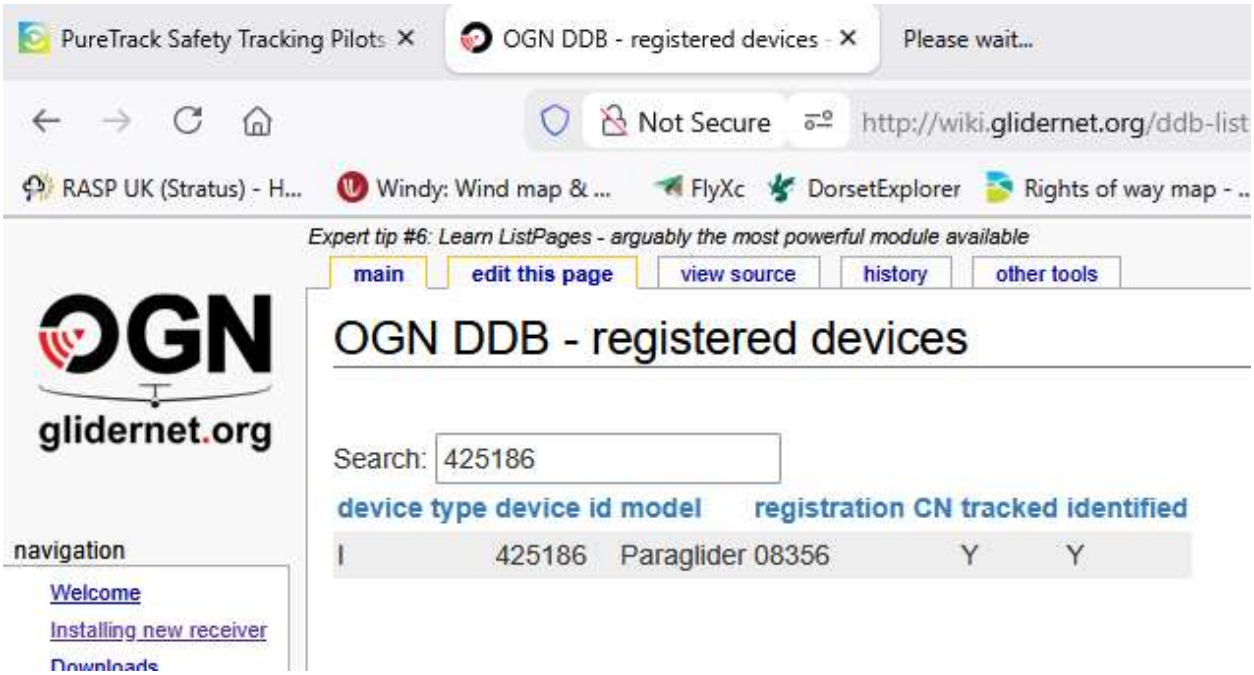
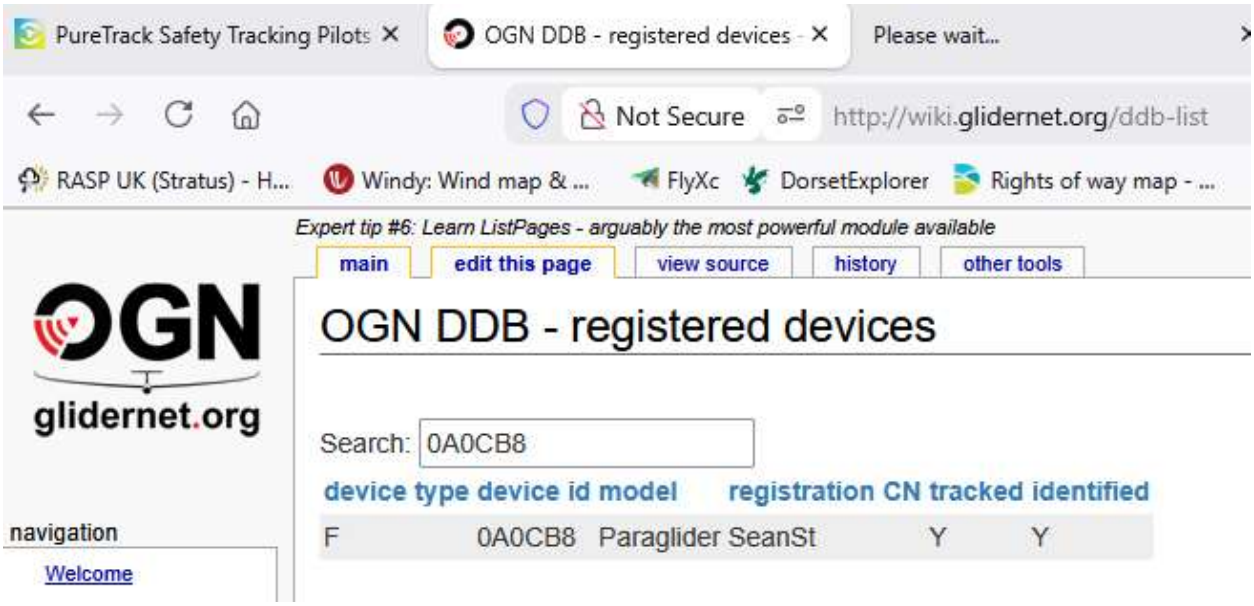
Puretrack

To set yourself up on Puretrack, which is the primary live tracking site, you first need to open a free account with the Open Glider Network and register your devices. (https://www.wikidot.com/default--flow/login__LoginPopupScreen?originSiteId=643891&openerUri=http://wiki.glidernet.org)

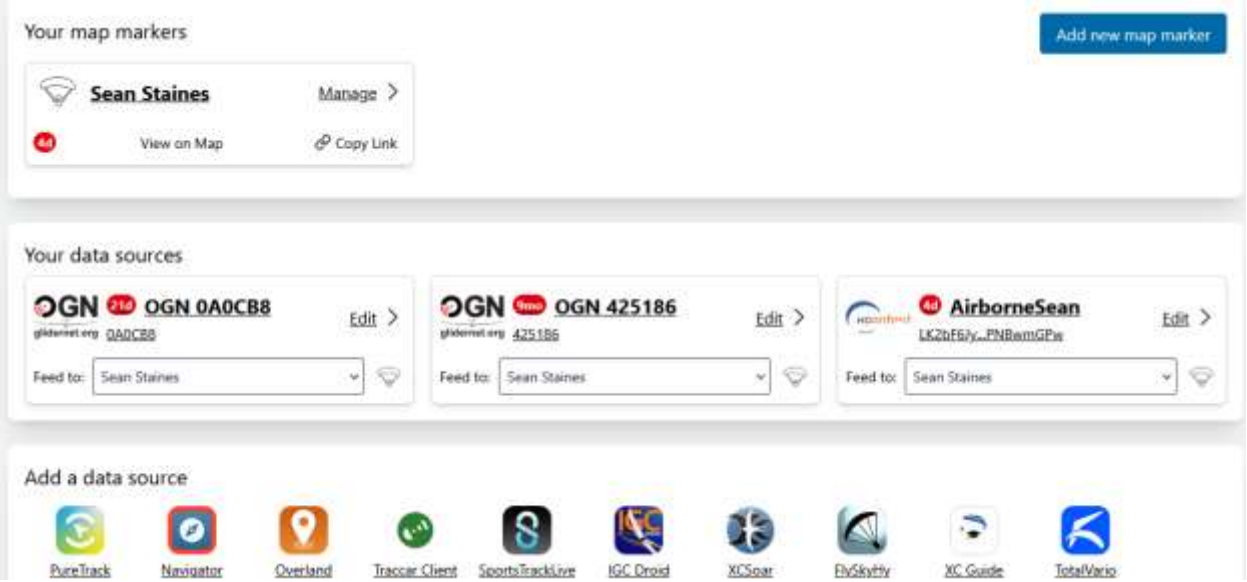
You can then login (http://wiki.glidernet.org/ddb-list) and enter your devices onto the OGN database.





Next you set up a free account on Puretrack

Live Tracking and Conspicuity



In your Puretrack account dashboard you add all your data tracking sources. Shown above is FLARM and ADSB from OGN and XCTRACK from XContest.

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Once the setup is complete your flights will appear live-tracking on the Puretrack website(https://puretrack.io/)