

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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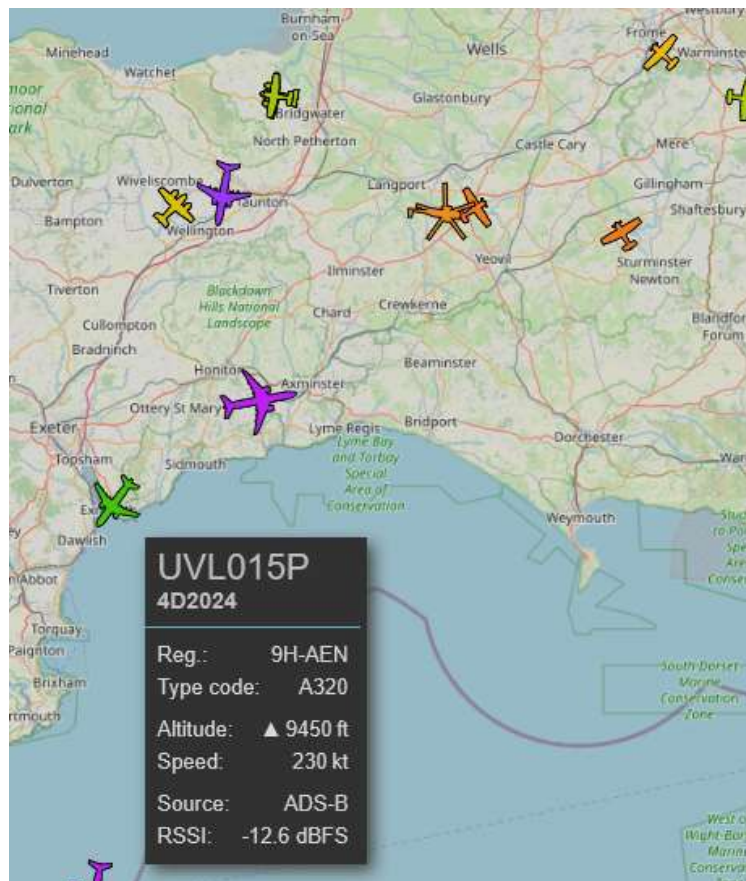
ADS-B Setup

✓ Configuration loaded

Setup

1090ES Transmit:	<input checked="" type="checkbox"/> Enable	Receiver Mode:	<input type="radio"/> UAT <input checked="" type="radio"/> FLARM (EU ONLY) <input type="radio"/> 1090ES
ICAO Address (hex):	<input type="text" value="425188"/>	Callsign:	<input type="text" value="PARA8356"/>
FLARM ID (hex):	<input type="text"/>	Owship Filter:	<input type="checkbox"/> Filter ADS-B <input type="checkbox"/> Filter FLARM
Emitter Category:	<input type="text" value="Glider/Sailplane"/>	VFR Squawk:	<input type="text" value="7000"/>
ADS-B In Capability:	<input checked="" type="checkbox"/> 1090ES <input checked="" type="checkbox"/> UAT	V _{AS} (knots):	<input type="text" value="5"/>
Aircraft Length:	<input type="text" value="1 ≤ 13 m"/>	Aircraft Width:	<input type="text" value="W ≤ 23 m"/>
Lateral GPS Offset:	<input type="text" value="Center"/>	Longitudinal GPS Offset (m):	<input type="text" value="0"/>
SDA:	<input type="text" value="1"/>		

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 flight 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.

The screenshot shows a web browser window with the URL <http://wiki.glidernet.org/ddb-list>. The page title is "OGN DDB - registered devices". A search bar contains the text "425186". Below the search bar, a table displays the search results:

device type	device id	model	registration CN	tracked	identified
I	425186	Paraglider	08356	Y	Y

The left sidebar features the OGN glidernet.org logo and a navigation menu with links: "Welcome", "Installing new receiver", and "Downloads". Above the table, there are tabs for "main", "edit this page", "view source", "history", and "other tools".

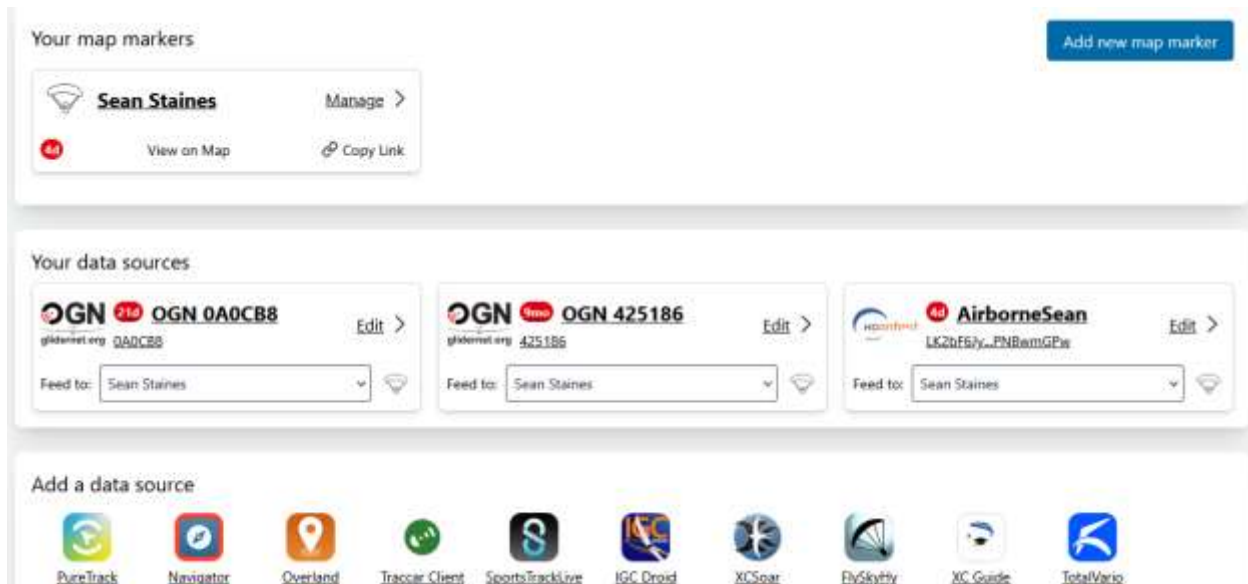
The screenshot shows the same web browser window with the URL <http://wiki.glidernet.org/ddb-list>. The search bar now contains the text "0A0CB8". The table displays the search results:

device type	device id	model	registration CN	tracked	identified
F	0A0CB8	Paraglider	SeanSt	Y	Y

The left sidebar and navigation menu remain the same, with the "Welcome" link highlighted. The tabs above the table are also present.

Next you set up a free account on Puretrack

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

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