SkyEcho Transmission Cleared With Transponder Fitted

What's the Story?

The wait is over! Now you can use your Sky Echo to transmit your position to other aircraft via ADS-B on 1090MHz, ***even*** if you have a transponder fitted in your aircraft.

What Exactly Has Happened?

Following a series of trials and consultation with suppliers of portable Electronic Conspicuity (EC) devices capable of ADS-B Out (that's basically just us BTW!), the CAA has approved the transmission of ADS-B data from EC devices, while simultaneously operating a Mode A/C or S/C transponder, but only if that transponder is not itself enabled for Extended Squitter (ES) aka ADS-B Out.

What Does the 'Acronym Soup' Mean? What Was the Issue?

Because EC devices like SkyEcho and aircraft transponders all operate on the same 1090 MHz frequency, the CAA was concerned that a SkyEcho transmitting your position via ADS-B might interfere with your transponder's output to ATC, particularly when using Mode S.

Why Is It Not an Issue?

Each Mode S 1090 MHz pulse is divided in time into packets of data, each allocated a numbered Downlink Format (DF). Mode S transponders output on DF17 whereas non-transponder ADS-B systems (like SkyEcho), output on DF18. They *should* not interfere with each other.

What Did the CAA Trials Prove?

The CAA trials proved that there is no significant interference between transmitting EC devices such as SkyEcho and Mode A/C or non-ES enabled Mode S/C transponders. There was, however, potential for interference with ES enabled (aka ADS-B Out) Mode S transponders.

What Does This Mean to Me in a Permit Aircraft?

The CAA has approved Permit aircraft regulated by the LAA to transmit their position via ADS-B Out using a transmitting EC device such as SkyEcho, when a Mode A/C or non-ES enabled S/C transponder is also in use. However, if the Mode S/C transponder is ES enabled i.e. it is connected to a GPS source to provide ADS-B Out, the SkyEcho must be set to Receive Only.

What Does This Mean to Me in an EASA Regulated Aircraft?

In order for the CAA to continue to gather evidence for presentation to EASA and to monitor any on-going interoperability issues, pilot/owners of EASA aircraft wanting to transmit ADS-B from SkyEcho 2 with a Mode A/C transponder or non-ES enabled S/C transponder should notify the CAA of the following details via esr@caa.co.uk prior to commencing simultaneous transmission:

- Applicant's Name
- Applicant's Email Address
- Emergency Contact Number
- Aircraft Registration
- Hexadecimal Code
- Type of ADS-B Transceiver

If the aircraft's Mode S/C transponder is ES enabled, i.e. it is connected to a GPS source to provide ADS-B Out, the SkyEcho must be set to Receive Only.