



# Report to IGC from the Chairman of the GNSS Flight Recorder Approval Committee (GFAC)

for the agenda of the 2021 IGC Plenary

22 February 2021

1. **GNSS Flight Recorders.** A total of 60 types of GNSS Flight Recorders (FRs) from 19 different manufacturers are currently IGC-approved. If different models within types are included, the number increases to 72.

References: [www.ukiws.uk/GFAC/igc\\_approved\\_frs.pdf](http://www.ukiws.uk/GFAC/igc_approved_frs.pdf) or through [www.fai.org/igc-documents](http://www.fai.org/igc-documents)

## 2. IGC-approval Documents.

2.1 In May 2020 IGC-approval documents for all FRs were updated with current FAI/IGC and GFAC web sites and the GFAC Chairman's new email address.

2.2 In June 2020 the Aircotec IGC-approval document was updated with the Aircotec company status changed to "no longer active".

2.3 In October 2020 the PowerFLARM approval document was updated, adding the Fusion variant.

3. **FR Specification.** An amendment to the IGC FR Specification was published in November 2020. This contained some 70 items, most of them small, showing the effort needed to keep such a complex technical document up to date. The amendment included some additions based on changes to Sporting Code Annex B, enhanced wording on GFAC testing and changes of IGC-approval level, IGC file security aspects, and some new definitions.

## 4. Current Work

4.1 RC Electronics Fenix FR. The Fenix is a new type of FR designed by RC Electronics of Celje, Slovenia, and GFAC testing has been taking place since January 2021. After initial testing, the prototype FR has been returned to the manufacturer for updates and GFAC work will resume when updated hardware is received.

4.2 IGC Tracker Project. Item 6.3.1 of the last Plenary minutes approved the IGC Tracker project for precise tracking of gliders at future WGCs. In addition, it is intended to certify the tracker unit as a Level 3 FR so that it can be used if the glider's main FR system fails. The tracker will be tested for IGC-approval in the normal way when hardware is received from the manufacturer, Avionix Engineering of Kraków, Poland.

4.3 New FR Variants. It is understood that two updated models of current IGC-approved FRs will shortly be put forward for IGC-approval.

## 5. IGC Agenda Items

5.1 Pressure Altitude Calibrations - Still Needed. Agenda item 6.3.4 from France & Denmark suggests the removal of the periodic pressure altitude calibration of IGC-approved FRs. This is opposed because, although pressure altitude figures of modern FRs are more stable compared to earlier models, they can still "drift" with time. In any case, FRs can develop faults, even with modern designs. Accurate pressure altitudes are not only required for altitude performances, but also to demonstrate compliance with airspace regulations and in IGC competitions, penalties for non-compliance are applied. In addition, accurate pressure altitude is required to ensure in distance and speed claims that the 1000 metre pressure altitude height loss between start and finish is not exceeded (SC3 main volume 3.1.5 and 3.1.6). Periods for calibrations to be carried out have been increased compared to the past and are now 5 years before the flight, or two months after the flight if the 5 year period is missed (SC3 main volume para 2.4.6). Finally, in the event of a formal complaint about a glider entering prohibited or restricted airspace, IGC needs to be able to demonstrate that its rules about pressure altitude calibration are reasonable and hopefully beyond criticism by Civil Aviation Authorities.

Ian W Strachan  
Chairman IGC GNSS Flight Recorder Approval Committee (GFAC)

Annex: Current GFAC membership

## **Annex to GFAC Report for the IGC Plenary Agenda**

### **Current Structure of GFAC**

**Members** - in alphabetical order of family name

Angel Casado PhD (Spain)  
Miguel Madinabeitia MSc (Spain)  
Peter Purdie BSc (UK)  
Ian Strachan FRAeS (UK, Chairman)  
Hans Trautenberg PhD (Germany)  
John Wharington PhD (Australia)

### **Technical Advisors**

Dickie Feakes, Bicester Aviation Services (UK)  
Tim Newport-Peace, Specialist Systems (UK)

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