

**AMENDMENT LIST NUMBER 2**  
to  
**THE SECOND EDITION OF**  
**THE TECHNICAL SPECIFICATION FOR**  
**IGC-APPROVED GNSS FLIGHT RECORDERS**

**EFFECTIVE 31 DEC 2013**

**ISSUED BY FAI**  
**ON BEHALF OF THE INTERNATIONAL GLIDING COMMISSION**

*Note 1: The exact wording of items below and other more minor updates are in the full Specification with Amendment 2 dated 31 December 2013 which is available on the web.*

*Note 2: This amendment revealed that further work is required, mainly in the latter part of the Specification document. This will take place starting in early 2014 with the intention of publishing Amendment 3 later in the year. In addition to ANDS and GFAC members and advisors, inputs are welcome from anyone with an interest. Please email suggestions to the GFAC Chairman at: ian@ukiws.demon.co.uk*

**Page (i)** - update the web references at top of page

**Page (iv)** - add important caveat as follows: This document covers what is expected to be the normal design situation, other designs will be assessed and tested by GFAC and given IGC-approval if security of data and other important provisions of this document can be demonstrated.

**Preliminary Remarks**, page (iv) - Para 1: add reference to GFAC web page  
Paras 5 & 6, add reference to the ANDS committee

**Glossary**

ADS-B - expand explanation, include US NextGen

Augmentation systems, for GNSS, add

Constellation, refine wording

ECC - re-phrase to read better.

EGNOS - add reference to SBAS

Enhancement systems - transfer to Augmentation para

EUROCAE - add meaning of SAE

Fix - add the IGC file requirements for a Fix

Fix, valid, correct the reference to the character in the IGC file

GLONASS - now more compatible with the US GPS system.

GNSS - add the future Chinese Beidou 2 GNSS system

GPS - add first operational date of January 1980, add more detail to GPS system time sub-para

IGC-approval, refine the wording

MoP - refine wording, add reference to external MOP sensors

UTC - add reference to the future proposal to eliminate "leap seconds"

WAAS - add reference to SBAS

WGS84, add reference to the other ellipsoids (Geodetic Datums) that are listed in Appendix A.

**Main body**

1.1.2 Split into sub-paragraphs

1.1.6, add: ... and 2.2.4.1 on High Altitude Flight Recorders (HAFRs).

1.1.4.5 - change JAA to EASA

1.1.11.2 Add: witnesses independent of the pilot

1.4 refer to the GFAC sub-account within the FAI/IGC account

2.2.3 add reference to GNSS altitude

2.2.4 Change title to: Altitude Recording

Add: 2.2.4.1 High Altitude FRs (HAFRs). For the text, see the full document.

2.2.9 Add ICAO Sea Level pressures

3.2 Add reference to the WGS84 Ellipsoid

4. Add reference to 2.2.9 on conversion factors

**Appendices**

A1.1.1.1 add reference to 20 fixes in the pre-takeoff baseline

A1.1.1.2 refer to para 3.7

A2.5 add: New types of FRs to use the IGC long file name format given below:

A2.5.2 refine explanation on long file names

A2.5.6, Manufacturer codes table, add:

ClearNav Instruments (ex Nielsen Kellerman)	CNI	K
Logstream	LGS	B
Naviter	NAV	(single ID not needed, only long file names used)

A2.5.6 Note 1 to the Manufacturer codes table, new types of FRs must use the IGC long file name format.

A3.2.3 The WGS84 ellipsoid is mandatory

A3.2.7.4 ISO 3166 table is an extract

A3.3 ENL is required for all motor gliders

A3.5.5 clearer wording on the C-record format

A4.2 Third sentence, refer to the new code for Blind Flying instrument on or off (BFION or BFIOFF)

A4.3 add GLONASS, Galileo and Beidou 2 GNSS systems

A5 add reference to units with separate GPS units

A3.5.5 clarify wording on declaration lat/long

A6 line 1. Change 7E to 7D (because 7E is a reserved character)

A6 Valid Character tables. First table, right hand column, add: , = 2C

Also add the note that is in the right hand column of the second table

A7 table of Three Letter Codes, add: BFI (Blind Flying Instrument). For text, see the complete document

B2 add reference to engine detection under the MOP code

B7 add EASA

Appendix C, IGC Shell programme. C1.1 Add Windows 8

Appendix E, changes of IGC-approval level. Replace with text from SC3B Appendix A

Appendix F, F1, add micro-SD card

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