Approval document for an IGC Position Recorder

Issuing Authority: Soaring Society of America (SSA)
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Date of effect: 01 June 2013

References:

A. FAI Sporting Code Section 3 (Gliders and Motor Gliders) (SC3)
Particularly: SC3 Appendix A to Chapter 4 on Position Recorders
B. Annex B to the Code (SC3B), Glossary items on Position Recorder and Validation, and paras 1.7, 2.1.1.2, 2.2.2.
C. Annex C to the Code (SC3C), particularly para 6.1 and 6.2, also 1.1, 1.5, 3.3.
D. Specification for the IGC file format, Appendix 1 to the Technical Specification for IGC-approved Flight Recorders

1.1 This document authorises the use of the GPS recording device described in para 2 for use as an IGC Position Recorder (PR) for flights under the jurisdiction of the above NAC under the rules and procedures for PRs in the FAI Sporting Code Section 3 (Gliding), in particular under References A-D
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1.2 Silver and Gold Flights. At the date of publication of this document, Reference A allows IGC Position Recorders to be used for flights for Silver and Gold IGC Badges. For other badge, diploma and record flights, an IGC-approved Flight Recorder must be used, and can also be used for Silver and Gold flights.

1.3. Scope. This document covers only the PR recording function and the data in the IGC-format file that is downloaded from it (Reference D and 3.3 below). Other functions in the PR and other modules that can be connected, are not the responsibility of the NAC or IGC.

Type of IGC Position Recorder

2.1. Name of Position Recorder: flyWithCE Flight Recorder FR300

Manufacturer: Name: flyWithCE
Address: Ulica Lojzeta Hrovata 9, 4000 Kranj, Slovenia
Tel/Fax: email: uros.podlogar@flywithce.com web: www.flywithce.com
Contact name(s): Uroš Podlogar s.p

2.3. Details of the PR.

General	
Dimensions	78 mm x 29 mm x 18 mm
Weight	32 grams
RoHS	yes
Warranty	1 year
Hardware	
GPS	V1: 65-channel GPS receiver V2: 48-channel GPS receiver
Antenna	built in antenna
Communication	USB 1 and 2 built in connector (no cable needed)
Battery	built in 450mWh rechargeable battery
Battery operation	>10 hours
Flight recorder	
Recording time	71 hours with 1 s interval rate
Recording interval	adjustable between 1 – 30 seconds
Recorder data	date and time, position, GPS altitude, ground speed, pilot event
IGC certification	no

3. **Compliance with the IGC Sporting Code**. This type of IGC Position Recorder complies with the Sporting Code requirements for Position Recorders (References A-D above) as follows.

3.1. The WGS84 ellipsoid Earth Model is used for all fixes in the IGC file (SC3 Chapter 4 para A2 refers).

3.2. All fixes in IGC files downloaded from this Recorder are all obtained from real-time GPS data, and no predicted fixes are recorded (SC3 Chapter 4 para A3 requirement). If signal is lost, the device does not project position or otherwise use any predictive model.

3.3. The downloaded IGC file can be electronically validated at any time to ensure that the file is identical to when it was initially downloaded (SC3 Chapter 4 para A6 requirement).

3.3.1 Downloading. IGC files are downloaded directly from the FR via USB; the device is recognized as USB Mass Storage media.

3.3.2 The file validation program - to be used with such downloaded IGC files:
VALI-FWC.EXE and associated DLL are available from the manufacturer's download page:
www.flywithce.com/download.html

3.4. Recording of Altitude. References: SC3 Chapter 4 para A7, Annex C to SC3 para 6.2c, Reference D.

3.4.1 Altitude data from this IGC PR - for accurate measurement is from figures in the IGC file for GPS altitude above the WGS84 Ellipsoid, applying the margin over Pressure Altitude requirements as specified in the Sporting Code (Reference A), currently 100 metres due to the different characteristics of GPS and Pressure Altitudes.

3.4.2 The IGC file – Field for Pressure Altitude. In IGC files from this type of Position Recorder, the field for Pressure Altitude is recorded as Zero, in accordance with SC3C para 6.2 and Reference D,

4. **Engine Recording**. This PR is not able to detect the operation of a Means of Propulsion (MoP). For gliders with a MoP, SC3 4.5.4 and SC3C 12.1 apply, and one of the following must be carried out:

4.1. Carry a separate device that records MoP use and is acceptable to the NAC, or:
4.2. Seal the MoP is such a way that the Official Observer can detect if it has been operated, or:
4.3. Disable the MoP prior to flight to the satisfaction of the Official Observer and NAC.

5. **Mounting in the Glider**. This Position Recorder may be mounted anywhere in the glider, and the Official Observer must be able to show that it was in the glider for the flight concerned, and that the IGC file used to assess the flight came from it.

6. **Authority**. This approval document is issued by The Soaring Society of America (SSA).

Signature *Erik H Mann*

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Position in NAC: Chairman, SSA FAI Badge and Record Committee
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Any queries or comments about this document should be sent to the above, with a copy to the Chairman of the IGC GFA Committee (currently: ian@ukiws.demon.co.uk).
