



# Overview of Flight Recorder Approvals

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## 1 Introduction

This article is intended to give the full picture of Flight Recorders and what they can be used for in claiming Badges and Records in Australia. The picture is complex, but I should stress that while we would like it to be simpler, we are bound by rules and decisions made internationally and there is little we can do ourselves to simplify it.

## 2 Currently Approved Types

There are 4 levels of approval, 3 given by IGC (Flight Recorders) and Position Recorders, which are approved at NAC level.

- 2.1 **Flight Recorders** The current list of IGC Approved Flight Recorders can be found at <https://www.fai.org/page/igc-gnss-recording-devices> together with other relevant information. This list is regularly updated and it is best to check here, especially if you are using an older model of Flight Recorder. These recorders may be used for badge and record claims up to the level specified.

The three approval levels at IGC are:

1. All Flights (everything including Records)
2. All Badges (all badges and distance diplomas)
3. Up to Diamond (Silver Gold and Diamond Badges but not more)

- 2.2 **Position Recorders** are approved by each country and can be used for Silver and Gold badges only. Tim Shirley is the approval authority for GFA.

- Any Flarm not otherwise approved by IGC
- The FlywithCE recorder.
- Any device not otherwise approved, that is acceptable from time to time in the Online Competition (OLC), with either a Green or Blue approval rating.  
<https://www.onlinecontest.org/olc-3.0/gliding/logger.html>
- Any device not otherwise approved that is acceptable from time to time on WeGlide.  
<https://docs.weglide.org/docs/contests/loggers/>

- 2.3 Just because a Position Recorder is approved in Australia, does not mean it is acceptable in other countries. The reverse is also true.

No Australian made Flarm is approved by IGC. It is however a position recorder and can be used for Silver and Gold badge claims.

This means that an Australian made Flarm can be used to claim a 300km Gold C distance but can't be used for the Diamond C 300km Goal flight even if they are achieved on the same flight.

The Flarm-IGC models that are approved for "Up to Diamonds" (which should read "Up to and including Diamonds") are the ones in the IGC list linked above. In most cases the suppliers make both IGC and non-IGC approved variants, so just because it looks like an IGC approved model, it may not be.

The way to tell is by looking at the labelling in the unit (it will say "Flarm-IGC") or by inspecting the first few lines of the IGC file for the words "Flarm-IGC".

Almost all IGC approved flight recorders have ENL (Engine Noise Level) recording. All IGC approved flight recorders have pressure altitude recording. All IGC approved flight recorders can have a declaration loaded into them. Non-IGC approved flight recorders may not have some or all of these. A flight recorder without one or more of these features is not IGC approved.

All Flarms can have a declaration loaded into them. All Flarms have pressure altitude recording. Some Flarms don't have ENL. In Australia, all Flarms are Position Recorders (at least).

Flight recorders without ENL can't be used to claim a flight in a glider that has a functioning motor. Increasingly, we are seeing gliders using jet or electric motors, and these need special sensors or recording devices in order to be acceptable as recording devices. These are always specially IGC approved.

## 3 Position Recorder Approval Process

### 3.1 Introduction

When cameras were removed from the FAI Sporting Code as an allowable means of recording badge flights (2009) a new category of flight recorder was established, called a Position Recorder. This was approved for the verification of Silver and Gold badges only.

The approval for Position Recorders has been delegated to individual countries, however IGC retains an advisory role. The IGC parameters for approval of Position Recorders are contained in an Appendix to Chapter 4 of the Sporting Code.

### 3.2 General Principles

1. Position Recorders could be any device capable of recording a track from a GPS input.
2. They may only be used for provision of evidence for Silver and Gold Badge Claims.
3. Where the device has no internal and independent method of recording pressure altitude, GPS altitude can be used for evidence of flight continuity with a buffer of at least 100 metres (328 ft).
4. Position Recorders must be approved BEFORE they can be used for any Badge attempt.
5. Approval is carried out within Australia.
6. GFA will review and approve Position Recorders on request – no proactive work will be done to create a "list" of approved devices because the number of potentially useable devices is vast and changes frequently.

### 3.3 Criteria for Approval

A Position Recorder must (in accordance with the Sporting Code):

1. Be capable of recording a position at least once per minute.

2. Record in WGS84 Datum. Where other datums are available, it must be possible to either record any change of datum, or in some other way ensure that the datum is set on WGS84 and cannot be changed during flight.
3. Have any “predictive track” feature disabled. Predictive track is a feature that enables the device to continue to record positions based on assumptions during temporary loss of GPS signals. It must not be possible to enable this feature during flight. Note that this rule ONLY applies to situations where the GPS signal is lost – other forms of display adjustment (such as locking the display to a nearby road) are permitted.
4. Download data in IGC file format. The definition of an “IGC file format” is any file that can be read unmodified by the SeeYou flight analysis program. File security could be provided as part of the download process since commercial GPS recorders do not have internal methods of applying security. The method of applying the security can vary.
5. In addition to approving the actual device, it may be necessary to approve any associated download program and security system.

To satisfy the requirements of points 2 and 3 above, the device may be required to be mounted out of reach of the pilot in flight.

## 4 Process for Approval

1. The GFA Sports Committee has appointed Tim Shirley as the approval authority for Position Recorders. All approval requests should go to Tim who will liaise with other technical specialists within Australia and in IGC as required.
2. The approval process will require that all the criteria noted above are demonstrated, and any operational procedures required are noted in the approval documentation.
3. Criteria may be achieved through physical or operational means as well as electronically. For example, by mounting the device out of reach of the pilot, or by use of a separate pressure altitude recording.
4. Programs to be used for download and to provide security must also be reviewed and specifically approved.
5. Where doubt exists as to the ability of a device to meet criteria, physical inspection and test may be required.
6. Approval may be given to specific types and models of Position Recorders or may be generic if there is a class of recorders that are deemed suitable.
7. Approval must be obtained BEFORE using the device in any badge attempt. Retrospective approval will not be accepted.
8. Lists of approved devices and associated documents will be placed on the GFA website and referenced in Gliding Australia.
9. The approval is specific to Australia. The fact that a particular device is approved in Australia doesn't mean that it is approved in other countries as a Position Recorder.