The Flymaster Tracker

Report for CIMA November 2017 Richard Meredith-Hardy

Overview

The Flymaster Tracker is a small (93 gr) 72 channel GPS/GLONASS logger with c. 20 hour battery life, and memory capacity of some 83 hours of memory @ 1 sec fixes.

It shows no nav information and cannot be connected to a display and therefore meets that basic CIMA requirement.

Data in .igc file format is easy to physically download from the device.

However… it also transmits real time data by 2G or 3G (depending on the device variant) and Flymaster provide a website to manage this data and download the resulting .igc file data. It is claimed that usually you can expect the tracklogs to be 99+% reliable for use for scoring a competition, eliminating the need for physical downloading from a device.

Compared to loggers we are used to using (eg AMOD) the Flymaster Tracker is quite expensive to buy (> 250€) and there are on-going costs associated with sim cards and use of the Flymaster website, however, the UK company **flyevent.org** has a stock of >600 to rent at a cost of c. 15€ each for a competition and will deliver them ready to go with a suitable sim and pre-configured for the event.

The use of these loggers in CIMA comps will need a change of mindset in that it is anticipated that most of them will be hired by an organizer for use by the competitors, rather than competitors supplying their own devices.

The Data

The resultant files, either downloaded from Flymaster online or directly from the device do not currently satisfy the complete CIMA specification, neither does the file name. However, it is believed this is perfectly possible to do, either by arrangement with Flymaster or, in the case of direct download, to use a

bespoke software (eg a modified version of FRDL) to do it. In the meantime care must be taken by scorers to make sure data files don't get in a muddle but it is not a show stopping problem during the test / implementation phase but should be implemented before approval.

Physical use

In the case when the device loses mobile contact (not uncommon when at height in some countries, it's a function of the angle at which the ground antennas are set), it caches the data it hasn't yet transmitted and will transmit it once mobile comms are re-established. In the worst case then of course it has still saved the log ready for physical download.

These devices have two modes; normal and 'comp'. If hired, devices will usually be in comp mode. Currently this has two implications but it can be modified in the firmware by Flymaster:

1. The device cannot be turned off without it being attached to a charging station. This is so the organizer can find a logger which hasn't yet been returned to the scoring room; it's still transmitting its position every second.
2. It allows a lower level of SOS message to be sent (generally meaning 'retrieve') and the organization can acknowledge message received in the same way as an SOS message can be acknowledged; the led lights display a certain sequence of flashes.

Set up

The Flymaster website is configured for a competition with a FSDB file which can be generated in online softwares such as Airtribune which has a registration system for events. This has not been tested by me but seems to be used a lot by HG & PG event organizers and is probably quite suitable for our use. It may well be that FAI will be integrating a future system which will do all this too.

Implications of hire

If an organizer is the hirer, then obviously they will be responsible for them, and this implies a certain increased workload. The loss of a hired one does incur a 200€ cost, on the other hand they are quite easy to find because they are always transmitting their position, are useless as a stolen item because they only transmit to the Flymaster server with a unique ID, and they have a bespoke charging connection which is an incentive for them to be returned to the office to be charged ready for the next use. Apparently flyevent.org have only lost one in several years, and that was one dropped from several thousand feet!

Recommendation

It seems to me that this device is physically almost perfect for use in Microlight and Paramotor events which require loggers. The real time data feature really does increase safety (the SOS button) and they have the potential to move our sport forwards with real time displays for spectators, a score the moment a pilot lands Etc.

Work will be required to get them properly integrated into our systems but the Flymaster does seem as though it could be used right now by a well organized scoring team.

My recommendation is do a full scale trial at the next CIMA Cat. 1 championships.

References:

Specification: https://www.flymaster.net/tracker
Live tracking: https://lt.flymaster.net/bs.php
Airtribune: https://airtribune.com
Manual downloader; GpsDump from http://www.gpsdump.no/ & drivers from https://www.flymaster.net/downloads
Hire: Brett Janaway http://flyevent.org/ brett@xtc-paragliding.com