How to find a lost drone

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Abstract

How to find a lost drone by flight logs recorded on the remote controller ST10 or ST16. The procedure is valid for Blade Chroma, Yuneec Q500, Typhoon H, H Plus and H3.

Preparations

The tools

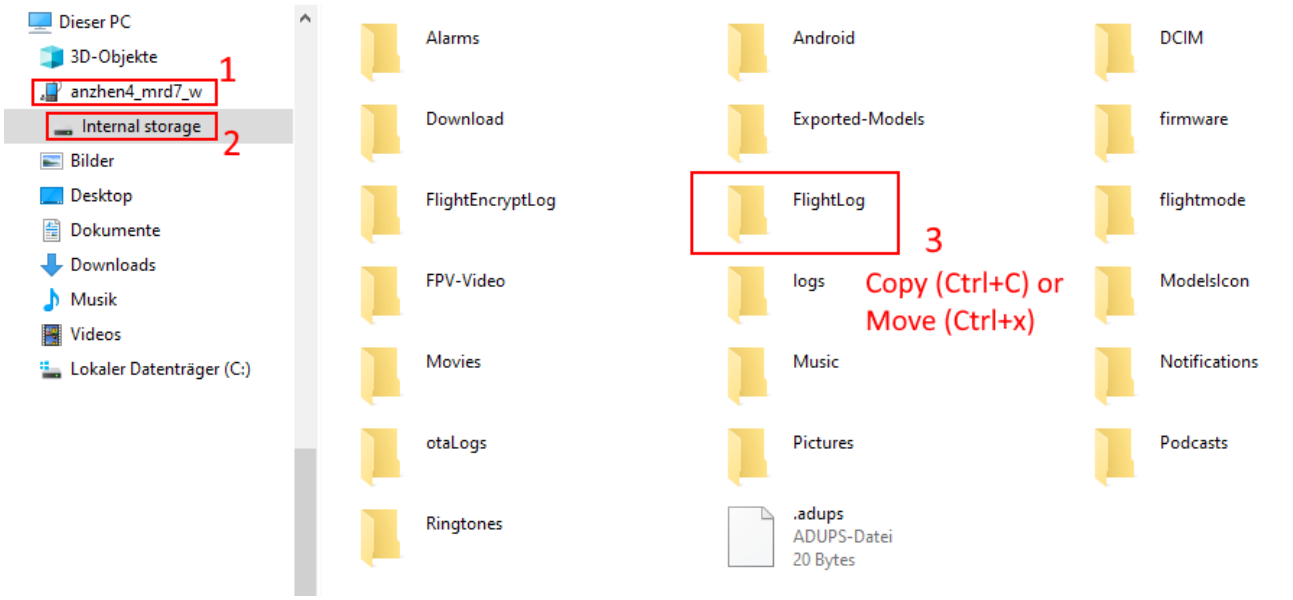
(1) Download analysis tool „Q500log2kml“ and unzip downloaded file. It’s available for LINUX or Windows 64bit. Read the manual to get an overview about the capabilities and settings of the tool.

Windows64bit: http://h-elsner.mooo.com/downloads/q500log2kml_en.zip
LINUX 64bit: http://h-elsner.mooo.com/downloads/q500log2kml_en.tar.gz
Manual: http://h-elsner.mooo.com/pdf/Q500log2kml_en.pdf

(2) Install GoogleEarth if not have done yet.

Download flight logs from the remote controller

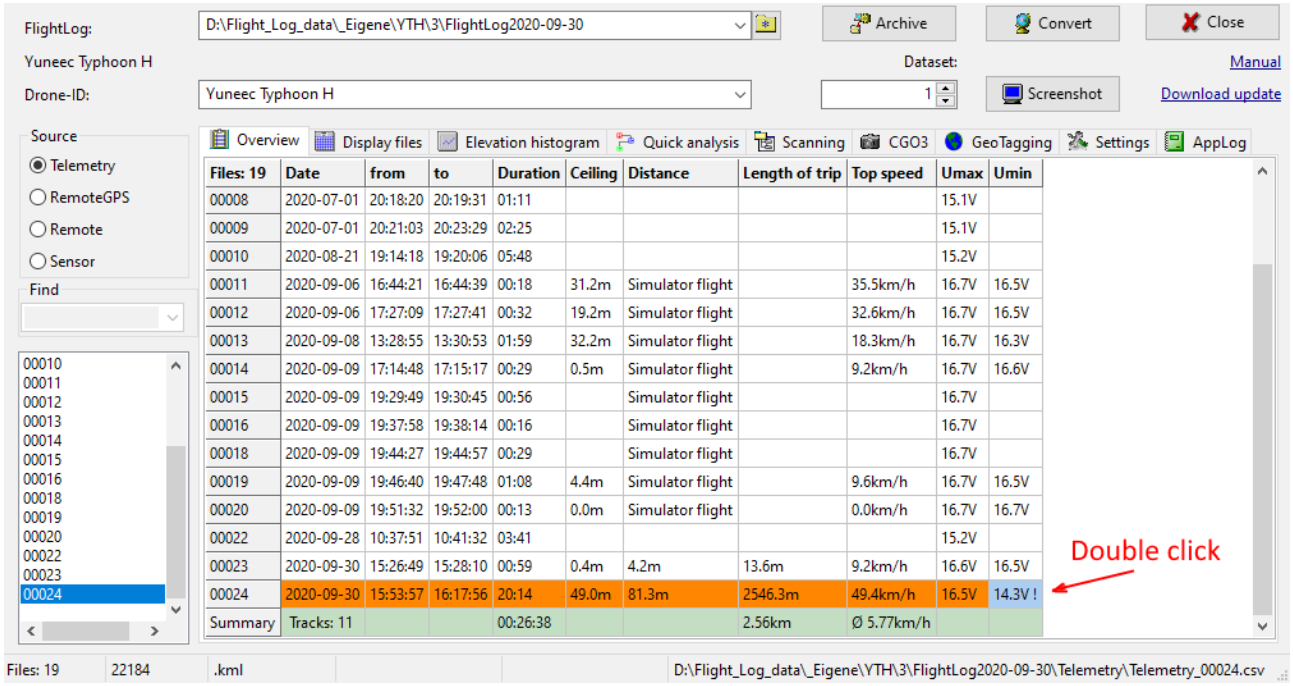
Switch on and wait until the controller is fully booted up. Then connect it to the PC via micro USB data cable. You will get access to the open part of the Android file system (1, 2). Copy or move (3) the complete folder ‘FlightLog’ or ‘Flight2Log’ to you PC.



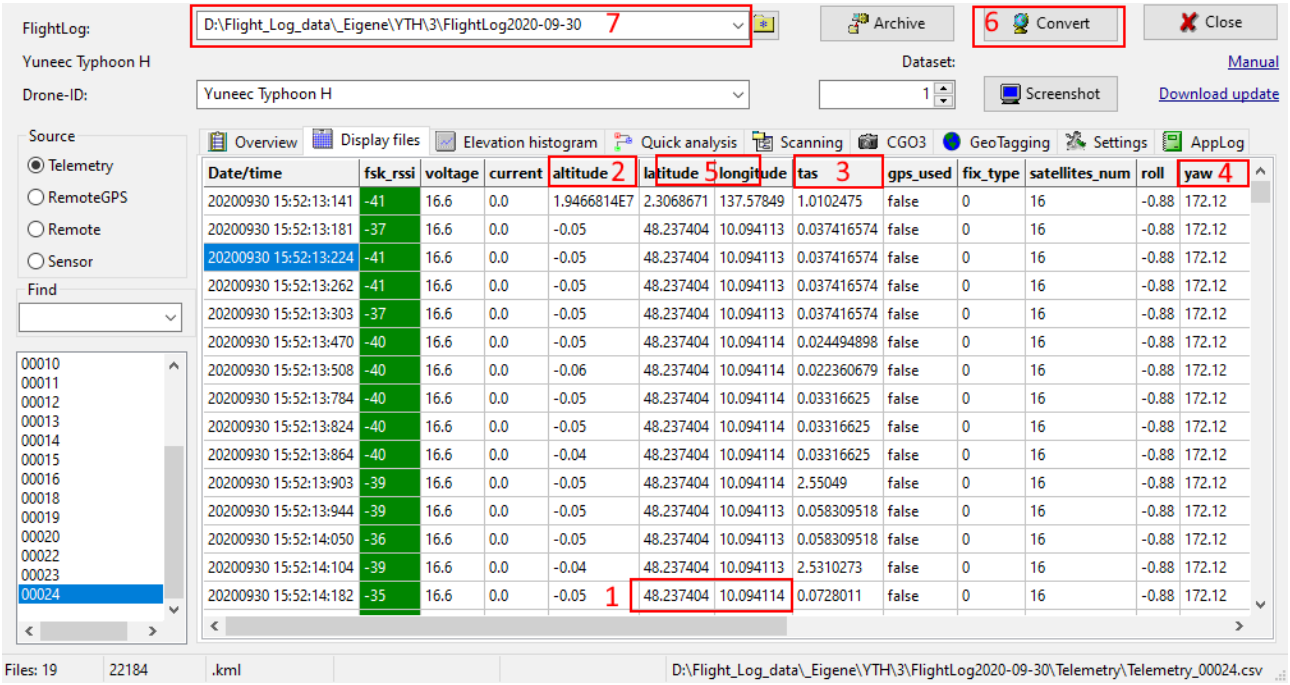
Find drone

Data

Start Q500log2kml and open the downloaded folder (not a single file). Select the last flight in ‘Overview’ table.



You can browse through the raw data and look for error flags, voltage drops and whatever may the reason for the crash. To see details go to ‘Display files’.



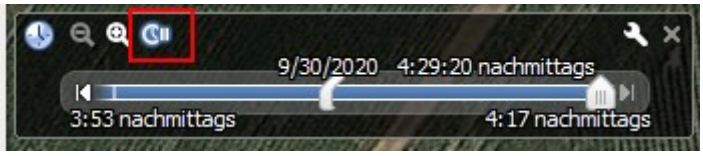
Scroll down to the last line in the table and double click at the last coordinates (1). GoogleMaps will show the this location.

If the drone was still flying and you lost communication it will be good to check the altitude (2), speed (3) and heading (4). Double click on the related header of the ‘Display files’ table to get additional charts. You can also get a chart with distance to the controller (5).

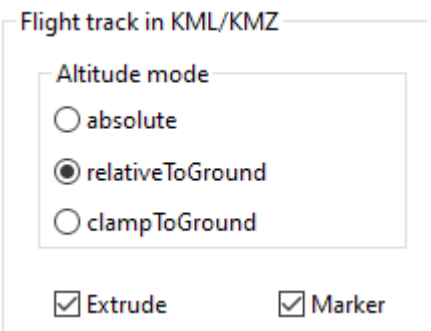
Flight trajectory

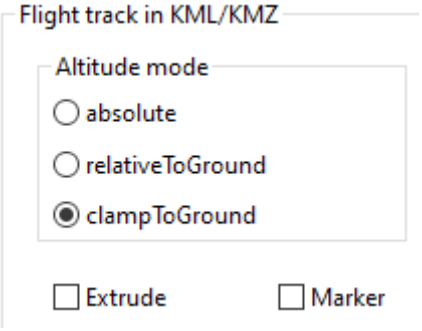
To visualize the flight create a KML file that can be animated in GoogleEarth. This gives you overview what happened last when the drone was lost. Click on button ‘Convert’ (6). Double click on the address field to open file manager (7). Here you will see the created KML files. Double click on the related KML file to open GoogleEarth.

To give you a better idea what happened animate the flight in GoogleEarth.



To avoid location errors due to perspective you can also create a KML file that is clamped to the ground in GoogleEarth. Go to ‘Settings’ > ‘Data conversion’ to select your preferences.





Find methods

To get a fast location use coordinates in the Data table.
To predict the flight behavior use the KML file.

- If you lost communication the drone may flown back to last known position of the controller. Controller location is the black line in GoogleEarth. It is always clamped to the ground.
- If you have had a fly-away the drone may be gone with speed and heading of the last part of the flight.

For both scenarios check the area where you lost the drone for obstacles, trees, buildings. Compare with last altitude.

Example:

Three possible crash locations where proposed from telemetry data. In the very last telemetry data sets the drone seems to going back to start position.

The drone was in a tree at position 2.

Good luck!