ShowAnafiLog

Many thanks to all contributors and testers. It was and is still fun to work with you together. Happy flying!

Initiated and supported by **Parrot Pilots Drone Forum**

h-elsner 11/2019

Summary

"ShowAnafiLog" is an application to show JSON log files from Parrot's "Anafi" quad-copter in a readable format, display charts from selected data columns and convert JSON logs into KML flight tracks, GPX files or CSV files for other usage.

Installation

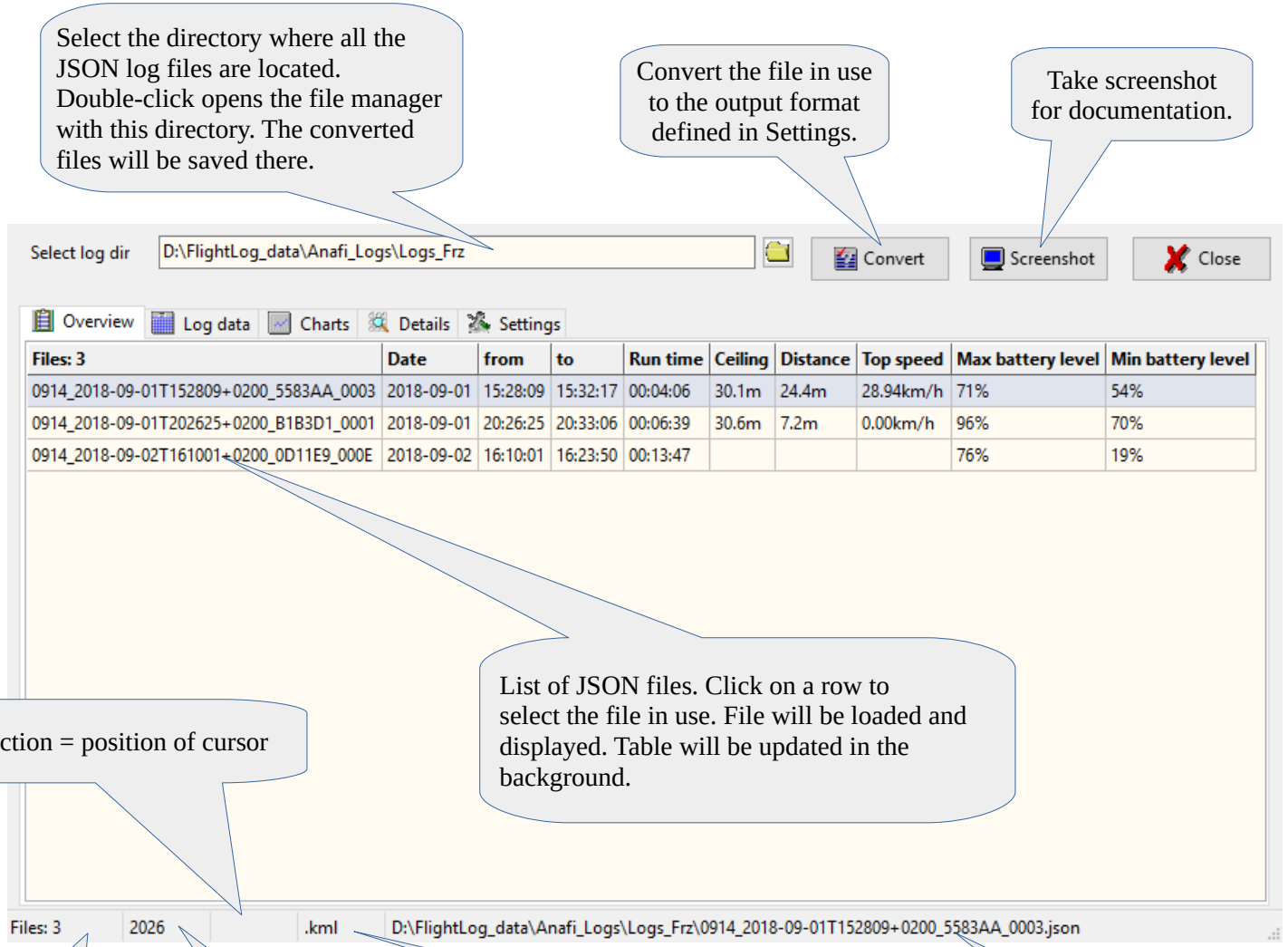
No installation needed, this is a portable application. But you need write access to the directory where the application located. "ShowAnafiLog" will store its settings in an XML file there.

Usage

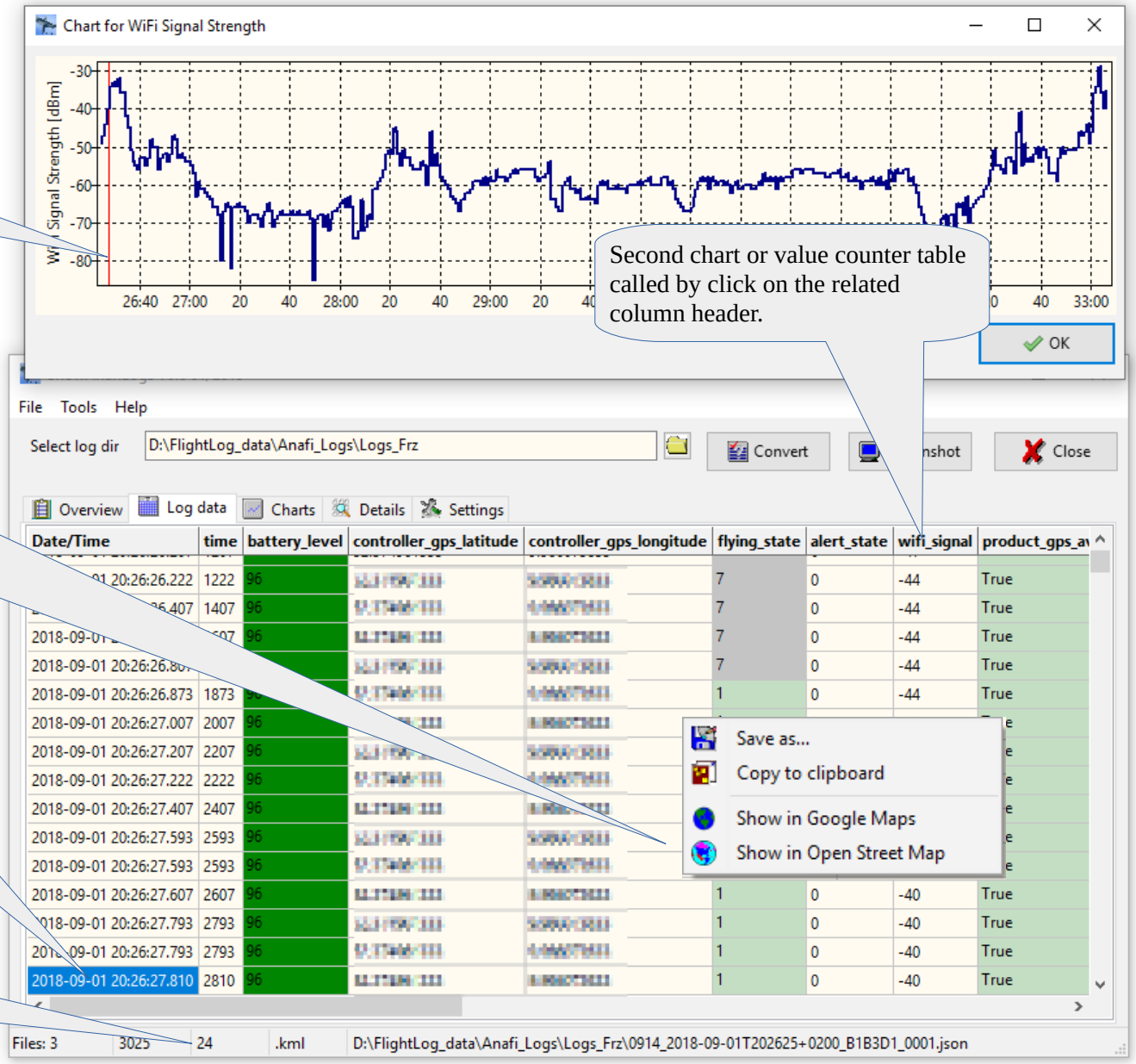
Retrieve flight logs (*.json) from your controller device and save it in a directory on your PC.
Open this directory or simply drop it to the application. A list of JSON log files will be created (see Overview) and the first file will be loaded. You can select any file in the list to load and display it in the other pages (Log data, Charts, Details).

Enjoy.

Overview


Select the directory where all the JSON log files are located. Double-click opens the file manager with this directory. The converted files will be saved there.
Convert the file in use to the output format defined in Settings.
Take screenshot for documentation.
Select log dir
D:\FlightLog_data\Anafi_Logs\Logs_Frz
Convert
Screenshot
Close
Overview
Log data
Charts
Details
Settings
Files: 3
Date
from
to
Run time
Ceiling
Distance
Top speed
Max battery level
Min battery level
0914_2018-09-01T152809+0200_5583AA_0003
2018-09-01
15:28:09
15:32:17
00:04:06
30.1m
24.4m
28.94km/h
71%
54%
0914_2018-09-01T202625+0200_B1B3D1_0001
2018-09-01
20:26:25
20:33:06
00:06:39
30.6m
7.2m
0.00km/h
96%
70%
0914_2018-09-02T161001+0200_0D11E9_000E
2018-09-02
16:10:01
16:23:50
00:13:47
76%
19%
List of JSON files. Click on a row to select the file in use. File will be loaded and displayed. Table will be updated in the background.
Position of selection = position of cursor
Files: 3
2026
.kml
D:\FlightLog_data\Anafi_Logs\Logs_Frz\0914_2018-09-01T152809+0200_5583AA_0003.json
Number of JSON log files
Number of data sets file in use contains
Output format for conversion
Status or error messages, i.e. file name of file in use.

Log data



Cursor shows which row in the data table is selected. You can move forward by mouse wheel.

Second chart or value counter table called by click on the related column header.

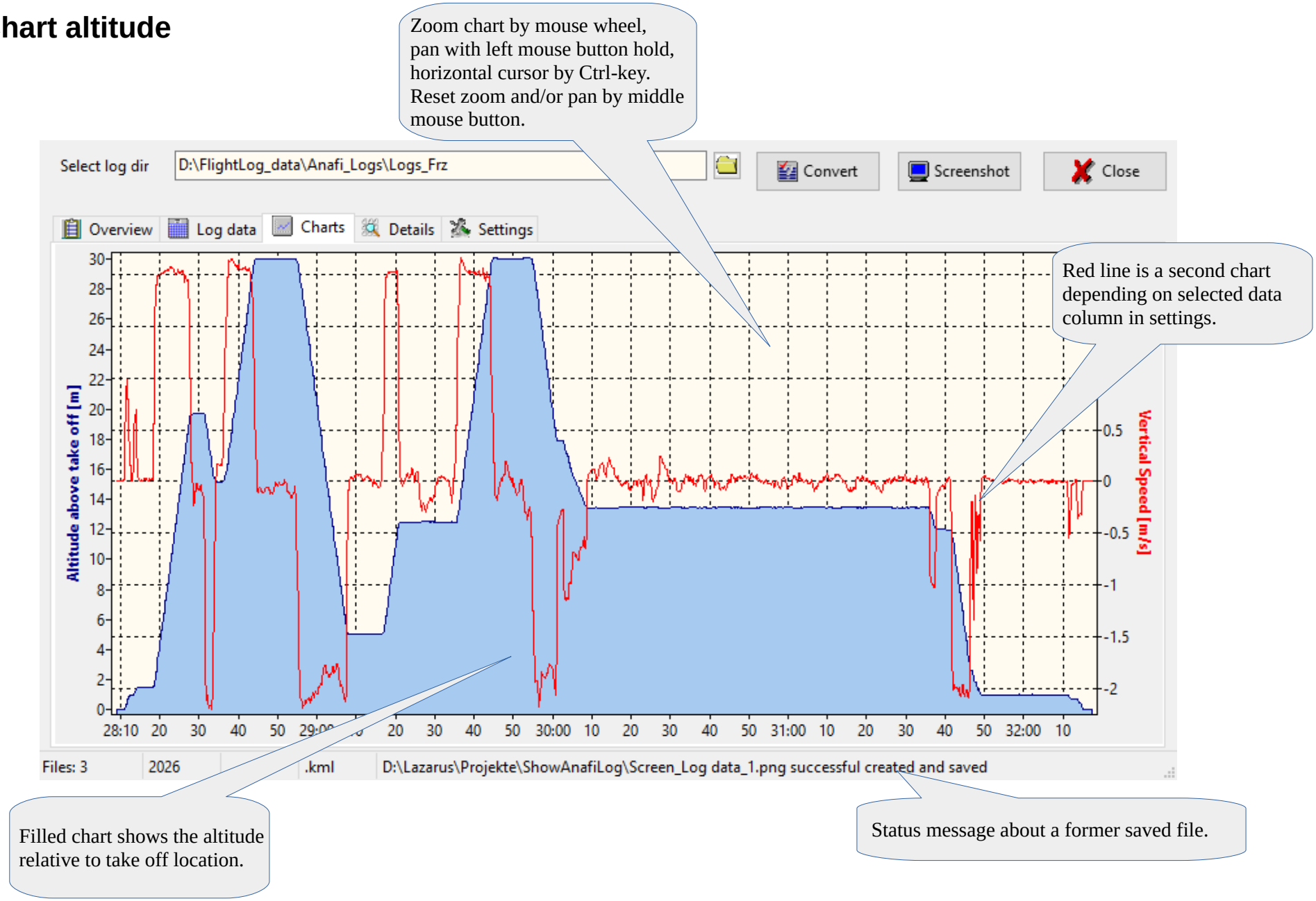
Hold the mouse pointer over a cell to get more information (a cell related hint).

Right mouse button opens a context menu to open coordinates in Google Maps or Open Street Map.

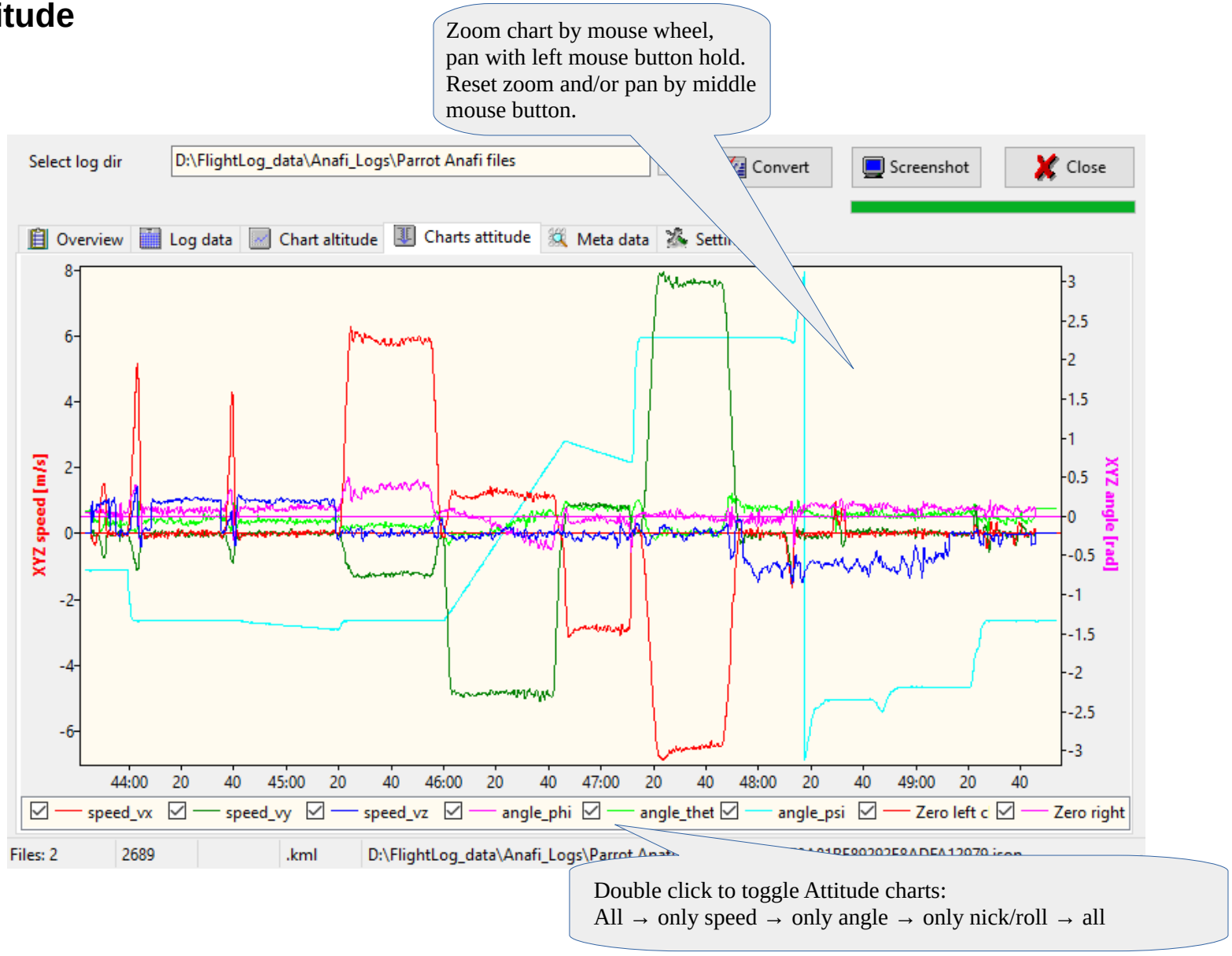
Selected cell means also selected data set.

Line number of selected data set = position of the red cursor in the second chart above.

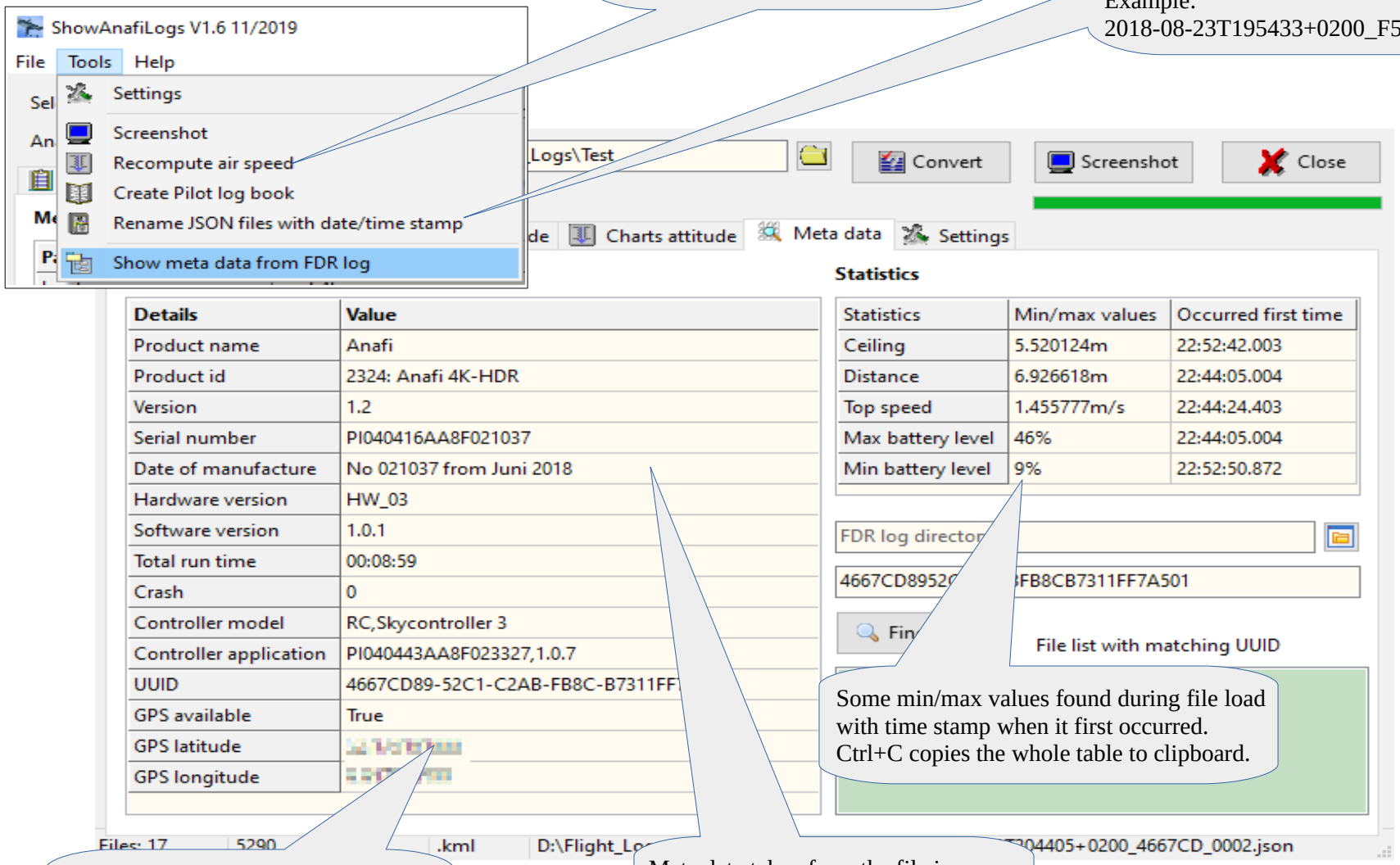
Chart altitude



Charts attitude



Meta data from JSON log file



In older firmware versions the column "speed" was not filled. The main menu offer a possibility to recompute speed (True air speed) by vx, vy and vz.

Rename files with UUID as file name to file name containing date/time stamp and a part of UUID.
Example:
2018-08-23T195433+0200_F5B373.json

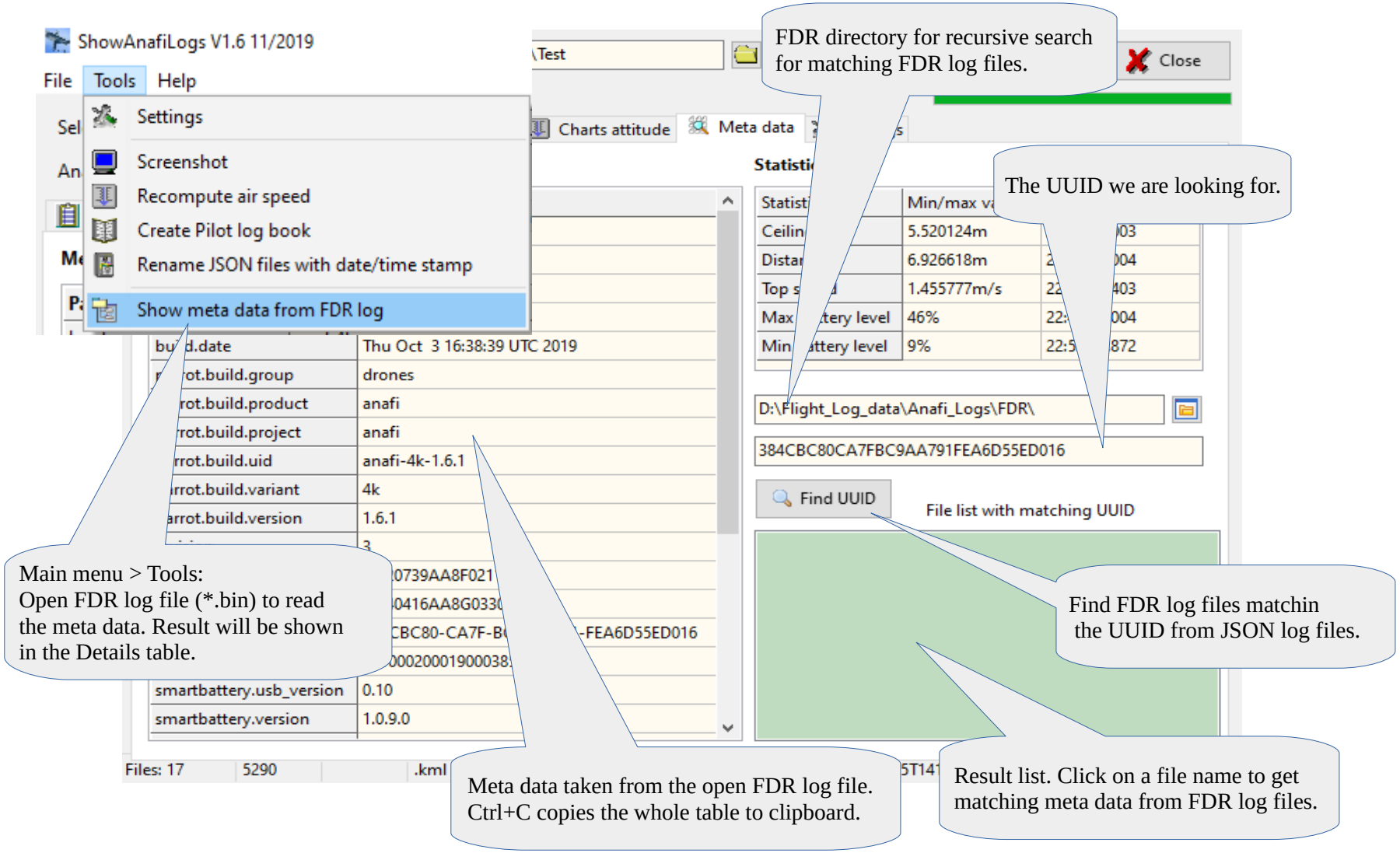
Some min/max values found during file load with time stamp when it first occurred.
Ctrl+C copies the whole table to clipboard.

I think this is the home point.
Double-click on the table opens this point in Google Maps.

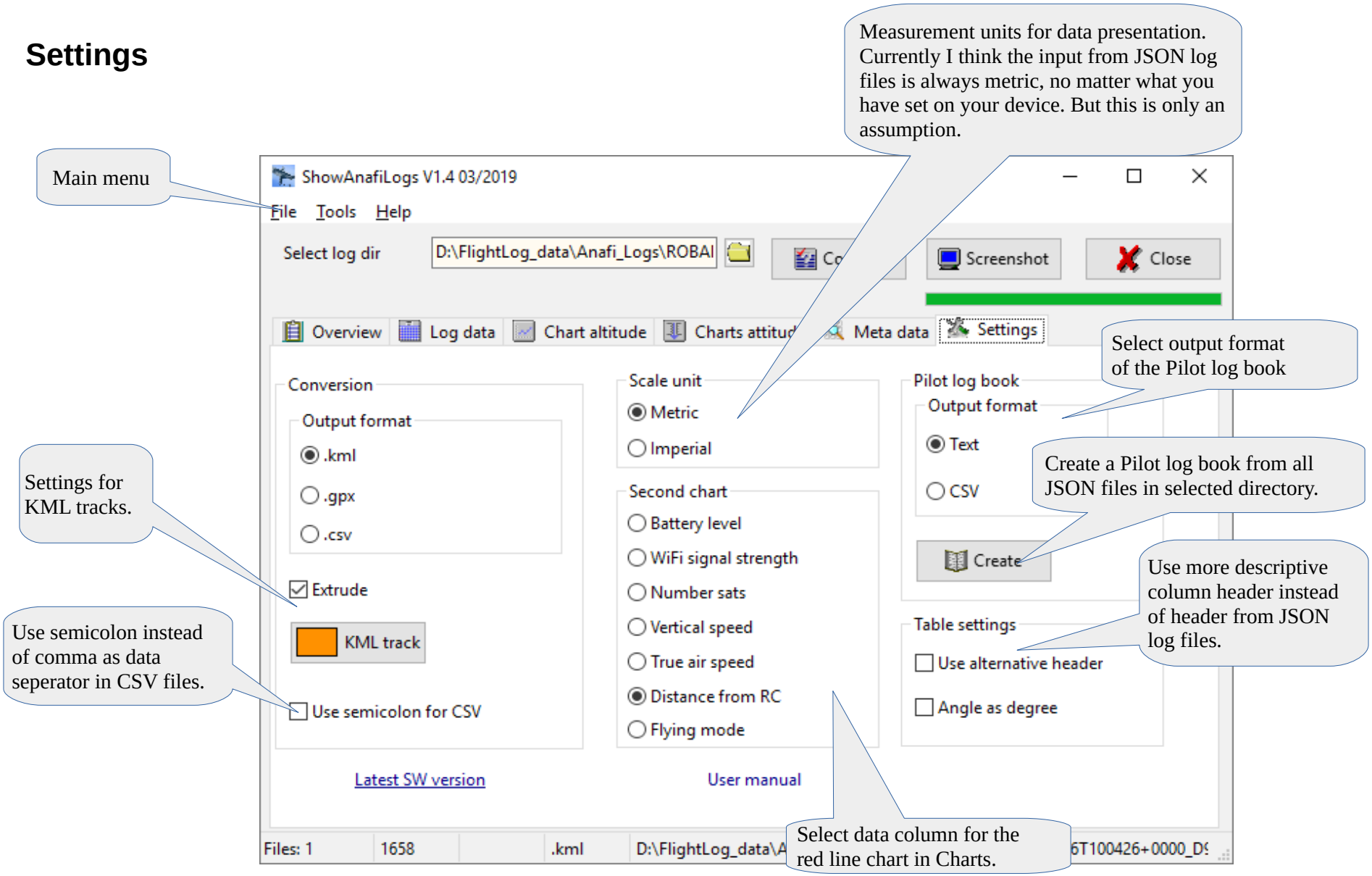
Meta data taken from the file in use.
Ctrl+C copies the whole table to clipboard.

Metadata from FDR log files

Log files in the FDR folder contains more detailed data compared to JSON log files but it is an undocumented binary format. Thus, the files keep their secrets. But some of the meta data at the beginning of the files are readable such as battery serial number or firmware versions.



Settings


Main menu
Measurement units for data presentation. Currently I think the input from JSON log files is always metric, no matter what you have set on your device. But this is only an assumption.
ShowAnafiLogs V1.4 03/2019
File Tools Help
Select log dir
D:\FlightLog_data\Anafi_Logs\ROBAI
Screenshot
Close
Overview
Log data
Chart altitude
Meta data
Settings
Conversion
Output format
.kml
.gpx
.csv
Extrude
KML track
Use semicolon for CSV
Scale unit
Metric
Imperial
Second chart
Battery level
WiFi signal strength
Number sats
Vertical speed
True air speed
Distance from RC
Flying mode
Pilot log book
Output format
Text
CSV
Create
Table settings
Use alternative header
Angle as degree
Latest SW version
User manual
Files: 1
1658
.kml
Select output format of the Pilot log book
Create a Pilot log book from all JSON files in selected directory.
Settings for KML tracks.
Use more descriptive column header instead of header from JSON log files.
Use semicolon instead of comma as data seperator in CSV files.
Select data column for the red line chart in Charts.

Internals

See also: https://developer.parrot.com/docs/olympe/arsdkng_ardrone3_piloting.html

flying_state	Meaning	Remarks, internal naming
0	Landed	Landed
1	Taking Off	Taking Off
2	Hovering	Hovering
3	Flying	Flying
4	Landing	Landing
5	Emergency	Emergency
6	User take off	Waiting for user action to take off
7	Motor ramping	Motor ramping
8	Emergency landing	Drone autopilot has detected defective sensor(s)

alert_state	Meaning	Remarks, internal naming
0	None	none
1	Normal flight	user
2	Anafi shut down	cut out, if something hit the propeller
3	Battery level crucial	critical battery
4	Battery level low	low battery
5	Flight angle exceeded	too much angle (>70°)

product_gps_position_error	Meaning	Remarks, internal naming
0	No error	Seems to be always 0
1	Not in outdoor mode	Possibly not used
2	GPS not fixed	Possibly not used
3	Compass not calibrated	Possibly not used

flip_type	Meaning	Remarks, internal naming
0	None	Seems to be always 0
1	Front	Not used
2	Back	Not used
3	Right	Not used
4	Left	Not used

Battery level	Color
>50%	green
50% to 25 %	orange
<25%	red

Number of sats	Color
>10	green
11 to 5	orange
<5	red

Output format CSV Pilot log book:

Index	Header
0	Serial number
1	Date
2	From
3	To
4	Duration
5	Ceiling
6	Distance
7	Route
8	Top speed
9	Max battery level
10	Min battery level
11	Location
12	GPS fix at start

Index	Header	Description	Unit	Metric/Imperial	Conversion
0	Date/Time	Computed from Date/Time in Meta data plus Time since boot	date/time		
1	time	Time since boot in ms	ms		
2	battery_level	Battery charge level	%		
3	controller_gps_latitude	Controller latitude	lat		
4	controller_gps_longitude	Controller longitude	lon		
5	flying_state	Flying mode	enum		
6	alert_state	Alert state	enum		
7	wifi_signal	WiFi signal strength	dBm		
8	product_gps_available	Anafi GPS lock	bool		
9	product_gps_longitude	Anafi Longitude	lon		
10	product_gps_latitude	Anafi Latitude	lat		
11	product_gps_position_error	Anafi GPS error	enum		
12	product_gps_sv_number	Number of sats	#		
13	speed_vx	Foreward speed	m/s	m/s – ft/s	
14	speed_vy	Sideways speed	m/s	m/s – ft/s	
15	speed_vz	Vertical speed	m/s	m/s – ft/s	
16	angle_phi	Attitude – Roll Angle	rad		rad - ° +/-180
17	angle_theta	Attitude – Pitch Angle	rad		rad - ° +/-180
18	angle_psi	Attitude – Compass Heading	rad		rad - ° 0..360
19	altitude	Altitude relative to take off	m ft	m – ft	
20	flip_type	Flip type	enum		
21	speed	True air speed	m/s	m/s – ft/s	m/s – km/h / ft/s – mph
22	DIST	Distance Anafi to RC,computed from coordinates	m	m – ft	m – km / ft – mi

Disclaimer

Contact: helmut.elsner@live.com