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**

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 last file in the list 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.

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Log data

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

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.

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

Chart for WiFi Signal Strength

— □ ×

WiFi Signal Strength [dBm]

-30, -40, -50, -60, -70, -80

26:40 27:00 20 40 28:00 20 40 29:00 20 40 ... 40 33:00

✓ OK

File   Tools   Help

Select log dir   D:\FlightLog_data\Anafi_Logs\Logs_Frz   [📁]   [📋 Convert]   [💻 ...nshot]   [✗ Close]

[📋 Overview] [📊 Log data] [📈 Charts] [🔍 Details] [🔧 Settings]

Date/Time	time	battery_level	controller_gps_latitude	controller_gps_longitude	flying_state	alert_state	wifi_signal	product_gps_av
...01 20:26:26.222	1222	96			7	0	-44	True
...6.407	1407	96			7	0	-44	True
2018-09-01 ...	...07	96			7	0	-44	True
2018-09-01 20:26:26.8...		96			7	0	-44	True
2018-09-01 20:26:26.873	1873	96			1	0	-44	True
2018-09-01 20:26:27.007	2007	96			1	0	-44	True
2018-09-01 20:26:27.207	2207	96						
2018-09-01 20:26:27.222	2222	96						
2018-09-01 20:26:27.407	2407	96						
2018-09-01 20:26:27.593	2593	96						
2018-09-01 20:26:27.593	2593	96						
2018-09-01 20:26:27.607	2607	96			1	0	-40	True
018-09-01 20:26:27.793	2793	96			1	0	-40	True
201...09-01 20:26:27.793	2793	96			1	0	-40	True
2018-09-01 20:26:27.810	2810	96			1	0	-40	True

Context menu:
- 💾 Save as...
- 📋 Copy to clipboard
- 🌐 Show in Google Maps
- 🌐 Show in Open Street Map

Files: 3   3025   24   .kml   D:\FlightLog_data\Anafi_Logs\Logs_Frz\0914_2018-09-01T202625+0200_B1B3D1_0001.json

Chart altitude

Zoom chart by mouse wheel, pan with left mouse button hold, horizontal cursor by Ctrl-key. Reset zoom and/or pan by middle mouse button.
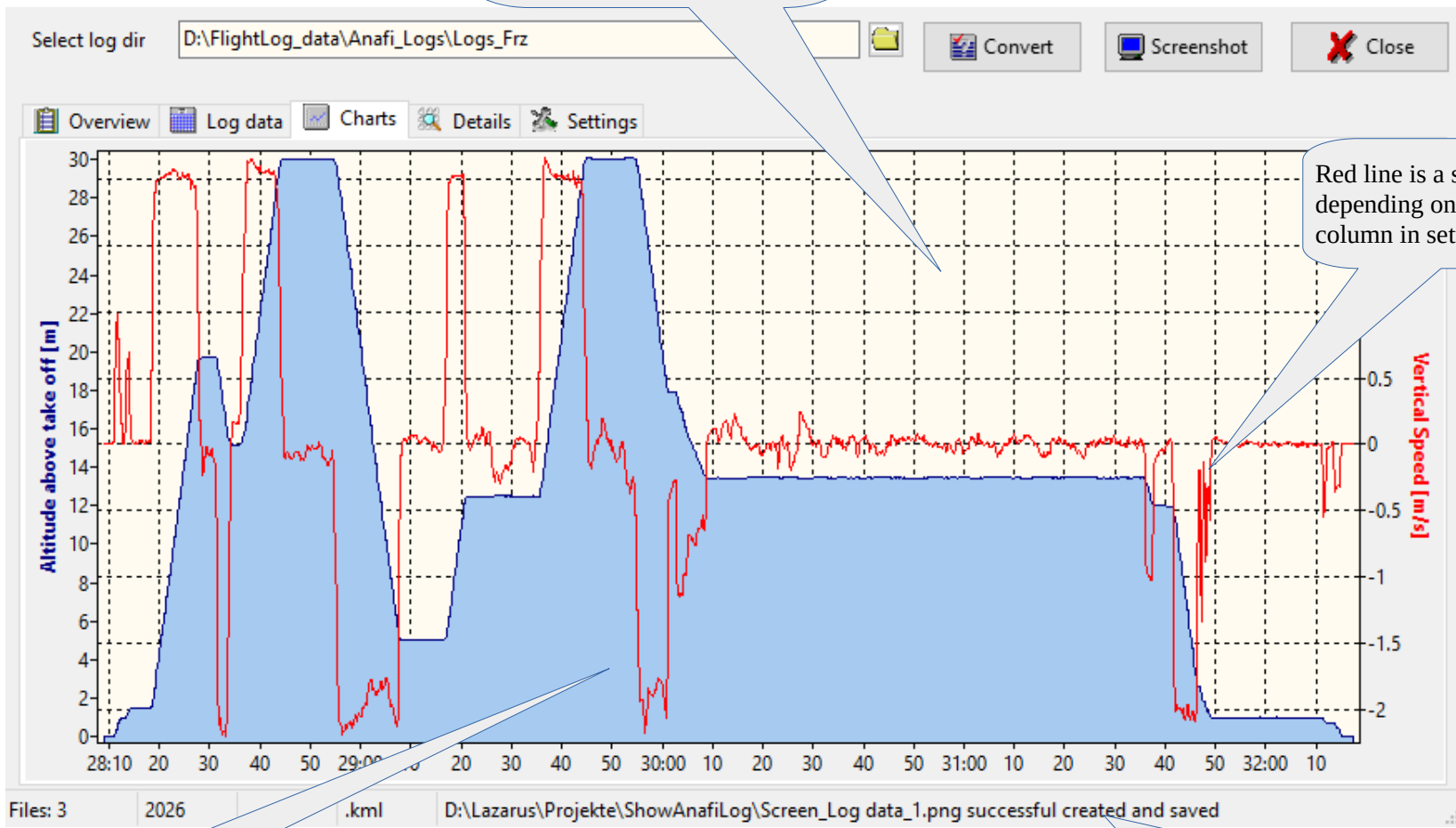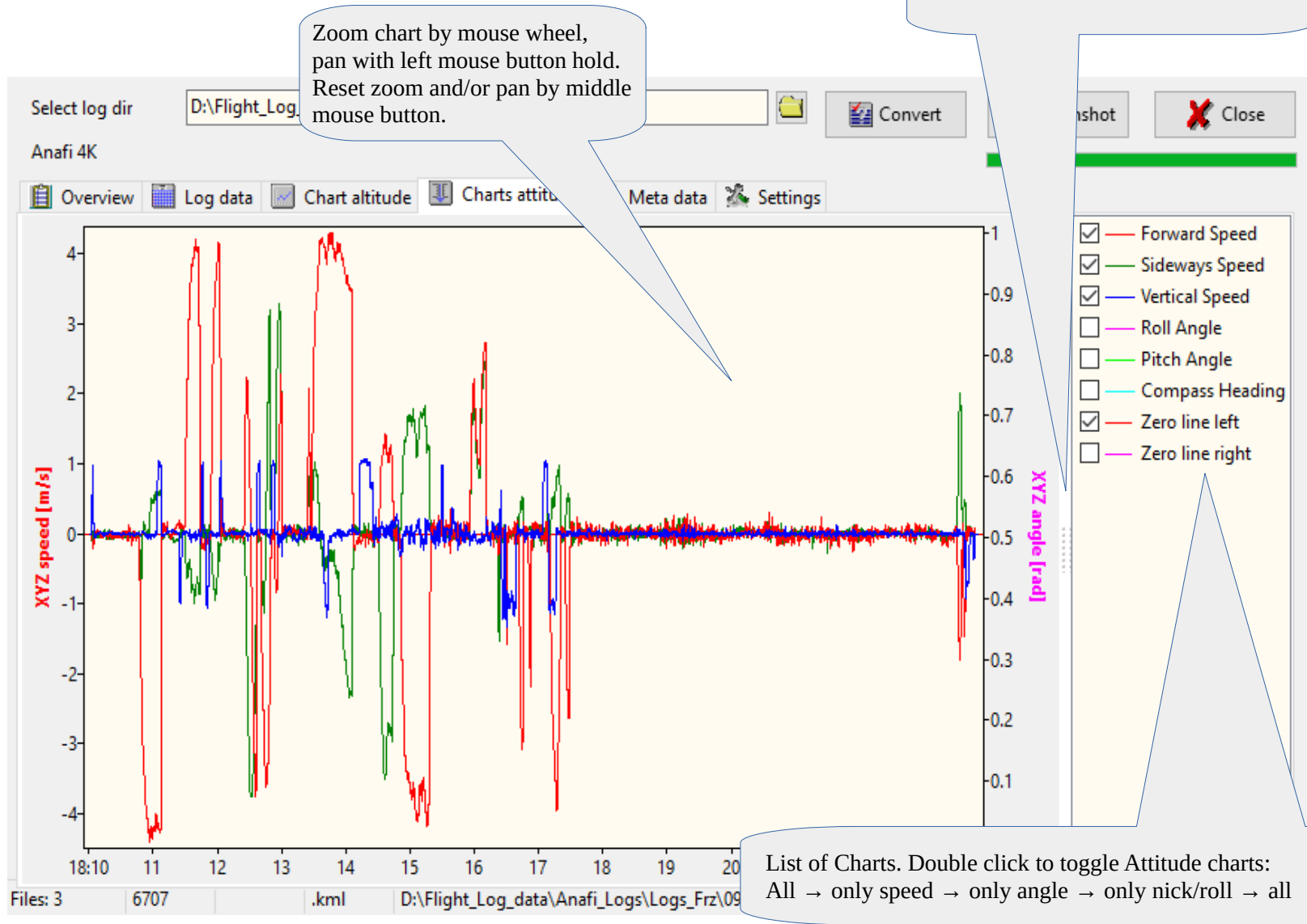
Red line is a second chart depending on selected data column in settings.

Filled chart shows the altitude relative to take off location.

Status message about a former saved file.

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Charts attitude

Zoom chart by mouse wheel, pan with left mouse button hold. Reset zoom and/or pan by middle mouse button.

Slider to shift or hide the list of charts.

List of Charts. Double click to toggle Attitude charts:
All → only speed → only angle → only nick/roll → all

Meta data from JSON log file

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File **Tools** Help

🔧	Settings
🖥	Screenshot
📥	Recompute air speed
📖	Create Pilot log book
📑	Rename JSON files with date/time stamp
📑	**Show meta data from FDR log**

...Logs\Test | 📁 | 📊 Convert | 🖥 Screenshot | ❌ Close

...de 📥 Charts attitude 🔍 Meta data 🔧 Settings

Statistics

Details	Value
Product name	Anafi
Product id	2324: Anafi 4K-HDR
Version	1.2
Serial number	PI040416AA8F021037
Date of manufacture	No 021037 from Juni 2018
Hardware version	HW_03
Software version	1.0.1
Total run time	00:08:59
Crash	0
Controller model	RC,Skycontroller 3
Controller application	PI040443AA8F023327,1.0.7
UUID	4667CD89-52C1-C2AB-FB8C-B7311FF
GPS available	True
GPS latitude	
GPS longitude	

Statistics	Min/max values	Occurred first time
Ceiling	5.520124m	22:52:42.003
Distance	6.926618m	22:44:05.004
Top speed	1.455777m/s	22:44:24.403
Max battery level	46%	22:44:05.004
Min battery level	9%	22:52:50.872

FDR log director | 📁

4667CD89520... | 8FB8CB7311FF7A501

🔍 Fin...

File list with matching UUID

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

Files: 17 | 5290 | | .kml | D:\Flight_Lo... | ...04405+0200_4667CD_0002.json

> 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.

FDR directory for recursive search for matching FDR log files.

The UUID we are looking for.

Main menu > Tools:
Open FDR log file (*.bin) to read the meta data. Result will be shown in the Details table.

Find FDR log files matchin the UUID from JSON log files.

Settings

Meta data taken from the open FDR log file. Ctrl+C copies the whole table to clipboard.

Result list. Click on a file name to get matching meta data from FDR log files.

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.

Settings for KML tracks.

Use semicolon instead of comma as data seperator in CSV files.

Select output format of the Pilot log book

Create a Pilot log book from all JSON files in selected directory.

Use more descriptive column header instead of header from JSON log 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 state. Waiting for user action to take off	User takeoff
7	Motor ramping	Motor ramping
8	Emergency landing state. Drone autopilot has detected defective sensor(s). Only Yaw argument in PCMD is taken into account. All others flying commands are ignored.	Emergency landing

alert_state	Meaning	Remarks, internal naming
0	No alert	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 too high	too much angle (>70°)
6	Almost empty battery alert	empty battery
7	Magnetometer is disturbed by a magnetic element	magneto_pertubation
8	Local terrestrial magnetic field is too weak	magneto_low_earth_field

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

Colors to indicate quality:

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

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

Columns in "Log data" tab:

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_err or	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

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

Disclaimer

This software is freeware. You can use this software royalty-free for private and commercial purposes.

Use this application on your own risk.
There is no guaranty for correctness and/or completeness of the results of the evaluation of flight log data or interpretation of the values in the flight logs.

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