

How to identify what kind of file (log file) is this

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Abstract

Parrot Anafi records flight logs in different formats. Some are human readable because the format is widely used JSON format (JavaScript Object Notification - <https://www.json.org/>). We can download the files from different location at the control device. But how to know what it is?

Many files have a so called file magic. Those are unique byte combinations at the beginning of a file or inside it. A good overview is here: https://en.wikipedia.org/wiki/List_of_file_signatures

Check file format

If you want to know what kind of log file you have, you should open it in a text editor. I prefer “Notepad++”.

Compressed BlackBox file

If the file looks scrambled it may be a gzipped BlackBox JSON file.

If we open this file in a hex editor we find the file magic **1F 8B** for files packet with **gzip**.

```
Binary file found: D:\temp\7366a0b664ef8fa9346598348569c4ac.json
2920 bytes
Relative Bytes
address 0 1 2 3 4 5 6 7 8 9 A B C D E F ASCII
-----
00000000 1F 8B 08 00 00 00 00 00 00 00 13 D5 9B 5B 6F 1B 47 .....[o.G
```

If we unzip this file (I prefer “7zip”) we will probably get a BlackBox JSON file → see next.

BlackBox JSON file

The file is a human readable file and starts with “datas_1Hz” element.

```
{"datas_1Hz": [{"product_battery_voltage": 6948, ...
```

The file contains four elements with data and timestamp:

- datas_1Hz: Battery volage, GPS data, WiFi RSSI and MPP_pcnd data
- datas_5Hz: Altitude, Device_pcnd, X, Y, Z angles and speed
- header: Date/time, different meta data like serial numbers, firmware versions and so on, will be put into meta data table.
- datas: Different types of data fields like flying state, alert state, other states and warnings, remaining battery capacity etc.

Remark: datas_1Hz and datas_5Hz belongs only to the last 60 seconds of the recording. Recording is limited, I don't know why.

Files are readable with “ShowAnafiLog” (from Version 2.0 on). Data will be put in a table with a lot of columns. Data values from “datas_1Hz”, “datas_5Hz” and “datas” will be synchronized in a time line. That means the values will copied from the previous data set until it changes.

FDR log files

This is a file format that mixes binary and text. It starts with file magic “**LOG!**”

```
Binary file found: D:\Lazarus\ShowAnafiLog\FDR_000_20181206T203956+0100\log.bin
62133882 bytes
Relative Bytes
address 0 1 2 3 4 5 6 7 8 9 A B C D E F ASCII
-----
00000000 4C 4F 47 21 03 00 00 00 00 00 00 00 00 1C 00 00 00 LOG!.....
```

Due to missing information about the format it cannot be decoded by “ShowAnafiLog” but a part of this file is readable and will be shown as meta data in a table.

Consolidated JSON log

This is a human readable file that starts with a JSON element depending on which OS your device has (Android or iOS).

```
{"details_headers":["time","battery_level","controller_gps_latitude" ...
```

or

```
{"controller_model":"RC,Skycontroller 3", ...
```

It consists meta data in the root of the JSON object and data sets:

- details_headers: Definition what data are in (columns)
- details_data: Data sets that matching the header definition
- Meta data in the root: Date/time, different meta data like serial numbers, firmware versions and so on.

Files are readable with “ShowAnafiLog”. It was originally made only for this log format but enhanced later. Data will be put in a table with a fix number of columns according the header definition.