# Introduction

CsvView is an app that visualizes log files from several DJI drones. CsvView operates internally on .csv files. For a log file not represented as a .csv file CsvView will first convert it internally to a .csv file and then operate on that .csv file.

CsvView can accept these log file types
1. .DAT from the Phantom 3, Inspire 1, Mavic Pro, and Phantom 4, Phantom 4 Pro, Inspire 2, and Matrice M600, Matrice M100, Spark, A3
2. .txt file produced by the DJI Go App. TXTlogToCSVtool is used to convert the .txt to a .csv. Note: The Mac version of CsvView cannot accept .txt files.
3. .csv from the Litchi tablet app
4. .tsv from the Autologic tablet app
5. .csv from the FPV tablet app

Usage

CsvView starts by presenting the main CsvView pane
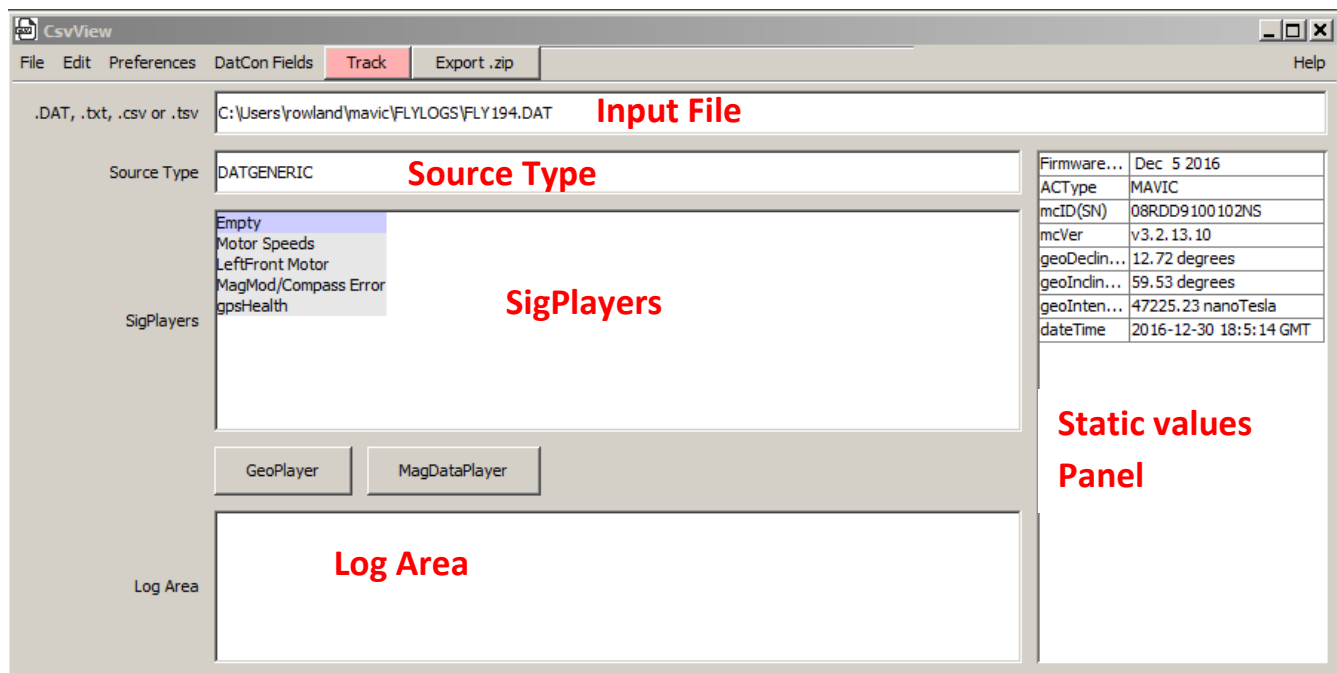
First select the log file from the above log file types. If a .DAT is selected and this is the first time that CsvView has seen it there may be a delay while the .DAT is converted. After the input file has been read the Source Type panel will display the file type that was detected. The SigPlayers panel will show the available SigPlayers for this file.

The Static Values panels displays values that do not change.

The Log Area will tell you things that CsvView thinks you need to know. Messages that appear in red are in indication that CsvView has run into a bug. See the last section in this manual for information on reporting a bug.

The features available through the Menu Bar are discussed below in the section CsvView Menu Bar.

SigPlayer

Each column in the .csv is represented in CsvView as a signal. Signals are then visualized via a SigPlayer which can contain more than one signal. There can be more than one SigPlayer, each containing one or more signals. It's easy to add signals to, and remove signals from a SigPlayer

The following example illustrates some of the features of a SigPlayer.
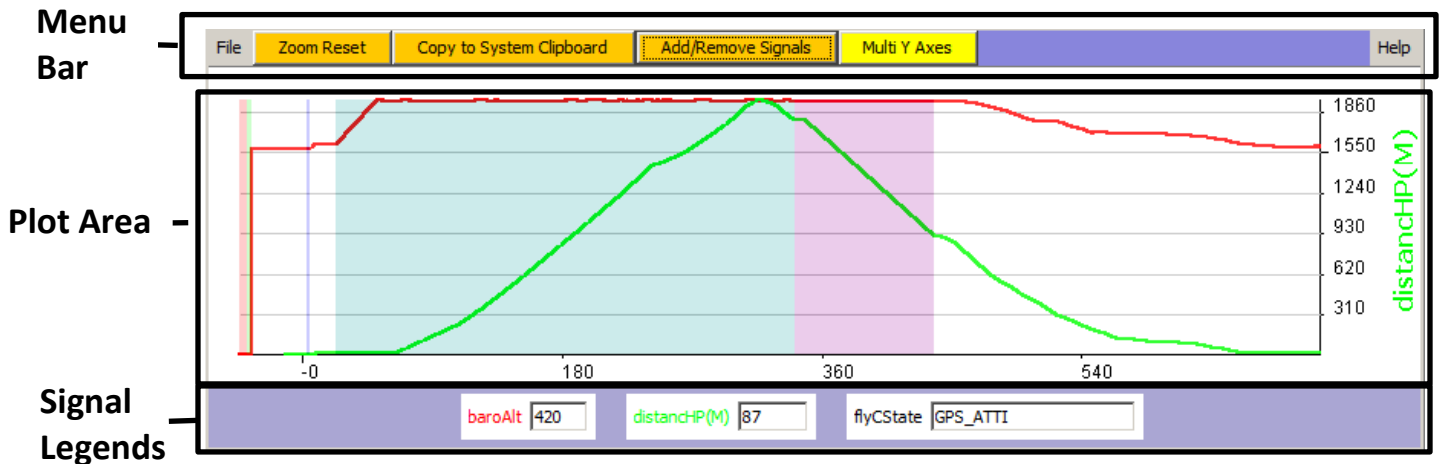

MenuBar - contains the buttons
1. ZoomReset – click here to zoom out after having zoomed in on the plot area
2. Copy To System Clipboard - clicking here places the image of the SigPlayer in the system clipboard. That image can then be pasted into apps like email or a Phantom Pilots posting
3. Add/Remove Signals – click here to bring up the dialog box used to add or remove signals
4. Multi/Single Axis – In Single axis the series signals in the plot area share a single Y axis. In Multi axis mode each series signal has their own Y axis.

Plot Area - contains plots of the signals.
> The lower horizontal axis represents time. Most signals are plotted with a line. In this example both baroAlt and distanceHP are plotted with lines. A few signals are plotted as a background color. In this example flyCState is plotted with this method. See Signal Types below. Signals plotted as lines can have their axis exposed on the right side like distanceHP in this example.

Signal Legends Bar– contains a legend for each signal.
> A legend consists of the signal name and a value readout area. Changing properties of the signal (such as color, stroke, etc.) is done via a popup menu that appears when a right mouse click is done on the signal name. E.g., changing the color of a signal would look like this.
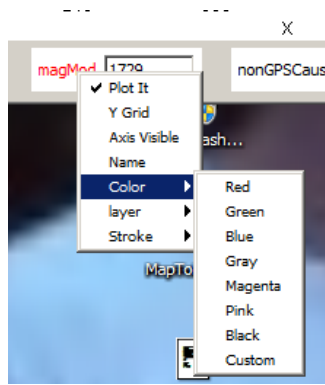
Zooming

Two zoom methods are supported. The first uses the left-mouse-down-and-drag gesture to select the area you want to zoom in on. The zoom area will appear as a yellow highlighted area.
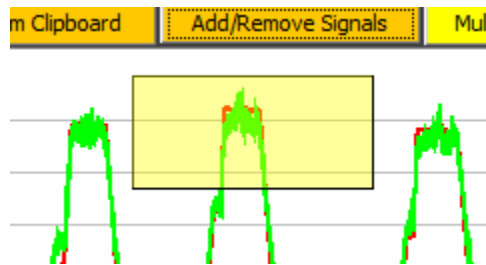
To zoom out after using this zooming method you must the Zoom Reset button in the SigPlayer menu bar.

The second method uses the mouse wheel is used to zoom in and out. Place the cursor at center of the desired zoom. To zoom in the time axis (horizontally) roll the wheel forward to zoom in and roll the wheel back to zoom out. To zoom in the Y axis (vertically) hold the shift key down and roll the wheel forward to zoom in and roll the wheel back to zoom out.

Signal Types

There are two types of Signals; Series and State. The values of a Series Signal are numbers. E.g. baroAlt, or distanceHP. Series Signals are plotted in the normal way, i.e. as lines. The value of a State Signal is text that describes a state. E.g. flyCState which has values like ATTI, GPS_ATTI, or Assisted TakeOff. A State Signal is plotted by coloring the background of the plot area. E.g., in the SigPlayer above ATTI is represented by the yellow background while GPS_ATTI is represented with a green background.

Adding and removing signals

To add to or remove signals from a SigPlayer click on the Add/Remove Signals button at the top of the SigPlayer. A Dialog Box will appear that will allow you to select the signals that you want. Left clicking on a signal will toggle between including (green) and not including (red) the signal.
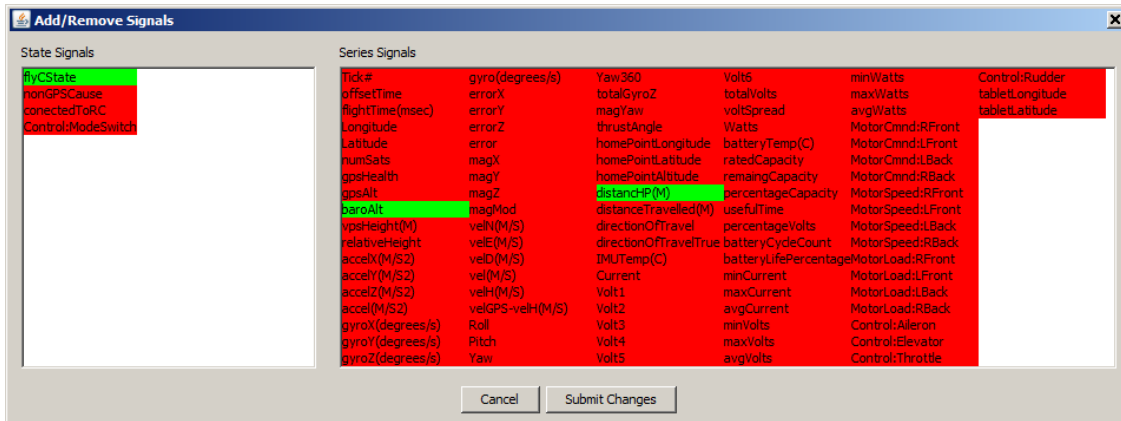
Once selected click the Submit Changes button at the bottom of the Dialog Box.

Value Tracking in a SigPlayer

In the plot area the normal mouse cursor is replaced with a value tracker. The value tracker will display the time below the time axis and will also display the value of each signal in the signal legend area. For each series signal that is currently visible in the plot area small dot is displayed on the plot. For example
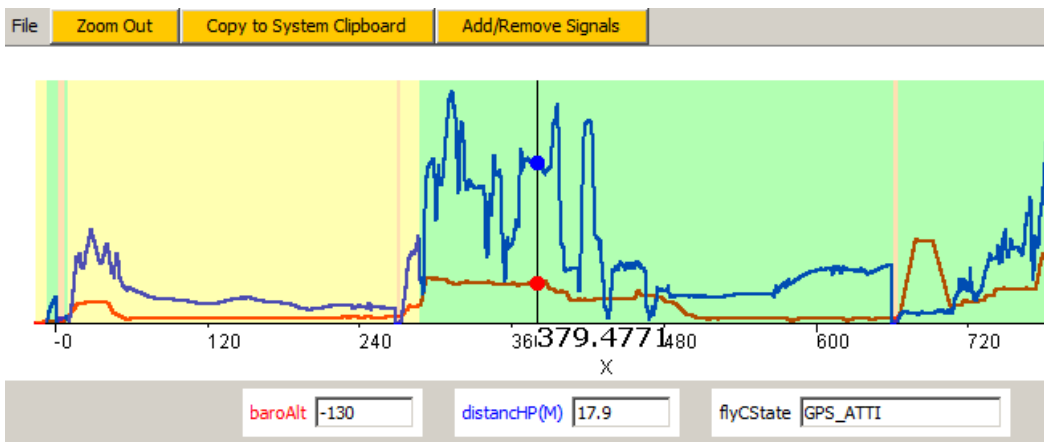
Here, the value tracker is currently at time 379.477, baroAlt has the value -130, and distanceHp has the value 17.9. The state signal flyCState has the value GPS_ATTI.

Each SigPlayer has it's own value tracker. Furthermore, the value trackers are *time synchronized*. I.e., moving the value tracker in one SigPlayer will cause the other value trackers to follow.

CsvView Menu Bar

File

- Export .csv – Write the .csv to a file. Useful if a .DAT or .txt log file has been read and then converted by CsvView for internal use.
- Import Player – Import a Player (e.g. a SigPlayer obtained from a colleague). The imported player could then be saved for future use.
- Export WorkSpace – Saves the .csv as .zip file that can then be transferred to a colleague.
- Import Workspace – Used in conjunction with Export Workspace. Reads the .zip and extracts the .csv which is then saved for future use.
- Check for Updates – Checks to see if there are newer versions of CsvView.

Edit

- Delete SigPlayer(s) – Presents a File Dialog that allows you to delete SigPlayers that have previously been saved.

Preferences

- Show SigPlayer Axes by Default – If checked SigPlayers will, by default, show the axes for series signals. The visibility of each series signal can be changed later as described above.
- Check for updates on startup - If checked CsvView will check for a new version at start up.
- Show when newer version is available – if not checked CsvView will not inform you if a newer version is available.
- Show experimental fields – if checked then experimental fields are shown in the Players.

DatCon Fields

This submenu allows you to select DatCon field categories that will be included. A pulldown list will show the various categories. Those marked with a dot are selected and the fields within those categories will be included. The Basic category is always selected and cannot be unselected. In this example the Magnetometer fields will be included in addition to the Basic fields.
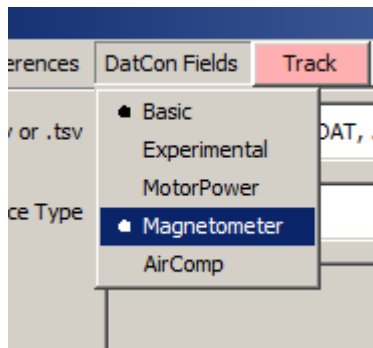

Track/Pick

A button that toggles between the Track and Pick modes. In the Track mode, the value tracker will move with the mouse cursor. In the Pick mode, the value tracker will get set only when a left mouse click is done.

Export .zip

A button that is a shortcut to the Export Workspace functionality described above.

GeoPlayer

Start the GeoPlayer by pressing the "Display GeoPlayer" button on the main CsvView panel.
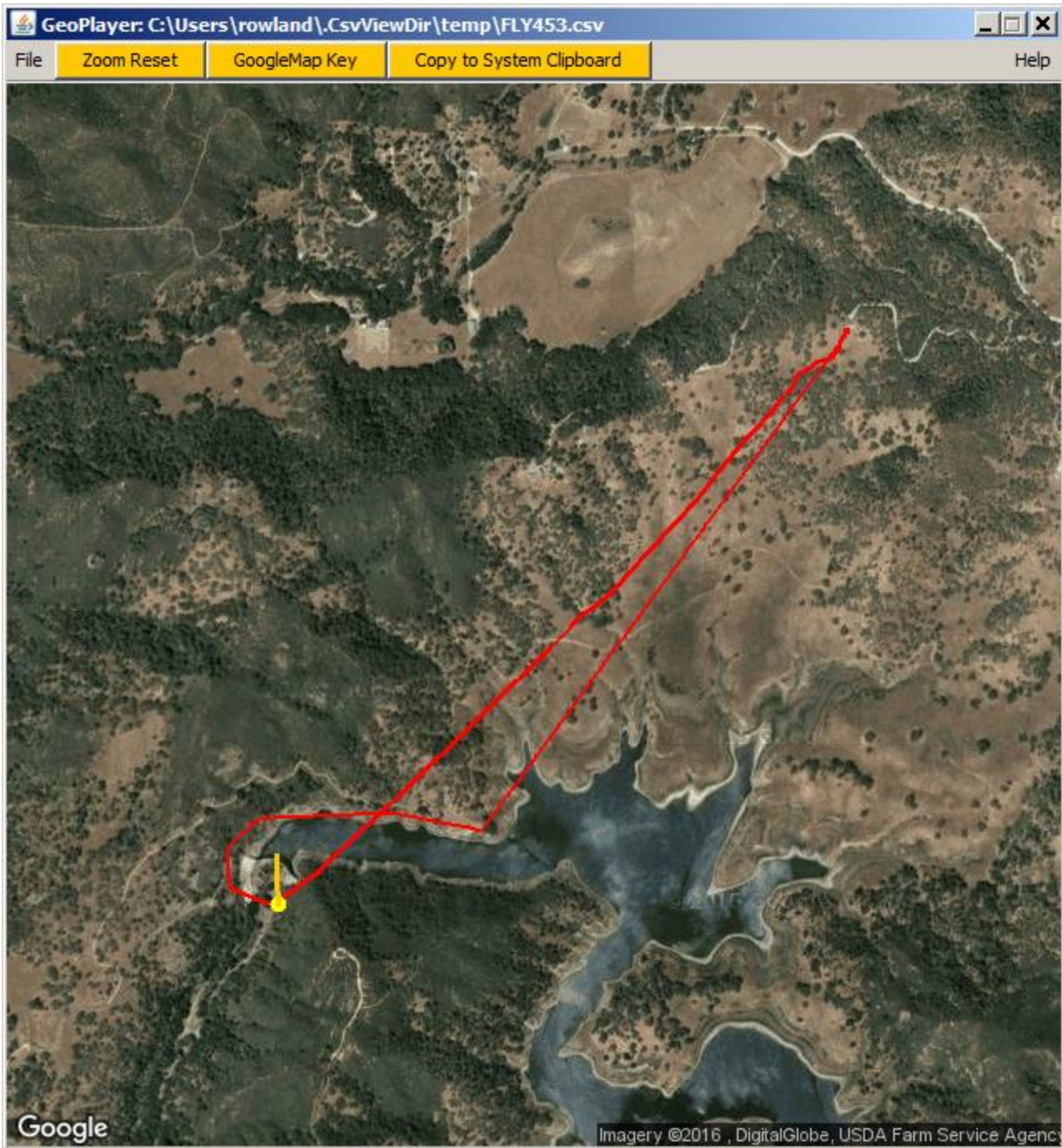
GoogleMap Key

The GeoPlayer overlays the track on Google Earth imagery. A free GoogleMap API Key is required. The first time the GeoPlayer is started a dialog box will appear that allows you to provide this key.
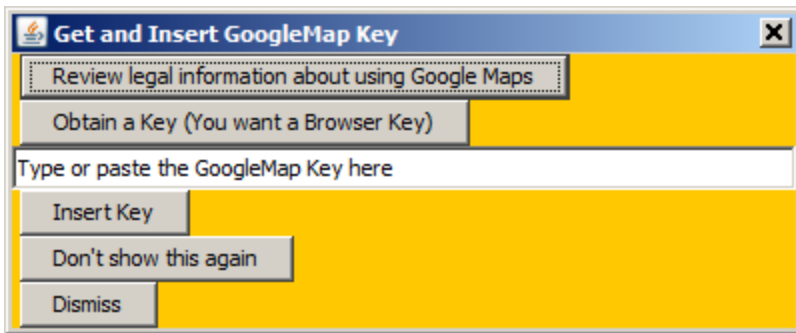
The "Review legal information .." button will cause your browser to display the Google page containing legal information about using the free key. Once you are satisfied that you can legally use GoogleMaps use the "Obtain a Key .." button and that will take the browser to the Google page where you can get the Key. You want a Browser Key, a Server key isn't necessary. Type or paste that Key into the space provided and press the "Insert Key" button.

If you don't want to use Google Maps, then press the "Don't show this again" button.

Zooming and panning

To zoom in place the cursor over the zoom center and roll the mouse wheel forward. To zoom out roll the mouse wheel backward. The zoom can be reset by pressing the "Zoom Reset" button in the menu bar.

To move the image within the GeoPlayer drag the image with the left mouse button. I.e., left mouse button down and hold while the mouse is moved.

Reporting a bug

Report a bug by sending email to bug@flylog.info. Attach the .csvViewLog file that will be in your home directory. Also attach the .csv file causing the bug.