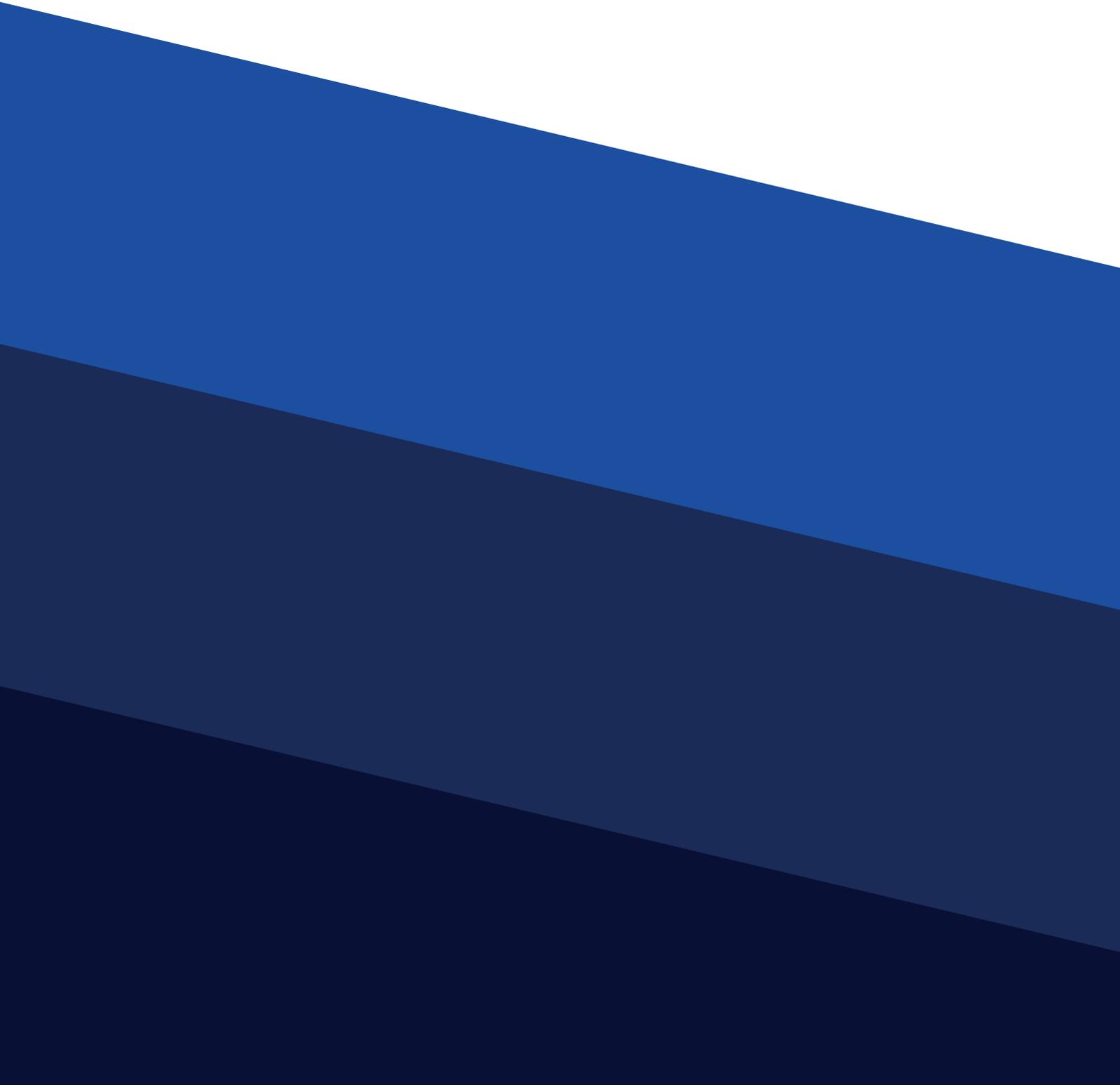


# SteadXP

## SOFTWARE USER MANUAL

Beta v0.9.3 - May 11th 2017

The bottom half of the page is decorated with three overlapping, diagonal, triangular shapes in shades of blue. The topmost shape is a medium blue, the middle one is a darker blue, and the bottom-most one is the darkest blue. These shapes create a modern, abstract background for the lower portion of the cover.

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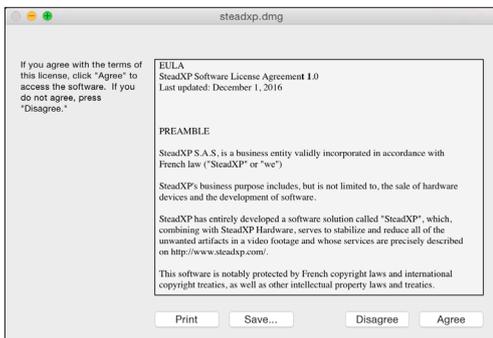
# BEFORE STARTING

## SOFTWARE SYSTEM REQUIREMENTS

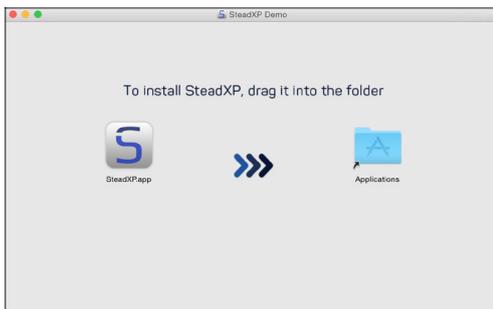
- MacOS 10.12 (Sierra), 10.11 (El Capitan), 10.10 (Yosemite)
- 64-bits operating system
- 2GB of RAM available
- An Internet connexion to activate the software

## INSTALLATION

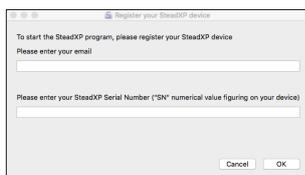
Locate the **SteadXP.zip** file and in your *Downloads* folder, unzip it and then double-click on **SteadXP.dmg**.



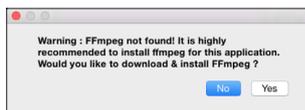
A window opens about the license agreement of SteadXP Software. We advise you to read it carefully. If you wish to continue, click on « **Agree** ».



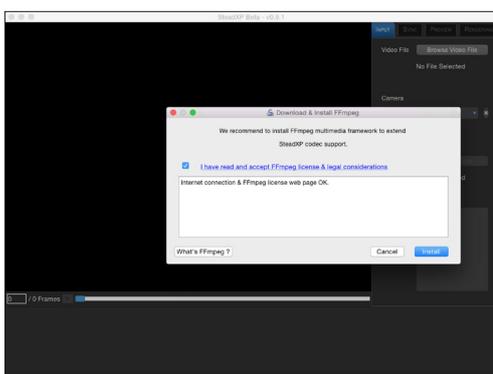
Click and hold the **SteadXP.app** file to drag it to the *Applications* folder of your computer. Once in this folder, right click on SteadXP icon, then click « **Open** » (the software isn't signed by Apple yet). Your Mac IDs will be required to continue.



A message appears asking you to fill in the e-mail address with which you placed your order, as well as the serial number (SN) on the label on the back of your product.



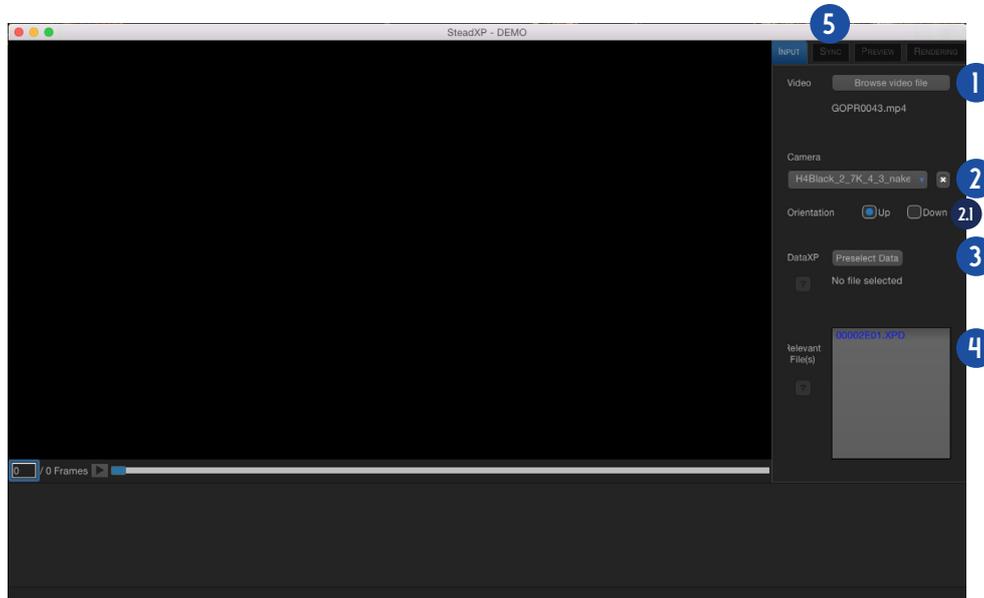
A message appears advising you to install FFmpeg. If you want to continue, be sure to be connected to the Internet then click « **Yes** ». FFmpeg is highly recommended to extend SteadXP codec support.



Click on « **I have read and accept FFmpeg license & legal considerations** ». This link refers to the FFmpeg web page. If you want to continue, click on « **Install** ». Once the **SteadXP.app** software is started, you will see a large video window, with 4 tabs at the top right and just below it, the specific settings of each one.

Repeat the operation with the second software installer **steadxpcalibration.dmg** .

## INPUT



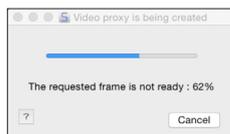
The first « *Input* » tab consists of loading the video file and its corresponding motion data file.

**ATTENTION:** The video file must be unprocessed before importing it into the SteadXP software. Any changes (shorten the sequence for example) upstream of the stabilization process will mislead the algorithms.

**NOTE:** During the derushing, it is advisable to gather in the same folder video and motion data files (.XPD in the DATA folder of the SteadXP memory card).

- 1 Click « *Browse Video File* » and select the demo video to process.

**NOTE:** In order to speed up the processing and thus guarantee a better user experience, a proxy is created at first loading of each video. Depending on your computing configuration and video type, you may see one of those messages:



The proxy hasn't reached the requested image yet, please wait or select a previous one.



The proxy isn't ready yet, please wait or force the rendering to start.

- 2 From the drop-down menu, choose the camera profile corresponding to the optical configuration during the recording. A wrong camera profile won't provide conclusive result.
 

**NOTE:** An optical configuration depends on the model of camera and lens, the recording mode (resolution and format), the rolling shutter value and whether a filter, an adapter ring <sup>and/or</sup> a watertight housing have been used.

**TIP:** Some profiles are initially included with the software. If yours isn't in the list, you can create it thanks to SteadXP Calibration software (see pages 7-10).

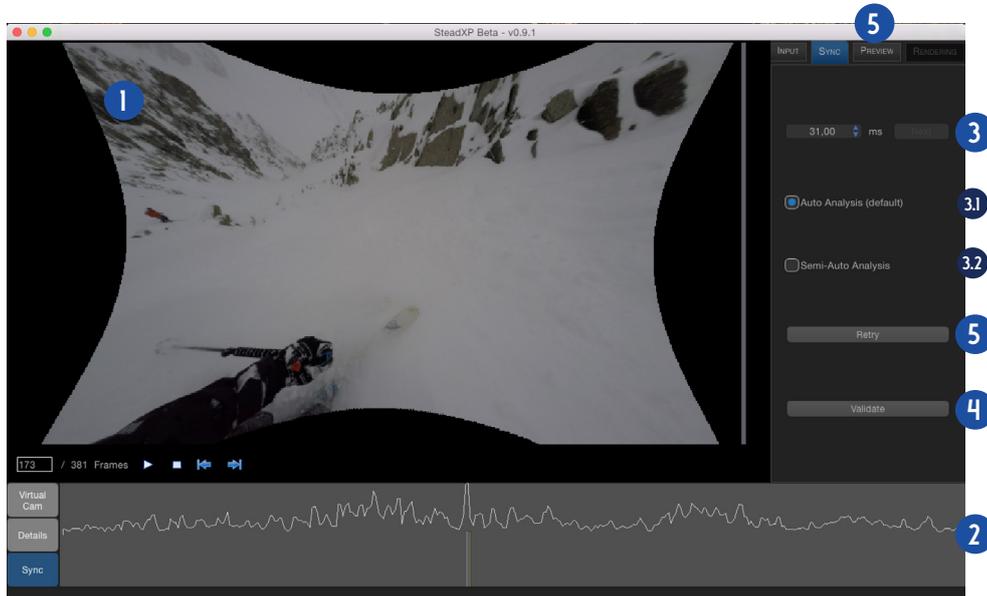
  - 2.1 This option only appears with a GoPro\*. Choose the same orientation of your camera as when shooting.
- 3 Preselect one of the motion data files in the same folder as the video.
 

**NOTE:** Each time you import data from a new SteadXP device, you will need to fill in your e-mail address with the serial number (SN) of the device.
- 4 The software will automatically suggest the correct matching file (on top of the list), as well as potential files, ranked from most to least likely. The blue one is the pre-selected file, in light green appear the files from the same folder and in dark green those found by the software but present in another folder. Double-click again on the top-listed motion file data.
- 5 The next tab « *Sync* » at the top right of the window will be accessible. You can save your project at any time by clicking on « *Save project as* » in the « *File* » menu.

## — SYNC



See [video tutorial](#)



Step 2 is to precisely synchronize the video with the motion data. This is the most important operation of the process, so do not hesitate to spend some time in order to have the best possible rendering.

1 A virtual camera, with its particular butterfly shape, was created, as if the video had been filmed with a perfect rectilinear lens. All optical distortions were automatically corrected by the software, thanks to the camera profile previously selected (hence the interest of calibrating your lenses, see pages 7-10).»

2 This timeline named « Sync » graphically represents the level of angular intensity when shooting. A peak indicates a dynamic transition between two successive images. You can navigate in this timeline by clicking in the lower half of it.

3 The key here is to find the right calibration value, in milliseconds, between the video file and the motion data file. To do this, click on a peak (in the lower half of the timeline), with as much background as possible. Then you have two methods:

**NOTE:** In both cases, you can adjust the calibration value manually.

3.1 « Auto analysis » is the automated method used by default. The processing time is a bit longer, but the method is more accurate.

3.2 « Semi-auto analysis », the software works faster. You will need to help it a bit by removing the green checkpoints in the foreground and in the low contrast areas. To do this, select the area where these points are located in the video window. A message will appear, proposing to remove these points.

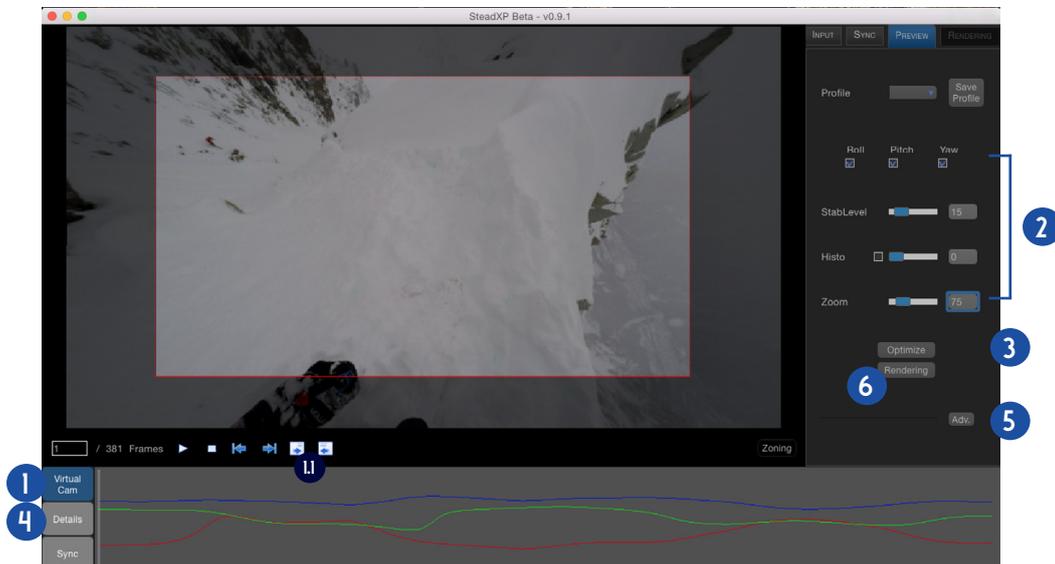
4 Once satisfied, click on « Validate ». Be sure to check the result by clicking on the « Play » icon, especially during a movement peak. Do not hesitate to save your project.

**TIP:** During video playback, place your mouse cursor over a clearly identifiable visual hint in the background of the video. This one must stay perfectly still.

5 You can at any time restart the calibration calculation by clicking on « Retry ».

**NOTE:** In this case, please click on « Validate » after making any changes before proceeding to the next tab.

## PREVIEW & RENDERING



Step 3 allows you to choose your stabilization and rendering options.

The red frame in the video window corresponds to what you will see on the screen after the rendering of your sequence.

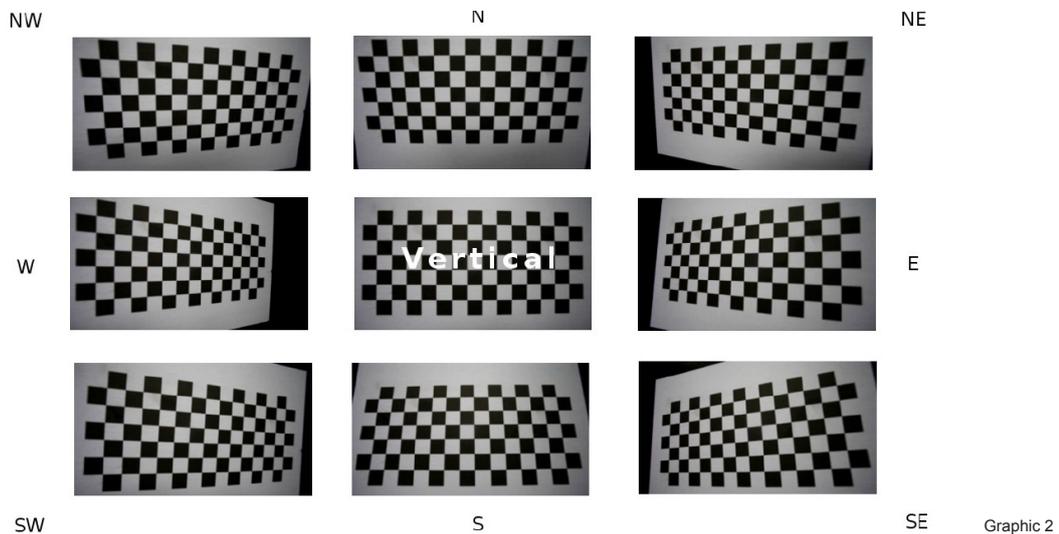
- 1 This « *Virtual Cam* » timeline graphically depicts the level of motion intensity on the camera's three axes of rotation. Each of them is represented by a color: **roll**, **pitch** and **yaw**. You can navigate in this timeline by clicking in the lower half of it.
  - II These two icons allow to cut a sequence to process in your video. To do this, select the image at the beginning of the sequence and click on the corresponding icon. Repeat with the end frame and the second icon.
- 2 Select the axis or axes you want to correct, and the degree of stabilization and zoom desired.  
**NOTE:** Uncheck the box « *Roll* » to activate the horizon correction.
- 3 Click « *Optimize* ». This operation removes the black borders emitted by the butterfly shape. Once you have finished, be sure to check the result by clicking on the « *Play* » icon. Do not hesitate to save your project.  
**NOTE:** Remember to click on « *Optimize* » after any modifications, before starting the rendering.
- 4 **ADVANCED OPTION:** If a black border appears after this operation, you can refine the setting using the joystick, available when you click the « *Details* » timeline. To do this, select a keyframe (represented by a feature in the lower half of the timeline) or double-click to create a new keyframe where a border appears. Then use the joystick to move the image lightly on all three axes to get the black border out of the frame.
- 5 Once satisfied, click « *Adv.* » to choose your output options (resolution, format, codec).
- 6 Click « *Rendering* ». Do not close the software until it has finished.



# COMPLEMENTARY STEADXP CALIBRATION SOFTWARE

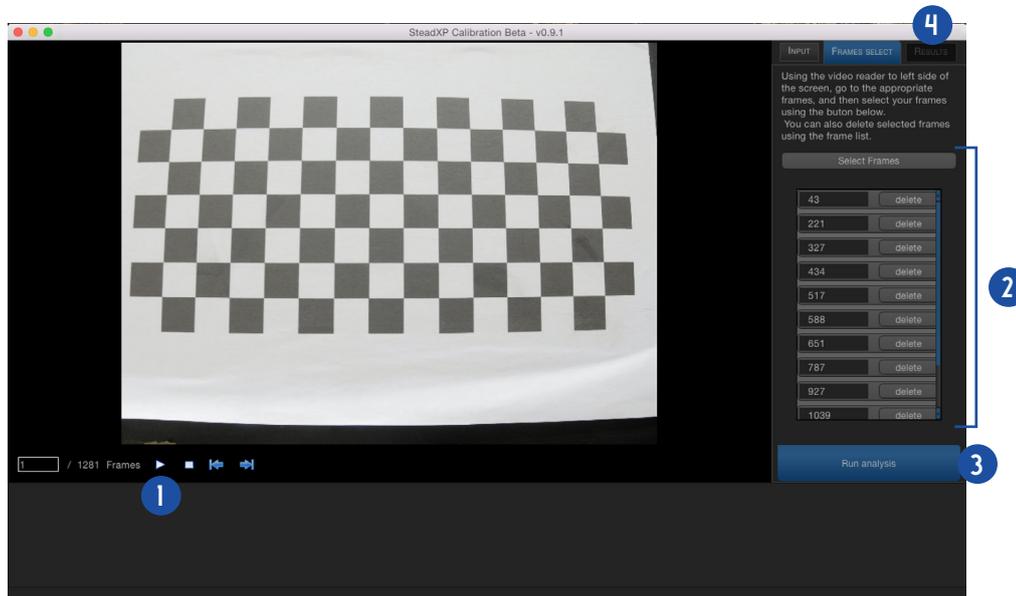
## — INPUT (follow-up...)

Your sequence will contain the following shots (see graphic 2):



- 2 Then click « *Browse video* » and select the calibration video you just made.
- 3 Fill in the different fields of your camera profile: the brand and model of the camera, the recording mode (resolution and format), the model of the lens (specify whether a filter, adapter ring or watertight housing has been used) and the value of rolling shutter.  
**NOTE:** For each field, some properties are pre-saved in the drop-down menu. If yours is not in the list, just write it directly in the field.
- 4 Click « *Next* ».
- 5 Go to the « *Frames select* » tab.

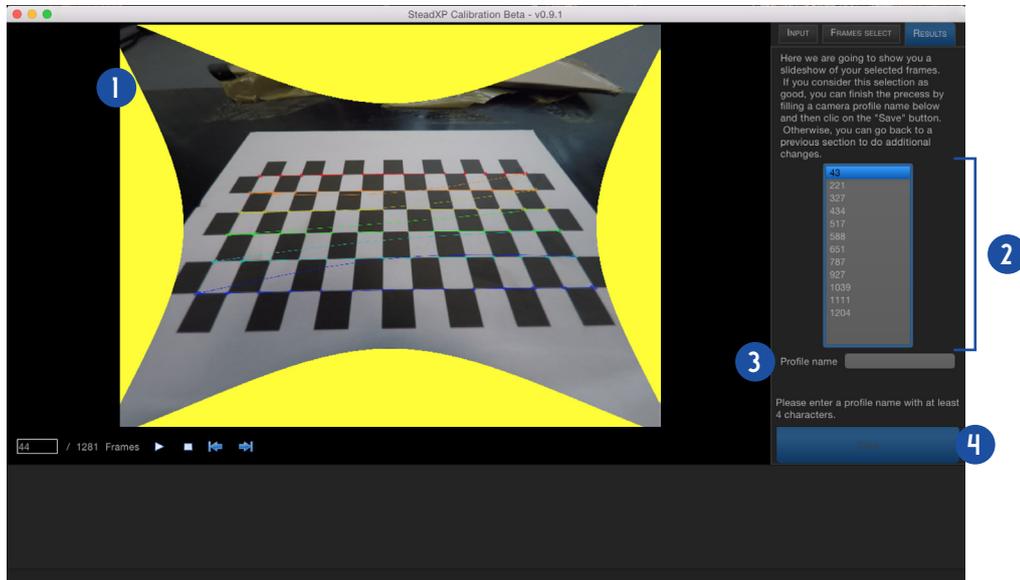
## FRAMES SELECT



This step consists of identifying the angle of view corresponding to each of the nine cardinal points (see graphics 1 and 2 on pages 7-8).

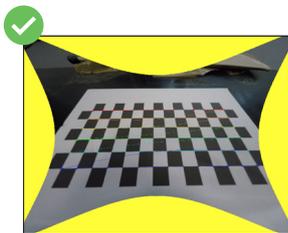
- 1 Start the video playback by clicking on the « Play » icon.
- 2 Click « Select Frames » when the image matches one of the nine angles of view. Repeat for each angle.  
**REMINDER:** When selecting an image, make sure that the entire checkerboard is complete and that a white margin appears on its four sides.  
**NOTE:** If one of the selected images does not meet the criteria, you can delete it at any time by clicking on «delete».
- 3 Click on « Run analysis ».
- 4 Go to the « Results » tab.

## RESULTS



All optical distortions are corrected at this step.

- 1 You will see the particular butterfly shape appears in the visualization window (see graphic 3 below), as if you had filmed with a perfect rectilinear optics.  
**NOTE:** If anything else appears instead of this butterfly shape (see graphics 4 to 6), it means that the analysis didn't work out. Go back to the previous « *Frames select* » tab and redo the procedure, by adding or removing frames.



Graphic 3



Graphic 4



Graphic 5



Graphic 6

- 2 Check the result of the optical corrections on each frame selected. The checkerboard lines must be straight and not deformed.  
**NOTE:** If the rendering is not satisfying, you can at any time go back to the previous « *Frames select* » tab and redo the procedure. After any modification, make sure to click again on « *Run analysis* ».
- 3 Name the camera profile you have just created.  
**TIP:** We advise you to specify the brand and model of the camera, the recording mode (resolution and format), the model of the lens (and whether a filter, adapter ring or watertight housing has been used).
- 4 Save your camera profile by clicking on « *Save* ». It will be automatically detected by the main SteadXP software.

# SteadXP

VIDEO STABILIZATION  
MADE SIMPLE



## **This software is a beta.**

The ergonomics of some screens will be perfected soon. Some features are not yet implemented, such as filling black borders with image history, in the « *Preview* » tab (method using pixels from previous and next images to fill the gap in an image). The camera profiles bank will also be expanded progressively. We invite you to check the updates available for you, once logged on [your personal account](#).

A question ? An advice ? A bug ? Do not hesitate to send us your feedback via the software support address [software@steadxp.com](mailto:software@steadxp.com). Your opinion matters to help us improving the software and therefore your user experience.



You can also watch our [video tutorials](#).

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