proDAD Mercalli

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Content

Welcome to proDAD Mercalli !

Mercalli lets you remove the effects of camera shake, jolts and trembling from recorded video sequences, to enhance the quality of important footage. Mercalli also improves your material by smoothing irregular pan or zoom shots.

This makes Mercalli a highly valuable tool that'll rescue and optimize crucial video clips.

We hope you enjoy Vitascene and always produce results that are full of effects!

General information

Copyright / Legal information

Licensing Conditions
Please read these licensing conditions carefully before installing the software.

Licensing agreement
When setup starts, a licensing agreement is shown, which you should read carefully.
By installing the software, you state that you accept the copyright conditions, the licensing agreement and the licensing procedure.

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Documentation
The greatest of care has been taken in compiling and translating the handbook. However, the possibility of errors cannot be fully excluded. proDAD GmbH shall assume no responsibility or

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What is Mercalli?

Mercalli lets you remove the effects of camera shake, jolts and trembling from recorded video sequences, to enhance the quality of important footage. Mercalli also improves your material by smoothing irregular pan or zoom shots.

Whenever a tripod is not to hand or would be impractical to use, an unwanted effect of agitation results. This is usually the case with unexpected events, which you have to film quickly and without any preparation, to capture a unique situation. Or whenever you can't use the full range of video equipment, because it would be impractical.
Where such footage is generally well shot but contains some camera shake, and it is of quite some value to the whole video, Mercalli can save the day. Mercalli can rescue and optimize this footage – almost fully automatically!

This makes Mercalli a highly valuable tool that'll rescue and optimize crucial video clips.

Why the name Mercalli?

The Italian volcanologist Giuseppe Mercalli created the Mercalli scale, which is used to assess and categorize the intensity of an earthquake, ranging from "instrumental" to "catastrophic". Mercalli created this scale based on an assessment of the degree of damage that results from a quake.

That's exactly what it has in common with our program Mercalli:
Mercalli also assesses shocks, shakes and distortions. Using very complex mathematical operations, it detects irregularities and removes them from a video clip. In a very intricate procedure, it assesses which movements are intended (e.g. zoom, panning), and which ones are not (e.g. shakes, shocks to the tripod, vibrations). You are then prompted to remove the unwanted movements.

What is new in Version 2?

Highlights of Version 2 include the completely new stabilization technology based on all 3 camera axes (known as 3D stabilization), resulting in a far higher success rate in the detection of unwanted movements and giving you far better results in the steadied clips. In addition, a new "smart border" technology reduces the required zoom-in factor to preserve as much image information as possible from the original footage in the stabilized clip. Version 2 also gives the cutter the ability to manually control the degree of deshake for just the desired result in terms of camera dynamics.

Mercalli also features an integrated, fully automatic Rolling-Shutter Compensation, which allows post-production correction of the weaknesses inherent in CMOS sensors, thus enhancing the quality of footage from action cameras, compact photo cameras, mobile phones and, not least, digital SLR cameras.

- **3D stabilization** of all 3 camera axes
- **Fully automatic rolling-shutter** correction of jello/skew/wobble effects
- **Available Mercalli SAL stand alone application offers features not possible in a plug-in solution**
- **Lower need for zoom-in than other post-capture stabilization products**
- **Dynamic camera mode retains the flavor of the video during stabilization**
- **Automatic scene change detection allows one stabilization pass for several scenes**
- **Eliminates jitter in** video, even in zoom/pan moves
- **Smoother results for all video footage**, from handycam to steadycam
- **Unlimited Multi-core CPU support for super-fast renderings Full resolution preview** for fast and efficient fine-tuning
- **No need for keyframes** or time-consuming tracking points
- **Superior ease of use**: Load video – stabilize – go!
- **Full 32-/64-Bit** Support for the Standalone application as well plug-ins for popular editing solutions

How does Mercalli V2 work?

Picture your original video being projected onto a screen and a virtual camera filming it all over again – only this camera can move. This camera is Mercalli – and it moves about all 3 camera axes and is equipped with a magical stabilization logic!

You determine how the camera should work and how it should film by your choice of virtual **Stabi-Cam**. For instance, an absolutely fixed camera stabilizes according to different criteria than a free-flying, gliding virtual camera.

Version overview

Mercalli SAL

- Setup for stand-alone Windows 32/64 SAL version

Mercalli Pro

- Setup for Windows 32/64 video editing programs and SAL version
- Setup for Apple OS video editing programs
- Alongside the stand-alone version, this package also features plug-ins for programs including the following:

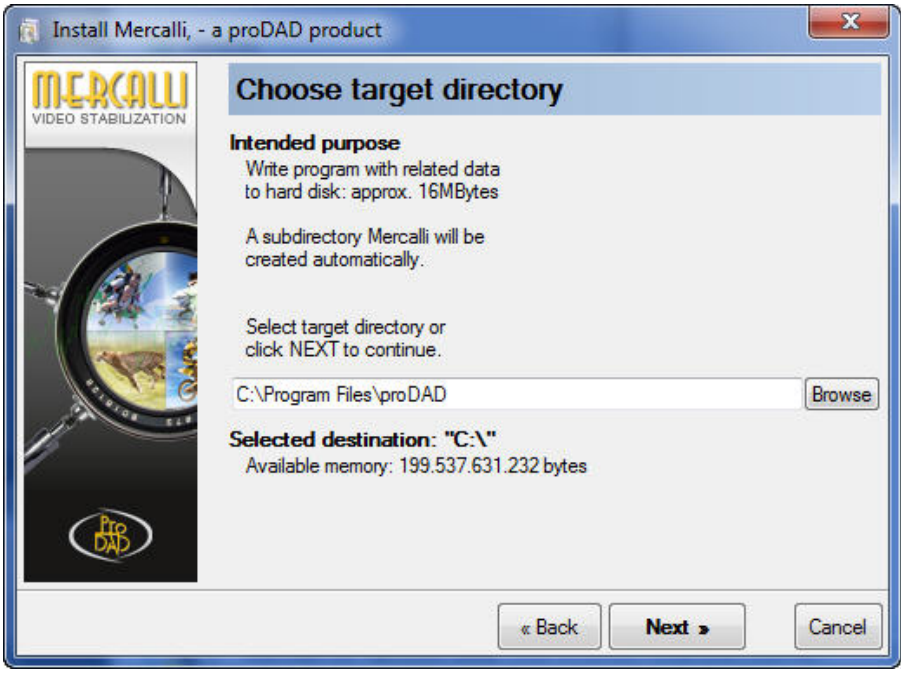
Adobe Premiere CS5 (Windows and Apple OS), Adobe Premiere Elements, Magix VideoDeluxe, Grass Valley Edius / Neo, Sony Vegas 32/64.

- A list of the currently available/included plug-ins can be found at www.prodad.com.

Installation and registration

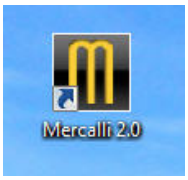
1. Mercalli, installation of the stand-alone version

As of version 2, Mercalli can also be used as a **stand-alone** application (all details are in the section Mercalli as a stand-alone version).
To start the installation, double-click the setup file. By installing the program, you agree to the terms and conditions in the legal notice section and to the license terms. If you have downloaded Mercalli, the archive file will first be decompressed and then the installation will start. Select the target folder where Mercalli should be installed.

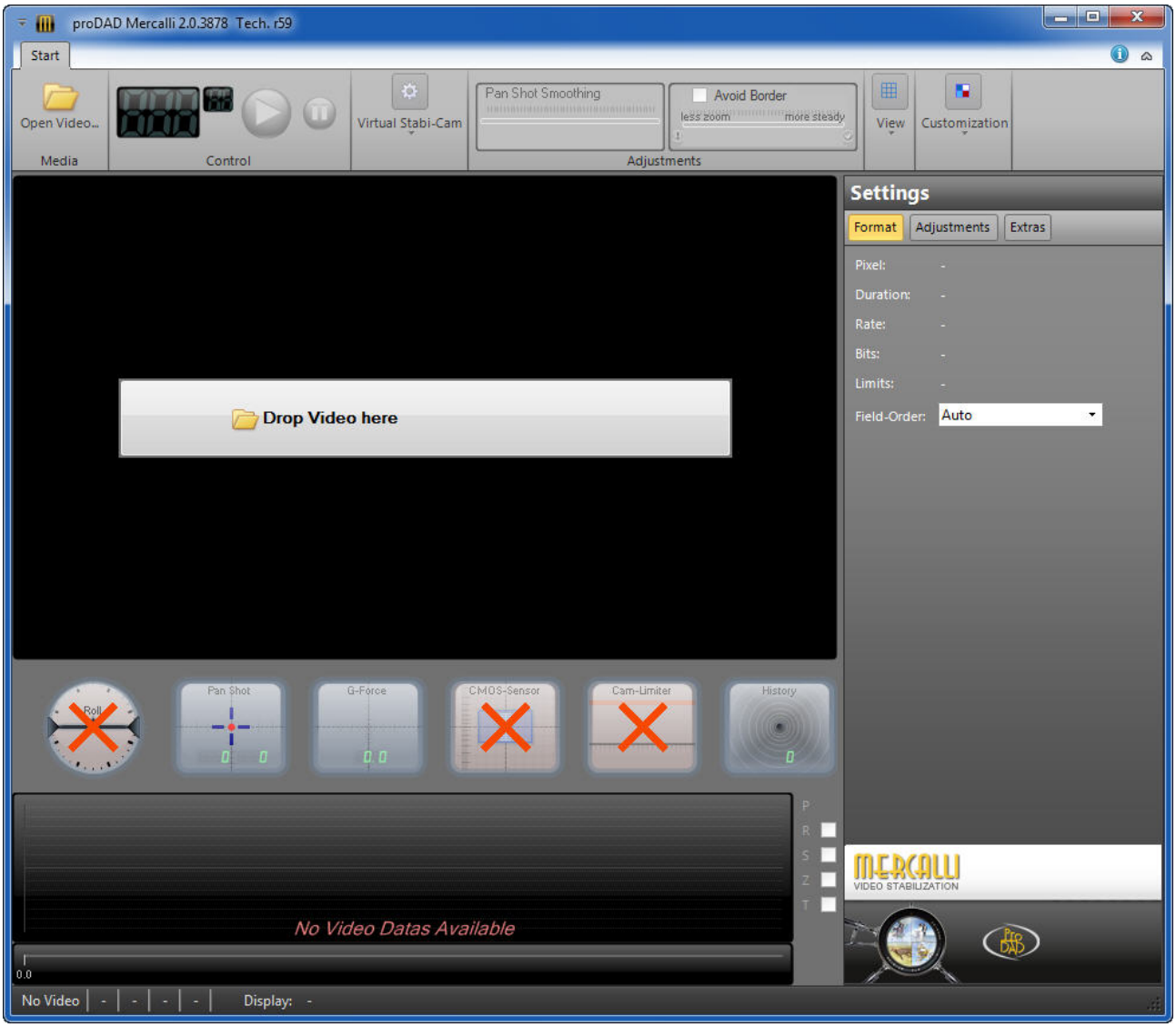


Now follow the installation instructions. During installation, you are prompted to enter a **license key** (serial number). If you have received the software via download, this license key was included with the e-mail sent to you providing download instructions. If you have received the software on DVD, you will find the license key in the box.

You can now start **Mercalli** from a **shortcut** on your desktop

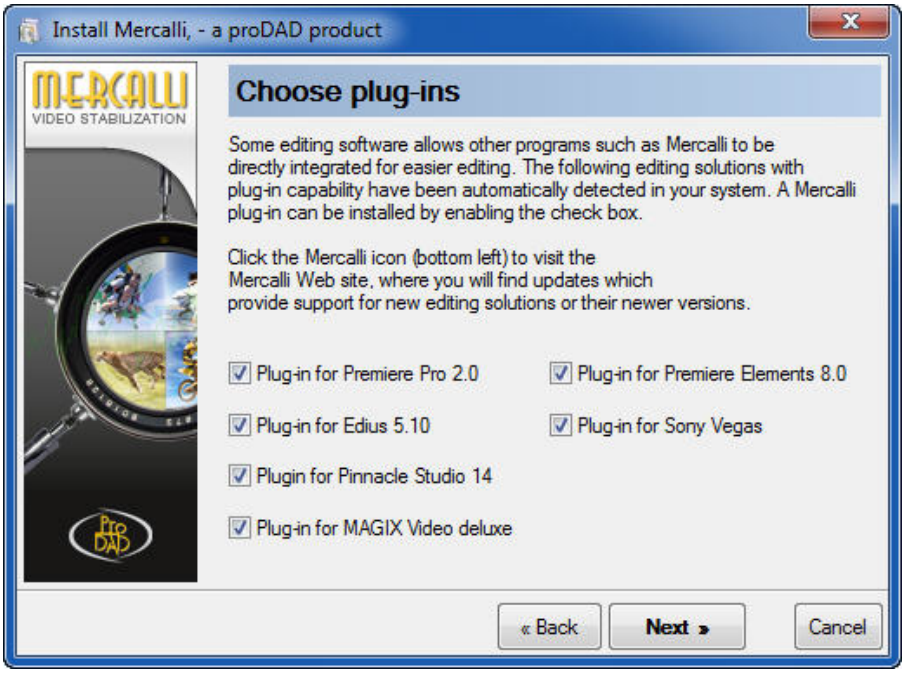


or by clicking **Start / All Programs / proDAD / Mercalli 2.0 Start**.



2. Mercalli, installation of the plug-in version

Just as in Version 1, Mercalli can also be used as a **plug-in**. To start the installation, double-click the setup file. By installing the program, you agree to the terms and conditions in the legal notice section and to the license terms. If you have downloaded Mercalli, the archive file will first be decompressed and then the installation will start.



Please refer to the section Windows® NLEs - plug-in support for information on use as a plug-in.

3. Registering Mercalli

Please register your proDAD Mercalli at **http://www.prodad.de/register.html**.

Help function

Pressing the **F1 key** opens the Help function.

The user guide is also available in PDF format directly from the Programs menu. Go to

Windows Start menu
Programs
proDAD
Manual-Mercalli

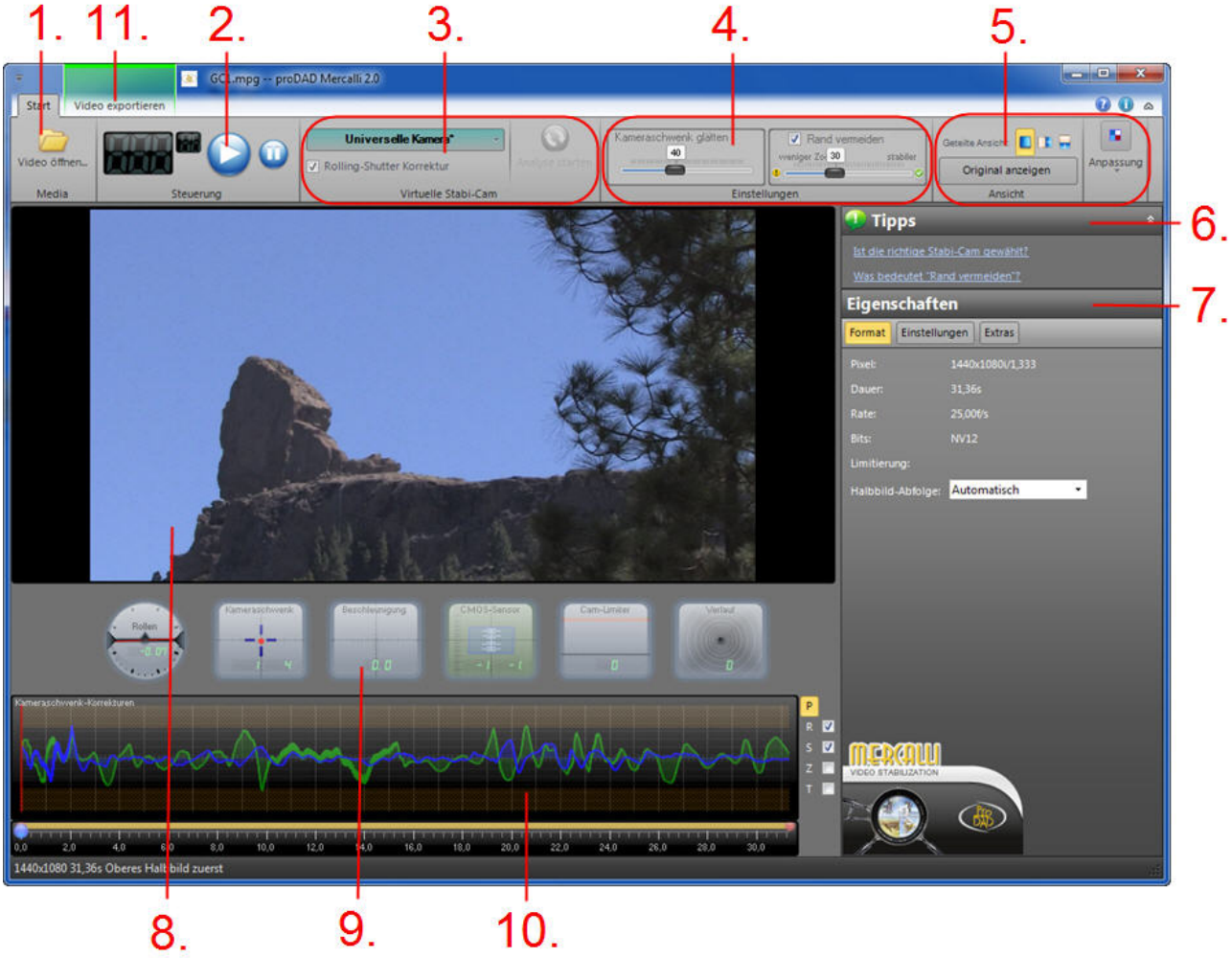
You can also use the Search function to quickly find specific terms or topics in the user guide.

Other information sources at www.prodad.com :

- FAQ
- Workshops
- Online Shop

Mercalli overview (stand-alone version)

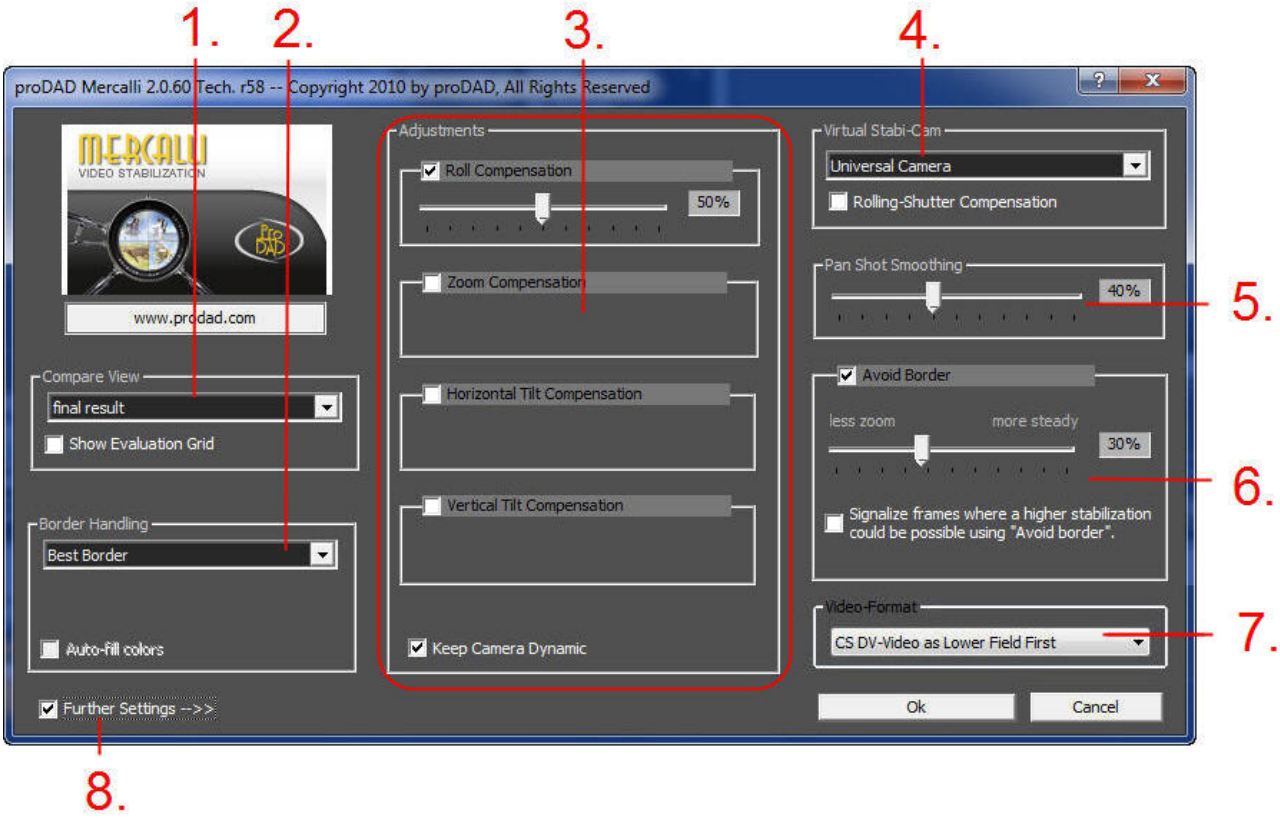
Details of the Mercalli V2 (stand-alone version) user interface.



1. Open Video...
2. Playback via Control
3. Virtual Stabi-Cam
4. Important stabilization settings
5. View
6. Tips
7. Detail settings
8. Video Preview
9. Instruments
10. Graphs
11. Export video

Mercalli overview (plug-in version)

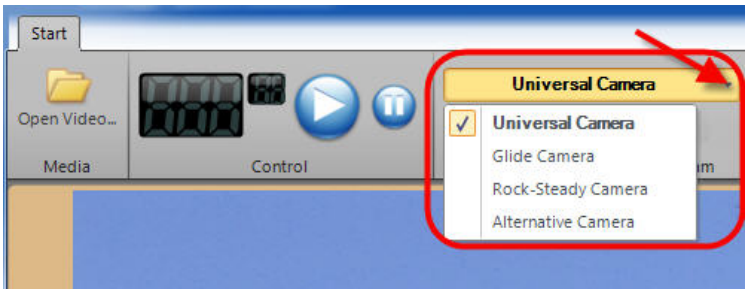
Details of the Mercalli V2 (plug-in version) user interface.



1. Compare View
2. Border Handling
3. Adjustments
4. Virtual Stabi-Cam
5. Pan Shot Smoothing
6. Avoid Border
7. Video-Format
8. Further Settings

Choosing the right Stabi-Cam

The **Stabi-Cam** is the tool that analyzes and corrects video data. The right choice of Stabi-Cam depends on how the original video was shot and the type of final result you wish to achieve. Although the Universal profile will improve your footage in all cases, in certain situations it makes sense to try out a different Stabi-Cam in order to produce the perfect result.



Example: tracking of a moving vehicle filmed from the side. Objective: a general steadying of the shot
Correct Stabi-Cam selection: Universal or, even better, Glide Camera
Wrong selection: Rock-Steady Camera

Example: free-hand camera shot of a point within a scenery. Objective: best possible stabilization, as if filmed from a tripod
Correct Stabi-Cam selection: Universal or, even better, Rock-Steady Camera
Wrong selection: Glide Camera

Explanation:
The Stabi-Cam selection **Rock-Steady Camera** is always advisable if you are aiming for scenery as stable as possible with preferably no camera movement at all. To achieve this, though, the original footage must not contain panning movements of the camera, but only shakes, jitters, rotations, tilts and similar movements.

In all footage where the camera pans, you should try out the Stabi-Cam selection **Glide Camera** as an alternative to **Universal**. This also applies to shots where the camera trucks alongside a moving object.

You can always try the **Alternative Camera** Stabi-Cam. Its algorithms employ different methods, which may, but do not always, produce different results. If the result is still not quite perfect using the other Stabi-Cams, trying again with this Stabi-Cam may help.

Perfect stabilization - tips & tricks

After running the video analysis and the first playback of the stabilized footage, you may well be satisfied with the result – but perhaps it is possible to do even better. Check the following points and you may be able to further improve the stabilization of your video.

- **Are you using the correct Stabi-Cam?**

Although the Universal profile will improve your footage in all cases, in certain situations it makes sense to try out a different Stabi-Cam in order to produce the perfect result.

- **Camera-Dynamic Yes/No?**

Enabling the Keep Camera Dynamic option can have a major impact on your footage. For instance, if you have shaky footage of a scenery WITHOUT any intended movements of the camera, it is better to disable this option, in order to eliminate the shake as unwanted camera movement. You would see considerable improvement in a scene of this kind with Keep Camera Dynamic on, but better stabilization can be achieved with it off.

So when does it make sense to use Keep Camera Dynamic?
Whenever a scene has been filmed with intentional camera motion, such as panning or tracking shots or similar movements.

- **Cam-Limiter On/Off**

Cam-Limiter is a viewing mode that reproduces the original camera movements in the footage. The deflections of these original movements are then smoothed (limited), making the footage steadier. With Cam-Limiter enabled, you can adjust the **Avoid Border** slider to determine the extent to which this smoothing of the camera movement should contribute to stabilization. When used in combination with Keep Camera Dynamic, this function produces harmonious results in footage containing intentional camera movements such as pan shots. The result achieved after stabilization is thus less sterile, as the aim in this case is not a 100 % steadying of the scene. By preserving the original dynamics and producing a harmonious camera movement in the stabilized result, this function positively enhances the overall impression.

- **Correct Field Order setting?**

In the vast majority of cases, the field order information is stored correctly in the video clip and can be read automatically by Mercalli. However, some recording devices may incorrectly mark a video clip as **Progressive**, although it has been recorded as fields, and vice versa.
But correct identification of the field order is extremely important for a perfect stabilization. Or to put it another way: an incorrect field order can lead to a result that is worse than the original. Therefore, it is important to check this point if in doubt, and, in some cases, you may need to set the field order manually or select Progressive mode and then analyze the scene again.
A reliable sign of incorrect field order identification is a fine zigzag line in the Pan movements graph.

For Rolling-Shutter Compensation to work correctly, the correct field order for the video must be used, otherwise the rolling shutter correction will have no effect, or may even produce errors.

What does Avoid Border mean?

Switching on the Avoid Border mode first of all hides the empty (black) areas of the image that result from shifting the image to stabilize it. This is done by zooming the video.
As a result, the greater the degree of shake in the video, the greater the zoom factor in the stabilized footage.

But Mercalli V2 also features a new Smart Border Technology. It tells the user by visual signals that in certain parts of the footage a very high zoom factor would be necessary in order to perfectly stabilize the video. The user can then choose either to have complete stabilization of these parts of the video or trade a lower degree of stabilization at individual points for a lower zoom factor. The advantages of less zoom are a sharper image and preservation of original details. The user decides what is most important for the footage in question and is not constrained by an automatic rule.

The parts of the video where the user can decide are indicated as follows:

- by  in the respective graph with the section marked in red
- by red markings around the video and 
- by coloring of the slider in the **Avoid Border** control accompanied by a red border

This signal enables the user to make adjustments interactively during playback and either increase the degree of stabilization or shift the weighting towards less zoom. This simple manual intervention lets the cutter fine-tune the fully automatic stabilization to suit individual tastes and objectives, and should thus meet all needs.

Unwanted rolling shutter effects

A **CMOS** sensor is an image sensor used in camcorders and digital cameras.

The rolling shutter effect is a positional error in the video, which occurs in moving footage when the frame is scanned line by line.
If the image is static, the footage is correct because all points of the frame are exposed at their correct positions. Rolling shutter effect may result in the case of a subject in motion or a moving camera, when a frame is scanned line by line (i.e. not all at exactly the same time).
This effect appears in the form of a diagonal distortion when filming fast-moving subjects. And also if the filming equipment is subject to heavy shaking, as may occur when filming with a moving camera (e.g. from a car), strong distortion of the entire image may result, severely impairing the quality of the footage.
The image may acquire a parallelogram form compared with the subject's true shape, but it may also be squashed or stretched.

The fully automatic Rolling-Shutter Compensation corrects the weaknesses inherent in CMOS sensors in post-production, thus enhancing the quality of footage from action cameras, compact photo cameras, mobile phones and, not least, digital SLR cameras.

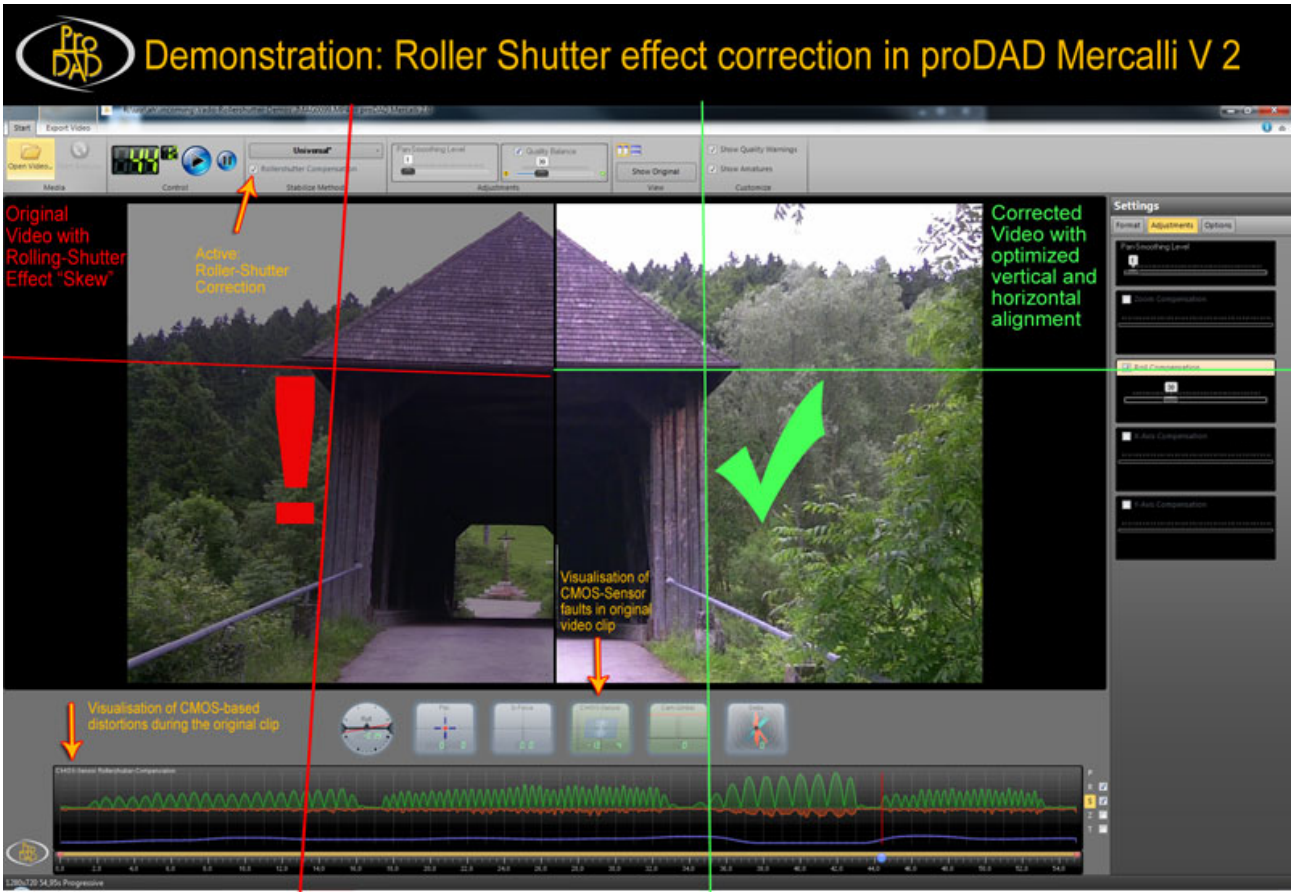
Just click Rolling-Shutter Compensation to show the **CMOS** instrument (below the Preview) and activate the correction function.

If your footage suffers from rolling shutter effect (distortions or image wobble) after stabilization, this is a problem inherent in your camcorder's CMOS sensor. Mercalli exposes this weakness. You can now eliminate this effect by enabling the **Rolling-Shutter Compensation** option in the Virtual Stabi-Cam area.

Common rolling shutter effects are:

- Jello effect
- Skew, geometric distortion occurring in pan shots
- Wobble (similar to heat shimmer)

IMPORTANT:
For Rolling-Shutter Compensation to work correctly, the correct field order for the video must be used, otherwise the rolling shutter correction will have no effect, or may even produce errors.



Example videos:

1. Minicam-wobble.wmv

2. FlipCam-RS-skew.wmv

Please note:
To play the videos, your PC must be connected to the Internet.

Further tips and recommendations

Advice on filming for even better results

You can already do a lot when filming to help achieve steady footage. Bear the following points in mind:

- To help rolling shutter compensation when shooting from a vehicle or with a moving camera, do not start filming when already moving (but have the camera stationary at the start and end of the shot if possible).
- Keep the exposure time as short as possible so as to reduce blurring effects between individual frames due to fast movements.
- Extreme differences in speed can have less effect as a result of different depths in the shot's perspective.
- When tracking a moving object, seek to minimize the prominence of stationary objects darting through the shot.
- Filming with a smudged lens or through a dirty window may lead to misinterpretations in the analysis and stabilizations errors.
- Atmospheric effects such as heat shimmer may confuse the Rolling-Shutter Compensation.

Solving import/export problems

If you encounter problems loading or exporting video material, these may be caused by DirectShow or codecs.
If this is the case, Mercalli does not convert the video data since it does not contain a converter function and no such function is planned.
In the vast majority of cases, a solution can be found using one of the various free packages that are available for solving codec problems.

Only licensed codecs may be used, but no program-specific codecs, such as those contained in Adobe Premiere.

The video file cannot be opened.

The video codec on your system is passing the data to Mercalli incorrectly and, as a result, the loading process cannot be successfully completed. A possible remedy is to install an alternative video codec, such as those listed here:

1. First install this package*
   http://www.prodad.de/support/files/MatroskaSplitter-32bit.exe

2. Then install this package*
   http://www.prodad.de/support/files/ffdshow-32bit-sse.exe

Then try loading the video into Mercalli again.

If this step does not solve the problem, you can remove the above packages using their uninstall functions. Similar packages are available free on the Internet, e.g. at http://www.free-codecs.com/.

* Freeware from http://ffdshow-tryout.sourceforge.net and http://haali.su/mkv/

Please note that these are not proDAD products and proDAD grants no warranty of any kind for these products and accepts no responsibility for any malfunction.

Stand-alone version

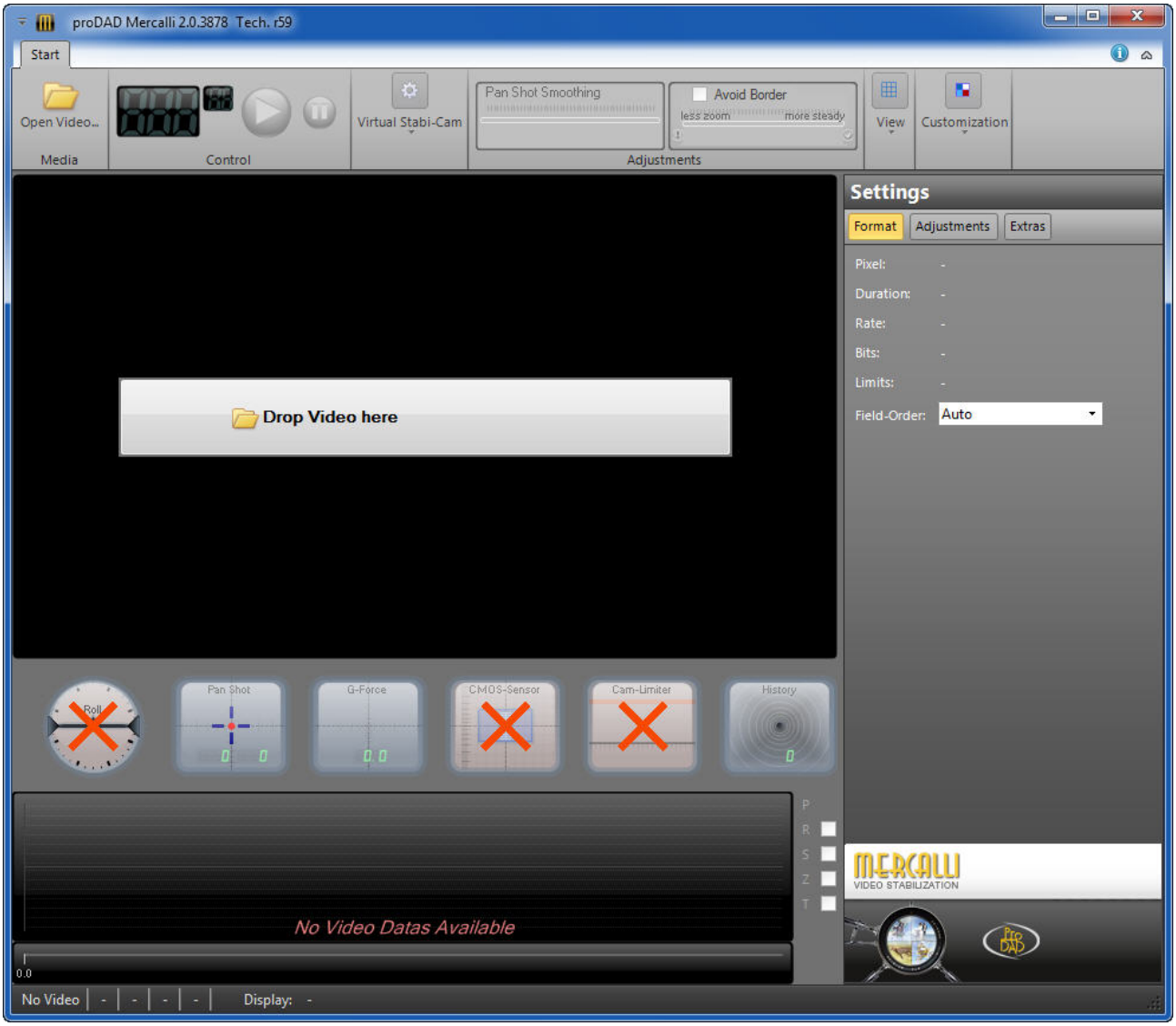
When you start up Mercalli, it opens with the **Start** tab active, where you can configure all settings for the stabilization of your video.

Before starting the analysis of a video in Mercalli, you must first import your video. You can also start playback of the original video (via Control) in the Mercalli preview. Next select a suitable Stabi-Cam (the default selection is **Universal Camera**). Then start the video analysis.

Starting the program

You can start Mercalli from a **shortcut** on your desktop

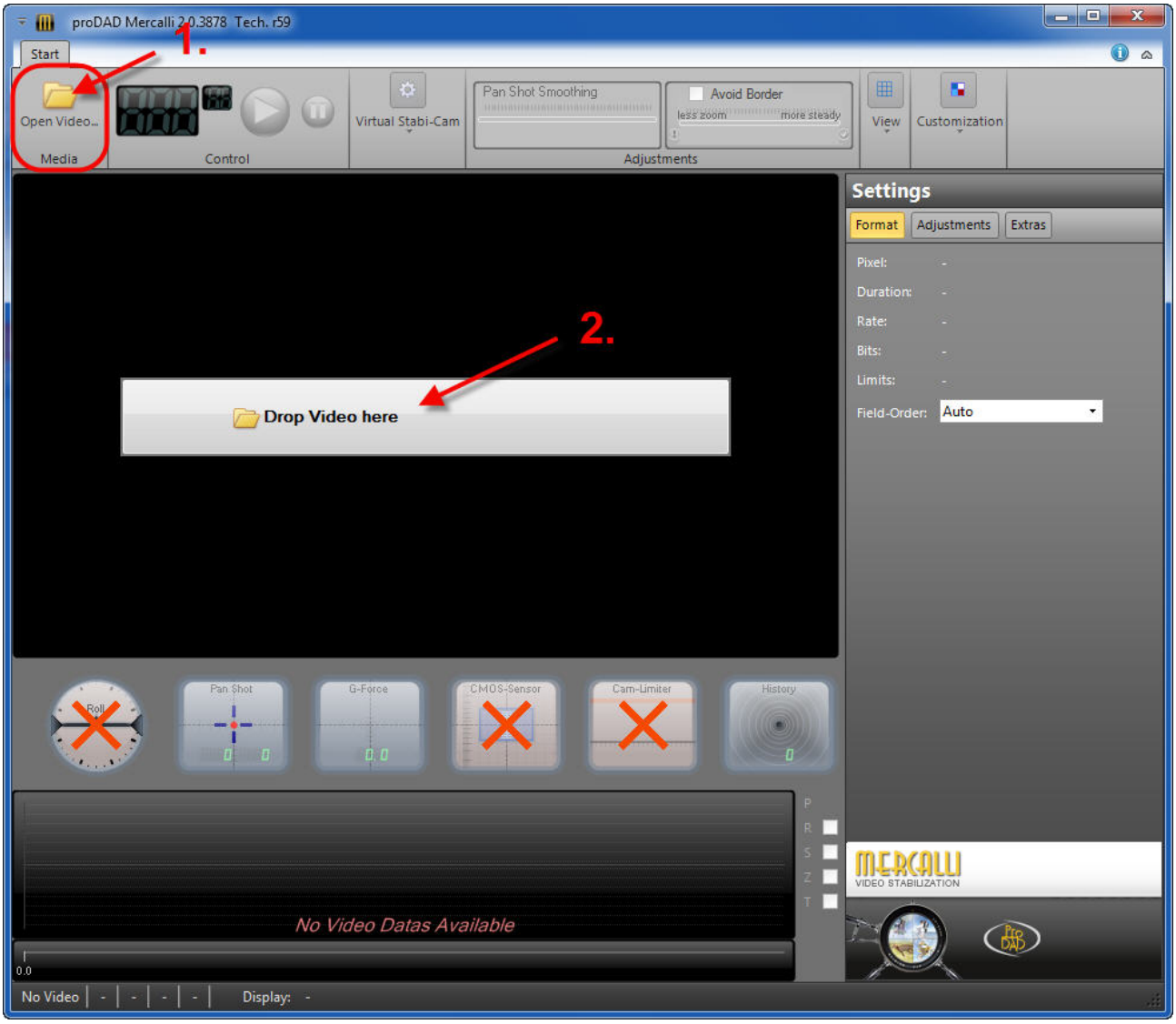
or by clicking **Start / Programs / proDAD / Mercalli 2.0**.



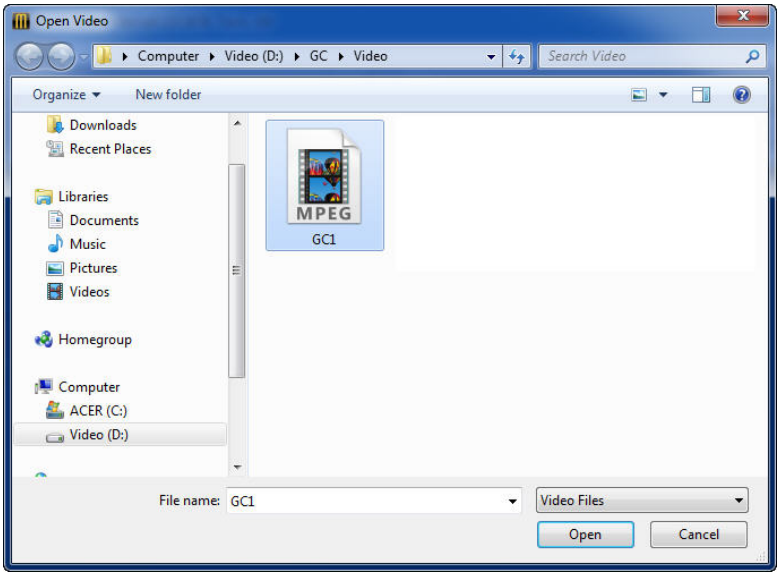
Open Video...

Once you have started Mercalli, you can then choose one of three ways to **import** a video.

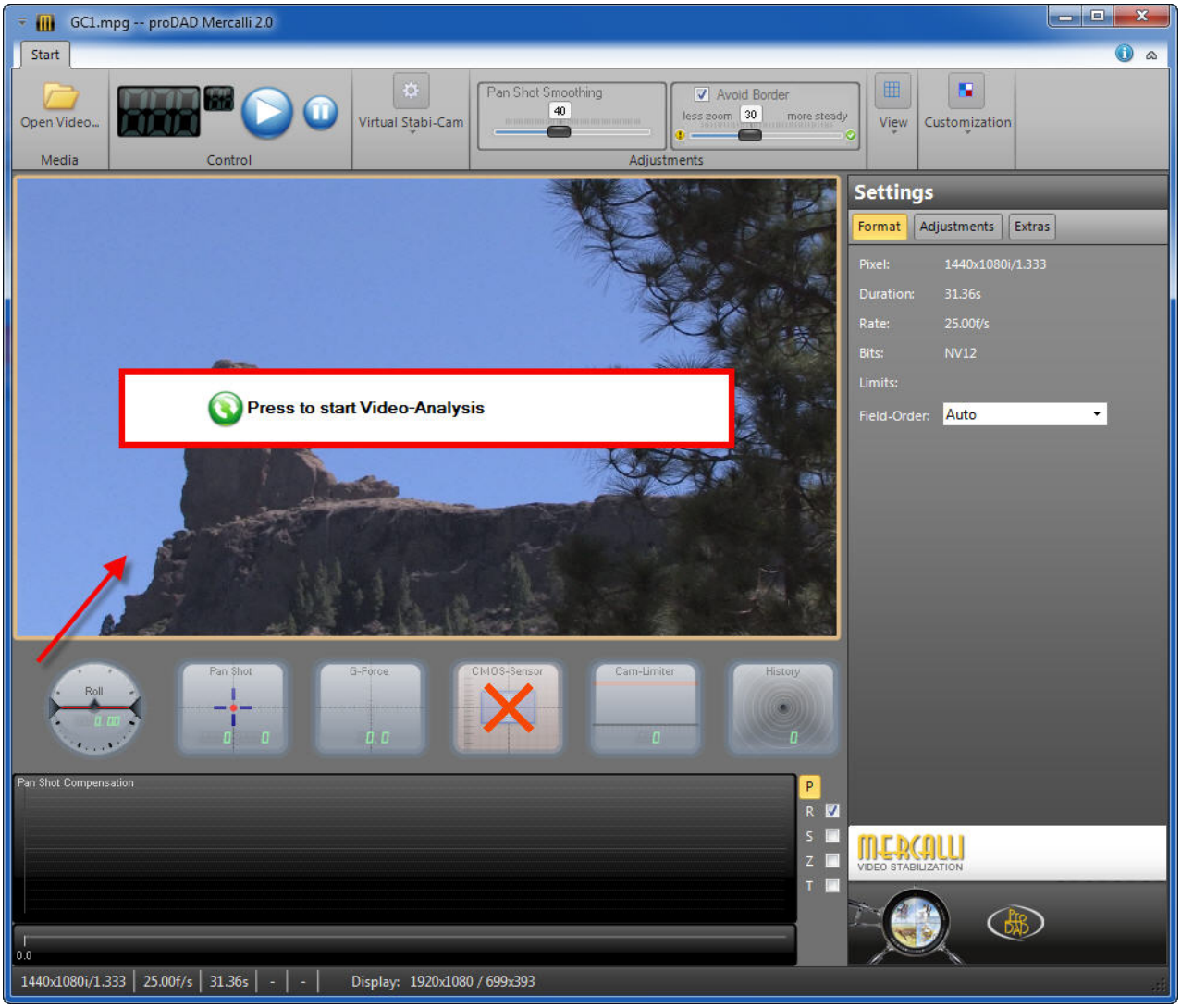
1. Via the option **Open Video ...**
2. **Drop Video here** (import directly into the Mercalli Preview)



The **Open Video** dialogue opens. Now browse to the folder that contains your video. **Select** the video file and click **Open**.



The video then appears in the **Mercalli Preview**.

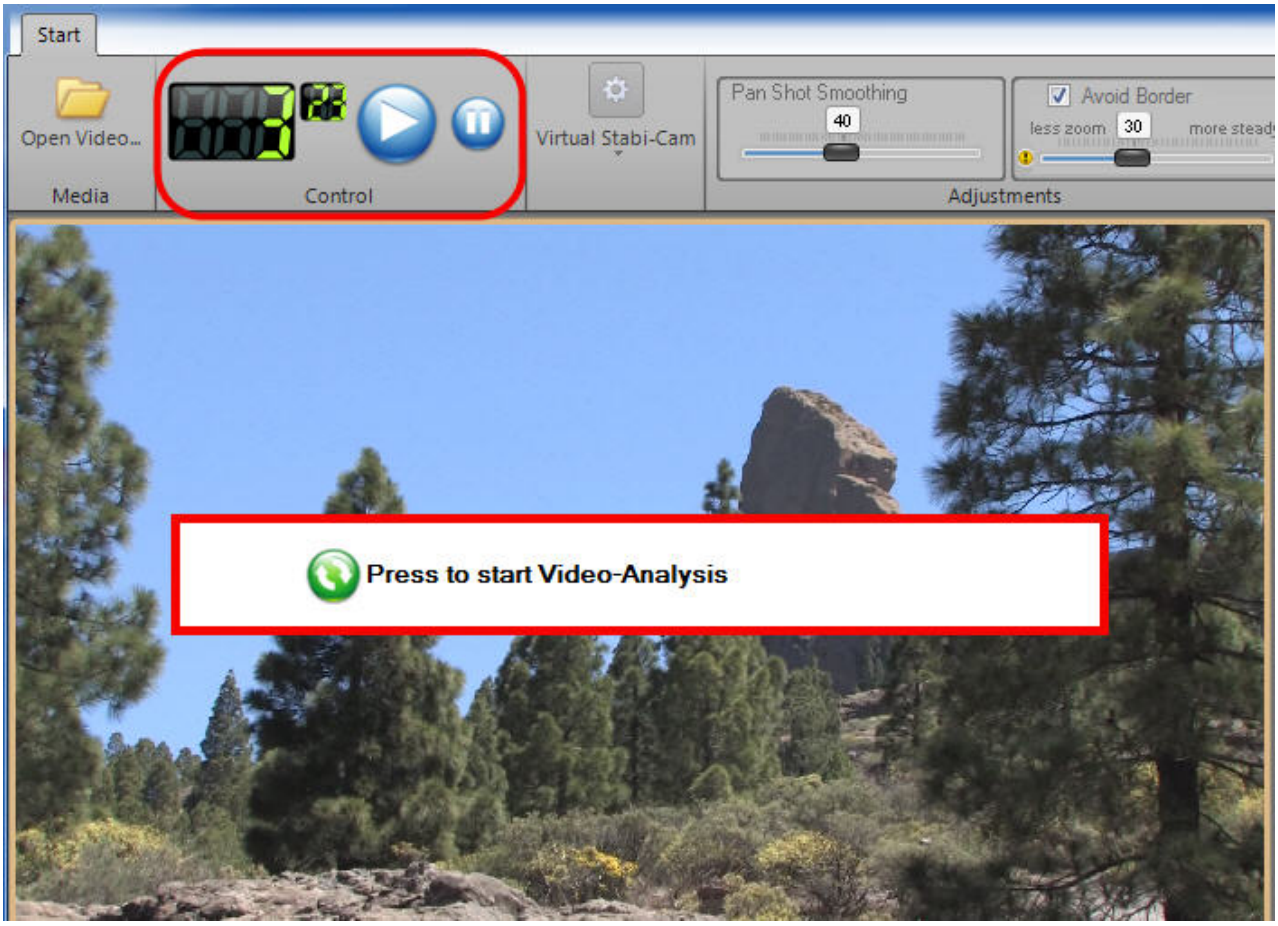


3. You can also load a video from the Windows Explorer by **dragging and dropping** it into the Mercalli Preview area.

Please note:
Please refer to the appropriate section for information on possible import problems.

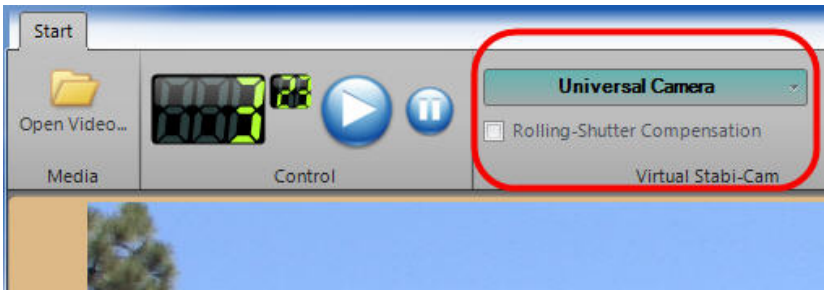
Playing back the original video via Control

When the video has been imported (and analyzed), it can be played back in the Mercalli Preview (via **Control** = playback controls, such as Play/Pause). The **Control** panel (which contains **time information** on video playback (shown here: 3 seconds / 23 frames/second) is located above the **Preview**.

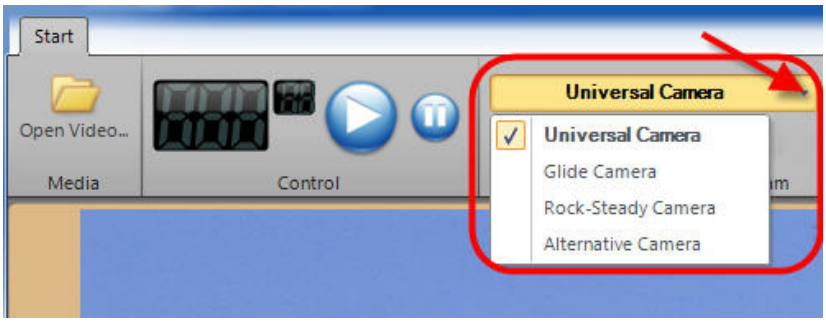


Virtual Stabi-Cam

Various Stabi-Cams are available to analyze and correct your shaky video footage. Select a suitable **Stabi-Cam** from the Virtual Stabi-Cam area (the default selection is **Universal Camera**).



Click the menu to show **other Stabi-Cams**.



1. Advice on using the virtual Stabi-Cam

Because every video has different characteristics, we recommend starting an initial video analysis with the **Universal Camera** Stabi-Cam.

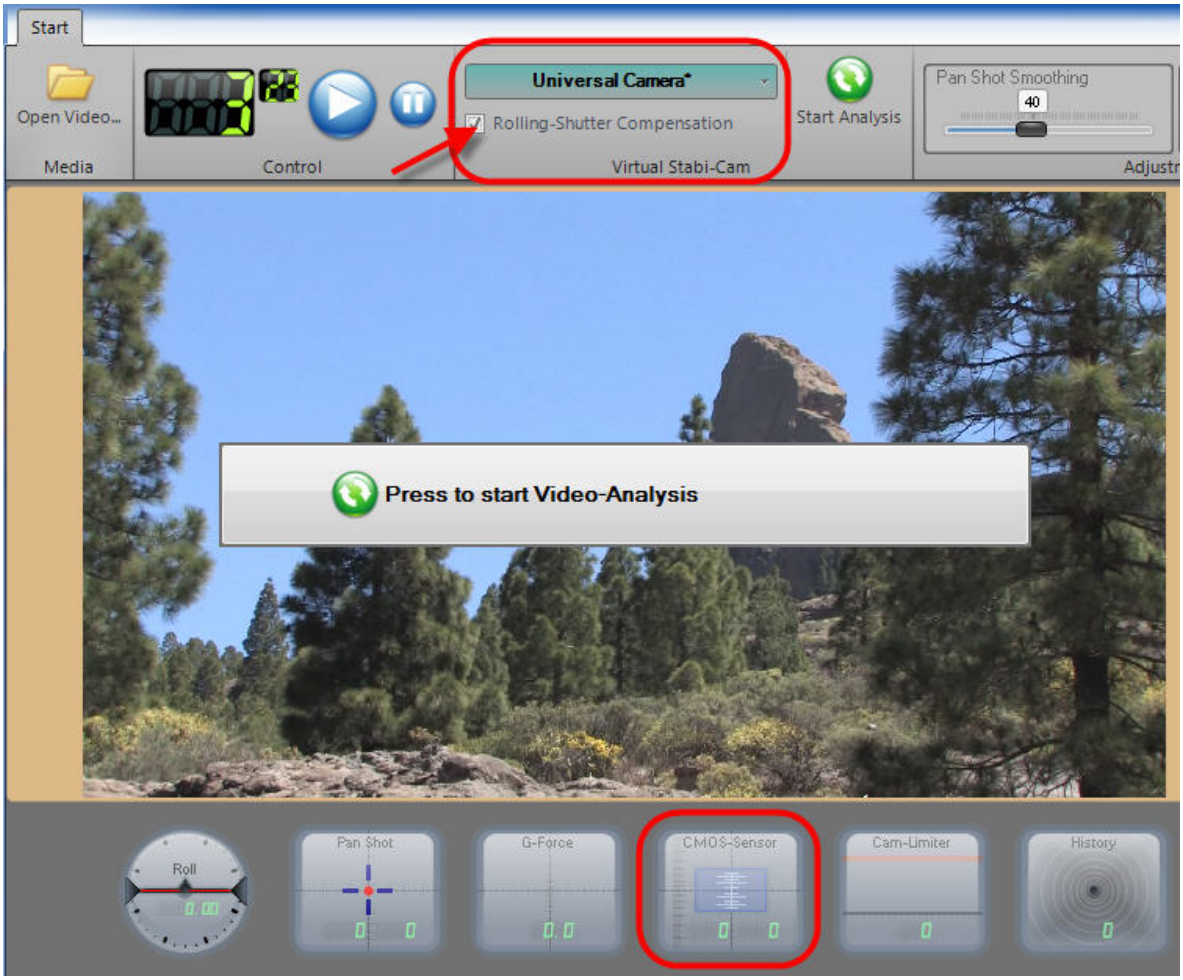
If the stabilization result is not optimal **for the specific video in question**, you can use one of the other available **Stabi-Cams** (Glide Camera, Rock-Steady Camera or Alternative Camera). These work according to different parameters. We recommend you try out these Stabi-Cams, one after the other, in order to find the best possible stabilization. In certain cases, these Stabi-Cams may produce better results than the **Universal Camera** Stabi-Cam. However, all these Stabi-Cams are subject to very specific environmental conditions, which are highly complex in combination.

If you want a video that comes as close as possible to a tripod shot, use the **Rock-Steady Camera** Stabi-Cam (result closely resembling a tripod shot).

2. Enabling Rolling-Shutter Compensation

To correct distortion that may occur in moving footage (CMOS cameras only), enable **Rolling-Shutter Compensation**. By default, the **Rolling-Shutter Compensation** option is disabled. But it can be enabled for any selected Stabi-Cam at any time.

Once it is enabled, the CMOS-Sensor instrument will appear below the Mercalli Preview.



The rolling shutter effect is an unwanted effect inherent in components known as CMOS sensors, which are commonly used in digital single-lens reflex cameras (DSLRs), pocket cams, mobile telephones and video cameras.

Rolling shutter effect tends to be undetectable or hardly noticeable in footage before stabilization. But after a video is successfully stabilized in post-production, the rolling shutter effect remains and may slightly or severely impair the quality of the footage.
So Mercalli is also equipped to combat this unwanted effect when needed – because there is no benefit in stabilization if the result is spoilt by other undesirable effects.

Starting analysis

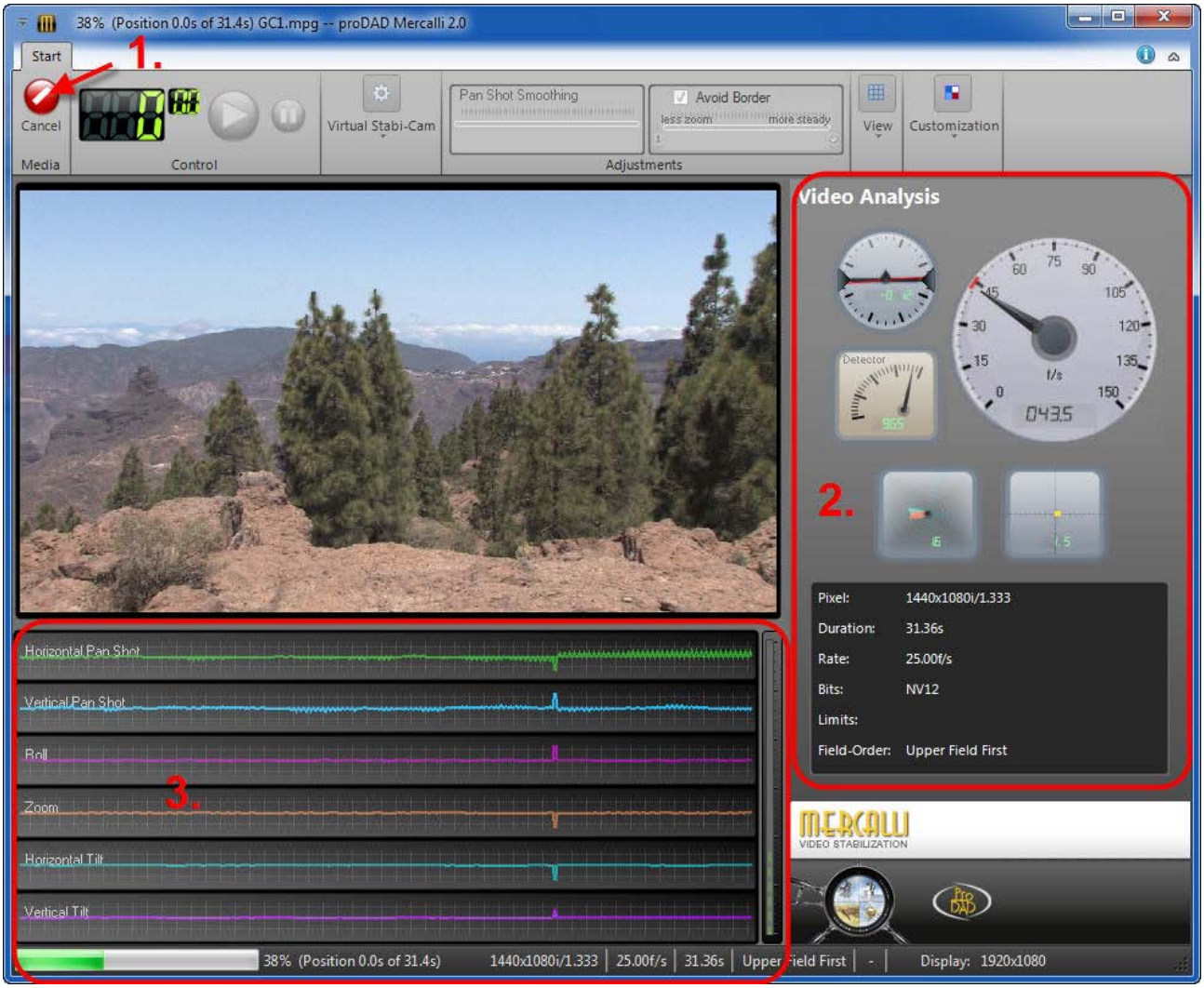
To **start video analysis**, click on

or above the Preview on

Analysis of the video will start.
The user interface switches to the **analysis view**. Clicking the switch at the top left **cancels the analysis (1)**. On the right are various **instruments (2)** with stabilization readings and **information about the video**.

Below the Mercalli Preview, real-time graphs **(3)** on the analysis of the video are shown, such as:
1. Horizontal Pan Shot, indicating movement in the video due to shifting along the **X-axis**
2. Vertical Pan Shot, indicating movement in the video due to shifting along the **Y-axis**
3. Roll, indicating movement in the video due to rotation about the **Z-axis**
4. Zoom, indicating movement in the video due to **zooming**
5. Horizontal Tilt, indicating movement in the video due to rotation about the **X-axis**
6. Vertical Tilt, indicating movement in the video due to rotation about the **Y-axis**

A progress bar for the analysis (green bar) is also displayed at the bottom left.

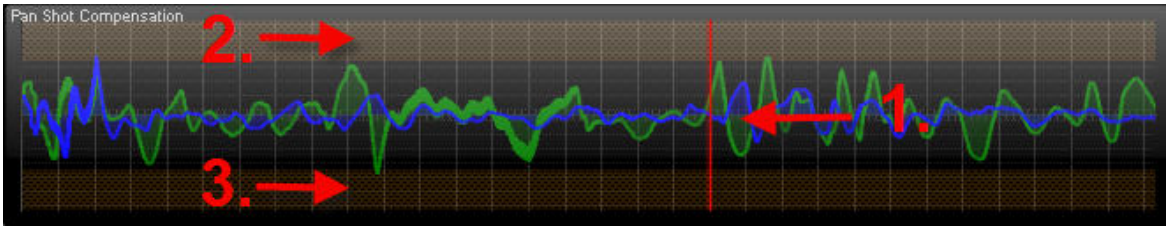


Playing back the stabilized video

When the video has been analyzed, it can be played back in the Mercalli Preview (via **Control** = playback controls, such as Play/Pause). The **Control** panel (which contains **time information** on video playback (shown here: 19 seconds / 00 frames/second) is located above the **Mercalli Preview**.

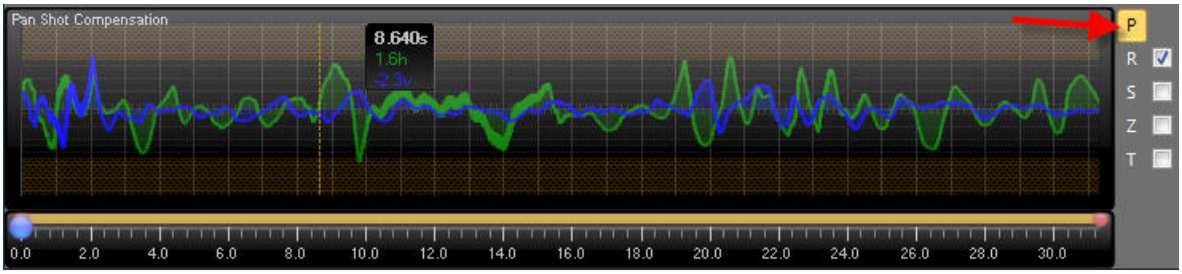
Graphs

The **graphs** show you the correction carried out on the stabilized video clip. They consist of a zero line **(1)** and the positive **(2)** and negative **(3)** reading areas.



Pan Shot Compensation

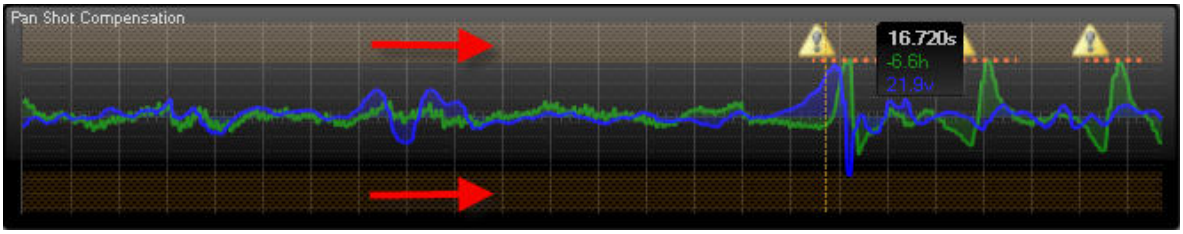
The **Pan Shot Compensation** graph shows movement in the video due to shifting along the **X-axis** and **Y-axis** (horizontal/vertical).



Use the Pan Shot Smoothing slider to adjust the overall smoothing of movements in the video. Moving the slider further to the right increases the degree of stabilization, making the video steadier. The **Pan Shot Smoothing** slider has the greatest visual effect on the video (smoothing of movements in the footage). Changes are also visible in the correction curve on the **Pan Shot Compensation** graph.

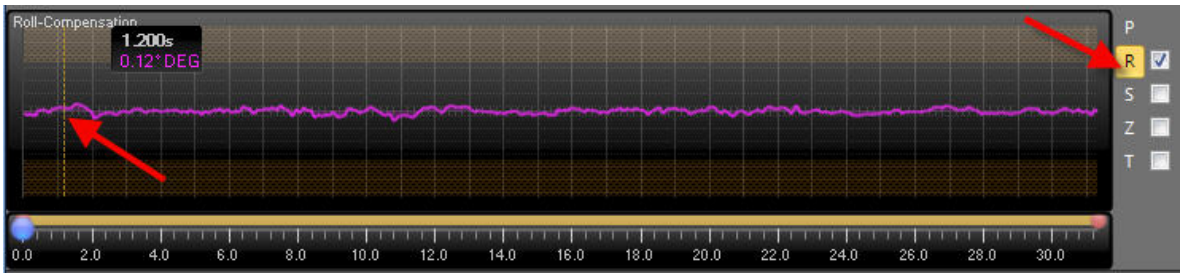
If you wish to remove almost all unwanted movements, which are indicated by a  in the Pan Shot Compensation graph, then move the Avoid Border slider only as far as necessary to the right (greater zoom-in) in order to retain approximately the original resolution in the stabilized footage.

The crosshatched bands at the top and bottom of the graph indicate the limit of the maximum movements in the video. Moving the **Avoid Border** slider thus adjusts the height of these bands.



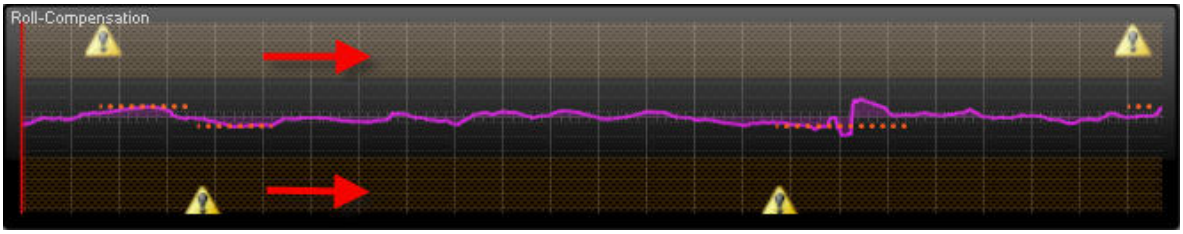
Roll-Compensation (with On/Off)

The **Roll-Compensation** graph shows movement in the video due to rotation about the **Z-axis**. Moving the mouse over the graph displays the instantaneous values.



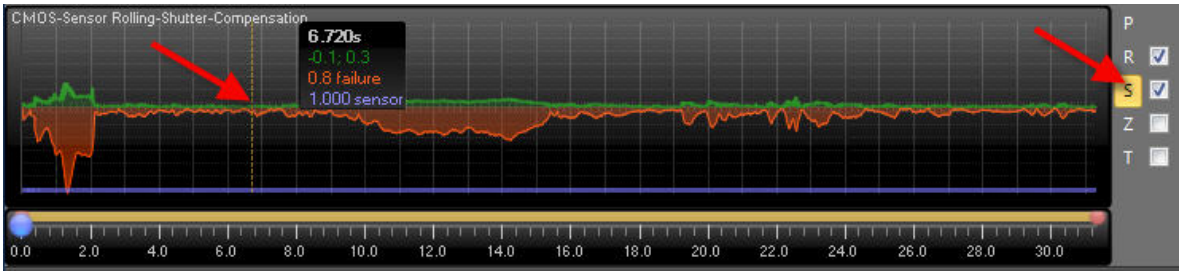
You can also **deactivate** the **Roll-Compensation** graph (immediately to the right of the graph). Doing so disables correction and display of stabilization about the Z-axis.

The crosshatched bands at the top and bottom of the graph indicate the limit of the maximum rotation movements in the video. Moving the Avoid Border slider thus adjusts the height of these bands. Doing so enables you to eliminate the unwanted movements indicated by a  in the graph.



CMOS-Sensor-Rolling-Shutter-Compensation (with On/Off)

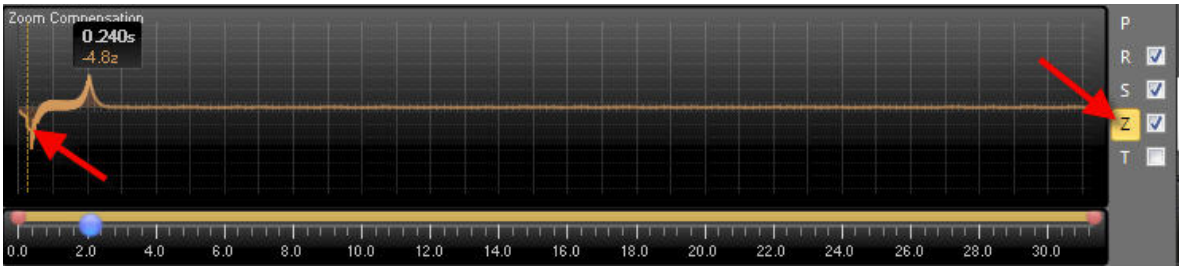
The fully automatic Rolling-Shutter-Compensation allows post-production correction of the weaknesses inherent in CMOS sensors. The green curve indicates the correction (countering of the effect) by Mercalli and the orange curve shows the residual error (not correctable). Moving the mouse over the graph displays the instantaneous values.



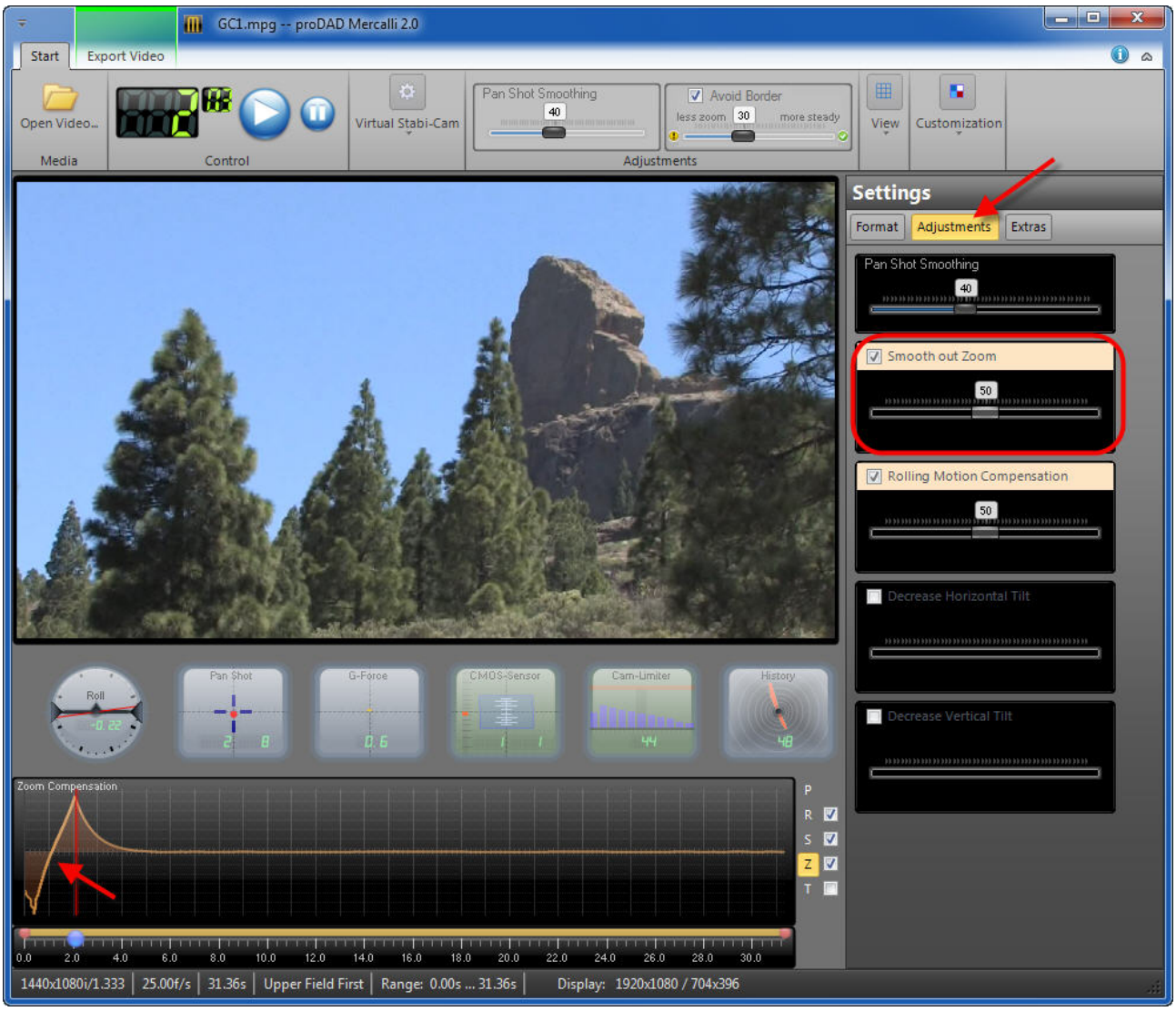
You can also **deactivate** the **CMOS Sensor Rolling-Shutter Compensation** graph (immediately to the right of the graph). As you'd expect, the orange curve indicating the residual error is still shown. The green curve for the correction no longer appears and no correction is executed.

Zoom Compensation (with On/Off)

The **Zoom Compensation** graph shows movement in the video due to **zooming**.



The correction and the reading on the graph depend on the position of the Smooth out Zoom slider on the **Adjustments** tab. Moving the **Smooth out Zoom** slider to the right spreads the zoom over a number of frames, creating a harmonious zooming movement.

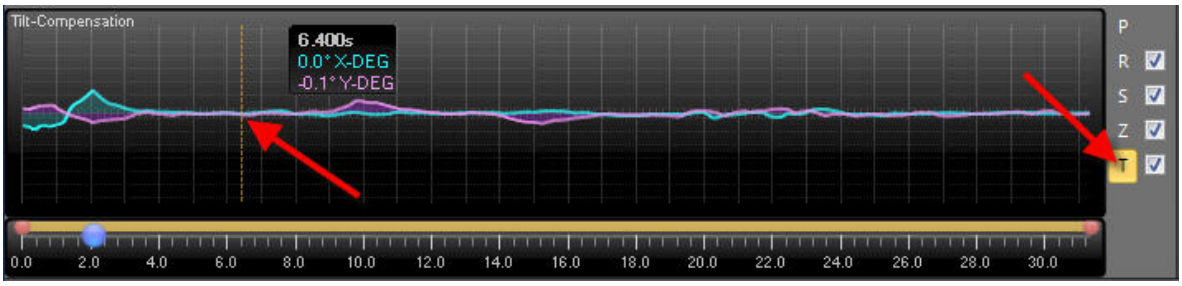


You can also **deactivate** the **Zoom Compensation** graph (immediately to the right of the graph). Doing so disables zoom correction and display. The **Smooth out Zoom** slider on the

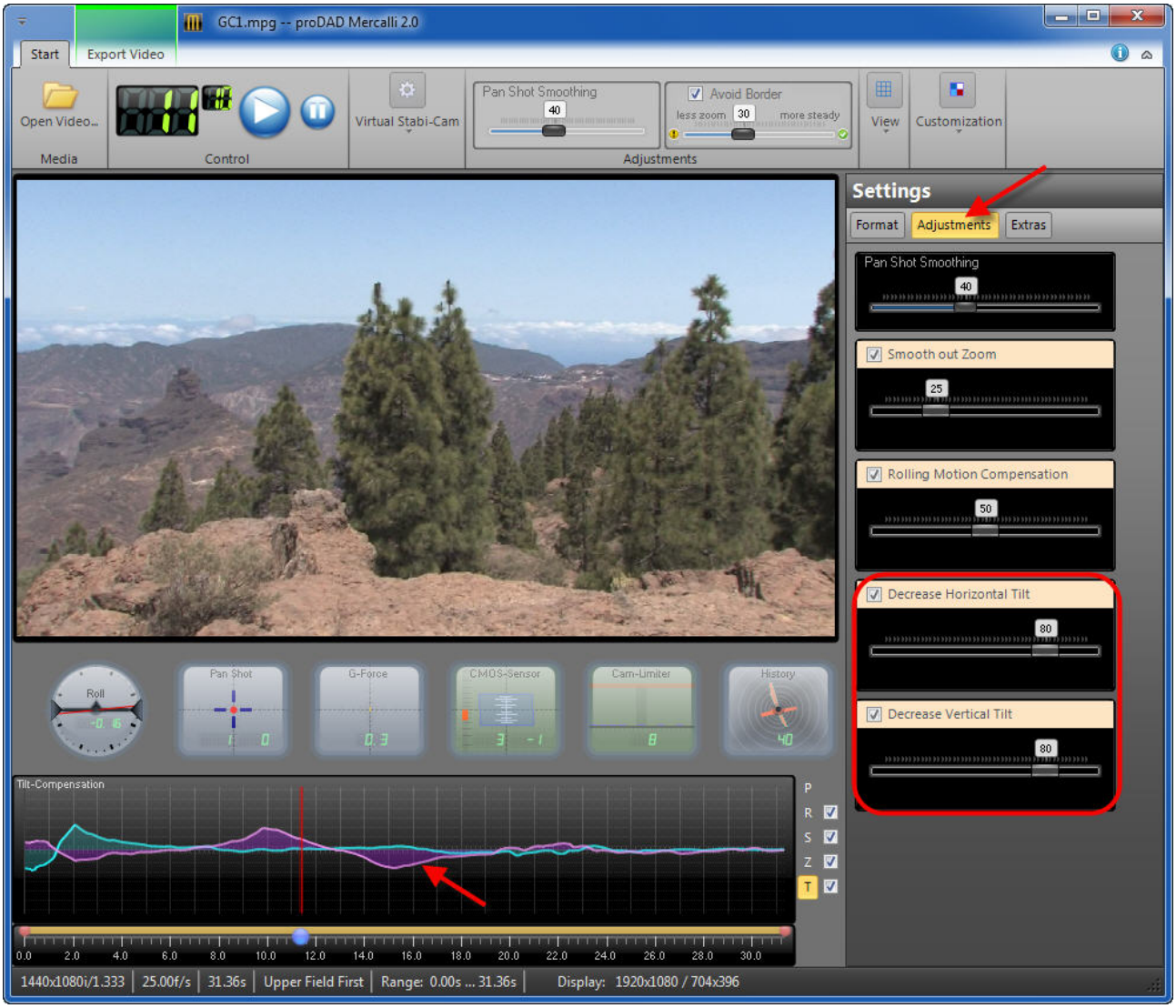
Adjustments tab will then be disabled.

Tilt-Compensation (with On/Off)

The **Tilt-Compensation** graph shows movement in the video due to tilt about the **X-axis** and **Y-axis**. Moving the mouse over the graph displays the instantaneous values.



The correction and the reading on the graph depend on the position of the **Decrease Horizontal Tilt** and **Decrease Vertical Tilt** sliders on the **Adjustments** tab.
Moving the sliders Decrease Horizontal Tilt and Decrease Vertical Tilt alters the degree of correction for rotation about the X-axis and Y-axis. The alteration is visible in the form of a curve on the graph.



You can also **deactivate** the **Tilt-Compensation** graph (immediately to the right of the graph). Doing so disables correction and display of stabilization about the X-axis and Y-axis. The sliders **Decrease Horizontal Tilt** and **Decrease Vertical Tilt** will then be disabled on the **Adjustments** tab.

Roll / Pan Shot / G-Force / CMOS-Sensor / Cam-Limiter / History

Below the Preview in **Mercalli**, various graphical instruments are displayed, which show the different characteristics of the stabilized video during playback.

1. Roll
The Roll-Instrument shows the necessary roll movement correction of the video.

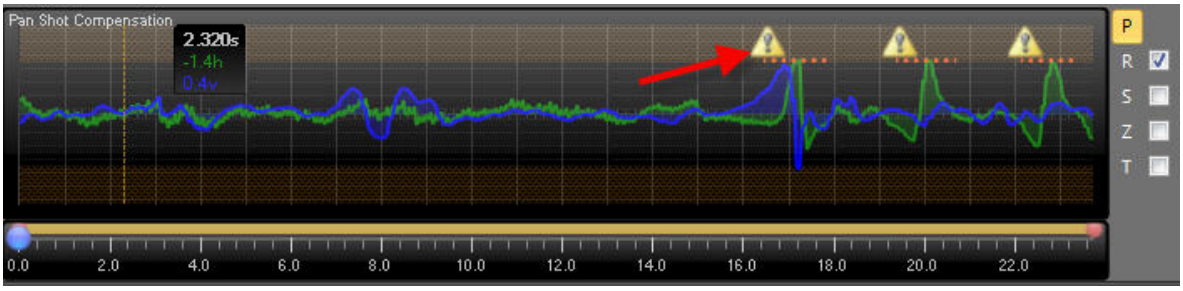
2. Pan Shot
The Pan-Instrument shows the necessary Pan movement correction of the video.

3. G-Force
The G-Force-Instrument shows the acceleration of the needed Pan correction.

4. CMOS-Sensor = Rolling Shutter Effect
The CMOS-Sensor-Instrument shows Rolling-Shutter problems produced from CMOS-sensors used in pocket cameras, DSLR cameras or low price camcorders
The **rolling shutter effect** is a form of distortion that can occur in moving footage.

The fully automatic Rolling-Shutter Compensation corrects the weaknesses inherent in CMOS sensors in post-production, thus enhancing the quality of footage from action cameras, compact photo cameras, mobile phones and, not least, digital SLR cameras.

5. Cam-Limiter
Shows the overall stabilization level. Intensive corrections are being ignored in order to avoid zoom-in as best as possible. The balance for maximum stabilization or minimal zoom those intensive corrections can be set using the slider Avoid Border.



6. History
Shows the correction history of movements and their directions (red=current stabilization, cyan=original state).

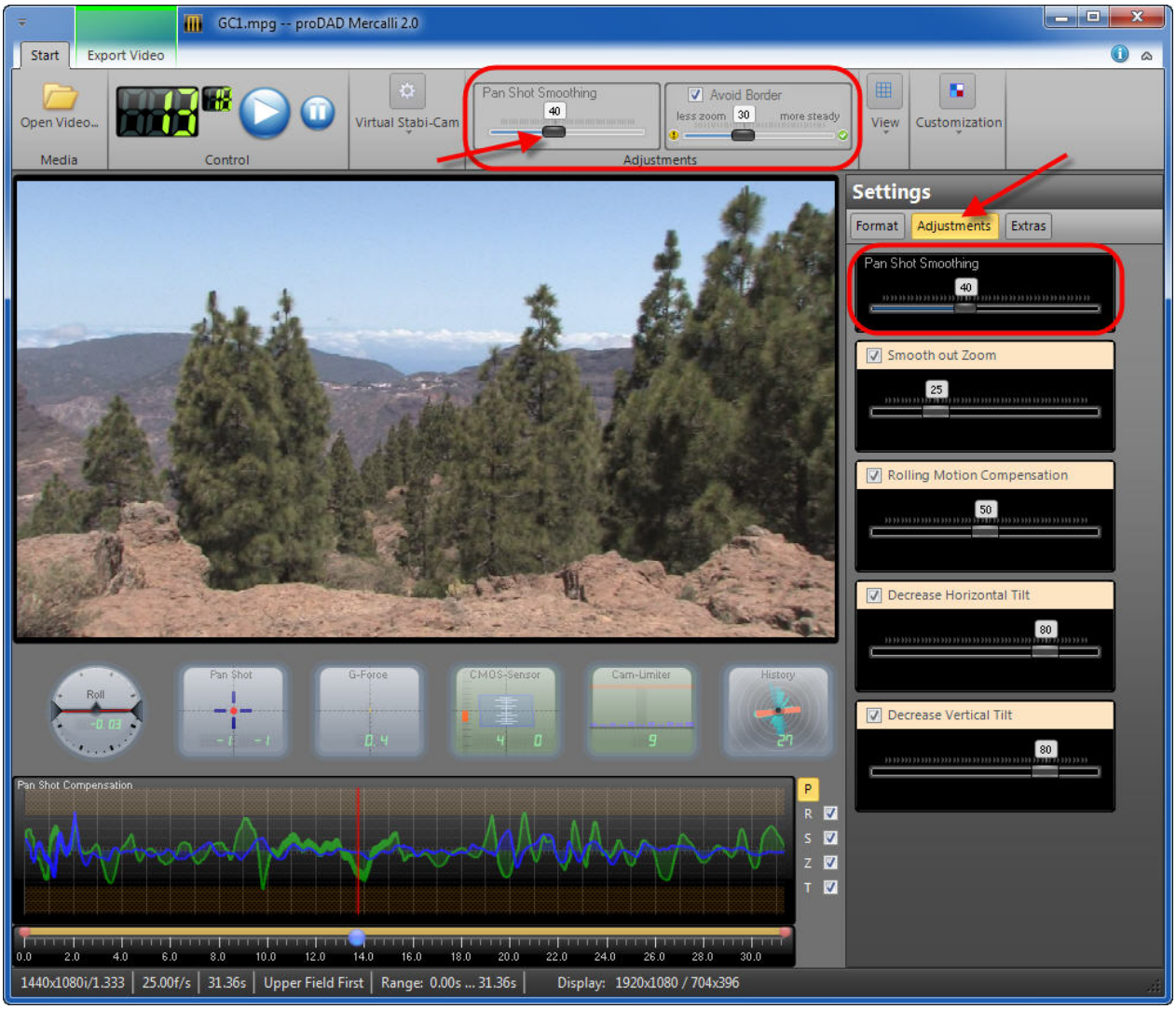
Adjustments

The **Pan Shot Smoothing** and **Avoid Border** sliders are located above the Mercalli Preview. These sliders give you a large degree of control over the correction of the video.

Please note:
*Because of the huge range of different possible types of video footage, there is **no** general rule for the use of the sliders **Pan Shot Smoothing** and **Avoid Border**. Their ideal positions will vary from video to video. But thanks to its interactive handling, Mercalli makes it very easy to experiment.*

Pan Shot Smoothing

Use the **Pan Shot Smoothing** slider to adjust the overall smoothing of movements in the video. Moving the slider further to the right increases the degree of stabilization, making the video steadier.
The **Pan Shot Smoothing** slider is located **above the Preview** in Mercalli and also on the Adjustments tab.

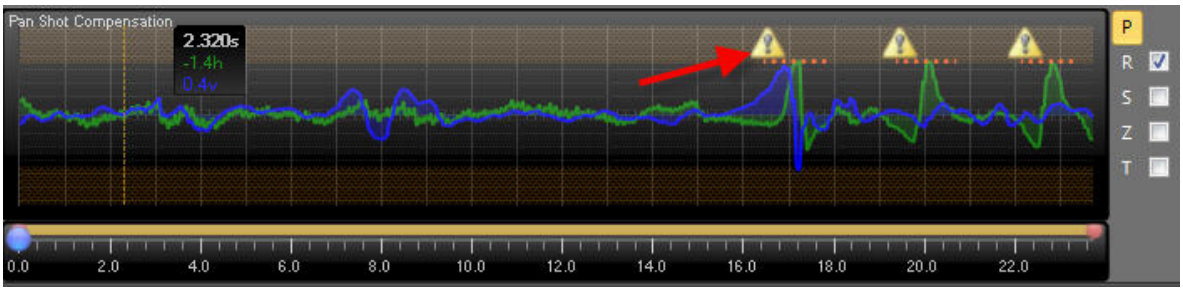


The **Pan Shot Smoothing** slider has the greatest visual effect on the video (smoothing of movement in the footage).
Changes are also visible in the correction curve on the Pan Shot Compensation graph.

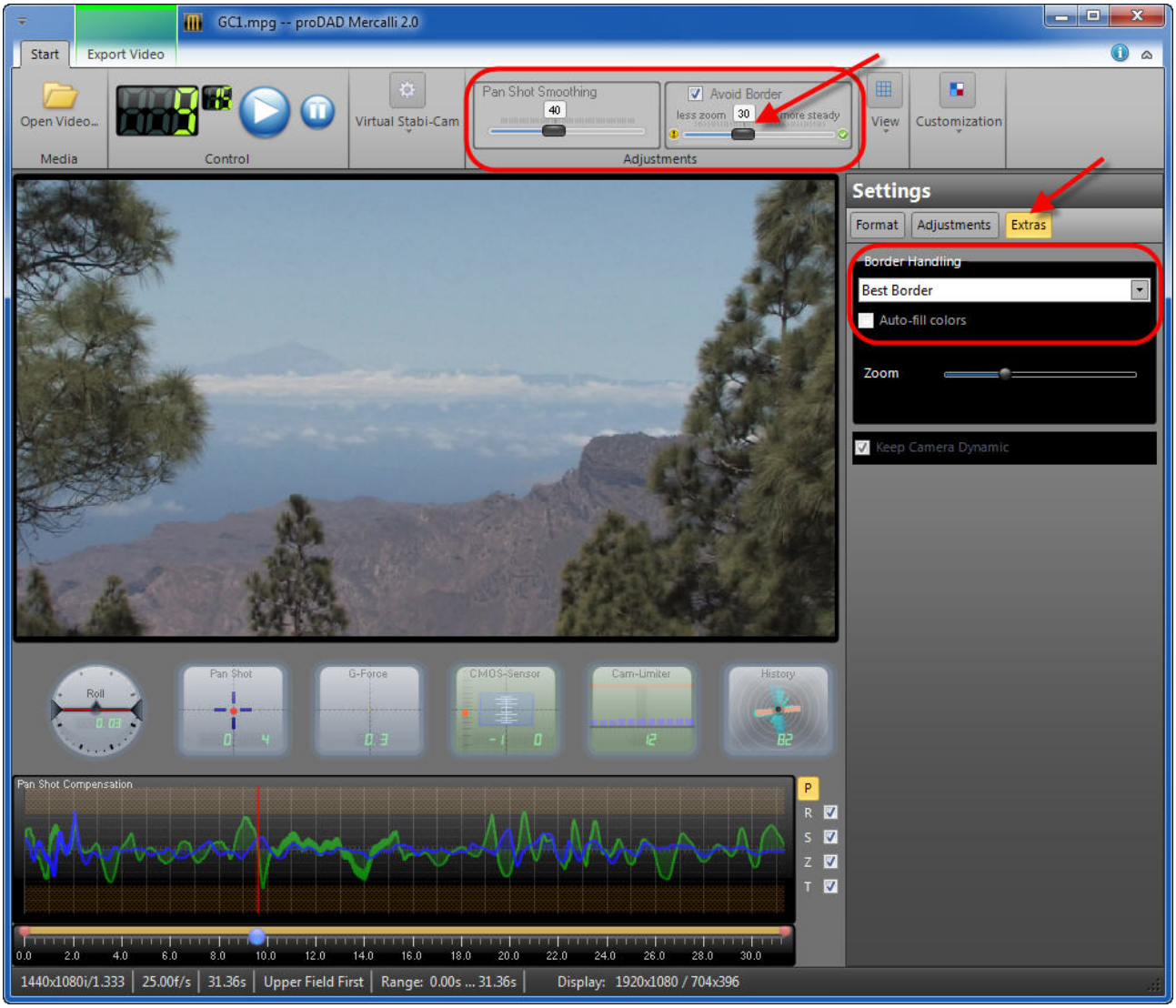
Avoid Border

The use of the Avoid Border slider is also dependent on the type of shake affecting the video and, of course, differs from video to video.
In general, Mercalli proceeds according to certain automatic routines. But these routines, in combination with settings such as **Pan Shot Compensation**, may not always yield the ideal result you want for a specific video. So you may wish to seek a trade-off between degree of stabilization and preservation of the video's original resolution.
To put it another way, the original resolution and the flavor of the scene are often more important than a 100 % correction. In such cases, here is where you can intervene.

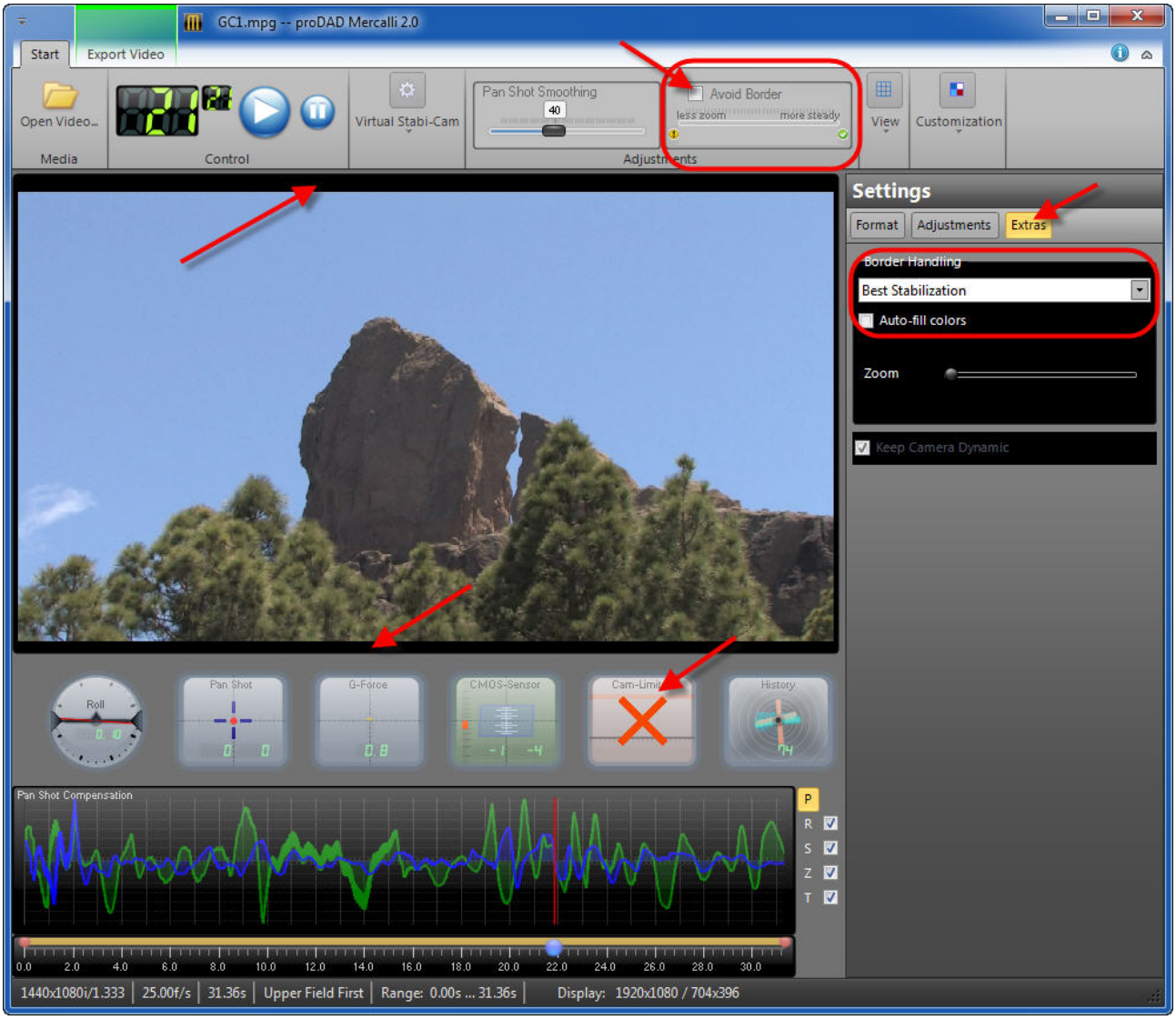
If you wish to remove almost all unwanted movements, which are indicated by a  in the Pan Shot Compensation graph, then move the Avoid Border slider only as far as necessary to the right (greater zoom-in) in order to retain approximately the original resolution in the stabilized footage.



The **Avoid Border** slider is located above the Mercalli Preview in the **Adjustments** area. When the **Avoid Border** option is enabled, the **Best Border** option is selected in the **Extras / Border Handling** menu. No border is shown in the video.



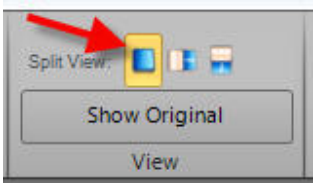
You can also disable the **Avoid Border** slider (the setting in Extras/Border Handling switches from Best Border to Best Stabilization and a thin border becomes visible), the Cam-Limiter indicator (below the Preview) is then switched off.



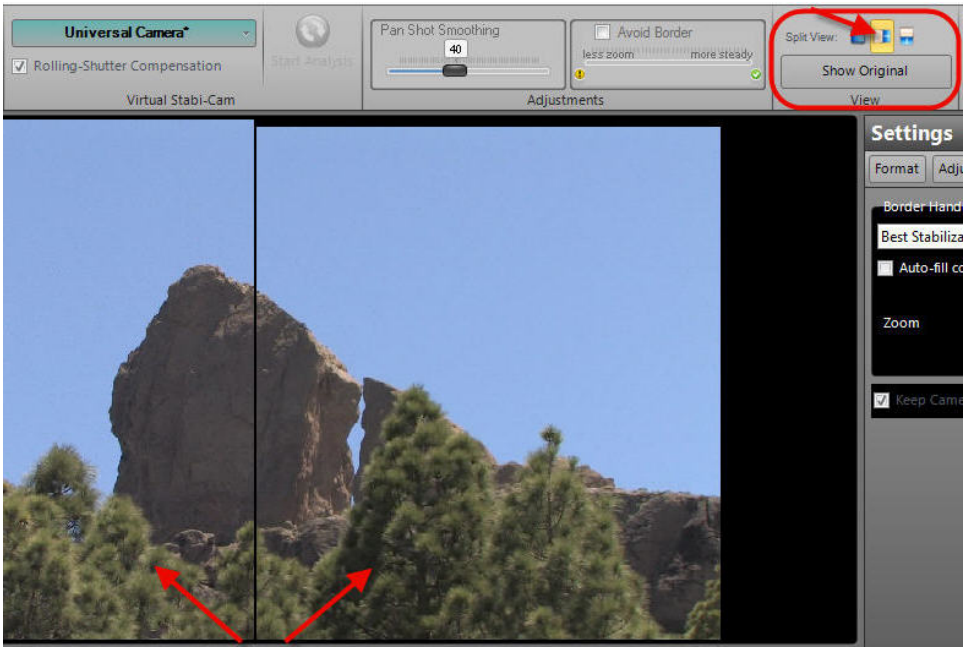
View (Split screen vertical / horizontal and Show Original) and Customization

The stabilized video can be played back in the **Mercalli Preview**.
Various options are available in the **View** area.

1. Split screen vertical
2. Split screen horizontal
3. Show Original (playback for comparison with original clip)

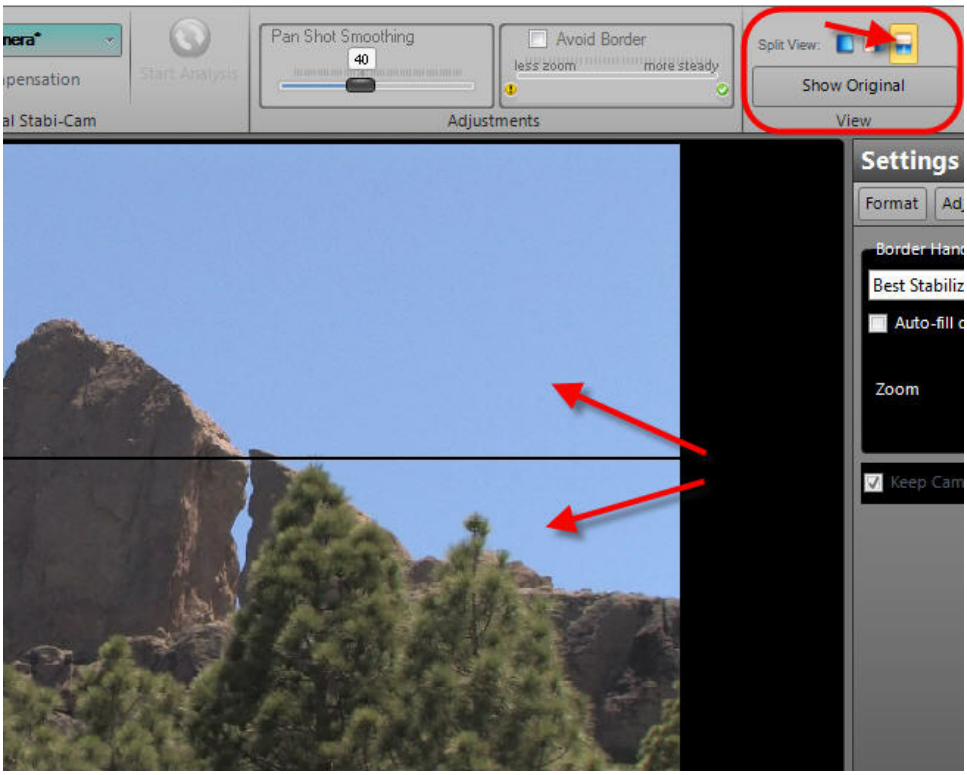


1. First click on **Play** in the Control panel to start playback of the stabilized video. When the **Split screen vertical** option is selected, the video playback is split into two adjacent sections.



Clicking the **Split screen vertical** option again switches back to the unsplit Preview.

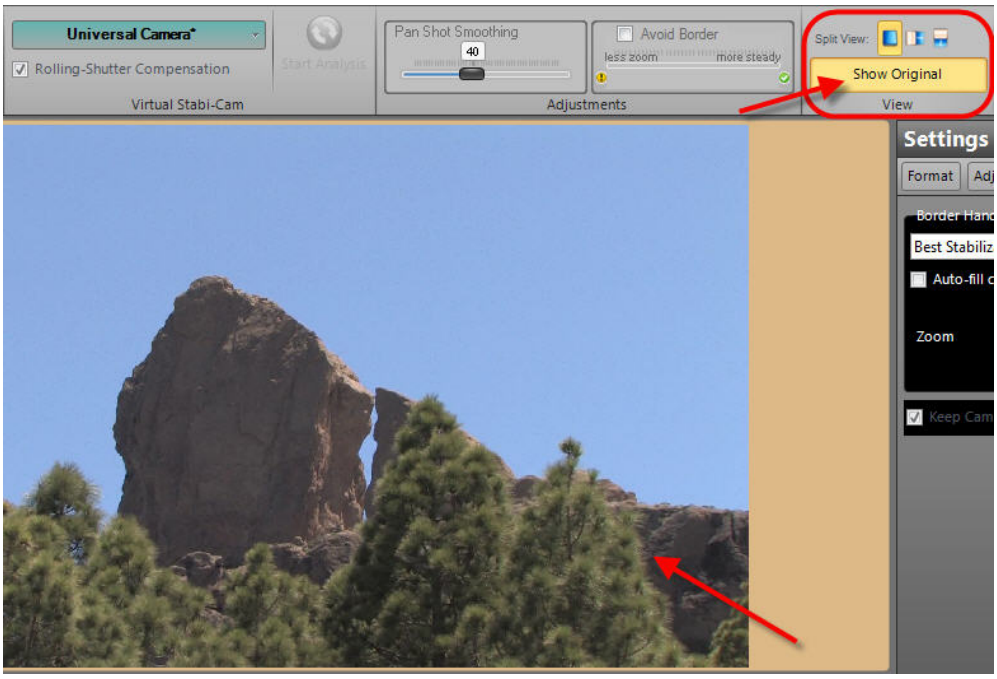
2. When the other option **Split screen horizontal** is selected, the video playback is also split into two sections, but this time one above the other.



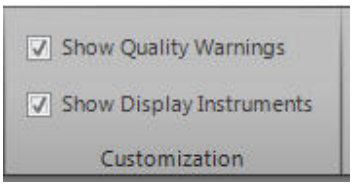
Clicking the **Split screen horizontal** option again switches back to the unsplit Preview.

3. Use the **Show Original** option if neither the horizontal nor the vertical split screen is suitable for an assessment of the quality achieved, or if the original video has a more dynamic feel. In the latter case, fine tuning may be necessary.

Press and hold the **Show Original** option (with the left mouse button) to display the unstabilized original video in the Preview.



Immediately next to **View**, you will find the options for **Customization** of the **Mercalli user interface**, such as **Show Display Instruments** and **Show Quality Warnings**.



Settings

The **Settings** area contains 3 tabs:

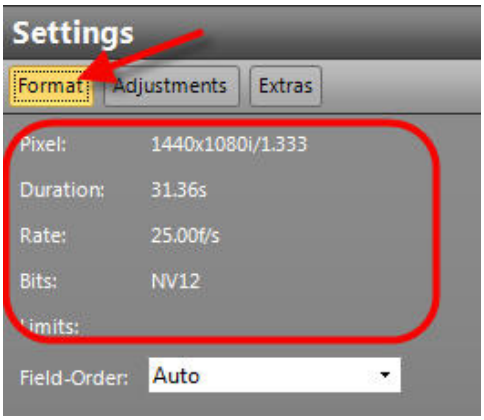
Format

The **Format** tab displays **information** on the current video and allows adjustment of the **Field-Order** setting.

Video information (Pixel, Duration, Rate, Bits and Limits)

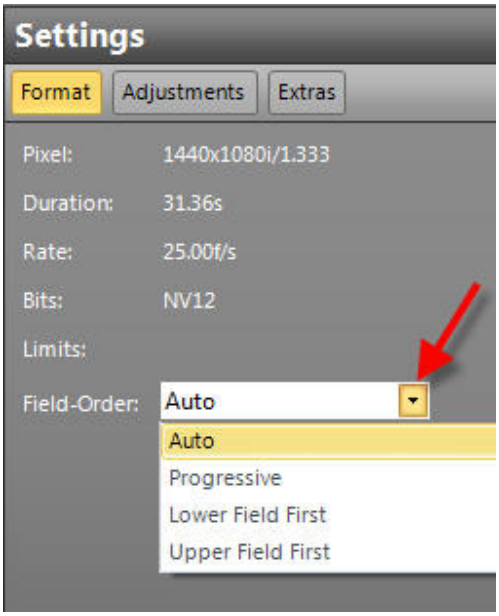
This area displays **information** on the current clip, such as

1. Pixel – video format and aspect ratio, example here: 1440x1080/1.333
2. Duration – clip length in seconds
3. Rate - e.g. 25.00 frames/second
4. Bits - e.g. NV12



Field-Order settings

Mercalli offers the following Field-Order settings: **Auto / Progressive / Lower Field First / Upper Field First**.
The default setting is **Auto** (automatic detection of the video).



1. Auto (default):
Auto means that the information contained in the video is automatically read.

Warning:
Some codecs store incorrect information or none at all, and automatic detection may fail as a result. This may lead to incorrect stabilization. If this occurs, the correct field order must be selected manually to achieve optimum results.

2. Progressive
Progressive denotes a video stream (clip) made up of full frames as opposed to an **interlaced** video stream, which uses sets of fields (Lower Field First or Upper Field First).

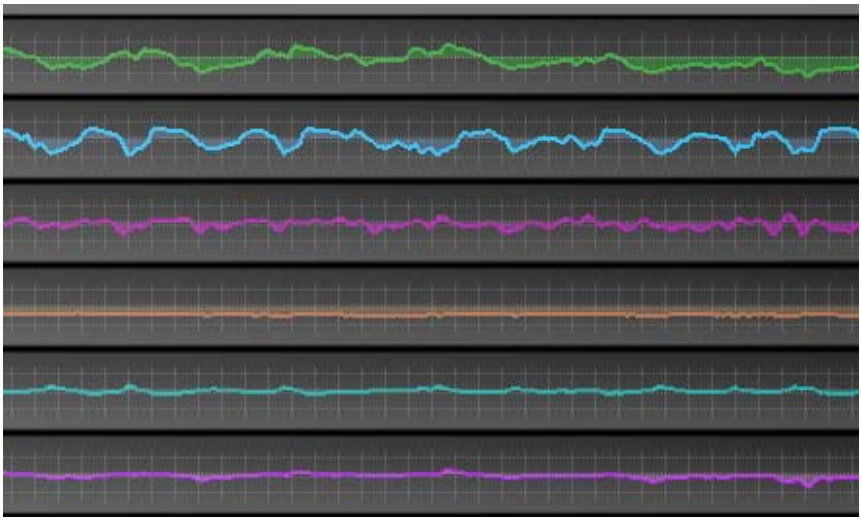
3. Lower Field First
Interlaced video consisting of 2 sets of fields. With **Lower Field First** the fields are displayed starting with the first field.

4. Upper Field First
Interlaced video consisting of 2 sets of fields. With **Upper Field First** the fields are displayed starting with the second field.

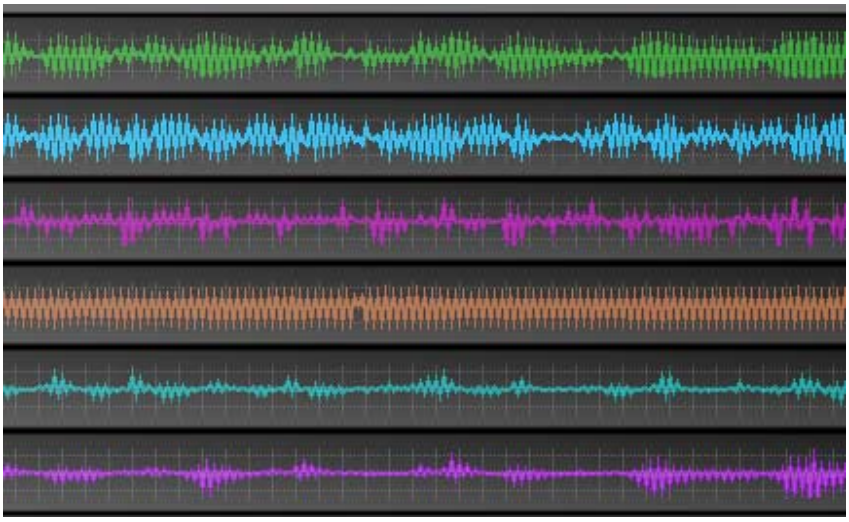
Please note:
*If a series of vertical spikes appears during video analysis (high-frequency oscillation), it is highly likely that the Field-Order (Lower/Upper) is incorrect. If this occurs, please select the appropriate setting in the **Field-Order** menu (Lower Field First or Upper Field First).*

IMPORTANT:
For Rolling-Shutter Compensation to work correctly, the correct field order for the video must be used, otherwise the rolling shutter correction will have no effect, or may even produce errors.

Analysis graph with correct field order:



Analysis graph with incorrect field order:

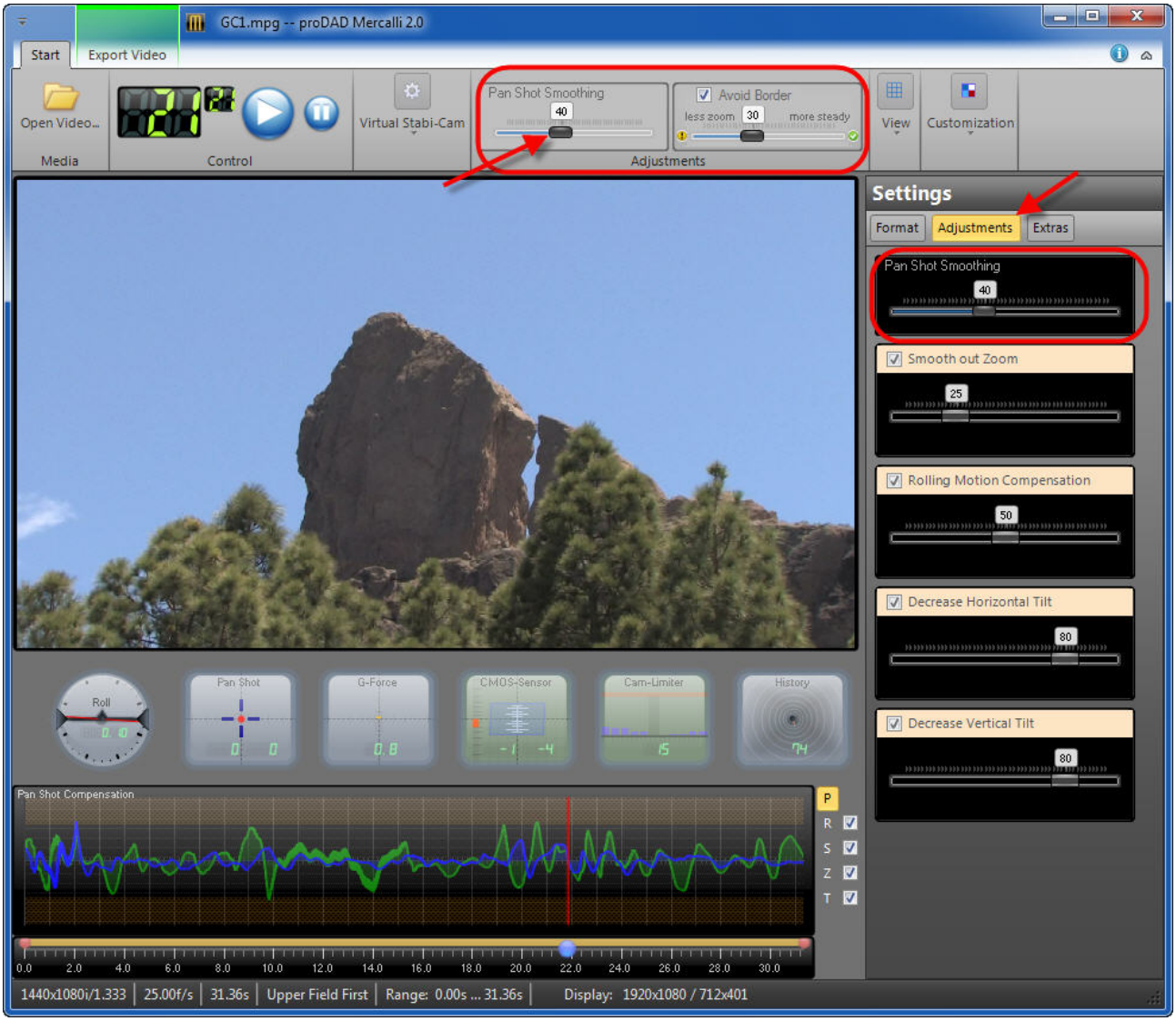


Adjustments

The **Adjustments** tab contains other sliders for detailed optimization of video stabilization.

Pan Shot Smoothing

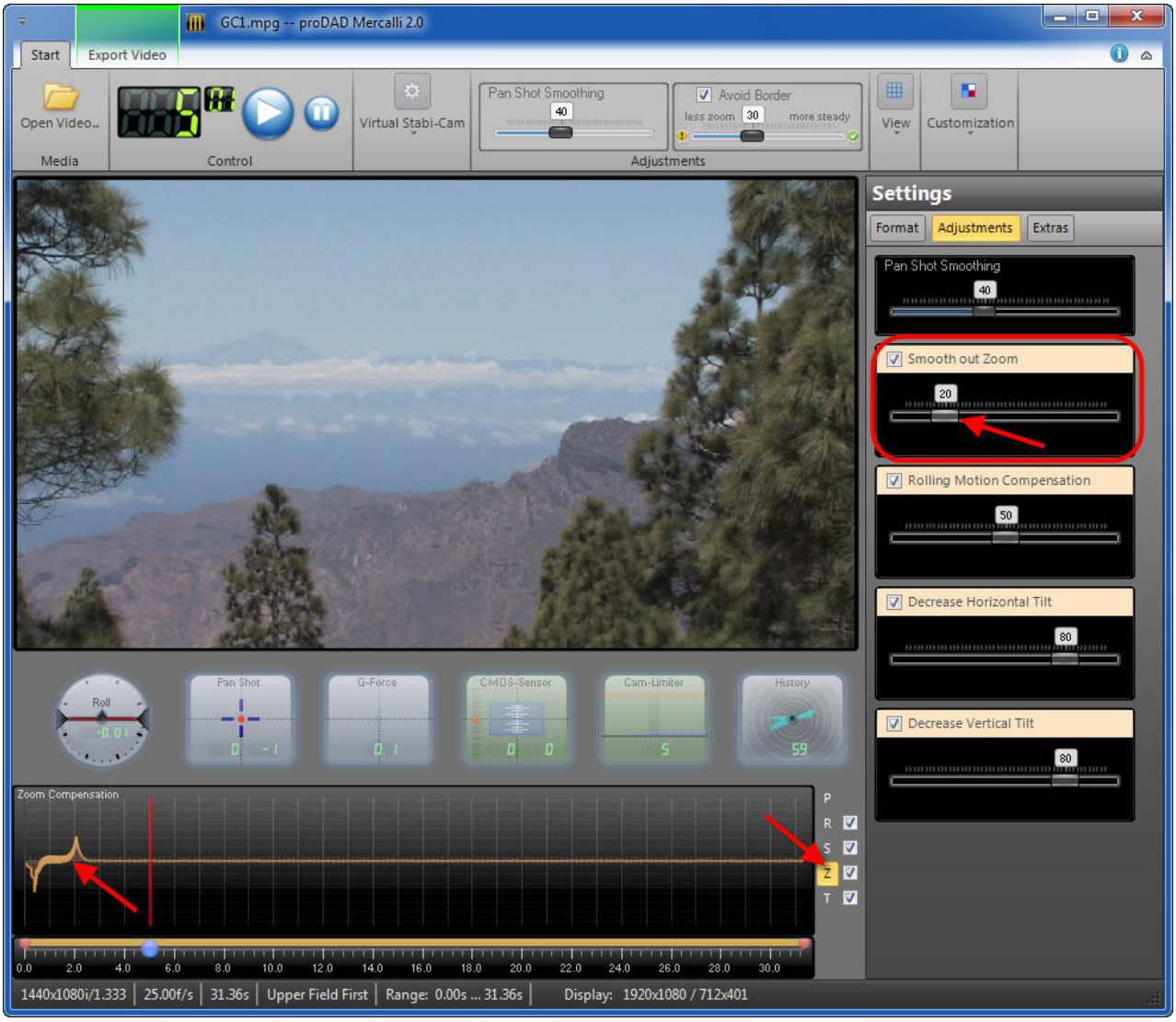
The **Pan Shot Smoothing** slider is located **above the Preview** in Mercalli and also on the **Adjustments** tab.



Use the **Pan Shot Smoothing** slider to adjust the overall smoothing of movements in the video. Moving the slider further to the right increases the degree of stabilization, making the video steadier. The **Pan Shot Smoothing** slider has the greatest visual effect on the video (smoothing of movements in the footage). Changes are also visible in the correction curve on the Pan Shot Compensation graph.

Smooth out Zoom

The **Smooth out Zoom** slider controls the smoothing of **zooming movements** in the video.

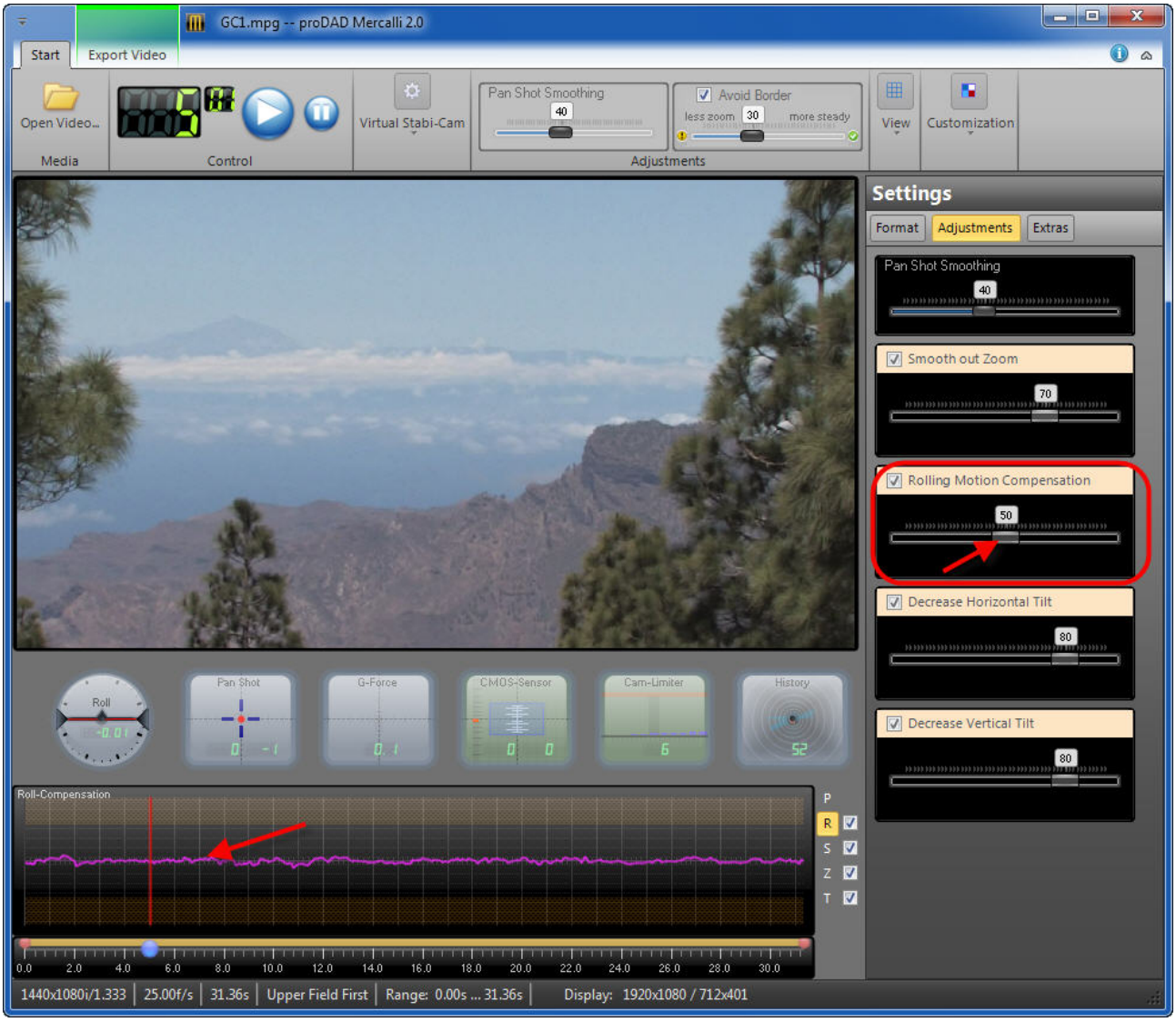


Moving the slider to the right increases the smoothing of changes in zoom. This has the effect of steadying shaky zoom. Changes are visible in the zoom correction curve on the Zoom Compensation graph.

You can also disable the **Smooth out Zoom** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables **zoom correction**.

Rolling Motion Compensation

The **Rolling Motion Compensation** slider controls correction of movement in the video due to rotation about the **Z-axis**. Changes are visible in the correction curve on the Roll-Compensation graph.

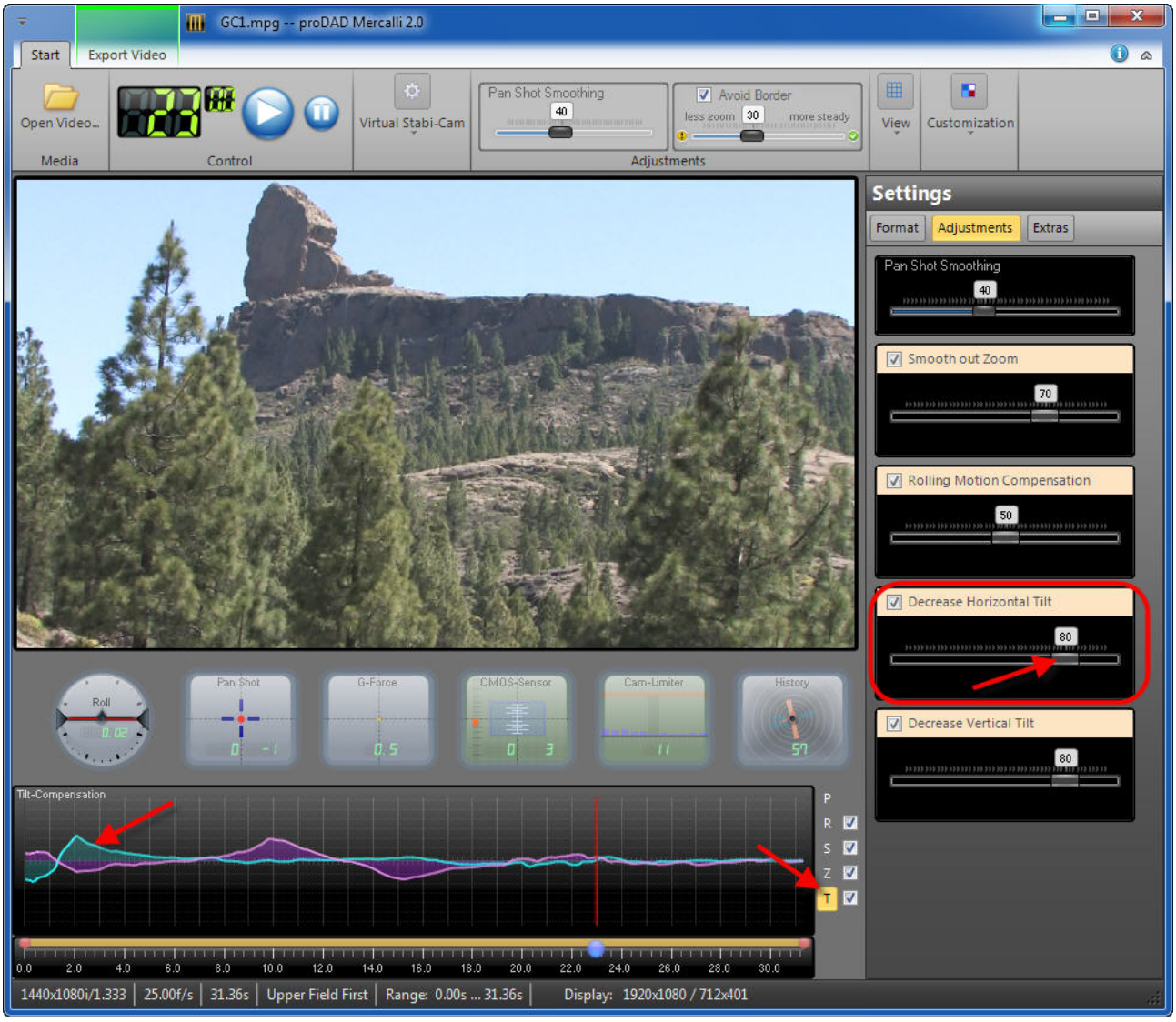


You can also disable the **Rolling Motion Compensation** slider, provided the **Smooth out Zoom** slider has already been disabled. Just click the appropriate checkbox on the **Adjustments** tab. Doing so disables correction of **roll (Z-axis)**.

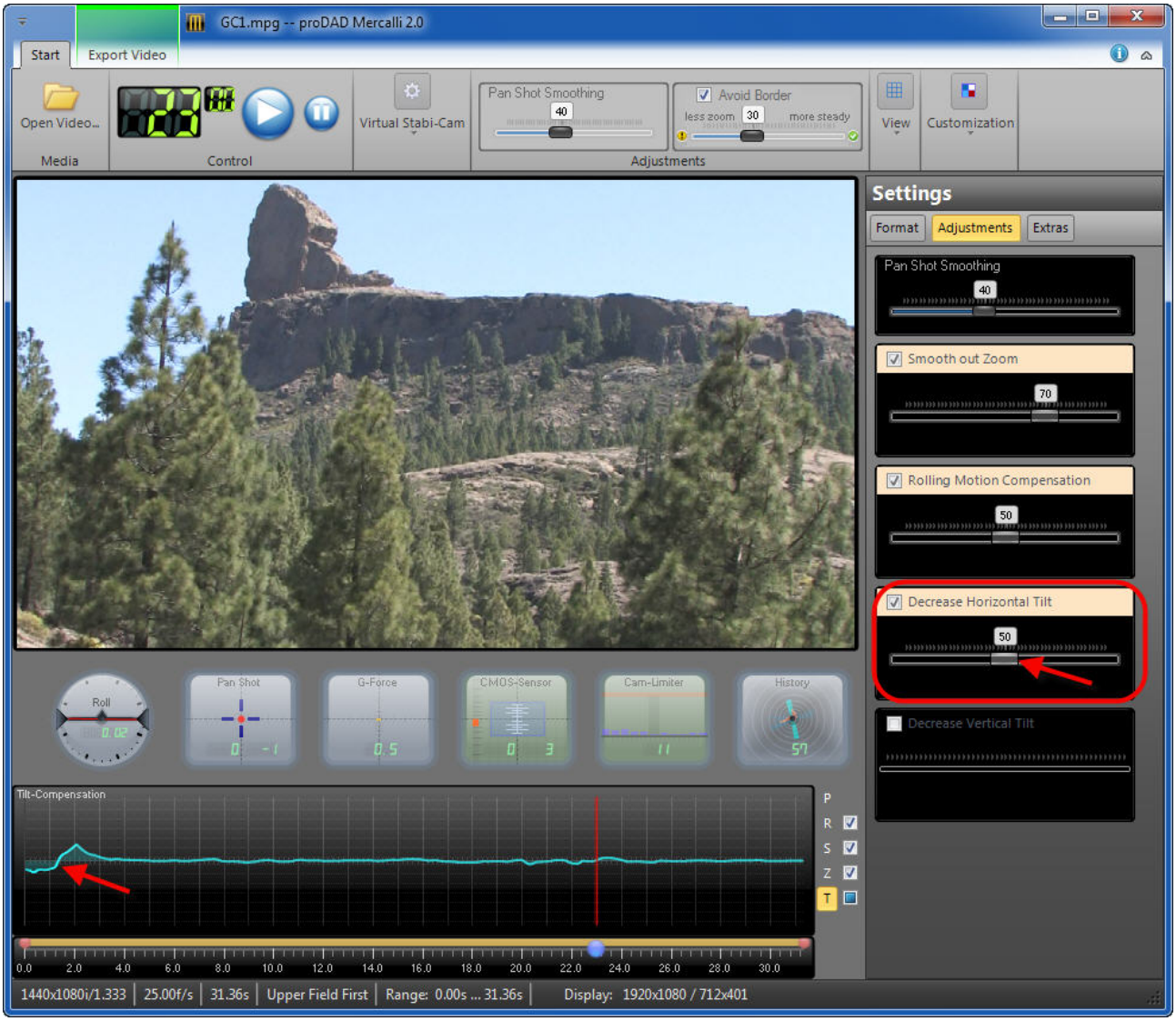
For instance, the **Rolling Motion Compensation** slider should be disabled if Mercalli cannot analyze roll movements, or if you only want to stabilize panning movements.

Decrease Horizontal Tilt

The **Decrease Horizontal Tilt** slider controls correction of movement in the video due to rotation about the **X-axis** (tilting of the camera about the horizontal axis). This is indicated by the **cyan** curve in the Tilt-Compensation graph (below the Preview).



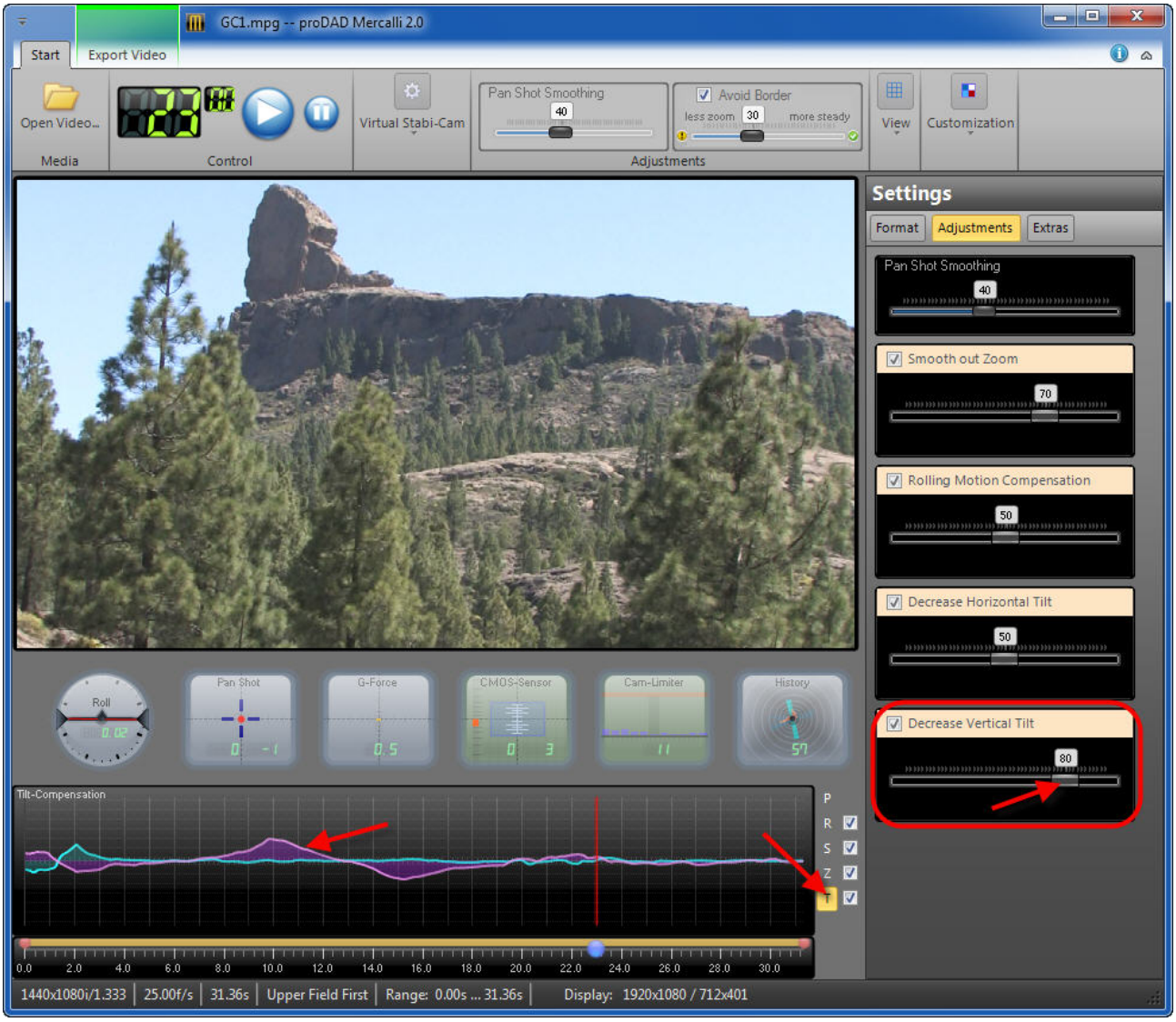
Moving the slider **Decrease Horizontal Tilt** alters the degree of correction for rotation about the **X-axis**. The alteration is visible in the form of a **cyan** curve on the graph.



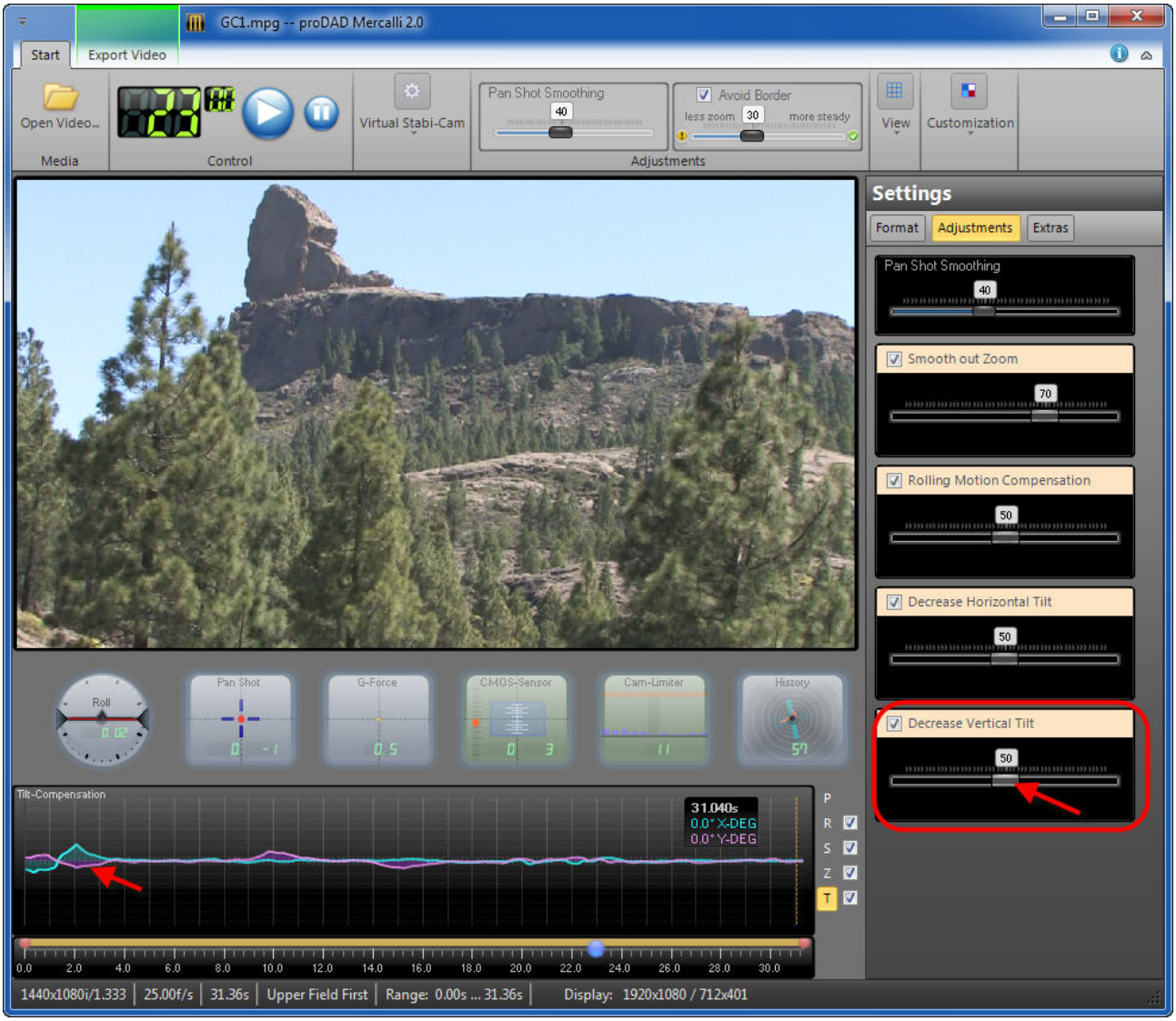
You can also disable the **Decrease Horizontal Tilt** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables correction of movement about the X-axis.

Decrease Vertical Tilt

The **Decrease Vertical Tilt** slider controls correction of movement in the video due to rotation about the **Y-axis** (tilting of the camera about the vertical axis). This is indicated by the **magenta** curve in the Tilt-Compensation graph (below the Preview).



Moving the slider **Decrease Vertical Tilt** alters the degree of correction for rotation about the **Y-axis**. The alteration is visible in the form of a **magenta** curve on the graph.



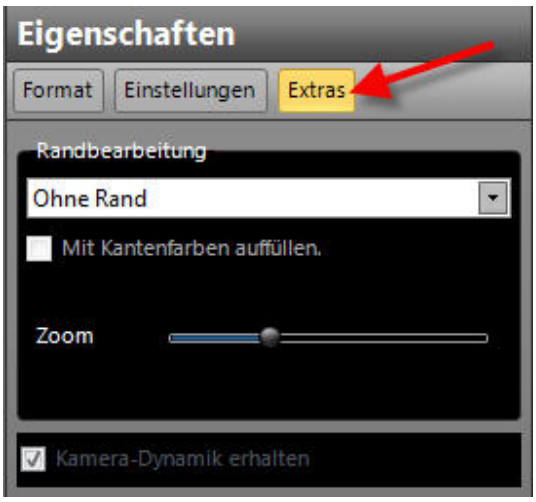
You can also disable the **Decrease Vertical Tilt** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables correction of movement about the Y-axis.

Extras

The **Extras** tab allows you to configure **Border Handling**.

Border Handling

The **Border Handling** menu provides various **border options**.

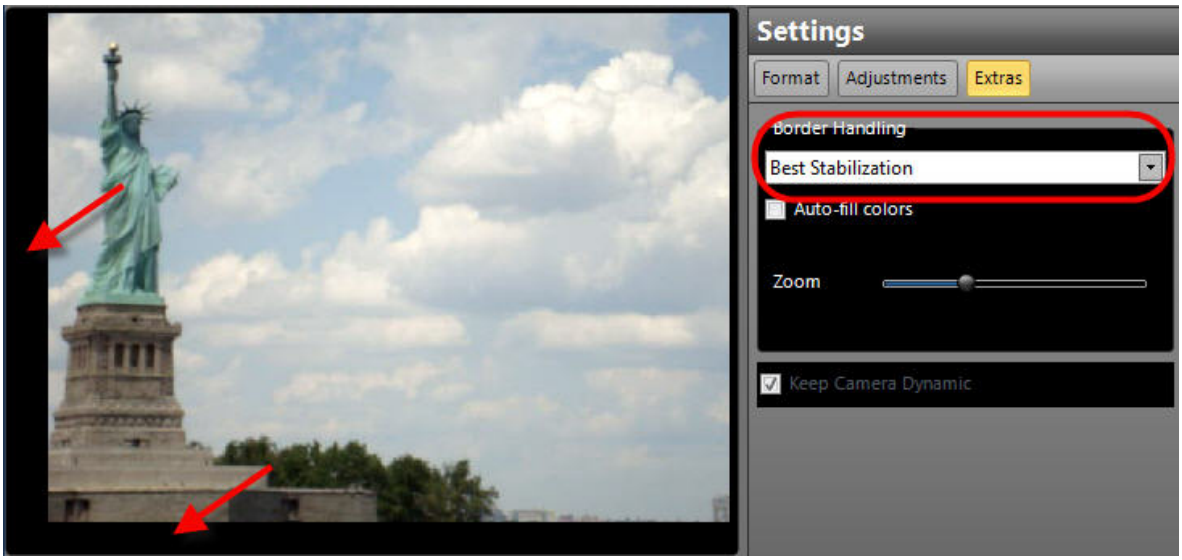


The **compensation of movements** in footage results in borders.

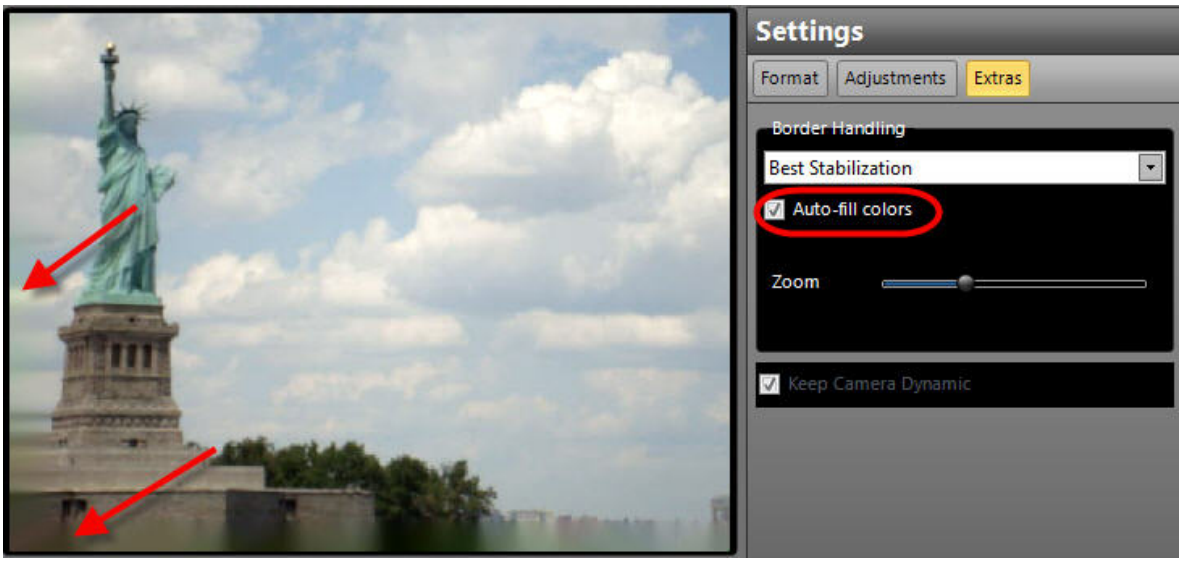
For instance, when a frame is repositioned 10 pixels to the left to compensate for camera shake to the right, a border, or rather a gap in the image data, will appear on the right of the frame. This will generally be shown as no content, or a black image area. At this point, the user can now decide how the border should be calculated.

Best Stabilization

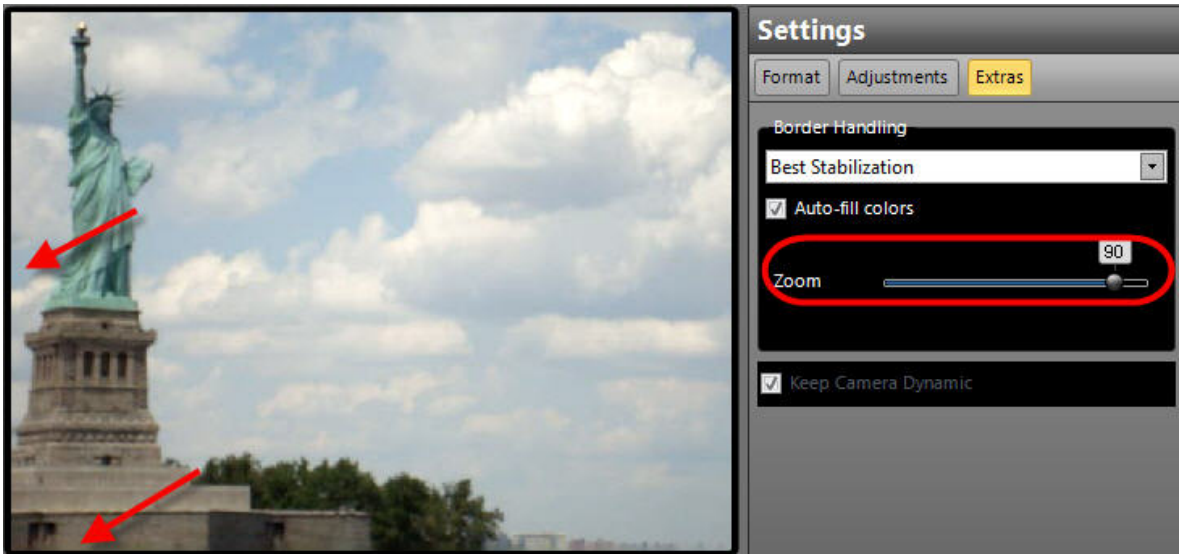
When the **Best Stabilization** option is selected, a black **border** appears around the stabilized video. It may vary from frame to frame depending on the degree of shake in a specific situation.



This border can be filled with video using the **Auto-fill colors** option, but the added video content will be blurred.



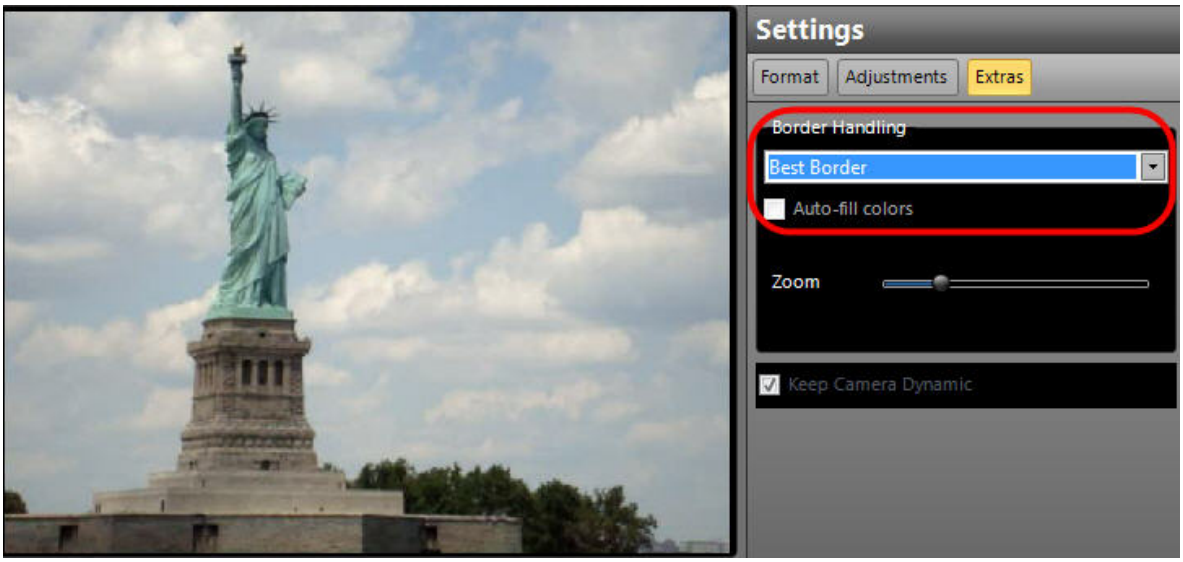
You can zoom the video using the **Zoom** slider to further reduce the border.



Excessive **zoom-in** may result in blur or graininess in the video.

Best Border

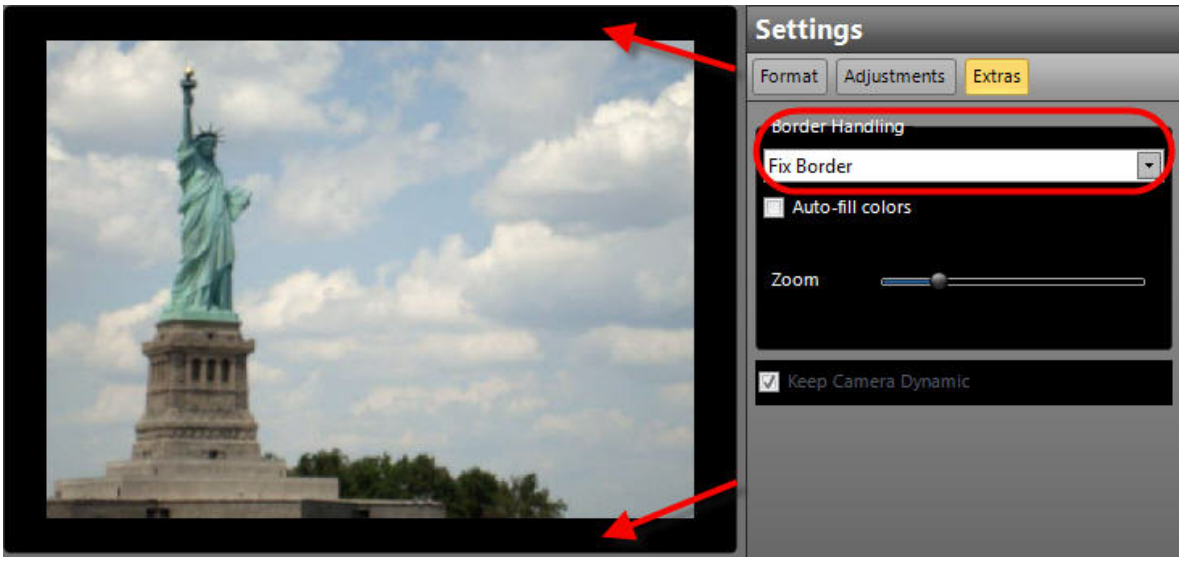
When the **Best Border** option is selected, **no border** appears in the stabilized video. The border is eliminated by zooming in on the video. The zoom factor depends on the degree of shake and the desired degree of correction as determined by the position of the **Zoom** slider.



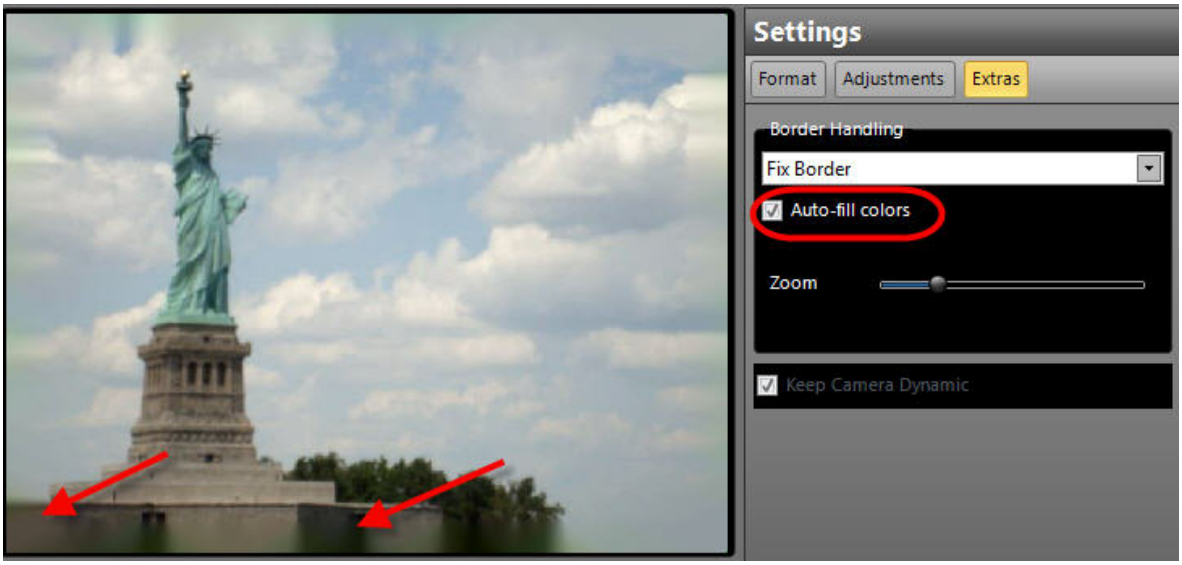
Further advice on **Border Handling** can be found in the FAQs in the Support section at www.prodad.com.

Fix Border

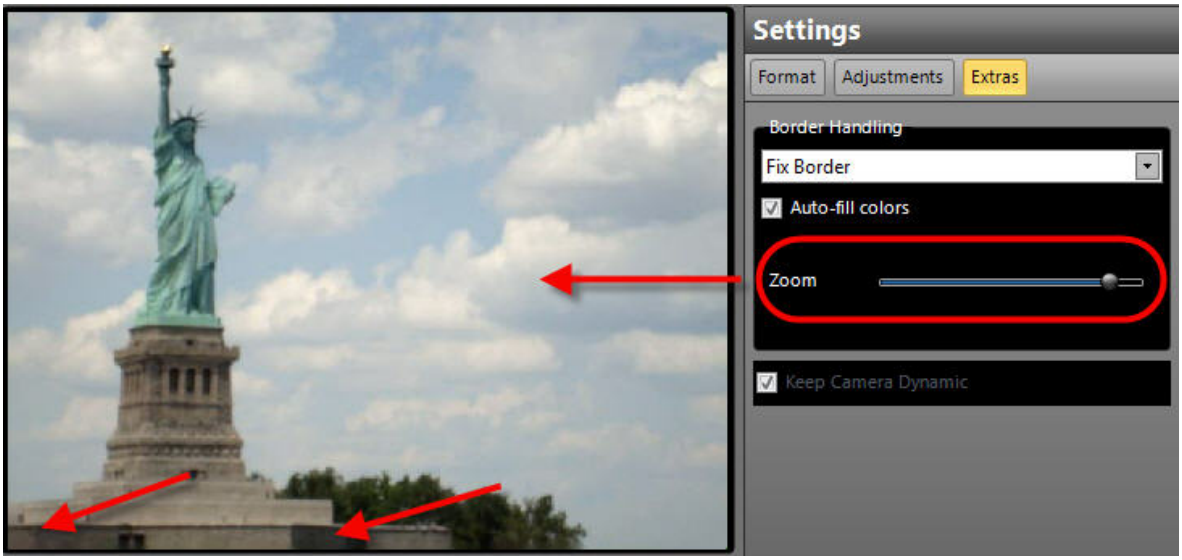
When the **Fix Border** option is selected, a static black border appears in the stabilized video. Its thickness depends on the maximum degree of shake contained in the video.



This border can be filled with video using the **Auto-fill colors** option. But the added video content will be blurred.



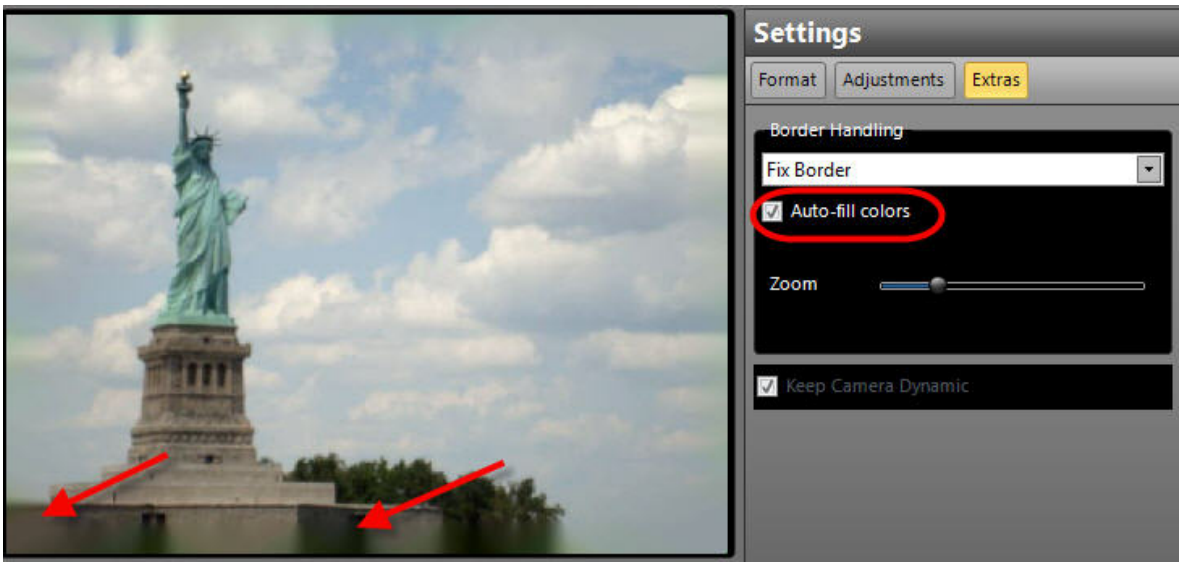
The border thickness can be altered manually using the **Zoom** slider. The resulting **zoom-in** may lead to blur or graininess in the video.



Finally, bear in mind that this is the preferred option if you later intend to use the stabilized video to create a **picture-in-picture** effect with your video editing software, since you would then crop the video anyway. You can also use editing software to zoom the video.

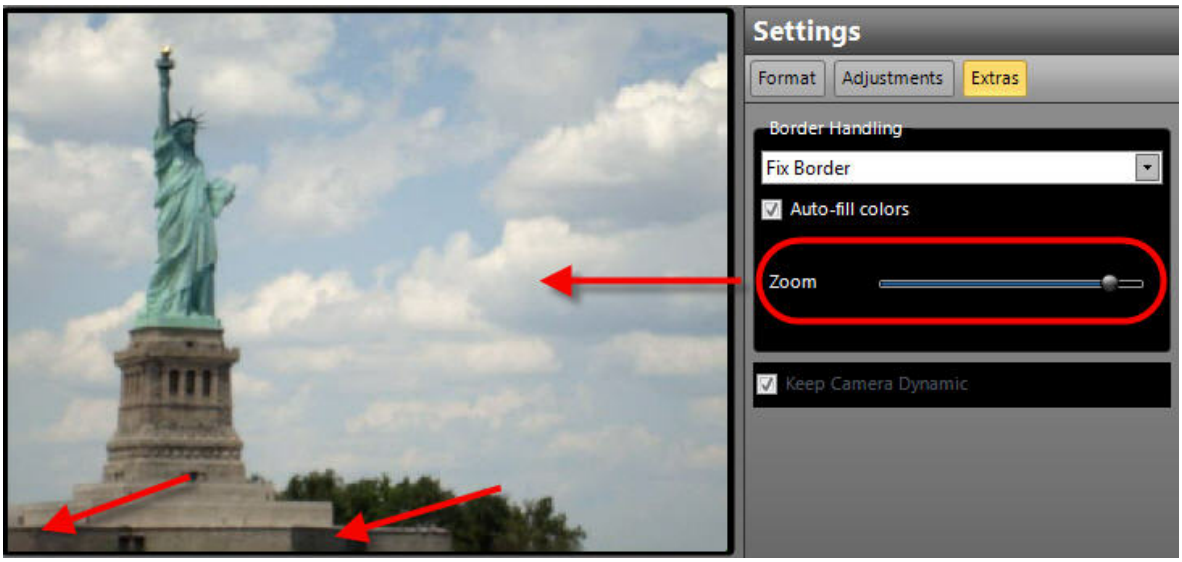
Auto-fill colors

The **Auto-fill colors** option fills a black border with **video content**, i.e. the border is filled with video, but it may appear blurred.

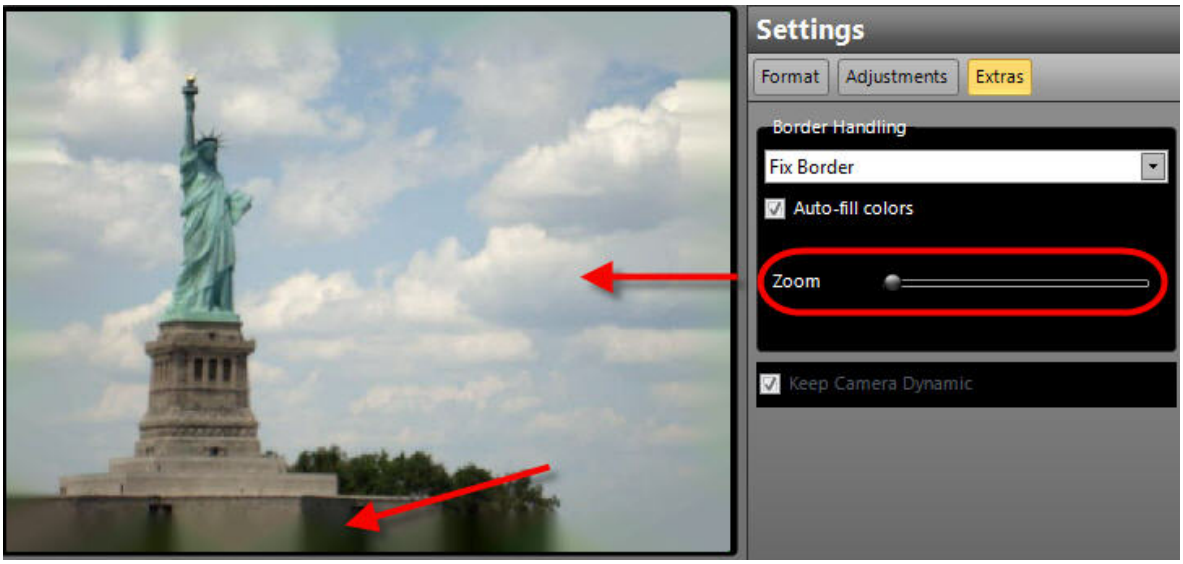


Avoiding a border with Zoom

You can use the **Zoom** slider to zoom in on the video (slider **right**). This minimizes the **visible border** around the video.



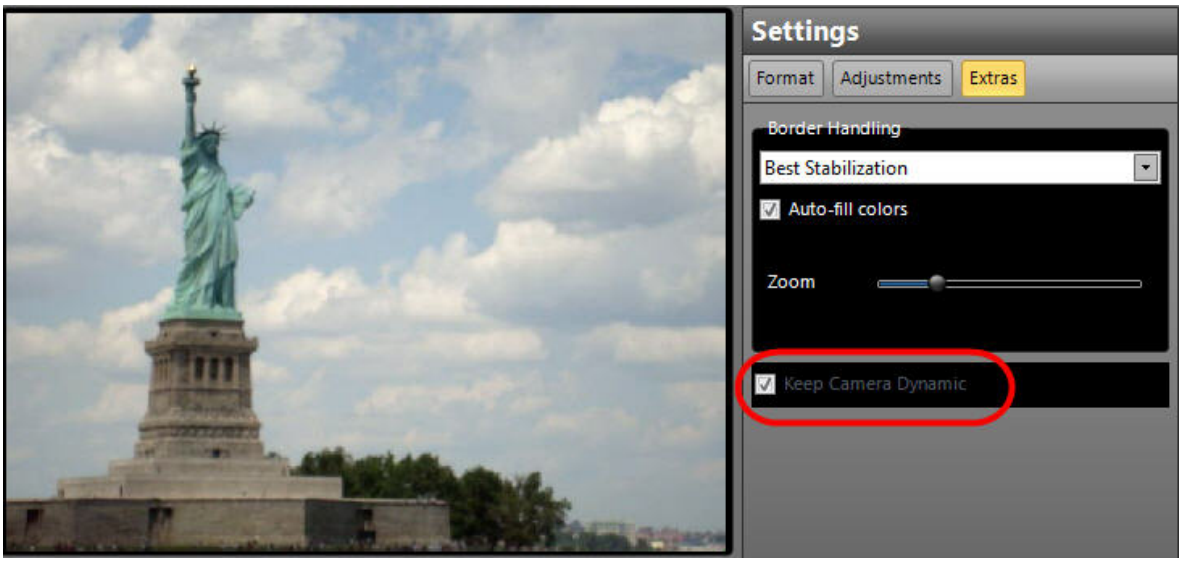
When the **Zoom** slider is moved to the **left** (zoom-out), a border appears.



Excessive **zoom-in** may result in blur or graininess in the video.

Keep Camera Dynamic

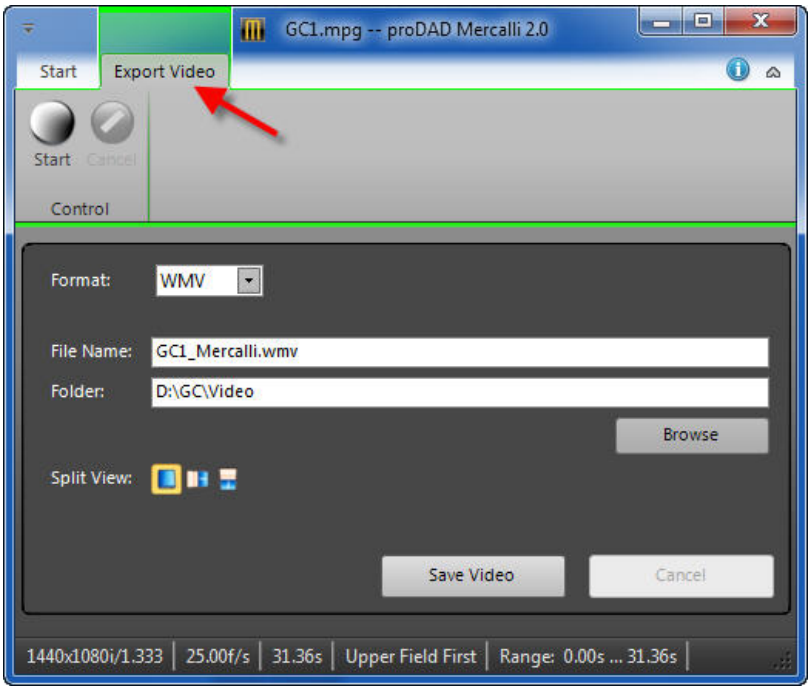
The Keep Camera Dynamic option helps to preserve the liveliness of the video. The aim is not to smooth or stabilize intentional movements by the camera operator.



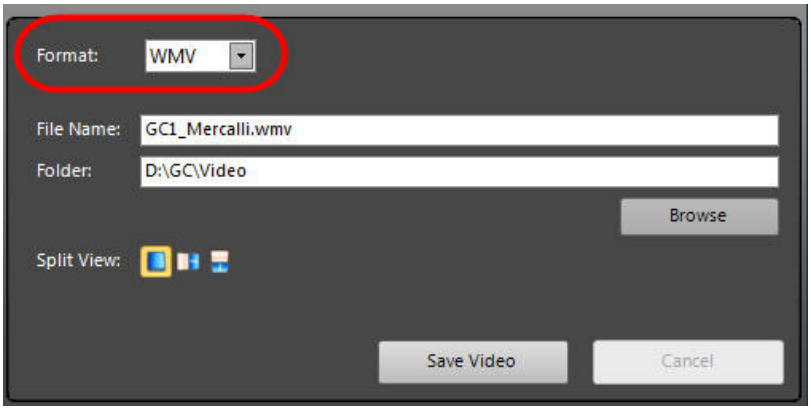
If your intention is to convert normal, shaky free-hand footage to **tripod-style footage**, you should disable the **Keep Camera Dynamic** option.

Exporting a file (stand-alone mode)

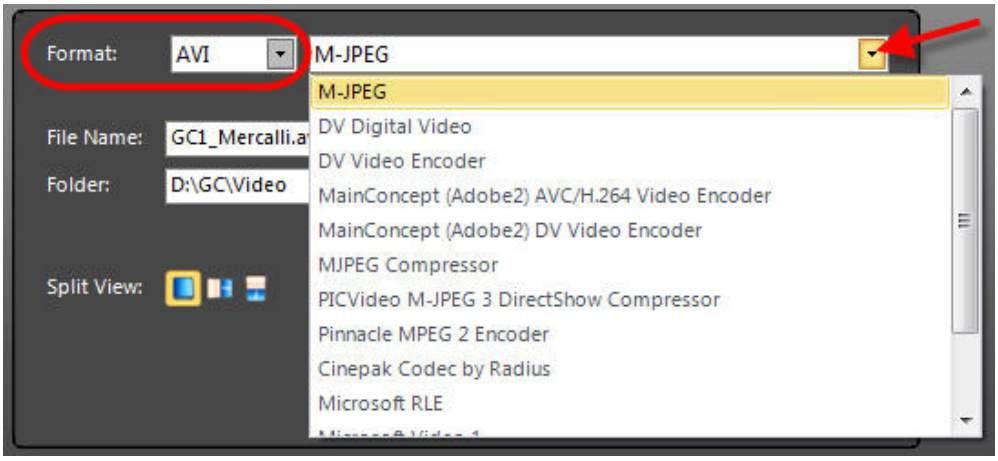
In the stand-alone version of Mercalli, the final step is to **export** the stabilized video to a file.
Click the option **Export video** at the top of the Mercalli window.
This will create a video file (for later use) from your stabilized video. The video can be imported into your video editing application, a DVD authoring program or a similar application.



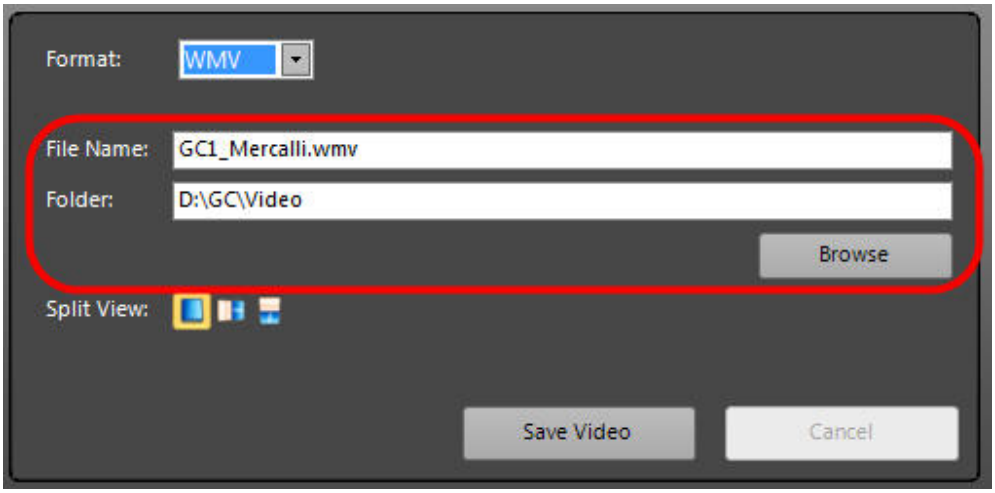
Select the desired codec in the **Format** option.
The **default** setting is **WMV**.



If you select **AVI**, all codecs available on the system will be listed.

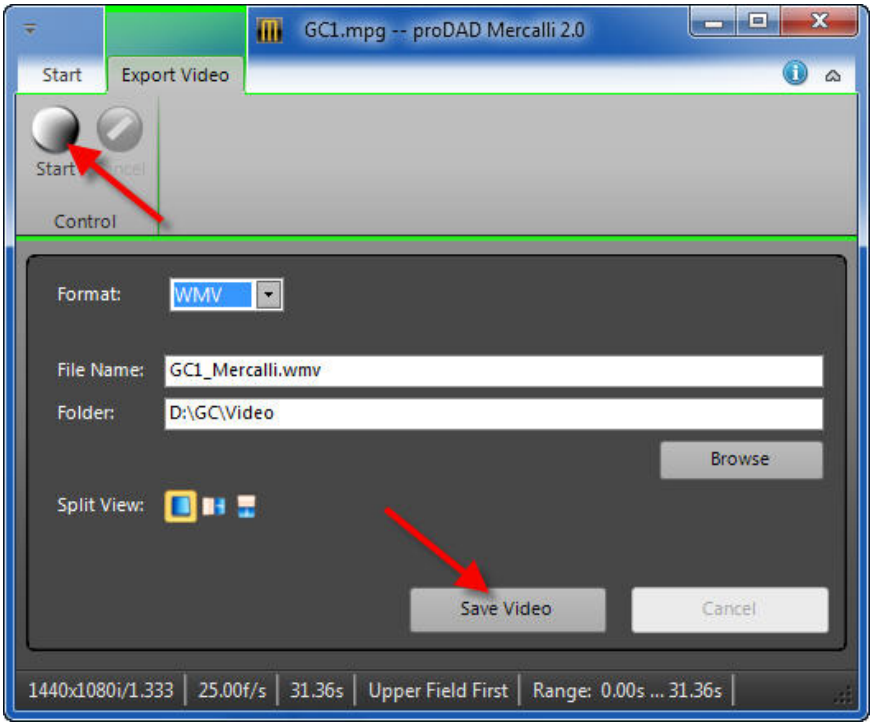


Next enter the **file name** and select the **target folder**. Use the **Browse** button to define the target folder.



Advice on use of the **Split Screen** can be found in the can be found in the View section.

Then click on **Start** (on the **Control** panel above) or on **Save Video**. Creation of the file will start.



Further use of the saved video

The file you have created (your stabilized video) is now available for further use (e.g. burning on a DVD or Blu-ray) depending on the export format you have chosen.

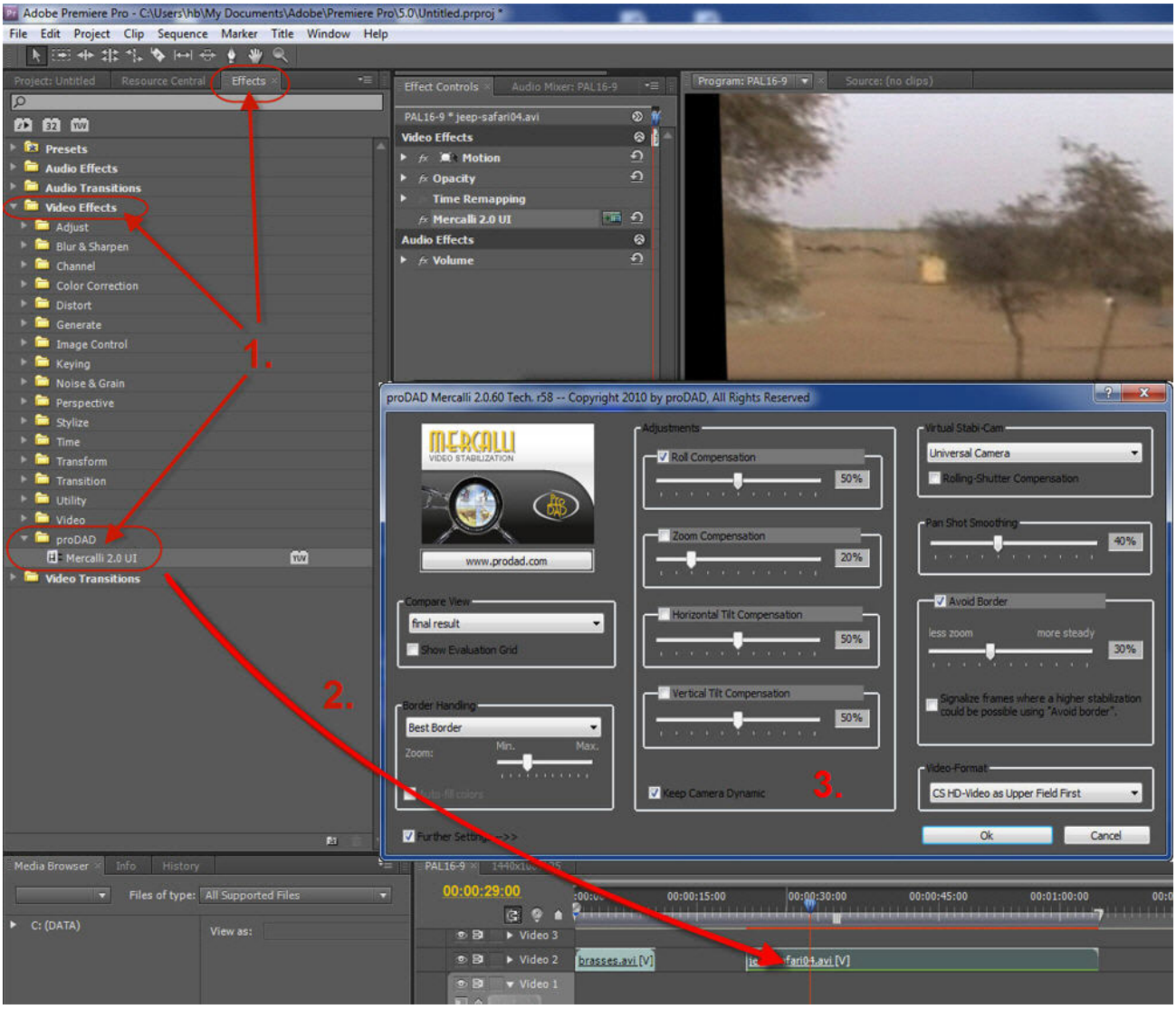
You can also import the file into video editing applications that are **not supported** by a Mercalli plug-in.

Windows® NLEs - plug-in support

Please note:
*To check which version of your editing software is supported, refer to the **Mercalli** section at www.prodad.com.*

Adobe Premiere

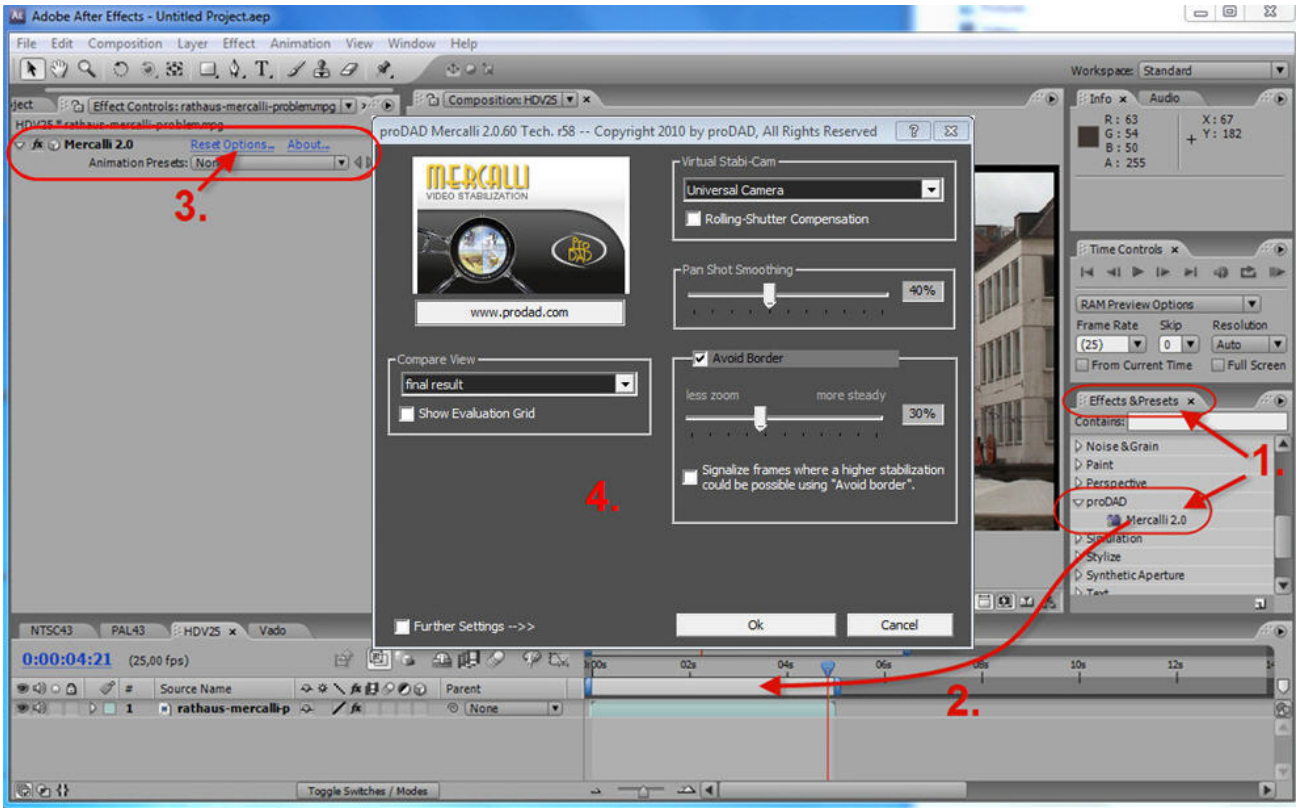
When you install Mercalli, the **Premiere** plug-in is automatically installed. In Premiere, you can find the plug-in in the video effects:



This is what you do:
1. Go to the **video filters** and click the **proDAD** directory to open it.
2. Click the item **Mercalli** and drag it onto the required clip in the timeline.
3. Configure the **settings** in Mercalli (e.g. choose a suitable profile) and click **Start video-analysis here** to return to Premiere.

Adobe After Effects

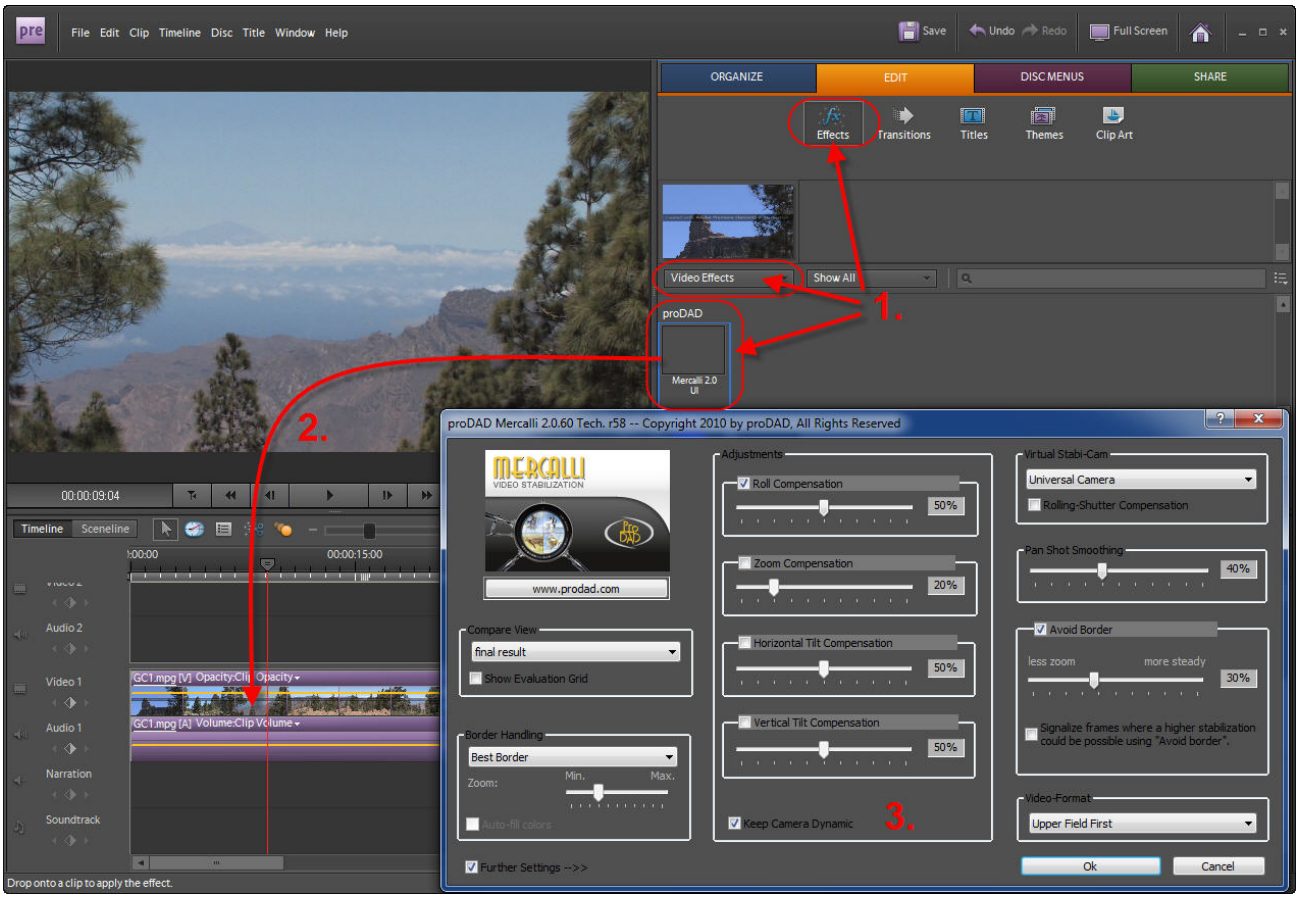
When you install Mercalli, the **After Effects** plug-in is automatically installed. In Premiere, you can find the plug-in in the video effects:



This is what you do:
1. Go to the **Effects & Presets** and click the **proDAD** directory to open it.
2. Click the item **Mercalli** and drag it onto the required clip in the timeline.
3. Click the **Options** item in the After Effects effect settings to launch Mercalli.
4. Configure the **settings** in Mercalli (e.g. choose a suitable profile) and click **Start video-analysis here** to return to After Effects.

Adobe Premiere Elements

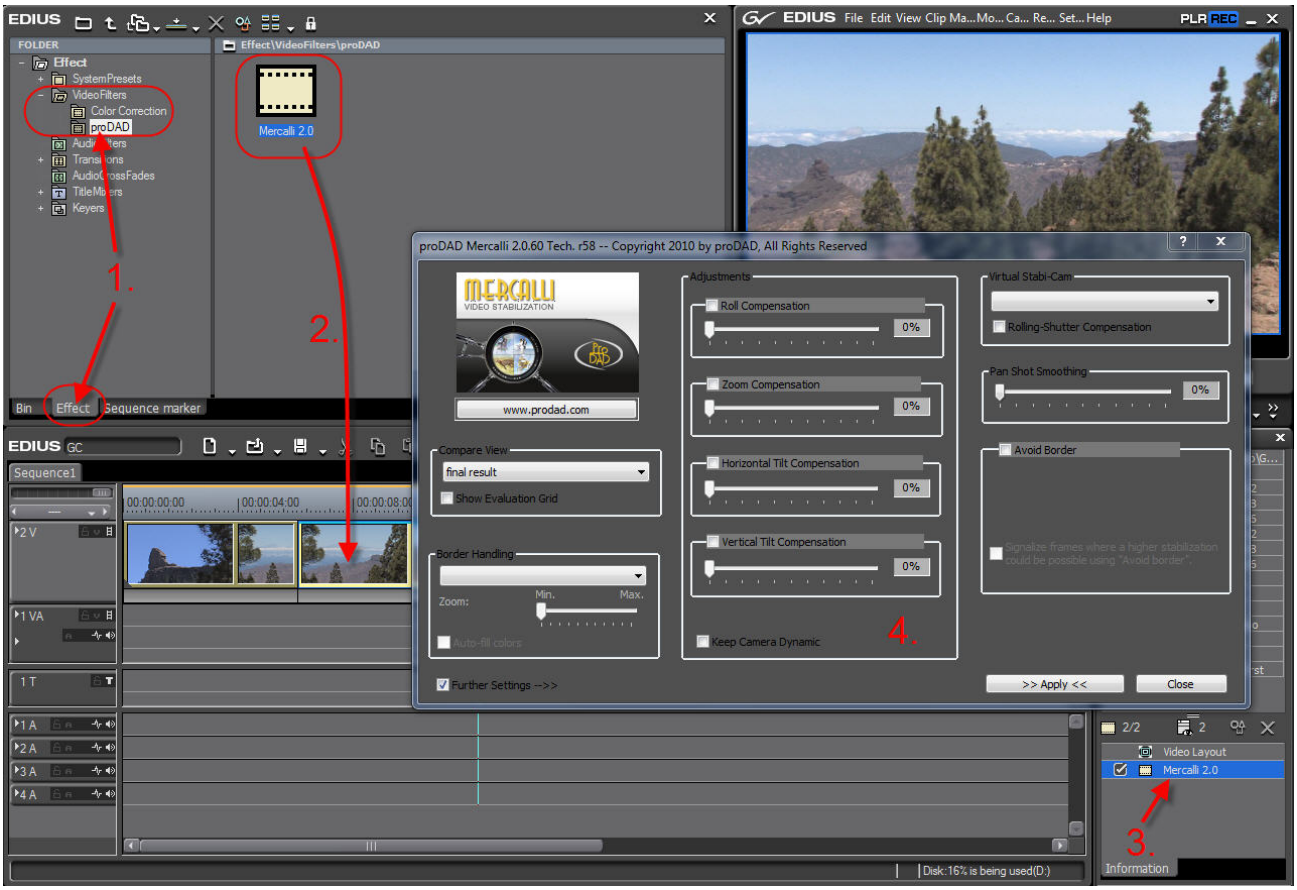
When you install Mercalli, the **Premiere** plug-in is automatically installed. In Premiere, you can find the plug-in in the video effects:



This is what you do:
1. Go to the **video filters** and click the **proDAD** directory to open it.
2. Click the item **Mercalli** and drag it onto the required clip in the timeline.
3. The **Mercalli** settings dialog is now added to Elements. Configure the **settings** in Mercalli (e.g. choose a suitable profile) and click **OK** to return to Premiere.

Canopus Edius

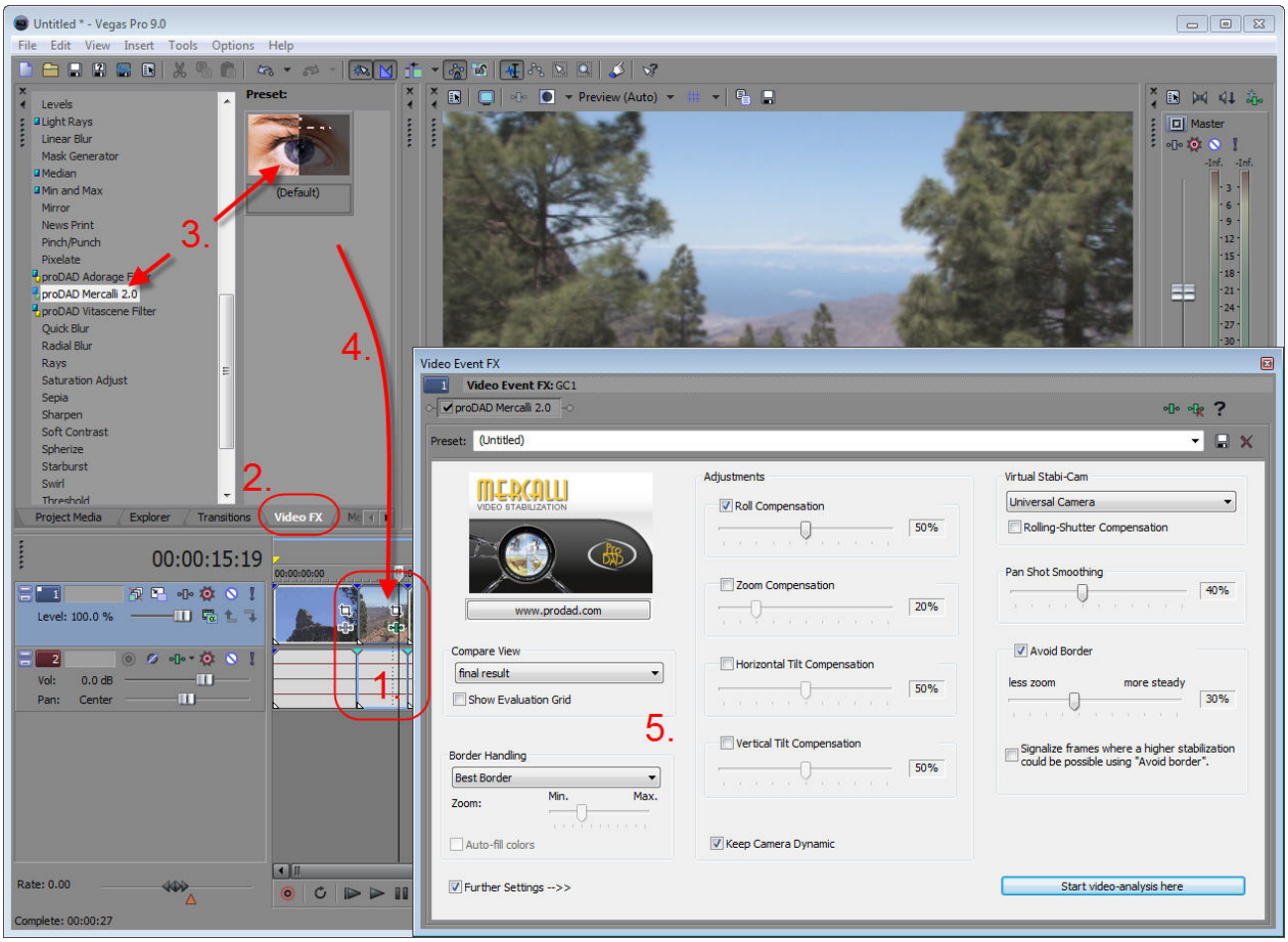
When you install Mercalli, the **Canopus EDIUS** plug-in is automatically installed. In EDIUS, you can find the plug-in in the video effects:



This is what you do:
1. Go to the **video filters** and click the **proDAD** folder.
2. Click the item **Mercalli** in the folder and drag it onto the required clip in the EDIUS timeline.
3. To start Mercalli, double-click the item Mercalli in the **information panel**.
4. The **Mercalli** settings dialog is now added to EDIUS. Configure the **settings** in Mercalli (e.g. choose a suitable profile) and click **Apply** to return to EDIUS.

Sony Vegas Pro

When you install Mercalli, the **Vegas** plug-in is automatically installed. In Sony Vegas, you can find the plug-in in the **Video FX** :

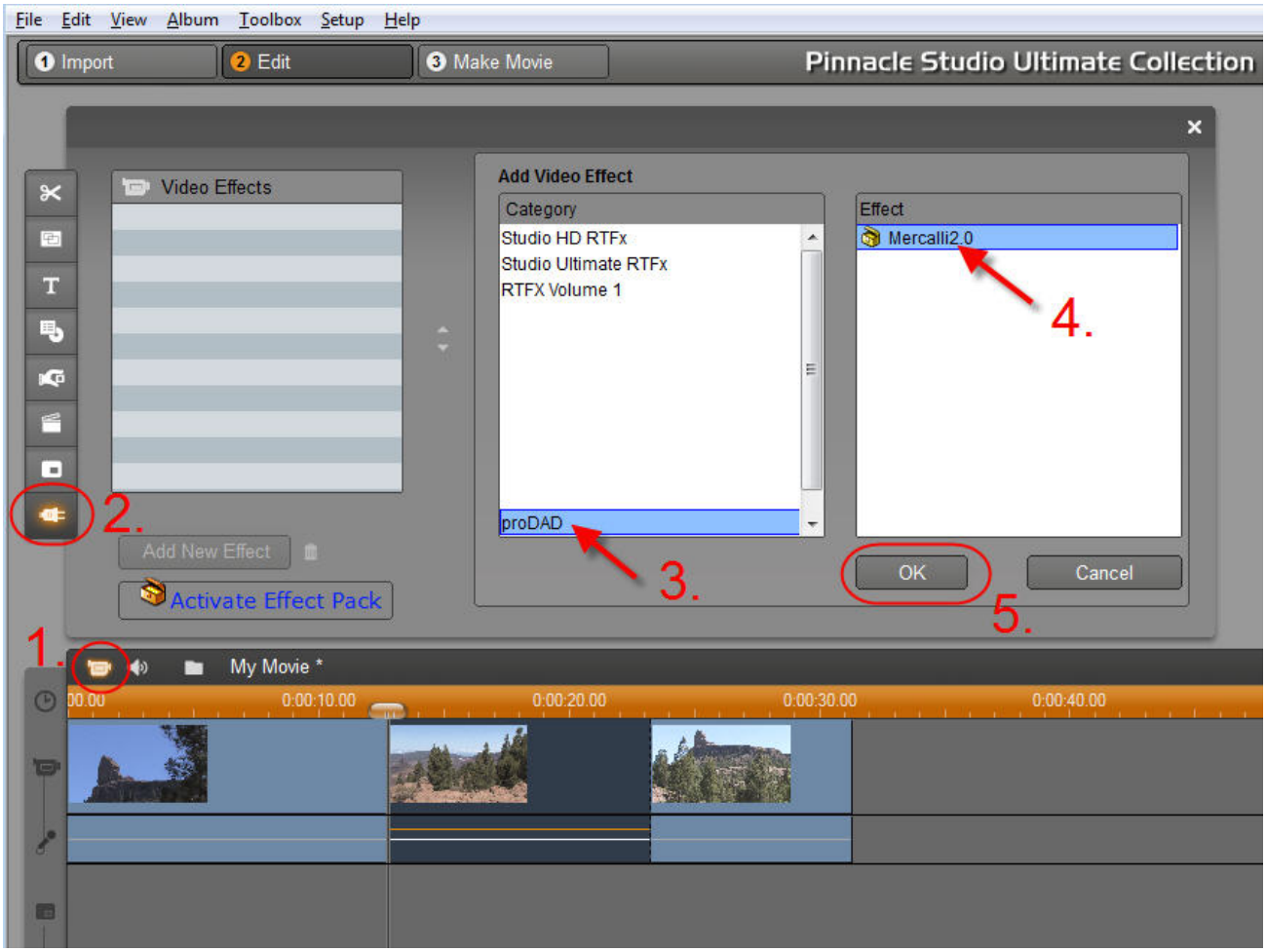


This is what you do:

1. Start Sony Vegas, **place a video clip** in the timeline.
2. Go to the Effects library **Video FX.**
3. Click the item **Mercalli** and drag it
4. onto the **required clip** in the timeline.
5. The **Mercalli settings dialog** is now added to Sony Vegas. Next, use the dialog to make the desired settings in Mercalli (e.g. selection of a suitable profile)

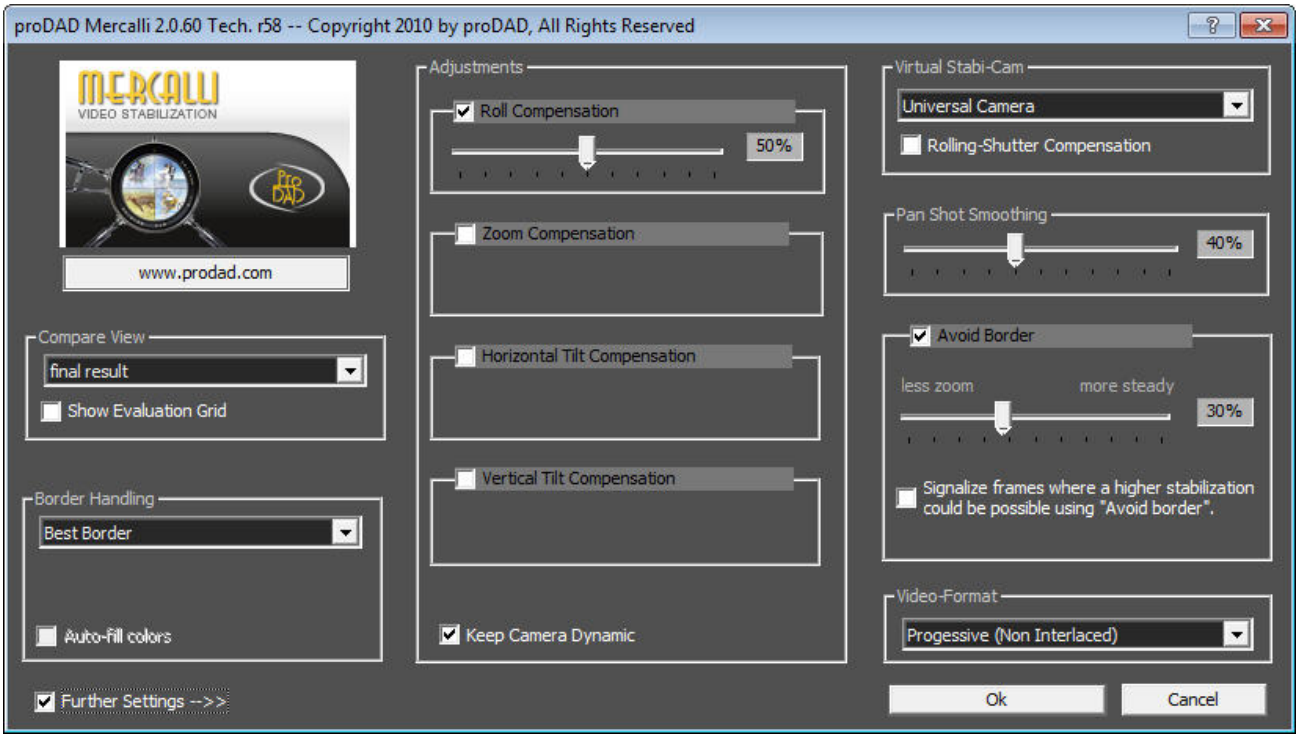
Pinnacle / Avid Studio

When you install Mercalli, the **Studio** plug-in is automatically installed. In Pinnacle Studio, you can find the plug-in in the video effects:



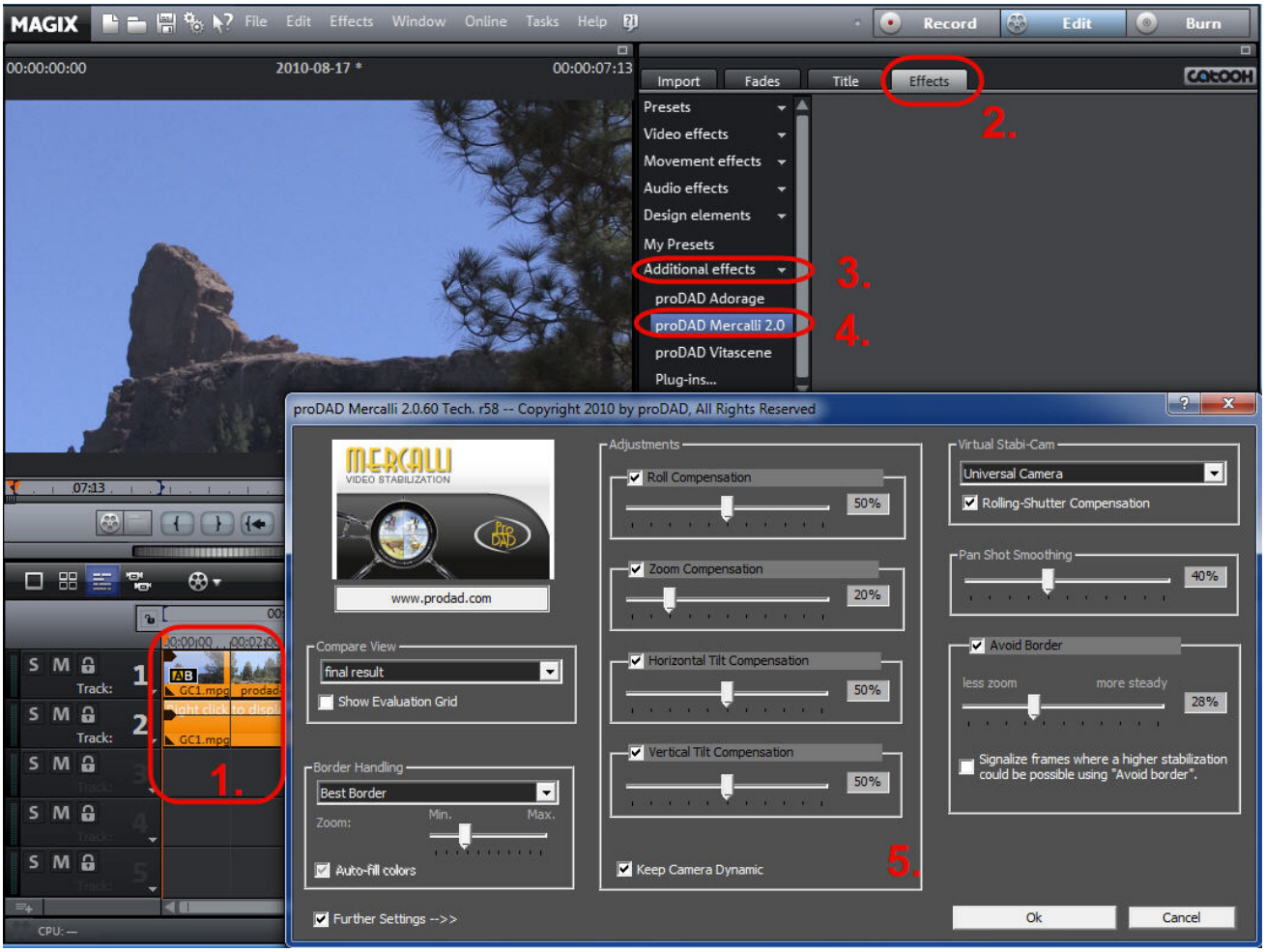
This is what you do:
1. Open the **video toolbox in Studio**.
2. Open the **list of video effects**.
3. Click the item **proDAD**.
4. Click **Mercalli 2.0**.
5. To assign the plug-in, click **OK**. The following button appears:

To start Mercalli, click **Edit Mercalli**.



MAGIX

Start **MAGIX Movie Edit Pro 16** and place a video clip in the timeline **(1)**, making sure it is highlighted (orange).
Now go to the **Effects (2)** menu in the **Additional effects (3)** field. Click on the **Additional effects** directory to display **proDAD Mercalli 2.0 (4)**.
Click **proDAD Mercalli 2.0**, the **Mercalli settings dialog (5)** is now added to MAGIX. Next, use the dialog to make the desired settings in Mercalli (e.g. selection of a suitable profile)



Limitations :
Mercalli 2 in combination with VdL 9.x
- Stabilization only works if the video is played from position 0:00 on the timeline.
- Stabilization only works with FPS values without decimals: 24, 25, 30, 50, 60. So NTSC 29.97, for example, will not work.

The Teams at proDAD and MAGIX are working to remove these limitations and they may no longer affect the latest versions. Users are advised to install the updates and service packs released by both producers.

Mercalli plug-in - general functions

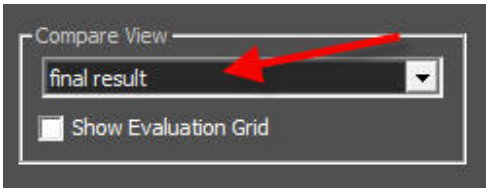
Mercalli starts in **basic mode** without displaying the advanced settings. These are first explained.

Compare View (video display in preview)

The stabilized video can be played in the **preview** of the video editing software. Various options are available in the **Compare View** area.

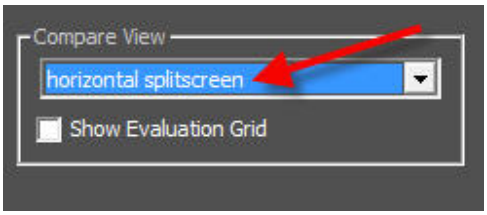
1. final result

First click on **Play** in the Preview panel to start playback of the **stabilized video** in the editing software's preview.



2. horizontal splitscreen

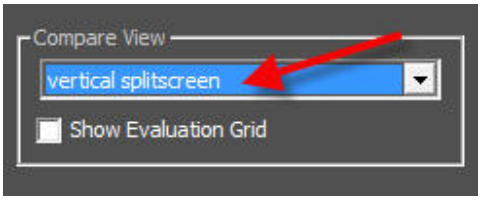
First click on the **Play** button in the preview panel to start playback of the stabilized video in the editing software's preview.



When the other option, **horizontal splitscreen**, is selected, the video playback is split into two sections.

3. vertical splitscreen

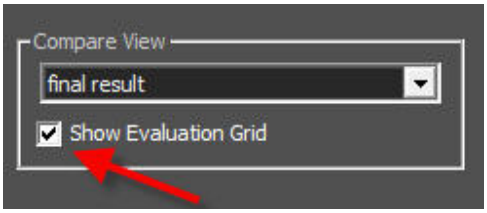
First click on the **Play** button in the preview panel to start playback of the stabilized video in the editing software's preview.



When the **vertical splitscreen** option is selected, the video playback is split into two sections.

4. Show Evaluation Grid

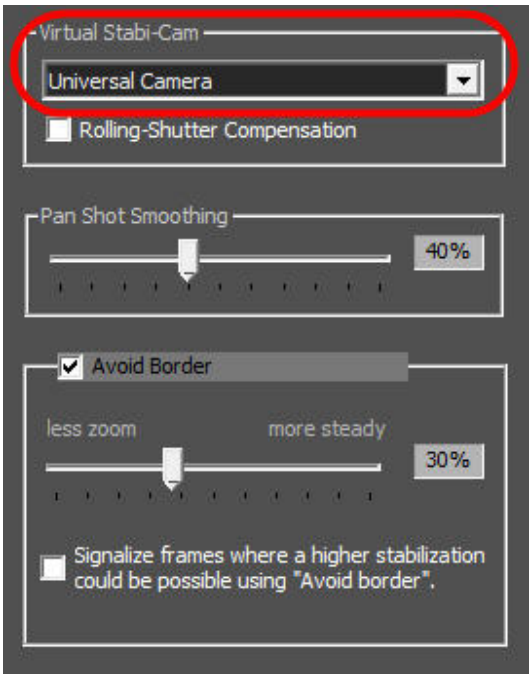
Click the **Show Evaluation Grid** option to enable it.



A grid then appears in the Preview image to help you judge the effectiveness of the stabilization.

Virtual Stabi-Cam

Various **Stabi-Cams** are available to analyze and correct your shaky video footage. Select a suitable **Stabi-Cam** by clicking Virtual Stabi-Cam (the default selection is **Universal Camera**).



1. Advice on using the virtual Stabi-Cam

Because every video has different characteristics, we recommend starting an initial video analysis with the **Universal Camera** Stabi-Cam.

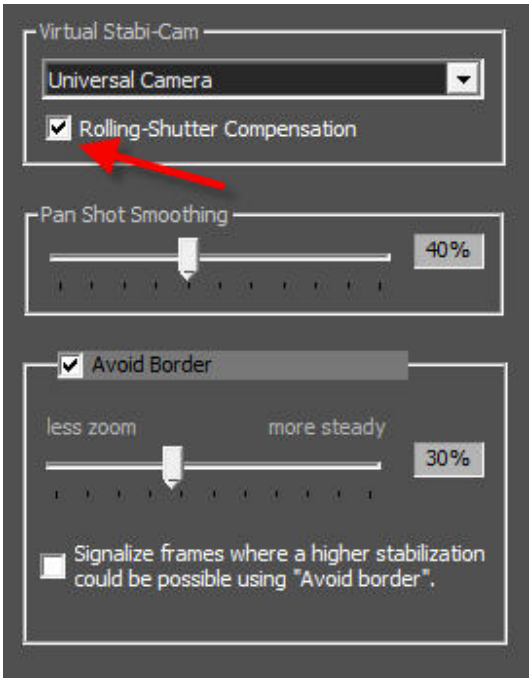
If the stabilization result is not optimal **for the specific video in question**, you can use one of the other available **Stabi-Cams** (Glide Camera, Rock-Steady Camera or Alternative Camera). These work according to different parameters. We recommend you try out these Stabi-Cams, one after the other, in order to find the best possible stabilization. In certain cases, these Stabi-Cams may produce better results than the **Universal Camera** Stabi-Cam. However, all these Stabi-Cams are subject to very specific environmental conditions, which are highly complex in combination.

If you want a video that comes as close as possible to a tripod shot, use the **Rock-Steady Camera** Stabi-Cam (result closely resembling a tripod shot).

Start video analysis after selection of a Stabi-Cam.

2. Enabling Rolling-Shutter Compensation

To correct distortion that may occur in moving footage (CMOS cameras only), enable **Rolling-Shutter Compensation**. By default, the **Rolling-Shutter Compensation** option is disabled. But it can be enabled for any selected Stabi-Cam at any time.

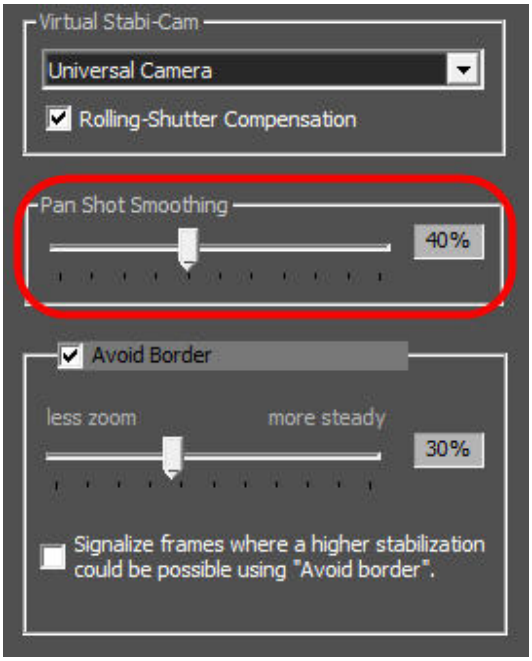


The rolling shutter effect is an unwanted effect inherent in the components called CMOS sensors, which are commonly used in digital single-lens reflex cameras (DSLRs), pocket cams, mobile telephones and video cameras.

Rolling shutter effect tends to be undetectable or hardly noticeable in footage before stabilization. But after a video is successfully stabilized in post-production, the rolling shutter effect remains and may slightly or severely impair the quality of the footage.
So Mercalli is also equipped to combat this unwanted effect when needed – because there is no benefit in stabilization if the result is spoilt by other undesirable effects.

Pan Shot Smoothing

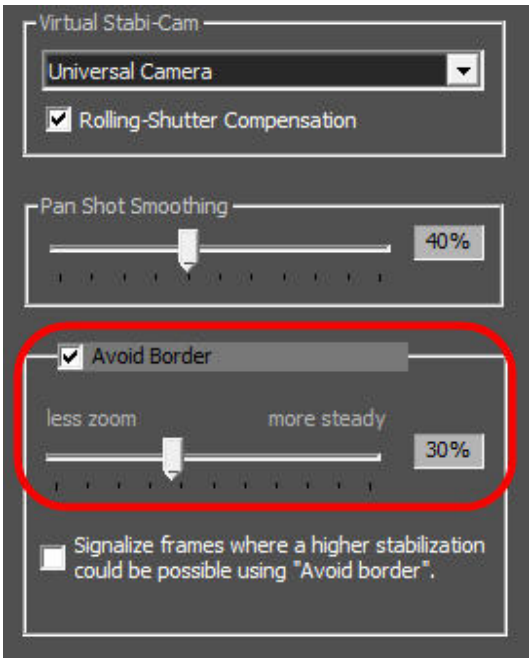
Use the **Pan Shot Smoothing** slider to adjust the overall smoothing of movements in the video. Moving the slider further to the right increases the degree of stabilization, making the video steadier. The **Pan Shot Smoothing** slider has the greatest visual effect on the video (smoothing of movement in the footage).



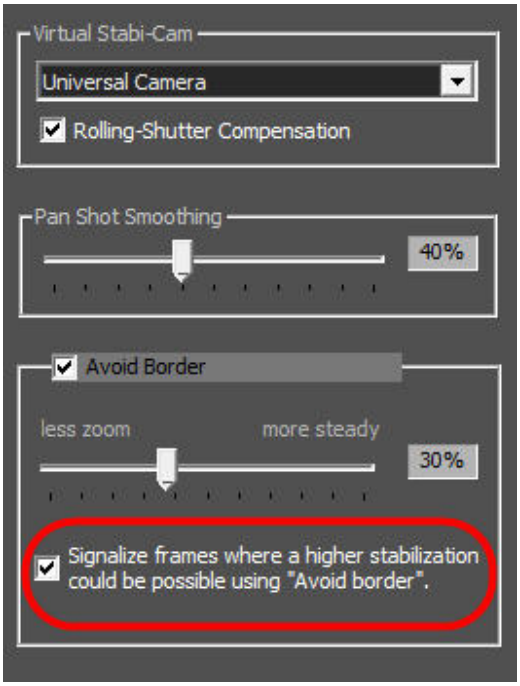
Avoid Border and Signalize frames...

The use of the Avoid Border slider is also dependent on the type of shake affecting the video and, of course, differs from video to video.

Moving the **Avoid Border** slider to the right (more zoom-in) improves stabilization (reduces shake), moving the slider to the left reduces stabilization but helps to retain as much of the information and resolution of the original video as possible.



You can also disable the **Avoid Border** slider.
The **Signalize frames...** option indicates parts of the video (with a red edge) where a greater degree of stabilization can be achieved by increasing "Avoid border".

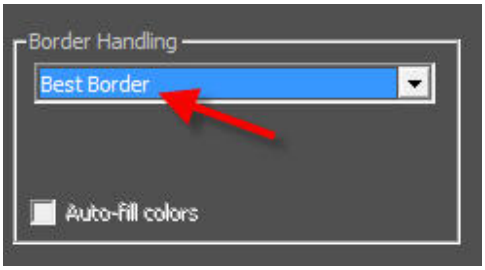


Border Handling

The **Border Handling** menu provides various **border options**.

Best Border

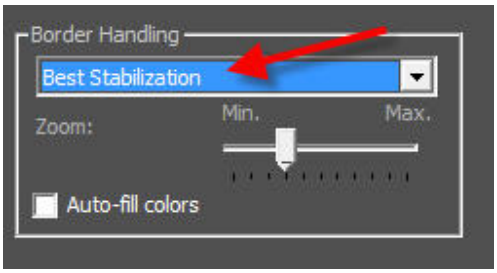
When the **Best Border** option is selected, **no border** appears in the stabilized video.



Further advice on **Border Handling** can be found in the FAQs in the Support section at www.prodad.com.

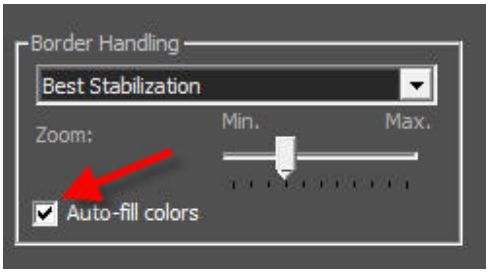
Best Stabilization

When the **Best Stabilization** option is selected,



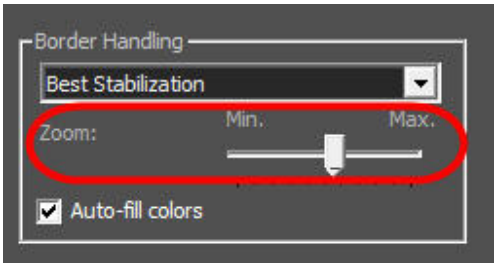
a black border appears around the stabilized video. It may vary from frame to frame depending on the degree of shake in a specific situation.

This border can be filled with video using the **Auto-fill colors** option,



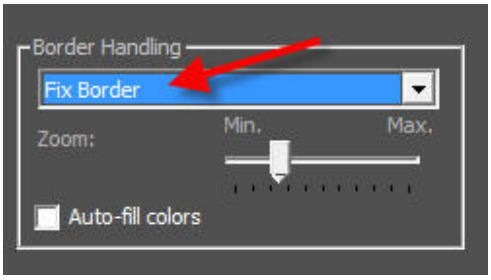
but the added video content will be blurred. This is not a program error, but just a fill option which may be used when appropriate.

You can zoom the video using the **Zoom** slider to further reduce the border.



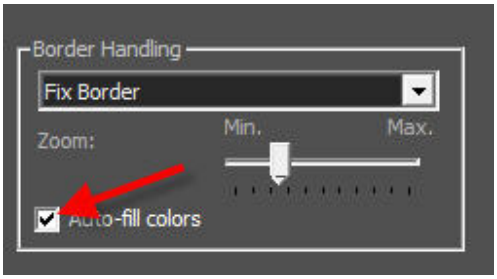
Fix Border

When the **Fix Border** option is selected,



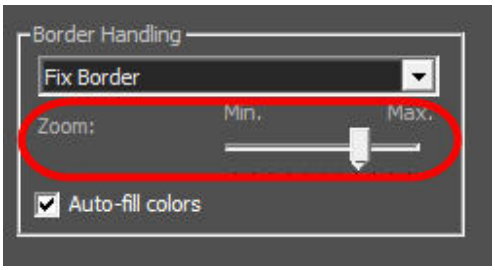
a static black border appears in the stabilized video.

This border can be filled with video using the **Auto-fill colors** option.



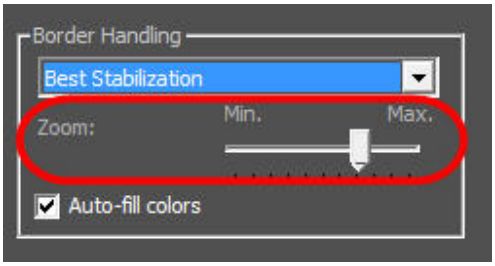
But the added video content will be blurred.

You can zoom the video using the **Zoom** slider to further reduce the border.

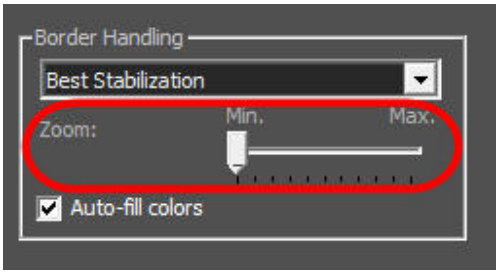


Avoiding a border with Zoom

You can use the **Zoom** slider to zoom in on the video (slider to the **right**). This minimizes the **visible border** around the video.



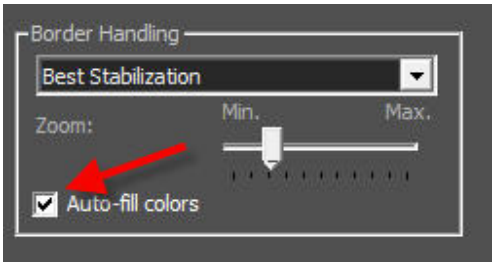
When the **Zoom** slider is moved to the **left** (zoom-out), a border appears.



Excessive **zoom-in** may result in negative effects such as blur or graininess in the video.

Auto-fill colors

The **Auto-fill colors** option fills a black border with **video content**, i.e. the border is filled with video, but it may appear blurred.

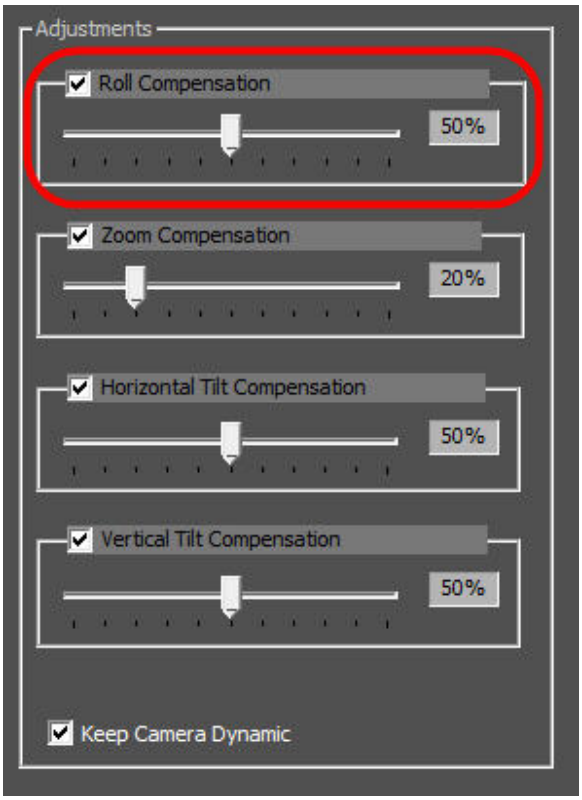


Adjustments

The **Adjustments** area contains other sliders for detailed optimization of video stabilization.

Roll Compensation

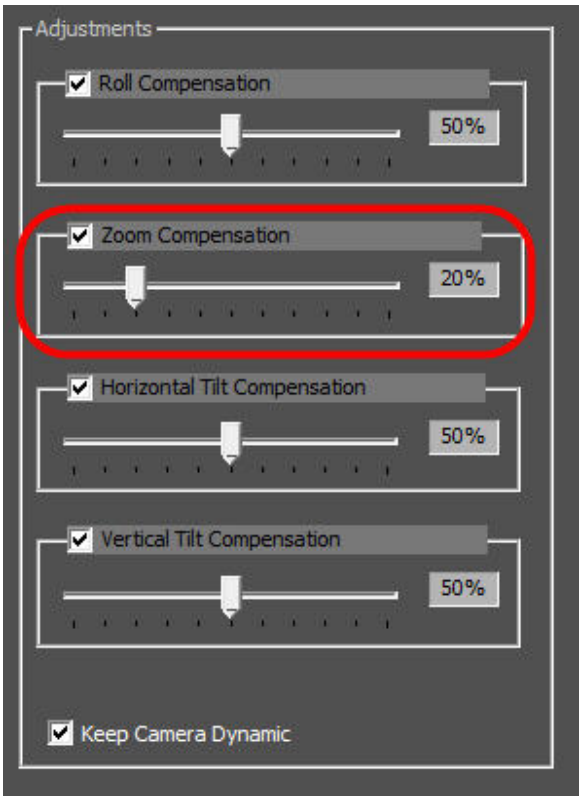
The **Roll Compensation** slider controls correction of movement in the video due to rotation about the **Z-axis**.



You can also disable the **Roll Compensation** slider. Just click the appropriate checkbox on the **Adjustments** area. Doing so disables correction of **roll (Z-axis)**.

Zoom Compensation

The **Zoom Compensation** slider controls the smoothing of **zooming movements** in the video.

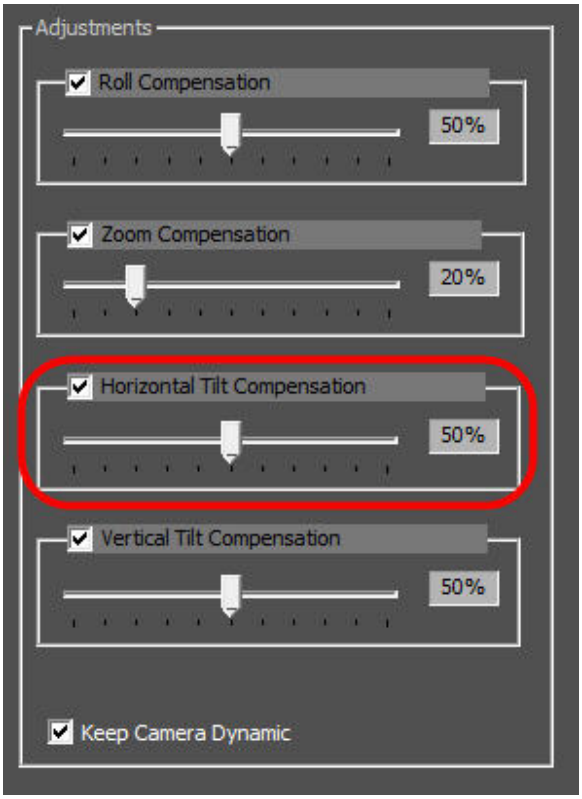


Moving the slider to the right increases the smoothing of changes in zoom. This has the effect of steadying shaky zoom.

You can also disable the **Zoom Compensation** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables **zoom correction**.

Horizontal Tilt Compensation

The **Horizontal Tilt Compensation** slider controls correction of movement in the video due to rotation about the **X-axis**.

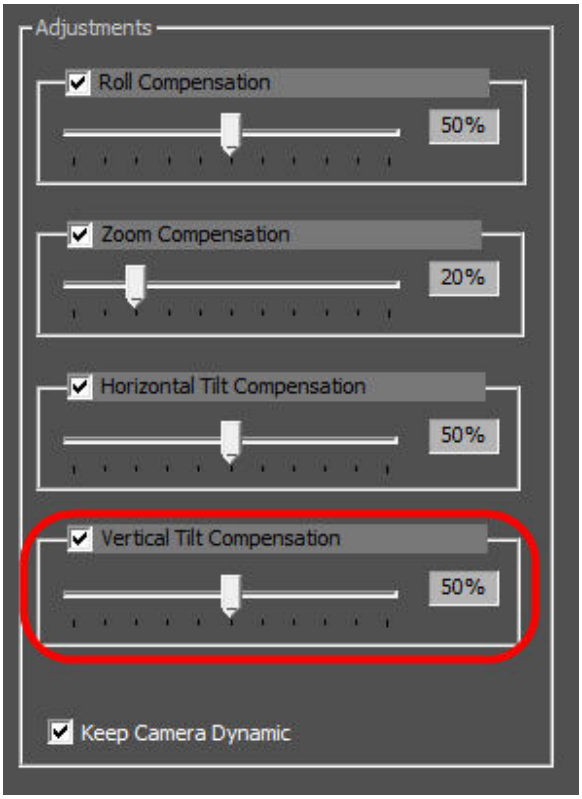


Moving the slider **Horizontal Tilt Compensation** alters the degree of correction for rotation about the X-axis.

You can also disable the **Horizontal Tilt Compensation** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables correction of movement about the X-axis.

Vertical Tilt Compensation

The **Vertical Tilt Compensation** slider controls correction of movement in the video due to rotation about the **Y-axis**.

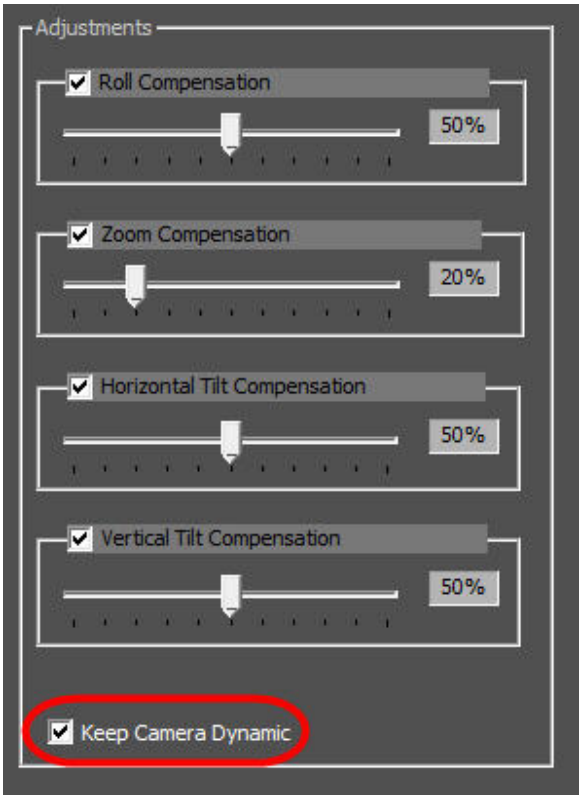


Moving the slider **Vertical Tilt Compensation** alters the degree of correction for rotation about the Y-axis.

You can also disable the **Vertical Tilt Compensation** slider. Just click the appropriate checkbox on the **Adjustments** tab.
Doing so disables correction of movement about the Y-axis.

Keep Camera Dynamic

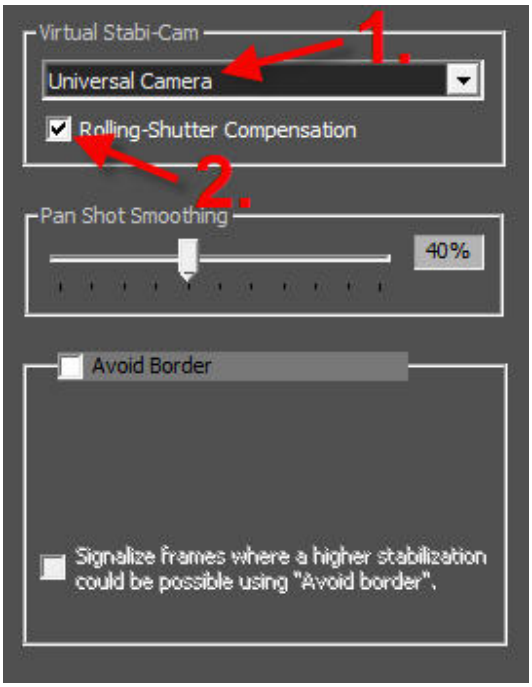
The **Keep Camera Dynamic** option helps to preserve the liveliness of the video. The aim is not to smooth intentional movements by the camera operator.



If your intention is to convert normal, shaky free-hand footage to **tripod-style footage**, you should disable the **Keep Camera Dynamic** option.

Virtual Stabi-Cam

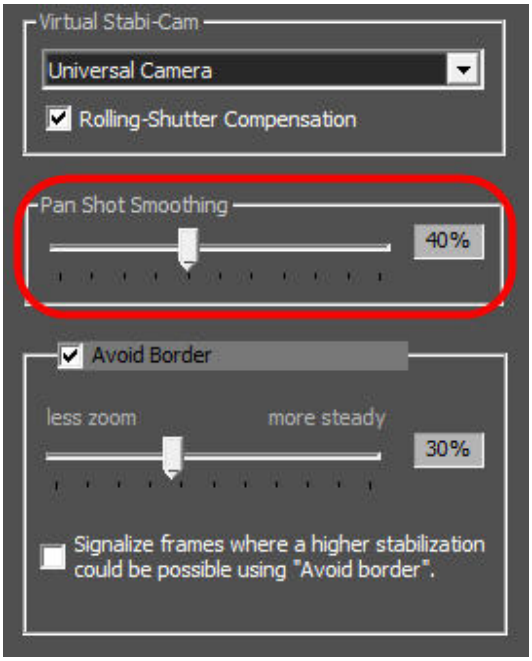
Various **Stabi-Cams** are available to analyze and correct your shaky video footage. The different **Stabi-Cams** can be found in the Virtual Stabi-Cam area **(1)**. The default selection is Universal Camera. The Rolling-Shutter Compensation option **(2)** can also be disabled (default setting) and enabled here.



Start video analysis after selection of a **Stabi-Cam**.

Pan Shot Smoothing

Use the **Pan Shot Smoothing** slider to adjust the overall smoothing of movements in the video. Moving the slider further to the right increases the degree of stabilization, making the video steadier. The **Pan Shot Smoothing** slider has the greatest visual effect on the video (smoothing of movement in the footage).



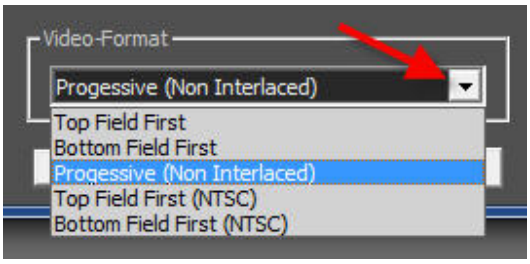
Avoid Border

All information on **Avoid Border** can be found in the section **Avoid Border and Signalize frames...**.

Video-Format (Progressive / Top Field First / Bottom Field First (PAL/NTSC))

Mercalli offers the following field order settings: **Progressive / Top Field First / Bottom Field First (PAL/NTSC)**. The **video format settings** are not included in all plug-ins. They may also vary.

The default setting is **Progressive**.



1. Progressive
Progressive denotes a video stream (clip) made up of full frames as opposed to an **interlaced** video stream, which uses sets of fields (Top Field First or Bottom Field First).

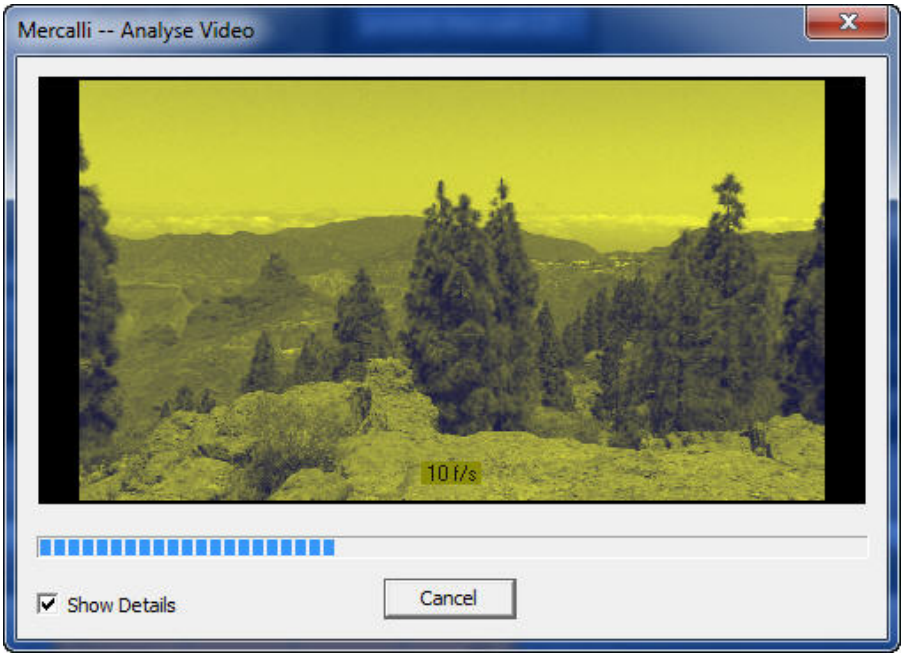
2. Top Field First
Interlaced video consisting of 2 sets of fields. With **Top Field First** the fields are displayed

starting with the first field.

3. Bottom Field First
Interlaced video consisting of 2 sets of fields. With **Bottom Field First** the fields are displayed starting with the second field.

IMPORTANT:
For Rolling-Shutter Compensation to work correctly, the correct field order for the video must be used, otherwise the rolling shutter correction will have no effect, or may even produce errors.

Start Analysis



The video is now analyzed and shake is eliminated. After completion, the stabilized video is available in the editing application's timeline.

Macintosh® NLEs - plug-in support

proDAD Mercalli supports various **MAC** video editing applications as a plug-in (video effect). To check which editing software and versions are supported, refer to the **Mercalli** section at www.prodad.com.

Detailed information can be found in the Mercalli user guide for the MAC application.

What next for Mercalli...

As of V2, Mercalli is more than just a stabilizing tool for videos. Mercalli can now optimize rolling shutter effects, smooth juddery zooms and transform jerky panning shots into perfect camerawork.

Many details are based on suggestions from users, but we are not going to rest here. We are developing our technology further and, using the current 3D base technology, we are looking to implement applications which are hard to imagine now.

Mercalli will continue to be your powerful tool in the future for rescuing and optimizing your footage.
Whatever video editing solution you use, Mercalli will help you improve your films – either as a plug-in or as a stand-alone program.