

DVO
WARP
USER GUIDE

WHAT DOES IT DO?

DVO Warp is an intelligent, automatic tool for removing warping artifacts often associated with line scanners.

The current version of the tool deals with *vertical warping*. The tool should be considered very precise, with results that are hard to match for any manual/semi-manual process.

A high priority is given to safety, so the tool can be run largely unsupervised without creating issues.

HOW DO YOU USE IT?

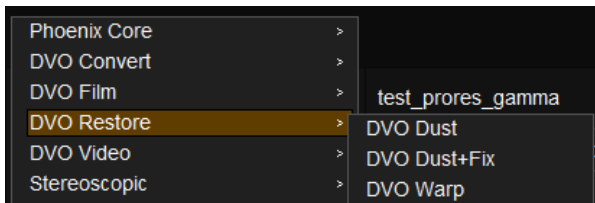
DVO Warp works on the following platforms:



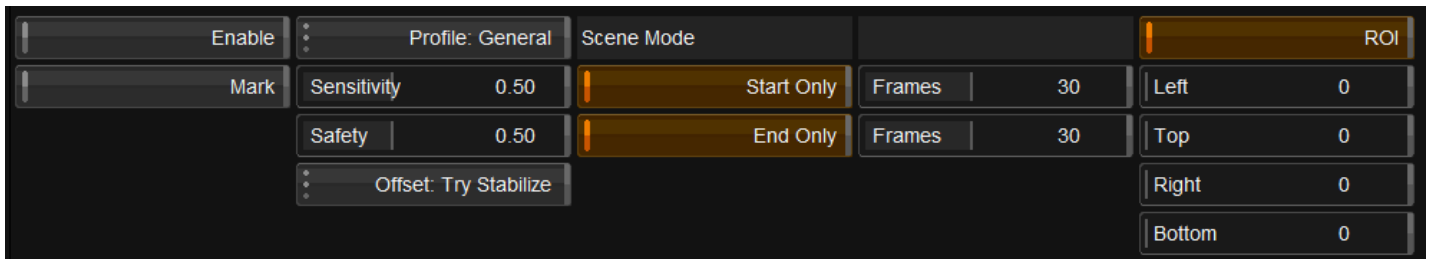
If you're already a Filmworkz veteran, you can jump right in and use **DVO Warp** however if you need a hand with anything, our friendly AI assistant [Juno](#) is your first port of call. Whether it's guidance with DVO tools, help getting started in Phoenix, Nucoda or Loki, access to the latest versions or discovering best practices, **Juno's** here to offer instant, accurate support, any time you need it - that's 24/7 because **Juno** never sleeps!

GETTING STARTED

1. Launch your platform on your workstation.
2. Locate the toolbar, (positioned on the left-hand side of the interface)
3. Scan the toolbar options until you find the **DVO Warp** tool.



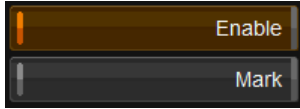
4. Click on it and the control panel under appears:



CONTROL PANEL EXPLAINED

PARAMETERS

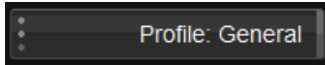
ENABLE / MARK



Enable: enables/disables the tool.

Mark: enables diagnostic marking of the processed (de-warped) frames by drawing a *white circle* in the upper right corner of the image. DEFAULT is off.

PROFILE



This control is used to set the internal configuration parameters to match specific behaviors which have been identified (such as a specific scanner type).

The different profiles available are:

- **General:** The general mode for sources which are unknown or don't have a profile. This is the default.
- **GE-III (a):** Golden Eye III model A – the most common model.
- **GE-III (b):** Golden Eye III model B – uncommon model with a different mechanical construction which affects warping behavior.

The **Profile** setting doesn't visually change any of the other user parameters but in some cases affects how they are interpreted. In particular, the **Sensitivity** parameter might be interpreted for conditions matching a specific profile. The *General* profile mode has no specific tuning, causing this mode to have the greatest effective range for a parameter like **Sensitivity**.

SENSITIVITY



This parameter sets the general sensitivity for the detection and selection of warped frames to process.

A low sensitivity corresponds to warps with high “amplitude” (more visible) and high sensitivity then corresponds to warps with low amplitude (less visible).

If you set sensitivity too high the actual processing may become much harder, to the point that the algorithm cancels any processing for safety reasons.

Sensitivity should mainly be tuned for a common source, splice and scanner. In most cases, it shouldn't be tuned for specific clips.

Range: 0.00 - 1.00

Default: 0.50



SAFETY



The *Safety* parameter lets the user choose a desired "safe" processing level, therefore placing limits on how much de-warping to do. Processing will be cancelled if it is considered unsafe (hitting this user set limit).

The larger the value, the *safer* we will be, and the less risk of over-processing.

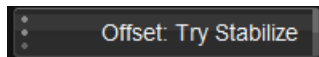
This parameter is of a statistical nature and targeted for setting a comfortable level for unsupervised processing (of a lot of material). The effect of the parameter range may not always be noticeable for an individual clip.

Independent of the *Safety* settings, processing may be cancelled for a specific shot because *any* amount of de-warping may end up being considered unsafe.

Range: 0.00 - 1.00

Default: 0.50

OFFSET



When a frame is warped it normally exhibits some kind of *offset* or jump. By default, the de-warp algorithm will try to stabilize such offsets.

Offsets cannot always be stabilized (hence "Try Stabilize"). The internal stabilization is basic and as an alternative the more advanced DVO Steady II can be used and may be a better choice.

This functionality only affects the actual frames being de-warped.

Options are:

Keep: Keeps the average offset of each frame.

Try Stabilize: As described, it stabilizes frame offset/jumps when possible. This is the default.



SCENE MODE

Scene Mode	
<div>Start Only</div>	<div>Frames 30</div>
<div>End Only</div>	<div>Frames 30</div>

Frames affected by warping issues are often found on either side of a physical splice. By default, the tool is set to only analyze frames on either side of a scene cut, but it can also be set to analyze all frames.

START ONLY

Start Only

Enables analysis/processing at the start of the scene. Also set the number of frames after the scene cut which should be analyzed.

Range: 0 - 50

Default: 30

END ONLY

End Only

Enables analysis/processing at the end of the scene. Also set the number of frames before the scene cut which should be analyzed.

Full analysis/processing of **all frames** is enabled when both *Start Only* and *End Only* have been **disabled**.

Range: 0 - 50

Default: 30



REGION OF INTEREST

ROI	
Left	0
Top	0
Right	0
Bottom	0

The *Region of Interest* setup here is specific to *DVO Warp*.

LEFT / RIGHT

The left and right sides are used to isolate the area used for **warp analysis**.

This is useful for selecting an area which may be easier to analyze in some circumstances. The algorithm should be quite robust under most conditions, but if a part of the frame is largely filled with complex motions this is a useful way to ignore them.

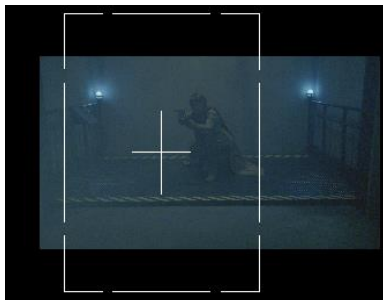
DVO Warp will analyze the set region only but still process the full frame.

TOP / BOTTOM

The use of top and bottom will have an effect on the **actual processing**.

Areas *outside* any top or bottom set will *not* be de-warped by the tool. However, these areas will still be repositioned according to the position offset of the inside of the ROI (i.e., top and bottom line).

These can further be controlled in the graphical ROI overlay by selecting and repositioning the lines for left, top, right and bottom.



WANNA KNOW

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SALES

