

GBDeflicker

Flickering is a common problem in time-lapse or stop motion footage. Frame by frame variations in lighting or in exposure lead to perceptible brightness fluctuations, i.e. flicker.

GBDeflicker is an Adobe plug-in designed to greatly reduce flicker by adjusting frame to frame brightness. It is designed to work with After Effects, Adobe Premiere and Premiere Elements.

Installation and Activation

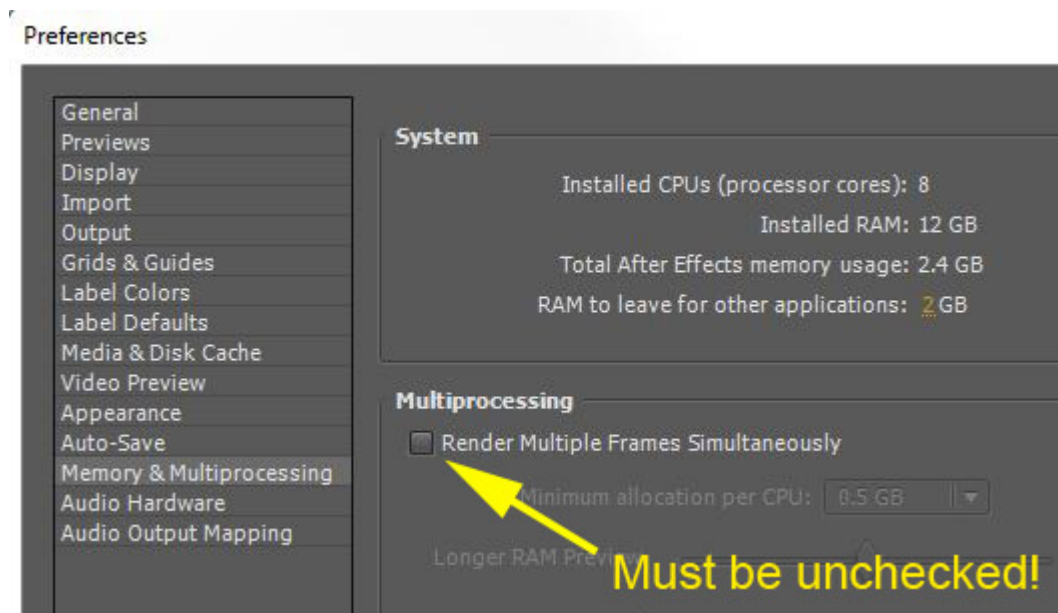
For details of the installation and activation procedures please refer to the appropriate page on our website.

<http://www.granitebaysoftware.com/Support/TipsGBD/GBDMacInstallation.aspx>

<http://www.granitebaysoftware.com/Support/TipsGBD/GBDWinInstallation.aspx>

After Effects CS3 and CS4 Required Settings

For GBDeflicker to be effective, you must change the After Effects preferences to disable Multiprocessor Rendering.

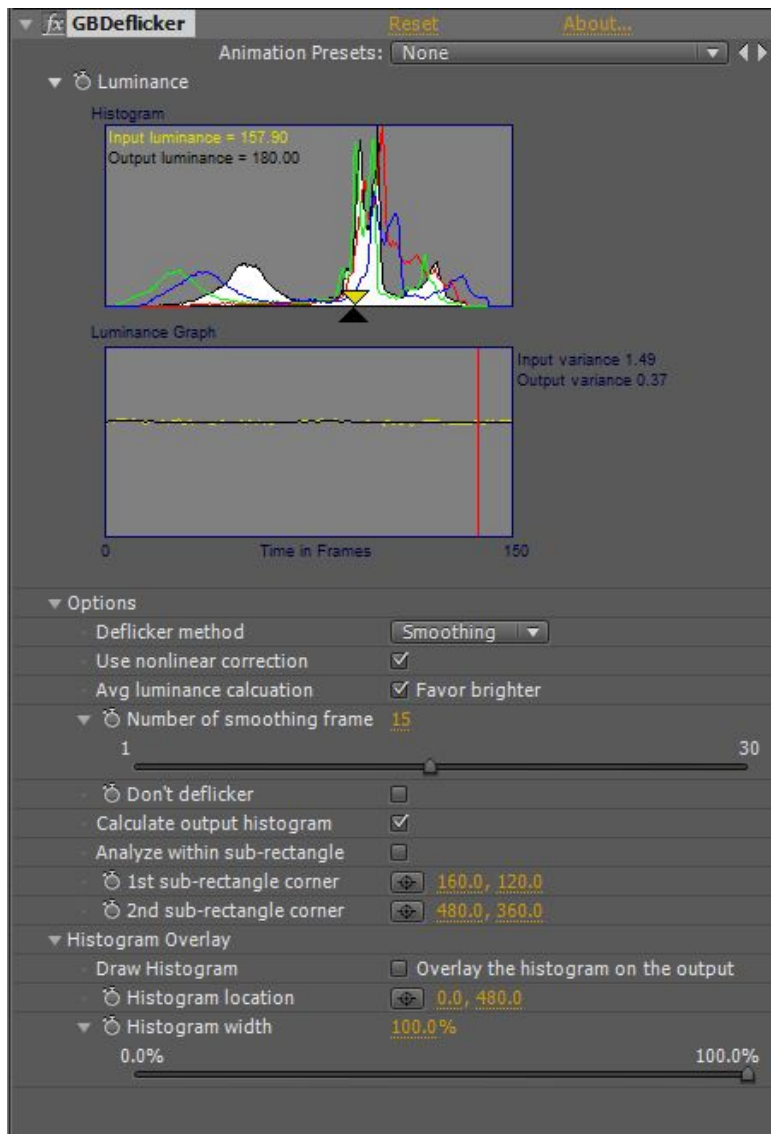


GBDeflicker needs the luminance history of a clip to perform its deflicker algorithm. When After Effects uses the Multiprocessing option, it divides the clip into sections and uses multiple instances of the filter simultaneously. This prevents the GBDeflicker from performing its calculations effectively and the results are unpredictable.

GBDeflicker is not the only filter to require this setting. It is also required by any other filter or plug-in that renders frames based on previous frames, such as image stabilizers.

User Interface

Here is a typical view of the GBDeflicker user interface when applied to a video clip. Controls are divided into three groups: Luminance, Options, and Histogram Overlay.



The Histogram and Luminance graphs are not displayed when using GBDeflicker with Premiere Pro or Premiere Elements. This is because Premiere isn't capable of displaying the graphs properly.

For a description of the Premiere control difference, please see these two links...

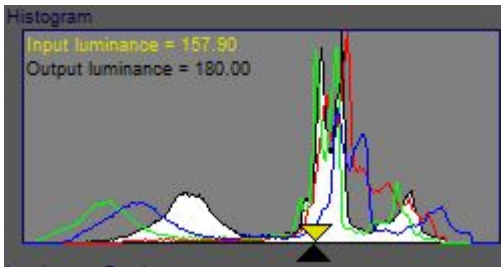
<http://www.granitebaysoftware.com/Support/TipsGBD/GBDPremiereTips.aspx>

Or

<http://www.granitebaysoftware.com/Support/TipsGBD/GBDElementsTips.aspx>

Histogram Graph

The histogram graph shows the histogram for the current frame in the clip. Red, green and blue color channels are shown along with the overall luminance histogram in white.

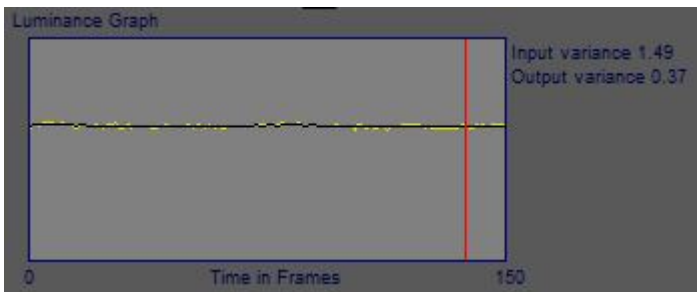


The input (before filtering) mean luminance value is shown in yellow in the upper left corner of the graph. It is also shown as a yellow triangle on the graph. When the “deflicker method” is set to “keyframes”, clicking the yellow triangle sets the keyframe value to match the input value.

The output (after filtering) mean luminance value is shown in black. When the “deflicker method” is set to “keyframes”, dragging the black triangle sets the keyframe value.

Luminance Graph

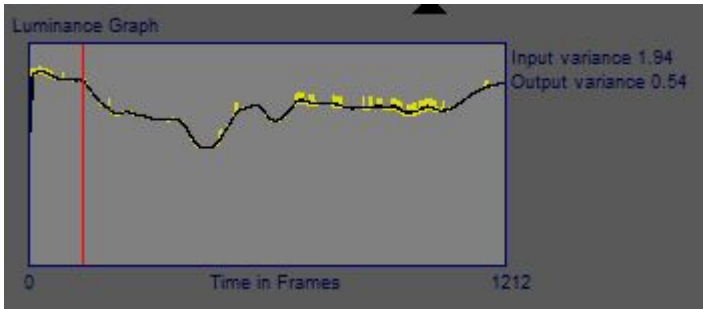
The luminance graph shows the mean luminance value at each point in the duration of the clip. The example below is for a clip with constant luminance throughout its duration. The red line corresponds to the current time in the composition.



When GBDeflicker is first applied to a clip, this graph is blank. The luminance values are drawn as the clip is previewed.

In this example, the input luminance (yellow line) is fairly constant with a variance of 1.49. The output luminance (black line) has a variance of 0.37. The reduced variance is an indication of the effectiveness of GBDeflicker in removing the flickering.

The example below is for a clip with luminance that varies over its duration.



Deflicker Method

Two deflickering methods are available: Smoothing and Keyframes.

Smoothing Method: The output luminance is set to the moving average of the input luminance. The number of values in the moving average is set by the “Number of smoothing frames”. The Smoothing method is generally best when the luminance graph varies.

Keyframes Method: The output luminance is set to a fixed value as determined by the keyframe value. The Keyframes method is generally best when the luminance graph is flat.

Use Nonlinear Correction

GBDeflicker can use either a linear or a nonlinear luminance correction algorithm. Since the nonlinear method is generally better, it is the default. However, in some cases a better result can be achieved by not using this option. In our experience nonlinear works better with brighter scenes and linear works better with darker scenes – results may vary.

Avg Luminance Calculation – Favor brighter

When this is checked, the brighter part of the histogram is more heavily weighted. The checked value is generally better, but for darker scenes you may want to uncheck this.

Number of smoothing frames

This is the number of frames before and after the current frame in the clip that are used in the smoothing method’s moving average. When the clip is previewed for the first time, only the values before are used in the moving average. After the clip has been previewed, the values before and after are used in the average. For this reason, a smoother output can be achieved by previewing the entire clip before doing the final render.

Don’t Deflicker

This is normally unchecked, but is useful sometimes in conjunction with the Histogram overlay option to help analyze the amount of flicker present in a clip. It is also used in Premiere Pro and Premiere Elements when setting keyframe values.

See...

<http://www.granitebaysoftware.com/Support/TipsGBD/GBDPremiereTips.aspx>

Or

<http://www.granitebaysoftware.com/Support/TipsGBD/GBDElementsTips.aspx>

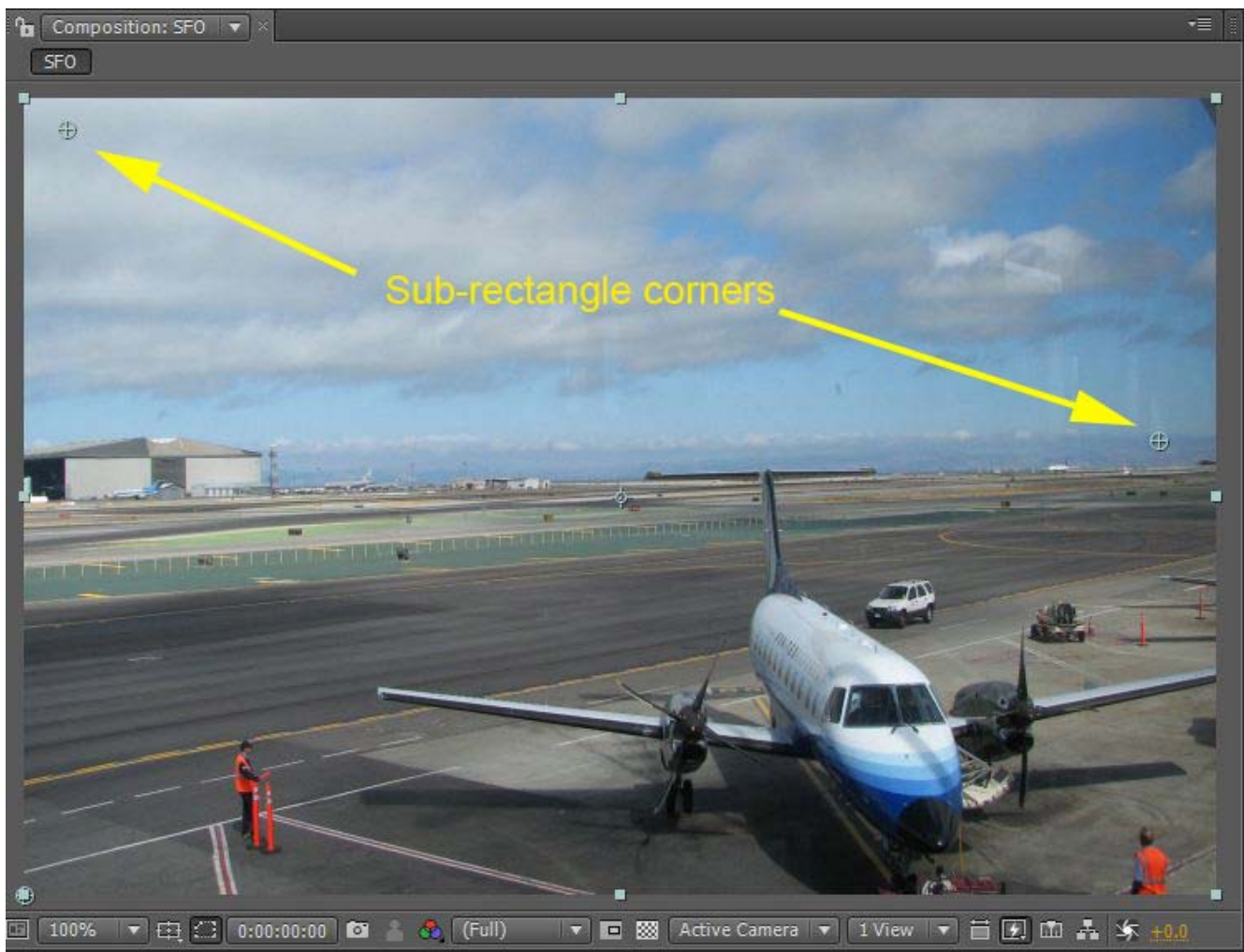
Calculate Output Histogram

This must be checked in order to see the black output line in the luminance graph. It is useful only when checking the deflicker effectiveness. It should not normally be checked because it slows down the deflicker processing.

Analyze Within Sub-rectangle

Sometimes a clip has some normal (or wanted) fluctuations in luminance along with some unwanted flickering.

The sky in the sample below had some unwanted flickering, but the ground had some wanted brightness variation due to the shadows of the clouds on the tarmac.



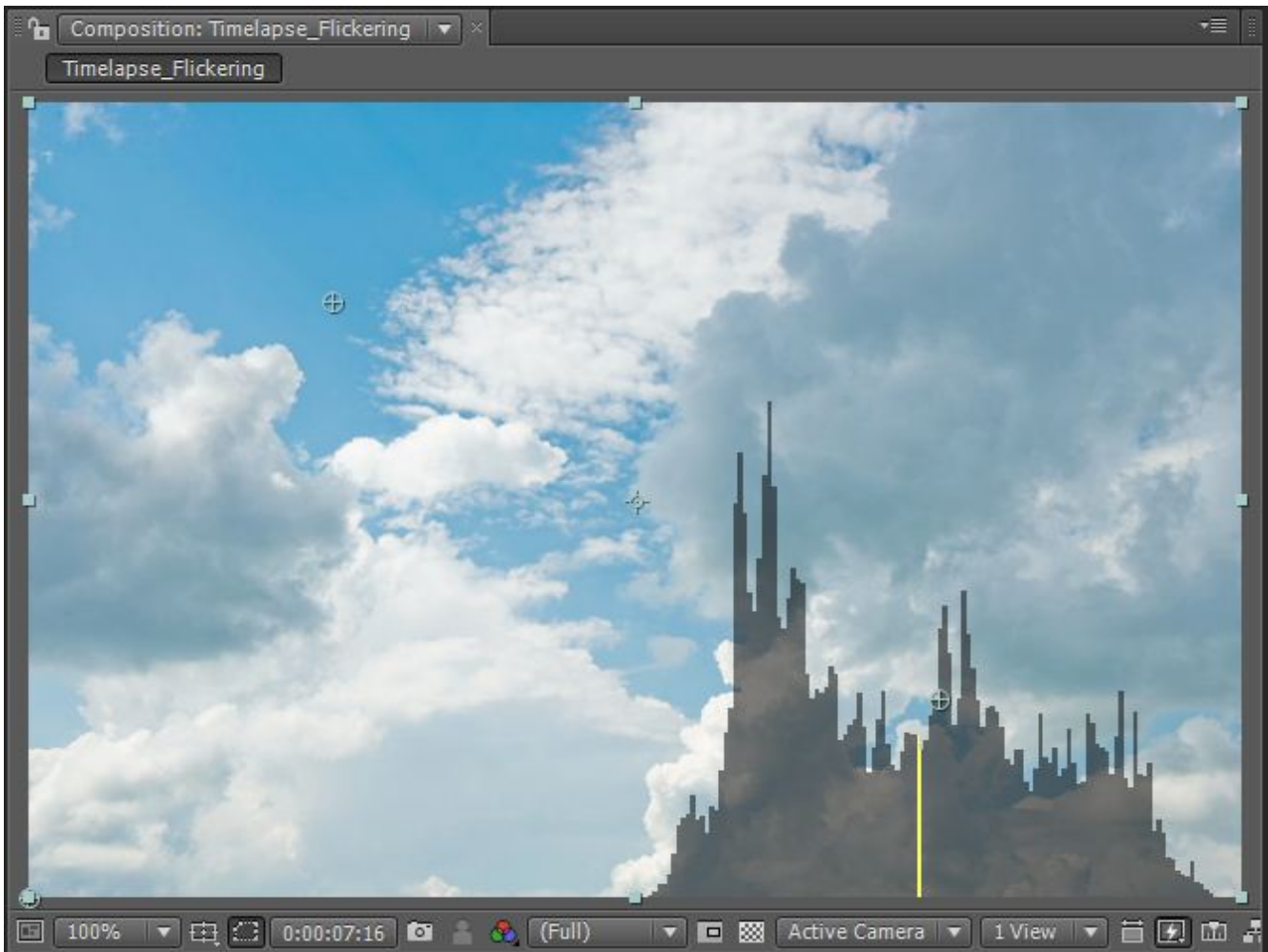
The sub-rectangle option was selected and the corners were dragged to cover most of the sky. This caused GBDeflicker to analyze the sky flickering separate from the cloud shadows on the runway.

1st and 2nd Sub-rectangle

These two controls allow you to enter the coordinates of the sub-rectangle corners. You can enter values or just drag the corners on the preview screen.

Histogram Overlay

With this option checked, the histogram is overlaid on the video output.



The yellow line corresponds to the mean luminance value. As you preview the video you can watch as the histogram changes shape and shifts in relation to the amount of flicker.

Histogram Location and Width

These two controls allow you to position the histogram on the output.