

GRANITE BAY SOFTWARE

GBDeflicker Plugin

User's Guide

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Introduction

Flickering is a common problem in time-lapse or stop motion footage captured using a digital still camera. Frame by frame variations in lighting or in exposure lead to perceptible brightness fluctuations, or flicker. GBDeflicker is an Adobe Plug-in for After Effects and Adobe Premiere that removes time-lapse flicker.

There are two versions of the GBDeflicker Plugin:

GBDeflicker64 – for Adobe CS5 – Compatible with After Effects CS5 and Premiere Pro CS5

GBDeflicker – for Adobe CS4 and Premiere Elements 9 - Compatible with After Effects CS4, Premiere Pro CS4 and Premiere Elements 9.

GBDeflicker for Adobe CS4 is also compatible with earlier versions of Adobe products, although we longer support these obsolete Adobe products. Earlier compatible version are: After Effects CS3, 7.0, 6.5 and 6.0; Premiere CS3, 2.0, 2.5 and 1.0; and Premiere Elements 8, 7, and 4.

Installation

This User's Guide is for both the CS5 and CS4 versions of GBDeflicker. The CS5 version functions identically to the CS4 version, but is compatible with the 64-bit versions of Adobe Premiere and After Effects.

The CS4 installation includes a special version that is compatible with Premiere Elements 9.

File names mentioned in this guide are for the CS5 64-bit version and have the suffix "64". File names for the CS4 version are the same, but without the "64" suffix.

MAC Installation and Activation

- 1) Download the GBDeflickerInstall64x_x_x.pkg.zip, unzip it and then double-click GBDeflickerInstall64x_x_x.pkg to run the installer.
- 2) The installer copies GBDeflicker64 and its supporting files to the folder /Applications/GraniteBaySoftware64 on your hard disk. It includes two license files GBDTrialX.Ticket and GBDProductX.Ticket, used for the 15-day free trial and the purchased license respectively.

Name	Date Modified	Size	Kind
GraniteBaySoftware64	Today, 2:11 PM	--	Folder
GBDeflicker.data	February 25, 2010 5:04 PM	16 KB	Text
GBDeflicker64.plugin	December 31, 2010 1:46 PM	--	Plug-in
GBDeflicker64PostInstall.scpt	April 16, 2010 10:05 AM	8 KB	Script
GBDeflickerLicense.rtf	February 6, 2010 10:58 AM	12 KB	Rich Text Format (RTF) document
GBDeflickerReleaseNotes.rtf	December 31, 2010 1:29 PM	45 KB	Rich Text Format (RTF) document
GBDeflickerUsersGuide.pdf	December 31, 2010 10:33 AM	1.5 MB	Portable Document Format (PDF)
GBDMTrial6.Ticket	December 22, 2010 11:32 AM	4 KB	Ticket
GBDProduct5.Ticket	October 18, 2010 1:34 PM	4 KB	Ticket
GBDRegister.app	Today, 2:11 PM	365 KB	Application
GBSLicense.app	Today, 2:11 PM	17.7 MB	Application
ReadMe.rtf	October 27, 2010 3:27 PM	4 KB	Rich Text Format (RTF) document

MAC /Applications/GraniteBaySoftware64

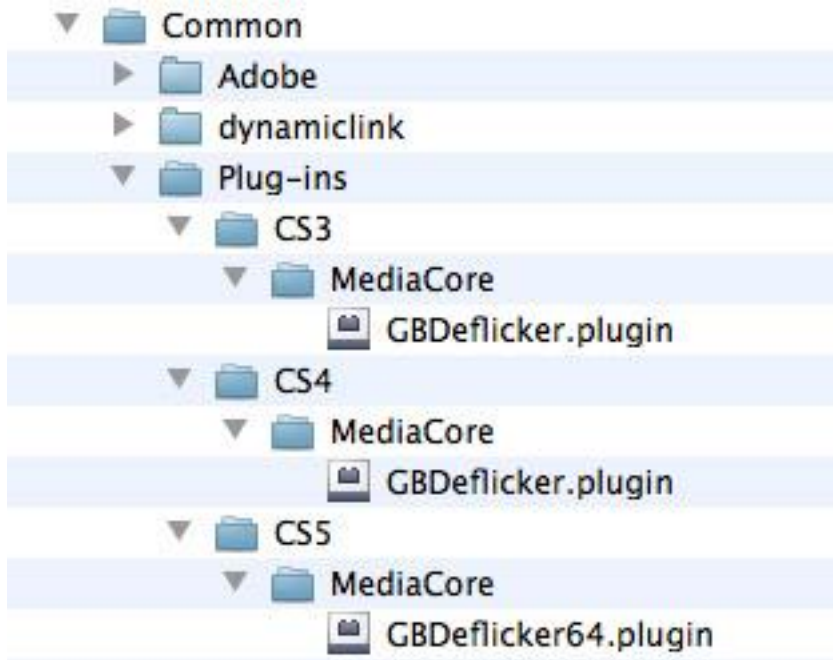
Name	Date Modified	Size	Kind
GraniteBaySoftware	Today, 12:40 PM	--	Folder
AE.GBS Deflicker.png	March 8, 2010 7:53 AM	8 KB	Portable Network Graphics image
GBDeflicker.data	February 25, 2010 5:04 PM	16 KB	Text
GBDeflicker.plugin	December 28, 2010 10:15 AM	--	Plug-in
GBDeflickerLicense.rtf	February 6, 2010 10:58 AM	12 KB	Rich Text Format (RTF) document
GBDeflickerPostInstall.scpt	March 31, 2010 12:01 PM	12 KB	Script
GBDeflickerPre.plugin	Today, 12:02 PM	--	Plug-in
GBDeflickerReleaseNotes.rtf	December 31, 2010 1:29 PM	45 KB	Rich Text Format (RTF) document
GBDeflickerUsersGuide.pdf	December 31, 2010 10:33 AM	1.5 MB	Portable Document Format (PDF)
GBDMTrial6.Ticket	Today, 11:14 AM	4 KB	Ticket
GBDPremiereElements9Install.scpt	Today, 12:13 PM	8 KB	Script
GBDProduct5.Ticket	Today, 11:14 AM	4 KB	Ticket
GBDRegister.app	Today, 12:40 PM	365 KB	Application
GBSLicense.app	Today, 12:40 PM	17.7 MB	Application
ReadMe.rtf	October 27, 2010 1:25 PM	4 KB	Rich Text Format (RTF) document

MAC Applications/GraniteBaySoftware

The CS5 installer also copies the plug-in to the proper shared location for CS5 plug-ins –
 /Library/Application Support/Adobe/Common/Plug-ins/CS5/MediaCore

The CS4 installer also copies the plug-in to the proper shared locations for CS4 and CS3 plug-ins -
 /Library/Application Support/Adobe/Common/Plug-ins/CS4/MediaCore and
 /Library/Application Support/Adobe/Common/Plug-ins/CS3/MediaCore

For Adobe products prior to CS3 you may need to manually copy the file "GBDeflicker.plugin" to your Adobe After Effects (or Adobe Premiere) Plug-ins folder. The location depends on the Adobe product and version you are using.



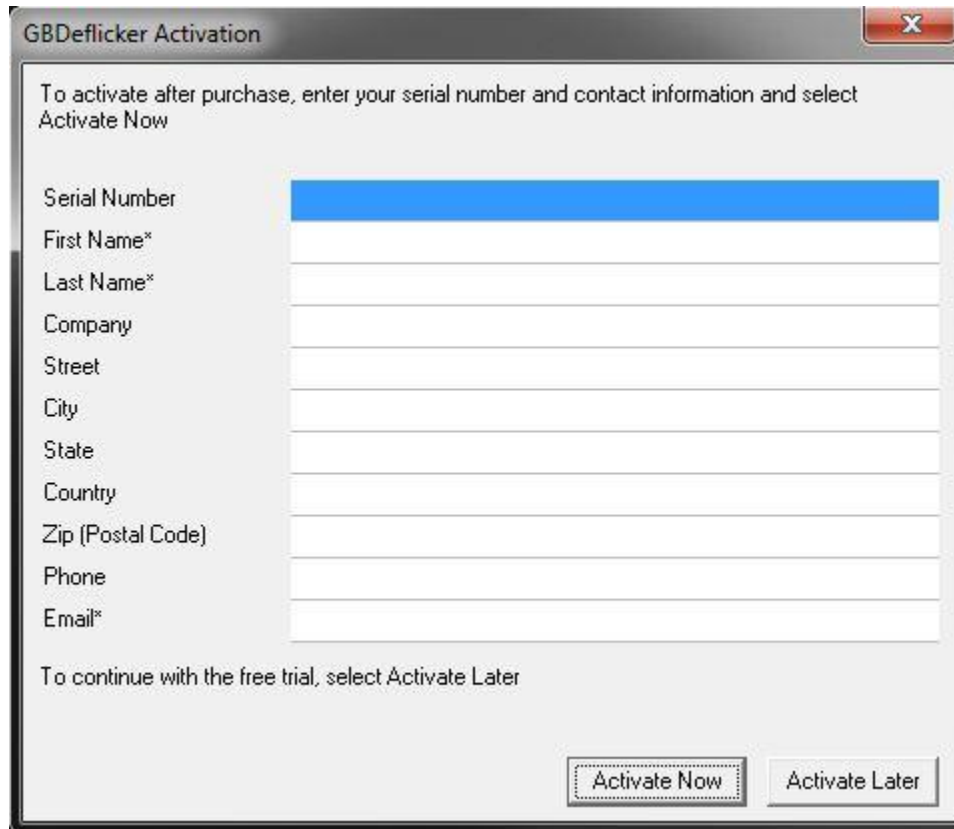
MAC /Library/Application Support/Adobe/Common

MAC Premiere Elements 9 Installation

The CS4 installer includes the script file “GBDPremiereElements9Install.scpt”. Find this file in Applications/GraniteBaySoftware and execute it.

It will copy “GBDeflickerPre.plugin” to the Premiere Elements 9 plug-ins folder - “Applications/ Adobe Premiere Elements 9/Adobe Premiere Elements.app/Plug-ins/Common” and it will copy the Effect preview “AE.GBS Deflicker.png” to “Applications/ Adobe Premiere Elements 9/Adobe Premiere Elements.app/Plug-ins/Common/EffectPreviews”

- 3) The first time you use GBDeflicker, you will see a Product Activation dialog.



GBDeflicker Activation

To activate after purchase, enter your serial number and contact information and select Activate Now

Serial Number

First Name*

Last Name*

Company

Street

City

State

Country

Zip (Postal Code)

Phone

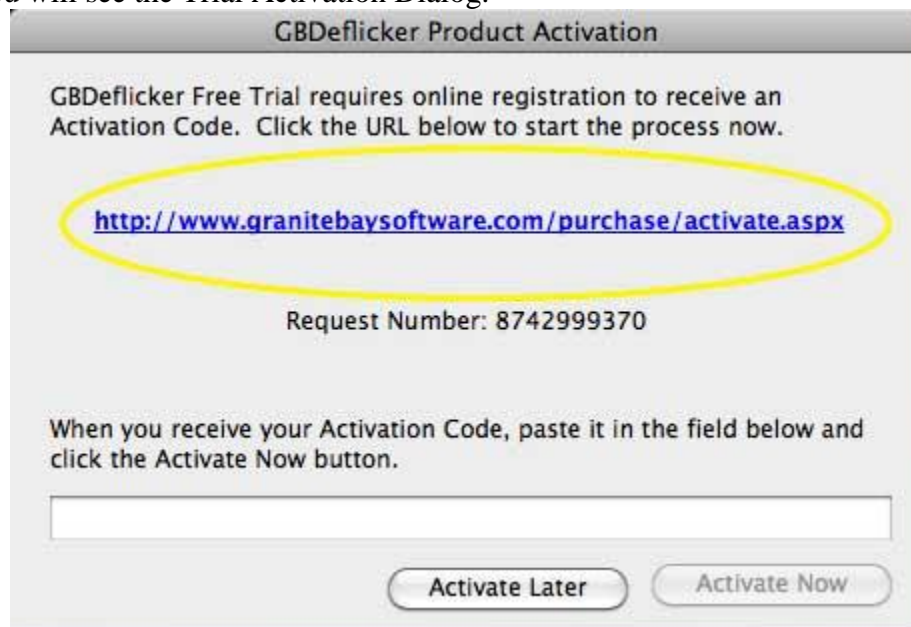
Email*

To continue with the free trial, select Activate Later

Product Activation Dialog

If you have purchased GBDeflicker, go ahead and enter the serial number and other information and click **Activate Now**. Otherwise, to run the free trial click on **Activate Later**.

- 4) Next you will see the Trial Activation Dialog.



GBDeflicker Product Activation

GBDeflicker Free Trial requires online registration to receive an Activation Code. Click the URL below to start the process now.

<http://www.granitebaysoftware.com/purchase/activate.aspx>

Request Number: 8742999370

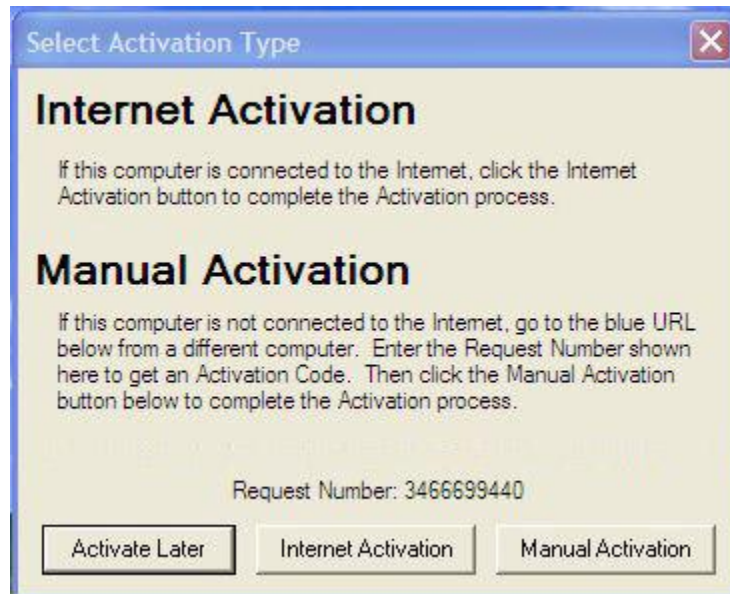
When you receive your Activation Code, paste it in the field below and click the Activate Now button.

Trial Activation Dialog

- 5) Double-click the link to Granite Bay Software and enter the required contact information. Then copy the resulting activation code from your browser and paste it into the text box. The Request Number uniquely identifies your computer.

Activation on a Computer with no Internet Connection

If your computer has no internet connection, a dialog appears explaining the manual activation process. Or, if your computer is attached to a proxy server that is blocking the activation process, disconnect it from the internet and run GBDeflicker. You will see the "Select Activation Type" dialog.



Manual Activation Dialog

The MAC URL is

<https://www.safeactivation.com/activate.php?x=21002021>

And the Windows URL is

<https://www.safeactivation.com/activate.php?x=21002022>

Deactivation

If you need to install and activate GBDeflicker on a different computer, you first need to block or deactivate any existing product license.

To block or deactivate the license on a computer,

1. Start After Effects (or Premiere Pro).
2. On a Mac press the Shift and Command keys while you select a project that uses GBDeflicker. On a PC do the same while pressing the Shift and Windows keys.
3. Click OK from the Block License panel in the License Options dialog.
4. Copy the Block Code and send it to us to confirm that the license is blocked. Then we will authorize activation on another computer.
















MAC Uninstall

- 1) Remove the folder /Applications/GraniteBaySoftware64

- 2) Remove GBDeflicker.plugin from its shared location in /Library/Application Support/Adobe/Common/Plug-ins
- 3) Remove the GBDeflicker license files (GBDTrialX.Ticket and GBProductX.Ticket) from the /Users/Public/Ticket folder. This folder and files will only be present after you have run GBDeflicker.

Windows Installation and Activation

- 1) Download and run GBDeflickerInstall64x_x_x.exe.
- 2) The installer copies GBDeflicker64 and its supporting files to the folder c:/Program Files/Granite Bay Software/GBDeflicker64 on your hard disk. It includes two license files GBDWTrialX.Ticket and GBDWProductX.Ticket, used for the 15-day free trial and the purchased license.

Name	Date modified	Type	Size
 AE.GBS Deflicker.png	3/8/2010 7:53 AM	PNG File	8 KB
 GBDeflicker.data	4/1/2010 11:24 AM	DATA File	16 KB
 GBDeflicker64.aex	12/27/2010 7:28 AM	Adobe After Effect...	350 KB
 GBDeflicker64CopyToPluginFolders.bat	4/16/2010 12:00 PM	Windows Batch File	1 KB
 GBDeflickerLicense.rtf	2/6/2010 12:25 PM	Rich Text Format	24 KB
 GBDeflickerReleaseNotes.rtf	12/22/2010 4:15 PM	Rich Text Format	38 KB
 GBDeflickerUsersGuide.pdf	12/26/2010 7:52 AM	Adobe Acrobat D...	1,328 KB
 GBDRegister.exe	12/26/2010 10:10 ...	Application	13 KB
 GBDWProduct5.Ticket	12/7/2010 1:06 PM	TICKET File	4 KB
 GBDWTrial7.Ticket	12/22/2010 1:43 PM	TICKET File	3 KB
 GBInstallBanner.bmp	3/11/2010 9:44 AM	BMP File	103 KB
 GBSLicense.dll	11/16/2010 10:11 ...	Application extens...	738 KB
 GBSLicense.exe	11/16/2010 10:14 ...	Application	747 KB
 GBUtility.DLL	12/26/2010 10:10 ...	Application extens...	27 KB
 ReadMe64.rtf	12/26/2010 10:33 ...	Rich Text Format	33 KB

- 3) The CS5 installer also copies the plug-in to the proper shared location for CS5 plug-ins – C:/Program Files/Adobe/Common/Plug-ins/Common/CS5/MediaCore.
- 4) The CS4 installer copies the plug-in to the proper shared locations for CS4 and CS3 plug-ins – C:/Program Files/Adobe/Common/Plug-ins/Common/CS4/MediaCore and C:/Program Files/Adobe/Common/Plug-ins/Common/CS3/MediaCore

The CS4 installer also copies “GBDeflickerPre.aex” to the Premiere Elements 9 plug-ins folder - C:/Program Files/Adobe/Adobe Premiere Elements 9/Plug-ins/Common and copies the Effect preview “AE.GBS Deflicker.png” to “C:/Program Files/Adobe/Adobe Premiere Elements 9/Plug-ins/Common/EffectPreviews”

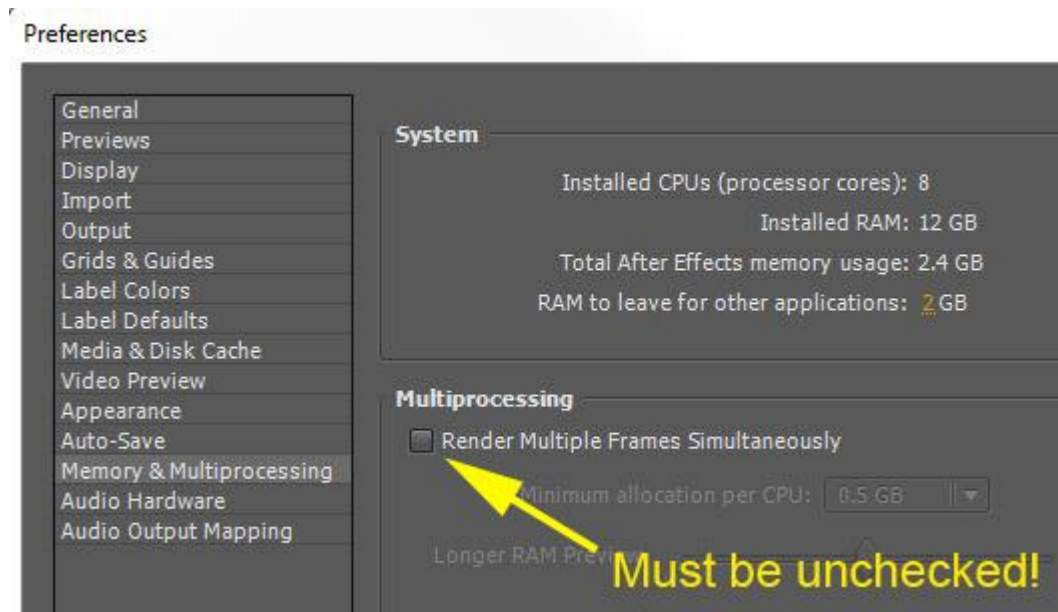
- 5) For Adobe products prior to CS3 you may need to manually copy the file "GBDeflicker.aex" to your Adobe After Effects (or Adobe Premiere) Plug-ins folder. The location depends on the Adobe product and version you are using.
- 6) Run the GBDRegister license registration utility to activate your free trial. (See the GBDRegister section later in this document).

Windows Uninstall

- 1) Remove the folder C: /Program Files/Granite Bay Software/GBDeflicker
- 2) Remove GBDeflicker.aex from its shared location in c:/Program Files/Adobe/Common/Plug-ins
- 3) Remove the GBDeflicker license files (GBDWTrialX.Ticket and GBDWProductX.Ticket) from the /Users/Shared/Ticket folder. This folder and files will only be present after you have run GBDeflicker.

After Effects CS3 Required Settings

For GBDeflicker to be effective with CS3, 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 plugin that renders frames based on previous frames, such as image stabilizers.

GBDRegister

GBDRegister is a utility program to help you manage your trial and product licenses. It is more convenient to run this utility than to manage your license from the GBDeflicker plug-in while running Adobe Premiere or After Effects.

- 1) When you run GBDRegister, it checks for a valid product license. If the product license has not been activated, it displays an activation form.

GBDeflicker Activation

To activate after purchase, enter your serial number and contact information and select Activate Now

Serial Number

First Name*

Last Name*

Company

Street

City

State

Country

Zip (Postal Code)

Phone

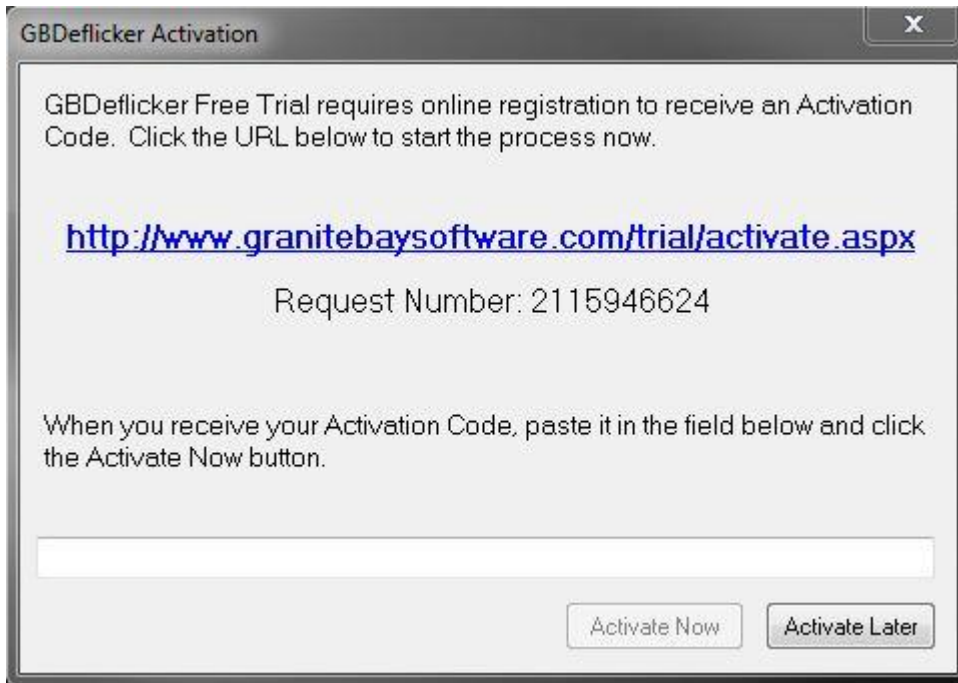
Email*

To continue with the free trial, select Activate Later

Activate Now Activate Later

If you have purchased GBDeflicker, go ahead and enter the serial number and other information and click **Activate Now**. Otherwise, to run the free trial click on **Activate Later**.

- 2) If you don't activate the Product license, you will see the Free Trial form.



Double-click the link to Granite Bay Software and enter the required contact information. Then copy the resulting activation code from your browser and paste it into the text box. The Request Number uniquely identifies your computer.

3) Finally, the main GBRegister form is displayed.



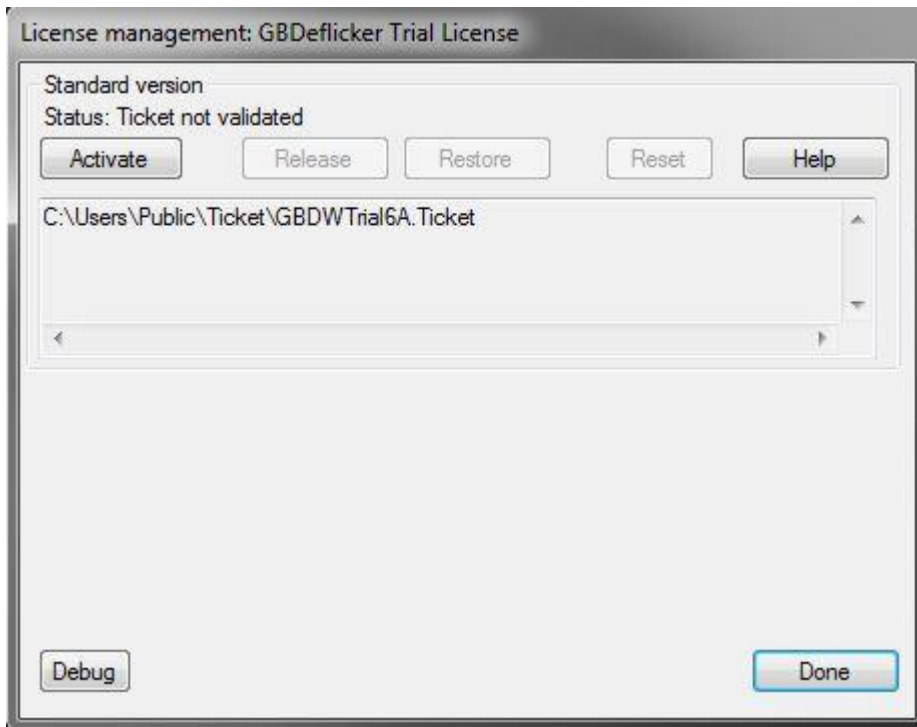
Trial License – Click this button to manage your free trial license.

Product License – Click this button to manage your product license after you have purchased a serial number.

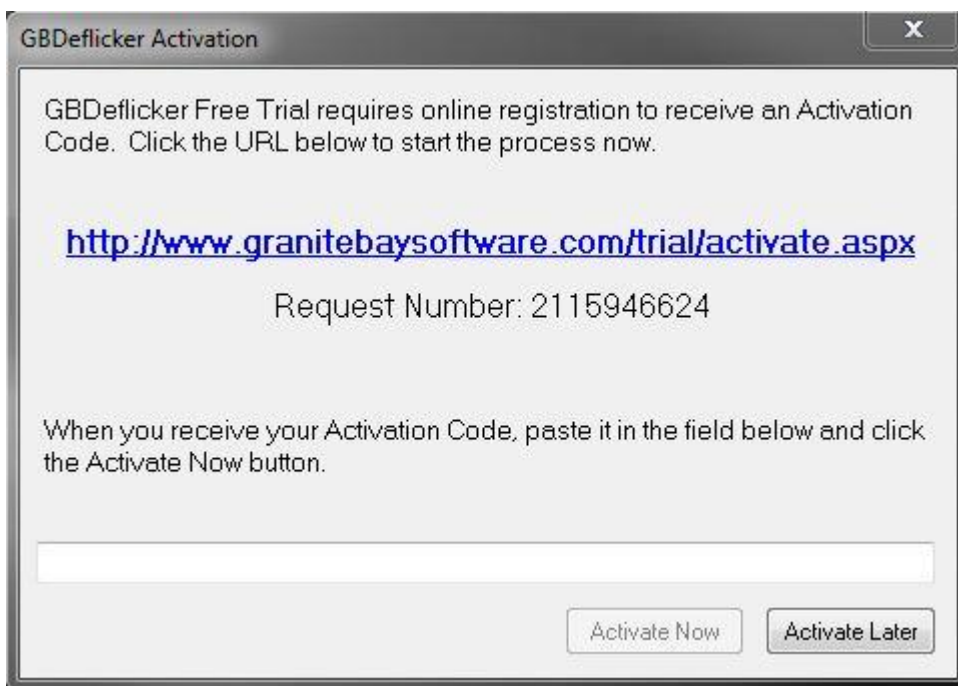
Ticket folder – Shows the location of the trial and product tickets on your computer.

Trial License

Before activation, the trial license dialog shows the status “Ticket not validated”.

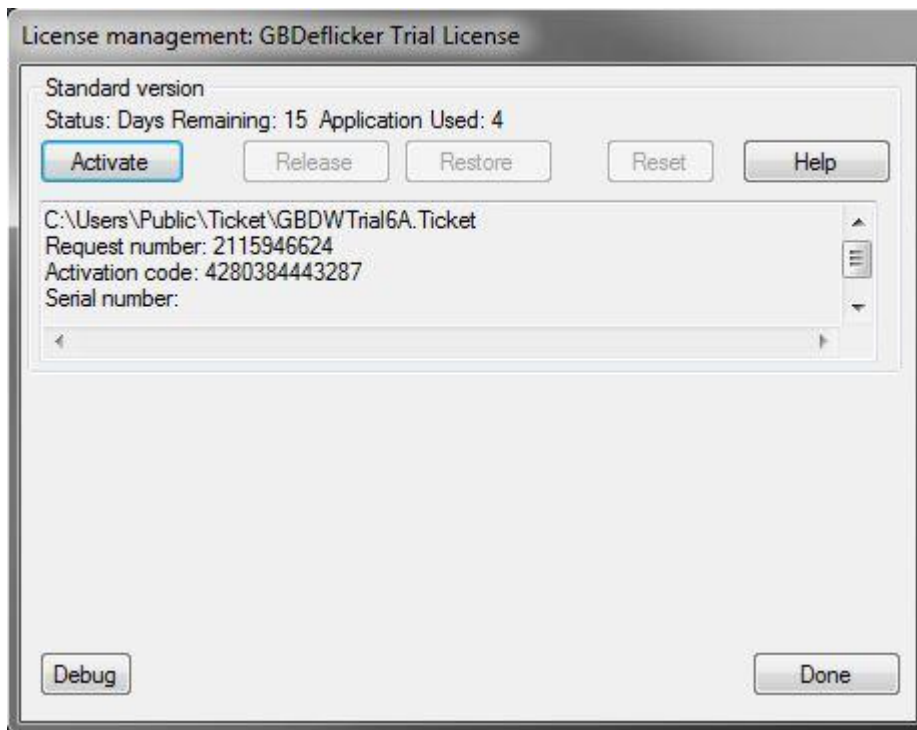


Clicking the Activate button brings up the trial activation dialog.



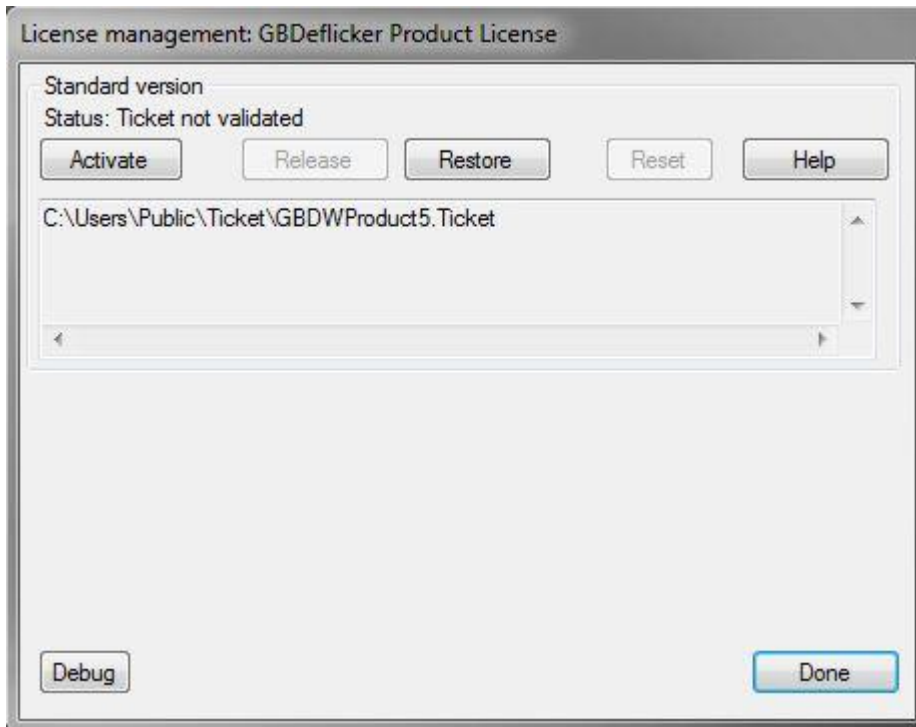
Double-click the link to Granite Bay Software and enter the required contact information. Then copy the resulting activation code from your browser and paste it into the text box.

Below is a typical screen showing the Trial License Menu dialog after the trial license has been activated. The status shows the number of days remaining in the license and the number of times the product has been used (actually the number of times the license has been checked).



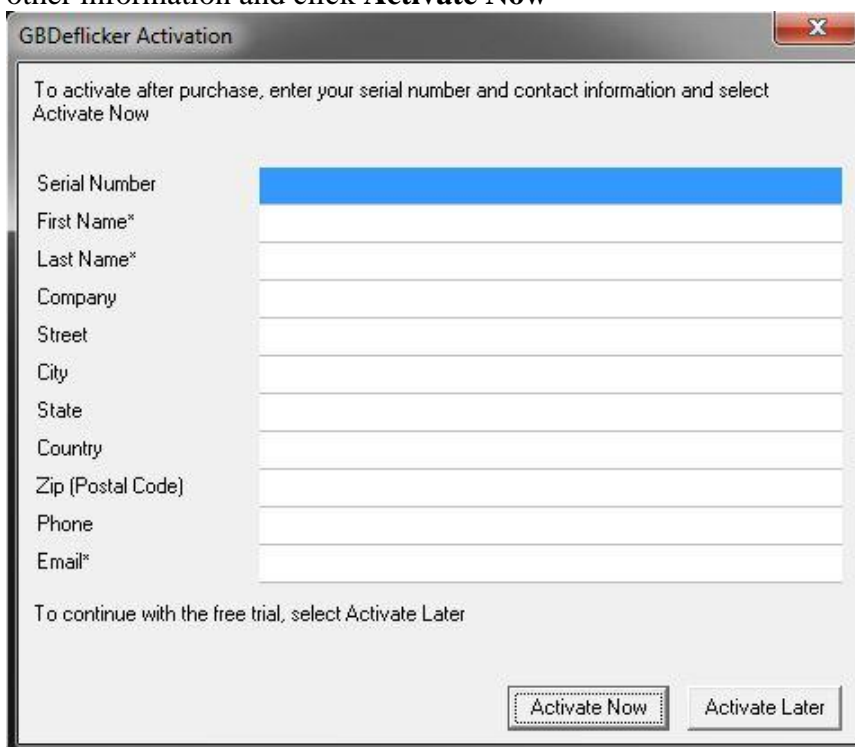
Product License

Use the Product License button to manage your product license. Use Activate with a purchased serial number to perform the initial activation of your product.

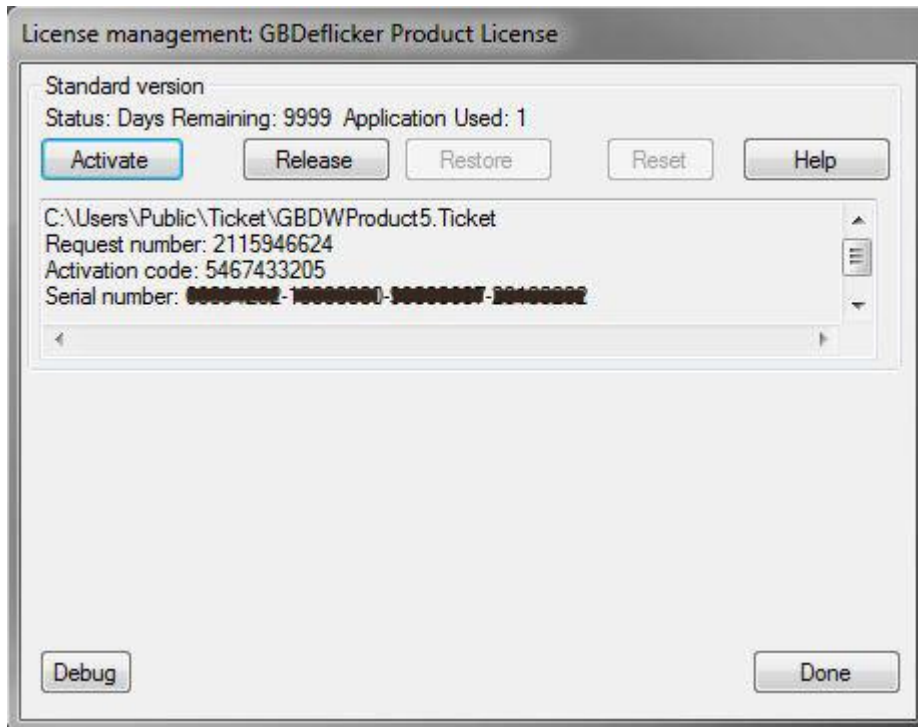


Activate

Click the Activate button to activate (i.e. validate) your product license. Enter the serial number and other information and click **Activate Now**

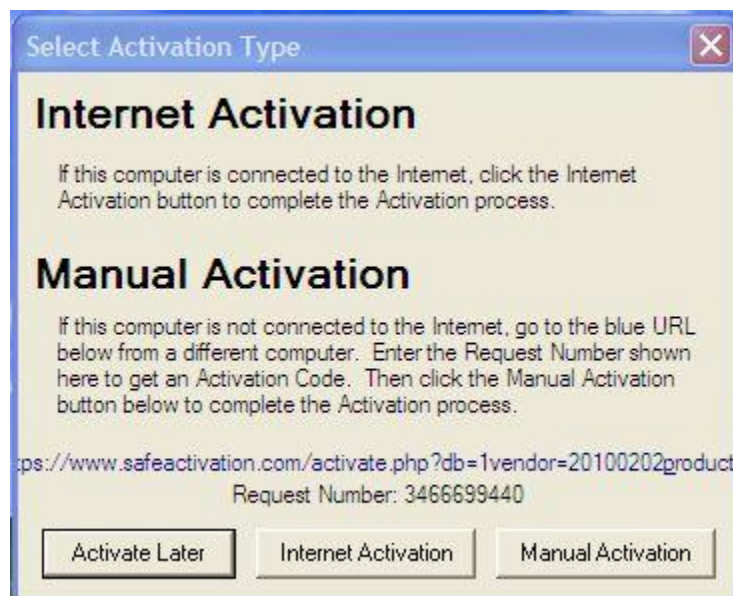


After activation, the status shows the days remaining on your product license.



Activation on a Computer with no Internet Connection

If your computer has no internet connection, a dialog appears explaining the manual activation process. Or, if your computer is attached to a proxy server that is blocking the activation process, disconnect it from the internet and run GBDeflicker. You will see the "Select Activation Type" dialog.



Manual Activation Dialog

A URL and Request Number are displayed. On a computer with an internet connection go to the URL and enter the Request Number and other information.

The MAC URL is

<https://www.safeactivation.com/activate.php?db=2&vendor=20100202&product=1>

And the Windows URL is

<https://www.safeactivation.com/activate.php?db=2&vendor=20100202&product=2>

GBDeflicker Activation Request

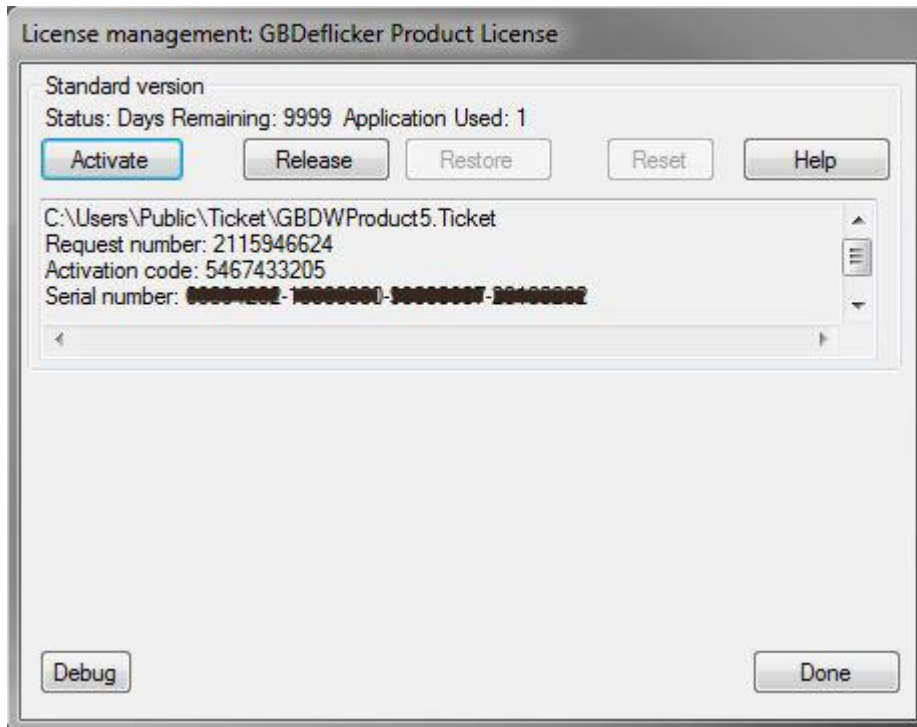
First Name	<input type="text"/>
Last Name	<input type="text"/>
Company	<input type="text"/>
Street	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
Country	<input type="text"/>
Zip (Postal Code)	<input type="text"/>
Phone	<input type="text"/>
Email	<input type="text"/>
Request Number	<input type="text"/>
Serial Number	<input type="text"/>



Fill out the form and click send. Then enter the display Activation Code along with your serial number to Activate your product license.

Moving a Product License

Use the Release button to block the license on your computer so that it can be activated on a different computer.



Release

Use the Release button to deactivate the license. This function sends a request to our license server over an internet connection. If your computer has no internet connection, hold down the Shift and Windows keys while clicking the Activate button. Then choose the Block License tab to deactivate the license. Send us the Block code and we will deactivate the license on our server making it available for use on a different computer.

A license must be released before it can be moved to a different computer. Once released, the license will no longer be valid on the host computer. If it is accidentally released, it can be restored.

Restore

Use the Restore button to restore a previously released license. Do not use Release/Restore to repeatedly move a license back and forth between computers – it can only be performed a limited number of times before the license is permanently deactivated.

Reset

Resets a license to its original un-activated state. This can only be done with prior authorization from Granite Bay Software.

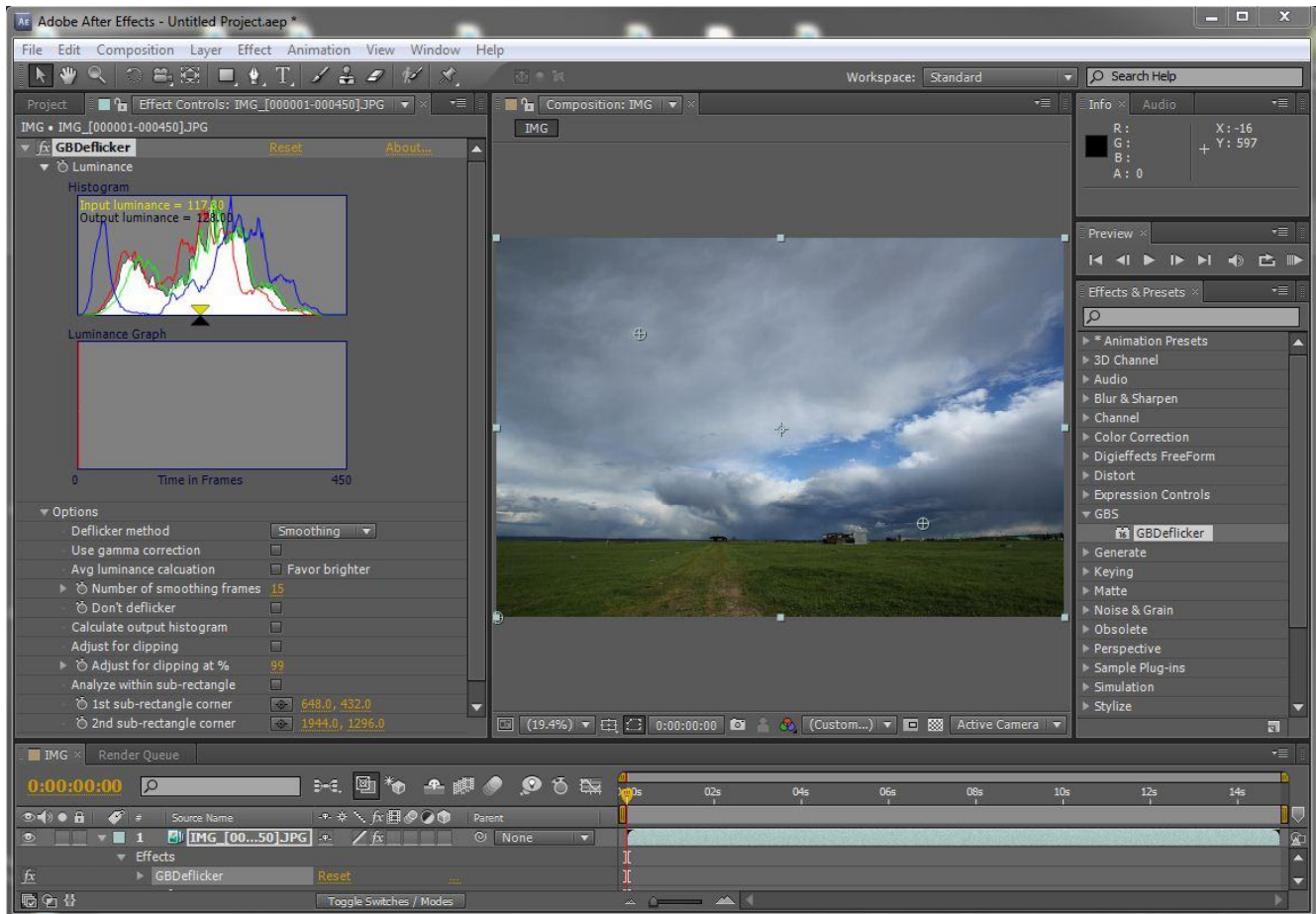
Enter the Request Number, Serial Number and click Send.

Getting Started

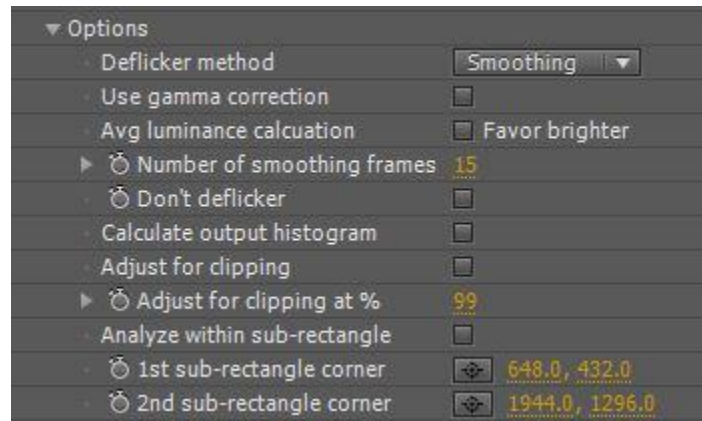
For best results, always preview before rendering.

Quick Tutorial – After Effects

1. Launch Adobe After Effects
2. Load a series of images and make a composition
3. Preview the clip and observe the amount of flickering
4. Add a GBDeflicker effect by dragging onto the composition track
5. Select the Effect Controls and expand the GBDeflicker Options, your screen should look similar to this...



6. Set the “Deflicker method” to “Smoothing”, “Use gamma correction” to “off”, and “Favor brighter” to “off”.



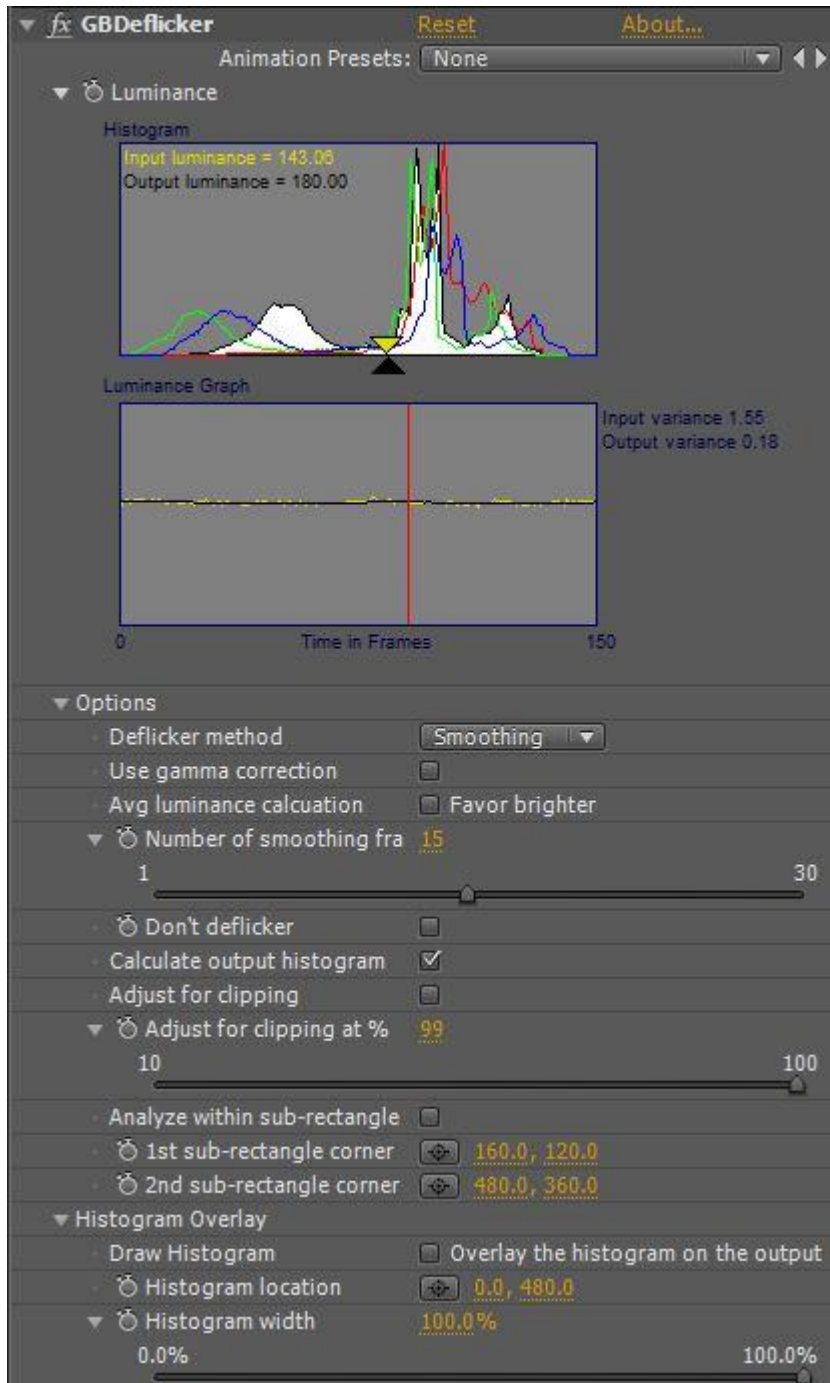
7. Preview the entire clip by pressing the space bar (or using the Ram Preview menu). At this point the luminance graph will show a continuous yellow line for all the frames in the clip.



8. Preview the clip again and observe the degree of flickering.
9. If the flickering has been reduced and you are satisfied; now that the clip has been previewed, the final output can be rendered.
10. If there is still some flickering try changing parameters, and preview again
 - a. Try increase the “Number of smoothing frames”
 - b. Try checking “Favor brighter”
 - c. Try checking “Use gamma correction”
 - d. If there was clipping, try checking “Adjust for clipping”

User Interface - After Effects

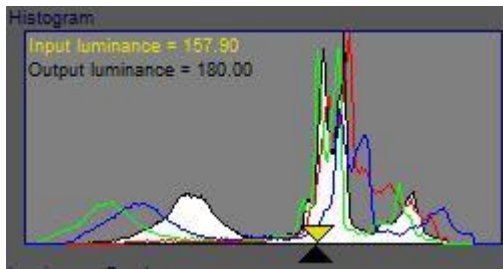
Here is a typical view of the GBDeflicker user interface when applied to a video clip. Controls are divided into three groups: Luminance, Options, and Histogram Overlay.



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

Histogram Graph

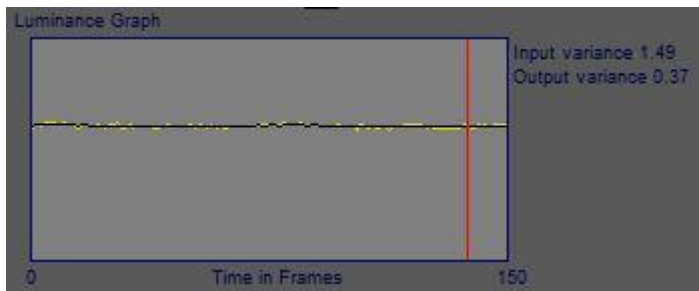
The histogram graph shows the histogram for the current frame in the clip. Red, green and blue color channels are shown along with the overall luminance histogram in white.



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.

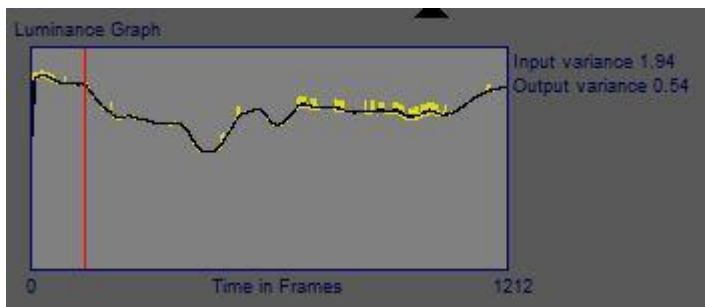
Luminance Graph



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 gamma Correction

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

Avg Luminance Calculation – Favor brighter

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

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.

Adjust for clipping

If your clip has significant clipping, it may help to check this option and also adjust the clipping percentage below. When this is checked, clipped values are not changed by deflickering and nearly clipped values are “feathered in”.

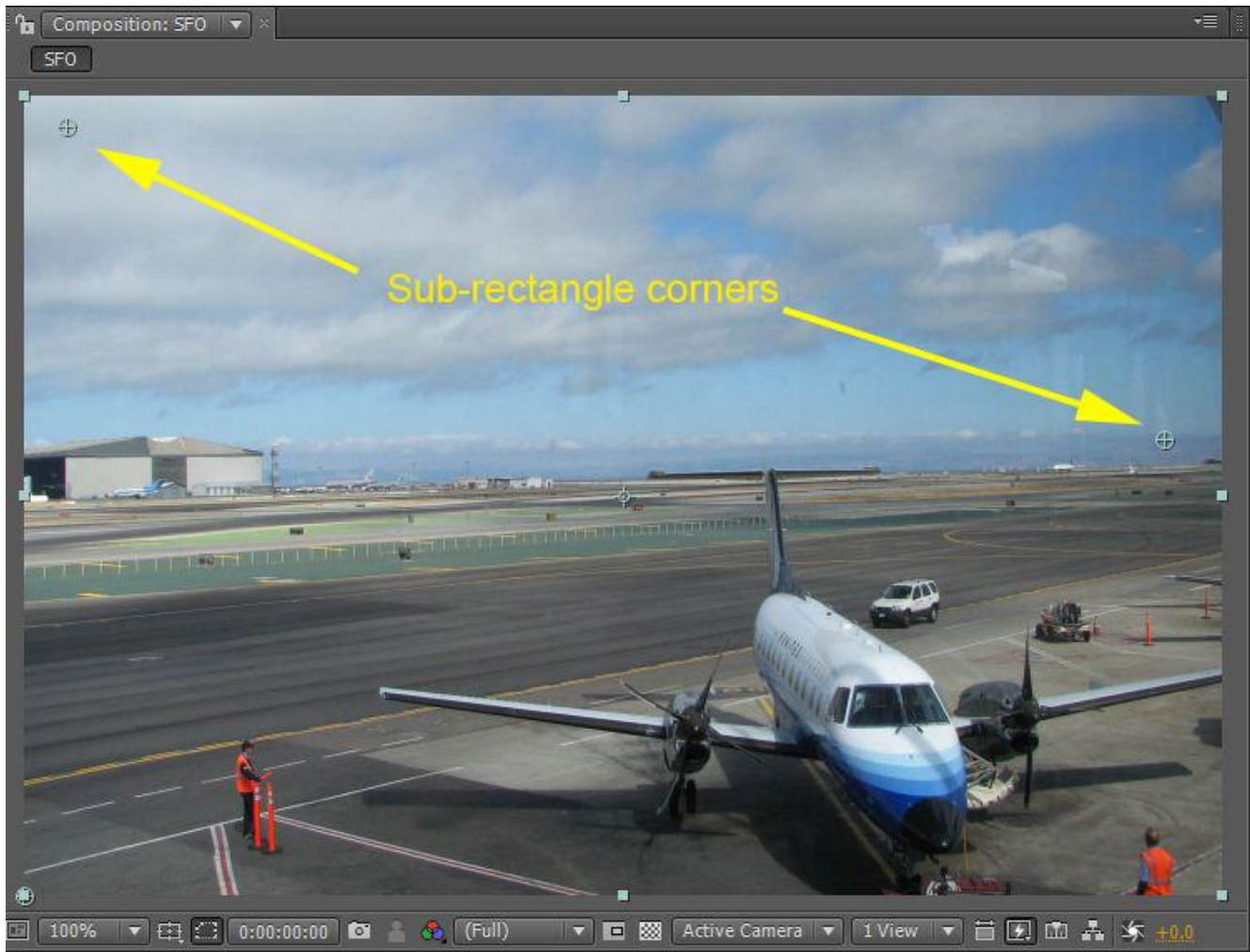
Adjust for clipping at %

Pixel values within this percentage of being clipped will be adjusted for clipping. Pixel values less than this percentage of full scale will be adjusted by the selected deflicker method.

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.



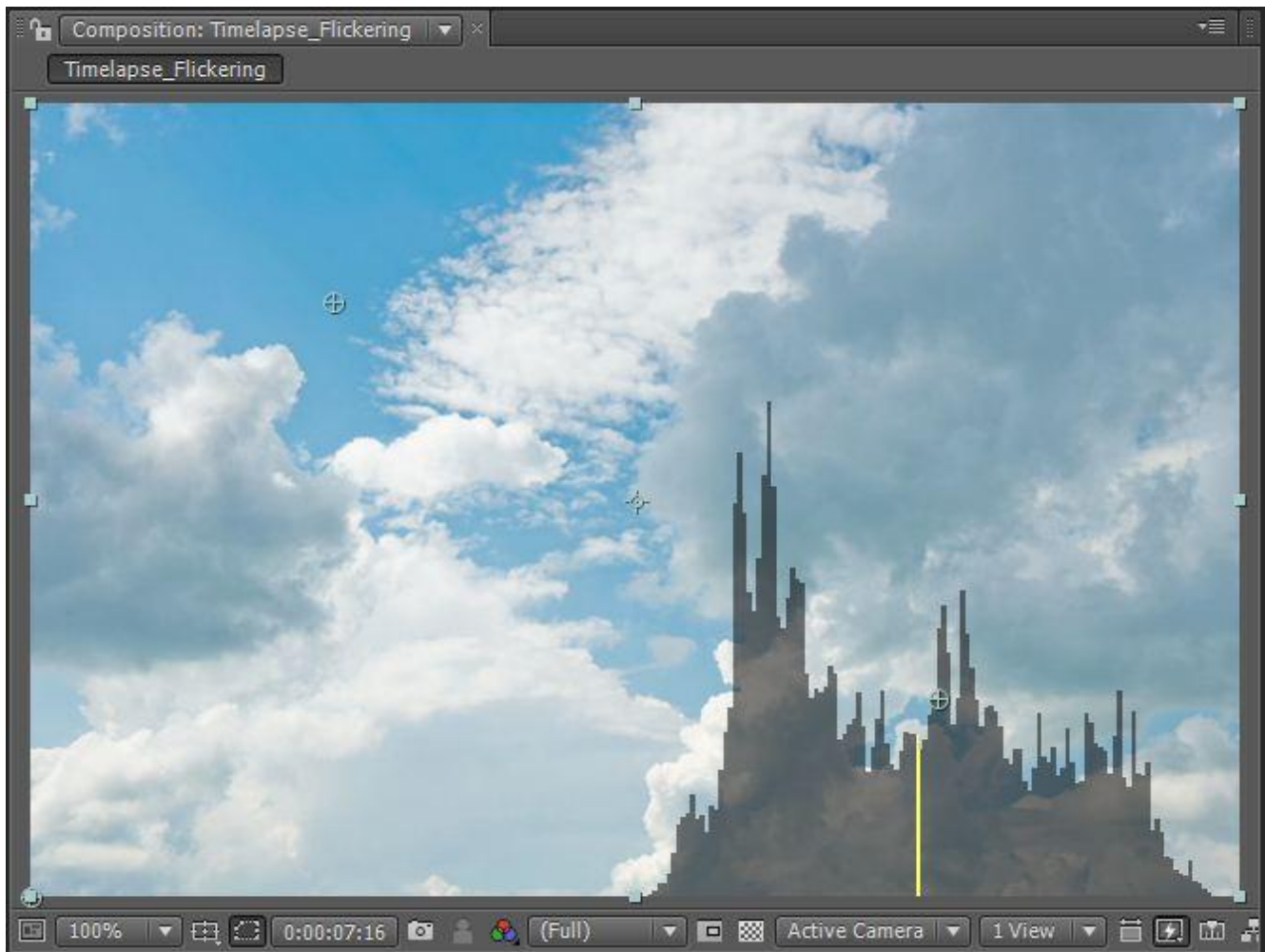
The sub-rectangle option was selected and the corners were dragged to cover most of the sky. This caused GBDeflicker to analyze the sky flickering separate from the cloud shadows on the runway.

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.



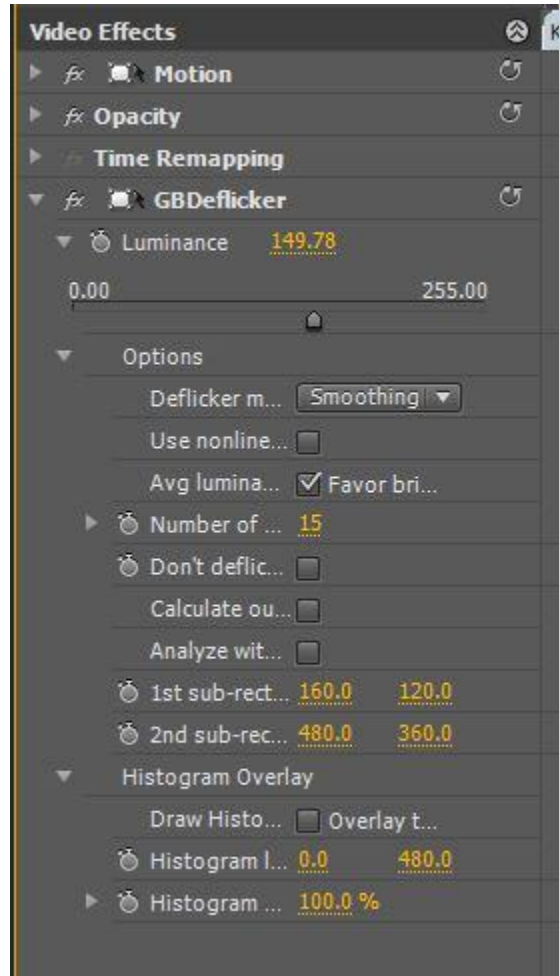
The yellow line corresponds to the mean luminance value. As you preview the video you can watch as the histogram changes shape and shifts in relation to the amount of flicker.

Histogram Location and Width

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

User Interface – Premiere Pro CS4 and Earlier

GBDeflicker running in Premiere Pro CS4 and earlier effect controls are a little different from the controls on After Effects. Premiere Pro prior to CS5 is unable to display GBDeflicker's Histogram and Luminance graphs in the Effect Control Panel.



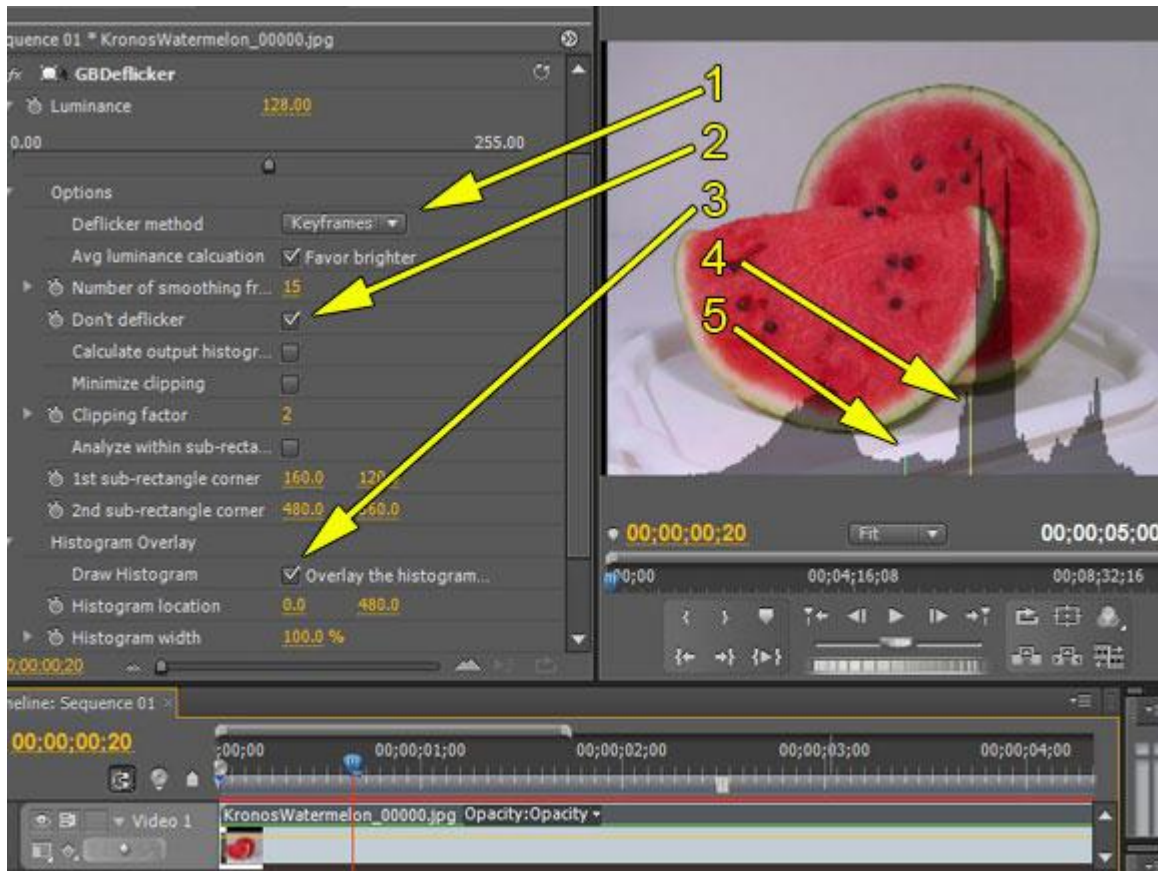
Premiere Effect Controls

KeyFrame Method

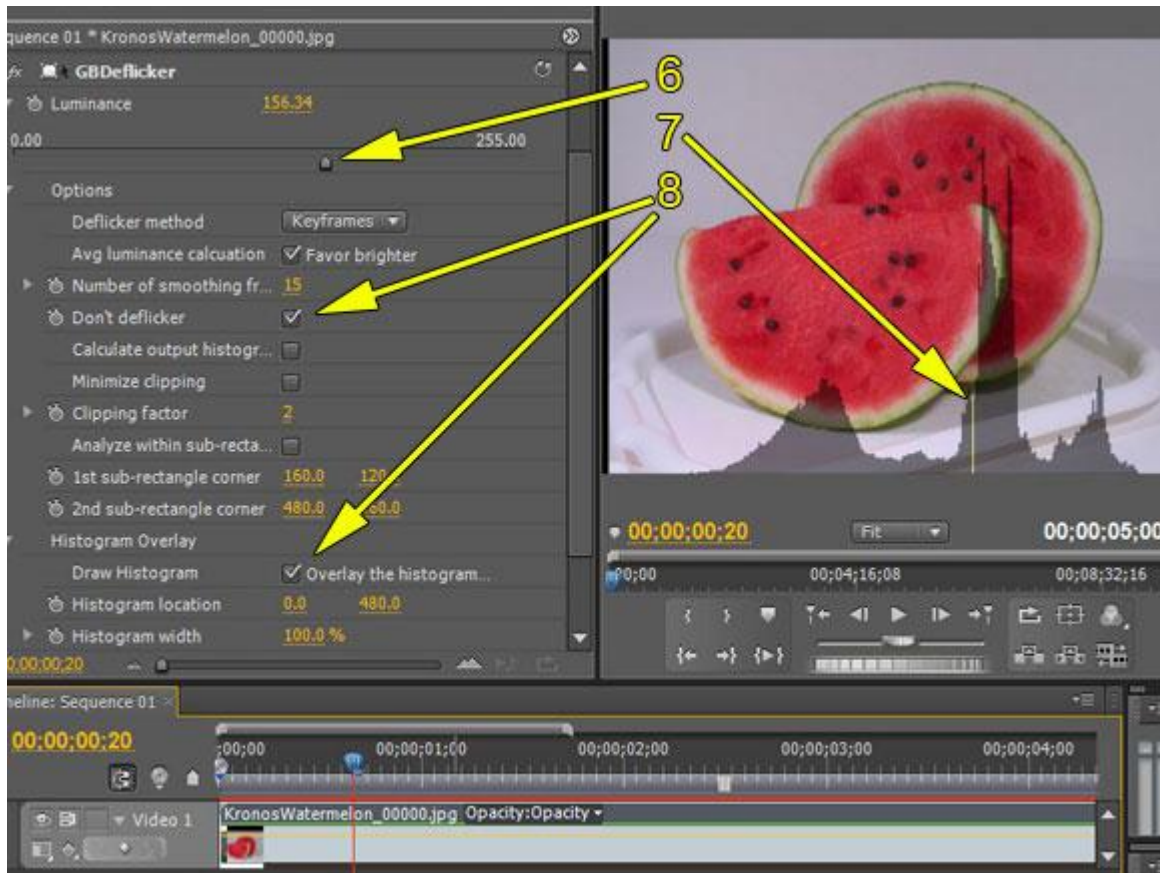
Without the benefit of these luminance and histogram graphs, you need to take a few more steps to use GBDeflicker's Keyframe method.

Follow these 8 steps...

- 1) Set the "Keyframes" method
- 2) Check "Don't deflicker"
- 3) Check "Draw Histogram"
- 4) Locate the yellow input luminance line
- 5) Locate the green output luminance line

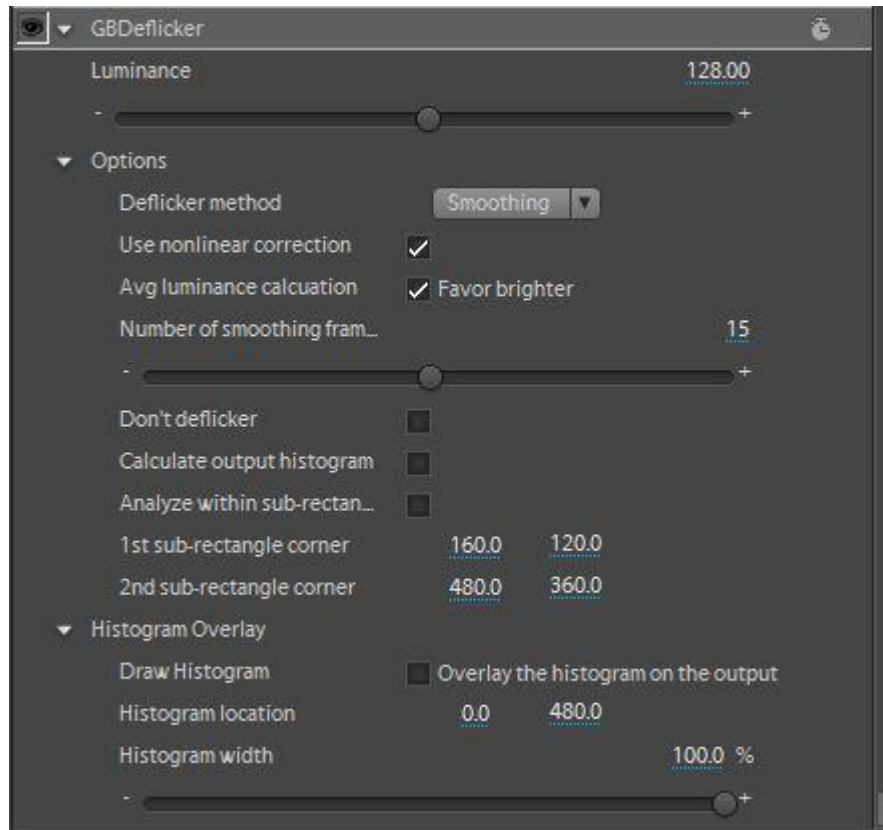


- 6) Drag the "luminance" slider...
- 7) Until the green output line disappears behind the yellow input line
- 8) Finish by unchecking "Don't deflicker" & "Draw Histogram"



User Interface - Premiere Elements

Premiere Elements is unable to display GBDeflicker's Histogram and Luminance graphs in the Effect Control Panel.



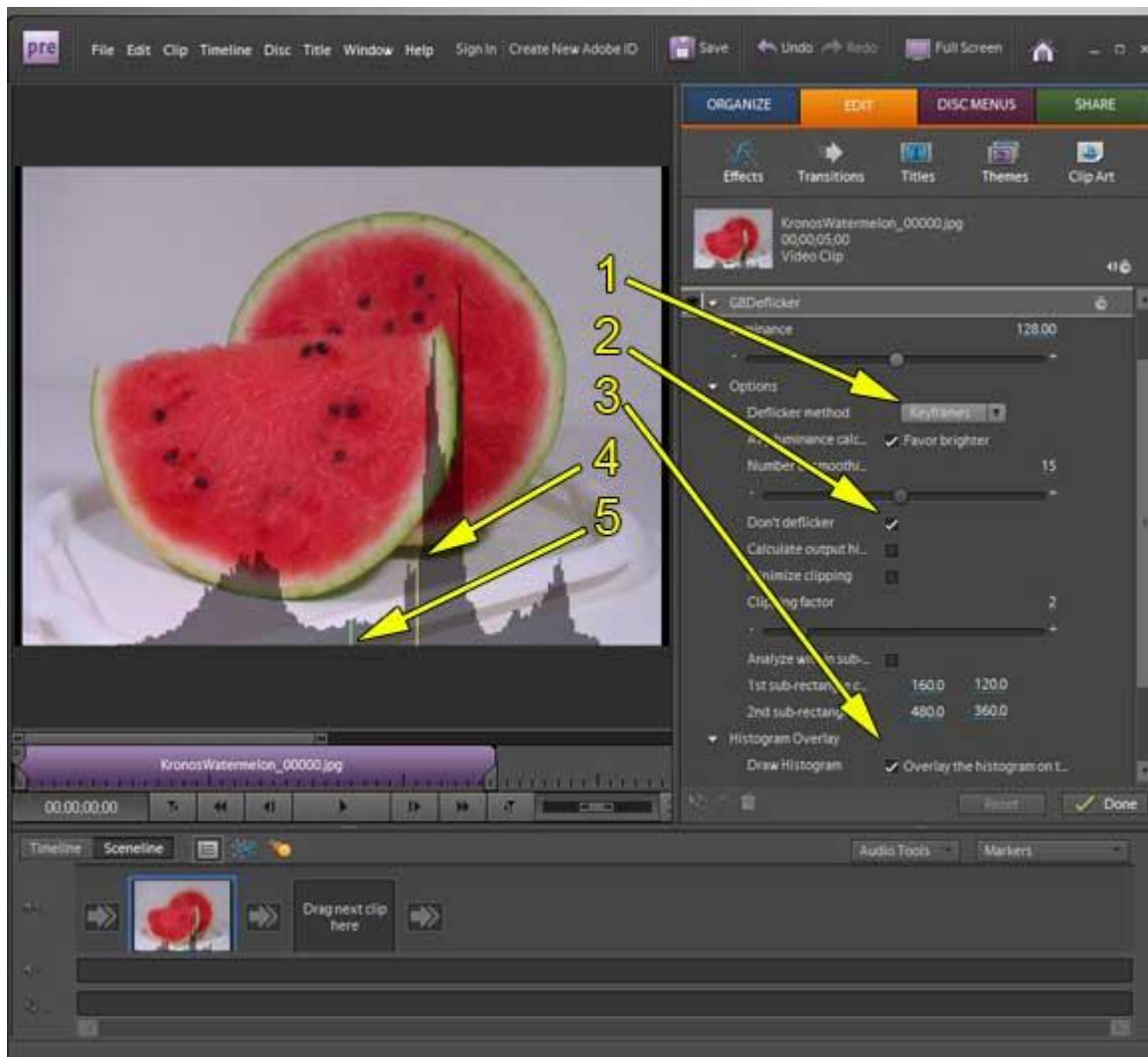
Premiere Elements Effect Controls

KeyFrame Method

Without the benefit of these luminance and histogram graphs, you need to take a few more steps to use GBDeflicker's Keyframe method.

Follow these 8 steps...

- 1) Set the "Keyframes" method
- 2) Check "Don't deflicker"
- 3) Check "Draw Histogram"
- 4) Locate the yellow input luminance line
- 5) Locate the green output luminance line



- 6) Drag the "luminance" slider...
- 7) Until the green output line disappears behind the yellow input line
- 8) Finish by unchecking "Don't deflicker" & "Draw Histogram"

