

TOPAZ DJPEG™ (Freeware) V1.3

User's Guide



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Introduction

Topaz DeJPEG (freeware) is a Photoshop plug-in that can optimally remove unwanted artifacts, such as blockiness and fringes from images due to JPEG compression.

Topaz DeJPEG (freeware) is actually one of many files in **Topaz Vivacity™**, which is a set of Photoshop plug-ins that employs the state-of-the-art image processing technology. Its primary functions are to enhance images in the following areas:

1. Increase image resolution with better image quality than normal image resizing.
2. Suppress image noise caused by low lighting, high ISO settings, or film grain while retaining image details and sharpness.
3. Eliminate unwanted artifacts caused by JPEG, JPEG2000 and other types of image compression.
4. Improve image sharpness, details and edges without “edge rings” or noise amplification.

It can also equalize images of improper filtering.

In addition, Topaz Vivacity™ can produce some interesting special effects:

1. Make images “flat” to resemble a painting.
2. Make images “curly” to resemble fantasy art.

For more information, please visit www.topazlabs.com

This user's guide contains two related sections from Topaz Vivacity User's Guide.

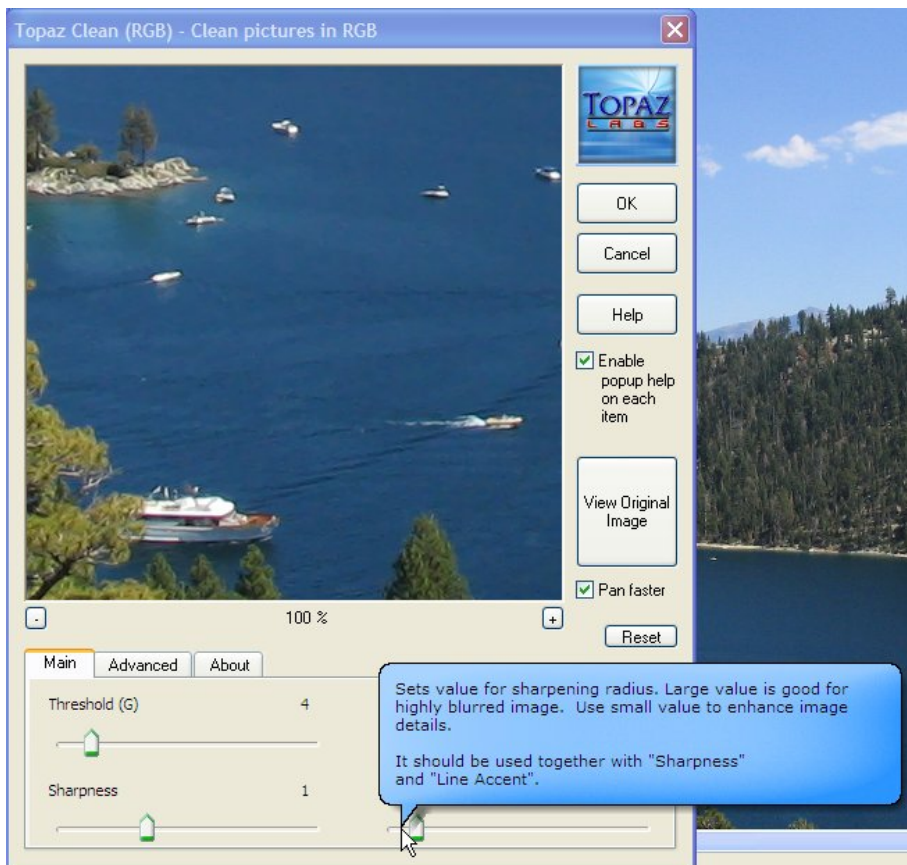
Before You Start

Before start, a few things should be explained first.

The Topaz Vivacity™ Interface

All the filters in **Topaz Vivacity™** use the same user interface layout, as shown in the following screenshot.

All the GUI items, such as buttons and parameter settings have **context-sensitive help**, which is disabled by default. To use context-sensitive help, check “**Enable popup help on each item**” box. Now



if you place a mouse cursor on an item for one second, a help balloon will pop up and display help text for that item. Click the “**Help**” button to get an overall description of the filter.

The **Preview window** always displays a portion of the **filtered image** by default.

To **pan the preview image**, click and

hold the left mouse button on the preview image and drag it around. When you let go of the mouse button, the new portion of image will be processed according to the current settings and the result will be

displayed. The checkbox “**Pan faster**” controls the speed of the pan action. Check it to pan around a large image.

To **compare the filtered and un-filtered images**, click and hold the “**View Original Image**” button to switch to the unfiltered image. Letting go of the button will switch back to the filtered image. In this way, you can toggle the filtered and un-filtered image quickly to evaluate the effect of the current filter setting.

You can **zoom in** or **out** of the preview image using the “+”, or “-” buttons below the preview image. We find ourselves using the 200% setting most of the time. You will also find that the larger the zoom factor you use, the faster the image gets processed. This could be useful for some filter settings for which it takes a long time to update the preview image.

All the **filter’s parameters** are in the tabbed panel under the image preview. Most filters have three tab pages. The “**Main**” page contains the most commonly used parameters. The “**Advanced**” page has additional parameters. Drag the slides in these pages to change filter parameters. Whenever you release the mouse button after dragging a slider, the preview image will be updated according to the new setting. The “**Reset**” button will return all parameters, including the ones not shown, to their default value.

For RGB image, some filters will have an addition tab pages which usually contains fine parameter adjustment relative to RGB channel or YCbCr parameters. This tab will not appear when the filter is used for gray or single channel images.

The “**About**” page contains the version information of the plug-in. It also has two buttons, one of which lets you email us directly. We would like to help whenever you have a question. We also appreciate any suggestions or comments and would really love to hear from you concerning how to improve **Topaz Vivacity™**. Please don’t hesitate to email us. Your email address will be kept strictly confidential and we will not send unsolicited messages except for product updates. The second button will lead you to the **Topaz Vivacity page** of our website, which contains more updated information and other resources.

Image Modes

Photoshop and other host software support many image modes, such as Gray, RGB, LAB, CMYK, etc. Images can also be 8 bits per channel or 16 bits per channel. All **Topaz Vivacity™** filters support **both 8 bits per channel and 16 bits per channel.**

All filters in **Topaz Vivacity™** support the **RGB image format.** In addition, all except for **Topaz DeJPEG™** and **Topaz DeJPEG2000™** also support **Gray**, or single channel image. Therefore, you can work in an image mode of your choice, e.g., CMYK, and still use **Topaz Vivacity™** on each channel separately. This can give you much more control and is preferred in certain situations.

Reduce JPEG Artifacts



Most digital images are stored as JPEGs. JPEG allows you to compress the original image into a much smaller file size. However, this does come at a price:

JPEG artifacts. If an image is highly compressed, JPEG artifacts become quite obvious. Even if an image is not compressed at a high ratio, the JPEG artifacts can become quite obvious when it is enlarged or sharpened.

The image at the top shows, at 200% zoom, a portion of an image compressed with JPEG quality of 25 (out of 100). The JPEG compression artifacts are quite obvious. In the blue sky you can see the tell-tale “blockiness” of JPEG compression. At sharp edges such as the windmill and tree line, there are small speckles around the edges. These are very typical instances of JPEG compression artifacts.

Topaz DeJPEG™ can effectively suppress JPEG compression artifacts. Just apply the filter and set “**Suppression**”

to 80 (keeping the rest of the parameters at default values). You will immediately see that all the JPEG artifacts are gone. The figure below the original image is the filtered image using **Topaz DeJPEG™**.

The filtered image sometimes tends to look a little bit soft. Change the “**Sharpen**” to 1.5 to compensate for the loss in sharpness. The table below is the complete filter parameter setting.

Topaz DeJPEG™ Parameter Setting used in the Example				
Tab	Parameters	Value	Default	Comment
Main	Suppression	80	20	This is the main parameters that control compression.
	Sharpness	1.5	1.0	To compensate for sharpness loss
Advanced	JPEG colorspace	default	YCbCr 411	Should be set to the same color space used by original JPEG image, most of them should be YCbCr411
	Best quality/slow	default	No	Check this option to product better result, but 4 times slower.
	Sharpen Radius	default	1.0	See Topaz Sharpen™ for details
	Edge Crispness	default	1.0	See Topaz Sharpen™ for details

Topaz DeJPEG™ is very straightforward. There is only one key parameter, “**Suppression**”. The higher the value, the more JPEG artifacts it can suppress. However, do not set it higher than necessary since it also makes images softer.

To compensate for the softness due to JPEG artifact suppression, **Topaz DeJPEG™** integrates a simplified version of **Topaz Sharpen™**. This sharpening function is controlled by three parameters, “**Sharpness**” in the “Main” tab page, “**Sharpen Radius**” and “**Edge Crispness**” in the “Advanced” page. Please refer to section Sharpen Images for more detailed discussion. In many cases, **Topaz DeJPEG™** alone can produce satisfactory results. In other cases, especially when the original images are highly compressed; you may want to take the full advantage of the more advanced **Topaz Sharpen™**. In this case, leave the “sharpness” and edge crispness value at 1.0 (default value) and apply **Topaz Sharpen™** after **Topaz DeJPEG™**.

For images compressed with JPEG2000, Topaz Vivacity™ contains another filter, Topaz DeJPEG2000™, that is specifically designed to reduce JPEG2000 artifacts. Usage is similar.