

BracketMerge Q and A (FAQ):

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- What is “Image Based Enhancement”?
 - BracketMerge uses the pixel information in a pair of exposure or focus bracketed digital images to produce a single enhanced result image. The enhancement process is guided by, controlled by, even limited by, the pixel information contained in the input images. Enhancements are based on the information in the input images, Image Based Enhancement. Controlling or limiting the enhancement process in this manner produces a more realistic result, avoiding overdone, unnatural looking images.
- What camera settings should be used when collecting bracketed images?
 - For exposure bracketed images an aperture priority camera setting is highly recommended. Exposure adjustment is achieved by varying the shutter speed. This maintains a consistent focus from image to image. Cameras with an automatic bracketing setting are best and enable capturing images with the least delay between images. See [“Is a digital SLR recommended”](#).
 - For focus bracketed images it is best if only the focus distance changes between image captures. Use manual focus or auto focus in conjunction with a manual exposure setting. Another approach is to use exposure bracketing in combination with focus bracketing. Focus at a distant point in the scene and capture 3 or more exposure bracketed images. Then focus at a close point in the scene and capture another set of exposure bracketed images. Merge each set of exposure bracketed images first, then perform a final merge of these focus bracketed intermediate results. Fall_2Panel is an example of the combination of focus and exposure bracketing and is included in the BracketMerge installation package.

- Is a tripod really necessary?
 - Necessary? No. Highly recommended? Yes. Very highly recommended? Yes.

- What parameter settings are recommended on the Blending dialog and why?
 - Exposure Bracketed Images
 - “Intensity Adjustment” Slider
 - Enabled and set somewhere in the range 0.0 to 1.0. The value used for this setting will determine the overall brightness of the result image. Values less than 0.0 or greater than 1.0 can be used but will tend to move in the direction of less realistic, unnatural results.
 - “Blending Function” Sliders
 - Use the smallest values that avoid grainy looking results, typically a value around 0.03.
 - “Y Offset” Slider
 - Typically 0.0. The extreme values of -0.5 and +0.5 are useful when BracketMerge is being used only to adjust the brightness of an image. In this case one or both of the “Blending Function” sliders would be set to 100.0.
 - “X Offset” Slider
 - 0.0, can’t think of a reason to use anything different on exposure bracketed images.
 - “Saturation Adjustment” Slider
 - Typically not enabled. This optional setting can be used to increase or decrease the amount of saturation enhancement applied to the result. Increasing saturation enhancement with this slider can tend to move in the direction of less realistic, unnatural results.
 - Focus Bracketed Images
 - “Intensity Adjustment” Slider
 - 0.0 . Brightness should be left alone when merging focus bracketed images.
 - “Blending Function” Sliders
 - 0.0. In merging focus bracketed images entire regions of pixels are taken from one input image or the other. Any blending of pixel color would degrade sharpness or focus.
 - “Y Offset” Slider
 - 0.0
 - “X Offset” Slider
 - Used to fine tune the boundary between pixels taken from the Base image and the Merge image. Adjusting this value to something other than 0.0 is sometimes necessary in order to get a uniform region such as

the sky to be selected entirely from either the Base or Merge image. The “Show Base Image Contribution” and “Show Merge Image Contribution” check boxes are used to give a visual indication of what pixels are taken from which input image.

- “Saturation Adjustment” Slider
 - Not enabled.
- When blending focus bracketed images what is a typical setting for the Smoothing value?
 - The smoothing value will vary from 50 to 500. Find the smallest value that will result in entire regions of the scene being taken from either the Base or Merge image alone. On the Blending dialog the “Show Base Image Contribution” and “Show Merge Image Contribution” check boxes are used to give a visual indication of what pixels are taken from which input image.
- RUN→All Frames seems to skip some frames and not others, why?
 - BracketMerge attempts to determine when changes have been made that require a frame to be regenerated. When input images have not changed, merge parameters have not changed and a current result image exists, that result image is simply displayed. When changes have occurred the minimum possible calculations are performed to produce and display a result image.
- Why are TIFF format files recommended over JPG format files?
 - BracketMerge is used in the interest of achieving and maintaining the highest image quality possible. TIFF is a lossless file format. No loss of information occurs in saving an image as a TIFF format file. By comparison JPG is a lossy file format. Information is lost when saving an image as a JPG format file. This loss of information is accepted in the interest of reducing the resulting file size. The implication is that if you are using BracketMerge you are more interested in maximizing image quality than you are in reducing file size. Furthermore, the TIFF file format supports pixel information using 16 bits of data per RGB color channel. JPG only supports 8 bits of data per RGB color channel.
- Is there support for RAW format files?
 - Not at this time.
- Is a digital SLR recommended or can BracketMerge be applied to images from a “Point and Shoot” digital camera?
 - No. However, digital SLR cameras typically have feature levels that are desirable in getting the best results from the overall image merging process. Here are some

features that are important when capturing images that are to be merged using BracketMerge:

- A tripod mount. High quality merged images begin by having input images that can be aligned very well. Well aligned input images begin by collecting those images with a tripod.
 - An automatic bracketing feature. Sets of bracketed images need to be captured in as short a time as possible with a minimum of camera interactions between captured images. An automatic bracketing feature avoids the need to switch camera settings between images.
 - A variety of bracketing choices. The ability to automatically collect 5 bracketed exposures can be particularly useful when using BracketMerge in combination with a panorama stitching application. A choice of the amount of exposure adjustment between bracketed images is also quite useful.
 - A shutter delay setting or remote shutter release. The ability to depress the shutter release button and remove your hands before an image is captured allows the camera to become motionless and reestablish a near exact position between images.
 - A large on camera memory buffer. More on camera memory allows a larger number of images to be collected without unnecessary delay. Using BracketMerge in combination with a panorama stitching application can necessitate the collection of as many as 40 or more images. You don't want any unnecessary delays during the image collection process.
 - Interchangeable lenses. The right lens for the scene being captured can improve the quality of the result.
- Why are there separate 32 and 64 bit versions of BracketMerge?
 - Beginning with version 2.00.03 there are separate 32 and 64 bit versions of the BracketMerge application that can be downloaded from www.bracketmerge.com.
 - The 32 bit version will run on either a 32 or 64 bit version of windows. The 64 bit version will only run on a 64 bit version of windows.
 - Why do I want the 64 bit version? 32 bit applications run in emulation mode when run on a 64 bit version of Windows. 64 bit versions of an application will run faster on a 64 bit versions of Windows than the equivalent 32 bit version. In the case of BracketMerge, execution speed measurements indicate a performance improvement of 25%.
 - Does BracketMerge make effective use of multiple CPUs?
 - Absolutely!
 - BracketMerge is designed and implemented to automatically create multiple execution threads. The number of threads depends on the specific capabilities of the hardware it is running on. This multithreaded execution is also very effective, often maintaining 100% usage of all CPU resources.

- It is also worth noting that the execution threads that BracketMerge creates are given very low priority. While BracketMerge is running you can comfortably use your computer for other tasks.
- Known Problems
 - 2.00.01
 - View→Base Image and/or View→Merge Image followed by View→Result Image fails to display the Result Image.
 - Workaround: Bring up the Blending dialog. Make a small change, click OK. Bring up the Blending dialog again. Restore what was changed to its original state, click OK. RUN→Current Frame.