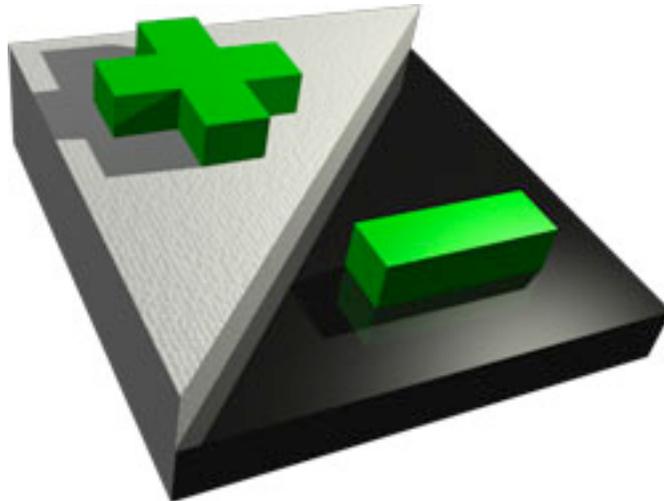


Bracketeer 4 Instruction Manual

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WHAT IS BRACKETEER?

Bracketeer is a Graphical User Interface (GUI) for the Open Source applications “Enfuse” and “align_image_stack”. These applications are freely available, but they require that the user run them manually from the command line, and they natively only support TIFF and JPEG files. Bracketeer’s powerful GUI allows you to drag and drop image files for enfusing, and lets you see a live preview as you tweak the enfusing parameters. It will read almost every file format that exists (on Mac OS 10.5 or later).

Additionally, Bracketeer has a powerful VR panorama preview feature which lets you preview equirectangular images as OpenGL accelerated panoramas almost instantly.

Enfusing is basically a new way of doing HDR photography. With normal HDR photography you shoot several shots of a scene at different exposures, and then merge these exposures into an HDR image. That HDR image is then converted into something visible to the human eye with Tone Mapping. This is a very time consuming process, and the results are usually somewhat surreal in appearance. It is difficult to get realistic looking images with the traditional HDR process. If you are shooting bracketed shots where things are moving (such as people or leaves on a tree) then HDR has serious problems because wherever a pixel moves you’ll usually get garbage output.

Enfusing, solves all of the problems with traditional HDR. Moving pixels are not a problem at all – you’ll get a nice ghosting effect rather than garbage. The entire process is much faster, and the results are much more realistic than HDR.

Here is an example of an outdoor scene with 3 exposures (-2EV, 0EV, +2EV):



After enfusing...



Enfusing results in a perfectly exposed image. Nothing is over-exposed or under-exposed – something that was impossible to achieve in a single shot. You'll also notice that the water ripples look perfect – something that would have resulted in garbage with the traditional HDR / Tone Mapping method.

HOW TO USE BRACKETTEER

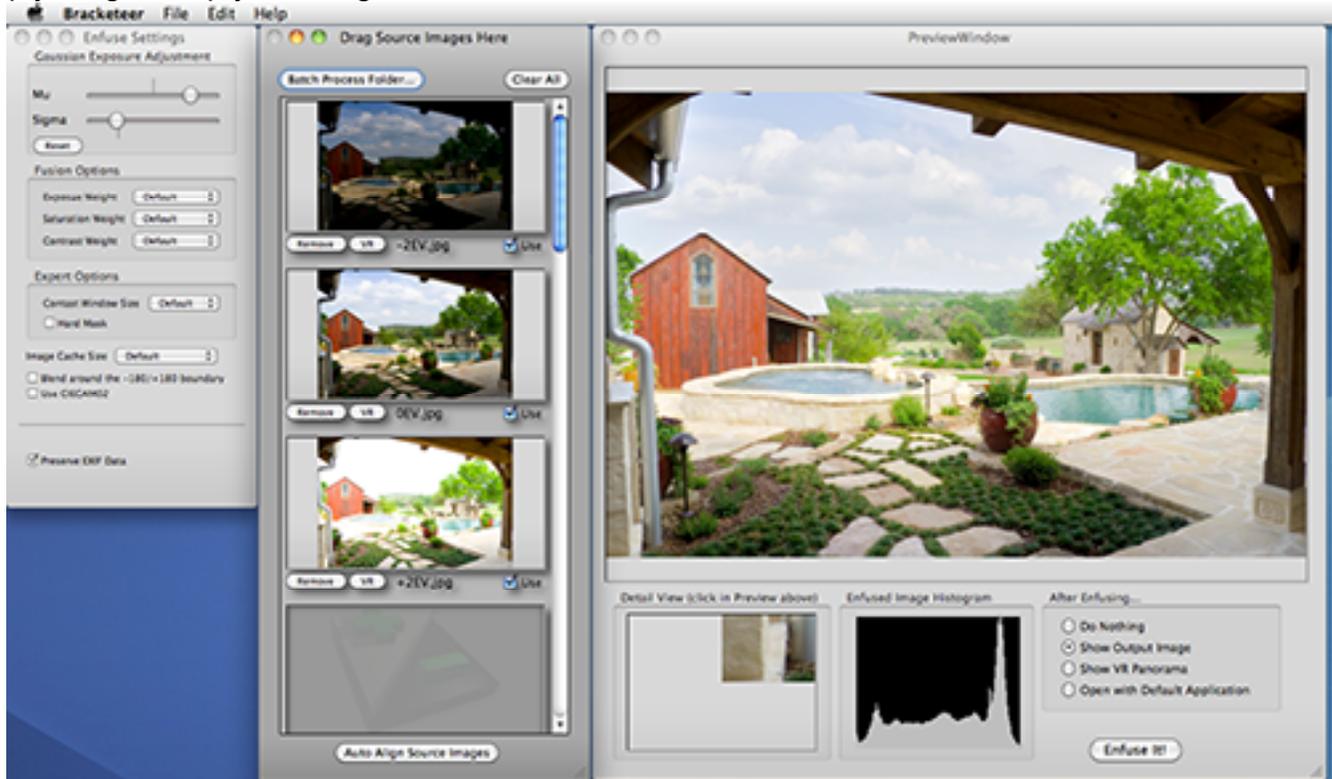
STEP 1: Shooting Bracketed Images

All modern digital SLR cameras have an Exposure Bracketing feature. Most of them only let you shoot 3 bracketed shots at a maximum of +/- 2EV, but some will let you do more, and more is better when it comes to HDR and Enfuse. So, shoot between 3 and 9 bracketed images, preferably using a tripod to ensure that the images are all aligned the same. You can shoot them hand-held if you want because Bracketeer has an auto-align feature to fix the image alignment, but nothing is better than a tripod.



STEP 2: Add The Bracketed Images to Bracketeer

Simply drag & drop your image files into the Sources window:



Once you have added at least 2 images, Bracketeer will automatically build a Preview and Detail view for you to show you the current enfusing results. You can click in the Preview to change the location of the Detail view. The Preview will update as you change the Enfusing options.

You can add up to 10 source images to Bracketeer. Once you add more than 6, scrollbars will appear so that you can scroll the thumbnail view to see the additional images.

STEP 3: Tweak the Enfusing Settings

Typically the default settings are what you will want to use. The official Enfuse Wiki site has all of the current information on the various settings:

<http://wiki.panotools.org/Enfuse>

That being said, here are a few notes:

Gaussian Exposure Adjustment: The Mu value seems to adjust the overall exposure while the Sigma seems to “modify” it. Best to just play with this and see what it does for you.

Contrast Window Size: As far as I can tell this value does absolutely nothing. I’ve never seen any change in a single pixel from modifying this value, but according to the Wiki larger values will result in slower processing, so I’d recommend just leaving this at the default.

STEP 4: Auto Align Source Images

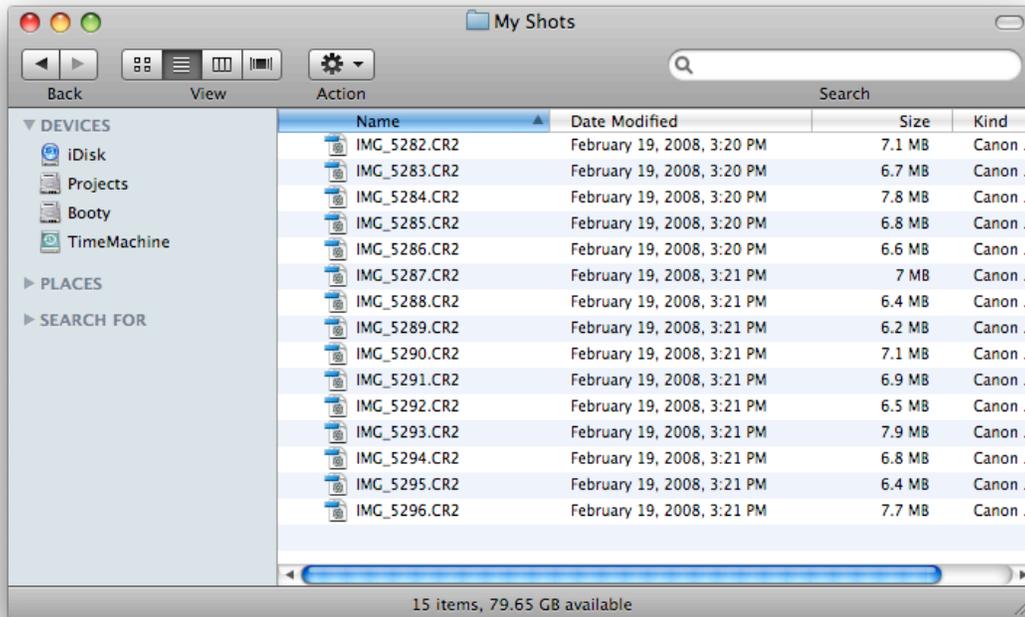
You only need to do this if you shot your images hand-held or if your tripod was shaking during the exposures. Performing the auto-alignment can take a while – usually several minutes, and while the results are typically very good, in certain cases the results will not be good. Very dark or very light exposures may be a problem for the auto-alignment algorithm, so it may fail to work correctly. Also, certain scenes simply do not contain the right kind of detail to get an accurate match, or even scenes with moving objects between shots can confuse the algorithm. So, as was stated earlier, using a stable tripod is highly recommended since you cannot rely on the auto-align to give you equivalent results.

STEP 5: Save the Enfused Image

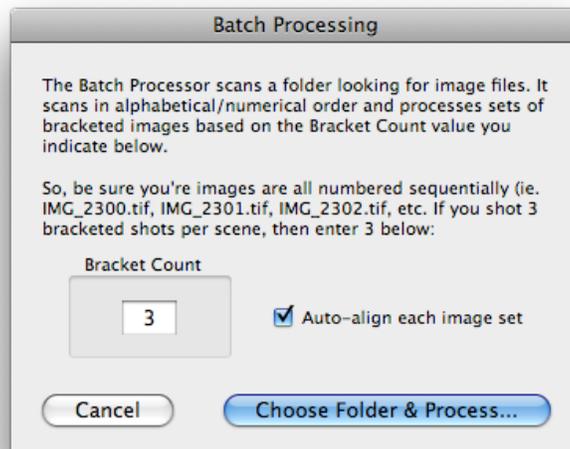
Click the Enfuse It button to generate and save the final Enfused image.

BATCH MODE

Bracketeer has a Batch feature for automatically Enfusing large sets of shots so that you don't have to do each set manually. All you need to do is place all of the bracketed images into a single folder, and make sure that the images are all alphabetically ordered, ie:

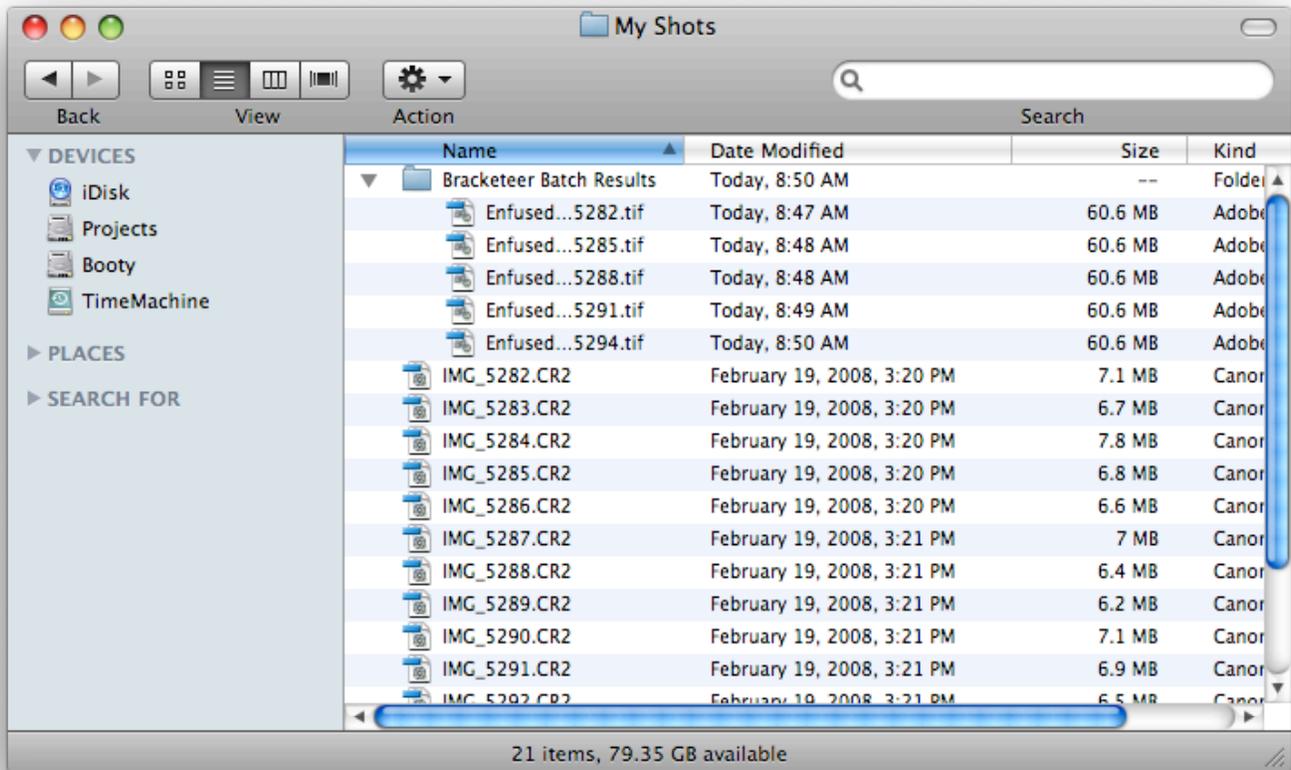


Next, you choose Batch Process Folder from the File menu which brings up the Batch dialog:



In this dialog you tell Bracketeer how many exposures there are for each set. If you want to auto-align the images in each set then check that option. When you're ready to go, just click the "Choose Folder & Process" button to get things going.

The results of the Batch will be placed in a “Bracketeer Batch Results” folder in batch folder that you chose earlier:



TECHNICAL SUPPORT & UPDATES

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We **never** charge for updates at Pangea Software, so once you buy Bracketeer you will always get free updates until the end of time. The Bracketeer application automatically checks for updates, and it will notify you if one is available, but you can always manually check our web site at:

<http://pangeasoft.net/pano/bracketeer>