



Focus Stacking

USING ADOBE LIGHTROOM & PHOTOSHOP TO COMPILE IMAGES

Why Focus Stack?

The Case for

1. Possible to better overcome the limitations of lens optics
2. Shorter exposures than is possible with small apertures
3. Lens diffraction from using very small apertures is overcome
4. Better background control

The Case Against

1. Not everything works all the time
2. Cannot be used on moving subjects
3. Needs consistent lighting
4. More work

The Concept

1. Capture images focussed at different distances
2. Combine into one image with greater DOF

Image No 1 (*1/2 sec @ f8, ISO 200*)



Image No 2 (*1/2 sec @ f8, ISO 200*)



Image No 3 *(1/2 sec @ f8, ISO 200)*



Image No 4 *(1/2 Sec @ f8, ISO 200)*



Final Stacked Image



Capturing the Images

1. Camera must be in a fixed position (Tripod)
2. Constant lighting
3. Manual Mode (select ISO, aperture & shutter speed)
4. Cable release/remote
5. Suggest medium/wide aperture (eg f8/f4)
6. Manual Focus
7. Its best to shoot RAW Images

Capturing the Images

1. Focus on the nearest point & capture
2. Move focus back a little & capture
3. Keep going until you reach the back point of focus

HINT: Better to get too many images then discard the unwanted ones

Image No 1 (1/60th @ f2.8, ISO 800)



Image No 2 (1/60th @ f2.8, ISO 800)



Image No 3 (1/60th @ f2.8, ISO 800)



Image No 4 ($1/60^{\text{th}}$ @ f2.8, ISO 800)



Image No 5 (1/60th @ f2.8, ISO 800)



Lightroom Workflow

1. Library Module

1. Import your images
2. Render 1:1 previews & inspect images
3. Select all the images you captured

2. Develop Module

1. Ensure “Auto Sync” is activated
2. Adjust WB, exposure etc. on one image as desired. (The others should update with it)
3. Finally “Match Total Exposures” (Settings Menu or *Ctrl+Alt+Shift+M*)

3. Back to Library - Decide on the images to be used for the focus stack

- ▶ Hint: Use Pick flag for the images you want to use

Lightroom Workflow

1. In “Filters” select “Picked” then select all the visible images
 - ▶ If you want too, export JPEGs from your Raw Images
 - ▶ Export to “Same Folder as Original” & check “Add to this Catalogue”
2. Go to folder & select the JPEGs chosen for Focus Stacking
3. Right Click then “Edit In > Open as Layers in Photoshop”

Photoshop

1. Edit Menu > Auto-Align-Layers
 - ▶ “Projection – Auto” then OK
2. After alignment find smallest image layer & crop image to this size
3. Edit Menu > Auto-Blend-Layers
 - ▶ “Stack Images” & “Seamless Tones & Colours” then OK
4. Allow Photoshop to do its work

Final Stacked Image (from 14 images)



No Stacking (1 sec @ f11, ISO 800)



No Stacking (1.4sec @ f16, ISO 800)



No Stacking (2 sec @ f22, ISO 800)

