

HDR - High Dynamic Range and Tone Mapping in Affinity Photo

This is an HDR Image - tone mapped - of my computer room. I chose this subject because of the contrast with the screens, and the rooms generally poor lighting.

I will illustrate the steps I took from setting up my camera to the exporting of this Image. At this point I strongly suggest you look at **James Ritson's** HDR video on:

<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310332886/>



Wikipedia states:

“One aim of HDR is to present a similar range of luminance to that experienced through the human eye.

In photography, Dynamic Range is measured in exposure value (EV) differences, known as Stops. An increase of one EV, or one stop, represents a doubling of the amount of light. Conversely a decrease of one EV represents a halving of the amount of light.

Therefore, revealing detail in the darkest of shadows requires high exposures, while preserving detail in the very bright situations requires very low exposures. Most cameras cannot provide this range of exposure values within a single exposure, due to their low dynamic range. HDR photographs are generally achieved by capturing multiple standard exposure images, often using Exposure Bracketing and then later merging them into a single HDR image within an editing programme.

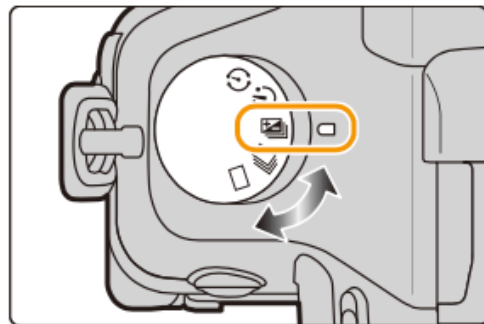
Any camera that allows manual exposure control can make images for HDR work, though one equipped with Auto Exposure Bracketing is far better suited. Exposure variation in an HDR set is achieved by altering the exposure time whilst the Aperture remains constant.

Tone Mapping reduces the Dynamic Range, or contrast ratio, of an entire image while retaining localised contrast. Although it is a distinct operation, tone mapping is often applied to HDR files by the same software package.”


Setting up the Camera

I set my Lumix FZ1000 camera into aperture priority mode with a f5 aperture. As the room lighting is not that bright I increased the ISO to 250.

I set the Drive Mode Dial to: .



I then entered the Menu

MENU →  **[Rec]** → **[Auto Bracket]**

From the attached option screen I selected burst setting with 5 pictures at 1 stop intervals and the following sequence [-2/-1/0/+1/+2]

[Single/Burst Settings]	[□] (single)	[Sequence]	[0/-/+]
	[] (burst)		[-/0/+]
[Step]	[3•1/3] (3 pictures)		
	[3•2/3] (3 pictures)		
	[3•1] (3 pictures)		
	[5•1/3] (5 pictures)		
	[5•2/3] (5 pictures)		
	[5•1] (5 pictures)		
	[7•1/3] (7 pictures)		
	[7•2/3] (7 pictures)		
	[7•1] (7 pictures)		

I set my camera on the tripod, focused and shot these five RAW images.



-2 stops



-1 stop



0 stops



+1 stop



+2 stops

Processing the Images

Open Affinity Photo.

Go to File → New HDR Merge.

This screen pops up. Click the add button and select the images.

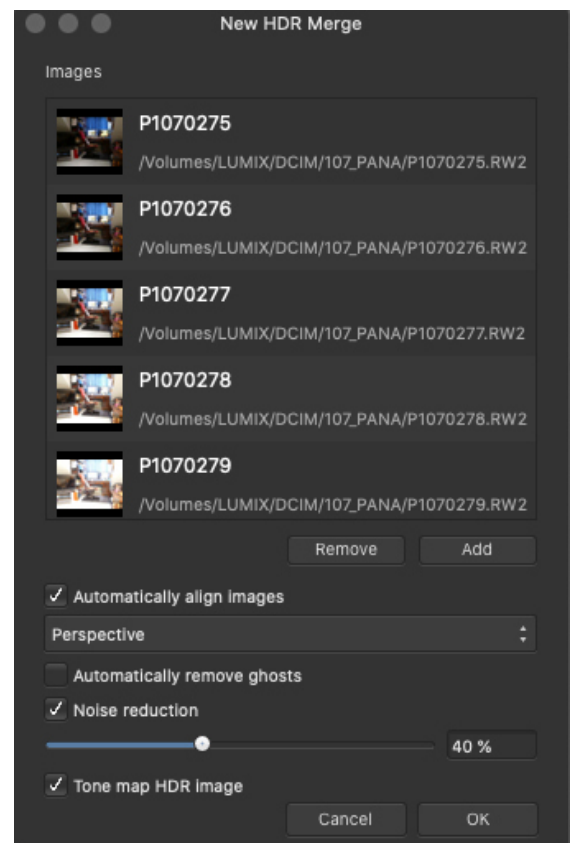
Now consider the options at the bottom of the menu.

Automatically Align Images should be ticked if images were taken hand held. - Not needed if a tripod was used.

Automatically remove ghosts is applicable if there is movement in the shots.

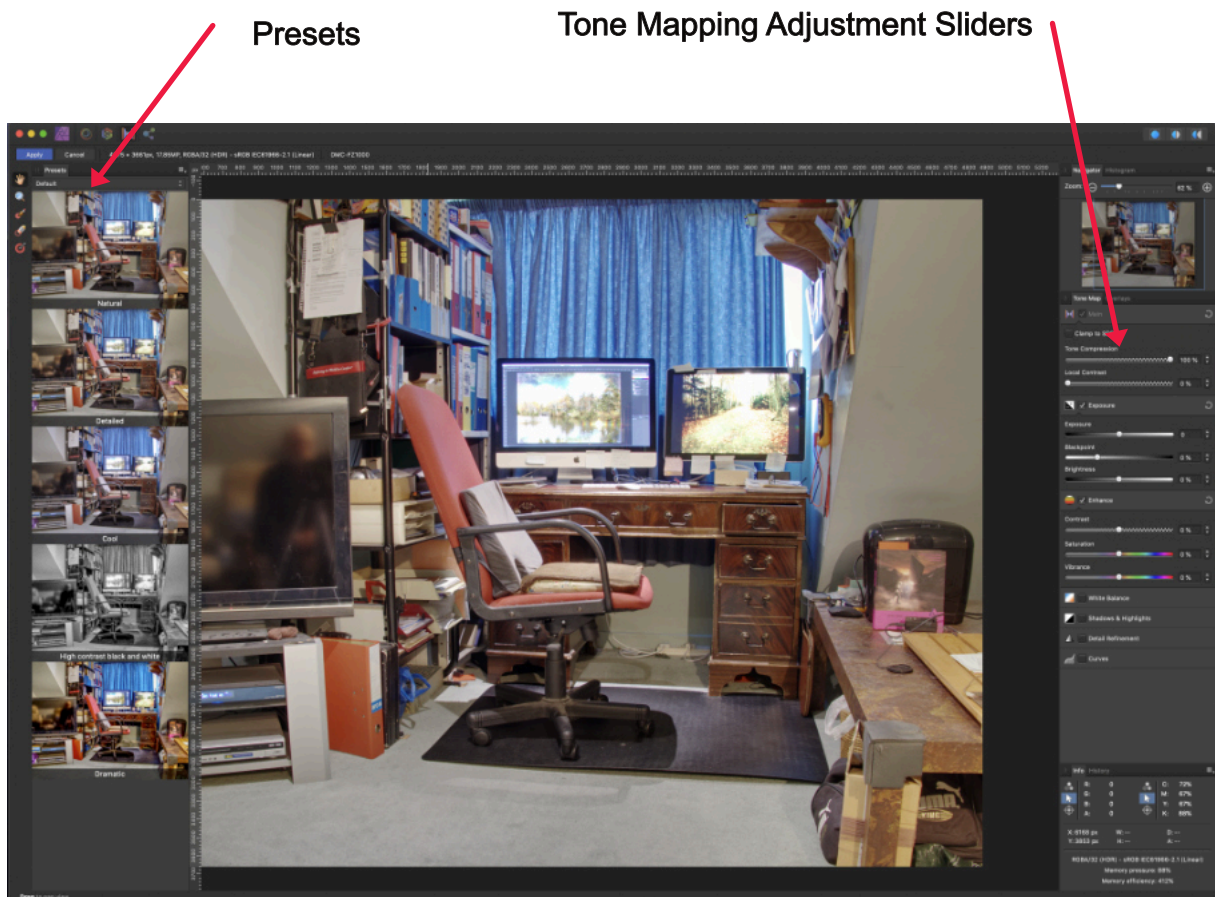
Noise reduction should only be ticked if images have been taken in RAW. Jpegs have already had noise reduction in the camera.

Tick Tone Map HDR Image - Click OK.



Affinity will then proceed to collate the pictures and merge them into one image in which the clearest pixels from the five images are selected. The following messages will appear at the top of the screen showing the progress. - “Align Merge Sources” then “HDR Merge” followed by “Denoise” and finally “Tone Map”.

When the process is complete, presets will appear on the left side of the screen. I selected the “Detailed” preset. If one of the presets is selected the parameters of that preset are shown on the right side of the screen. These can be further manipulated by adjusting the relevant sliders.



When happy with the image, click Apply. This takes you to the Photo Persona where further adjustments can be performed. Save the work as an aphoto file (this can be a very large file!) or/and export as a jpeg.