

HDR and PANOMERGE WORKFLOW

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Disclaimer: This is simply what I do based on my Canon camera and using Lightroom. There are likely to be many other options out there (Including Photoshop). Up to you which approach you use if you want to explore the potential of HDR and Pano Merging. The principles are likely to be similar.

NOTE: These techniques are best used with still subjects. Moving objects (including leaves blowing in wind etc) will cause ghosting issues – which can be fun.

Taking the Photos

1. High Dynamic Range (HDR)

When taking images with strong highlights and strong shadows the dynamic range of the camera will struggle to capture detail in both areas. Your eyes can resolve a much wider “dynamic range” of exposure detail than your camera. So images will either end up blown out in part or flat looking or overly dark. There are lots of software options that will apply filters to extract the dynamic colours from an image – these are typically described as HDR. Many can create an over processed effect so need to be used with care.

Better results are likely to be possible if you can capture a wider dynamic range in your camera in the first instance. Modern high-end DSLRs can take multiple exposures of an image and combine them into a single image that has a resulting wider dynamic range. This in camera HDR function is typically limited to taking jpeg images. So you will miss out on the possible advantages of the greater data collected using RAW files. The in camera settings may also have various filter options – be wary of these as they will preprocess your image and you can't redo it if it doesn't appeal.

My preference is to take three RAW images at different exposures in camera and then merge them in the computer in Lightroom.

In my camera this is done via the Exposure Compensation/Automatic Exposure Bracketing function (AEB) which can be accessed via the menu. Rather than just using a single offset to compensate for the exposure challenge you can do two offsets (at higher and lower exposure) to create an exposure bracket of three images. I typically do 2 stops above and 2 stops below the optimal scene exposure – but in some situations I will do 3 stops. Once AEB is SET the next three images the camera will take will be: 1 correctly exposed, 2 Under exposed and 3 Over exposed. This can be achieved by manually taking the three images or by setting a timer delay (eg 2 sec) or via a remote release where the camera will take the three automatically.

The camera adjusts the shutter speed to obtain the different exposures – all other settings remain constant. This means you need to be conscious of the overexposed image which may have a long shutter speed. Hand held is usually fine as long as the slowest shutter speed is OK for hand held. Otherwise best to use a tripod.

Once you have the three images – they can be imported to Lightroom on your computer or lap top

2. Panorama or PANO

I'll assume you know how to take a panorama. See the scene and decide how to break it down into parts. For a landscape it will typically be best to use Portrait orientation of your camera and take around 5 images across your scene with each image overlapping about a third. To minimize any aberrations across images caused by changing camera settings you should use in Manual, with Manual Focus and Manual White Balance. Lock them down if you are prone to changing things.

Again, hand held is usually OK but if you are wanting to use longer shutter speeds a Tripod is recommended .

Transfer your images to the computer.

3. Combining HDR and PANO

If you want to create a Pano with the advantages of HDR then it is just a matter of building your Pano with a series of exposure bracketed images as described above. So in the Pano with 5 Portrait shots you will have 5x3 or 15 images in total.

Transfer your images to the computer

Merging the Photos in the Computer using Lightroom

1. **Lightroom**(these features are available in the latest Lightroom Classic CC. They may not be available in earlier versions)

a. HDR Merge

Import the three exposure bracketed images into Lightroom in a folder of your naming.

Select all three and Right click, go to **Photo Merge**, select **HDR**. Lightroom will create an HDR Merge Preview. Tick **Auto Align** and **Show Deghost Overlay**. I typically select **Low** Deghost Amount. Then select **Merge** at right bottom

Takes a while and a new file will be created – it will be an HDR.dng file and will contain all the data from the three images. It won't look much different to your middle exposure RAW file.

Select the HDR.dng file and process in the Develop module. You don't need to use any special HDR software – it is more natural looking if you just use Lightroom (ie don't over do it!)

After I am happy with it I delete the three original files to save space

b. Pano Merge

Import the five overlapping Portrait images into Lightroom in a folder of your naming

Select all five and Right click, go to **Photo Merge**, select **Panorama**. Lightroom will create a Pano Merge Preview. Choose a selection. It depends on the scene – so you

can try the options out but I usually select **Cylindrical**. Move the **Boundary Warp** slider to suit. Don't tick any other box. Select **Merge** at right bottom. A new image will be created in Lightroom – it will be a Pano.dng file. Open it and process in the Develop module to suit yourself.

After I am happy with it I delete the five original files to save space

c. HDR/Pano Merge

Import the fifteen overlapping/multi exposure Portrait images into Lightroom in a folder of your naming

Select all fifteen and Right click, go to **Photo Merge**, select **HDR/Panorama**.

Lightroom will create an HDR/Pano Merge Preview (takes a while). Choose a selection. It depends on the scene – so you can try the options out but I usually select **Cylindrical**. Move the **Boundary Warp** slider to suit. Don't tick any other box. Select **Merge** at right bottom. A new image will be created in Lightroom – it will take a long time and will be an HDRPano.dng file. Open it and process in the Develop module to suit yourself. You'll be amazed.

After I am happy with it I delete the fifteen original files to save space.

Admire your work.

Good luck
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