

THE XDR BLUEPRINT

How To Breakout Tone-Mapping And
Start Creating Natural HDR Images



The XDR Blueprint

You don't take a photograph, you make it.

— Ansel Adams

The XDR Blueprint

... And always, always, always shoot Raw.

— Yaopey

Content

1. Introduction
 1. What is HDR?
 2. The difference between HDR and XDR
 3. What is in the XDR blueprint for me?
 4. Who is Yaopey?
2. The High Dynamic Range Image
 1. History of HDR photography
 2. How to create an XDR image?
 3. 10 reasons why XDR is better than HDR software
3. Deep Dive Into Dynamic Range and Histogram
 1. What is dynamic range?
 2. What determines dynamic range of a camera?
 1. Digital image is made up of pixels
 2. Each pixel contains a photosite
 3. Visualize dynamic range with histogram
 1. Luminance histogram
 2. Color histogram
 1. Computing luminance from RGB data
 3. RGB histogram
 4. Dynamic range and histogram
 5. Pitfalls of histogram
 1. Inaccuracy of RGB histogram
 2. Total versus usable dynamic range
 3. Incorrect exposure versus high dynamic range

The XDR Blueprint

4. Gear
 1. Hardware
 1. Camera
 2. Lens
 3. Tripod
 4. ND filters
 5. Others
 2. Software
 1. Software for exposure blending
 2. Software to create natural HDR
5. Finding The Right XDR Subject
 1. Bracketing exposure by the histogram
 1. Definitely
 1. To the far right
 2. To the far left
 2. Definitely, maybe
 1. The smiley face
 2. Scenes with high dynamic range
 1. Landscape
 2. Under the shade
 3. Interiors
 4. Into the light
 5. Backlight scenes
 3. When not to bracket exposure
 4. Summary

The XDR Blueprint

6. How To Bracket Exposures
 1. Automatic exposure bracketing (AEB)
 1. Continuous shooting mode
 2. Bracketing exposures handheld
 3. When bracketing handheld is not a good idea
 4. How to bracket exposures with AEB
 2. Manual exposure bracketing
7. Culling
8. Raw Conversion
9. Merging Multiple Exposures
 1. Exposure blending
 1. Setup
 1. Freehand
 2. Layer mask
 3. Gradient mask
 4. Color range
 5. Blend if
 6. Apply image
 7. Luminosity mask
 2. Natural HDR with HDR software
 1. Photomatix – exposure fusion
 2. Adobe Lightroom – merge into 32-bit HDR
 3. Adobe Lightroom – Enfuse
 4. Adobe Photoshop – merge into 32-bit HDR
10. Taking A Step Further
11. Retreat and Revisit
12. It's Only The Beginning

The XDR Blueprint

INTRODUCTION

What Is XDR?

I'm guessing you've downloaded this blueprint because you either want to learn HDR or you want to step-up your HDR skills to the next level.

Either way, I can assure you're in the right place!

And I bet you're scratching your head right now...

What the heck is XDR?

I'm not trying to be fancy or create something new here. In fact, just hear me out.

XDR is a re-packaged or polished form of HDR.



The XDR Blueprint

HDR is long dead because of its bad reputation. The rampant looking image with harsh light and lack of contrast that almost always defy the physics law of light. It's literally everywhere on the internet. Simply Google it and you'll find an endless supply of these examples.

Many photographers blame it on HDR software.

I blame it on the users. Users of HDR software that abuse tone-mapping and image post-processing.

Despite what everyone else thinks, HDR photography is an elegant way of creating beautiful and creative images.

Back in the days of our pioneers, they already realized the limitation of camera's dynamic range. One of the earliest technique to create an HDR image in the darkroom is called the Water Bath Development. However, this technique only works in black and white images. One of the better-known photographers – Ansel Adams used this technique, together with dodging and burning to create his epic work.

In light of how HDR is seen at present, I think it's time for us to ditch automation (HDR software) and re-invent HDR once again. But to re-invent HDR, we need to give it a new packaging, a new name.

Enter eXtended Dynamic Range (XDR).

The XDR Blueprint

The Difference Between HDR and XDR

I first came across the term XDR on Sean Bagshaw's website. Sean is a landscape photographer, an educator, and the author of several photography training video courses.

I like the term (and it makes sense) because the technique uses exposure blending to create images that cannot possibly be captured by any camera (not yet!) because of the extreme dynamic range of the scene. He calls this XDR instead of HDR because the post-processing does not involve any HDR software.

Now, you might argue that HDR and XDR are the same. Yes, I agree. But I only use it to separate whether HDR software is involved or not. (some may disagree but that's just my opinion =))

Images look more natural and closer to what we perceive in reality with XDR. There is less image noise, particularly in the blue color of the sky. Halo seems to be less of a problem. My point is, **it doesn't produce the typical "HDR look"**.

Like I said, there are different opinions on whether an HDR image created by exposure blending is considered a "true HDR" by the purist.

The way I see it, we increase the dynamic range by combining multiple exposures, which is not achievable with a single exposure ordinarily. It's irrelevant if this is a "true" HDR or not. From the pragmatic point of view, we have achieved our goal.

The term "extended dynamic range" does sound better than "high dynamic range" now because the former has not (yet) been tainted. Until someone ruins it, maybe we should start calling it this way.

The XDR Blueprint

What's in it For You?

You are going to learn how to create XDR (i.e. natural looking HDR), plus delving deep into some of the fundamentals of high dynamic range.

This blueprint describes all the techniques I use to create my images. It also includes tips and tricks I've acquired over the years. Everything is explained in detail so you can replicate or adapt it to your style.

Apart from exposure blending, I have also detailed several other methods of creating natural HDR. (Hint: HDR software!)

“Strictly” speaking, these are not XDR (I'm now the purist) but I've included them because I know there is more than one way to achieve a goal. You can add these to your arsenal and who knows one day it might be handy!

Bear in mind that this ebook is not just about technique. It covers literally everything from head to toe in creating XDR. Among the topics that you'll learn:

1. Photography gear you need.
2. Where to find high dynamic range scene.
3. Deep dive into dynamic range.
4. What to photograph.
5. How to bracket exposures: automatic vs manual.
6. What is culling, what software can you use?
7. What is Raw conversion and how to do it?
8. 7 techniques to blend exposures in Photoshop.
9. Create natural HDR with Photomatix, Lightroom and Photoshop.
10. My top 10 tips in XDR post-processing - can apply to HDR too.
11. Save, retreat and review.

The XDR Blueprint

I know it looks like there is A LOT of information and overwhelming.

But fear not, one of my unfair advantage is the ability to break down complex matter into simple topics in small chunks.

Every section is presented in a step-by-step manner for you to follow at your own pace.



What kind of photographs do you see yourself making?

Representational, impressionistic or abstract?