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VISUAL WILDERNESS MAGAZINE



Editor's Notes

The world of photography is an exciting place! The level of skill, talent, artistry, and passion that photographers express with their photos is endless. And it’s a wonderful thing that so many of these professional photographers are willing to take the time to share their expertise, tips, and creativity with us.

This December 2018 issue of the *Visual Wilderness Magazine* is a great place to delve into this shared information. Dive in to expand your equipment knowledge (exposure settings and indispensable lens filters), to understand what it *really* takes to successfully shoot nighttime photos, to avoid exposure blending mistakes, to broaden your creativity when working with multiple exposures, and to see proof that your brain may be the most valuable piece of photography equipment you have (shooting with an iPhone instead of your regular camera).

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How do I set my Camera's Exposure?

-by Jay Patel



Redwood Forest National Park, California (CA), USA

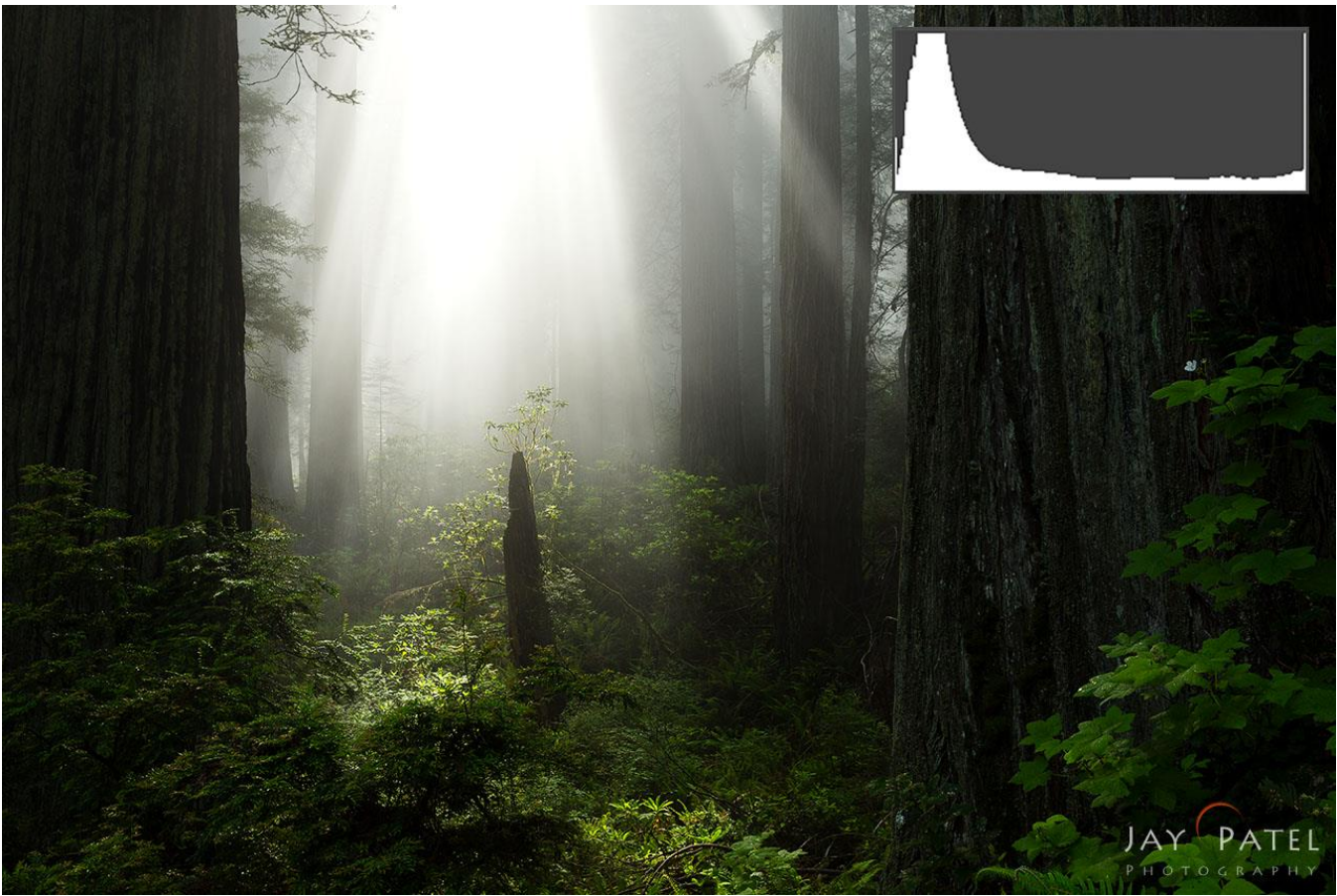
Imagine this scenario...

You are looking out over absolutely stunning rays of light in Redwood Forest National Park. You are about to press the shutter release in hopes of immortalizing all the grandeur of this location at this very moment. To make matters more complicated, there is a slight breeze that is moving the vegetation. Ideally, you would like to use a high enough shutter speed to get everything sharp.

How do you know if you have the correct exposure with a high enough shutter speed so that when you get back home, you'll have all the data you need to recreate the scene? Have you faced this situation before?

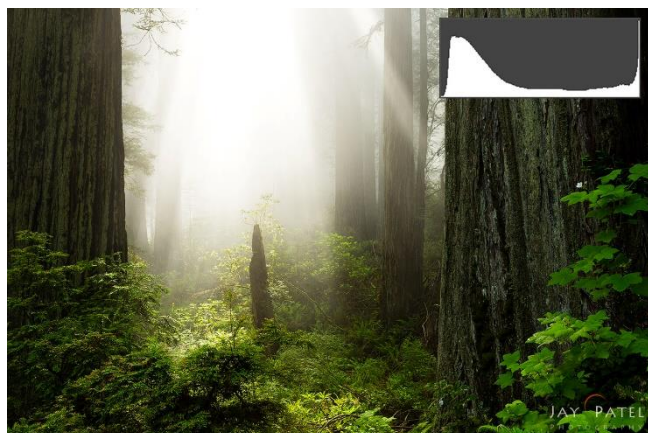
We use a simple 4-step workflow when using the histogram on the back of the camera. This workflow allows us to select the three elements (ISO, aperture, and shutter speed) of the exposure triangle to determine the exact exposure. Not only does this workflow allows us to pick the correct exposure, but it also allows us to pick the exact shutter speed, aperture, and ISO values that are needed to produce the desired effects.

For this particular shot, I used F8 @ ISO 400 and bracketed the shutter speed between 1/40s – 1/10s to capture enough details in the highlights and shadows. How did I know that bracketing was needed? Because the histogram told that there was no way I could capture this image using a single exposure (image below).

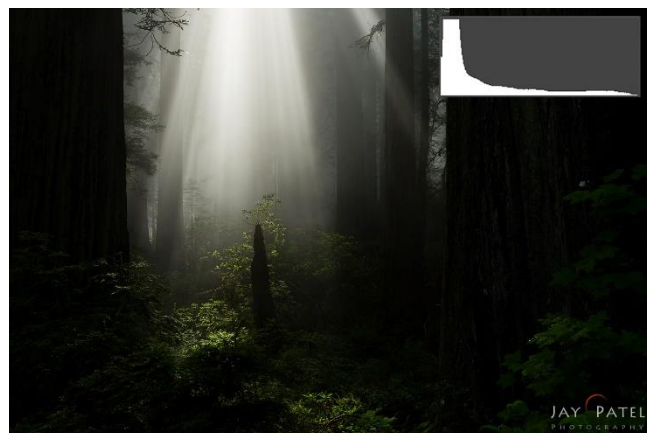


*Loss of Shadow and Highlight Details indicated by Histogram – Exposure: 1/20s@F8 ISO 400
Redwood Forest National Park, California (CA), USA*

using the histogram, I was able to determine just how much bracketing was needed and this allowed me to optimize noise levels and lens performance while still keeping the shutter speed high enough to produce a sharp image.



*Exposed for proper shadows using histogram
as a guide – Exposure: 1/10s@F8 ISO 400
Redwood Forest National Park, California (CA), USA*



*Exposed for proper Highlight using histogram
as a guide – Exposure: 1/40s@F8 ISO 400
Redwood Forest National Park, California (CA), USA*

Moments like this one motivated us to create our newest video course called [Histograms Exposed](#). Furthermore, we have partnered with a fantastic professional photographer named David Kingham to bring you [Practical Lightroom 2017.10](#) tutorials. In this tutorial, David demonstrates his simple Lightroom Workflow as he masterfully processes some of the images in the case study section of our Histogram Exposed course.

[More about Jay Patel](#)

3 Indispensable Filters for Nature Photographers

Chrissy Donadi

If I was going to list the essential shooting gear for landscape photography, the list would contain a camera body, three lenses (wide, mid, and zoom), a tripod, and photography filters. These are the bare bone essentials to dive into the world of landscapes. Some may argue that filters are no longer required with how much post-processing has advanced. However, some filter effects simply cannot be recreated in post.

As with most photography accessories, the choices among filter brands and types are extensive. Researching what you need can become easily overwhelming, not to mention expensive fairly quickly. It's a balancing act to determine which photographic filters will be the most utilized giving you flexibility in the field without breaking the piggy bank. For me, there are three main filters which serve as an excellent starter kit.



Before we jump into the specific filters, it is important to know that there are essentially two main types of photographic filters. The first are circular filters which screw onto the front of your lens based on a filter size. The filter size is in millimeters, such as 77mm, which is the diameter of the front of your lens. To find the filter size you need, look on the barrel of your lens for a symbol that looks like a zero with a strike through it, then a number. This is the filter size that you need to fit the lens.

The second type of filters are rectangular filters. For these filters, you need a corresponding holder that attaches to your lens. Then you slide the filter in and out of the holder.

Circular Polarizer Filter

If you are only going to purchase one filter, then it should be a circular polarizer (CP). CPs are almost always the screw-in variety because you need to be able to rotate them based on the angle of light falling on your scene. These filters work by blocking certain light waves from entering the lens as you rotate the filter.

A CP filter affects your images in a few ways. First, it saturates the colors in your scene, particularly noticeable in darkening the blue in the sky. Second, it can reduce reflections and glare from water surfaces or wet surfaces in the scene like rocks and leaves. Last, a CP filter can block one to two stops of light from entering your camera, thus slowing down your shutter speed to produce a softening effect on moving water.

I have a large CP filter which mounts to my rectangular filter holder so I can use multiple filters at the same time. In addition, I have two screw-on CP filters which I have purchased over time. I've done this because there are enough times when I'm only using a CP filter.

I have two different sizes so I can easily screw them on and off of my main lenses without having to use an adapter ring. An adapter ring is also called either a step-up or step-down ring. They allow one size of filter to either step up or step down and fit another sized filter. Adapter rings are certainly a

money saving solution but can be time consuming to use in the field. So, if you are purchasing a screw-on filter, try to size it to the lens which you most often utilize.



Waterfall captured midday with the use of a circular polarizer filter and a neutral density filter

Neutral Density Filter

A neutral density (ND) filter is another photographic filter that I rarely leave home without. ND filters act like sunglasses for your camera, uniformly reducing the amount of light coming into the lens. With less light entering the lens and reaching the sensor, the camera’s shutter stays open longer to properly expose the scene.

In daytime settings, even overcast days at lakes and waterfalls, a low ISO and increased aperture (F-number) won't be enough to produce that smooth, silky water effect. To adequately slow down the shutter, you need to use an ND filter. With fast-moving clouds, ND filters can smooth out the clouds producing a dreamlike image.

Over the years, I have found that I gravitate towards my rectangular 6-stop solid neutral density filter (1.8). With the 6-stop ND, I normally can tinker with my ISO and aperture to get my desired effect. I also have a rectangular 3-stop (.9) and a 10-stop (3.0). I rarely find use for the 3-stop. However, I will occasionally pull out the 10-stop if I really want to smooth things over. Again, this is suited to my style of photography but may help if you are looking to purchase your first ND filter.

Last, even though they are called neutral density filters, occasionally some can leave a color cast on your images. It really depends on the brand you choose and the strength of the filter. Strong NDs, such as a 10-stop, produces a stronger color cast. Therefore, it's worth reading a few reviews. This was never something I looked at early on in shooting. Over the years, the recurring task of unnecessarily having to deal with color correction while editing has made me zealous about reviewing filter brands before I purchase.



A scene captured using a circular polarizer to adjust for the water glare as well as a 6-stop neutral density filter to smooth out the water and clouds

Soft Graduated Neutral Density Filter

Graduated Neutral Density (GND) filters are necessary in many sunrise and sunset situations where the sky is much brighter than the remainder of the image. The GND filter is different from the ND filter in that it is based on a gradient. On a rectangular filter, the top of the filter is dark, the middle gradually gets lighter, and the bottom is clear. This allows you to slide the rectangular filter in the holder until you align it with the horizon. Therefore, you are darkening the brightest part of the image protecting that area from overexposure.

The two main categories for GND filters are soft and hard. Soft GNDs have more of a gradual shift from dark to light used when the horizon isn't perfectly straight. A hard GND has a quick transition area from dark to light. It is beneficial for perfectly straight horizons, like ocean scenes. I have both soft and hard GNDs in multiple strengths. However, the 6-stop (1.8) soft GND is a filter which I use heavily. It is what I opt for if I can't take all my gear with me. My runner-up is my 3-stop (.9) soft GND filter. The soft GNDs are more versatile because they can be used when the horizon is straight as well as when the horizon is not, such as scenes with mountains and trees. Hard GND filters are only suitable when the horizon is straight.

If you are thinking of adding photographic filters to your landscape photography equipment, then start with a circular polarizer, a neutral density filter, and a soft graduated neutral density filter. These three filters will aid in elevating your photos to the next level. At the same time, they will enable you to discover the filters most suited to your style of landscape photography.

Happy Shooting!

[More about Chrissy Donadi](#)

Three Mistakes to Avoid with Exposure Blending

-By Jay Patel

Natural-looking high dynamic range (HDR) photos like these make a viewer feel like they are looking out of a window at some exotic location. It is little wonder that these photos take your breath away and make you dream about quitting your daytime job and go traveling.



Beauty Creek, Jasper National Park, Alberta, Canada



Photoshop Manual Blending Workflow Examples

However, the experienced landscape photographer knows that it is not easy to capture high dynamic range photos like these. Not only do you have to bracket your exposure, but you also must be able to process these bracketed images to make them look natural. Most professional landscape photographers rely on manual exposure blending techniques to create stunning natural-looking images.

If you are just getting started with exposure blending, here are few mistakes to avoid.

Unbalanced Exposure

Because most manual exposure blending techniques use layers and masks in Photoshop, it is easy to end up with an unbalanced image where the exposure for parts of it does not match the light conditions you are trying to

capture. One of the more common areas of this unbalanced exposure is around highlights.



Image 1: Unbalanced Highlights – Maui, Hawaii (HI),
USA



Image 2: Balanced Highlights – Maui, Hawaii (HI),
USA

Image 1 shows how this unbalanced exposure can appear in an HDR photo. You can see that the highlights around the sun are much darker than what was visible with the naked eye. When you are looking directly at the sun, it’s almost impossible to see all the detail and colors in the immediate vicinity of the setting sun. Image 2 shows a balanced exposure blending where the highlights show the bare minimum.

Over-processed HDR Look

We have all seen the over-cooked look where the photographer desperately tries to restore the contrast in a flat-looking HDR photo. It is easy to find examples of over-processed HDR photos generated with automated HDR tools. But, if you’re not careful, you can also over-process an image with manual exposure blending techniques.



Over-processed HDR Photo – Glen Eilt,
Scotland



Natural Looking Exposure Blending Example – Glen Eilt,
Scotland

There is nothing wrong with producing an artistic image with the over-processed HDR look. However, if you want your HDR photos to look natural, it is best to avoid adding too much contrast in the automated HDR tools.

Edge Artifacts

Both manual exposure blending as well as automated HDR tools are prone to halos and edge artifacts. These artifacts can be easily seen around high contrast edges or with back-lit scenes with small details (such as back -lit trees). Here are few example of undesirable edge artifacts found in HDR photos:



*High contrast edge artifacts
Kirkjufoss, Snæfellsnes, Iceland*



*Artifacts in tree branches
Grand Tetons National Park
Wyoming (WY), USA*



*Halos around objects
Grand Tetons National Park
Wyoming (WY), USA*

Professional landscape photographers use luminosity masking and smooth edge transitions to avoid these halos. In our [Blending with Light](#) Photoshop tutorials, I used smooth high contrast edge transitions to avoid edge artifacts in the following Kirkjufoss photo.



*Smooth High Contrast Edge Transition
Kirkjufoss, Snæfellsnes, Iceland*



*Exposure Blending Example
Kirkjufoss, Snæfellsnes, Iceland*

This is exactly the type of information you will find in our [Blending with Light](#) Photoshop tutorials. In just under an hour, you will learn to create natural-

looking, blended images free of halos and artifacts. Our [Blending with Light](#) Photoshop tutorials avoid complicated, long-winded explanations and feature our simple, step-by-step process that we follow every time we blend.

[More about Jay Patel](#)

Top 3 Misconceptions about Night Photography

-By Kate Silvia

Night photography has intrigued landscape photographers for decades... and with good reason. Night photography is just plain fun!

I've been teaching night photography workshops for about five years. One thing I've noticed is that there are a few consistent misconceptions about making photos at night. If you've never tried night photography and think that it's beyond your capabilities, I'm here to tell you that you may be pleasantly surprised at what is actually needed to make a decent photo of the stars.

I Need Special Equipment Beyond My Digital Camera and Tripod

I'm happy to tell you, to get started in night photography, you do not need to invest in any special filters, new camera, new lens, or any other items. Yes, a few items may help once you've learned how to capture basic pinpoint star images (maybe a remote release or an extra wide aperture lens), but they're not necessary to get started.

To begin with night photography, all you need is the digital camera you have, a wide angle lenses (35mm or less full frame, 23mm or wider on a 1.5 crop sensor), your tripod, and a night sky with few to no clouds. Whew... you don't have to spend more money!

It's Really Complicated!

Nope! It looks and sounds complicated, but as long as you have an understanding of manual exposure landscape photography and know your camera, it's not hard at all.



Night photography at Folly Beach

Wait... I'm supposed to be encouraging people to study photography with me. I shouldn't say that! But it's true. To go beyond basic pinpoint stars, exposure blending, star trails, light painting, and other fun activities, you'll need some education. There... I did my shameless self promotion.

To get you started, here are some beginning settings to try out the next time the sun goes down. About 45 minutes to an hour after sunset, with your digital camera, a wide angle lens, and a tripod, try these settings and see what you get. ISO 1400 to 2000, f/4, 16-24mm, 25-30 seconds. Use your internal timer or a remote if you have one to avoid pressing the shutter button during the exposure. Obviously, those numbers can be adjusted and, depending on your location, you will be making adjustments for light levels. The digital sensor is like a sponge, ready to absorb light. You'll be surprised how many stars you can see in your image that you may not be able to see with the naked eye.

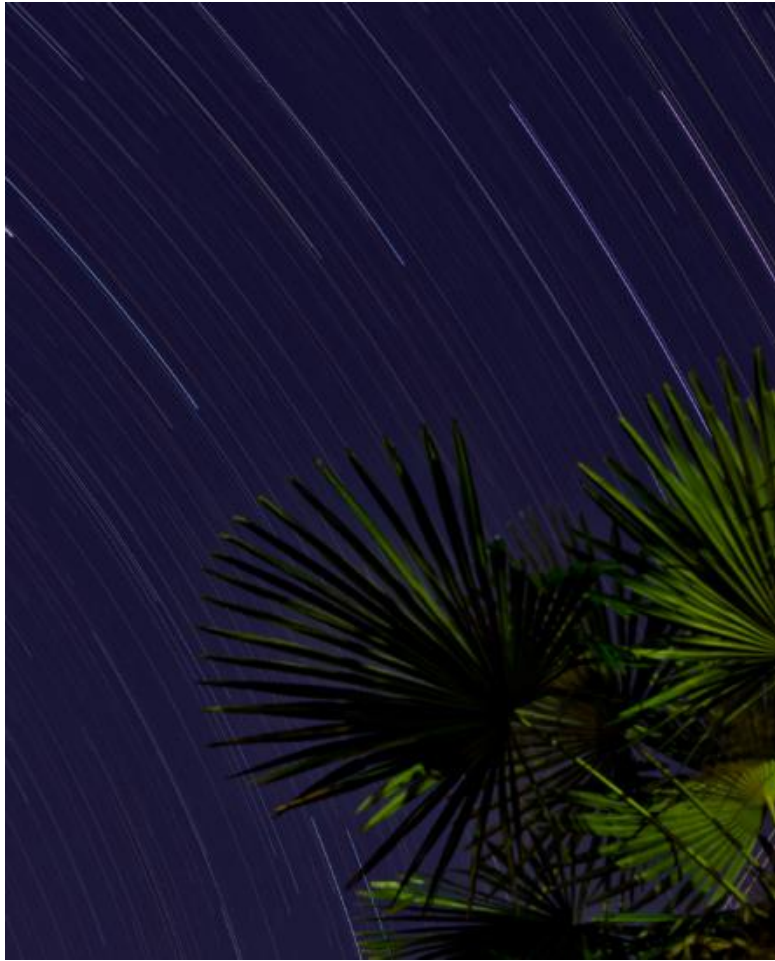
I Need to Travel Far From any City

Nope! You sure don't. It's not necessary, especially when you're starting out, to take a trip to a remote location just to practice night photography. Will you get more stars and less light pollution in the middle of nowhere? Of

course, but that doesn't mean you can't get some decent photos near or even within a city. I live in a city of 1,000,000 people and I took this image in my front yard. I used a flash with a blue gel on it to illuminate the palmetto leaf.



The next photo is a star trail at the same location with the palmetto leaves being lit by the street light across the street. Now that's a technique that you'll need a piece of special equipment for if you don't already have it... an intervalometer. Dang... I knew we'd get into spending more money sooner or later.



Star Trails

I hope you'll give night photography a try sometime. Go out on the back deck or over to the nearest park and just practice. Once you've achieved those basic pinpoint stars, don't forget to get some help to take the next steps toward more advanced night photographs like star trails, light painting, and image editing and blending. Above all, have fun!

[*More about Kate Silvia*](#)

Creative Techniques with Multiple Camera Exposures

-By Joshua Cripps

Most modern cameras allow you to create multiple in-camera exposures, combining as many as ten different shots into a single raw file. This ability opens up a world of creative possibilities and I'll show you just a few fun techniques in this article. But first let's take a look at what happens in multiple camera exposure (MCE) mode on your camera.

Each brand and model deals with MCE a little differently so check your use manual about how to engage it. In general, when shooting MCEs you have four options:

- **Add** – This adds the brightness value of each photo to the previous shot. Every photo increases the final exposure.
- **Average/Mean** – This averages out the values of every photo. The final exposure is an average of all the shots.
- **Lighten** – This option compares each pixel in each location in each photo and only uses the brightest one from each shot. For example, if you combine a bright sky photo with a dark mountain, the sky will dominate the final result.
- **Darken** – This option compares each pixel in each location in each photo and only uses the darkest one from each shot. For example, if you combine a bright sky photo with a dark mountain, the mountain will dominate the final result.

Ok, so that's a lot of jargon that's a little hard to understand. Each mode has its own creative applications and technical challenges. For simplicity in this

article, I take a look at only the Average mode and a few of the fun things we can do with it.

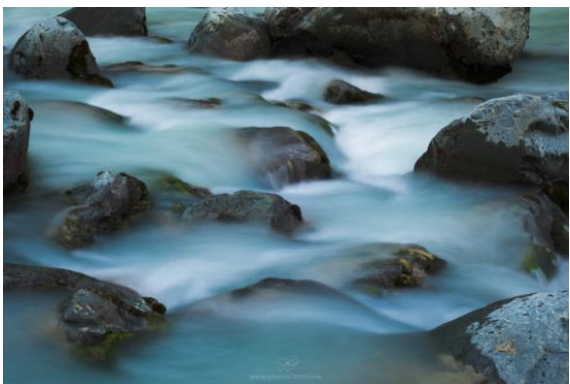
Super Long Exposures and Long Exposures Without Filters

This is probably my favorite overall technique using multiple camera exposure mode. When you combine and average many individual photos, it produces almost the exact same effect as a single long exposure equal to the duration of all the individual photos put together. In other words, when you average six 1-second photos, the result is virtually identical to taking a single 6-second photo. This is useful for a couple of reasons:

- Say you want to shoot a long exposure but the ambient conditions are so bright you are only able to get a max shutter speed of 1/2" before your image blows out. Using MCE mode, you can combine ten photos at 1/2" and get the same look as a single 5" exposure.



Each individual photo might look like this



The multiple camera exposure image result looks like this

- Or say you have a strong ND filter or the light levels are low. You might be able to shoot a 15" exposure. You can then combine ten of those individual 15" second shots and end up with the equivalent of a 2.5-minute exposure!



A single, midday, 15-second exposure of slow-moving clouds. Can't go any longer or sky will blow out



Combining 10 photos in multiple camera exposure yields the same look as a 150-second exposure

How to do it:

1. Put your camera on a tripod.
2. Dial in your baseline exposure, focus, go to all manual for everything for consistency between shots.
3. Select Multiple Exposure, Average Mode on your camera and select the maximum number of camera exposures.
NOTE: With some cameras, this is three shots. Other cameras have nine or ten photos maximum.
4. Put your camera in Continuous High shooting mode.
5. Using a remote shutter release hold down the shutter button until your total number of camera exposures have been taken.
6. The camera automatically produces the final raw file.

Trippy Double Exposure

MCE Average mode can also be used to create a fun effect by combining a static shot with a photo full of motion. For example, this image is the result of combining two photos in camera, a static shot of the leaves and another shot where I zoomed the lens during a 1/4" exposure.



The result of combining a static photo with a zoomed photo.

How to do it:

1. Put your camera on a tripod.
2. Dial in your baseline exposure, focus, go to all manual for consistency between shots. Aim for a shutter speed in the 1/4"-1/2" range.
3. Select Multiple Camera Exposure, Average Mode on your camera and select two exposure or Double exposures.
4. Take a static shot of your subject.
5. During the next photo, zoom your lens in or out.
6. The camera automatically produces the final raw file.

Forest Abstracts

We've all seen those photos of deliberately-blurred tree trunks. With MCE mode, you can play with a similar idea but with a completely different spin. In this case, by moving the camera slightly up or down in between exposures you create a very cool patchwork effect.



Combining 10 photos of the forest while panning down slightly in between each shot yields this look.

How to do it:

1. Dial in your baseline exposure and focus.
2. Select Multiple Camera Exposure, Average Mode on your camera, and select the maximum number of exposures.
3. Point your camera up at about a 45° angle and take your first shot.
4. Pan the camera down about 5° in a vertical line and take the next shot.
5. Repeat #4 until you've finished the series.
6. The camera automatically produces the final raw file.

These are just three ideas using a single blend mode in MCE mode. There are tons of other amazing possibilities out there, especially when you start playing with the other MCE modes. Got any favorite techniques for enjoying multiple in-camera exposures? Let me know in the comments.

Thanks for reading my article.

[More about Joshua Cripps](#)

Breathtaking landscape photos with your iPhone camera

-By Grant Collier

In June of last year, I wrote an article stating that the most valuable piece of photography equipment [you'll ever own is your brain](#). If you use it properly, you'll be able to capture great images with just about any camera including your iPhone camera.

Just a few months later, I was forced to put this claim to the test. While visiting my mom in Golden, Colorado, I looked out the window and saw a truly incredible sunset. I didn't have my DSLR cameras with me so I grabbed my iPhone and began taking photos in her backyard.

I had almost no experience shooting with my iPhone, as I take almost all of my shots on my regular camera. So I just started shooting in whatever default setting it was in. I quickly learned that one of the biggest limitations for an iPhone for landscape photography is that the effective (35mm equivalent) focal length of its lens is around 30mm. While this is fairly wide for images of people, you'll often want a much wider lens for big landscape photos.



I took 46 images on my iPhone camera to capture this 136 megapixel image

The sunset I was shooting filled the entire sky, so I knew I wouldn't get a very good shot with a single exposure. I instead started taking many images of small parts of the scene that I would later stitch together. I avoided using the auto-stitch option on the iPhone. To do this, you have continually move the camera while it is taking shots, which will produce some blur in the image. You also can't take multi-row images of even larger scenes using this feature.

I instead manually took a shoot of the bottom, left corner of the scene, trying to hold the camera as still as possible. I turned the camera a little to the right, took another shot, and so on. When I got the rightmost part of the scene I wanted to capture, I tilted the camera up, took a shot, moved the camera to the left, and so on. I wound up taking over 50 shots with four rows of images to capture a couple of my photographs.



*The sunset filled the entire sky, so I took this image while facing in nearly opposite direction from the previous image.
It is 82 megapixels.*

Normally when stitching images, you want to shoot in Manual and keep your camera settings the same for all your images. Unfortunately, you can't do this with an iPhone camera. The shutter speed and even color balance change from shot-to-shot. I had to hope that modern stitching software would fix this when processing the files. Fortunately, the stitching software did a great job. I recommend first trying Adobe Lightroom to stitch your images. If this doesn't work, you can try other programs, like Image Composite Editor, which is a free program for PC users.

One great thing about stitching images with an iPhone camera is that it not only gives a much wider field of view, but it also gives you much larger, higher-quality images. The images I captured ranged from 70 to 136 megapixels in size. Since I was shooting in low-light, the individual, 12-megapixel images were quite noisy. While the stitched images still have noise, you have to zoom in a lot farther to see it and can thus print the images at much larger sizes. I'd be comfortable printing these images up to about 30" on the short side.



The clouds changed so fast that by the time I capture one compete image, there was a different scene waiting to be photographed.

While I was quite happy with the results, I'm not planning any extreme cost-cutting measures by selling all my camera gear and using only an iPhone. There are still obvious limitations to an iPhone camera, in regards to noise, pixel count, lack of control over camera settings, and a single, fixed lens. I do believe that 90% of an image depends on composition, lighting, and post-processing, and 10% depends on the camera that is used. But for a professional photographer, that 10% can still make a very big difference. For a hobbyist, you should be confident that you can capture great images on an iPhone or any camera if you study photography and fully-engage your brain.

I should add that there are accessories and apps for iPhone cameras that can allow to add a longer lens or manually adjust the shutter speed, aperture, and ISO. If you are interested enough in photography to consider buying any of this, I recommend instead getting a low-cost DSLR camera. These cameras will get superior results to an iPhone and probably won't end up costing much more than the accessories for the iPhone.



This is actually the same image as the one posted above. I just used different options when stitching the image. This option gave it the look of an image taken with a fisheye lens.

While I used the iPhone camera when I had no other options, I don't see myself ever using an iPhone because it is the best tool for the job. However, there are some other small point-and-shoot cameras that I own specifically for shooting in special circumstances. One is a GoPro camera with a dome. This camera allows me to inexpensively take over/underwater shots anywhere there is a clear body of water. Another small camera I use is the one on my DJI Mavic Quadcopter. Since I now have a commercial drone pilot license, I use this camera to get images from unique vantage points from the air. I will discuss using both of these basic cameras for such purposes in the next two articles.

[More about Grant Collier](#)

