

THE **ULTIMATE** GUIDE TO
LONG EXPOSURE
FINE ART PHOTOGRAPHY



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INCLUDES STEP-BY-STEP PHOTOSHOP TUTORIALS AND EXERCISE FILES



1. OVERVIEW

2. APERTURE AND SHUTTER SPEED

3. F-STOP, S-STOP AND FILTERS

4. HISTOGRAMS

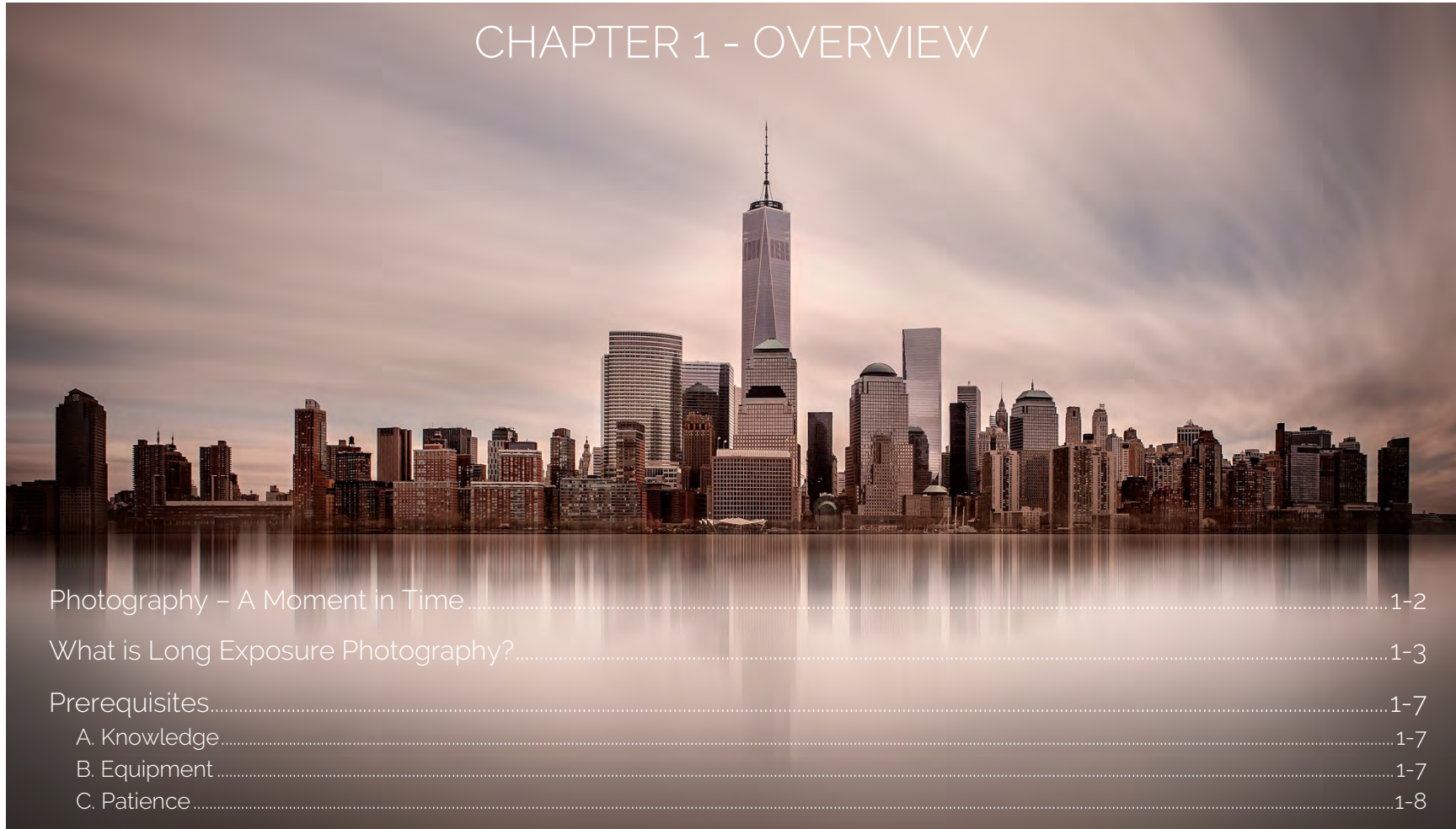
5. THE DIGITAL DARKROOM

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CHAPTER 1 - OVERVIEW



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Chapter 1 - Overview

Photography – A Moment in Time

Photography in its classic form freezes a moment in time. A split-second event that is eternally captured. It can be anything from a baby's smile or a flap of a hummingbird's wings to a breathtaking landscape, ranging in variety as life itself. However, in all instances we have no clue of what has happened before or what will take place after, looking at a photo we only get to witness a moment in time.



Figure 1-1 Capturing a Moment in Time
(split second)

In life, as most of us know it, our senses can observe four dimensions, the first three being spatial (length, width and depth) and the fourth is time. It is the combination of these four that create a realistic experience.

In essence, the more dimensions in an art form, the more complex and sophisticated it will be; and therefore, more meaningful and beautiful.

Photography, unlike us humans, displays itself on a medium with only two dimensions, a flat sheet of paper (or screen) which has length and width. The photographer uses their artistic ability to convey not only a sense of depth through composition and focus areas, but also the conveyance of time (the fourth dimension), which is a bit more challenging.

What is Long Exposure Photography?

If you think about it, our conception of time is through movement and change; from the change of seasons defining a time-length of a year, to a glass of milk spilling on the table in a split second. If we manage to capture movement or change in a photograph, we add a fourth dimension to our image and create more depth and meaning in the subject matter. This is what Long Exposure Photography aims to achieve; it adds movement to the photo to convey a sense of time which results in enhancing the context and meaning of a photograph. Of course, 'long' is a relative term, and we will see the effect of different lengths of time throughout this book and how they affect the image.



Figure 1-2 Motion Conveying a Sense of Time (seconds).
Creating a hustle bustle feeling rather than a stagnant feeling.



Figure 1-3 Motion Conveying a Sense of Time (minutes).
Notice the motion-like sky while the rocks and land remain still, creating a sense of permanency of the land but change in the elements.

The Long Exposure Photography technique taught in this E-book explores the method in which the camera shutter is open for periods of time in the magnitude of minutes, thereby creating a soft appearance for objects that are in motion as shown in Figures 1-4 and 1-5 below.

The beauty of this technique has many interpretations:

1. Juxtaposition – opposites attract. The pairing of a static (hard) object such as a structure or a cliff, with a moving (soft) object such as clouds or water, creates an intriguing contrast of soft and hard. It also plays on a philosophical notion of eternal versus temporary, a powerful tool to convey vision and intention within a Fine Art image.
2. Another strong element of Long Exposure Photography is that it distorts the way we actually see reality. I have always been a strong believer that art presents its statement by distorting reality, exaggerating the feature it intends to showcase. The impressionism movement distorted reality by exaggerating the use of colour; Cubism distorted the perspective in which we perceive reality from one viewpoint and so forth. We do not look at art to see the world as we can with our own eyes, we look at art to see beyond what we can see, and it is the artists' task to do just that. When we look at a Long Exposure image, it depicts reality in a way that is different from how the human eye experiences reality. We perceive life as a video, a seamless continuation of scenes. A Long Exposure image shows us reality in a completely different way. It compresses motion into a two-dimensional image and lets our mind interpret the complexity and sophistication of the Long Exposure as a Fine Art image.

NOTE: It is important to note that all images in this technique are taken during the day. It is the white clouds against the dark blue sky that 'paint' the streaks to create the Long Exposure look.



Figure 1-4

Figure 1-4 is a composite image using Long Exposure to convey the windy sky and turbulent waters. Long Exposure is used to convey vision and intention

Photo Data of Figure 1-4:
Composite of various Long Exposures



Figure 1-5

Notice in Figure 1-5 how the clouds create a blurry, brush-like effect due to the nature of their movement making the sky look like "streaks". The motion of the clouds creates a strong contrast to the stable buildings.

Photo Data of Figure 1-5:
Focal Length: 18 mm
Aperture: f18
Shutter Speed: 121 seconds
(2 minutes)



Figure 1-6

Notice in Figure 1-6 how the Long Exposure completely eliminates the ripples in the water, making the ocean appear like a marble slate.

Photo Data of Figure 1-6:

Focal Length: 18 mm

Aperture: f11

Shutter Speed: 545 seconds (9 minutes)

It can be seen (especially when looking at the clouds image in Figure 1-6) that the longer the exposure, the less "streaks". Figure 1-5 was taken at a shutter speed of 121 s (2 minutes) and the continuously moving objects (clouds) appear streakier, compared to the smoother looking clouds and water in Figure 1-6, which was taken at a shutter speed of 545 s (9 minutes).

Prerequisites

A. Knowledge

This technique requires shooting in full manual mode and calls for fluent knowledge in metering (setting the shutter speed and aperture) as well as reading histograms.

Aperture and Shutter Speed are explained extensively in Chapter 2; it can serve as a fresh reminder of the topics, or if you feel confident in the material, feel free to skip this chapter.

Histograms are explained extensively in Chapter 4; again, it can serve as a fresh reminder of the topics, or if you feel confident in the material, feel free to skip this chapter.

B. Equipment

Necessary Equipment for Long Exposure Photography:

1. A camera with BULB Mode – as do many SLR Cameras (digital or film, does not matter although this manual refers to digital photography post processing), or a Mirrorless camera. Additionally, it is highly recommended to have a digital camera with a RAW file mode. A personal note here if I may, there is no need to go out and buy the latest and fanciest camera. Of course, performances of various cameras will vary but the most important thing to keep in mind is that “it is not the camera, it is the photographer” – I cannot stress this enough.

A side note on Mirrorless cameras: since this E-book was first published (in 2012), Mirrorless cameras have become prevalent amongst many photographers. I personally also switched from my heavy DSLR to a light compact Mirrorless. This E-book will address the differences of shooting SRL vs. Mirrorless as the topics arise.

2. A sturdy tripod. Remember that you may be shooting on cloudy windy days and you want your landscape objects (clouds and water) to move, not your camera! A trick of the trade is to get a tripod that has a hook on its stem, once the tripod is set, place your bag on the hook to add weight and stability to the tripod.
3. A cable release or remote control to activate the camera.
4. Neutral Density (ND) Filters, which will be discussed in detail in Chapter 3.
5. A stop watch. Many cameras have a timer in the LCD display or on the top digital display. However, if your camera doesn't, then you will need a stop watch as most digital cameras' shutter speed only goes up to 30 seconds, which will not be enough. For Long Exposure Photography, you will need to set your Shutter Speed to BULB and time the exposure manually. You are more than welcome to use the stop watch on your smart phone; however, please take this into account: the more devices you have out with you, the higher the chance of something falling into water or on a rock. I personally like working with a track stop watch that I keep on a string around my neck for convenience.
6. A Filter Conversion Table or App that will tell you the corrected exposure time after adding the ND filters on your lens. More on this topic in Chapter 3.

C. Patience

No joke here. If you are the fast shooter that needs the adrenaline rush of war zone photojournalism, this technique will not be your cup of tea. Long Exposure Photography requires the patience of a painter. You will be scoping an area to find the best composition and patiently framing a shot that can take anywhere from a few minutes to as long as thirty minutes, if not longer, and most likely it will be on a cold cloudy day. I highly recommend a good pair of gloves, wool hat and a down coat to make crawling out of a warm bed at the crack of dawn on a winter day slightly less painful.

These are the basics. We will revisit this list at the end and add a few essential "tricks" to the toolkit in Chapter 6–Algorithm to Long Exposure Photography.

Choosing Your Filter System

An important consideration to keep in mind regardless of what filter brand you decide to purchase, is 'What is your personal style?'

There are two types of filter systems:

1. Circular filters that thread on your lens and to one another.

2. Square filters that fit in a holder.

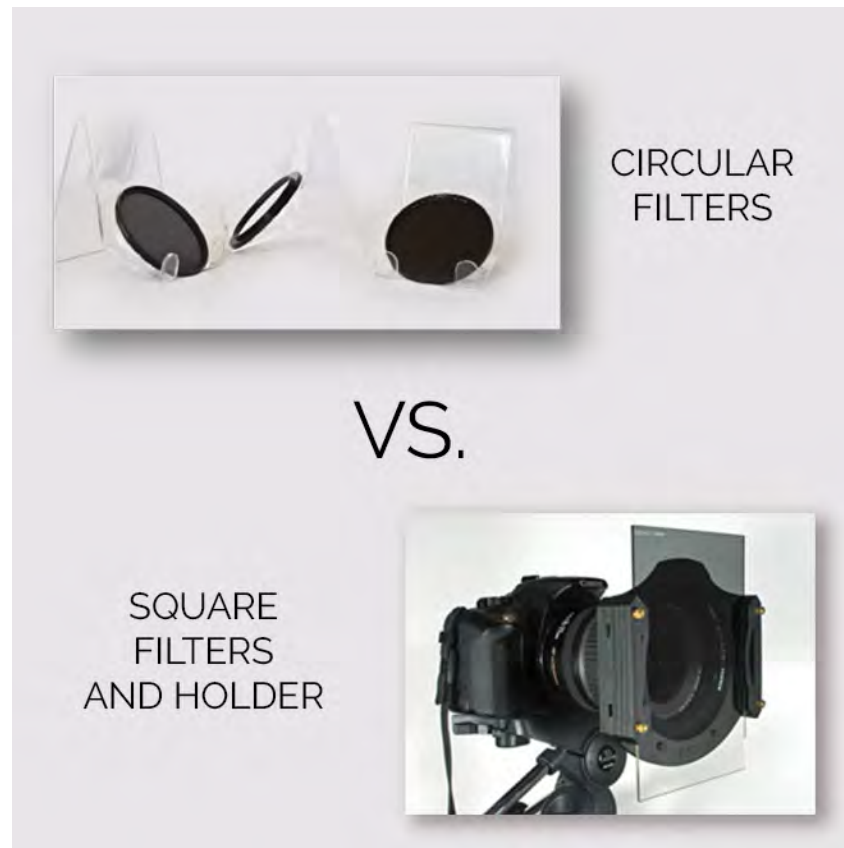


Figure 3-6 Circular vs. Square filter system

I will elaborate on the pros and cons of each system.

The Circular Filter System:

Circular Filters – Pros:

- No light seepage when shooting long exposures
- I personally like shooting with this system as all my 77 mm fit in my filter pouch bag that straps onto my belt. This way I have comfortable and easy access to the filters. I do wish they would create different coloured rings for each F-Stop filter. This would make life easier when pulling out a filter, they would be colour coded and you wouldn't need to read the fine print on the ring each time. I paint my filter rings with coloured nail polish to differentiate between them in my filter bag.

Circular – Cons:

- Threading the filters onto the lens can be tedious, especially if you are not shooting with a prime lens and risk changing your focal length as you thread them, not to mention having them drop while you thread. One way to overcome this (in specific situations) is to use the XUME magnets - they are amazing for what they do. Just thread one magnet ring on the lens, the other on the filter and now just place the filter gently, it will snap into place without any hesitation. The one caveat: when you are threading two filters when shooting with a wide-angle lens, any addition to the lens can cause vignetting. I have yet to find a way around this.
- Thread two filters together lightly and with caution as some people (dare I say men...) tend to over tighten them and then, well, good luck trying now to separate the two filters.

NOTE: At the time of writing, the brand Breakthrough Filters were working on creating filters that already have a magnetic ring and thus reducing the thickness of the ring, which results in minimal or no vignetting.

Additional Notes about Circular Filter Rings:

1. Brass Ring vs. Aluminium Ring:

Circular filters have a ring around them that is threaded onto the lens, or from one filter to another. This is useful for increasing the ND strength, i.e. threading a 10 F-Stop filter with a 6 F-Stop filter will result in 16 F-Stops.

Brass rings are more durable and add to the longevity of the filter, which results in a higher price point. Aluminium ring filters are still very good; however, if dropped on a hard surface can dent more easily than the brass ring (hopefully the glass won't break first!). This is a consideration you need to ask yourself; do you tend to drop, slip, or shoot in rigorous conditions where you will need a more durable filter? Or, do you always carefully place your filters in their corresponding containers without the danger of having them drop or slip?

2. Ring Thickness:

Some rings are thicker than others, so stacking two filters on an extreme wide-angle can result in vignetting. On the other extreme, some ND filters of 16 F-Stop are paper thin so there is no danger of vignetting. An easy way to overcome this issue is to purchase a large diameter filter and use a step-down ring for your lens. I was shooting with two 77 mm filters threaded together, a 6 and a 10 F-Stop on a 72-diameter lens at 10 mm (cropped sensor Fuji X-T2) and I still had some vignetting. I would recommend purchasing the 82 mm to eliminate vignetting altogether.

The Square Filter System:

Square – Pros:

- The filters sit on slots and can be placed in and out of these slots with ease.
- If you are shooting Long Exposure, you can even add to the ND filters an additional Graduated filter. This will help in darkening the bright sky and create an artistic looking vignette in the sky. Furthermore, with the holder system you have the flexibility to move your graduated line up and down the horizon line as needed according to different light situations and compositions. With the circular system, you are stuck with a graduated filter that has the horizon in the middle of your lens.

Square – Cons:

- Many filter holder systems are VERY prone to light seeping between the filters placed in the holder and thus creating ghosting or other unwanted light features during Long Exposures. You can overcome this by adding tape or dark cloth around the top of the filters.
- This system is a bit more cumbersome to work with in the field. With the circular system, I can take my shots without having to place my camera bag down on a surface and spread out all my 'stuff'. This comes in handy when I'm shooting knee deep in water or on steep terrain. With the holder system, it's pretty much impossible not to have to spread out your bag to access your equipment. If you find that you always place your bag down and 'settle' into a location you are shooting, then this would not be a problem for you.

Colour Cast:

Lastly, regardless of which filter system you decided on, different brands of filters will have different colour casts and is quite a big issue with ND filters. Most of the filters will have some sort of colour cast. If you shoot for a final black and white image or don't mind fixing the colour balance in post, then that shouldn't be a problem as post-production is such a key phase within the complete Long Exposure process. However, it is something to consider.

Sometimes the higher value ND Filters are hard to find at your local camera store and might require a special order. You can consider shopping online.

Note: The higher end filters have a brass ring. I personally recommend these for two reasons:

1. It makes them more durable, and,
2. It is easier to thread two filters together without having them stick.

3. What is a Mask?

The concept of Masking in Photoshop is what really sets it apart from any other post processing software. A Mask allows you to make selective adjustments to your image rather than global adjustments (as we have seen in the example above. The concept of the Mask, once understood, is very simple.

The **white** areas in the Mask show the areas that will be affected by the adjustments.

The **black** areas in the Mask show the areas that will not be affected by the adjustments.

In between white and black, there are various shades of **gray** (partial opacity) that will determine partial visibility of adjustments.

It helps to visualize the concept of the Mask with the idea that it is similar to what happens when someone actually wears a mask.

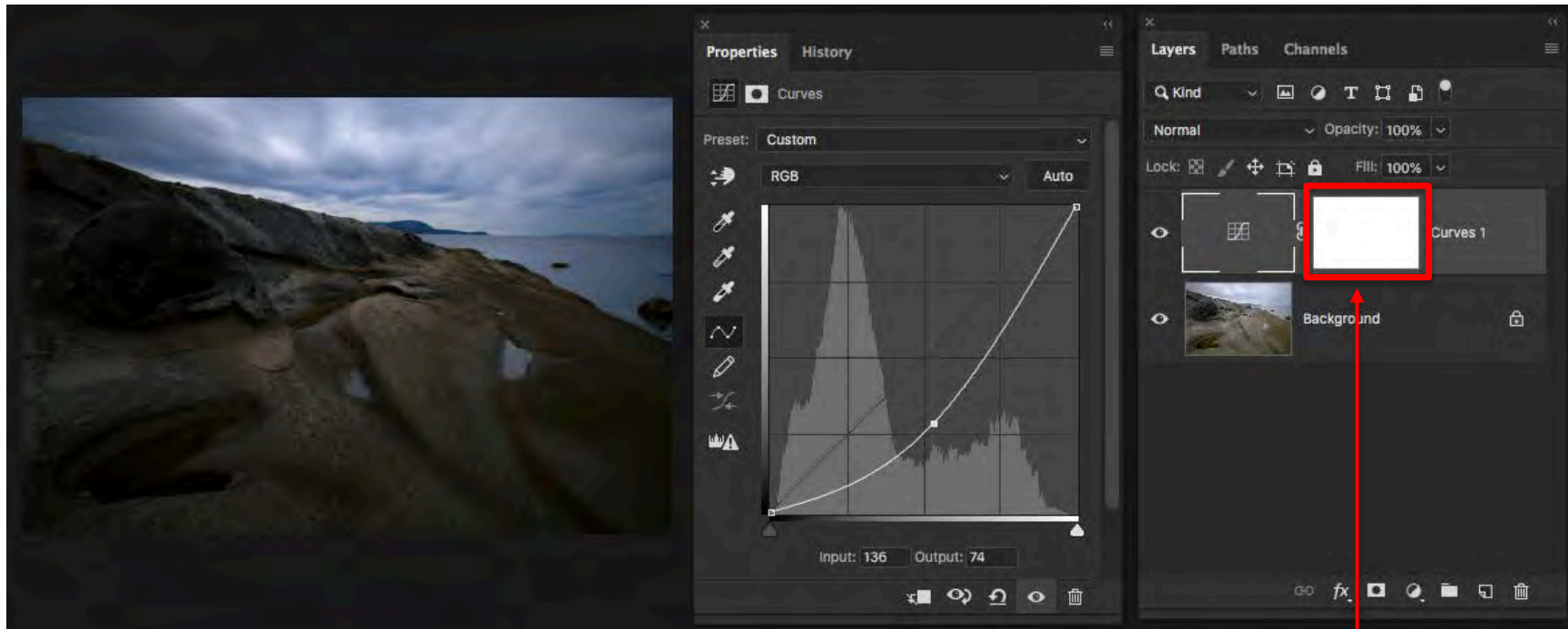
Everything (meaning adjustments that were made with an Adjustment Layer) behind the mask is not visible and everything else (white) is visible.

White = 100% Visible

Black = 100% NOT Visible



In the previous example we saw that darkening the image with the Curves Adjustment Layer affected the whole image (globally). When we look at the Mask associated with this Adjustment Layer, we can see that it is all white, meaning, the whole area of the adjustment will be shown on the image. We can, in various ways, tell Photoshop to not allow some areas to be affected by the darker tones.



The entire Mask is white, indicating that the whole image will be affected by the adjustment

If we look at the Mask on the image below, we can see that some areas are white, some black and gray. The white areas show the areas that reveal the adjustment made by the Curves Adjustment Layer, the black areas show the areas that conceal the affect and the gray areas show a partial opacity.

The Mask:

White areas in the mask show the effect of the Curves

Gray areas in the mask partially show the effect of the Curves

Black areas in the mask conceal the effect of the Curves

Example 1: One shot post processing – Yin Yang Image

Follow along with attached exercise files.



Before



After

Camera: Nikon D80

ND Filters: 13 F-Stops B+W Filters

Aperture: 22

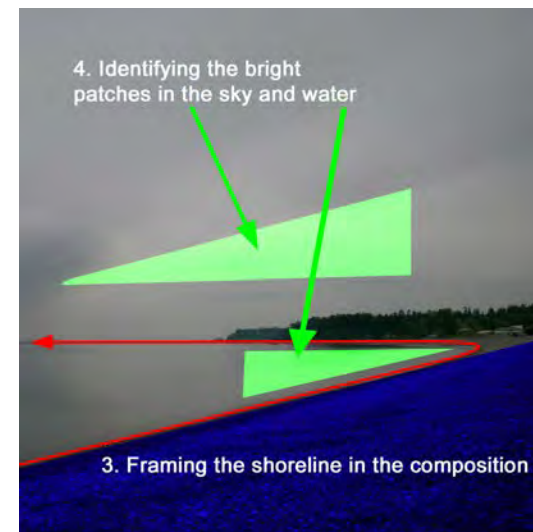
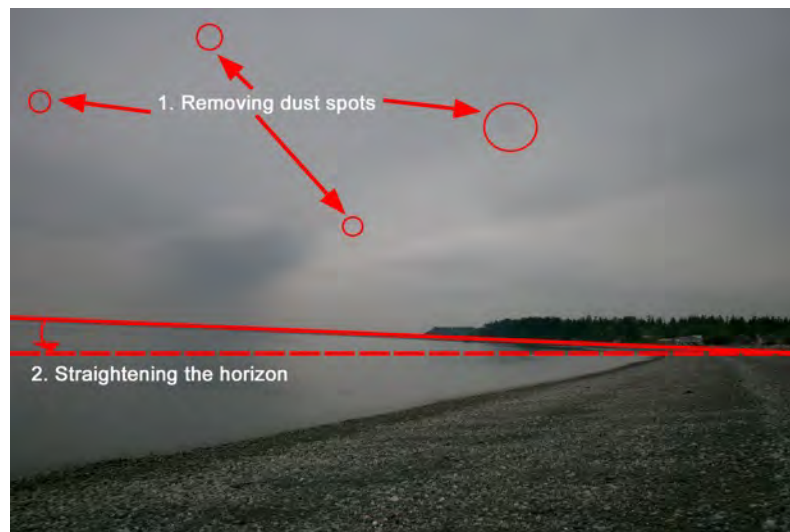
Focal Length: 25mm on a cropped sensor (equivalent to 37.5mm on a full frame)

Exposure: 537 sec (9 min)

This image was taken with 16 f-stop filters. It was quite an overcast day and the clouds were not moving much; however, the Long Exposure resulted in creating a diffused and blurry-like sky and smoothed the water to eliminate all traces of waves or ripples. The image on the left is straight out of the camera. I try to develop a mental outline for post processing before I enter Photoshop; this outline would result in the following outline for my post-production workflow.

Post Processing Overview:

1. Clean out sensor spots with the healing or clone tool.
2. Straighten the horizon.
3. Cropping: When I took the shot, it was the curve in the shoreline that caught my eye – that was my compositional intention. Therefore, I will crop and process the image to place the curve as the main compositional structure.
4. Converting to black and white. You don't need to process every long exposure in black and white and sometimes you will get beautiful sunrise or sunset colors that you will want to leave in the image. However, in this case the day was gray and drabby so I preferred converting to black and white.
5. 'Dodging and Burning': When shooting LE, you never really know what result you will get, how the clouds will play out and the streaks/light and shadow you will get. When I initially looked at the image I took, I saw a small lit area in the sky surrounded by darker clouds, this brighter area was also reflected on the water. I decided to highlight this feature in a 'Yin-Yang'/mirrored style. Doing so will require darkening areas around the brighter patches and brightening the already light ones. By exaggerating this contrast, I can achieve the result in the final image.

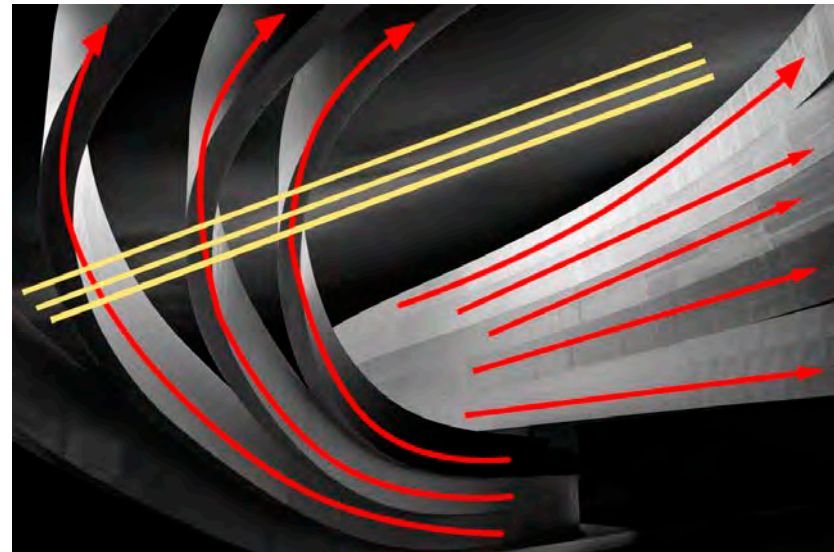


Be Original: Create Images with Vision and Intention.

When I first arrived at this location, the Design Museum in Holon Israel, I was awestruck by the building. As I was wandering around the outside foyer of the museum, taking images and 'brainstorming' through my viewfinder, the architectural design of the building reminded me of fingers strumming a guitar. Unfortunately, the sky during my visit was bland and flat. I still took the shots I needed, and later in my post processing, I added a Long Exposure sky that conveyed my vision of what I saw in my mind's eye. The post processing required working with composites and advance selections (the Pen Tool, Gradient Lighting etc.); however, once I had the vision, the post processing was just a technicality.



Design Museum – Before post processing and cropping.



My vision: the red curved lines were fingers in my mind's eye and the yellow lines are the guitar cables.



Design Museum Final

I post processed the Long Exposure sky to create streaks in the direction of the guitar strings envisioned to create a visual story.



Kite Surfer

There was no chance to capture this scene in one shot. From start to finish this image was all about vision. I created a composite by using a Long Exposure sky to show the turbulent and windy sky, a shorter Long Exposure for the water and finally a still shot for the surfer and kite.

Think Outside the Box

Recently I have been enjoying photographing architectural interiors. I love the large depth of field and how the image draws you in in layers. However, after processing the images, I found something was missing, a little pizzazz and flair to add to an image. While exploring the hidden corners of my creativity, I decided to turn interiors into exteriors by adding a portal into a Long Exposure Sky.



Giorgio Armani Store in NY – was designed to resemble the upwards spiral of a cigar smoke.



Replacing a portion of the image with a Long Exposure sky.



Cooper Union Building in NY



Replacing a portion of the image with a Long Exposure sky



I hope that you have enjoyed reading this Ebook and have gained knowledge on the technique of Long Exposure Fine Art Photography. For any questions or comments, please contact:

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For viewing additional work and products by Sharon Tenenbaum please visit:

www.SharonTenenbaum.com

Sharon Tenenbaum



Sharon Tenenbaum was educated as a Civil Engineer in Israel and practiced as a Professional Engineer in Vancouver, Canada. In late 2007 she made a decision to part from engineering in order to pursue her passion for photography after being inspired by a life-changing journey to South East Asia. Her passion for photography started with street photojournalism, yet combined with her original background as a Civil Engineer, her work covers a wide gamut of subject matter from 'in the moment' Photojournalism to Fine Art Architectural Photography, which is a perfect marriage of her engineering and artistic sides. In a relatively short period, she has managed to define an artistic direction and distinctive style in her work, acquiring international recognition in the process. Sharon has numerous fine art international awards and her work has been published in several magazines including National Geographic. As a Photographer, Tenenbaum is a self-taught artist, having learned her craft through personal research and practical experience behind the camera. In her work, she incorporates a Long Exposure technique to expand the expressive dimensions of her art. Although an artist at heart, Sharon enjoys teaching and sharing with others her photography techniques and vision. She teaches Fine Art Photography Workshops around the world as well as at Langara College in Vancouver, BC. Sharon also has a variety of digital teaching products.



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