Taking full control! Switching your camera to Manual Mode.

By Chuck Palmer

I am so marvelous, funny and cute. I tell myself this all the time even though I really am not that marvelous, not so funny, and certainly not cute. This simple little sentence helped me learn how take full control all my camera settings. It stands for ISO, Aperture, Shutter, Meter, Focus, and Click. . . the steps to switch our camera from Auto, and take full control of capturing that remarkable image.

Before we review each of the steps, why on earth would we want to shoot our camera in Manual mode? Simply put… when you need to take full control of exposure decisions. Manual mode exposures are especially helpful when lighting conditions in the background of your image are changing. Suppose your subject is a shore bird with breaking waves constantly changing light tones in the background. The only way to set the exposure for the bird, ignoring the changing light from the breaking surf is to set your camera to Manual Mode.

So let's look at each of the steps to Manual Mode Photography.

I – Set your ISO according to your light conditions.

ISO stands for International Organization of Standardization, a governing body based in Europe that provides the standards for a wide variety of subjects. For photographers, the key standard is film speed ratings and light sensitivity for today's digital camera sensor. Increasing your ISO setting increases the light sensitivity of your digital sensor. Your camera can now take photos in low light conditions without having to use a flash. But higher ISO settings comes with a price. . . it adds digital noise, or grain to an image. The difference is clear. Photo 1 below is shot at ISO 100. Photo 2 is shot at ISO 3200. Notice the difference in the graininess of the photo. So unless you are going for the artistic character of grainy images, we need to set our ISO to as low as light conditions allow to maintain our Aperture and Shutter preferences. More on these preferences follows. However, typically you will want to set ISO in the 100 – 400 range in daylight, and the higher ranges of 800 – 6400 in low light conditions. See the Manual Photography Cheat Sheet below.

Photo 1 – ISO 100

Photo 2 – ISO 3200

Am – Set your Aperture for your desired depth of field.

Lens Aperture, or f stop, is the opening in the lens that lets in the light that falls on your digital sensor. Your lens will likely have values between f/1.8 and 32. The smaller numbers mean a wider aperture that let in more light. Bigger numbers mean a narrow aperture, reducing the amount of light that falls on your camera sensor (See Cheat Sheet). But aperture controls one more very important optical quality of your photo! Depth of Field (DOF) is the distance between the nearest and farthest objects in a scene that appear acceptably sharp in an image. Although a lens can precisely focus at only one distance at a time, the decrease in sharpness is gradual on each side of the focused distance, so that within the DOF, the amount un-sharpness is imperceptible under normal viewing conditions. Outside of the DOF, portions of the image may be out of focus. A wide aperture (low f number) results in a very shallow DOF, or range of sharpness. A narrow aperture (high f number) results in a wide range of sharpness or DOF.

So – Set your Shutter Speed

Shutter Speed sets the amount of time your lens aperture exposes your digital sensor to light from the scene. Shutter Speed values are typically between 30 seconds and 1/4000 of a second. Your camera may differ, but almost every camera today has a large range of shutter speeds to select from. In addition to another light control for your sensor, shutter speed also controls another important quality characteristic of your photo. Sharpness. A slow shutter speed less than 1/30 second will typically result in motion blur if your subject is moving, or fuzzy photos from hand holding camera shake. To stop a moving subject, shutter speeds greater than 1/500 are typical. Some photographers are able to hand-hold very slow shutter speeds with the help of Image Stabilization technology built into today's lenses. However, I like to try to get the shutter speed at 1/100 second minimum to eliminate fuzzy photos from camera shake. Use a tripod to eliminate camera shake at very slow shutter speeds.

Marvelous – Meter

Here is where it all comes together when shooting in Manual Mode. You have set an ISO, Aperture, and Shutter Speed you think is appropriate for your lighting conditions and subject, now it's time to take a look at what the camera thinks is the correct exposure. Your light meter will suggest you are either properly exposed, underexposed, or overexposed. If you are underexposed or overexposed you will have to adjust one of the three variables for proper exposure. . . ISO, Aperture, or Shutter Speed.

Many photographers approach manual exposure by setting priorities for the image they are creating. They can do this by asking themselves a few questions: For ISO – How much light is available? For Aperture – Do I want shallow depth of field or deep depth of field? For – Shutter Speed – Do I want to stop action in the scene, and if so what speed to I need to use to capture it?

Establish your priorities and adjust your one or more of the variables for proper exposure according to your situation. Refer to the Manual Photography Cheat Sheet to help make your adjustments. Note from the cheat sheet that if you have to increase Shutter Speed to stop action for example, your image will become darker. Therefore, you will need to increase your ISO, or open up your aperture to compensate. Your exposure meter will be your guide.

Funny – Focus

Focus is key to any remarkable photo. Make sure you have your main subject in sharp focus! Most cameras today allow you to move your focal point onto your subject.

Cute – Click!

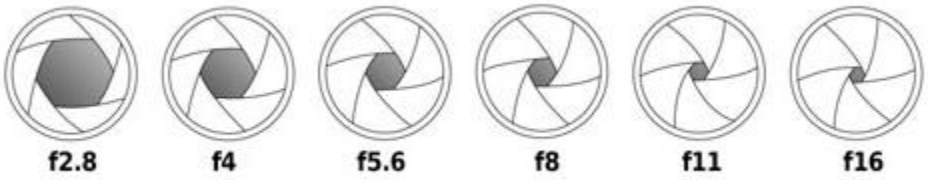
Release the shutter. Another remarkable photo!

It takes some practice before shooting in Manual Mode becomes second nature, but before long, you will get the feel of the exposure triangle. . . ISO, Aperture, Shutter Speed. Keep practicing. Taking full control of your exposure results in some of the most remarkable photos.

May the remarkable photos always be yours.

Manual Photography “Cheat Sheet”

APERTURE (F STOP)



SHALLOW FOCUS (DEPTH OF FIELD) ----------DEEP FOCUS (DEPTH OF FIELD)

LIGHTER EXPOSURE ----------DARKER

SHUTTER SPEED

30”	15”	10”	2”	1”	1/25	1/30	1/60	1/100	1/125	1/250	1/320	1/500	1/1000

USE TRIPOD; MOTION BLUR ----------HAND HOLD; STOP ACTION

LIGHTER EXPOSURE----------DARKER

ISO (SENSOR SENSITIVITY)

6400	3200	1600	1250	800	400	200	100

GRAINY, DIGITAL NOISE ----------VERY LITTLE DIGITAL NOISE

LIGHTER ----------DARKER

EXPOSURE METER - “0” IS NOMINAL EXPOSURE

I . . I . . 0 . . I . . I

UNDEREXPOSED ← I → OVEREXPOSED