

**Michael Kenna, *Hillside Fence, Study 2, Teshikaga, Hokkaido, Japan, 2002***

*Kenna brings a bold and elegant style to all his photographs, whether he is photographing a winter landscape in Japan or an industrial power plant in England. But simple pictures are often the hardest to make, particularly when a subject is nearly all light or all dark. Here, Kenna's ability to control exposure is key to making this minimal picture effective. © Michael Kenna; courtesy of the artist.*

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## Film Exposure

Well-exposed film helps produce good negatives, and you need good negatives to produce good prints.

**Film exposure** refers to the amount of light that strikes the film when you press the shutter button to take a picture. Correct exposure generally means letting enough light enter the camera for the film to record the scene accurately. Too little light reaching the film is called **underexposure**; too much light is called **overexposure**. Both under- and overexposure can cause a range of problems and prevent you from making a good or even acceptable print from your negative.

Arguably your most important technical challenge is learning how to expose film. Once you understand exposure, you will be able to produce good negatives consistently, and good negatives are the key to making good prints. This point cannot be overstressed. With a good negative, you can produce a high-quality print with relative ease; with a poor negative, you may never be able to make even a passable print.

In this chapter you will learn about the factors that control film exposure, as well as how light meters work and the various ways you can read light to establish correct exposure. Finally, you will learn how to interpret and solve difficult lighting situations.

## Exposure Factors

There are many factors contributing to good film exposure. The key factors are discussed in some detail in other chapters, notably subject lighting, lens aperture, shutter speed, and film speed. Here's a brief review.

*Lighting: chapter 8*

**Subject lighting.** You will have to set your camera and lens according to the subject lighting. In dim light, you will have to let in more light to expose film than you will with bright light. While subject lighting is a critical element, you can't always control it. You generally have much more direct control over exposure by adjusting the settings on your camera.

*Lens aperture:  
pages 35, 38–41*

**Lens aperture.** The camera's lens aperture is adjustable to allow more or less light in through the lens to expose film. An f-stop is the measurement of that opening. The larger the f-stop number, the smaller the lens opening. For instance, a lens aperture set at  $f/11$  lets in less light than one set at  $f/4$ .

### Identifying a Good Negative



Well-exposed negatives make the best prints. The easiest way to identify a good negative is to examine its shadow density (light areas in the negative that represent dark areas of the subject). You'll want enough density in the shadows so they register detail and texture in the dark areas of the print, but not too much. The first negative (upper left) lacks density. The subject's hair is too light and shows no detail whatsoever. The second negative (center) has too much density overall. The subject's hair is too dark. The third negative (right) has excellent shadow density (for example, the hair), which will help produce a good print, easily made, showing good textural detail.

*Shutter speed: pages 57–60*

**Shutter speed.** The shutter is a curtain that opens for a certain amount of time when you press the shutter button to let in light to expose film. The shutter speed is the measurement of that time interval. For most subjects, you will use shutter speeds that are fractions of a second, such as  $1/60$ ,  $1/125$ ,  $1/250$ , and  $1/500$ . The faster the shutter speed, the shorter the interval and the less light that reaches the film. For instance, a shutter speed of  $1/500$  lets less light in than  $1/60$ .

**Film speed.** Film speed refers to a film's sensitivity to light—how much or how little light is necessary to achieve correct exposure. The ISO rating is the

Spot metering is best for making readings of specific areas of a scene.

The spot metering pattern is great for taking very specific readings of small portions of the image area, particularly if your main subject is darker or lighter than the rest of the scene—for example, a brightly lit musician against a dark stage at a concert or an indoor subject silhouetted against a window.

Handheld spot meters also are available. These are widely used by craft oriented medium- and large-format photographers who are especially fussy about their exposure. Most handheld spot meters take a reading from an even smaller area (a narrower angle) than in-camera spot meters. For example, a camera's spot meter may read a 5° angle of light whereas a handheld spot meter might read 1° or less.

## Setting Exposure

Once you understand the factors that lead to good film exposure, you are ready to actually set f-stops and shutter speed—or to interpret or override the choices that the camera makes for you, when necessary. This section describes a number of ways to choose settings and various methods to deal with tricky photographic situations that can make achieving good exposure difficult.

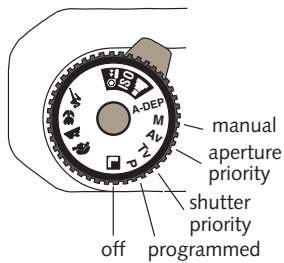
### Exposure Modes

Metering patterns are the meter's method of analyzing the light from a scene for good film exposure. But it's the **exposure mode** that determines how a suitable f-stop and shutter speed are set. Most modern 35mm cameras (and many medium-format models) offer a variety of exposure modes; most commonly manual exposure, program autoexposure, aperture-priority autoexposure, shutter-priority autoexposure, subject-program autoexposure.

Keep in mind that the various exposure modes are only options. You may find that you consistently prefer one or another or that you use different modes for different situations. Whatever you choose, each mode used correctly (and adjusted, if necessary) should yield the correct exposure.

Depending on your camera, you set the exposure mode in different ways. Many cameras have a dial on the top deck of the camera body, and you simply turn a marked dial to set the desired mode. Other cameras show exposure modes in an LCD display on the top of the camera body. Push a button or turn the control wheel to get to the desired mode. Different cameras use different display systems, but most will show the chosen exposure mode somewhere along the edge of the viewfinder.

**Manual exposure mode (M).** The “M” setting stands for **manual exposure mode** on most cameras. In this mode, you set both the f-stop and shutter speed yourself, guided by recommendations from the light meter. The camera's meter is linked to the lens aperture and shutter speed controls; as you set different



Many cameras offer a choice of different exposure modes for setting the correct combination of f-stop and shutter speed.

### Meters Read for Gray



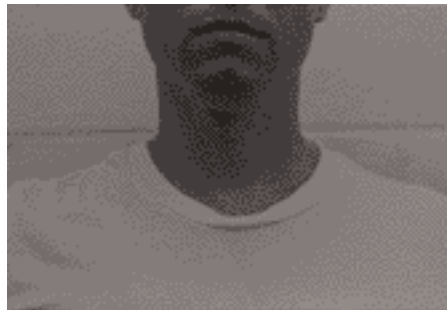
f/8 at 1/125



f/16 at 1/125



f/11 at 1/250



f/5.6 at 1/250



Light meters are designed for subjects that consist of a balance of darks and lights, more or less. If your subject has mostly dark areas, such as this black T-shirt and dark background, an unadjusted meter reading of f/8 at 1/125 produces an overexposed negative which renders the T-shirt middle gray (top left). Adjust the settings so the film will get less light (top right).

If your subject has mostly light areas, such as this white T-shirt and light background, an unadjusted meter reading of f/11 at 1/250 produces an underexposed negative which renders the T-shirt middle gray (bottom left). Adjust the settings so the film will get more light (bottom right).

### Expose for the Shadows



f/8 at 1/125



f/16 at 1/125

Film exposure determines shadow detail. The shadow areas of your subject reflect very little light. Therefore, it is particularly important to ensure that they receive adequate exposure. One method is to take a meter reading in an important shadow area of your subject only, but adjust that reading to prevent the shadow from rendering middle gray. Here, the first exposure (left) was made according to a meter reading taken in the shadows, f/8 at 1/125; the resulting negative is too dense. The second exposure (right) was adjusted to provide two stops less light, f/16 at 1/125; the shadows in the negative render with less density, but adequate textured detail.

### Common Exposure Problems

Incorrect film exposure can occur for a variety of reasons. Sometimes your equipment might need repair; for instance, the shutter speed might be inaccurate or the meter might need adjustment. Other times, user error is the problem; perhaps you've made a mistake in metering your subject or setting the camera controls. But there are many situations when incorrect exposure occurs even though the camera and meter are working fine and you seem to be doing everything right. It's important to understand these problematic situations, so when you encounter one—and you will from time to time—you can use the meter intelligently, rather than relying on it absolutely. Here are some common exposure problems and suggested solutions.