

Choosing the right camera settings

Dialing for digital perfection. *by Russell Shaw*

There's a big difference between simple snapshots and unforgettable photographs. To shoot more of the latter, you need to switch your camera off Automatic mode and learn to master its various settings.

Thanks to the LCD screens on digital cameras, adjusting settings is almost embarrassingly easy. And although the specific icons and buttons will vary from one model to the next, the actual settings—and the shooting conditions they're designed to compensate for—are almost universal.

DIAL A LA MODE

Nearly all digital cameras employ a mode dial that gives you the choice of letting the camera automatically select the optimal settings or giving you control over the settings appropriate for the situation and the effect you're trying to achieve. If your camera doesn't have this type of control, you can usually access its mode settings through on-screen menus. On more advanced cameras, you can divide these settings into two broad categories: "setting-related" modes and



→ Learn the iconography of your camera's mode dial, and you'll be able to choose just the right camera setting for any situation.

"situation-related" modes (also known as "scene" modes).

Setting-related modes are either fully automatic (typically described as "program" mode) or semi-automatic (e.g. "aperture-priority" mode and "shutter-priority" modes). In program mode, the camera makes all the decisions for you: This demands the least from you in terms of photographic knowledge and skill, but it also strips away all your creative control.

In aperture-priority mode, you determine the camera's aperture setting (the size of the lens opening), and the camera automatically chooses the appropriate shutter speed (the length of time the shutter is open and the image sensor is exposed to light). In shutter-priority mode, you determine the camera's shutter speed, and it automatically chooses the most appropriate aperture value for the circumstances.

ISO SETTINGS

Adjusting your digital camera's ISO settings will determine how sensitive the camera will be to light. This is very much like using different film speeds in a film camera. The higher the ISO setting, the more sensitive the camera will be to light.



→ With the camera set at ISO 100, this photo captures the bright white of the sun sinking below the horizon, but the rest of the sky is gray.



→ This shot was taken moments later. This time, however, the camera was set to ISO 400. Rendering the camera more light sensitive resulted in more vivid and dramatic color.

Aperture values impact depth of field (the camera's ability to deliver sharp focus on objects both close to and further away from the camera). A high aperture value (small lens openings) delivers more depth of field, while a low aperture value (big lens opening) will deliver less depth of field. If you want to isolate your subject from the background (let's say you're shooting a person standing in front of a collection of shrubs), you'll want a low aperture value that will deliver shallow depth of field (the person will be in sharp focus, but the shrubs will be blurred).

If you're shooting a landscape, on the other hand, you'll want a high aperture value (small lens opening). This will deliver more depth of field, keeping objects both in the background and in the foreground in focus.

Since shutter speed controls how long the lens remains open,

it also controls the length of time the camera's image sensor has to capture an image. If you use a slow shutter speed and your subject moves, the resulting picture will likely be blurred.

Scene modes are designed to take into account the conditions under which you're shooting. If you're photographing an automobile race or a sporting event, for example, you could set the camera on "sports" mode. The camera would then automatically set its aperture, shutter, and other settings for those conditions—giving a bias to stopping the action to reduce blur. In "night" mode, the camera will choose settings (such as a slower shutter speed) that will compensate for low-light conditions. In this mode, however, moving objects will almost certainly be blurred.

Whichever mode setting you choose, don't change it until after

your image has been recorded; otherwise, the file containing your photo could be rendered useless.

THE LIGHT FANTASTIC

Cameras depend on light to capture an image, and they use a built-in exposure meter to measure the average brightness of the light within the lens' field of view. The typical exposure meter "sees" the world as medium-gray. The assumption is that most subjects are of average tone and that they reflect an average amount of light. This is perfectly appropriate for most situations, but there will be times when you'll need to compensate for your subject, for the conditions you're shooting in (weather, time of day, etc.), or both.

Compensation is accomplished by adjusting the camera's exposure value (EV). Most digital cameras allow you to adjust EV up or down by two full f/stops, in one-third

increments. If you were to take a photograph of a snow-filled meadow, for example, the middle-gray EV calibration would make the snow in the photo appear gray. If you increase the camera's EV setting before snapping the shot, the snow in the photo will appear more naturally white.

Another common situation is when your subject is lit from behind—a person standing in front a brightly lit window, for instance. By default, the camera will set its exposure value based on the bright light, leaving your subject in silhouette. Increasing the EV setting in this situation will bring your subject out of the shadows.

If you're shooting a very dark subject, on the other hand, you'll want to decrease the camera's EV setting; otherwise, the medium-gray calibration will render the subject too dark.

Exposure Lock is another trick you can use to compensate for troublesome lighting situations. If the sun is in the shot you're composing, and shooting in auto-exposure mode will result in the subject being too dark, recompose



→ When there just isn't enough natural light to properly expose your shot, turn to your camera's flash.



→ This shot was taken with a high aperture setting (small lens opening), so that the subject in the foreground and the trees in the background both remain in focus.

the shot so that the sun is not in the frame, turn on the camera's exposure lock, recompose the shot a third time (with the sun back in the frame), and snap the picture. Your subject will be exposed appropriately even with the presence of the sun in the frame.

Upscale digital cameras will give you a choice of metering modes, including center-weighted, multi-pattern, and spot. Center-weighted metering takes most of its brightness measurements from the center of the frame.

Multi-pattern meters have many different metering segments, typically arrayed near the camera's auto-focus sensors. The impact of this design is that the camera meters exposure based on where you have the camera focused.

Spot metering measures the light emanating from a specific segment of the scene, enabling you to pinpoint a specific area of your frame to determine the appropriate amount of exposure compensation.

When you shoot with a film camera, you can choose films that are more or less sensitive to light. The International Standards

Organization (ISO) has established a scale for film sensitivity in which the higher the number, the more sensitive the film is to light. Most digital cameras provide the ability to adjust their own light sensitivity based on this same scale. But just as film becomes increasingly grainy as its ISO rating increases, so do the photos taken with digital cameras become more "noisy."

When shooting in daylight, you should use a low ISO setting to achieve the sharpest pictures. If your camera is operating in automatic mode, it will most likely determine its own ISO setting based on lighting conditions.

If you're shooting in low light without a flash, for example, the camera will likely increase the ISO setting (and your photos will likely have more undesirable noise). If you set the camera to manual, you can manually increase the ISO setting. Shooting a sunset with your camera set to ISO 400, for example, will often produce spectacular results. On the other hand, you could compensate for the lighting conditions through exposure compensation. ■