

A good question! In this article I will explore several reasons why, and show you what you what to look for in a digital camera.

With film, you get “one shot.” You expose the film and process it according to a set formula. With digital, you have the option of literally “redeveloping” your film to change how the image looks.

With film you have the marginal cost of processing a large number of negatives and prints (or slides) to select a small number of “really good” images. With digital, you need only “process” and print the best images. The “digital film” (memory card) is reusable and a fixed cost, while the processing just uses your time. This may mean that you tend to take more images with a higher probability of capturing “the perfect one,” but it can also mean that you may take less care over individual shots, as you know it’s easier to fix them later! Another advantage of digital is the same image can be used as a print, or as a slide, at no extra cost for copying/printing.

One thing that, in the past, has presented a barrier to photographers is the cost of setting up and running a darkroom, and the time commitment. With digital processing, you can go a long way with the computer that you already have, plus some additional software. There are several levels of “processing” sophistication that you can get into. However, if you are “serious” about digital photography, you will be looking for a software package that offers a good suite of editing tools. The cost of the software is a lot less than the cost of quality darkroom equipment, and a lot more environmentally friendly! We will talk about software for a future article.

What to Look for in a Digital Camera

A key question is, “What do I need to know about buying a digital camera so that I get what I need?” I’ll give you a few suggestions. The most important factor is, “What am I going to do with it?”

If your interest is only in taking 4” by 5” “album” shots, then a simple “point and shoot” camera might be adequate, but will significantly limit the quality of your images. If you want to routinely make larger (8” by 10” or larger) prints, or slides for projection, then you need to consider the image resolution, what controls are adjustable, and what format the camera stores the image in. I’ll assume that larger images, or higher resolution slides, are your target.

Let’s move on to some key features of digital cameras. Image resolution is critical, anything less than 4 mega-pixels is not going to give you good large prints or slides. Beyond that, cost is a controlling factor.

“Auto everything” means you will miss many creative opportunities and maybe many other shots. You need to have full control over framing, focus, aperture and shutter speed, as well as the “sensitivity” of the sensor (equivalent to the ISO rating of film). You will get the ability to “do it automatically” anyway. The camera should also have a “histogram” ability, user friendly menus, choice of light metering modes and custom settings.

Some cameras may be advertised as “effective resolution” or “interpolated resolution.” Be cautious with this, as such advertising claims may lead you to believe that you are getting something that you are not. As with “digital zoom”, your image editing software can do it better!

Lenses

For lenses, the flexibility of digital SLR cameras cannot be beaten. If you stay with the same camera manufacturer as your existing film system, then you can probably use most of your old lenses, but gain the advantage of increasing the “effective” focal length by a factor of around 1.5, so that a 200mm lens becomes the equivalent of a 300mm with the same aperture.

Unfortunately, wide-angle lenses are a different story, as increasing the effective focal length reduces the angular coverage, which is not what you want to do. The design of the digital sensor means that it is preferable for light to strike it as close to perpendicular as possible. Wide-angle lenses designed for film cameras may have a larger angle, resulting in image degradation when the wide-angle lens is used on a digital camera.

If you are looking at a camera that does not have interchangeable lenses, be aware that “optical” zoom is important, “digital” zoom is not. Digital zoom just takes the central portion of the image and records only that, which means you don’t get your x-mega pixel image size! You can do better editing your image in your software than you can obtain from “digital zoom”. There are more important features than digital zoom.

Formats for Recording the Image

There are several formats for recording the image with your digital camera, so be sure to check how the camera you are considering buying does this. Typically, the image will be recorded as Jpeg, Tiff or RAW.

Jpeg has some significant limitations, it is a “lossy” method, meaning that it literally throws away a lot of the data that your x-mega pixel sensor recorded. Tiff format does not do this, but both Jpeg and Tiff “fix” the image in a way that limits your flexibility to change it later. Unfortunately, few cameras support Tiff format recording.

RAW format, on the other hand, retains all the information, and gives you the flexibility of “redeveloping” the image later to change how it looks. However, for some purposes, tiff or jpg images are adequate. For example, I will shoot “high quality” jpegs for record shots related to my work, while I use the same camera to shoot RAW format images for “art” work. The advantage is that there is minimal processing required with tiff/jpeg images, and they are adequate for 4 x 5 illustrations in a technical report.

In a future article we will explore just what you can do with RAW images, and what cannot be done or not done as well, later in the editing process.

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