

Film Versus Digital

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It seems the topic of whether serious photographers should be capturing on film or digital has been as hotly debated as whether you should process your images using a Macintosh or Windows-based computer. As digital capture gains broader acceptance among photographers, the noise (pun intended) seems to be dying down. Still, it is worth reviewing some of the reasons to consider digital capture.

Instant Feedback

One of the most often touted benefits of digital capture is the ability to immediately review your images on the LCD display. For point-and-shoot digital cameras you can actually compose your image based on the LCD display. For digital SLR cameras, you can't compose with the LCD, but you can review the images instantly. You can tell immediately if the exposure is accurate (especially with the help of the histogram display), if you used the flash properly, and to a limited extent whether the subject moved and you missed your focus.

Freedom to Experiment

The freedom to embrace photographic experimentation is a major benefit for digital capture. This is made possible, in part by the fact, that you can actually review the results of your experimental exposure immediately. This gives you the ability to try techniques that you would otherwise avoid, and refine the technique based on a review of the image on the LCD display.

Besides the instant review of experimental images, there is a psychological barrier broken by digital capture. With digital you can easily erase captures that didn't quite work out. There is no sense that you are wasting film (and money) trying techniques that are unproven or challenging.

Control

Digital cameras provide more flexibility than film. For one thing, you can select from a wide range of ISO settings for the camera, generally ranging from 100 or 200 ISO at the low end, up to a typical maximum value of about 1600 ISO. Of course, this by itself isn't a significant benefit. You don't need a digital camera to capture images at different ISO sensitivities. Simply buy film at the various ISO values that you need, and then change film in the camera based on the lighting conditions or your film preference.

However, digital offers a huge advantage in being able to change the ISO setting for each and every frame you capture. As you move from subject to subject, perhaps under different lighting conditions, you can adjust the ISO setting for the camera to optimize the exposure for each situation. Keep in mind that with the higher ISO settings the chance of noise in the image increases. The latest digital SLR cameras do an excellent job of noise suppression, but I would strongly recommend doing some tests at various ISO settings first so you'll have a good understanding of the capabilities of your particular camera.

White balance is another area of flexibility for digital cameras. Granted, this is more a matter of compensating for given lighting conditions to produce the most accurate image, but it does offer some added control that film doesn't offer. To a certain degree, the ability to control white balance also allows you to avoid or even mimic the color bias you might otherwise experience with film.

Digital cameras also offer a variety of custom settings that affect how the final image is captured, such as the ability to adjust saturation sensitivity in the camera. Most photographers think of this as a method to simulate highly saturated films such as Kodak E100VS or Fuji Velvia, or to reduce saturation to match more neutral films. The fact that you can fine-tune these settings in the camera to produce the results you are looking for can be very helpful. More importantly, you can change the settings from image to image. If you find settings you like that simulate a highly saturated film, you can use those settings for one shot, and more neutral settings for the next shot. My general preference is to capture all images at relatively neutral settings, and then make adjustments in Photoshop. However, the flexibility offered by digital cameras offers a whole new area of control over your images at the time of capture.

Rapid Processing

The instant review available with a digital camera is helpful, but the small LCD display can only tell you so much about your image. Photographers working with their images in the digital darkroom also want to be able to quickly start editing their images. With digital, all you need to do is copy the images onto your computer with a card reader or through a direct camera connection, and you're ready to edit. Of course, RAW captures will also require conversion.

If you capture with a film camera, the exposed film needs to be processed, which in the best circumstances usually adds an extra day before you can work with your images. If you do your own scanning, that will also slow you down. Digital capture offers instant gratification in the field, and nearly instant gratification when it comes to processing your images.

Cost Savings?

Another highly promoted benefit of digital is the cost savings of no longer paying for film and processing. This is a dubious advantage from my perspective. True, you won't pay for traditional film and processing, but you'll still be paying for "digital film" for your camera, which is much more expensive than film. Of course, this digital film can be cleared off and used repeatedly, so there is a potential cost savings over time. However, the initial investment is relatively high. Furthermore, digital cameras are considerably more expensive than their film equivalents. For photographers capturing a very large number of images, there may be some cost savings with digital over the long term. However, in general I think digital is actually considerably more expensive, even though it is much more convenient.

Pixels

The talk about advances in digital cameras generally revolves around pixels. Photographers want as many pixels as possible so they can produce images with excellent quality and large output size. We're just passing the 10-megapixel mark, and the numbers are only going to get bigger.

Current 6-megapixel digital SLR cameras effectively match the quality of film up to about 16"x24" prints. The digital cameras offering resolutions over 10-megapixels match the quality of film up to about 20"x30". Of course, there is no grain in the digital images (though perhaps some noise), so it is difficult to do a direct comparison.

One advantage film has is that there aren't pixels in the traditional sense, until you scan the image into the computer. There is, of course, film grain, and this can be a problem with big enlargements. However, the advantage with film is continuous tone output. The benefits of this are only realized if you keep the image in an "analog" format. In other words, you'll have a quality advantage with projection if you project from slides rather than a digital projector. For prints up to a size limited by resolution, digital can provide quality that matches or exceeds what is possible with film.

Organization

While you can get started with your images faster with digital captures, the full workflow can be cumbersome at times. Organizing and reviewing your images can be a particular problem. There still isn't an ideal software package for organizing all of your digital images quickly and easily. Software is improving, but it still leaves much to be desired.

One of the problems with digital capture is related to one of the benefits. It is very easy to capture more images than you did with film, with no additional cost. That means you are more likely to take more pictures, and the image files will accumulate very quickly. Managing all of these files, and being able to find the image you need when you need it, can be a serious challenge. It is a good idea to plan an organizational system before you start capturing digital images, or make it a priority now if you are already capturing digitally. Digital image management will be the focus of a future article I'll write for NPN.

Stock Acceptance

The major stock agencies have been slow to accept digital captures, but they are starting to change their policies. Most agencies will now accept digital captures, but they must meet strict requirements for resolution and image quality. They are concerned about getting files of inferior quality, and are being very conservative with the acceptance of digital captures.

The smaller agencies and others who may license your images have been even slower to accept digital captures. This is primarily a matter of education. It took them a long time to allow photographers to send a digital file produced by scanning and optimizing an

image from film. Many still won't accept digital files, requiring you to send the original transparency instead. They simply need to be convinced that digital capture can provide more than adequate quality for their needs. You may need to educate them, and possibly even send them some sample images so they'll see what is possible.

Making the Switch

There are certainly advantages and disadvantages to digital capture, and there isn't currently an affordable solution to please all photographers. Many will continue to shoot film for years to come. However, there is no arguing the fact that digital capture is gaining acceptance very quickly, and offers some excellent advantages for photographers. More and more photographers, including professionals, are starting to use digital capture, and the rate will only increase as better and more affordable cameras are released.

Digital capture offers many exciting advantages, and opens up a whole new world to photographers. If you haven't already made the plunge, visit your camera store or a digital photography seminar and see what the world of digital capture has to offer you.

Tim Grey - NPN 019

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About Tim Grey...

Tim enjoys sharing information about digital imaging as much as he enjoys learning it in the first place. Tim publishes an almost-daily [Digital Darkroom Questions](#) (DDQ) e-mail service that provides a forum for photographers to have their questions related to the digital darkroom answered. He is editor of *The Digital Image*, a quarterly journal published by [George Lepp](#). He also teaches courses to help photographers master the digital darkroom at the [Lepp Institute of Digital Imaging](#).

Tim can be contacted at tim@timgrey.com.

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