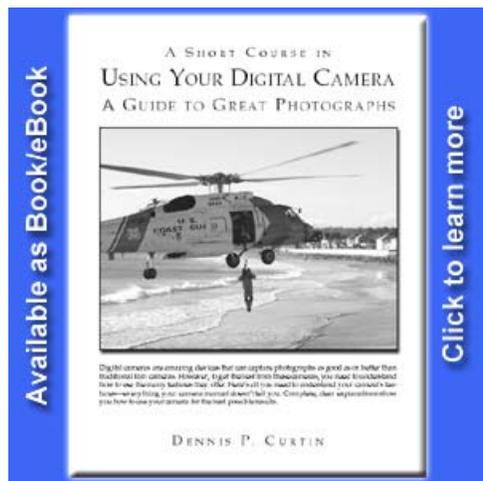


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A Short Course in Using Your Digital Camera

8. Special Features



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Digital cameras offer a number of special features that offer exciting creative possibilities. These include support for panoramas, black & white pictures, and the ability to shoot a series of pictures instead of just one. None of these features is difficult to use so you should give them a try.

Panoramic Images

Although panoramic photographs have been taken in sections and pasted together for years, it was the development of computer software that made seamless panoramas possible with a regular camera.

To create a seamless panorama with a digital camera, you begin by capturing a series of images around a single point of rotation, the optical center of the lens. Later, you stitch these views together with software.



Here are three images taken in sequence.



Here the three images have been stitched together into a single panorama.

Basic Techniques

There are a few important ingredients in getting good panoramic images.

- Zooming the lens to a wide angle requires fewer pictures to cover the same view but make things appear smaller and more distant.
- When photographing a horizontal or vertical sequence, stand in the same position and rotate the camera.
- When photographing documents, center the camera over each section and keep it at the same height for each shot.
- Holding the camera vertically for horizontal panoramas gives you more height in the images but requires more images to cover the same horizontal area.
- The camera should be as level as possible as you take the pictures. In a 360-degree pan, the first and last images must "connect" and overlap.
- The images should overlap by 30-50% horizontally and not be out of vertical alignment by much more than 10%.
- Avoid placing subjects that move in overlapping areas and don't combine nearby objects in the same scene as distant ones or they will be distorted.
- Place a distinctive subject in each overlapping area to make it easy for the software to know how to combine the images.

Exposure and color balance

The software you use to stitch images together can even out the lighting in a scene but it helps if you give it good images to work with. When taking panoramas some cameras let you use autoexposure lock to ensure that exposure and white balance are consistent throughout the series of images. The settings are locked in at those used for the first image in the series after turning on panoramic mode.



Here's a panorama stitched together from a series of handheld images. I waited until the prayer so everyone was motionless.

Try to avoid extremes in lighting. These occur on bright sunny days when there are bright highlights and dark shadows. The problem is compounded because you may have to shoot some of the pictures into the sun. If you can pick your time, pick a day when it's cloudy bright—overcast but with slight shadows on the ground. If the sun is out, shoot at midday to keep the

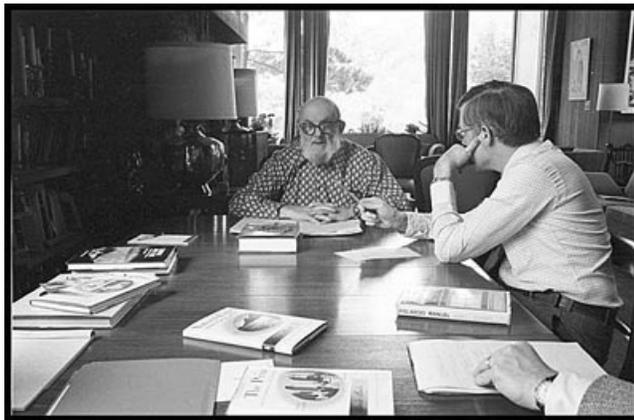
lighting even. If you have to shoot at other times, position the camera so direct sunlight is blocked behind a tree or building when photographing in its direction. When shooting indoor panoramas, set up the camera to avoid shots of windows with direct sun shining through.

How To: Taking Panoramas

Look in your camera manual for a section on **panoramas** or **exposure lock**.

▲ Photographing in Black and White

For years, photographers in the fine arts, such as Ansel Adams, have taken black and white pictures almost exclusively. If you want to work in the same medium, some cameras let you shoot in black and white as well as color. This mode is also useful if the photograph is going to be printed in black and white. One advantage of this mode is that black and white images don't have to be compressed as much as color pictures so their image quality is actually higher.



One of the masters of black & white photography was Ansel Adams, shown here discussing his books with Tim Hill of New York Graphic Society when we were in Carmel working on his new books.



Black and white images have a quality all their own.

How To: Shooting in Black & White

Look in your camera guide for a section on **black and white** or **gray scale** photography. When taking pictures in black and white, they are displayed on the LCD monitor in that format. This makes it much easier to visualize the end result.

▲ Continuous or Multi-shot Photography

With digital cameras, you normally take one photo at a time, but you're not limited to that way of shooting. You can also capture sequences of photos. In this continuous mode, you just hold

down the shutter-release button and images are captured one after another. You can then choose the best image from the sequence or use all of them to create animations on your computer.

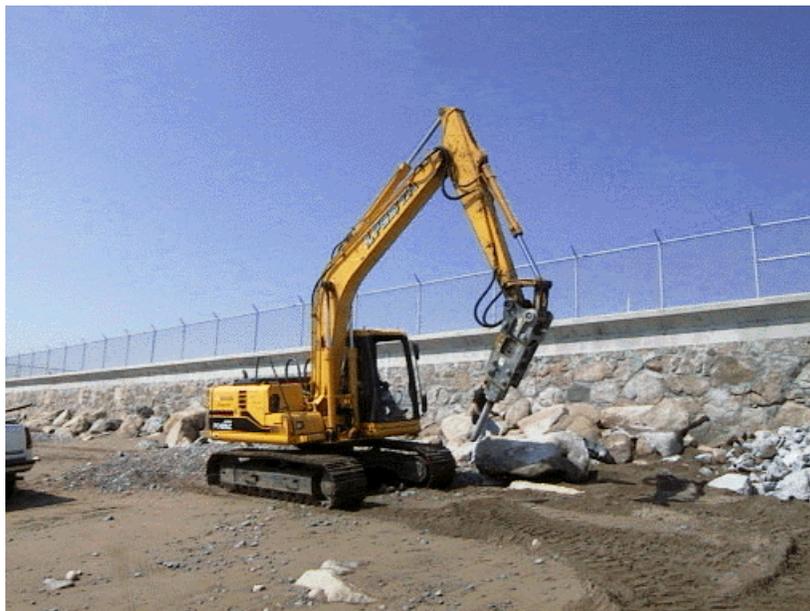
In most cases, the camera uses a smaller image size, such as 640 x 480 or smaller, to take sequences. This reduces the processing needed so you can take images at a faster rate.

When shooting in continuous mode, you'll take pictures more quickly if the light is brighter. You may get your best results in bright sunlight.



This sequence was taken in continuous mode on a bright sunny day. If you look closely, you'll see that the excavator's boom is moving out during the sequence.

There are programs that convert a series of images into an animated GIF. When posted on the Web, the images are quickly displayed one after the other like frames in a movie. One shareware program you can use is [GIF Construction Set](#).



This is a huge animated GIF put together with GIF Construction Set. If it doesn't play, click your browser's reload button.

How To: Using Multi-shot Photography

Look in your camera guide for a section on **continuous**, **sequential**, or **multi-shot** photography.

Movies

A number of digital cameras can capture short movies that you can then play back on the camera's monitor or TV screen, post on a Web page, or attach to an e-mail. The cameras vary in their ability to capture video clips in a number of respects:

- Not all can capture sound along with the video.
- The length of movies is either set to a specific time or the capacity of the storage device being used.
- The frame rate may vary between 15 and 30 or so frames per second.
- The size of the frames may be dramatically reduced, perhaps as small as 160 x 120 or 320 x 240.
- Movies are saved in a variety of formats including avi, jpeg, and QuickTime movie format (.mov).

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