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Joining the Digital Club

Everything is going digital and cameras are no exception. This chapter offers an introduction to digital photography.

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Why this Book?

The expansion of digital photography has been remarkable: from being an expensive curiosity only a few years ago, it has now become the primary way in which people capture photographs. With this has come a similar growth in the number of books about digital photography. These cover a wide range of topics and most of them are aimed at all groups of users.

However, few books on digital photography concentrate specifically on the needs and requirements of seniors, who are perhaps new to the subject and all of its associated jargon and technology.

The aim of this book is to cut through some of the more complex areas of digital photography and focus on making the process of taking and using digital pictures as straightforward and satisfying as possible. With this in mind the book will cover many specific tasks connected with digital photography. These will include:

- Choosing the right digital camera, including issues such as the size of the camera and also the size of the camera's screen
- Taking better pictures, concentrating on popular areas such as holiday photographs and family shots

Don't forget

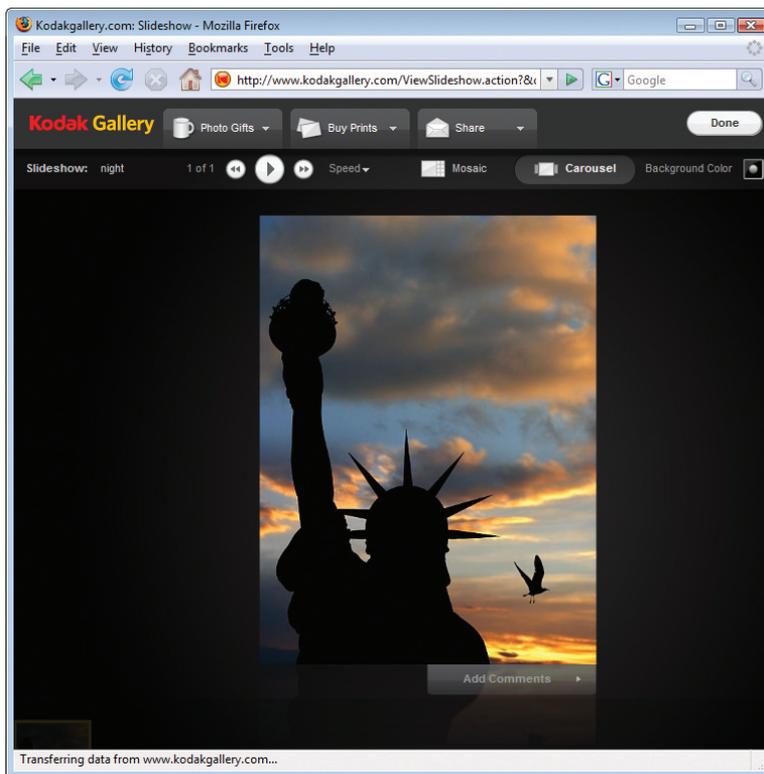


Age is no barrier to digital photography and the technology is not as daunting as it may at first seem.



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- The best and quickest ways to transfer digital photographs from a camera to a computer
- Simple editing techniques for quickly improving the appearance of digital photographs
- Sending and receiving digital photographs by email
- Sharing digital photographs on the Internet so that they can be viewed from locations worldwide



- Printing and displaying photos so that you can make the most out of them once they have been taken

Don't forget



For further details of working with photo editing programs, see Chapter Eight.

Don't forget



For further details of using photos with email and on the Internet, see Chapters Nine and Ten.

Don't forget



For further details of printing and displaying photos, see Chapters Eleven and Twelve.

Comparing Digital and Film

Although it sometimes seems that digital photography has its own complex and jargon-laden language, the good news is that the basic process of picture-taking is remarkably similar to that of taking pictures with a film camera.

Similarities

The similarities between taking pictures with digital and film cameras include:

- With both types of media the picture can be composed through the camera's viewfinder
- In most cases, the camera focuses the photo using autofocus. This is usually done by half-depressing the shutter release button until the photo is focused
- The photo is taken by fully depressing the camera's shutter release button
- The photo is captured by light passing through the camera's lens

Differences

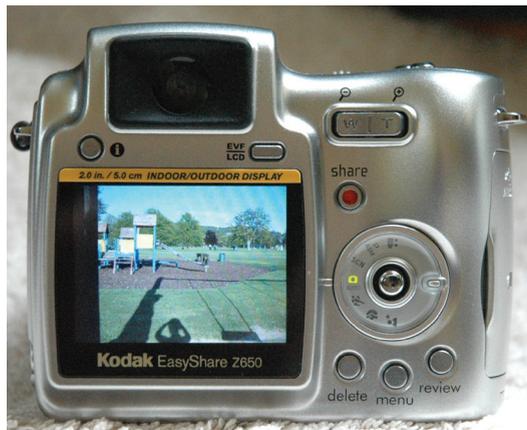
Despite the similarities, there are also some differences when taking pictures with a digital camera:

- In addition to a traditional viewfinder, most digital cameras also have a screen on the back of the camera that can be used for composing pictures:

Hot tip



Look for a camera that has both a screen and a viewfinder, in case it is too sunny to see the screen properly.



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- Once a photo is taken on a digital camera it is stored on a memory card within the camera, rather than on film. Memory cards come in a variety of sizes and can store a certain number of images, depending on their size. Once the memory card is full, the images can be downloaded onto a computer. After this, the images can be erased and the card used again. Think of a memory card as film that can be used over and over again



- Digital photos can be viewed as soon as they have been taken, using the camera's screen. If you want to, you can also delete photos from the memory card while it is in the camera. This can be done to get rid of unwanted images and free up space on the memory card
- Digital photos provide a lot more flexibility for use once they have been taken. They can be downloaded and edited on a computer, printed, emailed to family and friends around the world or shared on the World Wide Web

Don't forget



Some digital cameras also have internal memory for storing photos as well as using a memory card.

Don't forget



There are several different types of memory card on the market. However, you do not have to worry about what type is in your own camera as photos can be downloaded onto computers from all card types.

Don't forget



Memory cards have different capacities – which means they can store different numbers of photos. The capacity of memory cards is measured in megabytes or gigabytes. The larger the capacity, the more photos can be stored on the card.

Digital Jargon Explained

As with any form of new technology, digital photography has more than its fair share of jargon and acronyms:

- **Card reader.** This is a device that can be used to download photos from a memory card onto a computer. The card reader is connected to the computer via a cable. The memory card is then inserted into the card reader for downloading
- **Docking station.** This is another device for downloading photos. The camera is placed in the docking station and the downloading process commences automatically with the software provided. An excellent option for downloading photos with a minimum of fuss
- **Downloading.** The process of transferring photos from the camera to a computer or other device
- **Effective Pixel Count.** The actual number of pixels captured in a photo at the camera's highest setting
- **File size.** This is the size of a digital photo in terms of how much space it takes up on a memory card or a computer. Since digital photos are essentially just digital data they are measured in standard digital units, i.e. kilobytes or, more usually, megabytes. (Megabytes do not equate to megapixels)
- **Image sensor.** This is the device inside a digital camera that captures the light once it passes through the camera's lens. It then processes the data and passes it on to the camera's memory card. In some ways an image sensor is more like traditional film than the memory card is, even though it is not visible
- **Image size.** This is the physical size of the photo in terms of pixel dimensions, e.g. 3220 pixels x 2880 pixels. This size can be manipulated in a photo editing program
- **JPEG.** This is the most common file format for digital photos. JPEG stands for Joint Photographic Experts

Beware



Digital photos from different cameras can have different file sizes, even if they have the same number of pixels. This is because cameras can compress the pixels so that the final file sizes can vary considerably.

Don't forget



Image sensors come in two formats: CCD or CMOS. The majority of cameras use the CCD version.

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Group and is usually identified by a .jpg extension at the end of a filename once the photo has been downloaded

- **Megapixel.** This is the term for a million pixels: e.g. 5 million pixels equals 5 megapixels
- **Memory card.** This is the card onto which photos are saved once the data has been captured by the image sensor. Memory cards are removable from the camera
- **Photo editing.** This is the process whereby digital photos are manipulated on a computer once they have been downloaded. There are numerous programs that can perform this task
- **Pixels.** The building blocks of digital photos. A pixel is a colored square that contains the digital data that helps make up the photo. The name is a contraction of Picture Element
- **Resampling.** This is the process whereby digital photos are made larger or smaller within photo editing software
- **Resolution.** A term used in a number of areas of digital photography. One definition refers to the size of a digital photo, e.g. a resolution of 6 megapixels. Another use for resolution refers to the way a photo can be manipulated to allow it to be displayed at different sizes. (For more information on this see Chapter Seven)
- **Uploading.** This is the process of copying photos held on your computer to another location. It is most commonly used in relation to online sharing and printing websites. If you want to use one of these services, you first have to upload your photos onto the site
- **Zoom (digital).** This is a function of digital cameras whereby a subject is made bigger in the viewfinder or on the screen by increasing the size of the pixels
- **Zoom (optical).** This is a more genuine zoom function as it makes the subject larger through the use of mirrors in the camera's lens

Don't forget



Since digital photos are just a collection of colored digital dots, it is possible to make them larger or smaller by adding or removing pixels from the photo.

Don't forget

Pixels in a digital photo are first captured on an image sensor within the camera before they are transferred to the camera's memory card. The quality of the image sensor can have more impact on the final quality of the image than the overall number of pixels.

Getting Enough Pixels

A common battle between digital camera manufacturers is what is known as the “pixel race”. This is the continuing attempt to fit more and more pixels into each digital image.

Pixel is a contraction of Picture Element and pixels are the small colored squares that make up a digital photo. In general, the number of pixels in a digital image is counted in millions, or megapixels, e.g. 5 million pixels or 5 megapixels. When digital cameras are quoted as having a certain number of pixels or megapixels, this refers to the maximum number of pixels that the camera can capture in a single image. (However, this headline figure can sometimes be slightly misleading since some of the pixels are required for processing functions within the camera. The figure to look for to see the actual number of pixels in each image is known as the Effective Pixel Count and can be found in the manufacturer's specifications for the camera.)

The total number of pixels in a digital photo is calculated by multiplying the numbers for the width and height of the photo. So a photo that was 3000 pixels by 2000 pixels would have 6 million in total, or 6 megapixels.

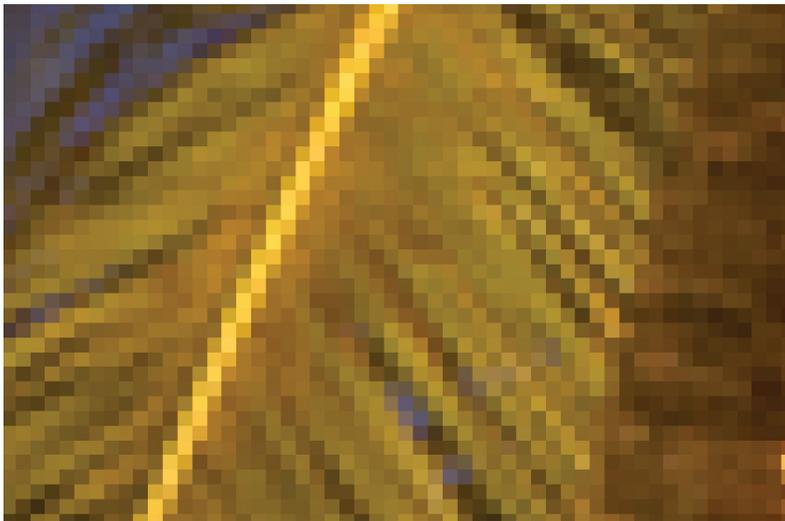
In the early days of consumer digital cameras, 2 million pixels was considered a good value for a photo. Now, the bare minimum is 3 million pixels, with figures of 5, 6, 7 million and above becoming commonplace.

So why does it matter how many pixels are in a photo? The first thing to remember is that pixels can be captured at different qualities, so more does not necessarily equate to a better photo. Most digital cameras compress the photos to a certain degree, which involves discarding some of the unwanted digital data in each pixel. This helps to reduce the file size of each photo, even though it may still have a large number of pixels. As a rule, the more expensive the digital camera, the greater the quality of the pixels in each photo.

All things being equal though, the more pixels in a photo, the better the quality at which it can be printed. This is

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because if there are more pixels then they can be packed more densely together and so blend into an overall image rather than appearing as individual colored blocks. If the pixels are visible it is known as a pixelated photo, which means that there are not enough pixels for it to be printed at a good quality at the selected print size.



Don't forget



The two examples on this page show how a photo can be magnified in a photo editing program to display individual pixels within the photo.

Don't forget

For a detailed look at the controls on a digital camera, see Chapter Two, pages 28 and 29.

Hot tip

Viewing photos directly from the camera on a TV screen is a great way to have family slide shows, without first having to download photos onto a computer.

Around the Camera

Much of the technical wizardry of a digital camera is hidden within the camera body. However, there are some important items that can be accessed externally:

Memory cards

These are inserted into a slot on the camera body. For more information about inserting memory cards, see Chapter Three.

Batteries

These are inserted in a similar way to memory cards. For more information about inserting batteries, see Chapter Three.

Camera to computer connection

Almost all digital cameras have a socket for a cable to be plugged in so that they can be connected to a computer. This can be used to download photos from the camera to the computer.

Camera to TV connection

A lot of digital cameras also have a connection for viewing photos directly on a television. The camera is connected to the television via a cable and then the photos on the camera can be viewed as a slide show:



Expanding Your Horizons

Once you have taken a digital photo you can use it in the same way as one from a film camera: i.e. have it printed out. This can be done at home by downloading the photo onto a computer and printing it from there, or by taking the camera's memory card into a photographic retailer and asking them to print it directly from the card. Digital photos can be printed in the traditional fashion but also onto novelty items such as T-shirts, cakes and mugs.

Sharing by email

Digital photos can quickly and easily be attached to email and instantly sent to family and friends around the world.



Beware



If you are sending digital photos by email, keep the file size relatively small so that they can be downloaded quickly. See Chapter Seven for details about making photos smaller.

Sharing on the Web

There are numerous sites on the Web where online photo albums can be created for sharing with family and friends:



Beware

Online services charge a fee for creating items such as calendars and cards. However, you can do them yourself on a computer using a photo editing program (as with the sample on this page). For more details on this, see Chapter Twelve.

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Getting creative

Digital photos can also be incorporated into items such as cards and calendars, either by you, using a photo editing program, or through a photo retailer:



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