



## Fact Sheet

# Digital Camera Photography

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**Ever wondered how your digital camera gets the great results it can achieve?**

**Our E-Business Advisers discuss this amazingly popular technology:**

### 1. Some history.....

The early innovations, which would lead to the eventual development of the digital camera, existed long before the first photograph.

The earliest record can be found in the writings of Leonardo da Vinci (1452-1519), who used a crude process of viewing an image through a tiny hole as an aid to understanding perspective.

In the 17th and 18th centuries, by adding a focused lens and a mirror, it was possible for a person to trace the image reflected through it.

This early invention was called the 'camera obscura'.... and an example can be seen, and tried, at Wollaton Hall in Nottingham.

Camera Obscura utilise the same basic concept as the cameras we use today!

### 2. Lights .... Camera .... ACTION!

It's easy to understand how the developments in technology have moved the use of the everyday traditional camera into the digital world.

Digital cameras have become incredibly popular and widely used, easy to master and enabling you to produce a host of great images for use in your business.

The dramatic expansion of photographs and images on the Web, the host of benefits of using visual presentations and multi-media applications within your business, all make the use of digital cameras a valuable and exciting business resource.

### 3. Your own Dark Room

In principal, a digital camera is similar to a traditional film-based camera.

You have a conventional viewfinder or LCD panel and a powerful lens to focus the image onto a light-sensitive device, recording and storing images for later use.

In a conventional camera, light-sensitive film captures images and is used to store them after chemical development.

Digital photography uses a combination of advanced image sensor technology and memory storage, which allows images to be captured in a digital format that is available instantly - with no need for a "development" process.

In effect, your dark room is your camera!

### 4. A dab here and a dab there.....

Digital photographs are made up of tiny squares called **picture elements** - or **pixels**.

Like the artist group the Impressionists, who painted wonderful scenes with small dabs of paint, your computer and printer can use these tiny pixels to display or print photographs.



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The computer divides the screen or page into a grid containing hundreds of thousands or millions of pixels. The computer or printer then uses the values stored in the digital photograph's file to specify the brightness and colour of each pixel in this grid - a form of "painting by numbers".

## 5. Image size and quality

The size of a digital photograph is specified in one of two ways - by its dimensions in pixels or by the total number of pixels it contains.

For example, the same image can be said to have 1600 × 1200 pixels: or, multiplying 1600 by 1200, the image contains 1.92 million pixels.

The quality of a digital image, whether printed or displayed on a screen, depends in part on the number of pixels used to create the image (sometimes referred to as **resolution**).

More pixels add detail to an image, sharpen edges, and increase resolution.

## 6. Inside a Digital Camera

The charged coupled device technology (CCD) is at the heart of most digital cameras, and replaces both the shutter and film found in conventional cameras.

Its origins lie in the 1960s, when the hunt was on for inexpensive, mass-producible memory solutions.

Strangely enough, its eventual application as a digital camera image-capture device hadn't initially occurred to the scientists working on the problem!

## 7. Memory Cards, Image Storage and Transfer

Many early digital cameras contained one or two megabytes of internal memory suitable for storing a few low or standard quality images.

Unfortunately, once the memory had been filled no more pictures could be taken until they'd been transferred to a PC or deleted from the camera.

Today, the more modern digital cameras use high specification external or removable storage cards, with the capacity to record images of extremely high quality and resolution.

There are two main advantages:

- Once a memory card is full it can simply be removed and replaced by another;
- Secondly, given the necessary memory card reader hardware, memory cards can be inserted directly into a reader and the photos can be transferred to your PC at the touch of a button.

## 8. The Digital Camera Revolution

More than one million digital cameras are sold a year in the UK and digital camera owners made up 58 percent of all camera owners by as early as 2005.

The ever-falling prices, combined with the latest improvements in digital image quality, enable businesses to gain the flexibility of purchasing a high quality digital camera at a reasonable price.



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They allow you to capture and record images for a varied and extensive range of business applications:

- brochures,
- publications,
- documents,
- presentations,
- web site content,
- marketing and promotional materials.

They open up a whole new media, available to present more exciting and professional images of your business, your products and your services.

### 9. Buying Guides & Useful Links

Deciding which digital camera to buy can be a difficult decision.

The myriad of camera features and photo quality can vary, with prices from around £100 for an entry level model, through to £1000's for extremely high specification models used by photographic professionals.

For useful Buying Tips, try these Web Sites:

[www.digital-camera-buying-guide.com](http://www.digital-camera-buying-guide.com)

<http://cameras.about.com/>