



DIGITAL PHOTOGRAPHY

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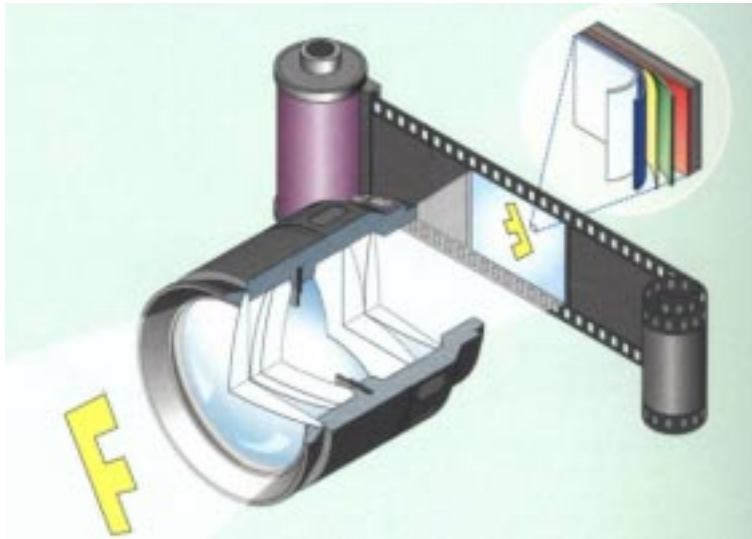
All cameras take a picture by focusing the light passing through the lens onto a patch of light-sensitive medium. In the case of a traditional camera this medium is photographic film - a strip of plastic covered in chemicals that react when exposed to light and records the focused image.

In a digital camera, the place of film is taken by a small chip called charged coupled device (CCD) very similar to the one found in scanners. This reacts to light, just as film does but instead of storing the image chemically, it converts it into a digital form.

Once a picture has been taken, it can be downloaded from the camera to a computer and viewed before edited and stored. Some digital cameras now available can take short movies that can be viewed on a TV screen.

Digital cameras are more expensive than film-based ones.

Conventional Camera



Digital Camera



Operating Digital Cameras

Most cameras need a few seconds to establish the auto-focus and auto-exposure settings before the picture is taken. After the picture has been taken a few seconds are required to process and store the image in memory.

Camera Resolution

Although the CCD of a digital camera limits the maximum resolution of the images, most will have the ability to use lower image resolution.

Low Resolution

Below 800 x 600 pixels

Ideal for pictures for web pages

Medium Resolution

800 x 600 - 1280 x 1024 pixels

High Resolution

Above 1280 x 1024 pixels

Ideal for high quality output

Downloading Images onto a Computer

Digital camera manufacturers have developed several ways for users to transfer pictures from the camera to the computer.

Direct to Printer

Some cameras can be connected to a printer and pictures can be printed out without the need for a computer.

Cable Connection

Most digital cameras come with a cable for connecting the camera to the computer. To download images, plug the cable into both devices, fire-up the image transfer software that was purchased with the camera. This method of downloading images can be slow.

SmartMedia Floppy Disk Adapter

SmartMedia cards are removed from the camera and placed in an adapter which can be placed into a floppy disk drive or a USB slot.

PCMCIA Card Adapter

This adapter can use both SmartMedia and CompactFlash Adapter cards. The PCMCIA Card Adapter can be placed into a laptop computer's PCMCIA slot. The PC Card appears as a drive on the computer's desktop.

Printing Digital Photographs

Photographs can be printed in colour from inkjet printers. For best results use special inkjet paper. It is heavier and treated with a special coating that enables ink to dry more quickly, reducing ink smearing and paper curl. One main disadvantage is that the colours quickly fade. Some manufacturers have recently produced paper that is guaranteed not to fade for 100 years!



SmartMedia cards

QUESTIONS ON DIGITAL PHOTOGRAPHY

- (1) On a digital camera what replaces the film?

- (2) Give the dimensions in pixels of a high resolution picture obtained from a digital camera?

- (3) Give an example of how images can be downloaded from a digital camera onto a computer?

- (4) Photographs can be printed in colour from an inkjet printer, name a disadvantage of printing from an inkjet printer?