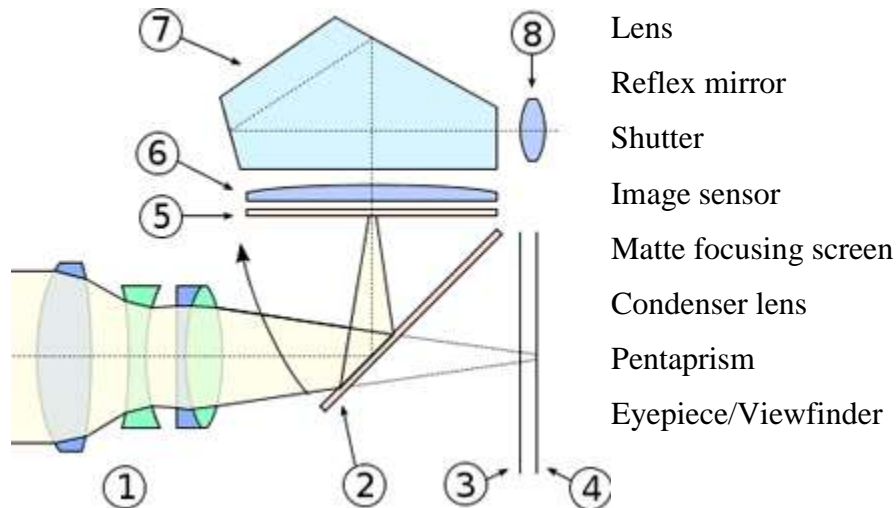


What is a DSLR (Digital SLR)?

DSLR stands for “**Digital Single Lens Reflex**”. In simple language, DSLR is a digital camera that uses mirrors to direct light from the lens to the viewfinder, which is a hole on the back of the camera that you look through to see what you are taking a picture of.

1) What do DSLR cameras consist of?

Take a look at the following image of an SLR cross section (image courtesy of Wikipedia):



2) How do DSLR cameras work?

When you look through the viewfinder on the back of the camera, whatever you see is exactly what you are going to get in the photograph. The scene that you are taking a picture of passes through the lens in a form of light into a reflex mirror (#2) that sits at a 45 degree angle inside the camera chamber, which then forwards the light vertically to an optical element called a “pentaprism” (#7). The pentaprism then converts the vertical light to horizontal by redirecting the light through two separate mirrors, right into the viewfinder (#8).

When you take a picture, the reflex mirror (#2) swings upwards, blocking the vertical pathway and letting the light directly through. Then, the shutter (#3) opens up and the light reaches the image sensor (#4). The shutter (#3) remains open for as long as needed for the image sensor (#4) to record the image, then the shutter (#3) closes and the reflex mirror (#2) drops back to the 45 degree angle to continue redirecting the light into the viewfinder.

Obviously, the process doesn't stop there. Next, a lot of complicated image processing happens on the camera. The camera processor takes the information from the image sensor, converts it

into an appropriate format, then writes it into a memory card. The whole process takes very little time and some professional DSLRs can do this 11 times in one second!

1558: Camera: Obscura It was the first optical device to project an image of its surroundings on a screen. Although some evidence of its existence dates back to 1000 AD but it was perfected in 1558 by Giambattista della Porta.

1836: Daguerreotypes Louis Daguerre invented a new camera to capture a permanent image on a screen. It used a process of coating a copper plate with silver which was later treated by iodine vapor to make it light-sensitive. The projected image was then developed by mercury vapor which was later fixed with a solution of ordinary salt.

1841: Alexander Wolcott: Camera This camera got the first US patent for photography. The camera used daguerreotype plate placed in front of a focusing system using concave mirror to project images. A sliding shutter prevented further exposure after capture.

1861: Panoramic camera: The first wide-angle lens camera used a 76 mm lens. The lens was made up of two hollow glass hemispheres. The spherical lens was filled with water that would project an image onto a curved plate. The flap in the front had to be lifted to capture an image.

1888: KODAK George Eastman pioneered photographic films in camera. His first camera was called "Kodak". It used a simple box having a fixed focus lens and a single shutter speed. It had enough film for around a hundred photographs. The detachable film could be taken out to be processed in a factory and a new film could be reloaded in the camera.

1900: Brownie: This was the camera which revolutionized the photo industry for the public. It was a basic cardboard box camera with a simple meniscus lens which captured images on a film roll. It was priced at \$1 and was extremely simple to use.

1913: LEICA: The Leica was the first practical 35 mm camera that used standard cinema 35 mm film built by Oskar Barnack in 1913. It transports photographic film horizontally, extending frame size to 24×36 mm, with a 2:3 aspect ratio. It was best suited for landscape photos.

1933: Exakta First single-lens reflex camera (SLR) for 127 roll film. In later models it pioneered the first built-in flash socket, activated by the shutter. In 1936, the first SLR for 35mm film was built.

1939: Argus C3 Best-selling 35mm camera in the world for three decades. It used a simple diaphragm shutter built into the camera body allowing it to use interchangeable lenses without the need for a complex focal plane shutter. The rangefinder was separate from the viewfinder and was coupled to the lens through a series of gears located on the outside of the camera body.

1948: Polaroid World's first instant-picture camera. It used a patented chemical process to produce finished positive prints from the exposed negatives in under a minute. In spite of the high price, the camera remains one of the top-selling cameras of all time.

1949: Disposable Camera: A company called Photo-Pac produced a cardboard camera beginning in 1949 which shot 8 exposures and was mailed-in for processing.

1980: Sony Mavica: It was one of the first analog camera. In essence it was a video movie camera that recorded single frames, 50 per disk in field mode and 25 per disk in frame mode. The image quality was considered equal to that of then-current televisions.

1988: Fuji DS-1P: It was the first true digital camera that recorded images as a computerized file. Recorded images to a 16 MB internal memory card powered by a battery to retain data.

1991: Kodak DCS 100: First commercially available digital single-lens reflex camera (DSLR) camera. Aimed at the photo journalism market & worked well for the field. Was mounted on a Nikon F3 body and released by Kodak in May 1991.

1999: Nikon D1: At 2.74 megapixel this camera was the first digital SLR developed entirely by a major manufacturer, and affordable cost which was targeted at professional photographers and high-end consumers.

Link: <http://www.thewindowsclub.com/history-digital-camera-ppt-pdf>