
TYPES OF CAMERA

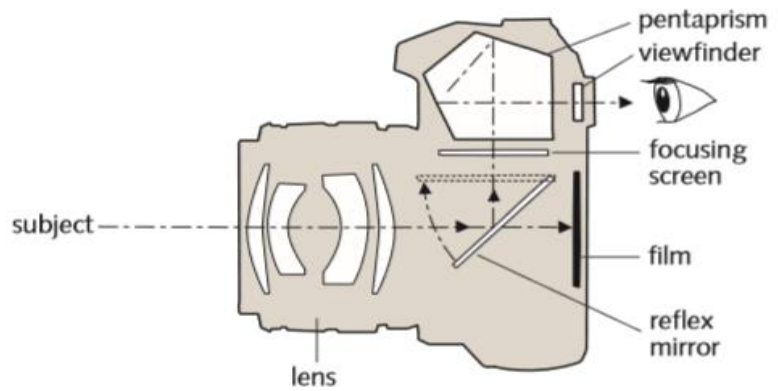


SINGLE- LENS REFLEX CAMERA

- ▶ In SLR Camera , one can view, compose, focus, and take a Picture through a single lens with the help of a reflex mirror.
- ▶ You can't see directly through the lens, because the film and shutter are in the way. They have to be positioned right behind the lens. So the SLR redirects the light from the lens to your eye with a reflex mirror, focusing screen, pentaprism, and viewfinder.
- ▶ **Reflex mirror** : The reflex mirror is located in the camera body right behind the lens and in front of the film. It's positioned at a 45-degree angle; when light comes through the lens, the mirror reflects it upward. The mirror also is hinged; when you press the shutter button, it flips up and out of the way as the shutter opens, permitting light to expose the film.

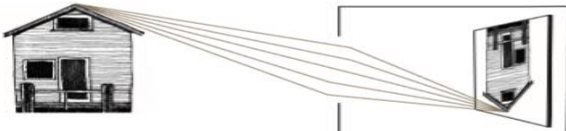


Single-Lens-Reflex Camera



In a single-lens-reflex camera, a reflex mirror reflects light traveling through the lens up to a focusing screen, where the image can be viewed and focused. When you press the shutter button, the mirror swings up to allow light from the lens to expose the film.

Image Orientation



When light from the subject passes through the lens, it gets turned upside down and laterally reversed; the top of the subject is on the bottom of the frame and words read backwards (left).

The reflex mirror reflects the image up to a focusing screen, where it appears right side up but still laterally reversed (center). Looking through the viewfinder, you see the image reflecting from a pentaprism that reverses the orientation, making it read correctly (right).

Focusing screen : Light reflected upward strikes a focusing screen, a textured sheet of thin plastic or glass. This is where the right-side-up (but still laterally reversed) image forms for you to view and focus. The screen is positioned at exactly the same total distance from the lens as it is from the film. Thus, when you've focused the image on the focusing screen, it also will be in focus on the film.

Pentaprism :The hump on the top of the camera body incorporates a pentaprism, which is a prism or mirror system that reflects and directs the image from the focusing screen to a viewfinder. It also allows you to hold your camera at eye level for viewing. The pentaprism also is usually integrated with the camera's through-the-lens meter and exposure controls, and reflects the displays of f-stop, shutter speed, and other meter settings and markers you see when looking through the viewfinder.

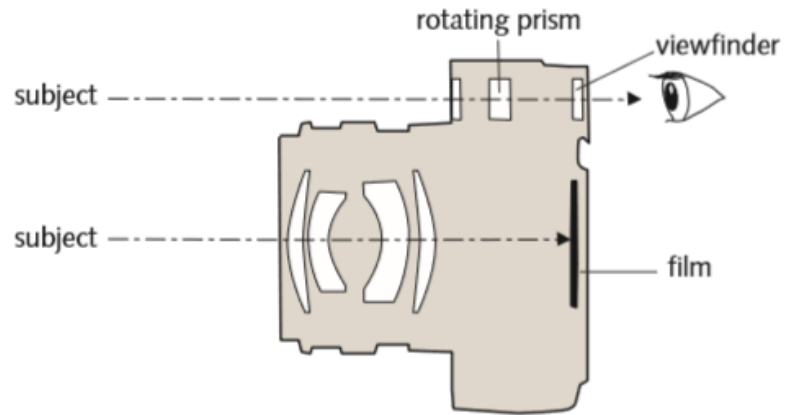
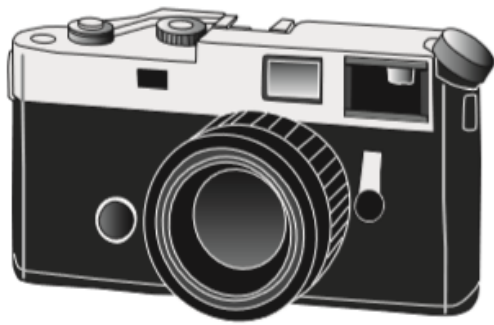


RANGE FINDER CAMERA

- ▶ A rangefinder camera has a single lens like an SLR, but you don't view and focus through it.
- ▶ The rangefinder works with a prism behind a window located on the opposite side of the lens from the viewfinder (on the top left as you look at the front of the camera).
- ▶ As you turn your lens to focus the subject, the prism rotates and bounces light sideways to a mirror in the viewfinder.
- ▶ This produces a double image of the subject—one from the viewfinder and one from the prism. The double image appears as a translucent rectangular or square patch floating in the middle of the viewfinder. The image from the prism moves as you focus the lens; when the two images superimpose, the subject is in exact focus.
- ▶ Rangefinder cameras have no reflex mirrors, which allows you to maintain sight of your subject at all times.



Rangefinder Camera



In a rangefinder, you view and focus your subject through a viewfinder that's separate from the lens. Light from a prism behind a second window is reflected to the viewfinder, creating a patch with a double image. When you turn the lens and superimpose the two images, the subject is in focus.

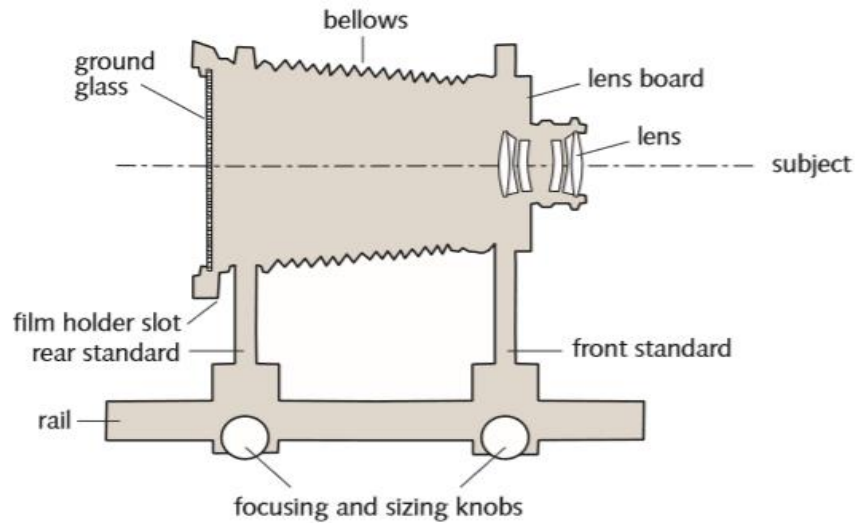


VIEW CAMERA

- ▶ It has a lens mounted on a front standard to capture the scene and a slot on a rear standard to hold the film. Between the front and rear standards is a collapsible bellows, a light-tight accordion-like tube made of cloth, leather, or some other material.
- ▶ A view camera takes large-format sheets of film or a high-quality digital back, making it capable of producing finely detailed, sharp photographs.
- ▶ The view camera lens is mounted on a lens board, and in the rear there is a focusing screen called a ground glass. A film holder, a removable accessory that contains the film or digital back, is inserted between the bellows and the ground glass.
- ▶ The bellows sits on a rail (or a platform); you turn a knob on the front or back of the camera and the bellows collapses or expands to achieve focus.



View Camera



In a view camera, you view and focus your subject through the lens as the image projects on a ground glass. Then you slide a film holder in the back of the camera to take the picture. A view camera is relatively large and bulky and must be used on a tripod for steadying. View cameras are made for different film formats, but most commonly 4 x 5.

You view and focus the subject on the ground glass, which is positioned behind the lens and bellows; the image forms upside down and laterally reversed. Ambient light makes the image hard to see, so you must cover your head and the ground glass with a dark focusing cloth to keep extraneous light out. When your subject is in focus, you slip a film holder or digital back between the ground glass and the bellows, or replace the ground glass with a digital back, remove the dark slide that covers the film on one side of the holder, and take your picture.



Other Camera Types

□ PIN & SHOOT CAMERA

You can compose your subject through an open window located on the top left or center of the camera back. The viewfinder shows approximately what the final photograph will look like. With such cameras no focus is necessary, because the lens is designed and preset by the manufacturer to produce a sharp image from a distance that ranges from about 4 or 5 feet away from your subject to infinity.

On a typical point-and-shoot, hold the shutter button halfway down to activate and achieve focus, and the camera sets the exposure settings (f-stop and shutter speed) and then click the button for capturing.



❑ INSTANT CAMERA

The instant camera is a type of camera which uses self-developing film to create a chemically developed print shortly after taking the picture.



❑ TWIN LENS REFLEX

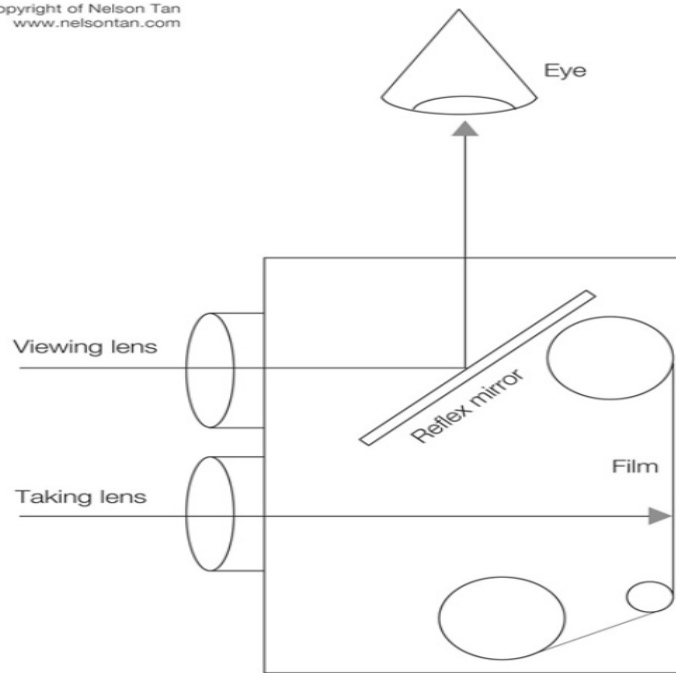
A twin-lens-reflex (TLR) camera has two lenses stacked one over the other. On top is the viewing lens, through which you compose and focus your subject; on the bottom is the taking lens, through which you expose the film to light.

A fixed mirror, positioned behind the viewing lens at a 45-degree angle to the film, reflects light up to a focusing screen, so you can see the subject. The film is positioned behind the taking lens. The two lenses are mechanically linked, and as you focus the viewing lens (generally using a knob on the camera body), both lenses move simultaneously. Thus, when the image on the focusing screen is sharp, the image on the film also will be sharp.



Twin-Lens-Reflex Camera

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Cross-section diagram of a twin-lens reflex (TLR)

A twin-lens-reflex camera has two lenses—one on top of the other. Looking down onto a focusing screen, you view and focus your subject through the top lens. But when you press the shutter button, the bottom lens takes the picture. Twin-lens-reflex cameras take medium-format 120 roll film.



DIGITAL CAMERA

- ▶ A digital camera (DSLR) works a lot like a film camera, except it uses an electronic sensor rather than film to capture light. Light from the subject passes through the lens and falls on the sensor; the pattern of light recorded by the sensor is stored as a digital file of the image either in the camera or on a removable memory card. The digital image files can then be downloaded to a computer or to a portable hard drive.



MIRRORLESS CAMERA

- ▶ A mirrorless interchangeable-lens camera (MILC) or mirror-less camera contains a single, removable lens and uses a *digital display system* rather than an optical viewfinder. The camera does not have a reflex mirror or optical viewfinder like a conventional digital single-lens reflex camera (DSLR), but an ***electronic viewfinder*** which displays what the camera image sensor sees.



<https://www.youtube.com/watch?v=kK5EIdAnRww>

