

Live View: Shoot what you see. See what you shoot.

The problem:

Due to the way all traditional and most digital single lens reflex (SLR) cameras are constructed, the photographer is usually glued to the viewfinder when taking shots. This has generally been taken for granted although in every SLR photographer's life there will have been moments when they wished they could just see what they're going to capture a little bit better: A little larger, a little more clearly and also with a little more flexibility. Other times they may have cursed the fact that they had to decide whether to keep eye contact with their subject they were trying to encourage to smile into the lens, or make sure they would actually capture the scene when the smile was just perfect.

With compact digital cameras, Live Views on a camera's LCD very quickly revolutionised the way photos are taken. Nowadays it's even all but impossible to find a compact camera incorporating an optical viewfinder at all. The convenience of seeing motifs on a large LCD has clearly won over as the preferred way of framing subjects. This fact leads to an immediately obvious question: "Why has this change not yet occurred in D-SLRs?"



The solution:

With Live View, Olympus engineers have made possible what for a long time seemed unachievable. By applying this technology to D-SLRs, photographers can use the LCD not just to judge what was already captured but also to see what is about to be captured. While this has been long possible in most compact digital cameras, it remained a challenge in D-SLR models due to the inherent physical constraint in an SLR where light must follow an optical path in order for it to be directed through the lens to the viewfinder.



The benefits:

It's not only framing that has become much more flexible thanks to the Live View technology. Numerous additional advantages for photographers have been made possible through this innovation. For one, there is no longer the need to hide one's face behind the camera – photographers can now actually communicate face-to-face with their subject and still have everything in view. Therefore that encouraging smile or blink of the eye can be used to bridge a possible gap between photographer and model.



Normal size



With 7x magnification

In terms of focusing, photographers not only enjoy the convenience of automatic focus, they also have the freedom to manually focus on the subject while viewing it on the large LCD. The subject can even be enlarged on the LCD by a factor of 7 or 10 times. This is a particular bonus in macro photography, as it allows to ultra-fine adjustments of the focus for exceptionally crisp shots – also of the tiniest details.

Even underwater D-SLR photography reaches a new dimension. On Live View cameras where optional underwater cases are available, divers can see their subject through their diving masks clearly on a large LCD and also have the convenience of being able to choose from special underwater scene modes. Moreover, the photographer has the freedom to move the camera in all possible directions without having to guess what is being captured. Thanks to the extremely wide viewing angles afforded by the latest LCD technology, the potential picture can be seen on the screen from just about every angle.



E-410 with underwater case

Live View goes even further to ensure better results and more. For example, using this technology, photographers can preview their photo's depth of field directly on the LCD.

Moreover, the results of exposure compensation adjustments as well as changes to white balance are clearly shown. By being able to see the effect camera setting adjustments have on a motif in real time on a large LCD, the guesswork is taken out of numerous situations – allowing photographers to see which setting is optimal for their intended purpose – even before the photo is taken. It therefore really is a case of: “Shoot what you see. See what you shoot.”

White balance compensation with Live View:



Original Live View image



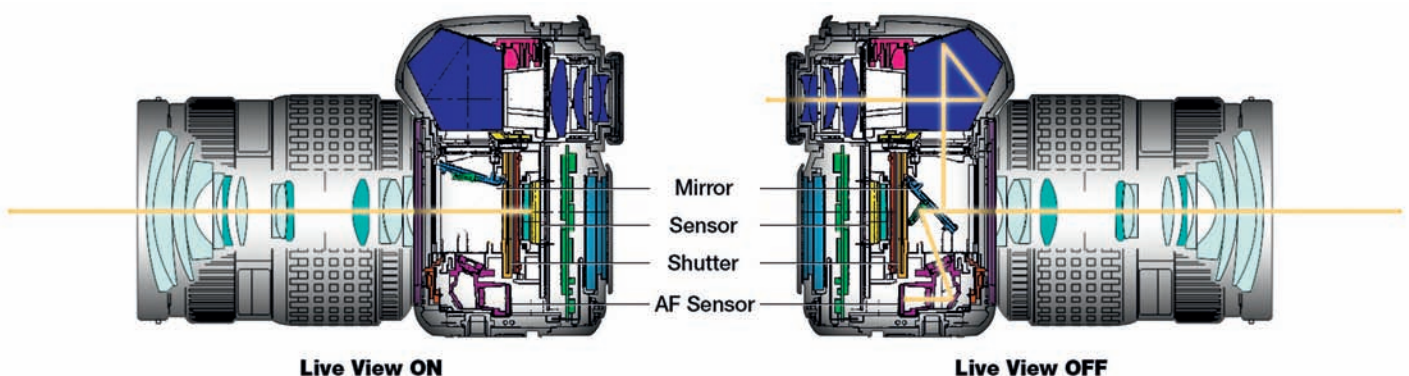
Adjusted to lower colour temperature



Adjusted to higher colour temperature

How Live View works:

Live View is made possible by moving the mirror upwards and displaying the image on the LCD at the back of the camera as the image sensor “sees” it. Both automatic and manual focusing modes are supported. For auto focus the mirror is flipped down momentarily and then – once the AF sensor, which sits behind the mirror, has taken its reading – back up again.



With Live View in operation the image sensor is permanently ON, so a type of sensor was needed that consumes little power while at the same time delivers the high image quality of the Full Frame Transfer CCD. Olympus incorporated a proven Live MOS sensor technology, and then simplified the sensor construction by radically improving the materials and processing technology. The result is a sensor with low power consumption as well as low heat and noise generation.