

How Does A Digital Camera Combined Auto Focus Work

Objects in good focus in a digital photo is a very basic requirement for high quality photography. There are two different ways to focus on such objects: manual or automatic. There are a few automatic focus methods – combined auto focus systems use more than one such method. High quality sharp and crisp digital photos are a result of many optical parameters that need to be set right. One of the most important optical parameters is focus. When objects in a digital photo are out of focus they look blurry and are missing details and clarity. When objects are in focus they look sharp and crisp. While the focus can be manually set by the photographer in most cases using the digital camera's automatic focus feature is much easier and faster. There are many different algorithms and methods that digital cameras use in order to automatically determine the right focus for a specific scenario. Such algorithms include passive and active auto focus. One type of combined automatic focus system uses these two algorithms to delivery superior automatic focus. Combined passive and active auto focus Active auto focus systems use distance sensors that measure the distance from the camera to the objects in the scene. Usually the camera measures the distance to the object or objects around the center of the photo. By knowing that distance the camera can then set the camera lenses to achieve good focus. One of active auto focus biggest advantages is that it can work in complete darkness. On the other hand active focus can fail in problematic scenarios such as when objects emit certain energies (like infrared) are photographed or when surfaces in the scene absorb the energy used to measure the distance. Passive auto focus systems use software that runs on the digital camera built-in computer. The camera executes such image processing algorithms to determine a Focus Level number. The exact way in which such a number is calculated is out of the scope of this article. Suffice is to say that the camera uses some image processing algorithms with which it can calculate how good the focus is. Using these algorithms the camera can find the best focus for the scene. In some scenes the passive auto focus is limited or not functional at all. It does not work well in poor lighting conditions and does not work at all in dark scenes. It is also hard to focus on low contrast objects such as walls or solid surfaces. Cameras that are equipped with combined auto focus systems pick the right system for the specific scene or cross check by using both systems at the same time. The photographer can also manually decide to use one of the two options. For example when shooting blue skies the camera can try to use the active system and measure the distance. Since the distance is infinite the camera can set the focus and skip the passive focus. In other cases when the distance is not infinite the camera can use the active system to put the lens in approximately the right position and then use the passive system for fine tuning. In dark scenarios the camera can opt to use the active system since the passive system will not work.

About the Author

33rd Annual European Meeting on Atmospheric Studies by Optical Methods. Optical methods have been used for studies of the atmosphere.

Source: <http://www.productsherbal.com>