

CAMERAS FOR FILMING READING

Examining different cameras for video production purposes.

There are many different types of cameras that a filmmaker or television producer might use as a means of making a new work. Below you will find brief descriptions of several different types of cameras, their unique features, and the benefits and drawbacks of using them in the field.

DSLR

Digital single-lens reflex cameras, or DSLR for short, have been popular with film makers for quite some time. These cameras work by letting light through the lens, leading to a mirror which reflects the image into the viewfinder. From here a person can easily set up a shot in real-time. This partnered with the simple autofocus, expansive selection of lenses, and excellent battery life have made it a favorite of beginning filmmakers. There are some drawbacks though. Because of the moving parts inside, DSLR cameras are noisier, heavier, and more prone to issues than their mirrorless counterparts. Additionally with Sony and Canon ceasing production of their DSLR cameras in 2021, it is likely that mirrorless cameras will replace them in most applications in the near future. Still, most DSLRs are cheaper than mirrorless cameras and because they have been around longer, they are easier to find on the used market.

Mirrorless

The newest camera type on this list is the Mirrorless Interchangeable Lens Camera, or mirrorless camera for short. These cameras sometimes can look like a DSLR, but they are missing the main mechanism from that camera - the mirror. This simplification of the camera counteracts a lot of the issues discussed previously. Mirrorless cameras are lighter, quieter, and less fragile than their DSLR cousins. Because they do not have a viewfinder, opting instead for a digital screen, they also allow for more accurate exposure adjustments. It isn't all positive though, as the screen is battery intensive and as a result the battery life is not comparable to a DSLR. Additionally, they can be significantly more expensive and since they are newer technology, there are less lenses and accessories available. Still, mirrorless cameras are quickly catching up to DSLRs and within the decade should become the new standard.

GoPro action camera

GoPro has been the household name for action cameras for over a decade now. While they are now getting some competition, for the foreseeable future they will remain the go-to for most people wanting to film high-velocity sports. Because of their excellent image stabilization, compact size, and wide variety of mounts for just about every sport (bike helmet mounts, surfboard mounts, ski pole mounts, and even a dog harness mount) they are extremely capable of getting point-of-view (or POV) shots that put the audience in the driver's seat - sometimes literally! Action cameras do not have to be used for extreme sports though, and they have found their place in web streaming set-ups and as travel cameras for photographers and filmmakers. They do have some issues in terms of their short battery life, poor low-light shooting, and washed-out colors, but they are seldom the only camera employed by most filmmakers.

PTZ

Pan-Tilt-Zoom, or PTZ, cameras are motorized cameras that allow for a person or software to control the camera from a remote location. While that can be across a film set using a remote joystick, or miles away using software, the PTZ allows for shots that would be expensive, inaccessible, or unsafe for a human to obtain. While one can put an action camera in a zoo exhibit with a tiger, if the tiger moves out the frame there isn't much that can be done. With the PTZ camera however, one could simply turn the camera remotely to reframe the shot or even use an auto-follow feature to ensure that the camera keeps track of the tiger wherever it moves. PTZ cameras can also be wall-mounted, and they are small enough that you could place one in a small space where a human with a camera on a tripod would not fit. PTZ cameras are costly and have a lot of moving parts that add to their fragility. Additionally, the lenses cannot be changed and when set to automatic modes, they can sometimes have issues with focus.

iPhone

The iPhone camera has been embraced by indie and short film creators for some time now, but it really made an impact when film director Steven Soderbergh used it almost exclusively to film a feature-length film with a theatrical release in 2018. The benefits of the iPhone should go without saying at this point: it is the most widely used smartphone in the United States, it has great battery life, it can sync your footage with cloud services as you go about your day, and it even has its own film editing software for free with every device. There are a variety of third-party manufacturers who have created lenses, tripods, and harnesses for iPhones. Additionally, FiLMiC Pro, a \$15 app for the iPhone, opens a variety of features of the camera like frame rates, color correction, gimbal compatibility and more. There are still drawbacks like with any camera however, and the biggest one is the phone's sensitivity to temperature. The iPhone cannot handle shooting below freezing or in direct sunlight during the summer heat due to its lithium-ion battery inside. The battery, unlike with other cameras, cannot be changed in the middle of a shoot so one needs to consider wall power or having multiple phones with them. Like the action camera, iPhones also do not do well in low light situations.

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