

Conventional silver-based film cameras vs digital cameras

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Conventional silver-based film is still the recommended technology for evidentiary photography or for field applications. These cameras offer the highest resolution possibilities as well as the highest dynamic range. They have the best color range and are the most flexible of the currently available camera technology options. Silver-based film is the most durable storage medium as well, and is more readily available than video or digital storage media (" Guidelines).

Resolution quality, or the sharpness of detail, is one of the most significant advantages of silver-based film. The extremely small sized silver crystals for this type of film allow silver-based film cameras to have a much higher resolution than digital cameras. 35mm camera negatives have an approximate resolution of 5500 x 3600 pixels, while digital cameras typically only have a resolution of 640 x 480 pixels. That equates to only 1.6 percent of the information that is captured with a silver-based film camera being captured with a digital camera (" Guidelines").

There are disadvantages to using this sort of camera, however. First is the need for a separate processing and printing facilities. In addition, there is a relatively long processing time involved for silver-based film. Processing the film also creates environmentally hazardous byproducts, in addition the film prior to processing is sensitive to temperature and humidity changes, as well as x-rays. The most notable disadvantage is that there is no way for the photographer to evaluate the image immediately, unless instant film is used (" Guidelines").

Advantages and Disadvantages of Digital Cameras:

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Digital cameras offer some distinct advantages over other types of cameras. The foremost benefit they offer the user is the ability to view the image instantly and verify that image is exactly what was wanted. In addition, the image can be transmitted or shared with very few intermediate steps. Onsite image management as well as printing are added advantages, as well as more environmentally friendly media than film (" Guidelines").

The disadvantages of digital cameras, however, often outweigh its advantages. Digital cameras require batteries or alternate power supplies to operate. This means that there is a negative environmental impact, power must be converted, and a power supply must always be available. Storage media, although becoming more readily available, is still not available universally. Acquiring an image may be interfered with by electromagnetic fields, and once an image is acquired it may go through an automatic compression, losing some of the detail. Digital camera hardware and software are not always compatible with other manufacturers and there is a need for increased technical support. Lastly, as technology evolves there may be an impact on the ability to access image files, when that file format becomes outdated (" Guidelines").

Advantages and Disadvantages of Video Cameras:

Video cameras have become more and more popular with the advancements in technology. Video cameras allow for a real-time motion record and the recorder can immediately review the images captured to ensure they are what was desired. Like digital cameras, video cameras can transmit and

disseminate images with very few steps in between and they are more environmentally friendly than silver-based film. One of the most significant advantages to video cameras is their ability to not only capture video imagery but also audio as well (" Guidelines").

Yet, there are disadvantages to this technology as well. Like digital cameras, video cameras require batteries or an alternate power supply, and these have a negative environmental impact and the availability of these affect whether or not the video camera can be used. Video camera storage media is also subject to damage due to electromagnetic fields, and like digital cameras, electromagnetic interference may affect image acquisition.

Resolution on video cameras is less than either digital or silver-based film cameras and there is limited color fidelity. Add to these the challenge that handheld video cameras lack image stability and that the weight and portability of some equipment may prove to be a problem. High end digital video cameras are better resolution than analog cameras (" Guidelines").

Advantages and Disadvantages of Hybrid Imaging Systems:

Hybrid imaging systems combine silver-based film technology with digital technology. The advantages of this type of system is that there is less time to be spent in the darkroom and the camera maintains the high-quality film images. With this high quality, there is still the flexibility that comes with digital image processing. Just like digital cameras, images can easily be transferred electronically and can be analyzed electronically as well. This

system also simplifies case-file management and can use a variety of output devices (" Guidelines").

There are disadvantages to this system, however. There is still a need for separate processing and printing facilities for the silver-based film, which includes the lengthy processing time and the environmentally hazardous byproducts. Just like a regular silver-based film camera, the preprocessed film is fragile and can be damaged by temperature, humidity and x-rays. And, it requires increased technical support, unlike a regular silver-based film camera (" Guidelines").

Personal Opinion on Which Camera is Best for Crime Scene Photography:

Crime scene photography requires clear pictures of specific details that may not remain at the scene. For this reason, there is one feature that is absolutely mandatory when considering which camera is best suited for crime scene photography. The first is that the camera must have a high enough resolution to capture the important details of the images captured. This narrows the choices of the camera down to then, either the silver-based film camera or the hybrid imaging system.

Of course when one considers the importance of ensuring that all crime scene facets are photographed adequately, it becomes clear that the ability to review an image instantaneously is a powerful benefit. With this ability, the photographer can ensure that he has captured exactly what he wants on film, without the risk of missing something that may not be able to be filmed later.

For this reason, the hybrid imaging system appears to be the best choice. It not only allows for the high resolution necessary to capture important details, but allows the photographer instant access to the images he or she just took, so that they can verify that they captured everything they would like. Although this system does have the processing drawbacks of silver-based film, it also has the benefits of being able to transmit image files electronically, as well as the enhanced storage and filing.