

The Use of Digital Camera's in Paranormal Research

By Russ Bennett

In the Paranormal field camera's are of the utmost importance. They show things that by the naked eye would otherwise be invisible. Such interesting things as ectoplasmic mist, plasmatic globules, and dark forms come to life in the pictures that are taken by paranormal investigators.

Since digital cameras come out of the box defaulted on automatic it is the beginners dream. Just point and click and a perfect picture is captured. Is it possible that the camera can do more harm then good in the hands of a novice paranormal investigator? Interestingly, the simple point and click cameras, that are so common in the field, are not an investigators friend. With automatic aperture and automatic exposure we lose the ability to control our environment. Also, not knowing how to use ones tools is a critical mistake by many investigators just starting out in this field. The pictures new investigator's provide are typically stunning to say the least, but offer very little to the paranormal community due to the new investigator's inability to work their equipment properly and their strong desire to capture something paranormal.

Digital cameras and auto-focus/auto-everything cameras have circuitry that determine the size of the aperture and how long the aperture remains open to expose the film or image sensors to the light. Typically, with digital cameras there are no shutters to open or close, and the aperture remains the same size. Small light sensitive diodes called photosite's collect the light reflections off the objects that are within viewing range in order to create pictures.

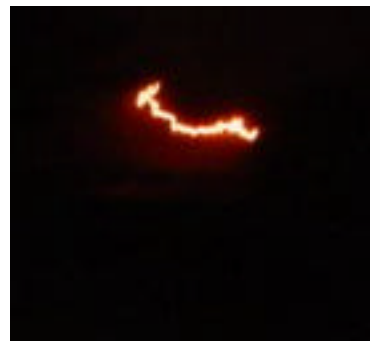
It's important to understand the basic "how it works" of a digital camera. Very simply, the light travels into an aperture of the digital camera. For lower cost digital cameras the aperture is a fixed size. Once the light passes the aperture it falls on an image sensor. This image sensor is made of smaller circuitry known as photosite's. The photosite's will convert the light into digital signals where an image is created. The longer the photosite's are exposed to the light the brighter the image will be.

In automatic mode, a digital camera will expose the photosite's to light for as long as it takes to reach a certain preset level. This means that during bright light the photosite's will be exposed to light for a short time, and in a dark or dimly lit area the photosite's will be exposed to light for a longer time.

Most ghost hunters will take photos in dimly lit or dark areas. How does this present a problem? While the photosite's are on they are continually capturing the light data and adding to the image it is collecting. When something passes in front of the photosite's they will pick up the light reflecting off the object. Depending on the speed of the object moving we can see an elongated object or a misty, almost solid, object.



The above picture shows what looks like a rod with the traditional cyclic appearance. This is only a bug being captured by a camera in dim light and long exposure to compensate for the dim light. The cyclic feature you see is the iteration of the wings as the bug flies across the screen. Another interesting capture is the one below.



The image was captured in a graveyard at night with an older 3.1-mega pixel (mp) digital camera. 3.1-mp cameras generally have an average exposure of 1/4th of a second in pitch dark while using a flash. This exposure setting can be altered but is the

default setting for most cameras of the same ilk.

As an example, giving an adjustment to the 3.1-mp camera so its shutter speed is $1/60^{\text{th}}$ of a second will help some but not much. Lets take a bug flying at 45 mph. When taking a picture of it with the adjusted camera described above it will make a 9" rod on the image. Depending on how close the bug is to the lens the rod will look longer or shorter. Images are one dimension and thus distance is deceiving.

In the image above, also notice how the bug glows. Most bugs, especially beetles, reflect light and will be very noticeable during the night time hours if panning with a flashlight. The solidness of the image is due to the photosite's of this older camera remaining in the "on" position in order to capture the necessary light needed to meet its default light value. The result is a very curious illusion of fire in the sky.

Newer digital cameras are better at collecting images and handle exposures quite a bit different then older cameras. Camera's such as the Canon EOS Digital Rebel are fitted with real shutters much like film cameras and have actual shutter speeds as fast as $1/4000^{\text{th}}$ of a second making occurrences such as the fire in the sky illusion very rare to capture. Although much of the exposure problems have been eliminated, they do still occur as you can see in the image below.



The exposure in this image was purposefully left open a long time to assist in the adding light effects to the house and color distortion in the sky, but upon downloading the image the photographer taking the picture noticed a mist coming in

toward the right. He sent it in questioning what it was.

We will probably never know what the mist is, but with the extended exposure it is possible to imagine a leaf falling in front, or a person walking in front, or any other object that happened to be tossed into the viewing range of the camera that may have been a contributing factor to the mist effect. Because we know that the shutter was purposefully left open we can determine that this was more than likely not something ghostly in origin.

Taking pictures is a skill, not a defacto output of a digital camera. It takes knowledge of your camera and the ability to think logically to operate one properly. Just keep in mind that using a \$1 disposable film camera would be more beneficial to paranormal research for the simple fact that the shutter speeds and aperture settings are constant. It's this constant that we can build on.

So what now? How can we get better images with our digital cameras? The easiest solution to those questions is: 1) Buy an expensive digital camera, 2) Read the manual and learn how to work it manually, and 3) be aware of what paranormal is. It is outside of normalcy and if something happens over and over then it begins to be the norm.