

## **Using Digital Photographs in the Courtroom - Considerations for Admissibility**

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The growing popularity and reliance on digital photography has given rise to new admissibility issues in the courtroom.

In the civil realm, not many decisions address the admissibility of digital photographs. Criminal courts, however, have approached this issue as state and federal law enforcement agencies develop evidence-gathering protocols that are increasingly reliant on digital technology.<sup>1</sup> This brief article will outline the evidentiary issues and provide resources that address the subject.

### Advantages of Digital Photography

There are many advantages to using digital photographs as opposed to traditional 35 mm film. Digital cameras produce instant images, allowing the photographer to view the images and instantaneously decide whether the photographs are adequate without the delay of waiting for the film and prints to be processed. Digital photography does not require outside developing or reproduction. Furthermore, digital photographs are easily stored, do not take up additional physical space and can be widely disseminated electronically with virtually no time delay.

### The Medium:

A digital picture is stored in the camera in a traditional computer file format with built-in file management and controls. The camera automatically creates a self-generating audit trail with a sequence number, represented by the file extension. The encoding includes file size and file creation date. By connecting the camera to a computer with a cable, the operator can transfer or "download" the file to a directory on the computer. This preserves the file data as though it was the original.<sup>2</sup>

No traditional "original image" is made. Unlike 35mm cameras that produce one negative, digital cameras create an electronic file from which the image can be generated. Because the image file contains a finite set of ones and zeros, exact copies of the image file can be made with no loss of image quality between generations.<sup>3</sup>

### Manipulation of Evidence:

A significant feature of digital photography is both the ease and the decreased cost in altering the image. Many of the potential dangers of tampering or manipulating the photograph are also popular with 35mm film; however, fraud by conventional photograph remains relatively difficult, usually requiring technical expertise.

Manipulation of digital images is far simpler; nearly anyone can produce an alteration that is difficult to detect.<sup>4</sup> With some very basic software, a digitally-recorded image can easily be edited. For example, a lay person can remove a bruise or scar, a scratch on a car or a background object, or even change a license plate, the time on a clock and basic attributes of color, lightness and darkness.<sup>5</sup> The most egregious alterations include borrowing, cloning, removal and switching parts of a digital picture.<sup>6</sup>

Traditional 35mm photographs, however, can now be subject to the same manipulation potential by simply converting a print to a digital image by scanning. A person can scan into the computer a 35mm photo print, converting the image into "pixels" (which is the same as a digitally-taken photograph) and utilize the same software as though the picture was originally taken using a digital photograph.<sup>7</sup>

### Challenges to Admissibility:

This potential for manipulation may provide the basis for admissibility challenges; however, digital images are rarely challenged in court. One possible explanation is the legal community's general lack of awareness of the characteristics of digital images that could make them less reliable as evidence than traditional photographs. Because of the few challenges and therefore scarcity of case law on the subject, the lack of awareness of the unique evidentiary issues digital images present is perpetuated.<sup>8</sup>

Recently, the Connecticut Supreme Court undertook a comprehensive analysis of the issues related to digitally-altered evidence in *Connecticut v. Swinton*.<sup>9</sup> The Swinton court's analysis and opinion outline the evidentiary challenges and pitfalls related to the admissibility of digitally enhanced photography. In *Swinton*, the defendant challenged the admissibility of two submissions - digitally enhanced photographs of a bite-mark on the victim's body and images of the defendant's teeth superimposed upon photos of the bite mark.<sup>10</sup>

The *Swinton* decision provides a guideline for ensuring a proper foundation is laid when submitting digitally produced evidence. There must be testimony by a person with some degree of computer expertise, who has sufficient knowledge to be examined and cross-examined about the functioning of the software. In addition to the reliability of the evidence itself, the proponent must establish the reliability of the procedures involved, as the opponent must have the opportunity to cross-examine the witness as to the methods used.<sup>11</sup>

First, the equipment used must be accepted as standard equipment in the field. Second, operator of the equipment must be qualified to use the equipment. Third, the proponent must prove that proper procedures were followed in connection with the input and output of information. Finally, the proponent must offer evidence that the software used is a reliable program.<sup>12</sup>

These factors address a witness' familiarity with the type of evidence and with the method used to create it, and appropriately require that the witness be acquainted with the technology involved in the computer program used to generate the evidence. These factors also ensure that the hardware and software used to generate the evidence were adequate for that purpose and that the technology was reliable.<sup>13</sup>

#### Evidentiary Considerations:

While the advent of digitalized imagery dramatically increases the potential for manipulation of photographic evidence, the key to assure a digitalized photograph's admissibility is the testimony of a witness subject to cross-examination, not the integrity of the process by which the image was created.<sup>14</sup>

The Federal Rules do not currently set forth requirements for the admissibility of digital photographs and therefore traditional notions of relevancy and authentication currently govern.<sup>15</sup> A photo will be deemed relevant if it tends to prove or disprove a material element of the charge.<sup>16</sup> There must be independent evidence that the image is a true and correct representation of what it purports to show.<sup>17</sup>

Witness testimony limited to fair and accurate portrayal testimony, however, omits important information regarding the digital camera settings, including the compression ratio,<sup>18</sup> storage medium and opportunity for manipulation.<sup>19</sup> Although Fed. R. Ev. 901(b) provides examples for authentication of evidence, it does not specifically address digital images.

Proponents of digital photographs in the courtroom should consider the best evidence rule. With respect to digital photographs, the original "best evidence" version of the photo is the disk drive in the camera itself, prior to being downloaded on to a computer.<sup>20</sup>

### Precautionary Steps:

There are certain precautionary steps to consider when relying on digital photographs for use as evidence in the courtroom (or to use to launch a challenge to digital photography).

- Keep the source media intact showing the original directory with dates, files size and file names automatically generated by the digital camera. This may entail keeping the original floppy or compact flash card as the "best evidence" complete with all surrounding shots.<sup>21</sup>
- Although it is tempting to rename the file when downloading on to the computer, it may be wiser to preserve the original file name, neatly numbered and in a sequence from the perspective of authentication and maintaining a chain of custody.<sup>22</sup>
- If multiple people have access to the image, make the files read-only for all but the evidence/photo lab staff.<sup>23</sup> Be able to identify those who had access.<sup>24</sup>
- If it is necessary to enhance photographs, the new image files created should be saved as new file names. The original file must not be replaced (overwritten) with a new file.<sup>25</sup>
- Personnel who prepare the exhibits for court should be trained in digital image processing. They need to understand which images might require a special notation to show that any changes were made (contrast, enlargement) are not prejudicial.<sup>26</sup>
- If it is necessary to change the contrast or touch up the photo, it is a simple matter to show the original and then explain why the enhancement was necessary. For the proponent, this means a few extra steps. The opponent, should frame discovery requests to compel identification of any image manipulation and should undertake extra probing during investigation and formal discovery.<sup>27</sup>
- If the alteration goes to an issue at the heart of the case, a professional should be retained to make the alteration and the professional should testify when offering the exhibit. That way, a credible explanation may be presented regarding what was done, why it was done and what it means.<sup>28</sup>
- In many situations, the best practice is to retain an experienced professional to take the photograph in the first place.<sup>29</sup>

Finally, before agreeing pretrial to the admission of an adverse party's prints of digital images, demand a copy of the original digital image. By doing so, you can determine whether the offered print fairly portrays what the original captured.<sup>30</sup>

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<sup>1</sup> Christina Shaw, *Admissibility of Digital Photographic Evidence: Should it be Any Different Than Traditional Photography?* As viewed on [http://www.ndaa-apri.org/publications/newsletters/update\\_volume\\_15\\_number\\_10\\_2002.html](http://www.ndaa-apri.org/publications/newsletters/update_volume_15_number_10_2002.html).

<sup>2</sup> James Keane, James, *Prestidigitalization: Magic, Evidence and Ethics in Forensic Digital Photography*, 25 OHIO N.U. L. REV. 585, 588 (1999).

<sup>3</sup> Jill Witkowski, *Can Juries Really Believe What They See? New Foundational Requirements for the Authentication of Digital Images*, 10 WASH. U. J. L. & POL'Y 267, 273 (2002).

<sup>4</sup> Crystal Garcia, Shelia Suess Kennedy and Barabara Lawrence, *Picturing Powerlessness: Digital Photography, Domestic Violence, and the Fight over Victim Autonomy*, 25 HAMLINE J. PUB. L. & POL'Y, I, 8 (Fall, 2003).

<sup>5</sup> George Paul, *Fabrication of Evidence: A Click Away*, THE NAT'L L. J. (Feb. 21, 2000).

<sup>6</sup> Keane, *supra* at 591.

<sup>7</sup> See generally, *Connecticut vs. Swinton*, 268 Conn. 781 (Conn. 2004).

<sup>8</sup> Witkowski, *supra* at 285-86.

<sup>9</sup> 268 Conn. 781 (2004)

<sup>10</sup> *Swinton* at 794-95.

<sup>11</sup> *Swinton* at 813-15.

<sup>12</sup> *Swinton* at 814-17.

<sup>13</sup> *Swinton* at 813-14. The *Swinton* court ultimately held that the enhanced photographs of the bite mark were properly admitted and that the digitally created superimposed images of the defendant's teeth did not meet the foundational requirements set forth above because the witness lacked technical knowledge of the software used to create the enhancements. *Id.* at 829-30.

<sup>14</sup> *McCormick on Evidence*, § 214 (5<sup>th</sup> Ed., 2003 Pocket Part).

<sup>15</sup> See FED. R. EVID. 1001(2) defining "photographs" as including still photographs, x-ray films, video tapes, and motion pictures. Please note, this article does not address any particular state's rules addressing the admissibility of digital photographs.

<sup>16</sup> FED. R. EVID. 401.

<sup>17</sup> FED. R. EVID. 902.

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<sup>18</sup> "Compression" is a process by which users of digital cameras can choose to store a greater number of images of lesser quality by permanently discarding some of the information originally contained in the digital image. Witkowski, *supra* at 270.

<sup>19</sup> Witkowski, *supra* at 283.

<sup>20</sup> Keane, *supra* at 591-92.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> Steven Staggs, *The Admissibility of Digital Photographs in Court*, as viewed on <http://www.crime-scene-investigator.net/admissibilityofdigital.html>.

<sup>24</sup> Keane, *supra* at 591-92.

<sup>25</sup> Staggs, *supra*.

<sup>26</sup> Keane, *supra* at 591-92. *See also Connecticut vs. Swinton, supra*, holding that a witness must be able to testify, adequately and truthfully, as to exactly what the jury is looking at, and the defendant has a right to cross-examine the witness concerning the evidence.

<sup>27</sup> Keane, *supra* at 591-92.

<sup>28</sup> David Beckman and David Hirsch, *Developing Evidence: Imaging Software Can Help Your Pictures Tell the Story*, 89 A.B.A. J. 62 (August, 2003). *See also Swinton, supra*, in which certain digitally-enhanced images were held admissible when the witness used a laptop computer and demonstrated to the jury exactly how the original bite mark photograph had been enhanced. *Swinton*, 268 Conn. at 800.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*