

Digital Photography & Home Inspections, Part I

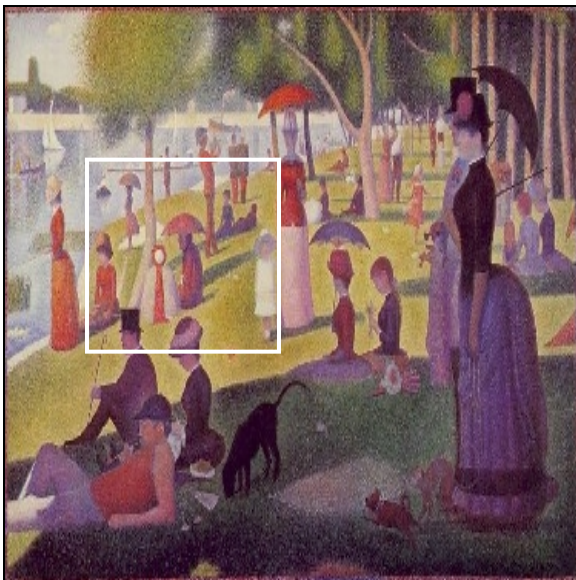
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“A picture is worth a thousand words.” Nowhere has this cliché become more relevant than in the Home Inspection industry. Over the past 3-5 years, the use of photography by Inspectors has risen sharply. This article is the first of a four part series regarding digital photography and how it can be a benefit to your business. The series will include the following subjects; **Part I** - reasons for using digital photography and understanding digital photograph technology, **Part II** - digital cameras and their components, storage mediums, using the camera, **Part III** - picture viewing, editing and printing, **Part IV** – selecting a camera for your needs and how photos impact inspections.

Why go digital? Although there are several varieties of picture taking devices available to the consumer, the digital camera has become the preferred device for most professionals. Digital photography gives the user the ability to see the shot immediately, delete and re-shoot the picture, correct contrast and color balance, improve a poorly focused shot and crop pictures to remove unwanted objects from the picture. Using photographs on an inspection allows you to share your findings from areas that are normally restricted to the client (i.e.; roofs, attics, crawlspaces, etc.). This reduces a lot of the questions regarding the inspection and your findings. A side benefit is the added look of professionalism that is perceived by your client.

Understanding resolution and compression. The key to understanding digital photography is becoming familiar with resolution and compression and how they affect your photos. Unless the right choices regarding resolution are made, the quality of your photos will be poor and will consume a large amount of valuable storage space on your camera’s storage medium.

Defining Resolution. Pixels are known as the “building blocks” of a digital image. The images below are from a painting known as “A Sunday Afternoon on the Island of La Grande Jatte,” by the French artist Georges Seurat. He was known as a master of the technique known as “pointillism” in which scenes are created using millions of tiny dots created by dabbing the canvas with the tip of a paintbrush.



Digital images are similar to pointillist paintings in that they consist of millions of tiny dots known as “pixels” which is short for “picture element”.

Defining compression. In order to economically fill its memory, a digital camera will compress or reduce the size of an image by removing some unwanted data when saving it to the memory storage medium. Although several forms of file format compression are available, the JPEG and GIF formats are by far the most popular. The JPEG acronym stands for Joint Photographic Experts Group, which is the organization that developed this format. The main advantage to using JPEG compression is its ability to compress image data, which results in smaller image files. The other popular file format known as GIF (Graphics Interchange Format) was developed to facilitate the transmission of images on the Internet. For the best possible image reproduction, JPEG is preferred over GIF. While JPEG supports 24-bit color, which means that the image can contain 16 million colors, GIF only supports 8-bit images, which are restricted to 265 colors. Because of this, the JPEG format is superior for saving continuous-tone images while the GIF format is best for grayscale images.

Defining the size of an image. The terms image size, pixel dimensions and resolution define the size of a digital image. The image size defines the actual physical size of an image in inches wide by inches tall. Digital images are created with a set number of pixels. The pixel dimensions of an image are the number of pixels wide by the number of pixels high (i.e.; 640x480). Resolution is the number of pixels per inch (ppi) in an image and is measured in terms of pixels per linear inch, not square inch. Therefore, a resolution of 50 pixels horizontally by 50 pixels vertically would provide 2500 pixels per square inch in the image. So, the higher the resolution the sharper the image will be, but remember that more pixels in an image equates to larger image files, which will reduce the capacity of the cameras storage medium.

What is the difference between CCD and CMOS. Digital cameras are equipped with image-sensor chips. These chips are known as CCD (charged-coupled device) and CMOS (complementary metal-oxide semi-conductor). The CCD chips are more sensitive than the CMOS chips which will provide better images under dim lighting conditions so they tend to deliver cleaner images. Although less expensive and less power demanding as the CCD chips, the CMOS chips can have problems with “image noise” (small defects in the image). However, CMOS chips do out-perform the CCD chips when capturing highlights in an image. The vast majority of digital cameras today use the CCD chips.

In **Part II** we will explore some specific components that make up a digital camera, the different storage mediums and transfer devices and some tips on using digital cameras in the field.

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