Includes advice for choosing a digital camera and detailed instructions for photographing tombstones, heirlooms, quilts, paintings, vintage photographs, documents, maps, buildings, and more. Covers downloading and editing images for scrapbooks, prints, family Web site, email, and other purposes.

The Genealogist's Guide to Digital Photography

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Chapter 1

Choosing a Digital Camera for Genealogy Photography

The first thing you should know about digital cameras is that they are not very different from film cameras in most ways. In fact, digital camera technology is based in large part on film camera technology. Although there are, obviously, some differences, most of the controls are exactly the same on both film and digital cameras. So, if you are familiar with film photography, you should have little difficulty switching to digital photography.

If you already own a good quality digital camera, there may be no need to purchase a newer, more sophisticated model for your genealogy photography. If your camera meets the minimum requirements detailed below, you should have no problem using your current camera to take good photographs for genealogy purposes.

However, if you're looking for an excuse to make the switch from a film camera to a digital camera or to upgrade your current digital camera, by all means, do so if you can. The better quality your digital camera, the better

quality photographs you'll produce for your genealogy projects.

For the purposes of choosing a digital camera for genealogy photography or determining whether the camera you already own is adequate, let's pretend you know absolutely nothing about digital cameras or digital photography.

Even if you do, you might want to read the following section as a reminder of some of the things your digital camera should be able to do in order to take good quality genealogy photographs.

Knowing what you want to do with your photos is the first step to understanding whether your camera is suited to your purposes.

You'll probably want to print some to use in family scrapbooks and to share with other family members, use digital formats of the photos to email to family members and friends, to put on your Web site, or maybe even to publish in a family history or genealogy book. If you'll be using your photographs in these ways, a 4 or 5-megapixel camera is more than adequate. If you want to enlarge one of your photographs larger than 11" X 14", you'll probably need a camera with at least 6 megapixels in order to obtain high resolution (high quality) images.

After experimenting a bit, you'll know if your current digital camera is adequate for the type of genealogy photography you plan to include in your projects.

Chapter 2

Pixels and Megapixels

Even if you know nothing about digital cameras, common sense will tell you that the more megapixels a camera has the better quality digital photographs it produces. For instance, you should instinctively know that a 5-megapixel camera produces a much higher quality photograph than a 2-megapixel camera.

Now that digital cameras have improved to the point that their megapixel range is into the double digits, you might think you need a 10, 12, 15, or 20-megapixel camera in order to take good quality genealogy photographs. But that's not necessarily true. The number of megapixels you need depends on how you intend to use your photographs.

What is a megapixel, anyway?

Right now you might be wondering what exactly a megapixel is and how it makes a difference in image quality. Just like film cameras, digital cameras capture light reflected from objects, including people, in order to

create a photographic image. But while film cameras capture light using a physical media coated with chemicals (film) to produce an image, digital cameras capture light using electronic sensors which translate the light into information (pixels) to create an image.

The word "pixel" is an abbreviation for "picture element."

Yes, I know there is no "x" in "picture element." But the word "pix" is sometimes used as an abbreviation for the word "picture." As a genealogist, you can relate this type of abbreviation to the shortening of the extremely long name "John" to "Jno" in genealogy documents. That doesn't make much sense, either, but who am I to judge why other people do things the way they do them?

Anyway, "pixel" stands for "picture element," which means a pixel is one tiny element (some people use the term "dot") of a digital image. If you look closely at a photograph on your computer screen or an image on your television screen, you can see the image is actually made up of many, many tiny dots—which usually look like tiny squares. These are the "picture elements," or pixels, that make up the picture on your screen. A megapixel contains one million pixels.

Digital photograph quality is measured in the number of pixels-per-inch (PPI) a photo contains. Don't confuse this term with "dots-per-inch", which refers to ink-jet printer quality.

You need two measurements—width (in pixels) and height (in pixels)—to determine the size, in megapixels, of a digital photograph. Just like measuring the square footage of a room, you multiply the two dimensions to arrive at the number of pixels in a digital image.

These width and height pixel measurements vary from camera to camera, so you need to consult your camera owner's manual to find out what size images your camera can capture. For example, according to my camera's manual, my 6-megapixel compact Canon digital camera records images that measure 2816 pixels by 2112 pixels at the 6-megapixel setting. Multiply 2816 by 2112 and you get 5,947,392 pixels, which rounds up to 6 million pixels, or 6 megapixels.

My 6.3-megapixel Canon digital SLR (DSLR) records images at 2048 pixels by 3072 pixels. If you multiply 2048 by 3072, you get 6,291,456 pixels, which rounds up to 6 million and 300 thousand pixels, or 6.3 megapixels.

My 10-megapixel compact Canon digital camera records images at 3648 pixels by 2736 pixels, which equals 9,980,928 pixels and rounds up to 10 million pixels, or 10 megapixels.

Many digital cameras also have more than one setting, allowing you to capture images at a variety of megapixel settings. All three of the cameras I mentioned above allow me to shoot at lower resolutions (fewer megapixels).

For example, I can use my 10-megapixel camera to also

shoot 6-megapixel, 4-megapixel, 2-megapixel, and 1/3-megapixel photographs, as well as a widescreen setting of 3648 by 2048 pixels that yields images that contain about 7.5 megapixels.

Why would I want to shoot in a lower resolution? Because I don't need a high resolution image for all applications. For instance, the ideal resolution for Web sites is 72 PPI and computer screens is 96 PPI, while the ideal resolution for prints is 300 PPI.

Also, the fewer megapixels in a photograph, the more quickly it will load from a Web page or open from an email. And the fewer megapixels I capture per photograph, the more photographs I can take before my memory card is full (see the discussion on memory cards later in this section). It can be very annoying to travel hundreds of miles to a cemetery, for instance, and run out of memory before I finish shooting all the tombstones I came to photograph.

Of course, I always carry more than one memory card with me when I go to cemeteries in order to avoid that very problem.

The point of all this is that your camera might include an option to take photographs at a lower PPI setting than the one displayed on the front of your camera. Consult your camera owner's manual for information on your particular camera model.

How many megapixels do you need?

So, how many megapixels is enough for genealogy photography? Again, that depends on how you'll use your photographs. In digital photography, the number of megapixels a camera can capture translates to image size and resolution (quality). For Web site and email purposes, lower resolution images are fine. But if you want to print your photographs, the number of megapixels you need depends on how large you want to print your photos.

As a general rule, a 2-megapixel camera can produce good quality 4" X 6" prints at 1600 X 1200 pixels; a 3-megapixel camera can produce good quality 5" X 7" prints at 2048 X 1536 pixels; a 5-megapixel camera can produce good quality 8" X 10" prints at 2560 X 1920 pixels; a 6-megapixel camera is equivalent to a 35 mm film camera and can produce good quality 11" X 14" prints at 2816 X 2112 pixels; and an 8-megapixel or higher camera can produce good quality 16" X 20" prints at 3264 X 2468 pixels.

Of course, these are maximum print sizes, and there are exceptions to these sizes if you are really good at using your photo editing software. But for most people and most cameras, these sizes are realistic.

One thing you should remember about resolution and print sizes is that you can always lower print size without losing quality, but you can't usually increase print size

without losing quality. The more pixels there are in an image, the better quality the image. That's because the more pixels there are, the more information they contain and the more detail they provide.

The more pixels your camera can produce for an image, the more you can enlarge an image for printing without sacrificing image quality and detail. Most of the time, it's best to shoot at the highest number of megapixels available to your camera. This will capture the highest quality image. You can always lower the image quality after you capture the image, but you can't raise it.

In other words, if you capture an image at 6 megapixels, you can always lower it to 1 megapixel—or even less—for use say, on a Web site, where you don't need a high quality image. But the reverse is not true. You can't enhance a 1-megapixel image to 6-megapixel quality. It just doesn't work that way. So if you intend to print your photographs, the more megapixels, the better.

(See the section on "Managing Your Digital Images" for more details on how pixels affect image quality.)

Chapter 3

Choosing the Right Camera

We've covered the question of how many megapixels your digital camera needs for genealogy photography. But what about the type of digital camera you need?

There are basically three types of consumer digital camera that you can purchase: point-and-shoot, compact, and single lens reflex (SLR).

Point-and-shoot cameras are exactly what the name says: you point it at whatever you want to photograph and push the button. There is no ability to focus, change any settings, or control what the camera does. There is usually no flash, so these cameras are suitable only for general outdoor photography. They usually have a low resolution—perhaps 1 or 2 megapixels at most.

These cameras are becoming obsolete, so unless you have one in a drawer somewhere, it's unlikely that you'll see one in action.

And if you do have one, it won't be suitable for most genealogy photography because of its limited range of abilities. Leave it in the drawer.

The next step up from a point-and-shoot is the compact camera. Some people mistakenly refer to these as "point-and-shoot" cameras, but don't confuse them with the cameras I just discussed. They are not the same.

Compact digital cameras come in a variety of models, and they currently sell for anywhere from less than $100 up to several hundred dollars, depending on the features and capabilities. Advances in technology have made many of these little cameras perfectly suited for almost any type of photography, including genealogy photography.

Many compact cameras have a wide range of features that allow you to shoot on automatic or give you the ability to control some or all of the settings manually. Most have a zoom lens that works well to get you closer to the subject or get a wide angle shot. All the models I've seen have a built-in flash.

These little cameras are very versatile and—depending on the features—will be very suitable for genealogy photography. And their compact size and light weight make them ideal for traveling or carrying in a pocket or purse.

The next step up—and the top of the digital camera line—is the digital single lens reflex camera (DSLR). These cameras are bigger and heavier than the compact cameras described above, and they have removable lenses and a hot shoe in addition to a built-in flash. A hot shoe allows you to attach a larger flash unit to the top of the camera or

to attach a power cord to the camera that will allow you to place the flash unit away from the camera.

DSLRs are very high quality, and usually have a price tag to match. Expect to pay several hundred dollars for even a low-end DSLR, plus more money for an array of lenses and other accessories. The good news is, if you have a film SLR, your lenses and perhaps other accessories, such as flash, might also fit the same brand DSLR.

SLR cameras (both film and digital) were once used only by professional and advanced amateur photographers. This is no longer true. I know many professional photographers who use high quality compact digital cameras in addition to—and sometimes in place of—DSLRs. I also know a number of amateur photographers who purchased a DSLR as their first camera.

In my opinion, a DSLR camera has only one major advantage over a digital compact camera when it comes to most genealogy photography—the ability to remove the flash from the camera body. And even that is no longer true in all cases. Some of the newer compact digital cameras have a hot shoe in addition to the built-in flash.

Digital SLRs also allow you to change lenses, but with the wide range of zoom and macro capabilities available in many digital compacts, I don't see the ability to change lenses as a major advantage for most genealogy photography.

Another advantage of the DSLRs is that they also eliminate any type of shutter lag—that fraction of a second between the time your finger presses the shutter release and when the camera actually snaps the photograph.

Shutter lag can be critical in photographing some subjects, such as sports or children, both of which tend to move very quickly and require split-second timing to capture with a camera. But for most genealogy photography, shutter lag shouldn't be much of a problem.

What it really comes down to when choosing the right type of digital camera is features. The features any camera provides, regardless of its format (compact or DSLR) is most important in digital photography of any type. If your camera has the features needed for genealogy photography, it doesn't matter whether it is a compact or a DSLR.

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