

# What to Consider When Choosing a Consumer-Level Digital Camera

by Gary Vittoz, VCConsulting.com

For a climbing expedition in Peru, I needed a digital camera that could take great still images, but it also had to shoot full frame video at 30 fps (frames per second), work well in very cold conditions, and use AA batteries for power (since there wouldn't be any place to plug in a camera battery charger high in the mountains). It couldn't be a digital SLR camera because it had to fit in a pouch attached to my pack shoulder strap and I had to be able to access it and operate it with one hand, the other hand being occupied with ice tools, rope, etc. For those combined requirements, the field quickly shrank to just a few cameras. My careful choice let me do all those things, shooting hundreds of images and lots of video for nearly four weeks on just one set of lithium AA batteries! I studied a great many camera specifications in order to narrow my choice correctly. I will discuss the things I had to consider here in the belief that they will also serve you well if you're searching for a consumer or snapshot digital camera.

Digital cameras today can be placed in three categories: snapshot/consumer point-and-shoot cameras (\$100-\$400), serious photographer digital SLR (DSLR) cameras (\$600-\$950), and professional cameras (\$1000 and up).

Most people looking to get started in digital photography are interested in a relatively simple point-and-shoot camera that offers a few selectable programmed modes to make taking a picture under specific conditions an easy matter (a night time, or portrait shot for instance). We're talking consumer level cameras here — small, light weight, do most of the thinking for you, and varying widely in image quality and features. My hope here is that you can use this guide when choosing from the many rapidly advancing makes and models in the consumer digital camera market. I will not offer actual model names here because in a few months they are likely to be replaced with newer models. Rather, this guide can be applied to whatever new models are available when you are ready to make a purchase. Just how you expect to use your camera and its resulting images should play an important role in the weight each of the factors below is given in your camera choice. If you only wish to make your own high quality prints from your computer and printer, your camera choice will likely be different from someone who wishes to use their camera to produce a DVD video combining its still images with its video clips.

You can get an idea of some of the possibilities this kind of video production offers with some YouTube video of mine shot with a simple point-and-shoot still camera with HD video included on [my YouTube channel](#) (be sure to select 720p option and then full screen mode).

**Megapixels (MP):** Relates to the overall image dimensions and file size. A 5 MP camera whose images are saved with a 300 dpi (dots per inch) print resolution can look just about as nice as a 10 MP camera whose images are saved at 72 dpi. On the other hand a 10 MP camera will likely have greater processing and video recording capabilities. The down side is a 10 MP image requires greater storage space on the camera's memory card than a 5 MP image does. Hence, you need larger (and more expensive) memory cards for the higher megapixel cameras. A majority of consumer cameras today range from 7–12 MP.

Another potential downside of some high megapixel cameras is that larger images may take longer to record into the camera's memory card which can translate into a frustrating wait before it is ready for the next shot. There are numerous variables involved (the camera's processor, the speed of the memory card being used, etc.), but you should be able to find data in the camera specifications indicating the image processing time so you can compare it to each camera you are considering.

Always buy a camera with the intention of taking pictures at its maximum image quality capability or you will be wasting its capability and your money. Most cameras allow a choice of several image quality (size) settings. It is terribly frustrating to take a series of images at a lower image quality and then realize that you wish to make a large print. That's when you'll wish you had the camera set to record at its highest quality setting.

*Bottom line – if prints are a priority choose a higher megapixel camera that saves images in a high print resolution (dpi). If on-screen slide shows and DVD production is your goal the video capability of the camera will likely be a more important factor.*

**Memory:** These cameras use one of a number of flash memory card types to store images until you can transfer them to your computer. The camera's internal memory (if it has any) will only hold a few images and the memory card it comes with is usually of low capacity. You will need to purchase an additional high capacity memory card or two. The larger megapixel cameras require more memory for each image and, therefore, a larger memory card. Four gigabyte (GB) cards are common for use in 7-14 MP cameras. I typically carry around a 16 GB and two 8 GB cards with my camera, which lets me shoot scads of still images or a lot of video if needed. There are a number of types of memory cards out there, so be sure you purchase *exactly* which type is required for the camera you choose. Be aware that cameras capable of shooting HD video usually require a class 4 or faster memory card to allow transfer of the larger amount of HD data to the card. Also, prices for these cards varies greatly so it pays to shop around or online. I have often found that a place that offers a good deal on camera prices will mark up their memory cards considerably. You can make a separate online shopping trip for the memory card to find the best deal on it.

***Bottom line** – plan on purchasing an additional memory card with plenty of capacity to hold a many images at the camera’s highest picture quality setting, and remember that the higher MP cameras require higher capacity cards.*

**Lens:** Perhaps the single most important thing is the lens quality in a camera. Your camera research should include checking to be sure the camera is equipped with a high quality spherical glass lens such as Nikon’s Nikkor lens, Sony’s Carl Zeiss lens, or a Canon lens. Many consumer level digital cameras are limited in lens attachments that can be used or may not permit any attachments. A teleconverter attachment to increase the built in lens focal length for greater zooming power is the most common.

***Bottom line** – image quality from a camera is only as good as the quality of its lens. Manufacturers often design their different consumer digital camera models with lenses of varying quality. Be sure the lens on your camera choice is of high quality.*

**Movies (video):** Most consumer digital cameras are capable of recording at least a limited amount of video. The resolution and frame rate varies from one model to the next. If you wish to make use of your camera’s video for use in a DVD slide show, get a camera with capability to record video at full screen (640x480) and 30 fps (frames per second) or HD (usually 720p) with movie length limited only by available memory. With an 8 GB memory card in your camera you can shoot quite a bit of good quality video for use in a DVD production along with many still images. Consumer cameras in the 10-14 MP range are incorporating HD video recording capability in increasing numbers. I recommend getting a camera with HD video recording capability if you’re planning on showing everyone your great production on your big new wide screen TV.

Also, different camera manufacturers design their cameras to record video in several different formats (.mov, .dv, .mpeg2, mpeg4, etc.). The ramifications of these various video formats for editing into a DVD production is too lengthy for this discussion, but suffice to say you may need software to convert the video format your camera records into an editable format so it can be used to build a more professional looking DVD production if that is your goal.

***Bottom line** – only some consumer digitals shoot 640x 480 or HD video at 30 fps so check the camera’s movie or video specifications carefully based on what you wish to do with the video recordings.*

**Batteries:** A majority of today’s digital cameras use a proprietary battery that comes with the camera and must be charged using the supplied charger. These batteries allow for thinner, lightweight cameras, but you need to be able to get to the charger if you’re using the camera heavily or purchase an extra battery, and they are often rather pricey. The other option is a more limited selection of cameras that use AA batteries. Most of these cameras ship with rechargeable nickel-metal hydride (NiMH) batteries and a charger included which work very well. The real advantage of these cameras, however, is that if you’re on an extended trip and can’t get to a charger you can pop in a couple of AA batteries from virtually any store and keep shooting. I will point out here that lithium AA batteries are the only batteries I use in my camera. They cost twice as much as the regular alkaline AA, but they last for a LONG time so they are ultimately much cheaper to use. Lithium AA batteries allow shooting for days on end without replacing them. The manufacturer is *Energizer*<sup>®</sup> and you can find them in many photo departments.

***Bottom line** – decide where and how you will be using your camera and think about availability of power for a charger. If you need to shoot pictures away from a battery charger for an extended period of time, consider a camera that uses AA batteries.*

Choose wisely and enjoy the world of digital photography!

Gary Vittoz is web/media developer and consultant in Eaton Rapids, MI.

Visit his web site a [www.vcconsulting.com](http://www.vcconsulting.com)

Email: [gvittoz@vcconsulting.com](mailto:gvittoz@vcconsulting.com)