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# **QUICK GUIDE TO BUYING A DIGITAL CAMERA**



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# *These are some of the things you should consider when buying a digital camera.*

## **RESOLUTION**

Probably the most harped on of all the criteria when buying a digital camera. The resolution (measured in “Megapixels”) is important. The higher the resolution the more information the camera captures. The difference between a 1 Megapixel and a 5 Megapixel camera is evident when looking for detail in an image. The larger the image the more information you need in order for it to appear sharp and show detail.

**So, how much resolution do you really need?** First, you need to understand what a megapixel is, and how it affects your picture. Traditional cameras capture images on film. A digital camera captures millions of tiny parts of the image and puts them into an electronic file. These little bits of information are called “Picture Elements” or “Pixels”. A typical 3 megapixel camera will line up some 1500 lines of 2000 pixels across the image capturing CCD. This will give you a resolution of 1500 X 2000 or 3,000,000 pixels (or 3 Megapixels). These numbers are very important when it comes to printing.



## **Here's how it works...**

When printing on your home printer you need somewhere between 180 and 300 pixels per inch in order to get an optimized print. Your computer monitor displays an image at just 72 or 96 pixels per inch (this explains how an image can look great on screen and yet make for a very poor print).

We inserted the following chart to give you an idea as to what size prints you can expect from your digital camera:

Printer Resolution	180 dpi	240 dpi	300 dpi
Camera Resolution	Good	Very Good	Highest
2 MegaPixel	6x9"	5x7"	4x6"
3 MegaPixel	8x10"	6x9"	5x7"
4 MegaPixel	9x12"	7x10"	6x8"
5 MegaPixel	11x14"	8x11"	6x9"
6 MegaPixel	11x17"	8x12"	7x10"

Ink Jet printers will not give better results at higher than 300 dpi image size.

Now that you know all about resolution you can answer the question yourself by deciding:

- How large do you normally print?
- Do you ever enlarge any images beyond your normal print size?
- Do you want some additional room in case you need to crop an image?  
Remember, if you crop an image you are throwing away pixels.

**The Bottom Line** — The average person makes mostly 4x6” prints. Factor in an occasional crop and most people will be happy with a 3 or 4 megapixel camera.

## ZOOM

You must first understand, there are 2 kinds of zoom, OPTICAL and DIGITAL. Optical zoom is achieved through the lens, in other words the lens magnifies or brings you closer to your subject optically just like in your traditional film camera. Digital zoom actually magnifies your image electronically by cropping the image and then enlarging the cropped area. Basically, if you use a 2X digital zoom, your image will be twice as big, but the detail within the image will not be multiplied. This is why an image captured using digital zoom will look “digitized” or “washed out”. So, let’s concentrate on Optical or Real Zoom.



### **There are 3 major categories:**

- Cameras with no optical zoom or fixed focal length.
- 3X or 4X zoom cameras (the majority)
- Ultrazoom cameras also known as UZI's. These typically offer 8X, 10X or even 12X zooms.

**Why is zoom such a big deal?** If you read the section on resolution you know that it's all about pixels. Zooming in may allow you to compose your shot better, thus allowing you to keep all those pixels you bought.

### **Now let's examine the benefits or drawbacks in these 3 distinct categories:**

- We'll start with the non-zooming cameras. The main advantage to these is size and price. If you are usually at a fixed distance from your subject, or if you are mainly using your camera for emailing pictures then you can get away with one of these.
- This category is the most popular featuring 3X or 4X optical zoom cameras. This might be the best combination of zoom, size and price. A 3X or 4X zoom in digital is similar to a 35mm to 105mm lens on a 35mm camera. These are great for most situations, and as we just mentioned, they still allow for a very comfortable size.
- The UZI's. Talk about zoom. UZI's give you up to a 12X optical zoom or about a 420mm equivalent when comparing them to traditional 35mm film cameras. A 12X optical zoom would probably let you take a "portrait" shot of the tiger at the Bronx Zoo without climbing into his cage and becoming a snack. So why shouldn't you buy an Ultra-Zoom camera? Size for one, even though they are becoming smaller, Ultra-Zoom cameras are still bulkier than their more traditional counterparts. Also, the longer zooms require more light but because of the great focal length you also need to compensate by shooting at a slower shutter speed. This can cause shaking, leading to pictures which are not sharply focused. **Note: There are some Ultra-Zoom cameras now that have image stabilization, this greatly reduces the effect shaking has at long focal lengths.**



**The Bottom Line** — Most people will be happy with a camera that offers a 3X or 4X zoom. Before you go out and buy a 10X or 12X Ultra-Zoom camera, hold it in your hands, shoot a couple of frames at the maximum zoom and see what kind of results you get.

## **MANUAL FEATURES**

Taking pictures with a digital camera is a great way to learn photography. Even though virtually all digital cameras can be used in “point & shoot” mode, playing with a camera’s manual overrides is not that intimidating when you can instantly view your results. Most cameras have the basic white balance, exposure compensation and flash overrides. Some go well beyond that and allow you to override the aperture, shutter speed, focus, etc.



**The Bottom Line** — Most cameras are fairly easy to use, so if you want to find that digital photographer in you...this is probably the right time.

## **SIZE / BODY TYPE**

Not a big deal? One of the great advantages of going digital is being able to shoot pictures for free. After all you only print what you like. This is why you might want a smaller camera that’s easy to carry anywhere.

Here are some things to consider when it comes to body type or size. Keep in mind who will be using the camera, will they want to throw it in a bag or briefcase? Will they want to carry it everywhere or just use it occasionally like they currently use their film camera? Do they need a camera that is more weatherproof or is the sleekness and style more important. Consider if features like a swingout screen or a twist body might be important. How about the size of the LCD screen?



**The Bottom Line** — Today there are countless models of digital cameras. Decide what body style or design features are important to you, chances are there’s a camera out there that is perfect for you both in design and in features.



## **LENS / ADAPTABLE LENSES**

Why is the lens so important? Why would you need additional lenses? It depends on your application. If you were photographing small items you might benefit from a lens that had good “Macro” (Close-up) capability. If you need to take flashless pictures in low light situations you might need a “fast” lens. Some cameras will allow you to add on lenses. You can in some cases add on a fisheye, wide angle, telephoto extender or a close-up lens. Someone taking pictures of interiors or landscapes might need a wide-angle lens, or for that trip on a safari you might need a telephoto extender.



**The Bottom Line** — The average digital camera user will be very happy with the lens that comes with his or her camera. If you have a specific application that could present a challenge, consult your salesman for advice as to what camera or accessories might best suit your needs.

## **CONNECTIVITY/COMPATIBILITY**

Most digital cameras support all the recent versions of Windows and Macintosh. If you are running Macintosh OSX or later, you might want to check if the camera you choose is definitely compatible. Virtually all digital cameras hook up to your computer via USB.



**The Bottom Line** — You probably will not have a hard time downloading your images from your digital camera into your computer. In the event that you have a special situation consult your sales person for the best solution.



## **ACCESSORIES**

Do you need accessories? Almost certainly! Here's the scoop...practically all digital cameras come with the minimum amount of accessories required in order to use them out of the box (of course you might need to charge the batteries). However, in order for you to use and enjoy your camera properly you will almost definitely need to purchase some additional accessories. Here's a quick



rundown of the most important accessories and the reason you'd want to purchase them:

**MEMORY** — No digital camera comes with enough of it. So, how much memory do you need? The more memory the more pictures you can store.



Here's a quick reference chart:

Camera Res.	128 MB Card	256 MB Card
2 MegaPixel	120-150	240-300
3 MegaPixel	60-75	120-150
4 MegaPixel	50-70	100-140
5 MegaPixel	40-60	80-120
6 MegaPixel	35-45	70-80

Chart based on average file size when using highest resolution/lowest compression.

**CASES** — Believe it or not, most digital cameras don't come with a case. You will definitely want a case to protect your camera, especially the LCD screen.



**BATTERIES** — If your camera does not come with rechargeable batteries then do yourself a favor and get some. They last longer and are of course much more cost effective. If it does come with batteries then you might want a spare, especially if you are traveling.



**CARD READERS** — They're the easiest way to download your images, saving you the trouble of having to use your camera. Now with the popularity of digital cameras you might have 2 or more cameras in your home. A universal card reader will allow you to download images from virtually any memory card in a simple convenient way.



**The Bottom Line** — Budget a few extra bucks for additional accessories. In the long run you will want them.



## **PRINTING**

Don't forget printing. In order for you to get the best results when printing you'll need to have the right equipment. Don't worry, we're not talking mega-bucks. Inkjet photo printers start out at less than \$80 nowadays. While they look just like your basic printer and they print documents just like traditional printers, they are optimized to give you high quality photo prints.



Your other option is to bring your memory cards into stores like B&H and have prints made, or upload them to sites that do online printing. A good site for this is PhotoAccess, which can be accessed through our website ([www.bhphotovideo.com](http://www.bhphotovideo.com)).

**The Bottom Line** — Have fun with your digital camera, don't hesitate to experiment. You'll get great results and have tons of fun.

You're probably at the digital counter by now. This means you're minutes away from changing your perspective on the world of photography. Within days you'll have a true understanding of what has made Digital Photography one of the hottest trends ever. We hope you thoroughly enjoy your new purchase.

***Thank you for shopping at B&H.***