

■ Digital Cameras

As we head into the summer season, many people are thinking about buying or upgrading their digital camera. If you haven't bought a digital camera in awhile, you're in for a surprise. Digital technology has improved drastically over the past few years and now provides consumers as well as professionals amazing tools for capturing life's best moments. For this newsletter, we'll go over the new and improved features of point-and-shoot cameras as well as discuss the differences between point-and-shoot cameras and the more professional digital SLRs.

Three basic types: Point-and-Shoot (including compacts and sub-compacts), Advanced Point-and-Shoot (super zoom) and Digital SLRs (Single Lens Reflex; full featured, professional cameras).

Compact and **sub-compact cameras** are smaller, lighter, offer basic as well as some more advanced

features, and good image quality. Most people who choose a compact or sub-compact camera want convenience, ease of use, and a lower price point. These cameras can be taken most places easily and can be operated without opening the manual.

Advanced point-and-shoot models offer more advanced features and better image quality. They are larger and heavier and have longer zoom capacities allowing for much greater range in the types of photos that can be taken. Most people who choose an advanced camera enjoy photography, want greater control in taking photos, are willing to pay a higher price and don't mind sacrificing weight or bulkiness.

Digital SLRs, commonly referred to as DSLRs, are for serious photographers. These cameras are the heaviest, most bulky, and most expensive but provide the greatest control and features for all types of photo opportunities. Add-on lenses make a digital SLR expandable over time completing the package.

Features Available

Some of the best features now available on point-and-shoot models include:

- **Optical image stabilization** (rather than digital)
- On-screen messages appear when you press the shutter down halfway and the picture is out of focus or the lighting is poor – provides **real time feedback** for optimizing your photos.

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■ Tips of the Month

Picture taking 101 – follow these tips for improved pictures:

1. Tripods are the standard when it comes to image stabilization. Use a tripod or a stable surface like a table or fencepost to reduce the chance of blurry or tilted photos.
2. When outdoors, keep the sun at your back to avoid glare. When indoors, make sure lighting is behind you preferably pointing in the direction of your subject. Avoid overhead lights as they will cast shadows.
3. Shutter lag occurs because digital cameras need time to process the shot when you click the shutter button. Reduce shutter lag by depressing the shutter button halfway while focusing on a subject. When the camera locks on, complete the click and the camera will take the picture faster.

■ Websites Worth Watching

1. www.nps.gov – National Park Service – Need a vacation? The NPS is offering fee-free weekends at 100 National Parks around the country on June 20-21, July 18-19 & August 15-16.
2. www.nps.gov/history/nR/travel/ – National Register of Historic Places - lists all of the historic places to visit across the US - categorized by region.

Features continued

- **Post-capture red-eye removal** – Manually remove red-eye from photos using the camera's controls; some cameras offer automatic red-eye removal if you don't remember to turn this feature on; or **In camera red-eye fix** – The camera will detect red-eye after a shot is taken and remove it automatically. Both features are useful if you don't have decent photo editing software.
- **HD video recording** – Didn't bring your camcorder along? Don't worry, some digital cameras offer (limited) video capture capabilities.
- **Burst mode** – Take multiple shots in quick succession. This feature is great for action shots. Press the shutter before the exact moment you want to capture and the camera will take multiple shots almost ensuring you won't get an empty screen or someone's arm as they pass out of view.
- **Macro distance** – If you like taking close-up photos (flowers, birds, jewelry, etc.) look for a camera that lists a short macro distance – less than 20 cm.
- Some cameras (e.g., Panasonic) offer a **Date/Time stamp** that can record today's date or a person's age (useful for children) plus record on which day of your trip the photo was taken.
- **Touch screens** – Instead of buttons some cameras allow you to adjust settings by touching the screen.
- Multiple **scene or photo modes** anticipate typical conditions for particular shots like action, dim light, sunsets, fireworks, close-ups, and more. Using these modes will adjust camera settings automatically.
- Durability features such as water-resistance and shock resistance add to the convenience and usability of certain cameras.

Things to consider when researching point-and-shoot digital cameras

1. Do you need to print large photos – 8x10, 11x14, or larger? Get a camera with at least 6 megapixels. The **more megapixels** you have, the **larger and sharper the prints will be**. Alternatively, if you don't need to print large pictures (you only print 4x6 prints or small web graphics, i.e., eBay), don't pay for more megapixels than you need.
2. Do you like to take multiple pictures in fast succession? Are you frustrated with the lag time between pictures with your current camera? If you answered yes, pay attention to **shutter lag**.
Shutter lag occurs because when a camera is set for auto-focus, it needs time to process the shot and write the image to the memory card. Using a faster memory card (rated for your camera) or using the manual controls on your camera will improve shutter lag as will depressing the shutter button halfway while sizing up your subject. Shutter lag also depends on whether or not the flash is used. With the flash turned on, lag time between shots increases to give the flash time to re-set. Turn off the flash (use an external light source) and shutter lag will improve.
Some point-and-shoot digital cameras are better than others at shutter lag. When reviewing cameras, look for values for "shot-to-shot timing" or "click-to-capture". Digital SLRs, given their more robust electronics, don't suffer as much from shutter lag.
3. Do you want a robust, full featured camera that allows for individual control of settings or would you prefer a simple camera you can slip in your pocket and take anywhere? **Size, weight and overall design** are key features in a camera purchase. Oftentimes, smaller, simple cameras have tiny buttons, a small LCD screen, and minimal controls but excel in weight, size and ease of use. Alternatively, more advanced cameras are heavier, bulkier and require that you have an excellent memory to remember all of the menu options but take incredibly good pictures in all situations.
4. Do you want a camera that takes rechargeable NiMH batteries, regular alkaline batteries, a CRV3 lithium battery, or proprietary battery that must be charged before use? Will you be near a store in case you need a replacement? Keep in mind that the **type of battery** the camera uses can affect how often you use the camera and where you use it.

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5. Do you want your camera to double as a **video/sound recorder** for limited uses? Many point-and-shoot digital cameras have the ability to shoot video and record sound although they do not offer all of the features available in camcorders. Some cameras are better than others; look for specs noting video capture. Some offer **HD quality video** and can even be connected directly to an HDTV for instant playback. Most digital SLR cameras cannot capture video/sound - they're geared for still shots.
6. Do you want a point-and-shoot camera that can zoom in on the action? Look for an **optical zoom, not digital**. Optical zoom magnifies your subject while digital zoom creates pixels, leading to inconsistent results. Zoom values for point-and-

shoot models range from 3x – 20x. The higher the number, the farther away you can be from a subject to get a close-up shot. DSLRs are not subject to zoom limitations due to the variety of lenses.

7. Most consumers want to take excellent photos but don't want to learn all the tips and techniques that the pros know. One feature in particular, called bracketing, has made its way onto point-and-shoot models. **Bracketing** refers to taking **successive shots with different exposures**; you can then pick the best one. Cameras can do this automatically now without much lag. If you want to take great pictures but don't want to learn all the ins and outs of taking the perfect shot, look for this feature.

Digital SLR (Single Lens Reflex) Cameras - DSLRs

Digital SLR cameras are more akin to the 35mm film cameras we used over a decade ago. Taking a picture back then meant you had to account for how much light was available, what speed of film you had, and which lens was going to give you the best shot. Manually changing these features gave fine tune control with each picture snap. Digital SLRs allow the same level of manual control (and so much more) but instead of saving the images to film, save the images to a memory card.

Advantages and Drawbacks

All digital SLRs offer advanced technological features such as robust image sensors, zoom lenses, faster shutter speeds that freeze action better and add-on flashes as well as automated features such as red eye reduction, vibration reduction, dust sensors, autofocus and much more. Digital SLRs usually have a metallic rather than plastic body and are much larger than point-and-shoot digital cameras. Due to the technological advancements and superior quality materials, you'll pay more for a digital SLR than a point-and-shoot camera although prices are coming down. Still, expect to pay over \$800 for a starter package including the camera, external flash and add-on lens kit.

Some notable features of DSLRs include:

- Large **image sensors** that capture more light and more pixels contributing to sharp, detailed photos.

- **Interchangeable lenses** allow you to get the panoramic shot of the Grand Canyon or the most exquisite close-up of a tropical flower showing individual dew drops. Versatility is key to digital SLRs. Zoom and wide angle lenses allow you to take photography to the next level.
- **Dust reduction** – special ultrasonic technology can keep the inner components free of dust during lens changes.
- **Add-on flashes** are available that are more powerful than the built-in flash, can be turned and adjusted depending on the scene, completely eliminate red-eye and have a higher recycle rate (the speed at which the flash resets and is available for another shot). Diffusers and reflectors add more options to the flash possibilities.
- Some people feel that taking a picture doesn't stop when you click the shutter. The real work begins when you get back to your computer. Most point-and-shoot cameras will take photos in **compressed formats (e.g., .jpg or .gif)** to allow you to save more pictures on your memory card. To some though, being able to save **uncompressed photos (e.g. RAW or .tiff)** is crucial as these formats capture all data allowing you full control to edit afterwards. All DSLRs will have this capability and although you won't be able to save as many shots on your memory card, purchasing multiple cards will ensure you have adequate space.

Some notable drawbacks to digital SLRs:

Most people who use a point-and-shoot digital camera use the LCD screen to compose their shot, leaning backwards in most cases far away from the actual lens. Although this is convenient in many instances, it oftentimes doesn't produce accurate results. The best way to take a picture is to look through the **viewfinder** which most closely resembles the view from the actual camera lens. Some point-and-shoot cameras have eliminated the viewfinder but digital SLR cameras rely on this perspective and many do not have the capability of composing a shot through the LCD screen. The screen is used only to review shots that have already been taken. If getting up close and personal with your camera leaves you squeamish, stick with a point-and-shoot camera.

Using the **zoom** is old-school, as well. To zoom with a digital SLR, you manually adjust the ring of the lens rather than pushing a button. Motorized zoom on point-and-shoot cameras may seem convenient but it isn't as accurate and causes delays as the camera tries to keep

up and re-focus with the motion. Manually adjusting the lens, on the other hand, requires two hands but gives more accurate results.

Size and weight are probably the biggest deterrants for most people. Digital SLRs are much larger and considerably heavier than point-and-shoot cameras. If you want a camera you can slip in your pocket wherever you go, a digital SLR won't fill this role. You have to be willing to carry a dedicated camera case with digital SLRs.

One last point is **usability**. Many digital SLRs require some amount of photography knowledge or experience. Point-and-shoot cameras get their name for a reason – you basically open up the box, insert a memory card and snap the shutter button. Using a digital SLR camera requires some instruction in order to take advantage of all of the features. If you're comfortable opening up manuals and learning new technology, you'll probably enjoy a digital SLR. If you want something simple, stick with a point-and-shoot.

Summary – Point-and-shoot vs. digital SLR

Benefits of DSLRs include:

- Faster shutter speeds (freeze action better)
- Larger sensors
- Less image noise
- Better shot-to-shot speed
- Interchangeable lenses
- Add-on flashes and accessories
- Manual zoom control (not motorized)
- Higher resolutions and RAW image mode help produce crisp, balanced photos
- Works well in low light situations

Disadvantages of DSLRs include:

- Use the viewfinder to take pictures; use the LCD screen to review photos
- More expensive
- Larger, bulkier and heavier
- Most cameras require previous knowledge or desire to read the instruction manual

Benefits of point-and-shoot cameras:

- Smaller, lighter
- Zoom range varies between 3x-20x giving you many options for a smaller size camera
- Ample scene modes take the guesswork out of framing a picture
- Lower prices fit any budget
- Easier operation, automated features
- Take HD video as well as still photos
- Live LCD for framing shots rather than using the viewfinder

Disadvantages of point-and-shoot cameras:

- Slower autofocus
- Slower zoom
- Suffers more from shutter lag
- Limited accessories like lenses, flashes and filters

Digital cameras have improved tremendously over the past few years. If you're in the market for a new digital camera, whether it be a simple point-and-shoot or a full featured digital SLR, you won't be disappointed with the choices available. Just remember to try before you buy and enjoy all of your new memories!

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