

## JOE'S GUIDE TO TAKING BETTER DIGITAL PICTURES

Digital cameras have caused a surge in the number of people taking photos in the last 10 years. The cameras have become more sophisticated and easier to use while the prices have dropped drastically. You can view the photo an instant after the shutter trips and take hundreds of shots on one memory card. To give you an idea of how quickly cameras have advanced, I bought my first digital camera, a Nikon D100, in 2003 and paid \$2100 for it. I also bought a 512 mb memory card for \$179.00. so you can see how things have changed in a short period of time. Plus, all these photos without the cost of film and the processing of it.

Many people who buy a digital camera reads enough of the instruction booklet to learn how to put in the batteries and format the memory card; then the book goes into a drawer never to be seen again. People are under the impression that they can set the camera on "A" for automatic and their photos will be wonderful. Plus, if they do mess up some pictures, they can correct them in Photoshop or some other software. The only problem with this way of thinking is that if you set up the camera incorrectly and your pictures come out too dark or too bright, then you will spend several hours correcting your mistakes.

Listed below are a few steps that I follow every time I go out to shoot an event. It takes only a few minutes to complete but will save many hours of unnecessary computer work afterwards. I've also included some terms that you'll hear when speaking with an advanced or professional photographer.

There are 4 basic settings on the camera that contribute to making a nice photo and they are: Aperture, Shutter speed, ISO setting, and white Balance settings. I'll describe each one and try to show its effect on a photo.

- 1) Aperture: sometimes called the F-stop. It is the opening in the lens that regulates how much light reaches the memory card when taking a photo. Aperture settings also influence how much of the photo is in focus. Aperture is written as f8, f2.8, etc. The scale is as follows: f2, 2.8, 4, 5.6, 8, 11, 16, 22, 32. At its widest opening, say f2.8, the most light hits the sensor and the next number lets in half as much light. So, to sum up Aperture, the smaller the F number, the bigger the lens opening and the bigger the f number, the smaller the lens opening. The term "Depth of Field" means how much in front of and behind the main subject is in focus. When doing landscape or scenic photography, a large Depth of Field is usually necessary so you would set the Aperture to a high number such as f16 or f22. The opposite is true if you want to single out a tree or rock and make everything else out of focus. You would use a shallow Depth of Field by setting the lens at f4 or f5.6. Practice will make this task second nature.
- 2) Shutter Speed: this is used to stop or blur motion and is quite necessary to set a feel for a photo. Most SLR digital cameras have shutter speed between 30 seconds to 1/8000 of a second. You would have to read the manual to determine the high and low speeds for your particular camera. Fast shutter speeds are desirable when shooting action photos such as a football, soccer, or race car events. Usually, shutter speeds of 1/500<sup>th</sup> of a second or faster is

necessary to stop the action in most sporting events. High speed auto or motorcycle races may require a minimum of 1/1000<sup>th</sup> of a second to stop the action.

- 3) ISO: a term brought over from the film era. The ISO is set according to how much light is available to shoot a scene. The ISO range in many cameras is 100-1600 but can go much higher in the more expensive models. A person would use a low ISO when shooting outdoors on a sunny day and maybe ISO 1200 when shooting indoors without flash. The problem is that when shooting at a high ISO, digital noise comes into play and that looks as if there is colored "dust" speckles on the photo. Take test photos to determine the highest ISO that you can use before the digital noise comes in to play.
- 4) White Balance: settings tell the camera what type of light is in the scene. Always use the White Balance setting that is most prevalent in a scene. As an example, you are in a room with fluorescent ceiling lighting and one small incandescent lamp in the corner. You would use the fluorescent setting since that type of light is mostly in the scene. Settings include, incandescent, fluorescent, sunny, cloudy, flash, and open shade. Be sure to change the White Balance setting when moving from indoors to outdoors and when conditions change such as the sun being covered by a passing cloud.

Here are a couple of examples of how I would set up my camera to shoot in different circumstances. I want to take photos of my son's little league game. It is mid afternoon on a cloudless day. I would set the White Balance to "Sunny", set my ISO to 100 and shoot in the Aperture Priority Mode. (I'll explain MODES shortly). I make a couple of test photos and determine that my shutter speed is too slow to stop the action so I raise the ISO from 100 to 400 and take a couple more shots. I find that 400 is a fast enough ISO speed to stop the action. The higher the ISO, the faster the shutter speed at a given aperture setting. So, after a couple of innings, the clouds roll in and now the light has changed. I reset the White Balance to "Cloudy" to match the color of the scene. Since the light is darker because the clouds are covering the sun, I raise the ISO from 400 to 800 to compensate for the lost light. This is one example of how we must keep in mind the light that we are shooting in and to adjust our cameras accordingly.

Next, I want to take some family photos in the backyard. I am going to use flash so I set the White Balance for "Flash", and use an ISO of 200. I place my family members in the shade and angle them so that the sun is not in their eyes that would cause them to squint. Be alert that when placing people outdoors to make sure trees or telephone poles are not "growing" out of their heads. The background is as important as the subjects when shooting people outdoors. Next, take a test shot to ensure the exposure is ok...this is where the "Histogram" comes into play. Look in your manual to find out how to find the Histogram. Usually on Nikon cameras, it is on the control wheel on the back of the camera. To read the Histogram, note that it is a graph that shows the light and dark parts of the photo. If the mountain peaks are mostly to the left of the graph, then the photo is underexposed and you need to add more light to the subject. If the "mountain" is too much to the right, then the photo is over exposed and you'll need to reduce the light on the subject. You can reduce the light by using a faster shutter speed or by using a higher Fstop such as changing from f5.6 to f8. A well

exposed photo would show the histogram and mountain ridges in the middle of the graph. These are only 2 examples of camera setup and do it slowly and and remember to set the 4 basic options each time the conditions change.

#### Things to take to a photo shoot

- 1) Be sure to charge all batteries before going to a photo shoot
- 2) Carry a second battery and make sure it is also fully charged
- 3) Take a couple of extra memory cards in case one of the cards fail (its happened to me)
- 4) Put a UV or skylight filter on the front of your lens. If you bang the lens on something hard, it is much cheaper to buy a new filter than to replace an expensive lens.
- 5) Bring the manual any time you leave the house so that you can refer to it if you run into trouble.
- 6) When using 2 or more lenses make sure to turn off the camera when changing lenses. The mirror will act as a magnet with the camera on and attract dust. Also, don't change lenses in windy condition because dirt can get into the camera.
- 7) Carry a notebook and a pen to jot down any cool things you encounter.
- 8) Use a tripod when shooting in low light situations to keep the camera motionless.
- 9) Remember, that the popup flash on the camera is not very powerful so stay within 10 feet of the subject. The best bet is to buy a separate flash since it is more powerful and can be moved around to create different lighting effects.
- 10) Have fun and bring this cheat sheet with you