

The Focal Point

June 2005



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Bedke's Page



Pixel Sizes....Not!...andPrinting..

A CCD in a digital camera has a size, such as 2/3-inch, but a pixel has NO size. A CCD-sensor has a size for its number of megapixels (MP), such as 5 MP, but a pixel has NO size. A dot on a print has a size, showing a pixel, which has NO size. The dpi is a number telling how big the dot is, 1 dpi is a one inch dot, 100 dpi is 1/100th of an inch dot.

A pixel is a string of numbers. It is a Picture Element - PixEl - a numeric representation of the color and brightness at that particular spot on the sensor, but NOT a size.

Larger CCDs have advantages due to their size, such as less noise, but they still return only a single set of numbers per capture. Two cameras can have different dimension size CCD sensors and still record the same number of megapixels. The smaller camera CCD array is physically smaller, so the lens needed to focus the image onto that array can be smaller, but that means the strength of the light falling on each individual sensor element is also less thus the result is noisier. A larger size 5 MP CCD will produce better pictures than a smaller size 5 MP CCD...yes, the time honored wisdom in photography is still true...bigger is better.

Think about setting a bucket and a small tin can out in the rain. As long as neither overflow you can use either to measure the amount of rainfall. Just measure the depth. Diameter doesn't count (as long as the sides are straight).

Pixels just tell you what color and how bright. It's kind of like saying "Paint the barn fire engine red." 'Fire engine red' does not have size. Size is determined by the thing you paint - the barn. Or in photography a spot on a piece of paper. The size of the spot is totally independent of pixel. It's just how you choose to print the characteristics of the pixel. So... how many dots of ink does it take to print one pixel that has NO size?

If your using an Epson ink jet printer, knowing this answer could save you disk space, processing time and perhaps ink. I am assuming that one dot is the same as one drop of ink, call me simple, but that's what I'm assuming. If the answer is 4 dots/drops per pixel, then a 360 ppi file is needed for a 1440 dpi printer. As a matter of explanation, ppi is pixels per inch in the file size and dpi is dots of ink per inch that the printer applies to the paper. The Epson 2880 dpi printers do not give you more resolution, what they give you are better colors and smoother tones.

Accordingly, anything more than 360 ppi is a waste of storage space, memory, time and/or downsampling work for the printer driver - and for no possible gain. Anything less than 180 ppi is theoretically sub-optimal, although that depends to a very great extent on your own quality considerations.

What about color resolution? This is not directly answerable, but practically speaking, as many ink dots/drops as will fit into the pixel space allotted on paper will provide the best color blend for accurate color. The purpose of having multiple ink dots per pixel is to simulate the

possible 16.7 million 24 bit colors with only cyan, magenta and yellow colors of ink. It takes very many ink dots per pixel for most colors. So larger pixels are much easier, smaller pixels are impossible. If you use 360 ppi file, the edge jaggies appear reduced due to smaller

pixels and we like that, don't we...but fewer pixels can be shown, and these fewer pixels deviate from accurate color. It is not so much that the color is off, but that it is showing different image pixels now. What we might imagine to be 360 ppi file of image detail is far from that, if you simply look at it. If you go higher to a 720 ppi file, the printer doesn't have a prayer of reproducing those colored pixels, each requiring many ink dots in that tiny space, it is totally hopeless, most of the pixels are discarded by the printer.



Try this experiment for yourself: Using Photoshop, duplicate the same high quality photo three times but re-size each of the files to 180, 240 and 360 ppi at an 8x10 size print. Then print each of the three files identically on good paper at 1440 dpi on your Epson printer. Now closely compare them for resolution, detail, edge sharpness and color accuracy.

If your eyes are like mine you will see that all three prints are good, the 360 ppi is ever so slightly the best, but the file size is huge. The 180 ppi still looks good, but I do see a slight loss...so, we back off

to 240 ppi, which is the sweet spot. I think 240 ppi as being the best compromise for smaller file size with high quality on the Epson printers, but if large files are ok then use 360 ppi.

John Bedke

		The Focal Point June 2005
BCC Calendar -2005		
Date	Program/Competition	Activities
Thursday May 19	Program	Slide Critique
Thursday May 26	Program	Elections
Thursday June 2	Program	Mini Auction
Thursday June 9	Program	TBD
Thursday June 16		Year End Awards Banquet

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CompetitionResultMaySlides

NOVICE COLOR SLIDES			UNLIMITED SLIDES		
1st	Old Gentleman in Isfahan	Kay Muldoon- Ibrahim	1st	Baltimore City Lights	Alan Wilder
2nd	Patterson Park at Dawn	Charles Collier	2nd	Washington Place	Barry Christie
3rd	Art of Basket Making Ethiopia	Kay Muldoon- Ibrahim	3rd	Boordy Vineyard Sun- set	Karen Messick
4th	Red Rose	Sonia Estruch	4th	2 Petals	Steve Harman
5th	View From The East Side	Charles Collier	5th	Pink Parasol	Gary Faulkner
HM	Dry Season Ethiopia	Kay Muldoon- Ibrahim	НМ	Wide Open	Jane McManus

Baltimore Camera Club May Competitions 2005

CompetitionResultsMayPrints					
NOVICE MONOCHROME PRINTS		UNLIMITED MONOCHROME PRINTS			
1st	Fly Over	Anna Santana			
2nd	Nova Scotia Fisherman	Kay Muldoon- Ibrahim		Non	
3rd	Lake Roland View	Karen Messick		$\sim C_{\rm C}$	
4th	Four Eyes	Anna Santana		-0/	The
5th	Homeless	Kay Muldoon- Ibrahim			·est
HM	Conversation Brick Wall	Steve Harmon			
NOVICE COLOR PRINTS		UNLIMITED COLOR PRINTS			
1st	Portrait of An Afghan	Kay Muldoon- Ibrahim	1st	Where Earth Meets Sky	Gary Faulkner
2nd	1904 McCulloch Street	Kay Muldoon- Ibrahim	2nd	Round N' Round	John Eybs
3rd	View From East	Charles Collier	3rd	Glow at Dusk	Wayne Ballard
4th	Orange Flower	Kathryn Ward	4th	Beech Leaf on Cobble- stones	Karen Messick
5th	Face	Anna Santana	5th	Encrusted in Ice	SteveHarmon
HM	Spring Pagoda	Anna Santana	HM	Muralists Tools	Karen Messick



The Baltimore Camera Club Exhibition Dates;

August 5th - 26th, 2005 at the Baltimore Gallery, 4519 Eastern Avenue July 2006 at Severn Graphics, Chestnut Avenue

We, Mindy Best and myself will use each of the "year end" competition winners and member submitted prints (to be judged by outside photographers) to form the exhibitions. More on these important Club events to follow.

Gary Faulkner

Annual Banquet Dinner June16thattheWilliamsburgInn 11131PulaskiHighway Route40East Time6:00-7:00HappyHour 7:00-8:00Dinner 8:00-9:00Presentations It's not everyday that you get the opportunity to take pictures of "The World's" greatest athlete.

My chance came on Oct 9, 2004 in our Nation's Capital when Lance Armstrong and a group of Cancer Survivors were to finish their "Tour of Hope" ride across America.....

I, my wife, and son drove from Baltimore, Md. and arrived in DC around 8:00am. Lance and his group of 20 were not due to arrive until around noon. This gave us plenty of time to tour the area and visit the Viet Nam, Korean and the new World War 11 Memorials.

Around 11:00 a large group consisting of 900 riders that had raised a lot of money for the Tour of Hope charity, approached the Ellipse in front of the White House The organizers announced that Lance and his group would be arriving in about one hour.

Positioning myself on Constitution Ave. (which was partially closed to traffic) I thought I had a great view of the group that Lance was riding in. As they got closer I realized that the pace cars were going to be a problem. They were too close to the riders. As they got closer, the cars became a bigger problem. They blocked out most of the riders.

In order to get shots I would have to shoot down the left side of the vehicle and then the right side.

The closer they got it seemed the faster they were moving. It was here that I realized they were all wearing the same color jerseys and I couldn' t tell which one was Lance. I had to compose and shoot fast or I would miss them completely. I got off two shots on each side of the car and then the riders were gone. Now the big question was weather I got "any" shots of Lance.....looking at the images on the back of my Nikon D100 brought a smile to my face......got it!!!!!

tom Perny

The Focal Point June 2005

The Wilderner in the City By:AnnaM.Santana

Our city parks offer an abundance of photographic opportunities. I spend a lot of time in Patterson Park shooting the images of my old backyard. For me, a "city girl" it is the wilderness. No matter how many times I have gone to Patterson Park to shoot, I never run out of subjects.

I can think of no better way to start the day than to get up early and watch the sun rise in Patterson Park over the boat lake (Of course with camera in hand, or on a tripod :-) Or to get the BCC up at 5 am to shoot at the Pagoda.

There are many parks in Baltimore City each unique in it's own way that offers a rich history and never ending photo op's including architecture, masonry, animals, birds, insects, flowers, trees people, lakes, cultural events, festivals and so much more.

I am sure many of you have been to great places, (I have seen the photographs to prove it) but right here in the middle of the concrete and form stone (OK, brick now) we have the greatest wilderness anywhere so go take a stroll in the park and take your camera, the parks are one of the city's greatest assets and a great place to be a photographer.

Some Links of interest: <u>The Friends of Patterson Park, Inc.</u> <u>Department of Recreation and Parks - City of Baltimore,</u> <u>Maryland</u>



Spring Patterson Park Anna M. Santana Camera- Nikon N90S, Lens - Nikon 28-105 Kodak 400 UC film



Spring Pagoda Patterson Park 4-9-05 Anna M. Santana Camera Nikon N90s Lens- 16 mm Nikon Fisheye Cropped in photo shop.



The Stairs.. Pagoda Interior Anna Santana Nikon N90s Nikon 16 mm Fisheye lens Kodak 400 UC film