MadisonPhotoPlus
the Photo Summit

ePHOTO Newsletter

January, 2010

Thanks for the Memories (cards, that is)

Remember how easy it was to buy a roll of film? All you needed to know was color or black & white; ASA 25, 50, 64, 80, 100, 125, 160, 200, 320, 400, 800 or 1600; prints or slides; daylight, tungsten or photoflood; film size; 6, 8, 10, 12, 15, 16, 20, 24, 27, 36, 40, or 72 exposures? Memory cards have been easier - Physical size and capacity. Easy, Right? Not any more!

During the past few months, memory card and camera makers have changed a few things. Not all the same physical size (which will be hereafter referred to as "size", as opposed to "capacity") cards will work in card slots into which they will fit. Within the past month, Sony introduced their first cameras accepting SD cards as well as Memory Stick Duo™/Memory Stick PRO Duo™/Memory Stick PRO-HG Duo™ cards. This marks the first Sony compact cameras to accept the same size card as <u>any</u> other brand camera. Olympus also announced support for SD size cards as well.

As was mentioned previously, memory cards are basically all the same inside: one chip to control the input and output of data, and one or more chip(s) to store data. The card size does not limit its storage capacity, but the controller chip does. Different controllers also transfer data at different rates of speeds. A transfer speed of 150KB per second is rated as "X" speed. The following chart helps illustrate the relationship between speed and data transfer.

The value of X = 150 Kilobytes per second, noted as 150KB/sec.
1024KB = 1MB

200X = 200 X 150KB/sec.
200X = 30,000KB/sec.
200X = 30.7MB/sec.
rounded to 30MB/sec.

MB/sec.	X-speed
9MB/sec	60X
10MB/sec	66X
15MB/sec	100X
20MB/sec	133X
30MB/sec	200X
60MB/sec	400X
90MB/sec	600X

Different cameras are also designed for different transfer speeds. Most compact cameras require a card speed of about 50X, where most SLR cameras need a minimum of 100X to function smoothly. Digital camcorders must work at even higher speeds.

One of the earliest size cards is Compact Flash (CF). CF cards started out at about 6X, then moved to about 15X, then about 50X. High Speed CF cards were introduced with the advent of the digital SLR in the range of 75X. Professional High Speed CF cards went up to about 150X. Faster cameras required faster cards, but the speed limit of the cards' controllers was reached. A new standard UDMA (Ultra Direct Memory Access) is now allowing speeds over 420X!

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A camera capable of a transfer speed of 30MB/sec. cannot succeed when the card's controller will only accept data up to 10MB/sec. Ten years ago, a picture file from a pretty good camera was in the range of perhaps 50KB and would take no time at all to transfer with a 6X controlled card. As cameras evolved with more pixels and therefore exponentially larger files it could take hours or days to transfer a single 20MB photo. Conversely, a camera which can output at only 10X cannot understand the language "spoken" by a faster controller. In plain language, it just won't work, or will work so slowly as to be impractical.

Some early card types, such as Smart Media, placed the controller chip in the camera, so the memory chips' speeds and the controllers' speeds could not be increased to accommodate one another. R.I.P. Smart Media.

Secure Digital (SD) cards are going through a change similar to CF cards. Where early 15X - 55X cards are too slow for today's cameras, 300X cards in a 6X camera can only work at 6X because the camera is the weak transfer link.

SD cards begat SD•HC (High Capacity) cards. These new cards had controllers which required readers to understand a new control language. Older readers were useless, but at least the new readers would read and write to the older cards (at the older card's speed).

In 2009, SD•XC cards were announced and will begin to ship during the first half of 2010. These cards work at MUCH higher speeds and have much greater capacities, making them ideal for camcorders and other very rapid transfer applications. These expensive cards are capable of holing in excess of 2TB (Terabytes)* of data!

*1,073,741,824 KB = 1TB

These high speed card controllers are very new. A SD•XC 64GB card is projected to be selling for $599.99 with extremely few cameras capable of using it. Canon has recently announced a new series of entry level compact cameras accepting these cards. A great marketing move, being the first to offer compatibility - seemingly without any benefit to the photographer.

Below are lists of cameras found to accept or not to accept one of these UDMA 48GB or 64GB cards.

As of December 2009 the following cameras were found to be:

NOT COMPATIBLE

Nikon D300
Nikon D2Xs
Canon 30D

As of December 2009 the following cameras were found to be:

COMPATIBLE
Canon 7D - Firmware 1.0.7
Canon 5D Mark II
Canon 5D - Firmware 1.1.1
Canon 1Ds Mark III
Canon 50D
Canon 40D - Firmware 1.0.3
Canon 10D - Firmware 1.0.0
Canon 300D(Rebel) - Firmware 1.1.1
Nikon D300s
Nikon D700 - Filmware 2.7.1
Nikon D3 - Filmware 2.7.1
Nikon D3X - Firmware v1.01
Sony Alpha 900
Olympus E30
Olympus e500 - Firmware 1.0
Olympus e520 - Firmware 1.1
Olympus e620 - Firmware 1.0

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Snap Shots

Classes

The Better Imaging Photo School will be out of session during the months of January and February. During this time frame, you can take advantage of private instruction that we offer here in the store so you can customize your learning to your specific photographic needs. Private instruction time can be used for either help with your camera, understanding lighting better, or if you have a laptop you can bring in your session can be used to address questions on image transfer, management and editing. Private instruction is available in 30 minute increments billed at $40 per half hour. Give us a call today at 973-966-2900 to schedule your appointment or ask any questions you might have.

We have been asked to have a class on using the new internet video cameras (e.g. Flip Ultra). Please contact us at staff@madisonphoto.com or staff@photosummit.com if you are interested in such a session. We'd also like to hear any suggestions you may have for other classes or workshops.

TV vs. Reality

There seems to be a popular expectation that some photographic effects and services seen on TV are available, available at a low price, and available in moments. It ain't necessarily so!

Myth #1 A photo of a person taken from 1/4 mile or beyond can be enhanced to make a recognizable 8x10 of the person's face.

Myth #2 A photo taken without flash in very low light can be enlarged with vibrant color and fine detail.

Myth #3 A picture taken with a camera recording in a specific proportion or shape (a 4:3 ratio, for example) can be printed as a different proportional shape (6"x4", for example) without losing some part of the photo.

Myth #4 A camera's flash can light people properly at varying distances across a ballroom in the same photo.

Myth #5 A camera phone can take a photo capable of being enlarged to make a sharp 8x10 or yield a clear image filling a wall size monitor.

Myth #6 Pictures taken with a hand held camera are as detailed as those taken by the same camera on a tripod.

Myth #7 Any of the above myths are possible by anyone in a speeding car, on a motorcycle, in a helicopter, with or without the benefit of alcoholic consumption!

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Thank You

Many more of you shopped locally in December of 2009, helping to keep your communities from becoming ghost towns. Our stores were visited by many people with faces new to us having local addresses. Thank you very much.

We'll be back in February with our next edition. Enjoy your photos and have fun making them.

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