Amateur Digital Photography And Illustration—A New Perspective

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Required Items
Camera (Digitizer)
Digital Film (Memory)
Computer
Graphics Software
Viewer And/Or Printer
Paper/ Printer Ink
Internet Access (HS)
TIME & Patience

Camera – Can be a regular film camera (Range Finder or SLR). A regular photograph is generated and printed and/or digitized at your local photo store. A digitizer, such as a scanner, can also be used to convert the image in to a computer readable format.

Digital Camera – This is a filmless camera with a built in scanner. The output is a computer file that can be stored, read, and manipulated first in the camera and then in a computer.

Digital "Film" – Digital memory (the digital equivalent of film) is required. The memory is non-volatile (doesn't need a battery to be preserved) and comes in very small packages which fit in your camera (postage stamp size). Capacities range up 32 GigaByte. Files about 1500kb in size are stored in this memory. The memory is reusable. You need some to use your camera, so make sure it is included in your budget.

Computer – Most any computer can be used, but the faster the processor and the more the memory (at least 1GB), the easier and faster it will be to process your photos. Don't get a 5 MegaPixel camera and expect to edit the pictures on a Windows 98 based computer.

Graphics Software – The right software allows you to make great photos out of ordinary snapshots. This is really what makes digital photography fascinating to me. It gives me nearly total control over the photograph once it has been taken. It can't bring life to a totally blank photo, but it can bring life to otherwise almost unreadable photos.

Viewer – The photo can be viewed on a computer monitor and sent by E-Mail to others where it can be further viewed. In such a case a printer is not even necessary. Cost wise this is an ideal situation, but requires all viewers to have access to a computer (or DVD Player and TV) and the ability to send and receive computer files. You can carry the picture in a modern cell phone.

Printer - To achieve photos on paper, like the ones we are use to having in our wallets, a printer is required. The good news is that very high quality color printers are available at very reasonable prices (<$150). Although there are a variety of types, the ink jet printer which uses a black and 3 colors of ink does an admirable job. Improvements in skin tones can be achieved with 5 color ink sets. Resolutions of at least 600 X 600 dpi should be used. Resolutions up to 2400 dpi are available in printers in the low price range. I don't print much these days but send the files to a photo lab which prints them for less than I can.

Ink – Critical to the quality of the printed photograph is the ink. This is the second most costly non-fixed part of the whole digital photography process. Some relief is available through the use of refilled cartridges, but expect some losses due to nozzle plugging, etc. Bad ink also wastes the paper. Printing of drafts still uses ink so is little help in saving cost. I find that I use about 4 color cartridges for every black one (when printing my album pages). The cartridges cost about $35 each and I get about 40 8-1/2" X 11" pages from 1 color cartridge. I don't use much anymore.

Paper – Next to the Ink, this is the third most costly non-fixed part of the process. It is NOT, however, a place to cut costs. If the wrong kind of paper is used all the work up to that point will be wasted. Use a glossy paper designed for use with your printer and for which your printer has a selectable option. There is also a matte finish paper which I use quite often. The picture is not what you'd expect from your drug store, but it has an attractive "softness" and the whites are whiter.

The Camera

I suggest a digital camera. You can get one new ($125 and up). If you are reading this, chances are you've already bought a digital camera. A suggestion: Give one to your children so they can send you the family pictures you want.

Note that digital cameras are relatively slow acting (they're getting faster). First of all they must boot up (fortunately this doesn't take as long as Windows on your computer). Additionally, the auto focusing and exposure adjustments take some fractional seconds to happen. Thus taking pictures of sporting events, racing, etc. requires some tricks (like anticipating the event). The positive side is that it doesn't cost much to practice. I do suggest PRACTICING (costs nothing but your time).

(1) Film (Analog) Camera - Use the camera you've been using for years or get a new 35mm zoom (either one probably has a better lens than you'll get on a low end digital camera). This camera with film is portable and can be used most anywhere in the world. You just have to wait for the results. Use the optical zoom and keep close to the subject. Have the film developed at your local processor and get the larger prints (4X6). At the same time have the pictures digitized and returned to you on a CD. This is a cheap way to get digital photos and you get very high resolutions (equivalent to at least a 5.0 MB digital camera).

If you don't have the pictures digitized commercially, then to digitize your pictures, buy a flat bed scanner (<$75) and scan your images at at least 150dpi (better 300). Crop the picture as you scan to save on file size. One disadvantage to usuing film is that you won't know what the photo looks like until it is developed.

[File Names: If you scan your own photos, you will be creating files, and you will have to give them a name (like when you write a document on your word processor). Name the files using the date it was taken (i.e 2009060401.jpg – YrMoDa##.jpg). Store the files in a subdirectory (folder) that you can remember. If you modify the photo file give it the same file name with some added numbers or letters (i.e. 2001111501b.jpg). Numbering in this manner prevents overwriting older photos. From experience I can tell you that one of the best ways to find a photo is from knowing when it was taken. Naming photo files with JohnDoeBirthday.jpg will get you in to trouble very soon.]

(2) Get a Digital Camera.
You can buy an ameteur digital camera ($100-$900) which will allow you to see the picture immediately. Removable memory cards are necessary to make the camera portable (unless you carry a laptop around with you). Below I have listed the features which I would suggest any digital camera have as a minimum. Expect to pay at least $200. Accessories can increase the cost by $150. Very soon you have $350 in the camera.

Suggested Camera Features

Batteries
Above I mentioned the 2nd and 3rd most costly part of digital photos is the ink and paper. The most costly non-fixed part, even if managed properly, will be the batteries required to power the camera. Always have

spare batteries. Running out of batteries is like running out of film in a conventional camera.

Thus in buying a camera make sure it can use rechargeable batteries. Preferably, the batteries should be a common type such as AA's. Rechargeable NiMH ($25/ set of 4) or Lithium batteries are the best. Make sure they are high capacity (mAh). You'll need a charger (which may come with the camera). Most cameras will have a flash incorporated which will also be powered by these batteries. So make sure you have extra charged up sets with you. (I carry at least 3 extra sets in my camera bag).

View Finder

Make sure there is a View Finder which you look through (an eyepiece) to select your picture. A plain optical one is best, but newer cameras have through the lens capabilities where you look at a very small monitor inside the eyepiece. You should also have a small LCD monitor which shows you the picture that was taken. This should NOT be what you normally use to take the picture (you can't see it in the sunlight or where there is very little light on the subject). Recently some Point & Shoot cameras come without a view finder (not my cup of tea)

Removable Memory

Digital cameras have a very short leash if you don't have lots of removable memory or a laptop. Without it you'll have to take all your pictures near home (or where ever your computer is).

The removable memory is the equivalent of the hard drive on your computer except it is removable much like a Zip Drive. There is NOT a standard so there are 4 or 5 types available and they are NOT interchangeable (like the VHS vs Beta VCR situation).

The leading memory cards are SD, Compact Flash and "Smart Media". I prefer the Compact Flash but have been switching to SD (required by the manufacturer). Trying to keep up with the cost and capacity of memory cards is like keeping up with computers. Only a couple of years ago the costs were at about $1 per megabyte. Now routinely they are at about one tenth that. Do NOT buy 512 Mbyte size cards. You'll waste your money. 1 to 32 Gbyte cards are readily available now at prices less than $50 (one of the biggest advances in digital photography).

Picture file sizes range from 200k to 2000k so you can put from 1000 to 2000 pictures on a 2 Gbyte card. Easily enough for a month long trip. (Make sure you have the batteries to match.)

Just as in selecting a car you need to have an idea of what your needs are. All I can say is that if you get a digital camera, you will (and should) take many more pictures than you do now (when photographing people always take at least three shots or more– See Taking Pictures).

Camera Fixed Memory: Each camera will have some built in memory like RAM in your computer (for in fact the camera is just a micro computer). The more there is the faster the camera will operate and the higher the resolution will be. This is not changeable and you won't be able to find out how much it is, but it should handle the stated camera resolution. This and a faster processor are the big difference in more expensive cameras like SLR's.

Resolution

Don't be caught with that shot of a lifetime taken at low resolution. It is sort of like not getting the shot at all. The camera will have a resolution indicated by two numbers which are the number of pixels horizontally and vertically. Their product is the resolution reported for the camera (i.e 1900X1400 or 2.6 Meg, etc.). Point and shoot cameras have up to 10 Mpx now.

One of your numbers should be at least 2000. 2000 X 1600 is a good minimum. Don't buy less. Anything above that is gravy.

As the resolution gets higher the files get bigger when processed on your computer. However, the stored files tend to stay the same since compression is used. The compressed files are JPG files usually and shrink the file sizes by 3 to 6 times with an imperceptible change in quality of the image (less than what a monitor or printer can reproduce).

Zoom Capability

Digital Zoom has little value except in promotion of the camera. Discount it in selecting a camera. Typically manufacturers will report about 2X and multiply it times the optical Zoom to achieve 6X.

Optical Zoom is what counts. Typically you should have about 3X. 10X and more is available but it will cost (two to three times more). One of my present cameras has 10X providing me with a 38-380mm equivalent zoom (On an SLR I have 44-440mm).

Editing Features (On Camera)

Except for deleting unwanted pictures they have little value for me. Do this on your computer on a monitor where you can see the picture. Don't put the date on the picture but make sure it is correct in the camera. It will be on the file if you need it. If you want it on the picture you can add it later. It is hard to take off.

By the way most cameras now give sequential file names. Use that default. A great way to loose a bunch of good pictures is to overwrite some old ones with new ones with the same name. My Canon came with the default set for starting renumbering each time. CAUTION

Taking Pictures

If possible, especially with shots of groups of people, take at least 4 or 5 shots. This improves the chances of getting everyone with their eyes open. You might have to move some eyes around, but this can be done. The photo then becomes an illustration, if you need to get legal about it.

Take panoramic shots in a series that can be "stitched" together on the computer, Make sure you have overlap. The need for a wide angle lens is reduced. Stitching programs are amazing.

If possible take pictures a little on the dark side rather than a little light. The dark picture can be lightened on the computer but the too light picture can't be restored on the computer.

Transferring Picture Files From The Camera To The Computer

I do NOT use the cable and software that come with the camera. If you are a novice on the computer, however you may want to use them.

Get a card reader (~$50) and attach it to your computer via a USB port. Take the memory card out of the camera and insert it in the reader. Go to the Explore function (right click on START), find the removable drive that was created and copy (NOT cut) the files from the memory card and Paste them in to a folder on your hard drive. Many computers have the card readers built in.

After you check to make sure the files are on your hard drive you can erase the files from the memory card. DO NOT REMOVE THE FOLDER OR FILES WHICH ARE ON THE MEMORY CARD WHICH ARE NOT PICTURES. These files keep track of the history of the camera.

Do not format your memory card. It comes

ready to use.

You might want to review copying files in Windows. I've found that many users have never had to copy a file outside of some application software, so they don't know what to do. If this is your case you may want to take your memory card to a processor for printing (any drug store, Wal-Mart, Costco, etc.) I use Costco which has a great price for 4"X 6" , as well as larger (up to 12"X 36"), prints in 1 hour.

SOFTWARE

Photo Albums

Once you move your picture files to a folder on your computer, move them in to an album to preview them. My prefered software is the Ulead Corp. PhotoImpact Album (Now owned by Corel). See below.

You need to create an album and give it a name. Then you insert the pictures from the folder where they are stored. When in the album you can see thumbprints of the pictures and run a slide show to quickly preview all the pictures you've just taken. Having previewed the pictures you can select the ones you want to edit from the thumbprints and drag them into the editor (below).

Using this approach you can preview your pictures within only a few minutes after you've taken them. Using a cable provided with your camera you may be able to show the pictures on a TV or VCR within seconds after taking them. *Throw a tape in the VCR and you can record the pictures at the same time to leave with those that were in the pictures. However, they are no longer digital in that format and have a much lower resolution.*

Photo Editor & Albums

If you have a scanner you probably have some software to modify pictures. If you do, start playing with it now on existing pictures on your computer. You must have some. Best way to learn.

My prefered software is the Ulead Corp. PhotoImpact Editor and Photo Album. Cost about $120 with $35 annual updates. Version 12.0 is now available. This has the highest performance for its price of any software I've ever seen. Matches the Adobe software at a fraction of the price. Hard to explain right now but allowed number of "undo's" is 200. I usually maintain about 100. Eventually you'll see the value.

Other software is Microsoft's Picture It, Paint Shop Pro (shareware source), Arcsoft's Photoimpression (comes with some Canon cameras), Adobe's various packages like Photoshop Elements are good and popular, but for me are not intuitive to use, and others (If you have the money Adobe's Photoshop is some what of a standard).

VIEWER (Monitor)

Large Monitors are useful for viewing and editing digital images. Using higher resolution and high quality color is also preferred. Use at least 1024 X 768 and 32 bit color settings on your monitor. [For Windows XP right click on your desktop, click on properties, then settings to find the monitor status. Vista is similar.]

The monitor should be at least 15 inches. Anything bigger is better if it will fit on your desk. Typically I use a 22" monitor. If you have an HDTV with 1080 resolution you can project the pictures there. You get some beautiful presentations.

Make sure you have a good mouse because that is how you'll get around within you pictures on the monitor.

PRINTER

Use Ink Jet type. Do NOT buy an off brand. I prefer Epson and HP. The reason for using name brands is first usually they are high quality and second you can find the ink cartridges at competitive prices.

I have used an Epson Stylus Photo 875DC. It uses two ink cartridges, 1 black and 1 five color. It is designed for printing photographs. The resolution is 2400 X 720, however ink drop size is more critical,

There are printers which don't require a computer. I think the chance to fix up the picture is made more difficult. With this you print out pictures like you get from the drug store.

Paper

I use Epson "Premium Glossy Photo Paper" when I want high quality pictures which will match those that come from the drug store. Because it is less expensive I generally use Epson "Matte Paper – Heavyweight" which gives me a softer but very acceptable picture (maybe slightly darker where the whites are whiter). These papers when used with the proper ink in the Epson printer have the stability of the drug store images. Pictures printed from regular inks and paper will fade with time. Sometimes within years.

You need to experiment and read on the internet to find the best or most cost effective papers. I keep looking all the time. My looking includes looking on C/Net for the best price on the preferred inks and papers. The local office supply chain stores usually have reasonable prices and keep inks in stock.

For the past year and into the forseeable future I have all my pictures printed commercially at Costco. I upload the files from my computer and drive over and pick them up.

Publisher Software

I very seldom print out single pictures. 99% of the time I print 8-1/2 X 11 inch album pages which contain from 1 to a dozen pictures (or portions thereof). I do have 4"X 6" photos printed commercially.

I assemble these in Microsoft Publisher, which I consider another piece of excellent software for the price.

I pick up the pictures (copy them) from the PhotoImpact Editor and Paste them into a Publisher page. There I resize them, move them around (by just dragging with the mouse), and, as desired, add a frame and a shadow. I can overlap pictures and select which goes on top.

I add text to the album page where ever I like, including over the picture at times. Usually I use a Word Art type text which fills a box which I can easily adjust for size.

At times I also add clip art cartoons, figures, etc. to liven up the page.

My intent is to tell stories in pictures using a two page format. The emphasis is usually having fun at what ever activity is being shown. Hopefully this allows me to be a little creative.

Typically, I average about 5 pictures on a page. In a 20 page album thus there are 100 pictures which have been included. A viewer can look at these pictures in as little as 1-3 minutes and get the story I'm trying to tell. For those who want to look at the individual pictures in detail, they can do that at their leisure.

Some years back I was in to taking pictures in a slide format. Showing slides required a set up which took probably 15 minutes and the showing of 100 slides probably took a half an hour. Even for those who were still awake at the end, the story was probably lost. Reducing the time to present the story from 45 minutes down to 3 minutes, I feel, is an achievement. On the average it takes me about an hour to generate an album page. Knowing that the pages will be viewed, and hopefully enjoyed, helps keep me trying to do

a good job. Of course, only a few can look at the album at a time. These albums are in a vertical (portrait) format and contained in a three ring binder.

The availability and more common usage of high speed internet connections has pushed me in to completely changing my albums. Today and for the last two years I have changed to a horizontal format for my picture elements. This is because the viewer is using a horizontal monitor to look at my pictures.

I have tried a variety of formats to present my pictures. The latest is using Google Photos which presents a slide show within my Web Pages. This has been a dramatic change for me but, I think, has resulted in the greatest number of viewers. Go to my web site and see for yourself. I still fix up the pictures, make illustrations, and add text including the date and place the pictures were taken.

TIME/ COST

My album pages take me about an hour to produce. Typically my albums run 25 pages. That means I spend the equivalent of at least 3 working days on each album. That is a lot of time. I enjoy it. You don't have to do this to enjoy your pictures.

I've had digital cameras for about 12 years now (the first 2 of those I still took pictures with film). I continue to catalogue all of my digital pictures (which is one very good feature of them). I have taken over 120,000 photos in those years.

One benefit of all those photos is the implied cost savings I have achieved using the digital photo approach. In the first 7 years if those had been regular photos and I had bought the film and paid for the developing I probably would have had to spend $17,500 (at $0.25/ photo). My costs, in the first 7 years were in the range of $7000. That includes the cameras. Thus I'd saved over $10,000.

I better see if I can figure out how many album pages I have generated. The cost has probably averaged about $1.00 per page printed. That would have to be subtracted from the benefit side of the equation. I'm going to guess that I've generated about 1000 album pages . .

Philosophy

I don't consider myself a photographer, but I believe one of the secrets of a photographer is to take a lot of pictures, thus improving the chances of getting a good one. By definition, I'm more of a picture taker and Illustrator than Photographer. That means you can't necessarily believe what is in every picture. I move people in, move people out, change backgrounds, open eyes, add smiles, and change colors. This is in addition to the usual brightening and contrasting used to improve the details of the picture. I try not to alter the story, especially if everyone seems to be having fun. However, I retain poetic license, which any story teller has to improve their ability to make a point, and importantly to have it remembered. I try not to change history.

My Camera Experience

I've had 9+ digital cameras. Below is some information on them. Included is their resolution. I learned from the first camera (a Kodak DC25) that a resolution of 500 X 400 was not enough. When I used it I also used a regular SLR film camera. The Kodak DC260 and DC265 cameras had enough resolution to allow making an excellent 8" X 10" photograph. Once I had them I nearly stopped using a regular film camera .

More resolution than 3 MPx is of little value to the average picture taker with a good zoom (except it allows you to use a portion of the picture to make an 8X10). With the purchase of the my first Canon Digital Rebel SLR camera I feel that I was back to where I had been with film cameras with the added ability to enhance pictures through the use of my computer skills.

Year Camera X x Y (Resolution Mpixel)
File Size Cost Accsrs Total

1995 Kodak DC25 493 X 373 (0.18 Mp)
50k $250 $100 $350

1996 Kodak DC260 1536 X 1024 (1.57Mp)
400k $750 $300 $1050

1998Kodak DC265 1536 X 1024 (1.57 Mp)
400k $750 $500 $1250

2000 Canon Pro90 1856 X 1392 (2.58 Mp)
400k $1100 $800 $1900
Continue to use for 38-380 lens

2003 Canon A80 2272 X 1704 (3.9 Mp)
450k $350 $100 $450
(Point and Shoot Camera– 3X Zoom– 43-130mm)

2003 Canon Rebel SLR 3072 X 2048 (6.3 Mp)
800k $999 $200+ $1200+
(up to 30—90 MM Zoom lens interchangeable)

2004 Canon Rebel SLR 3072 X 2048 (6.3 Mp)
800k lens only $350+ $400+
(44—480 MM Zoom lens not stabilized)

2007 Canon Rebel XT SLR 3456 X 2304 (8 Mp)
1200k Body & Lens $500+ $400+
(44—480 MM Zoom lens stabilized IS)

2009 Canon Rebel T1i SLR 4752 X 3168 (15 Mp)
1200k Body & Lens $900+ $100+ 1080 video
(Short Zoom IS & 44—480MM Zoom lens IS)

SUMMARY OF THE CAMERA TO BUY

(1) Use the film camera you already have. Take the film to the drug store, have them develop and digitize it (the way I started).

(2) Buy a digital camera, and use commercial photo editing and printing services (same price as film now).

(3) Buy a digital camera, software, and a photo friendly printer.

In (2) and (3) The Digital Camera should have:
AA Rechargeable Batteries as The Power Source *(NiMH or Lithium; at least 1 spare set with charger)*
An optical View Finder
SD or CF Memory Media
Resolution with minimum of 2000 X 1600 pixels *(one number must be at least 2000– 3.0 MegaPixel)*
Optical Zoom of 3X
Recognizable Brand Name
LCD Color Display
Memory Card of >1 GB
Built In Flash

The Photo Editing Software should:
Cost less than $150.
Have an Album Feature
Have the ability for 50 undo's
Be one that other people you know use (then you can get help)

The Printer should:
Be an Ink Jet
Be a Brand Name
Have available ink supply
Have at least two cartridges (1 for black and 1 for color)
Have the ability to feed heavy weight paper
Be single purpose (not combination)

The above recommendations are made keeping in mind simplicity, performance, and lower operating costs for amateur use. Deviation from them would result in higher costs . Buy what you can enjoy!

If you have any additional questions, E-Mail me at BALLGL@JUNO.COM and I will try and assist.

Check out some of my digital illustrations at my Web Site: **www.BALLGL.com.**