

# Digital Imaging...A New Beginning

G . W m . B u c h a n a n , F P S A , F G D C C C

**H**ave you been intrigued by those unusual and creative images in magazine advertisements and wonder how they were created? Would you believe you could create the same type of images on your home PC? Hollywood and graphic artists have been using these techniques for years. Only until recent years has this technology become available and affordable for the photographer. This program will present some basic information about getting started in a new and exciting field of photography.

There are some people who believe that digital or electronic enhancement of photographic images is taboo and is not considered true photography. They are entitled to their opinions but they're missing the fun. Sure, you can salvage an underexposed or off color image. However, the computer does not have the creative eye and mind of the photographer. Additionally, once one gets over the urge to be creative with every image they load on their PC, we begin to develop the skills of "Image Enhancement."

As the famous cable TV cook Emeril Lagasse would say, "Let's kick it up a notch." That's where I have gone in recent years. I have refined simple images and created new ones, which closer resemble what I saw, and not what the camera or the film recorded.

**Ansel Adams once wrote:**

*"Photographers are, in a sense, composers and the negatives are their scores. In the electronic age, I'm sure that scanning techniques will be developed to achieve prints of extraordinary subtlety from the original negative scores. If I could return in twenty years or so, I would hope to see astounding interpretations of my most expressive images. It is true no one could print my negatives as I did, but they might well get more out of them by electronic means. Image quality is not the product of a machine, but of the person who directs the machine, and there are no limits to imagination and expression."*

Consider the fact that Ansel Adams passed away April 22, 1984. With that in mind, let's explore where we go from here.

## **1 What Type of PC Do I Need? – What will your budget allow?**

*I compare buying a computer to buying a new car in the 70's. How much horsepower do you want? How fast do you want to go? Do you want a "Muscle Car" or something that will get you the church on Sunday?*

- a) **Computing Speed** - Most home computers today are of sufficient speed (processing power) to handle the majority of imaging software. Six years ago, I began with a Dell Pentium 166 MHz computer with 64 megabytes of RAM. It handled most tasks with ease. However, by today's standards, this is a dinosaur.

I would recommend the purchase the fastest computer that you can afford. At this present time a PC with a Pentium 4 processor in the range 1.2 - 1.3 GHz is fast enough to handle most image-editing programs. As a rule of thumb, it's wise to buy two or three steps below the fastest PC for economical reasons. Higher speed computers are worth the added cost if it's within reason and budget.

- b) **RAM** - (Random Access Memory) Computer RAM is the ability of the computer to store information while you are performing specific tasks. This is where the program and image information is stored while you work on the image. The more RAM, the more information you can store. I recommend a bare minimum of 128 MB of RAM. If you can afford more, it's worth it. 256 MB would be a great starting point with room to grow. Ideally, I would go for 512 MB of RAM. Memory is inexpensive and, if you are purchasing a new computer be sure the memory is expandable to meet your future needs.

As image-editing programs become more sophisticated, they will require more RAM. That is becoming evident with some of the newer programs. The recently released Adobe Photoshop 7.0 requires a minimum Pentium III processor, Windows 98 or newer, 128 MB RAM, and 280 MB of available Hard Disk space. All software manufacturers will state on the package the minimum computer requirements required to run their programs. Be aware of this when you're considering the purchase of new software.

- c) **File Storage** - The easiest way to transport your images to a graphics lab is on some type of portable storage media. The most cost effective method today is a recordable CD, or what is called a CD – RW. I originally used an Iomega Internal Zip Drive. The cost of this unit was about \$75.00. They are available as internal or external drive units and are easy to install. If you are comfortable opening up the PC and installing new hardware, you can retrofit a Zip Drive or a CD-RW.

If you're purchasing a new computer, you may want to have an additional drive installed. I have my PC set up with a DVD drive. This allows me the ability to copy from DVD drive to CD-RW drive.

The Zip storage media will hold 100 MB or 250MB of information. That will mean many images on one disk. The Zip recording media costs about \$10.00 each. The average cost of a premium grade CD-RW is about \$1.25 each. It will also store about 650 MB of images. This is about six times the storage capacity of Zip drives that makes the choice quite simple. CD and Zip media are accepted by most graphics labs and service bureaus.

- d) **Internet Connection** You may ask why I need an Internet connection. That's the fun part. You can share your images with friends and relatives via the Internet, and there are numerous web sites available to Digital Imagery. I will mention a few of my favorite web sites at the end of the notes.

- e) **Color Printers** The quality and technology of color printers available today is most impressive. Only our budget and end use limit us. The Epson 1280 is a terrific ink-jet color printer capable of photo quality images up to 13" x 44" panoramas. This unit is in the range of \$500.00. Search the Internet for best prices. The Epson 1280 uses a six ink jet print head that produces amazing color prints. The ink is a dry based ink and is subject to fade in time. Improvements in paper have extended the range of these images to twenty years and beyond.

If you want archival inks, Epson makes a model 2000 color printer that will yield prints that will last over 100 years.

- f) **Print Papers** You should look at the various options available in printing paper. All printer manufacturers make specialty paper for their printers. However, some of the photographic print paper manufacturers have recently introduced ink-jet print papers with surfaces similar to photo papers. I have used the Luminos papers with textured surface similar to watercolor paper and recently used their Pearl Surface paper. Ilford has also introduced ink jet papers with surfaces similar to their chemical photographic papers like Galleries and other surfaces. Both products are outstanding.

- g) **Graphics Tablet** A little known tool that can be extremely useful is a Graphics Tablet. These electronic devices connect to your PC and are used in lieu of a mouse. Try to imagine the dexterity needed to follow the outline of an object with a mouse and then consider the ease of a graphics tablet and a pen. Man learned to write and draw on cave walls with a brush or pen, not a mouse. Calcomp and Wacom make these tablets. The new generation Wacom Tablets are extremely versatile. Sizes range from a 4" x 6" to 12" x 18" work area. I find the Wacom 6" x 8" tablet very useful.

## **2 What would I consider the ideal computer set-up?**

If I had the choice to make today, I would definitely consider added RAM over processing speed. The latest technology and processing speed will cost big bucks. However, as I mentioned earlier, consider buying two levels down from the latest top processing speed. If the latest top speed is a Pentium 4 at 2.4 GHz, look at the cost of a 1.6 or 1.8 GHz. You will pay about \$500.00 more for the top speed.

Spend the additional money on added RAM. I would not consider purchasing anything less than 128 MB of RAM. The added cost to go to 256 MB or 384 MB would be minimal, and the added RAM will increase your processing time. Add to this a 40 GB hard drive and you can store many images.

I would also consider a DVD drive and a CD-RW. You will gain the flexibility in copying from one drive to another and have the added speed of the DVD. I recently priced a Dell PC with these options without a monitor and the cost was less than \$2,000.00.

Furthermore, I did not replace or discard my present 166 MHz PC. I set up a home network and use the older PC for word-processing, spreadsheets and my Quicken financial books. The new PC would serve as the Graphics PC only. I now have the best of both worlds. The two computers are networked with a switching device so I use one monitor, keyboard and mouse. The Wacom Tablet is connected to the newest Graphics PC.

## **3 How do I get my images into my PC?**

- a) The least expensive method of getting slides or other images into your PC is to have them transferred to PhotoCD. In the past, I had used Kodak for this service and the prices were quite reasonable. However, this service has been discontinued. There are image transfer services available locally and out of town that you might want to check out.
- b) If your budget will allow the purchase of a slide scanner, the Nikon Super Cool Scan 4000 is an outstanding slide scanner. The cost of this unit is in the range of \$1,600.00. It comes complete with image correcting software, Digital ICE, which in itself is a marvel of modern technology. There is also software for this scanner available on the internet. It is called, VueScan. It is available as a download from [www.hamrick.com](http://www.hamrick.com) and the cost is about \$49.95. It is a very good program and I find it much easier to use. They will allow a trial download version.
- c) A third method I use for the transfer of a photographic image to my PC is a flatbed scanner. I have had a lot of success transferring family pictures and similar images into my PC for editing purposes. I own a Microtek E6 scanner that has a 600 x 600-dpi resolution. When I bought this unit, it came bundled with Adobe Photoshop 4.0. For what I paid for the scanner and software it was like getting the scanner for free. The Microtek scanners have been highly rated for ease of use and color accuracy.

## **4 What Image Editing Software Should I Buy?**

The Image Editing software market offers many choices. They range from the very basics to the latest technology. Let us explore some of the alternatives.

- a) **Adobe Photoshop 7.0** – Adobe Photoshop is considered the standard of the graphics industry. It is the standard to which other image editing software is judged. The one difficulty with Photoshop is the extreme learning curve. It is a very powerful tool in the hands of an experienced user. However, with a little help, one can master the basics. The recent improvements have made this version very attractive.

*Consider this: Photoshop is like a musical instrument you play at least an hour a day just to keep your current skill level. Working with it 8-12 hours a day, 5-6 days a week, you become an expert.*

- b) **Photoshop Elements** – Photoshop Elements offers unique features designed specifically for amateur photographers, hobbyists and business users. A powerful image-editing program provides the user some of the features of Photoshop without the cost of the full version. If you should ever decide to upgrade to the full version, your initial investment would be applied to the purchase of the upgrade. Not a bad deal when you consider the changes that are made in image editing software. Cost approx. \$99.95
- c) **Procreate Painter 7.0** – This program is another tool for the graphic artist. As the name implies it can perform an endless variety of artistic functions. It allows the user to define the type of paper media and art media from chalk watercolors, oils etc. This program is also a very powerful tool and requires a lot of study, patience and hard work. The results can be very effective. I have recently started using this program and found it to be very intriguing. However, alas, it will take some time to learn. Cost approx. \$ 289.00
- d) **Micrografx Picture Publisher 10** – Micrografx was recently acquired by Corel. This program has many of the features found in Photoshop and Painter. It is very useful in creating Web Pages. I have used this program for the past couple of years and have been extremely satisfied with its performance. Cost \$149.00
- e) **Jasc Paint Shop Pro 7.0 (10<sup>th</sup> Anniversary Edition)** – Jasc Paint Shop Pro is another high power image editing software package. It is a menu driven Photoshop like interface with a ton of tools and web graphics at a low price. There are over 75 special effects included, and with the Anniversary Edition, they have added some special features. The retail price of the software is approximately \$99.00. Generally, the manufacturer offers \$30.00 competitive product rebate.
- f) **PhotoImpact 7.0** – This moderately priced program has a lot of features and some neat special effects. You can add page curl, fireworks, lighting, bubbles and a host of creative effects. The cost with dealer rebates is approximately \$89.95.
- g) **Professor Franklin's Instant Photo Effects** – This is a fun package for the beginning user. The emphasis of this program is on special effects. The routine tools may be limited, but the stylish finishing touches abound. There is a wide range of specialty frames, borders and edge treatments. It also has the ability to transform an image to look like a painting. It is a fun companion program to Photoshop for some of its features. The retail price is \$29.95
- h) **Plug-ins** – Programs called “Plug-ins” are designed to operate with a host program such as Photoshop, Painter and others. They provide an endless variety of special effects and features for image enhancement. There is Plug-ins for a variety of graphic frames or surrounds on an image, specialty plug-ins for artistic and creative backgrounds and textures. If you have access to some of the graphics magazines, check out some of these interesting tools. Some of the popular Plug-ins are Kai's Power Tools 3, 5, and FX Edges.

## 5 Now That I Have All The Tools, Where Do I Learn How To Use Them?

- a) I'll be the first to admit that it will require a lot of determination on your part to learn how to use these new tools. Let's be realistic, did you become an accomplished photographer overnight? Of course not. You had to work at it, read books, studied the work of others, and perhaps even took some workshops in photography. I'm still learning about photography, image enhancement and manipulation.
- b) There are some very good learning tools available for digital imaging. There are an endless number of books available on Adobe Photoshop and other programs. These books include CD-ROM disks with tutorials.
- c) Check out the Internet. Adobe has a web page devoted to "Tip & Tricks"  
[www.adobe.com](http://www.adobe.com)
- d) Ziff Davis Publishing has a web site where the user can sign up for yearly "Tutorials" for Adobe Photoshop. The annual cost is about \$69.00 a year and is certainly worth looking into. Contact: [www.zdu.com](http://www.zdu.com)
- e) PEI Magazine is an excellent source of learning. Their web site is [www.PEI.com](http://www.PEI.com)
- f) Check out a web site related to and for Picture Publisher users [www.webattitude.com](http://www.webattitude.com). This is an excellent resource with many links to other sites.
- g) Check out the PSA web page at [www.psa-photo.org](http://www.psa-photo.org). They have an Electronic Imaging division with lots of helpful hints, tips, and links to member galleries and other interesting web sites. If you are a PSA member you can also rent "How To" video tapes at a reasonable cost.

## 6 What file size do I need to work with?

- a) Others and I have found that electronic files in the range of 4-5 MB are sufficient for obtaining good quality images. However, now that I have a faster and more powerful PC, I find myself working with image files in the range of 18 - 50 MB. If I'm working from a Kodak PhotoCD, I'll use the maximum resolution of approximately 18 MB. You should be able to get at least 20 images on a Zip Disk. If you have a CD - RW you can store many more.

## 7 How do I get my computer files converted to color slides?

- a) Your electronic images will be stored on the removable Zip Disk or other removable storage media. This is delivered to your Graphics Lab for transfer to color slides. The cost of this service is about \$2.25 - \$5.00 per slide, depending on the vendor. I have used Express Slides of South Euclid, Ohio. They have been very reliable and of high quality. [www.exslides.com](http://www.exslides.com)
- b) Also, check out PSA member: Ellis M Zacharias, APSA.  
3300 N 7th St., Broken Arrow, OK 74012-8200  
E-mail: [lliszacharias@earthlink.net](mailto:lliszacharias@earthlink.net)

## Information Sources and Web Sites of Interest

Adobe (Photoshop 7.0) – [www.adobe.com](http://www.adobe.com)

Corel / Procreate Painter 7.0 – [www.procreate.com/](http://www.procreate.com/)

Picture Publisher 10 – [www.micrografx.com](http://www.micrografx.com)

Jasc Paint Shop Pro – [www.jasc.com](http://www.jasc.com)

Professor Franklin's Instant Photo Effects – [www.swsoftware.com](http://www.swsoftware.com)

PhotoImpact 7.0 – [www.ulead.com](http://www.ulead.com)

George Lepp - <http://www.leppphoto.com/>

**Gold CD Media** - [http://www.tssphoto.com/sp/dg/kodak\\_cd.html](http://www.tssphoto.com/sp/dg/kodak_cd.html)

**George Lepp: Digital Darkroom Questions**

To subscribe to the list, send an e-mail to [mailer@leppphoto.com](mailto:mailer@leppphoto.com) with the subject: SUBSCRIBE DDO

**Instruction & General Interest**

[www.kitgraphics.com](http://www.kitgraphics.com)

[www.pankpages.com](http://www.pankpages.com)

[www.webattitude.com](http://www.webattitude.com)

[www.theboondocks.org](http://www.theboondocks.org)

[www.photoshoptips.com](http://www.photoshoptips.com)

[www.nebulus.org](http://www.nebulus.org)

[www.andyart.com](http://www.andyart.com)

[www.zdu.com](http://www.zdu.com)

<http://www.digitalmastery.com>

[www.russellbrown.com](http://www.russellbrown.com)

**Photo Electronic Imaging Magazine** - [www.peimag.com](http://www.peimag.com)

**PCPhoto Magazine** – [www.pcphotomag.com](http://www.pcphotomag.com)

**eDIGITAL PHOTO Magazine** – [www.edigitalphoto.com](http://www.edigitalphoto.com)

**PSA & PSA Electronic Imaging**

PSA Home Page [www.psa-photo.org](http://www.psa-photo.org)

PSA Electronic Image Division [www.psa-eid.org](http://www.psa-eid.org)

**Graphics Labs**

**Imagers**

Digital Production Center  
1575 Northside Dr., Suite 490  
Atlanta, GA 30318  
800-774-7080  
*Color Slide Transfer to PhotoCD*  
\$0.90 ea. Plus \$9.00 for CD  
[www.imagers.com](http://www.imagers.com)

**Express Slides**

4553 Emerson Rd.  
South Euclid, OH 44121  
800-238-4189  
[www.exslides.com](http://www.exslides.com)  
E-mail [william@exslides.com](mailto:william@exslides.com)

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74012-8200  
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**Photoshop Books**

Check [www.photoshopbooks.com](http://www.photoshopbooks.com)  
[www.amazon.com](http://www.amazon.com)

**Adobe Photoshop 6.0  
Classroom in a Book**

Adobe Press  
\$45.00 / 31.50

**The Photoshop 6 Wow! Book**

By Linnea Dayton & Jack Davis  
Peachpit Press  
\$49.99 / 34.99

**Photoshop 6 Artistry**

By Barry Haynes & Wendy Crumpler  
New Riders Publishing  
\$59.99 / 41.99

**Adobe Photoshop 6.0 Studio Techniques**

by Ben Willmore (Good teacher, see website)

\$44.99 / 31.49

**Adobe Photoshop Elements**

A visual introduction to Digital Imaging  
by Philip Andrew, Martin Evening  
\$20.99 / 20.99

**Adobe Photoshop Elements  
One-Click Wow!**

by Jack Davis, Linnea Dayton  
\$29.99 / 20.99

**easy Photoshop 6.0**

by Kate Binder  
Que Corporation  
\$24.99 / 17.49  
(Very good "Here's How" instruction)

**Adobe Photoshop 6.0 for Photographers**

An Illustrated Guide to Image Editing  
and Manipulation in Photoshop  
by Martin Evening  
Peachpit Press  
\$44.99 / 31.49

**Photoshop Restoration & Retouching**

by Katrin Eisman, Steve Simmons  
\$49.99 / 34.99

**Photoshop Down & Dirty Tricks**

By Scott Kelby

\$39.99 / 27.99

**Deke McClelland's Look & Learn  
Photoshop**

By Deke McClelland  
\$19.99 / 13.99