



## Notes on Camera Equipment from PMA Photography Tradeshow, March '03



Example of output you can expect from the Foveon sensor, Sigma SD9 digital camera





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## Introduction

Nicholas Hellmuth and Martha Martinez represented FLAAR at PMA tradeshow, March '03. It took half the three days to take pictures of what was in the hundreds of booths. Another major chunk of time was eaten up with technology discussions upstairs in the technology suites or behind the scenes inside the booths. Being editor of a popular review site on digital photography got us entrée to lots of back rooms. As a result it was tough to have much time to do hands-on with the nice equipment.

Fortunately Nicholas had just spent 6 days at Photokina in Germany and a full day at PhotoPlus Expo East in New York just a few months ago.

Our format for reporting on tradeshow is evolving. The actual descriptions of product details is now provided in the 30+ topical reports in the FLAAR course on digital photography. Thus this tradeshow report is a précis and abstracts of that course. The course is available at least twice a year. Details are on [www.digital-photography.org](http://www.digital-photography.org)



## Medium Format Digital Backs

Imacon Ixpress continues to claim 96 MB files which we believe is misleading. That is the count at 16 bits. When you go to print you have only 8 bits and probably only 47 or 48 MB. A recent study by color management expert Jim Rich determined that extra bits were not as useful as claimed. Essentially the extra bits look good in theory, but when you print the resultant image, the viewer simply can't tell the difference.<sup>1</sup> Jim Rich is the author of several acclaimed books on Adobe Photoshop.

PhaseOne and Jenoptik exhibited their medium format backs. The one we have experience with is the Pro Back Plus from Kodak. Results were outstanding. The Pro Back 645 is even more portable (Plus is already better than any of the competition, but 645 is best of all). If one-shot is enough, and if you want a price that is half that of PhaseOne, we highly recommend the 16 megapixel Kodak Pro Back, either version.

Sinar included their 22 megapixel back in full operation. Sinar is the most prestigious camera in the world. If you were to start from scratch and build an entire studio with Sinar-Bron equipment, the total cost could easily reach \$140,000 or more especially if lighting is included.

People were already talking about Fuji's new proposed 20 megapixel chip for medium format cameras. This chip will be 37 x 52 mm in size. This chip is destined to revolutionize the world of digital photography when it appears.

However beware of other companies trying to jump on the bandwagon and claim they have 20 or 22 megapixel cameras. That is vaporware in most cases. The only company with a chip this size which functions is Sinar.



For more information on medium format digital backs, you can look at the FLAAR course on digital photography; click here for auto-download of abstracts, free and in full color

1. The Photoshop High-Bit Advantage: Fact or Fiction," Jim Rich, Digital Output Magazine, [www.digitaloutput.net/back%20edit/apr03/feature2.html](http://www.digitaloutput.net/back%20edit/apr03/feature2.html)

## Medium Format Cameras to hold the Digital Backs

We discretely asked around to get the pulse of which 645 class of medium format camera was a good choice to hold a digital back. The consensus was Contax offered the best physical equipment for the most reasonable price. Another plus is that it's a mature product. The Hasselblad 645 is brand new, a first model for them at that size (lenses are made for them by Fuji). Cost for the Hasselblad is about \$6,000, a bit steep. The Contax 645 varies in price between \$2,000 and \$4,000, so a lot less than the Hasselblad.

If you already have a traditional 6 x 6 cm Hasselblad, no need to switch to 6 x 4.5 format. You can continue using most traditional medium format camera and lenses with digital backs.

Mamiya is another option, but we have never had the opportunity to use any Mamiya product.

On the subject of medium format, Contax is the first time I have seen a vacuum film holder system for medium format. I have seen Schneider and others for large format film. I used the Sinar adhesive film back holder for 8x10, but actually medium format film is not very flat in the traditional film holders if the roll has been sitting all wound up for very long. Of course with a digital sensor you don't need anything to do with resolving problems of using film.

For more information on Contax cameras or medium format digital backs, contact ([dhunt@parrotcolor.com](mailto:dhunt@parrotcolor.com)).

### Large Format digital backs

Although Anagramm, BetterLight, Kigamo, and PhaseOne all offer tri-linear scan format, so far BetterLight won over all others several years in a row at the DIMA show. So far the results of the '03 shootout have not been widely divulged (DIMA out of date).

Since we use BetterLight ourselves we know its software best. It is user friendly and can be learned in less than a day. We know since we teach digital photography. Admittedly practice to make yourself perfect takes a bit longer. Several of our students have chosen BetterLight after learning about them during the course.

BetterLight offers sophisticated panoramic option with their Pano/WideView rotating tripod head. Museums can use the same system to do circumferential rollouts of round art objects. We show how this is accomplished on [www.maya-archaeology.org](http://www.maya-archaeology.org).

### Large Format Cameras (to hold digital backs)

FLAAR has two 4x5 Cambo Ultima bodies; one is the regular version; the other is a special model for a repro camera. The repro version does not need tilts and swings since it wants only to look straight down.

The Malta Centre for Restoration ordered a Sinar p2, admittedly very impressive, but almost twice the cost of a Sinar X or Cambo Ultima.



For more information on medium format digital cameras, large format digital backs and cameras, you can look at the FLAAR course on digital photography; click here for auto-download of abstracts, free and in full color

Mike Collette suggests that another model of Cambo camera is even less expensive than the Ultima and actually offers a few advantages. Mike is the inventor of the BetterLight pano, rollout, and overall BetterLight system, [mike@betterlight.com](mailto:mike@betterlight.com).

### **Large Format Reprographic System**

The Cruse scanner camera system is unique. It is a turnkey solution, not a component system like a 4x5 camera. The Cruse comes all fully outfitted to do everything. FLAAR has a Cruse camera and have used it successfully and with no problems for almost two years.

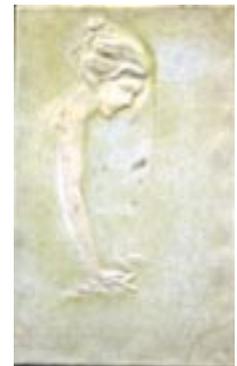
Now Cruse GmbH has developed a novel technology that enables the photographer to scan from above and sideways simultaneously, so to speak. This was initially developed to capture the raised grain of hardwoods for companies making veneer. It turned out that the same clever system could also catch the pattern of canvas and watercolor paper, and the depth of oil painting as well.

My only reaction is wow! Here is a really outstanding digital capture system.

If you are a museum, an industrial situation, military or police, or a fine art giclée studio, a library with maps and rare books, you will find a model Cruse scanner camera ideal to satisfy your needs.



Above, Cruse reprographic scanner at PMA 2003. Below, results of Cruse scan



### **Point and Shoot Digital Cameras**

We cover only cameras of 4 megapixels and above, preferably 5 megapixels. In this range the best three are the Nikon CoolPix 5700 (the most compact), the Sony F717, and the Minolta 7Hi.

I had a Nikon CoolPix 5000 and have seen professional quality output from two people I know who have the CoolPix 5700. The 4x lens of the model 5000 was not really enough. I recommend 7x hence the Nikon CoolPix 5700 or other brands with comparable lens. Downside of the Nikon is its flash unit pops up to flash even when you may not want it to.

Remember that digital zoom factors are useless (they are misleading figures). Only optical zoom factor counts.

Olympus and Pentax have not been very active in the 5-megapixel range until recently. Olympus offers a Camedia E-20N. They label it a SLR which we find misleading since the lens is fixed. Lens is only 4x zoom, which is generally not enough. However Olympus itself offers macro, telephoto, and wide angle lens attachments which are matched to the lens which is fixed to the camera.

At a recent IMI seminar on digital photography, after my lecture the Pentax representative identified himself and said their digital camera would be available soon. Word on the street is that September is the

most likely date. Will be tough for Pentax or Olympus to survive with Nikon, Canon, and Minolta so well entrenched. Agfa already got frozen out of the digital photography market, as did Leica and Rollei. Leica simply rebrands a Panasonic; what a long fall down for the elite German brand name.

If you have a point-and-shoot camera and desire to do serious macro or telephoto shooting you will need an auxiliary lens. No, you can't change lenses, but you can modify the lens with attachments. Naturally the results are a tad fuzzy, but are okay for use on the internet and enlargements to 11 x 17 inches. Kenko is one company that makes such lens accessories.

### 35mm SLR digital cameras

If you sell your photographs then your clients will not want to see you with a point and shoot camera. Sorry. You need at least a 35mm SLR with interchangeable lenses.

We cover the Sigma SD9 in full detail in a separate report. We have now used this camera for an entire month around the islands of Malta and Gozo, and then on a weekend shoot in Arizona. Works great. I found the Sigma easier to use than the Nikon D100, which I also have.

The 13 megapixel Kodak DCS Pro 14N attracted a lot of attention at PMA and at Photokina before that. Question is whether the sensor and software are finished yet, and ready for professional use. Many high-end digital cameras nowadays are announced months before they are really finished. Early users become unwitting beta testers, at their own cost of time and money. But at least Kodak realizes that pros want full-size 35mm. The question is whether they will put up with the downsides of a CMOS sensor (digital noise). File size claimed is 41 MB in TIF format. That is enough for an enlargement 24 x 36 inches. Unfortunately the Kodak 14N has been creamed in reviews ([www.luminous-landscape.com](http://www.luminous-landscape.com)).

The reviews on luminous-landscape appear excellent; unaligned and non-commercial.

However on other web sites, be wary of pseudo-reviews. Pseudo-reviews look good but are devoid of meat. One pseudo-review site is little more than dozens of impressive photographs of the top, bottom, and sides of the camera, and then regurgitation of the camera manufacturer's specs. You don't know whether the person even used the camera and certainly don't find out whether the reviewer is willing to upset the manufacturer with the truth. Even more upsetting is a list of five different places to buy the product before the reviewer has warned you of everything the product won't do.

The Fuji FinePix S2 pro has an excellent reputation. Many photographers are willing to pay the extra price over the Nikon D100. Considering they are both Nikon bodies to some degree, and definitely both Nikon lenses, it is noteworthy that Fuji has such a faithful following. Just beware of adver-



Sigma camera both at PMA 2003



For more information on Sigma SD9, Point and shoot and 35mm SLR digital cameras, you can look at the FLAAR course on digital photography; click here for auto-download of abstracts, free and in full color

tising claims pumping up the pixel count with recording pixels vs actual pixels. Advertisements for Fuji cameras have been criticized for harping on a pixel count that may be misleading to buyers. I would need to see an independent resolution and enlargement test before I accepted any claim. This is the sort of test any university could make (including us) but our staff are already over occupied with other assignments.

The Fuji does accept two memory cards, but since you can use only one at a time, the benefit is minimal.

Canon camera bodies and lenses are accepted by professionals. However Canon digital cameras tend to use CMOS sensors. Nikon and Fuji use CCD sensors. Foveon uses CMOS but captures 100% of Red, Blue, and Green values. Canon interpolates, as do Nikon and Fuji.

In the otherwise attractive Canon brochures, any part of the photo which is dark is also featureless, as though the CMOS can't capture much shadow detail. Shadow areas are filled with digital noise instead of picture detail. Of course this is typical of CCDs as well, but it seems more noticeable with a Canon, even on their EOS-1 Ds.

The Canon EOS-1 Ds RAW file size is stated to be 11.4 MB. They do not give the TIF file size at 8 bits in the brochure I have. My question would be, why is the file size so low when Kodak claims 41 MB for their 35mm sized sensor? I get more with my Nikon D100 with less than full-size CCD sensor. Nonetheless, in one of the first tests of the Canon vs the Kodak, the output from the Canon was vastly superior ([www.luminous-landscape.com](http://www.luminous-landscape.com)). However the "raw" file from the Canon was clearly not a true raw file. This file has been noticeably imaged, including excessive Unsharp masking applied. That is a no-no for a Raw file.

## QTVR

Traditional QTVR panoramas are made from overlapping shots with a 35mm camera or point-and-shoot. But several companies developed an immersive system that shoots into a mirror. Only one photo is needed (from the ground looking straight up into the mirror). The software then creates a panorama view that is relatively undistorted. IPIX is one of many companies with this kind of system. See the FLAAR leaning unit on panoramas and QTVR for mention of others.

IPIX has irritated thousands of photographers. First, IPIX sues anyone offering a similar camera. But worse, IPIX is infamous for demanding \$25 for every picture you take with their camera. Imagine Bill Gates demanding \$25 every time you used Microsoft Word to write a simple letter.

For this reason we mention Kaidan and EyeSee360 system, e-mail [info@kaidan.com](mailto:info@kaidan.com). With Kaidan products you can take as many photos as you like and you don't have to pay Kaidan or anyone else a penny.



Canon exhibit booth, PMA 2003

## Filters

Ten years ago photographers were burdened down with glass, resin, and other kinds of filters. Filters for lenses, and for lights.

Today Adobe Photoshop and nik multimedia can recreate almost every imagineable filter effect digitally. However every filter effect you make within any software forever alters the basic integrity of your TIF file.

It is entirely a myth that “every copy of a digital file is identical to the source.” Because any time you do any tweaking (such as apply a filter), the image looks better on the surface but has been wrenched inside to achieve the effect. The minute you save your “improved” version, you have forever destroyed your raw original.

Unless of course you resave with a new name. Unless you keep the original on a CD-R disk which can't be over-written. So yes, if you copy a raw file, with absolutely no changes, the copy is identical to the original. However millions of photographers have confused that mantra with making changes, and thereby wrote over their precious originals, destroying them the minute they pressed the SAVE option.

For this reason, I would recommend that digital photographers consider still doing some basic filtering on the camera lens. You should especially use

- Polarizing filters (must be circular; linear polarizers don't work with digital sensors)
- Graduated neutral density filters
- Infrared filters (which for large format means you remove the IR blocking filter, not add a red one)
- Split field filter
- Sunset filter

The major filter manufacturers are B+H, Cokin, Hoya, Lee, and Tiffen. The filters we happen to use are from Lee Filters. We see them at all the tradeshow: PMA, PhotoExpo East, and Photo-kina. They have the nicest catalogs. To obtain a complete catalog of Lee Filters fax your request to (818) 238-1228.

Tiffen had no catalog at all.

Hoya filters tend to be glass (as opposed to gelatin or resin for other companies; sorry, my PhD is not in chemistry). Hoya has a nice friendly catalog. Looks like they had fun doing the shooting. I noted mention of a polarizing sheet. You need this for polarizing your lights. Hoya makes cleaning cloths too.



Just remember: with film you had to use color correction filters. With a digital camera, just do a custom white balance or gray balance (do not do auto white balance; automatic is usually unreliable). A custom white balance will normally provide near flawless color, with no color cast. Far better than any gelatin or resin filter.

All digital cameras, if used outside, need a screen-shade, to screen your LCD monitor on the back of your camera. Lee Filters makes these.

Kenko offers a wide variety of add-on wide angle and telephoto lenses for point-and-shoot digital cameras.



Cokin filters are made in France. French products have sort of a backlash against them these days. Not Cokin's fault that the French government was using Iraq oil money to enrich French corporate profit. No wonder France wanted Saddam to stay in power. Anyway, Lee Filters (which I believe is American or English) has most of the same filters that Cokin does.

### CompactFlash Memory for Digital Cameras



Foveon provided FLAAR a Sigma SD9 during PMA to take to Malta to test for an entire month. But they had no extra memory cards. So just before we left for the airport we went searching for a memory card.

The pleasant people at SimpleTech provided one on the spot. Very brave, since they had never seen us before.

CompactFlash memory cards are tough to review. Every company claims the fastest. Frankly we have never timed the cards. That would be rather an expensive test that would require a budgeted contract lab test. Actually all we want is a Compact Flash card that works day after day. SimpleTech makes CompactFlash in sizes up to 1 GB. Although we like the IBM microdrive, it has moving parts (which means the parts can grind to a halt if dropped). CompactFlash cards are potentially more robust.

SimpleTech offers a FlashLink "All-in-One" USB reader which allows you to read SmartMedia, MemoryStick, Microdrive in addition to CompactFlash and other popular digital camera memory card formats.



For more information on Storage media: capture and transfer, you can look at the FLAAR course on digital photography; click here for auto-download of abstracts, free and in full color

You can also get a similar product as a PC card adapter, "FlashLink 4-in-one" which reads all thin cards so not for CompactFlash or IBM Microdrive. Available from SimpleTech. Contact (800) 367-7330, x 8219, Patricia Harriman, public relations.

### Batteries for Digital Cameras

We could not find a AA battery charger at Wal-Mart that worked on European current. So ended up at Malta with no way to charge our batteries. Noted several solutions at PMA but had no time to visit the booths and get samples for a review.

We noted quite a host of battery companies, such as Harding Energy Inc (Quest). However it is difficult to judge any one battery over another without having them to test in person. As a result we do not yet have any specific recommendations.

Lenmar Enterprises (800)424-2703, [www.lenmar.com](http://www.lenmar.com); PowerEx, (909)392-1568, [www.mahaenergy.com](http://www.mahaenergy.com); and Varta (Rayovac) are a few of the many offerings in batteries and chargers. A European company is also entering the market: UNIROSS, e-mail [ed.mccarthy@uniross-batteries.com](mailto:ed.mccarthy@uniross-batteries.com).

The rising star in digital batteries is [www.DigitalCameraBattery.com](http://www.DigitalCameraBattery.com). They make heavy duty batteries for medium format digital backs and large format systems such as BetterLight.

### Accessories

MK Digital Direct offers Photo@box and "The Box Imaging System." These are intended to produce almost shadowless lighting of small objects with small digital cameras. The intent is quick, low-resolution shots for the Internet. Toll free (800) 258-6230.

### Color Management for Digital Cameras



i Correct professional software CD

Color management for inkjet printers is covered in Part II. Here in Part I we mention color management for digital photography only.

If you shoot in a studio, where the lighting setup remains constant, you can set up one profile and use it all day.

If you shoot outside, you can do one profile as long as the sunlight remains the same.

But if you move your lights around inside, or it gets cloudy outside, you have to re-profile. For this reason most photographers in the past did not even attempt to profile their cameras. Of course they did not know what to use or how to use it either (I include myself in this category).



Monaco color management software

Today you can start off with "inCamera" profiling software from Pictographics. They have offered digital camera profiling software for over a year. One professional photographer we asked said it works fine. We have other software from Pictographics (iCorrect) and it functions exactly as advertised. The person we hired to run an independent test on iCorrect said it did several maneuvers better than Adobe Photoshop, and was more convenient to use. Thus I would expect that inCamera will be as good too.

Now Monaco offers Monaco DCcolor. We don't yet have it (have two sets of Pictographics, one for each of our partner universities), but as soon as we can obtain a copy of Monaco DC color we will report back. Should work well with our BetterLight and other digital cameras. All the other products by Monaco Systems are high-end professional software that have become international standards for color management.

A plug-in for Adobe Photoshop has been announced by ColorEyes. It uses a MacBeth ColorChecker. Available from Integrated Color, tel (617) 513-2133.

## Scanners

Umax has not exhibited at many tradeshow recently. Polaroid is out of the scanner business (they rebranded Microtek scanners from Taiwan). Canon and Minolta offer scanners but most people tend to go for Nikon in that range.

Microtek was one notch below Umax. Both claim more of everything; occasionally rather shamelessly. Epson actually makes a nice entry level flatbed scanner in its Epson Expression 1680. Combined with SilverFast software you can achieve a good scan of flat art or negatives from medium format and larger. For further discussion of scanners consult the FLAAR reports on this subject. But no matter what scanner you purchase, try out SilverFast software, available from, [www.silverfast.com](http://www.silverfast.com).

For prepress level scanning that would be flatbed scanners from Fuji or Creo. Fuji makes great scanners but finding dealers is a challenge. In distinction we can suggest a leading nationwide source for Creo (Scitex) EverSmart scanners, Parrot Digigraphic. Contact John Lorusso, [jlorusso@parrotcolor.com](mailto:jlorusso@parrotcolor.com).

## Books

HP was giving away a colorful and artfully designed book on applications for desktop inkjet printers.

The two most efficiently presented books on digital photography are by Jerry Hughes. Whoever designed them deserves a prize for compactness.

These are for beginners, for their first digital camera. You can order them direct, [jh@takegreatpictures.com](mailto:jh@takegreatpictures.com). There are two titles, might as well buy them both since their price is so reasonable. One is on "Digital Photography Made Easy & Fun." The other is "How to take great photographs with any camera."

My "Dr Nicholas reports" are hundreds of pages (my editors usually fall asleep). In distinction, Jerry Hughes puts in the bare essentials in a compact format. You will not fall asleep reading his books because each is only 36 pages long. Into these pages he has fit all the pertinent information needed by a beginner. His toll free number is (800) 762-9287.

## Sterling Publishing

Sterling Publishing Co., Inc. offers a wide range of books on pertinent topics in photography:

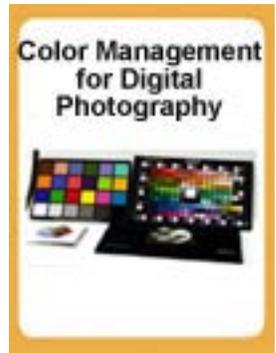
### **BJURSTROM, David**

Photographing your Garden. Sterling Publishing Company, New York.

### **CLEMENTS, John**

A Comprehensive Guide to Digital Landscape Photography. Sterling Publishing Company, New York.

For more information on Color management you can look at the FLAAR course on digital photography; click here for auto-download of abstracts, free and in full color



Dan Hunt of Parrot Digigraphic shows giclee system

**CLEMENTS, John**

A Comprehensive Guide to Digital Photography. Sterling Publishing Company, New York.

**COPE, Peter**

The Photoshop User's Encyclopedia. Sterling Publishing Company, New York.

**GARRETT, John**

The Art of Black and White Photography. Sterling Publishing, New York.

**HEDGECOE, John**

John Hedgecoe's Complete Guide to Black & White Photography. Sterling Publishing, New York.

**O'BRIEN, Michael and Normal SIBLEY**

The Photographic Eye: Learning to see with a Camera. Sterling Publishing Co, New York.

**THOMPSON, Robert**

Close-up on Insets: A Photographer's Guide. Sterling Publishing Company, New York.

**YOUNG, Steve**

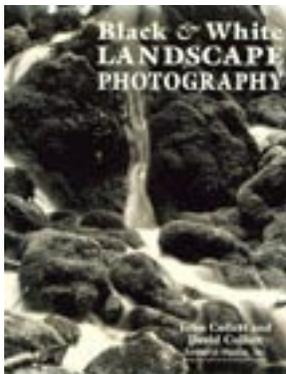
An Essential Guide to Bird Photography. Sterling Publishing Company, New York.

**YOUNG, Steve**

A Field Guide to Bird Photography. Sterling Publishing Company, New York.

**Amherst Media**

Amherst Media has a substantial catalog of books on photography. They publish more than I can list here, but I do wish to mention those which are in fields we cover in our reviews.

**COLLETT, John and David COLLETT**

Black & White Landscape Photography. Amherst Media, Buffalo, NY

**FOLSOM, William**

Art and Science of Butterfly Photography. Amherst Media, Buffalo, NY.

**FREMIER, Roger**

Techniques for Black & White Photography: Creativity and Design. Amherst Media, Buffalo, NY

**HART, Russel**

Photographing your Artwork. Amherst Media.

**HAYWARD, J. D.**

Dramatic Black & White Photography: Shooting and Darkroom Techniques. Amherst Media, Buffalo, NY

**JACOBS, Lou**

Photographer's Lighting Handbook. Amherst Media.

**KAHN, Cub**

The Art of Photographing Water: Rivers, Lakes, Waterfalls, Streams & Seashores. Amherst Media, Buffalo, NY.

**MONTIZAMBERG, Dave**

Professional Digital Photography: Techniques for Lighting, Shooting, and Image Editing. Amherst Media.

**SHOLIK, Stan and Ron EGGERS**

Macro & Close-up Photography Handbook. Amherst Media, Buffalo, NY

**SMITH, Jeff**

Professional Digital Portrait Photography. Amherst Media.

**WILDI, Ernst**

Composition Techniques from a Master Photographer. Amherst Media, Buffalo, NY.

**Amphoto Books**

Amphoto Books is a division of Watson-Guptill Publications. Their publication list is the same hefty size and wide range as Amherst Media.

**AIREY, Theresa**

Creative Digital Printmaking: A Photographer's Guide to Professional Desktop Printing. Amphoto Books (Watson-Guptill Publications), New York.

**ANG, Tom**

Dictionary of Photography and Digital Imaging. Watson-Guptill/ Amphoto Books, New York.

**ANG, Tom**

Advanced Digital Photography Techniques. Amphoto Books, New York.

**ANGEL, Heather**

Natural Visions: Creative Tips for Wildlife Photography. Watson-Guptill/ Amphoto Books, New York.

**BENVIE, Niall**

The Art of Nature Photography. Amphoto Books (WatsonGuptill), New York.

**BIDNER, Jenni**

The Lighting Cookbook. Amphoto (Watson-Guptill), New York.

**BRAASCH, Gary**

Photographing the Patterns of Nature. Watson-Guptill/Amphoto Books, New York.

**BUSSELLE, Michael**

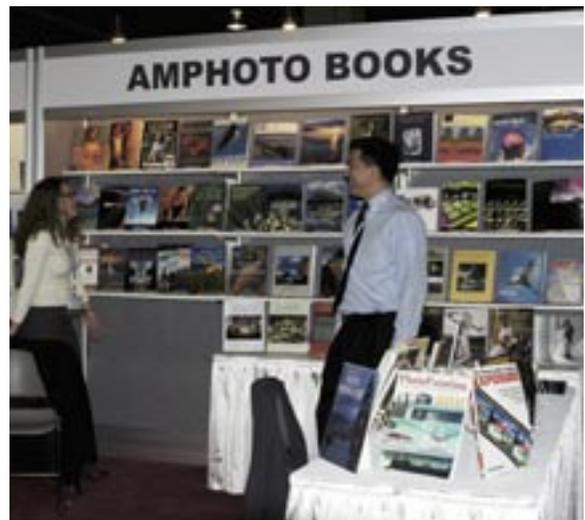
Black & White Photography. Amphoto Books (Watson-Guptill), New York.

**BUSSELLE, Michael**

Flower and Garden Photography. Amphoto Books (Watson-Guptill), New York.

**BUSSELLE, Michael**

Landscape Photography. Amphoto Books (Watson-Guptill), New York.



**BUSSELLE, Michael**

Still Life & Close-up Photography. Amphoto Books (Watson-Guptill), New York.

**BUSSELLE, Michael**

Creative Digital Photography. Watson-Guptill/Amphoto Books, New York.

**CAMPBELL, Charles**

The Backpacker's Photography Handbook. How to take great pictures while hiking, climbing, and skiing. Amphoto Books (Watson-Guptill), New York.

**COBETT, Bill**

A Simple Guide to Digital Photography. Watson-Guptill/Amphoto Books, New York.

**COLLINS, Sheldon**

How to Photograph Works of Art. Amphoto/Watson-Guptill, New York.  
(out of print but worth tracking down a used copy of it).

**COPE, Peter**

Secrets of the Digital Darkroom. Amphoto Books, New York

**COX, Jonathan**

Digital Nature Photography. Amphoto, New York.

**DALY, TIM**

The Digital Printing Handbook: A photographer's guide to creating printing techniques. Amphoto Books, New York.

**DALY, Tim**

The Desktop Photographer. Amphoto Books, New York.

**DAVIES, Paul Harcourt**

Photographing Plants and Flowers. Amphoto Books, New York.

**DAYE, David**

Portrait Photography. Watson-Guptill/Amphoto Books, New York.

**DYKINGA, Jack**

Large Format Nature Photography. Watson-Guptill/Amphoto Books, New York.

**ENFIELD, Jill**

Photo-Imaging. A Complete Guide to Alternative Processes. Amphoto, New York.

**ERICKSENN, Lief**

Medium Format Photography. Amphoto Books (Watson-Guptill), New York

**FREEMAN, Michael**

The Photographer's Studio Manual. Watson-Guptill/ Amphoto Books, New York.

**FREEMAN, Michael**

Digital Photography Special Effects. Amphoto Books, New York

**GARRETT, John**

John Garrett's Black and White Photography Masterclass. Amphoto Books (WatsonGuptill), New York.

**GOMERSALL, Chris**

Photographing Wild Birds. Amphoto Books (WatsonGuptill), New York.

**GRILL, Tom and Mark SCANLON**

Photographic Composition. Watson-Guptill/Amphoto Books, New York

**HART, John**

50 Portrait Lighting Techniques for Pictures that Sell. Amphoto Books (Watson-Guptill), New York.

**HICKS, Roger and Frances SCHULTZ**

Still Life. Amphoto Books (Watson-Guptill Publications), New York.

**HICKS, Roger and Frances SCHULTZ**

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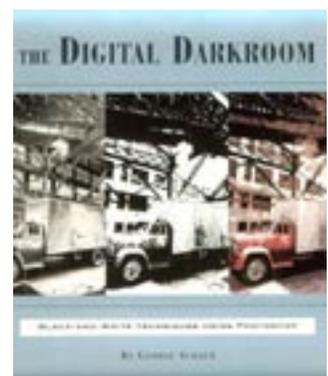
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Photo Art: Darkroom, Digital, Handcoloring, Montage. Amphoto Books, New York

**Peachpit Press**

Peachpit Press does not publish on photography or cameras; instead they cover digital imaging in a wider sense. You can obtain most of the Peachpit books from DigitalGraphicsBookstore.com, e-mail [rick@dgbooks.com](mailto:rick@dgbooks.com). One of the first Peachpit books you will want to buy is "Real World Color Management," by Bruce Fraser, Fred Bunting, Chris Murphy

**Magazines**

PDN, Photo District News, [www.pdnonline.com](http://www.pdnonline.com), is one of several magazines on photography which is above the popular level.

PEI is the other magazine at the professional level. Well worth subscribing to.

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