



## **Catalog of all FLAAR Publications**

**Previews**

**Free Reports**

**Premium Reports**

**on**

**Scanners, digital cameras,  
Wide format inkjet printers and  
Laser printers**





FLAAR Reports by Nicholas Hellmuth are available for every need	
Which wide format inkjet printer? Applications, uses, print needs	What kind of business are you in determines which printer is best
3D renderings	Advertising, marketing, graphic design
Backdrops, theater, TV	Architects
Backlit displays	Décor (office, home, hotel, etc)
Banners	Entertainment
Billboards, outdoor signage	Giclee
Book covers, CD, video cassette covers	Government, federal, state, country, local
CAD, architectural drawings	Hotels, restaurants, casinos, cruise ships
CAD, electrical, mechanical	Individual, hobby, retirement business
GIS, aerial photos, maps	Legal graphics, courtroom graphics
Decals, labels, stickers	Medical, health facility, hospital, etc
Fine art, giclee,	Military, police, fire, intelligence agencies
Greeting cards, post cards	Museum, zoo, botanical garden, library
Lenticular prints	Non-profits, organizations, church, charities
Packaging, including prototyping	Photo lab, photo finisher, photo studio
Photos, on regular photographic paper	Prepress, service bureau
Photos, on canvas or watercolor paper	Publishing
proofing	Quick print, copy shop, commercial printer
Screen printing, positives	Sign shop
Signs, posters, point of purchase, etc	Sports, events
graphics	Reprographic
Vehicle graphics	Retail, wholesale, distributor
Wall coverings, wallpaper	University, college, training schools
Other, add your own specialized applications here. We welcome inquiries about any use of wide format inkjet printers, dye sublimation, thermal transfer, electrostatic, or other digital printers over 24" in size, or desktop units for 11 x 17 and 13 x 19 inches.	Other, we get inquiries from every imaginable kind of business. We especially welcome people from corporate in-house (departments or work groups) or in-plant print shops. You do not have to be a company to obtain reports from FLAAR. A substantial percentage of our readership are individuals.
If your business is any of the above, then you can utilize the FLAAR reports to provide you the truth about the printers, RIPs, inks, media, accessories, scanners, digital cameras, color management, and associated software.	
We welcome inquiries from any country, in Spanish, German, Italian, Portuguese, French or English. All reports are in English, but our staff are multi-lingual.	

We have reports for seasoned pros; we have other reports for newbies.

With FLAAR reports you benefit from our experience with large format inkjet printers, scanners, and digital cameras. FLAAR already has a full range of wide format printers at facilities at two universities. The 12<sup>th</sup> printer was an Ixia version of the Iris 3047 giclee printer. Today (Spring 2004) our reports are based on experience from 19 printers in-house (15 at one university four at the other).

If you are a one-person enterprise you are as welcome to our free reports as are companies with 20 to 100 employees or government bureaus. Yet many of our readers are small businesses, including home-business, second-business, or retirement business. Actually the readers of FLAAR Reports also include scores of Fortune 500 companies, almost every federal agency, and thousands of sign shops, print shops, photographers, artists, architects, and other occupations. Nicholas's reports are read in 42 countries worldwide as well.

Everyone is welcome, at any level of experience from prepress professionals to first-time user at home. The only level we do not cover is desktop letter size. FLAAR is dedicated to serious large format digital imaging: 13 x 19 inches is minimum. In wide format we cover 24" through 70" and then grand format superwide too.



We cover regular ink, solvent ink, UV curable, dye sub, electrostatic, and textile inks as well as RGB laser light imagers... as long as it is wide format.

Three levels of reports are available:

- Previews (free),
- First Level Reports (free),
- Series & Sets (Premium Reports, at cost).

Series and Sets contain the detailed evaluations and are available by theme for reasonable cost. Previews are free abstracts which describe the contents of the Series & Sets so you can see what's inside without having to pay for any.

The following list is valid from mid-April 2004. As each new title or new update is posted, it appears on [www.wide-format-printer.NET](http://www.wide-format-printer.NET) or on the FLAAR Report section of each individual web site. You can find a portal to all FLAAR web sites on [www.FLAAR.org](http://www.FLAAR.org).

## Free Reports

**At least three, and potentially up to six of these reports are free from our university at no cost, in return for your filling out the Survey Form.**

If you more fully explain yourself in your Survey Form in a manner that helps us update our reports and if your comments let us know your own experiences and preferences which we can use to get manufactures to improve their next generation models, the FLAAR Digital Imaging Resource Center can be encouraged to send you at least three and up to five reports (from this specific list). **You can add as many Previews as you wish (without using up your free allowance of five reports).**

***Quick Peek at What New Printers to Expect in 2004***, new February 2004.

Mentions what new printers to expect during 2004 from Canon, Encad, HP, Oce and other companies; includes comments on the Epson 4000 and new pigmented-ink Canon imagePROGRAF printers.

If you worry about buying a printer today which is obsolete tomorrow you might want to get your hands on these FLAAR Fast Facts by Nicholas Hellmuth.



***Printing 3-Dimensional Objects with HP Inkjet Printheads***, FLAAR Fast Facts

New February 2004.

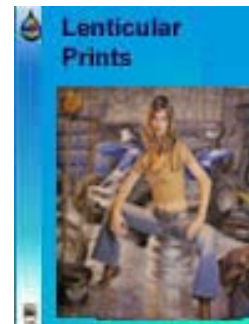
*Whoa, no way! Solid, actual 3D objects with inkjet printheads?*

But yes, the Bowling Green State University lab has a printer, using HP printheads, that prints three-dimensional objects up to about six inches in size (six by six by six). This is the lab of the Center for Applied Technology, the facility that also houses the FLAAR wide format inkjet evaluation center.





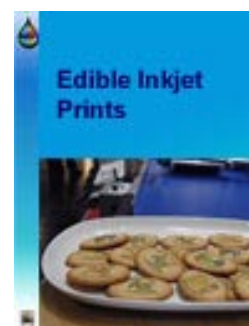
**Lenticular prints:** large format printers, software, and lenses. Includes results of using HP DesignJet 5500 for 3D lenticular prints, wow, that's quality (see front cover for results). Fast Facts: What and where to buy. Updated February 2004.



**Laminating Equipment for Large Format Inkjet Printing.** FLAAR Fast Facts. List of where to go for specific information on each size and class of laminating equipment.



**Edible Inkjet Prints: Printing Photographs on Birthday Cakes.** FLAAR Fast Facts.



**Comments on the Kodak 5260 Wide Format Inkjet Printer.** Millions of dollars were spent trying to develop this printer; millions more were spent trying to manufacture it. This was technologically the most advanced wide format printer ever developed: beat HP, Epson, and Roland on quality. But what happened? Why can't you buy this printer? We hope this fabulous printer concept can be made to work, as the technology was outstanding. Hopefully someday we will be pleasantly surprised to see this printer actually function, as advertised, at claimed speeds, with the quality the ads promise.



**Applications: All the uses that you can apply your wide format printer to accomplish.** In a tough economy people who invest in buying a printer need as much help as possible figuring out what to do with their new printers to earn enough to survive and prosper.

Learning new applications can be as much fun as it may turn out to be profit. Since FLAAR is non-profit we need to get some enjoyment out of all of this. We enjoy the challenge of figuring out new uses for inkjet printers.

We tend to cover large format digital printers 24" and wider, however increasingly people are using tabloid size desktop printers for proofing, giclee, décor and photography. Hence we are adding coverage of tabloid size desktop printers, 11 x 17 and 13 x 19 inch size (A3 oversize in Europe).



The above report is new for February 2003.



**48 different Kinds of Inkjet Media Certified to work in HP2000cp and 3000cp series DesignJet Printers** This is the HP list of complimentary media for the 2000cp, 2500cp, 2800cp, 3000cp, 3500cp, and 3800cp. FLAAR has the HP DesignJet 2800cp so we are familiar with the hardware, RIP software, inks, and media options.

This report is not appropriate for owners of HP 500, 800, 5000, or 5500. If you own these more recent HP printers you will probably prefer ordering the SERIES on inkjet media. That inkjet media series is also appropriate for owners of Epson, Roland, Encad, ColorSpan, Mutoh, and Mimaki printers and their clones (Oce and Ilford are repackaged Encad printers, etc).

**Assembling a typical printer on day of arrival.** A report on what to expect when the printer arrives at your facility. We use the example of the HP 5000, but it could be any printer. Suggests which brands and models of printer you can assemble and set up yourself, and which you definitely need an installer to come to your place and work with you the first day.

**HP DesignJet 5000.** We have two of them, so plenty of experience. We liked the first so much at BGSU we got the second for the other university, even though we already had an Epson, and Encad, and several earlier models of HP. Why is this one model so desirable? If you seek information on the HP 5500ps DesignJet, this is covered in a Bonus Report. All Bonus Reports are listed in that section or on [www.wide-format-printers.NET](http://www.wide-format-printers.NET), in the link to Bonus Reports.

**Reports on taking the Training Program at ColorSpan in Minneapolis (DisplayMaker XII and Mach 12):** On two separate occasions groups from FLAAR and both our universities have gone to Minneapolis to take training at the MacDermid ColorSpan facility. These reports reveal what you can expect.

**Experience with the ColorSpan DisplayMaker XII and Comments on the ColorSpan Esprit**





*Experience with the ColorSpan Mach 12 Printer in the FLAAR Facility at Bowling Green State University, by Brent Cavanaugh, BGSU*

**Deciding which Computer Platform to Select for Digital Imaging: Mac or PC?** New September 2003. Update on Mac G5 should be available shortly. FLAAR uses both Macintosh and Dell computers at both universities where we have testing facilities. So we know both operating systems inside out. Apple claims their G4 is 32% faster than a Dell. Yet we tested three Dell computers this summer and found all three, even a single-processor model, were a surprise. So if you are curious why your own computer is so slow, or crashes and freezes so often, you might wish to learn from Dr Hellmuth's experiences, since they have about a dozen Macs and a dozen PCs (some Compaq and the others all Dell). It is noteworthy that of the two brands of PC, one breaks down frequently; the other is great. This report is available from our university at no cost when you will out the Inquiry-Survey Form.

The above report on Dell vs Mac is basically a discussion of testing and evaluating hardware and software used in professional digital imaging: scanning, digital photography, and large format inkjet printing. All FLAAR reports are written on a Mac; Dr Hellmuth has a Mac G4 on each desk in offices in Germany, USA, and Guatemala: yet gradually the rest of his staff are saying they prefer Dell computers. So he decided to find out the truth about benchmarking. Since BGSU is independent they were able to do tests that were fair to both PC and Apple. But one computer brand was notably faster than the other with Adobe Photoshop, Adobe Illustrator, and Adobe Acrobat. Our Mac G5 for the test was loaded with 8 GB of RAM.

The staff who answer your Inquiry Form all work directly in the FLAAR evaluation center at the university, they have been trained in the USA, and there are large format printers, RIPs, and inkjet media all around their desks. They, and the rest of the FLAAR staff, learn from your comments on likes and dislikes about printers. In many cases the notes you send on your experiences are so pertinent that we incorporate them in our future reports (don't worry, your name is never mentioned). The more we learn, the more additional titles we are encouraged to send to you.

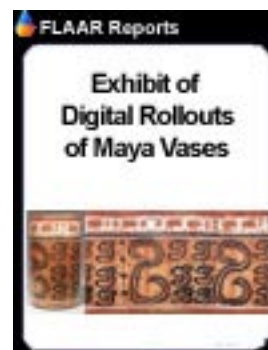
**Other Subjects, Desktop Publishing (still free)**

**An Exhibit of Digital Rollouts of Maya Vases from the Museo Popol Vuh, Universidad Francisco Marroquin Guatemala**

The prints had to be of the highest quality as the 400 guests and functionaries of the Museum and adjoining University were going to be examining the prints at ranges of 2 to 3 feet.

People who are about to decide which printer to select often ask whether a particular brand can produce museum quality images. Actually thousands of people a month come to the FLAAR websites seeking tips and help for which printer, inks, or paper to select.

The art exhibit of wide format inkjet prints of ancient Maya art offered a great test for writing evaluations on the printer and inkjet paper.





## Trade Show Category

Any of the following Reports (on large format printers and related items) can be included in your free allotment, as a public service of FLAAR and the two universities in return for your Survey Form.

### • Year 2004

**Which Digital Imaging Trade Shows are worth Visiting?** This is a wide ranging review of the trade shows themselves; which are worth visiting to learn more about scanners and wide format printers. Naturally also lets you know which are duds (so you can save your money by avoiding them). Also includes reviews of conferences and seminars (such as the recommended IMI and Tiara Group programs). Naturally includes mentions of FLAAR programs at the two universities.

**Wide Format Inkjet Printers at Graphics of the Americas Trade Show,** new Feb. 2004. Nicholas dedicated three days to inspecting inks, inkjet papers, and wide format printers, along with all the other hardware and software in the show at Miami.

### • Year 2003

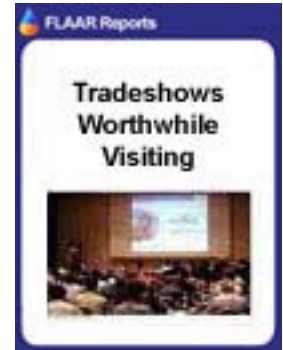
**Notes on Camera Equipment from PMA Photography Trade show, March '03.**

Covers Foveon sensor, Sigma SD9 digital camera, other 35mm SLR digital items, medium format digital backs, large format scanning backs, filters, accessories, and color management software. Includes substantial book list on photography. **New, May 2003.**

**Observations on Wide Format Inkjet Printers scrutinized at PMA Photo Trade show, March '03**

Covers wide format printers, some RIPs, black-and-white inks and special B&W software. Mentions demise of Xerox wide format printers. **New, May 2003.**

*Please note that the year 2004 photography trade shows have not yet taken place (Photokina is in late September). So the '03 trade shows still have all the needed information. However we do now offer the PMA '04 report, available in the Photo Series.*





**Graphics of the Americas Trade Show (January 2003)**

- Wide Format Inkjet Printers,
- Solvent Ink Printers,
- Color Management, and
- Scanners

So if you would like a quick trip through what printers, scanners, RIPs, and accessories are available today, we hope you enjoy this report by Nicholas Hellmuth. It is based on three full days of note taking at the “Graphics of the Americas Trade show” in Miami in January 2003.



# Previews

**How to achieve great prints with your large format inkjet printer.** This FLAAR Fast Facts serves as suggestions of which FLAAR Reports cover the pertinent topics on what factors control print quality. This report helps you figure out which FLAAR Report SERIES provides all the tips and help for each factor. This FLAAR Fast Facts is a quick tour of your wide format inkjet printer as a system. A system implies that each component must work well with the other components.

“How to achieve great prints” is primarily for the first-time user of a large format inkjet printer. The information is also applicable to desktop size 11 x 17 and 13 x 19 inches (A3 and oversize in Europe) but is written for learning about 24” through 72” such as Epson, Encad, HP, Canon, ColorSpan, Roland, Mimaki, Mutoh, etc.

Intermediate level users as well as prepress professionals can learn tips and acquire insights from the fact that FLAAR has 19 printers, many years of experience, and a world-wide network of end-users of wide format printers sending in information every hour (that’s now over 24,000 people like you sending in your Survey Forms).

This abstracts is new for February 2003 and has been updated for June 2003.

**Intro to Fine Art: Previews of the FLAAR Series on Giclee Printing.**

Nicholas is well suited to discuss fine art giclée printing since his PhD is in art history from a European university. He has done research in, photographed in, and/or lectured at leading museums on three continents, from Tokyo, Melbourne and from Canada down through Latin America. FLAAR has an Iris 3047 giclee printer cheek to jowl with two Mimaki, five HP, three Epsoms, and two ColorSpans. Plus we have scrutinized Roland printers in Canada, USA, Guatemala, and Malta. We have checked out Roland, Encad and Mutoh printers at more than 17 trade shows in three countries (United Kingdom, Germany, and across the USA). *Intro to Fine Art: Abstracts of the FLAAR Series on Giclee Printing* is the free introduction so you can decide whether you wish to subsequently order the entire FLAAR premium Series on fine art giclée printing.

**Previews of FLAAR Report Series on RIPs.** Raster Image Processor is software which brings out all the capabilities of your wide format printer. If you limit yourself to only the printer driver, your printer’s full range of options are left only partially activated. This free Abstracts provides the table of contents and describes the coverage of the several titles which constitute the longer premium report series on RIPs.







**Previews of FLAAR Report Series on Inkjet Media.** FLAAR has gathered personal experience in inkjet media since 1997.

This year the joint laboratory of FLAAR and Bowling Green State University is starting a long range program to systematically document inkjet media. The first step has been totally updating and rewriting of all our reports on inkjet media as well as adding new fascicles: a glossary of inkjet media terms and a comprehensive report on recommended standards for evaluating inkjet media. All of this material is in the premium Series.

The purpose of the Abstracts is to allow people to peek inside the Series without having to buy the series. The Abstracts are a preview (free, with no obligation whatsoever to purchase any series).

**Previews of the FLAAR Report SERIES on Survival.** Seriously, how do you intend to survive against competition in the year 2004.

In today's economy, it's not about how much profit, but how long your printing business can survive at all.

Hence we have written the premium series on survival with your wide format inkjet printer. Obviously we cannot guarantee you will survive even if you read our reports (that's because we are affiliated with a university and not some late-night TV infomercial offering you instant riches for work-at-home jobs). Our reports are factual; our staff work hard to help you get into wide format inkjet printing, and survive and prosper once you are there.

Our two print shops must survive too. We print at two universities; in effect FLAAR functions as the in-house corporate reprographic shop at each university where we are situated. We arranged to serve as a print shop deliberately: this is the best way for us to learn what it's like in any real quick-print shop, sign shop, photo lab, or fine art giclée studio.

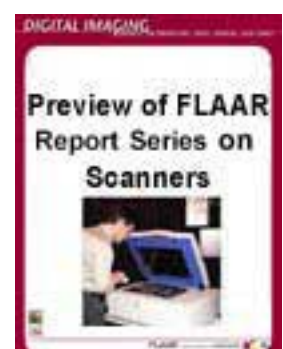
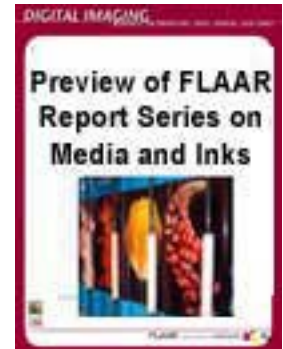
FLAAR can speak the language of sign shops because we print most of the signs for a giant state university (19,000 students).

**Previews on wide format printer opportunities in Print for Pay Reprographics:**

**Copy Shops, Quick Print & Commercial Printers (including Screen Printers).** New February 2004.

**Previews for what printers are best for CAD and GIS.** New February 2004

**Scanners and Scanning: Introduction.** FLAAR Fast Facts. If you need a scanner for fine art giclée printing, then you the appropriate report is in the Giclee Reports-SERIES. If you need a scanner for reproducing your photographs at large format size, then the best report is in the Photo-Realistic Quality Reports-SERIES. But if you just need a scanner for home or hobby, or if you are curious to learn from Nicholas Hellmuth's years of experience scanning with Nikon, Umax, Heidelberg, CreoScitex and Cruse scanners.





***Previews of the FLAAR Report SERIES on Color Management.***

This FLAAR Series provides basic introduction to color management if you have a Canon, ColorSpan, Encad, Epson, HP, Mimaki, Mutoh, Roland, or solvent ink printers of all brands. The advantage of the FLAAR reports on color management is that these are not written for color scientists but rather for print shop owners and operators. Furthermore, this series is NOT written for offset printing, flexo, nor any other traditional printing press. Instead these reports are all fresh, dedicated specifically to wide format inkjet printer color management.

***Previews of the FLAAR Report SERIES on Eco-solvent Ink Printers***

These are "First Look" reviews and not site-visit case studies. These are not based on in-house use of these printers at our university. But they are very much a fresh insight into how to become a savvy buyer. Armed with these reports you will better understand how to select a printer to fit your needs

***Previews of the FLAAR Report SERIES for Photographers, Photo Labs, and Photo Studios.***

***Previews of the FLAAR Report SERIES on UV-Curable Inkjet Flatbed Printers***

It is estimated that about 600 UV-curable ink flatbed printers are in use around the world (the most are in England, Europe, and the US). More than 20 brands are shipping already and by the time of SGIA trade show this coming October several other brands and models will be available.

***Previews of the FLAAR Report SERIES on Solvent Ink Printers***

***Previews of the FLAAR Report SERIES on Signs***

Printing signs can be a lucrative business. With an inkjet printer you can be more flexible than an older company laden down with screen printers or aging electrostatic equipment.





# Additional free publications: "About us"

*Who and What is FLAAR. Auto-download.*



*Comments from people who have already read the FLAAR Reports. Auto-download.*



*The FLAAR Facilities:* Gives you a chance to see inside the FLAAR labs at both universities. See Nicholas in his natural habitat. It's kind of amazing the equipment that FLAAR has available for testing and evaluation. No wonder they know the difference capabilities, and downsides, of both thermal printhead compared with piezo print-head printers. No wonder they can recommend which RIP (they have them all, but they only actually use two of them). Auto-down-load,



*Services available from FLAAR and associated universities.* Info about consulting and other services. New edition in preparation.



*Satisfied Purchasers:* Commentary from people who have used the FLAAR reports as help in deciding which printer, scanner, RIP, inks, or media to select. Auto-download (Auto-download).



# Premium Evaluation Reports, arranged in Series Second Level Evaluation Report Series

Over the last two years people said that after the first batch of free reports they wanted more. Most people said they preferred simply to pay for them rather than to use the Inquiry Form system. In response to your preferences, we now offer the entire reference library of FLAAR reports, by subject by series.

Each series, and every title within that series, is pictured with abstract and contents on the new web site, [www.wide-format-printers.NET](http://www.wide-format-printers.NET) We also offer free Previews of each series.

It is not possible to handle the paperwork to sell individual titles. If you already have one or more titles you still ought to have the entire series because we are constantly updating the reports, so the “same title” may have new and additional information to satisfy your needs.

Reports are available in Adobe Acrobat PDF in full color, sent electronically. There are no hard-copy reports.

## FLAAR Evaluation Report Series on Inkjet Media

The entire Series of FLAAR reports on media cost about the same as a single roll of 54” media, \$142. If you have already filled out an Inquiry-Survey form, there is an automatic discount of \$22, so you can obtain the entire Series of reports on wide format media for \$120. This income is used to support the evaluations and educational programs at the two universities where FLAAR maintains research facilities.

***Comprehensive list of all the different kinds of photo paper, fabric, silk, canvas, vinyl, backlit material, watercolor and artist’s paper, even metal that you can easily print onto using a wide format inkjet printer.*** Updated May 2003.

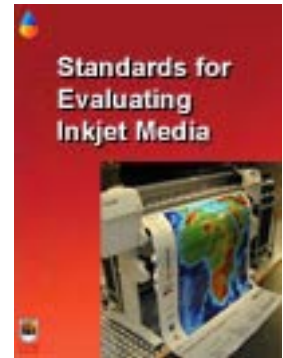
***Media for signs, posters, banners*** with some suggested sources of media and inks.

***List of the more important Companies who Make or Sell Media for Large Format Printing for Signs, CAD-GIS, Photo Printing, and Fine Art Giclee.*** A comprehensive list of which companies coat media (put on the inkjet receptor layers), which companies convert (cut the coated media down into the sizes you can use). Also includes resellers and indicates which companies even own their own paper mills. Includes tidbits you won’t find in any trade magazine. Updated May 2003.

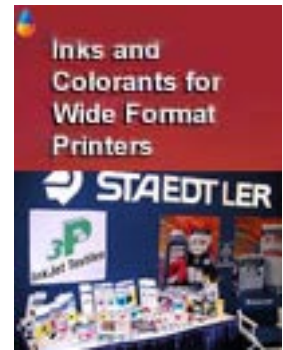




***Suggested Objective Standards for Evaluation of Inkjet Media for Wide Format Printers.*** Updated May 2003.



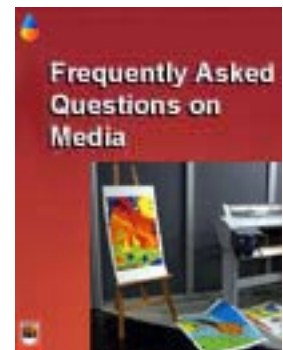
***All the various Kinds of Inks and Colorants used in Large Format Digital Printers plus Frequently Asked Questions about inkjet inks***



***Glossary of Inkjet Media: Substrates, Coated Inkjet Media, and all other Inkjet Printable Materials.*** This is a comprehensive glossary of jargon and other confusing terms associated with wide format inkjet paper.



***FAQs on Wide Format Inkjet Media:*** A list of the most notorious horror stories of disasters with inkjet media. Many of the people who related these stories lost their clients; and some companies went effectively bankrupt due to poor taste (or the wrong choice) in inkjet media. We can't save you from making your own wrong decision, but we can sure provide adequate warnings, advice, tips, and suggestions to at least your chances for survival are higher than people who don't read FLAAR reports.



We calculate the price of this series as follows: the entire series on Media will, in your business, probably either save you from buying at least one wrong roll of media. That alone pays for the entire series. or, may tell you of some company whose media is great for you. Again, your profit pays for the whole FLAAR series.



## RIP Evaluation Series

### Raster Image Processor software (the brains of your printer)

**RIP, list of all the major RIP software.** We have located over 80 RIPs for wide format inkjet printers. Fortunately we provide tips and help in figuring out which are good, which are obsolete, and the special RIPs which you ought to consider. This is the most comprehensive list of RIPs we have seen anywhere. Updated Feb. 2004.

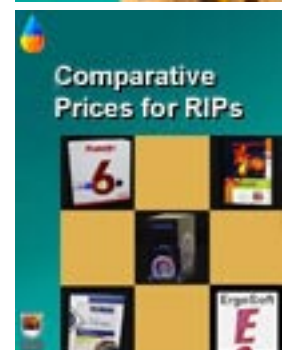
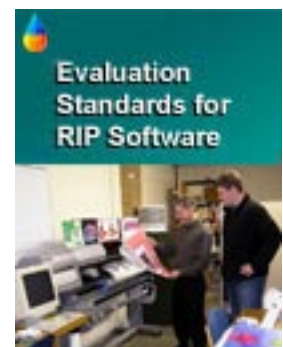
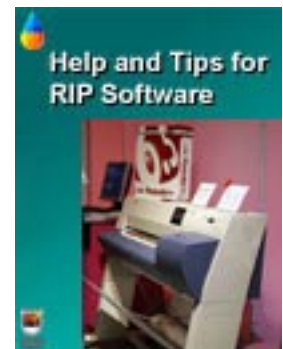
**RIP+Help:** this version is for intermediate level as well as for newcomers who may have no idea what a RIP is, or does, or why they need one. Covers a variety of other topics relative to operating wide format inkjet printers that are useful for a beginner to know about. Updated May 2003.

**Evaluation Standards for RIP software.** A new report; itemizes the sort of features you should look for before you pay out \$3,000 for a RIP.

**GLOSSARY of jargon and other confusing terms associated with RIPs for Wide Format Inkjet Printers.** Updated May 2003.

**Comparative Prices for Wide Format Inkjet Printer RIPs.** New November 2003.

Price watch chart for RIPs, both software RIPs and hardware RIPs. Also indicates different levels of RIPs, lite, full-strength but 1-printer, full-strength multi-printer, full and server based.





**Wasatch SoftRIP 4.5 Evaluation Notes.** If you are curious what it is actually like to set up, and use, Wasatch SoftRIP with a wide format printer, then this is a pertinent review for you and your company. New, August 2003.

**Scanvec-Amiable PhotoPRINT3 RIP Evaluation Notes.** We ourselves were surprised at the results of this comparative review. But that's what you get when a totally independent institute does the evaluation.

**PosterJET RIP**, not to be confused with PosterSHOP RIP from Onyx. PosterJet is a German RIP, but has a distributor in the USA also. This report indicates why, when we could use any RIP made (over 70 brands of RIPs exist), why we use PosterJet.

New November 2003. Updated expected out by early February.

**Onyx PosterSHOP RIP.** If you are a production shop then you have probably either heard of or are considering to purchase, Onyx PosterShop. This is one of the few independent reviews available of this software. We also temper this evaluation with results from what actual end users have written us, especially people who own Epson printers (the RIP works also on ColorSpan, HP, Encad, and most other printers).

Before you pay anyone between \$2500 and \$3800 (or more for a multi-user or server version), you need to get ahold of these reports. And if your RIP costs less than \$2500, you might want to learn from FLAAR what such a cheap RIP may be missing (fortunately there are two or three at reasonable cost which are full-strength; but you may not really want a lite RIP).

New November 2003.

**ColorSpan's ColorMark Professional RIP**

ColorMark Professional RIP further distinguishes itself from EFI in that the ColorSpan RIP can be upgraded. If necessary one ColorMark RIP can run several different models of ColorSpan printer.

Although FLAAR has nine software RIPs available in-house, for our two ColorSpan printers we selected the turnkey ColorMark solution from ColorSpan because this way we are assured of having software that can interact with the unique aspects of a ColorSpan printer.



FLAAR is able to compare and contrast all the leading RIPs because we have nine different brands at our two university facilities. There is no trade magazine, and for sure no independent institute who has produced as much factual documentation on RIPs as is in this overall series. If you are about to upgrade, switch brands, or buy your first RIP, you will find the RIP Report Series a welcome relief.

You get the entire series, for a single price of \$142, with instant discount if you are a favored FLAAR reader already. So your actual price is \$120 for all reports in this RIP series if at any time in the past you have already filled out the Inquiry-Survey Form (if not you can still fill it out now to be eligible for the discount).

If you are a corporation and wish to license additional copies, email Sheila Irving for license fee basis, [sirving@bgnnet.bgsu.edu](mailto:sirving@bgnnet.bgsu.edu). Otherwise, for a single set you can download your single series easily yourself.



## Report series on Color Management for Wide Format Inkjet Printing

This FLAAR Series covers introduction to color management if you have a Canon, ColorSpan, Encad, Epson, HP, Mimaki, Mutoh, Roland, plus solvent ink printers of all brands. A training course on color management averages about \$2,000. Thus we feel our series of reports is fairly priced in comparison at \$142 (discounted to \$120 if you have already filled out an Inquiry Form; if not, you can fill out a form now to get your instant \$22 discount).

### **Color Management for Wide Format Digital Imaging.**

This report offers help on color management relative to scanning and large format inkjet printing. Nicholas Hellmuth has produced a totally comprehensive coverage of every color management and ICC color profile tool and software that he has heard of, seen at a trade show, or is available at his two university wide format inkjet evaluation labs.

Printer manufacturers have been known to suddenly change the chemical formula of their ink. Kodak just did that for Encad inks. Media companies routinely change the chemistry of inkjet receptor layers but do not warn the end users. Result is your ICC color profiles are off; your clients blame you for the bad color on their corporate logo.

If you know how to generate your own ICC color profiles you can overcome these hassles inflicted upon you.

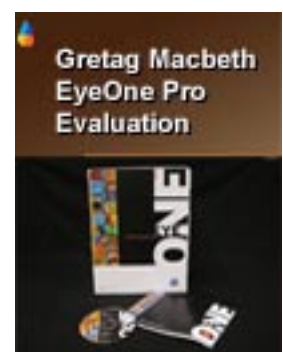
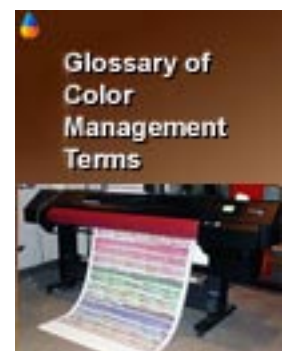
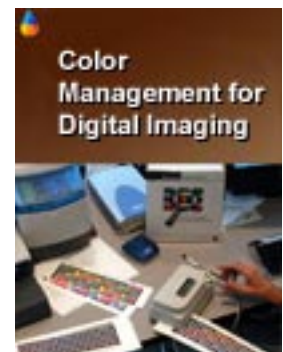
**Book Reviews of Publications on Color Management**, new June 2003; updated and expanded October 2003.

List of the standard references and most important books on color management. Most titles have annotations and review by Nicholas Hellmuth. Also contains annotated description of sources on the Internet.

**Glossary of terms on Color Management for wide format printers, digital cameras, and scanners**, new August 2003.

Remove the mystery of color management by learning the jargon. You too can understand the arcane terms. Dr Hellmuth's PhD is definitely not in color science, so he too had to struggle to teach himself all this. What took him years of reading and attending conferences he carefully distills down into this succinct glossary that you can read in two hours or less. So you get all the benefits of his research packed into a handy PDF download.

**Review of the GretagMacbeth EyeOne Pro**, Brent Cavanaugh, lab manager, BGSU+FLAAR, Bowling Green State University. Brent has many years experience in a digital portrait studio lab before taking over the wide format printer lab at BGSU+FLAAR. He is now in charge of running two ColorSpans, Epson, Mimaki, HP 5000, Cruse scanner camera and other equipment. So if you need to know about color management tools for your wide format printer workflow, here is a good start.







**Color Management with Monaco Profiler, the pro edition.** One report by Brent Cavanaugh, the other by BGSU professor Chuck Spontelli. Chuck's MS degree is from Rochester Institute of Technology. He teaches printing in the visual communications program, College of Technology, BGSU. So it helps to have the direct documentation from an experienced user of whether a particular software package works, or does not (especially when the software costs several thousand dollars).



After Professor Hellmuth reviewed over 2,000 pages of books on color management and several thousand pages on the Internet, he realized that there was still no actual description of color management for people who had wide format inkjet printers. All the books were too technical, written by color scientists for other color scientists. All descriptions were written by specialists in offset printing, not inkjet printing. When on inkjet at all, the material was on proofing, and too technical for the normal user. We who operate large format printers don't have time to become color scientists. That's why we buy color management software and tools. We expect the tools to do all this for us. Well, almost. But to begin the long range process of helping owners/operators of large format printers, Stephanie Madeya was commissioned by FLAAR to produce a step by step description of color management specifically for wide format inkjet printers. This new report is now available: "**Step by Step Guide to Color Management.**"

Color management is the one part of printing giclee, exhibit-quality photos, or matching logo colors on signs, that is helped by attending a training course. We attended a \$2,000+ training course but found it was very technical. Frankly we wished we had all the FLAAR material in our hands before, during, and after that course. Not as a replacement (nothing can replace hands-on training), but more as a security blanket for background. So we started to write all the FLAAR reports for this Series about a year after we finished training, because during that year we found the other books and pamphlets were not what most end-users really needed.





## Report Series for anyone printing Signs Posters, Banners, POP, Tradeshow Graphics, Advertising, etc.

What cost FLAAR close to a million dollars in staff and research, worldwide, from Malta, Mexico, and Mumbai, from across the USA, Canada, and Europe, you get in this Evaluation Series for \$120 (List price \$142, discount to \$120 is for anyone who has filled out the Survey-Inquiry Form).

We are updating and revising special collection of the basic FLAAR reports for universities, colleges, museums, libraries, and non-profit organizations, political campaigns, advocacy groups, environmental protection groups, churches. Also relevant to health facilities, hospitals.

The SERIES on what printers are ideal for printing signs is also pertinent for government agencies as well as for in-house corporate work groups, in-house departments, in-plant print shops.

If you are in retail, wholesale, manufacturing, event signage, this series on signs is also made for your needs.

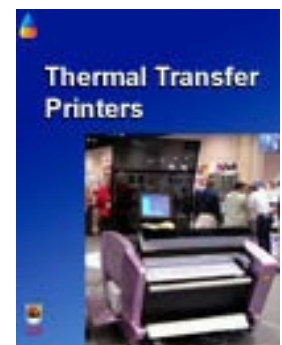
Legal graphics, courtroom graphics, graphics, for quick print, copy shops, sports, theater: you still need to know whether to select a thermal printer (HP, Canon, Encad, or ColorSpan) or a piezo printer (Epson, Roland, Mimaki, or Mutoh).

This report SERIES is appropriate for learning about which is the best printer for signs for hotels, restaurants, cruise ships, casinos, stadiums: whether in-house or for a sign-shop that includes these markets as clients. Whether you are a screen printer, or in a Fortune 500 corporation, or your own personal start-up company: if you need to print signs or posters here is the information based on five years of Nicholas Hellmuth's experiences.

**Which Wide Format Printers are Best for Signs, Posters, Banners, POP, graphics and other indoor prints.** A comparative review of Graph-tec, Encad, HP, Roland, ColorSpan, Epson and others.

**Thermal Transfer printers**, using wax and resin ribbons to print continuous tone. You cannot get continuous tone with an inkjet printer; only from thermal transfer or laser light imagers. So if you or your clients need true continuous tone, you better read this report.

**Dye sublimation**, which large format printers can accept dye sublimation inks for subsequent heat transfer onto T-shirts, textiles, curtains, table cloths, hats, coffee mugs, ceramic tiles, even metal (aluminum with prepared surface).





**Laminating Wide Format Inkjet Prints: Glossary of terms**, new June 2003.

Sooner or later you will need to know at least the basic facts about lamination and the difference between cold lamination and hot lamination. Whether you are a sign shop, photo lab, screen printer switching to inkjet, or in-plant print facility in a corporation, this comprehensive glossary will be helpful to understand lamination equipment, supplies, and techniques. This informative report also provides tips on where to go for free manuals which will explain whatever else your heart desires to learn about laminating inkjet prints.



**Questions to Ask before you Buy or Pay For a Laminator for Inkjet Prints**, new June 2003.

This is one of the FLAAR Reports which serves to assist the owner or operator to save their hard earned money by becoming a savvy buyer. An educated buyer makes it tough for anyone to fool you.



**Digital Photography and Scanning for Sign Shop Operators: Scanning Images for using on a Large Format Printer.** If you are moving from being a screen printer or vinyl cutter into inkjet printers, it may help to have some tips on scanners, digital cameras, and digital imaging. This report discusses which Scanner is best to handle your negatives and transparencies? How to Digitize objects that are too large for a flatbed scanner? (scanner vs digital camera). Fuller info on digital cameras is in the Photo Series and even more in the FLAAR course on digital photography by Professor Hellmuth.



**Tips on how to select which wide format printer to buy for printing signs: ColorSpan DisplayMaker XII**, new June 2003

This report is the start of an entire new series, "Site-Visit Case Studies." A team of FLAAR staff go to visit actual sign shops who are using printers in real-life situations. We check things out, ask pointed questions, and write down what you can expect this printer to accomplish. We list point blank what the printer is good at, and what it is incapable of doing. So this is an unparalleled opportunity to save yourself time by learning from all the work of FLAAR to provide public education through the university where FLAAR is headquartered.



**Evaluation of a ColorSpan DisplayMaker XII Based on Interview and Inspection of this Printer in a Successful Sign Shop**, new August 2003.

We found two different sign shops which each had a ColorSpan for printing posters, signs, and photographs. Both shops were a few miles from our university so we visited them. These reports provide an opportunity to learn what it is like to have a ColorSpan printer in your office.





**Site-Visit Case Study of Epson 9600** new June 2003

Most sign shops are trying to figure out whether to buy a Mutoh, Roland, Mimaki, Hewlett-Packard, Encad, or ColorSpan. Few sign shops would seriously consider an Epson due to ink costs and slow speed. Yet we found a sign shop that had two Epson printers alongside their solvent ink billboard printer. Were they content with the Epson 9600 and 7600? Or did they wish to jump to a more traditional sign printer? We were very surprised to learn what this print shop had found out about the Epson. This report is an eye-opener and definitely worth reading, especially if you are an in-house department, work group, graphics design, university, or museum. Obviously sign shops and in-plant print shops will find the unexpected documentation useful as well, for the simple reason that the Epson is the lowest cost printer of its size in the world. We know it does great on photographs? But can it really print signs? And the biggest question is, is the return on investment acceptable. Professor Hellmuth accomplished here what he is infamous for: going straight to a real-life situation, and obtaining independent, pithy facts, tips, and help for individuals and companies who are trying to figure out which printer to buy.



**Agfa GrandSherpa a version of the Mutoh Falcon II for Proofing and POP Signs**

Site-Visit Case Study Review based on FLAAR Standards for evaluating wide format inkjet printers. New August 2003.

This evaluation covers Onyx PosterShop RIP for proofing and signs as well as a thorough discussion of what its like to have a piezo printhead system in a sign shop. The printheads in the Mutoh Falcon II are more or less the same as in an Epson 10000. This review is based on detailed comments by the owner-operator of a successful prepress and sign printing company. However where as "success stories" blissfully omit the downsides and disappointments, this FLAAR report tells the entire truth of what you can expect in your own facility.



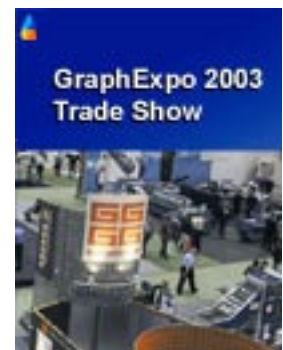
If you seek information on the HP DesignJet 5500ps, since this printer is appropriate for signs, décor, giclee, and photo-realistic quality, we make it available to anyone who has ordered two or more series. The HP 5500ps report is free in the Bonus titles (once you order any two other series).

The FLAAR Reports are intended for both established print shops as well as start-ups; for ma and pa vinyl cutters to large screen printing companies, and from newbies to long-established commercial printers.

Every month we get tons of e-mails from individual shop owners as well as franchise print shop, copy shop, quick print shops. We welcome all reprographic shop owners as well as sign shop franchise owners and operators.

**Graph Expo , '03**, new November 2003

Comments on wide format inkjet printers, UV-curable flatbed printers, solvent ink printers, laminators, RIPs for wide format printers, media, digital photography, books on digital imaging, and other related topics. Based on 3 days visit to Graph Expo by two FLAAR editors (Hellmuth and Magermans).



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# Solvent Ink Wide Format

for the link to information on licensing. Otherwise, for a single set you can download your single set easily yourself.

These new series have been prepared by Nicholas Hellmuth for several kinds of end-users:

- Commercial sign shops who need to know about the reality and choices available for solvent ink printers from 54" through 72" with discussion of the newer solvent printers up to 90".
- Anyone who is considering buying a solvent ink printer of any size from Korea, Taiwan, or mainland China.
- Any screen shop who needs help in moving into digital imaging and wide format inkjet printing with either solvent or UV curable inks.
- Any kind of print shop who is trying to figure out whether to invest in a UV-curable flatbed printer.

Several screen shops, in-plant print shops, packaging printers, and sign shops have paid Professor Hellmuth as a consultant up to \$3,000 per day for his personal assistance in analyzing the situation in wide format printing today (and into the future). Although Dr Hellmuth is still available worldwide en español, auf Deutsch, or in English as a consultant in person in your print shop, you can now obtain the material directly from his university for \$142 for the solvent ink information (outdoor signage), and \$142 for the signs-posters-banners information (indoor, trade show, POP, general signage). If you purchase both packages together you get them both for \$250, discounted to \$205 (FLAAR is non-profit and based at a university so we try to keep the prices down so everyone can afford the report series).

If you are a corporation and wish to license additional copies, click here for the link to information on licensing. Otherwise, for a single set you can download your single set easily yourself.

### ***Introduction to Wide Format Printers using Lite-Solvent Eco-Solvent or other pseudo-Solvent inks.***

If you are considering a lite-solvent printer, even thinking about an eco-solvent printer, you absolutely need to get this report before you make your \$25,000 to \$35,000 decision. Many people who bought these printers were surprised when they found out the reality of what they had been sold.

Nicholas interviews people who know sign shops with lite-solvent printer problems. Their experience can help you learn the full truth about lite-solvent and eco-solvent ink printers.

***Solvent ink printers for outdoor signs without lamination or for vehicle wrap.*** Grand format printers, billboard printers and other appropriate printers (these printers cost about \$30,000 up to \$450,000). Plus, how you can use a normal \$15,000 inkjet printer also to do outdoor jobs, albeit with lamination (2 year outdoor warranty).

***Wallpaper:*** large format printers for doing custom wallpaper. FLAAR Fast Facts.



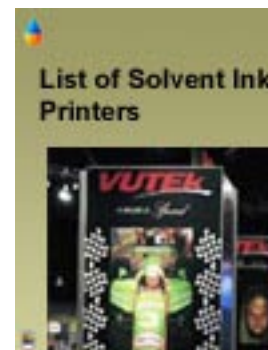


**Arizona** (a brand of printer): a report kindly sent by an energetic end user.

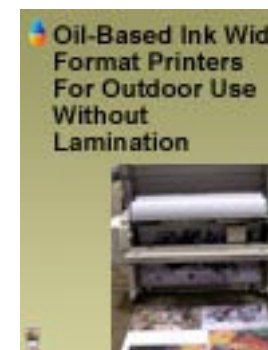


**List of Solvent Ink Printers.** FLAAR Fast Facts, New as of May 16<sup>th</sup>, 2003

Includes all the solvent ink printers from Korea, China, Taiwan, and Europe, in addition to Vutek, Mimaki, Mutoh, Arizona, etc. Annotated. Includes warnings about those solvent ink printers about which people complain the most. So if you are even thinking of buying a solvent ink printer, it is surely worth investing \$142 (discountable to \$120) to obtain all these FLAAR Fast Facts.



**Oil-Based Ink: Wide Format Printers for outdoor use without lamination** New, September 2003, an update of an earlier chapter within the solvent ink report. Now that DGI is also offering an oil-based printer, now that the Seiko is better quality, and now that it appears that XES ColorgrafX X2 has reappeared, it is time to have a separate discussion on this subject. Updated January 2004.

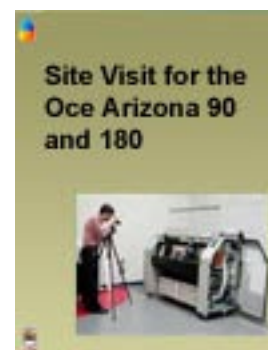


**Questions to ask about Solvent Ink Printers before you buy one.** New as of May 16<sup>th</sup>, 2003, updated June 2003.

Armed with these FAQs you have a better chance of not getting screwed by false and misleading ads, hype, and all the utter nonsense and occasional outright lies you are faced with. FLAAR is the only consumer advocate available for wide format printers.



**Evaluation of RasterGraphics-Oce Arizona 90 and Arizona 180 Solvent Ink Printers, Site-Visit Case Study,** new June 2003





**Evaluation of a Solvent Ink Printer; Site-Visit Case Study of DGI Rex 62"** new June 2003

Exactly what you would expect from Nicholas Hellmuth. He tracked down a DGI Rex in its natural habitat, took a team from the university to inspect it, interrogated the shop owner and printer operator, and came back with probably the world's first totally independent report of what the Rex is actually like in operation in a sign shop.



**Evaluation of two DGI Rex Solvent Ink Printers. Site-Visit Case Study,** new August 2003.

Actually we learned there were 46 DGI Rex solvent ink printers within a one hour drive of our university. So we found a second company with this brand, indeed they had two of them, side by side. So Hellmuth and his lab manager from the university went to visit this print shop. They also had a ColorSpan and a Roland, so was an informative visit to compare all these (we have other publications in other FLAAR Series on those printers).



**Wide Format Inkjet Printers, Solvent Ink Printers, Eco and lite Solvent Ink Printers, UV-Curable Flatbed Printers, Inkjet Paper, Media & Substrates, at SGIA , October 2003.**

Nicholas Hellmuth and Anne Behrnes both attended all four days of SGIA , from Oct 15<sup>th</sup> through Oct 18<sup>th</sup>, in Atlanta.

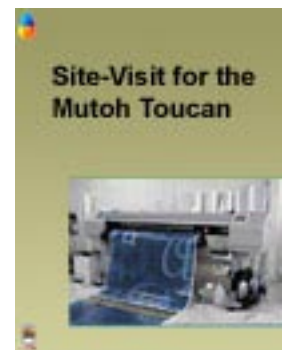
In addition to inspecting printers, inks, media, RIPs, and accessories in the booths, Dr Hellmuth visited the Scitex Vision demo center outside Atlanta.



Even if you attended SGIA yourself, you receive a perspective from a FLAAR report which would be a challenge to duplicate on your own. This is in part because Nicholas Hellmuth brings a wealth of background to this report. A further asset is that he learns lots of facts from behind-the-scenes discussions. Dr Hellmuth received in-depth briefings in dozens of booths. Then in the evening it was possible to gather even more information during the private parties and viewings in hospitality suites or demo rooms. Thus when you acquire a FLAAR report on a trade show you too receive an overview on wide format inkjet printers above and beyond what a normal visitor to SGIA would have had available.

**Mutoh Toucan: Evaluation of this Solvent Ink Printer at a sign-printing company, Site-Visit Case Study,** new August 2003.

The sign shop owner that we interviewed has two Mutoh Toucans, but they bought the second one before they found out the quirks of the first one. A very informative look directly at actual use of a Mutoh Toucan solvent ink printer.

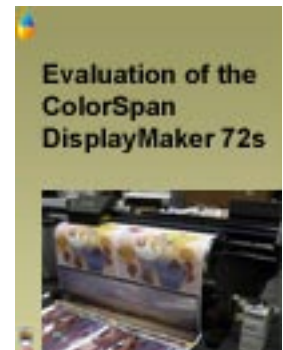


If you are trying to decide between a Mutoh Toucan, Mutoh Falcon Outdoor (Rockhopper in Europe), RasterGraphics (Oce) Arizona Digital Screen Press, Roland SolJet, Roland SolventJet, Lyson Tiara Opal, Tiara Sapphire, Mimaki JV3, Infiniti, DGI VistaJet, DGI Rex these report Series are a good investment.



### Evaluation of the ColorSpan DisplayMaker 72s True-Solvent Ink Printer

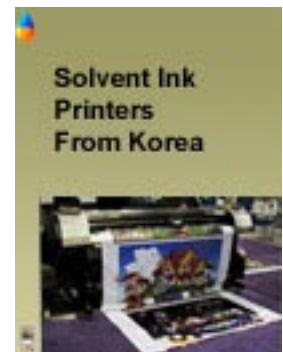
Sign shops face a tough decision: buy a \$14,000 eco-solvent or a \$54,000 true solvent printer. If a printer causes clients to reject the work after the signs dissolve or fall off the vinyl or chip off from abrasion, your \$14K or \$30,000 printer becomes a liability. In this case a \$54,000 printer would have been a better investment. No one printer is perfect, but you can protect yourself with knowledge. While we can't save you from making the wrong decision, and we absolutely can't guarantee that one ink over another will insure your survival, our facts will help you to become a more knowledgeable sign shop owner or operator.



### Solvent Ink Printers from Korea

*What are the differences between solvent Ink printers from Korea and solvent ink printers from China or Taiwan?*

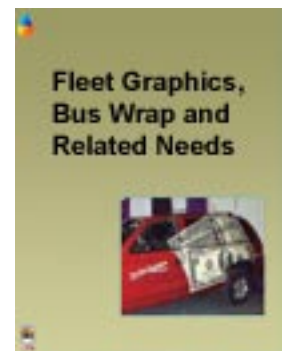
And how do Korean printers differ from those of Japan (Mimaki, Mutoh, and Roland?)



**Is it recommended to even consider a Chinese Solvent Ink Printer? What about solvent ink printers from Taiwan? From Korea?**

### Bus Wrap and Fleet Graphics.

Must be a boom in the wide format sign-making business since I get quite a lot of inquiries for fleet graphics, bus wrap, and related needs.



If you initially were looking at a Nur, Vutek, or Scitex-Vision, and are now trying to make a decision about the lower priced Arizona, Mutoh, Mimaki, or Rex, then also these reports are ideal for background information. FLAAR offers independent reports which you will not find in any trade magazine.

If you seek either a grand format or 54" through 90" solvent ink printer, and are tempted by the low priced printers from Mainland China, Taiwan, or Korea, you had better read Nicholas's reviews from seeing these printers at ISA '03 and Graphics of the Americas '03.





## Eco-Solvent Ink Printers

### **Get Started: Solvent & Eco-Solvent Ink Printers From A to Z**

In an easy-to-follow glossary format we describe the jargon related to these printers so you can understand what in the world the sales rep is talking about. Protect yourself by becoming a savvy buyer.

For example, what is the difference between eco-solvent, mild-solvent, lite-solvent, and true-solvent inks. And how do these differ from UV-curable ink flatbeds?

### **Evaluation of Roland SolJet II EX Eco-Solvent Ink Printers**

We pose questions that are not addressed by the over-enthusiastic ad claims. For example, do you really need lamination? What normal cleaning materials will damage or destroy your sign? And what is the truth about whether these eco-solvent inks really work on as many non-coated materials as is claimed?

### **Mutoh Outdoor "Junior" A 37-inch Eco-Solvent Printer**

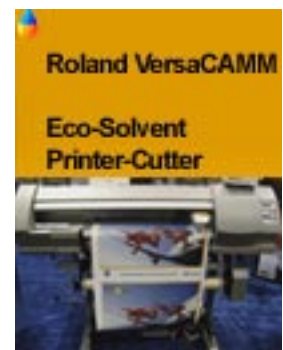
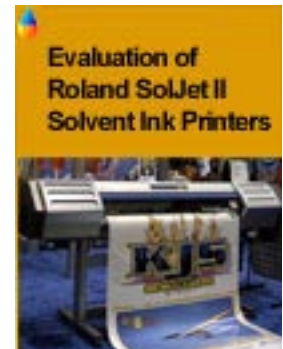
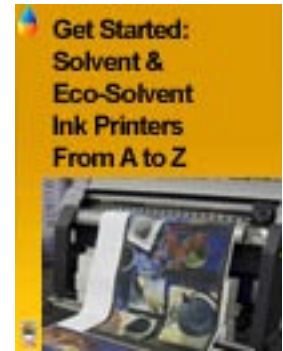
If you are about to buy a VersaCamm or a Junior, the FLAAR Reports are the only ones that compare and contrast both of them, and we also cover the Encad VinylJet too.

### **Roland VersaCamm Eco-Solvent Printer-cutter**

Can this print 30" or is it really a 29-inch printer? This is important, because Encad claims 36" (but is it really?) and Mutoh claims 37-inches (claims 38 inches in Europe!). If you are a sign shop this kind of information will keep you in business, rather than buying the wrong width and having your competitors walk away with what should have been your profits.

### **Mimaki JV3 Solvent Ink Printer: FLAAR Fast Facts**

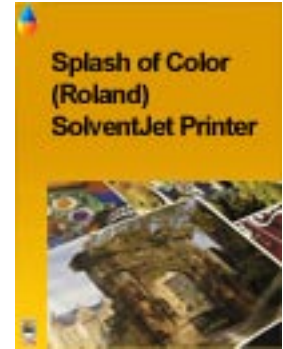
The Mimaki has outsold every other solvent ink printer available today, but it is not actually a true-solvent ink printer. Since the ads don't really say so, we do: this is a mild-solvent printer, not a true solvent. What are the implications?





**Splash of Color (Roland) SolventJet Printer**

SolJet vs SolventJET; it gets rather confusing. But what if one of these printers can't really achieve red colors. The other printer does an excellent job with reds. What if your clients need red? It turns out that the printer that can NOT deliver red gamut is precisely the one whose advertising hype claims it does the best at red. Now you know why FLAAR writes reviews. We feel it is not fair that advertising cheats and is misleading. Besides, the goal of a university institute dedicated to wide format printing is to assist the general public with educational materials.



**Tiara Opal II, Lyson Solvent Ink Printer**

The FLAAR publications point out the reality of a retrofitted printer, that is, a printer that has been modified. So the first question is, do you want a retrofitted printers or one direct from the original manufacturer? The range of choices is confusing. We work hard to provide comparative charts of all eco-solvent and lite-solvent printers, so that the end user can arm themselves with facts on which to base an intelligent buying decision.



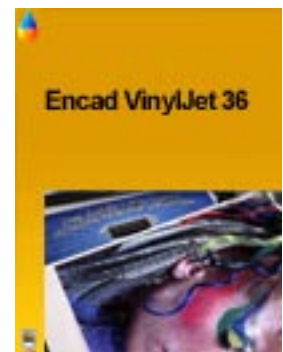
**Mutoh Falcon II Outdoor Eco-Solvent Ink Printer**

The same chassis is rebanded as the Agfa GrandSherpa Universal, Gerber Elan, and probably some of the Spandex Jetster models. Because these models are available worldwide it is essential to understand their pros and cons relative to Roland and Mimaki.



**Encad VinylJet 36**

This printer does not use solvent ink but, in theory, can adhere to vinyl. But like all printers which do NOT use true solvent inks, some cleaning agents wash the ink completely off the vinyl. This might get your clients upset.



This new series on eco-solvent printers is now ready as of early July 2004.

All those who purchase this series now can request to receive all upgrades, at no cost, that are added to this series during Autumn 2004 from GraphExpo, SGIA, and Photokina trade shows during September and October.



Report series on UV-Curable Flatbed printers

**Flatbed Inkjet Printers including UV cured inks: Which printers can print directly on rigid and/or thick material** (up to 3 inches thick).

A sign company got so excited about a UV curable flatbed that they bought the first one they saw. A few weeks later they came to Nicholas to bemoan this decision. Over the next several months they consulted with Dr Hellmuth who dedicated considerable time and effort to track down reliable information on the entire range of UV curable inks and machines. Now this sign shop bought a new and different flatbed, based in part on the suggestions of FLAAR's research. If they had spent \$280 they could have saved themselves the \$160,000+ they spent on their first mistake (which they bought before consulting with FLAAR).



*This report was substantially updated after four days of inspecting and taking notes on UV-curable ink flatbed printers at SGIA trade show in mid-October, 2003; then updated after ISA '04, April 2004.*

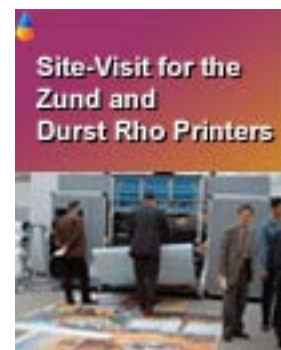
**Questions to Ask Before you Decide Which Brand of UV Curable Flatbed Printer to Purchase**, new June 2003; updated April 2004.

It's very simple. Do you want to buy a \$150,000 to \$450,000 printer on the basis of what the manufacturer's ads claim so enthusiastically, or would you rather learn from Nicholas Hellmuth how to be a savvy buyer?



**Site Visit and Case Study of Zund UV-Curable Flatbed Printer Compared with a Durst Rho UV-Curable Flatbed Printer**, new June 2003, updated April 2004.

This report is compiled notes and answers to questions based on inspecting a successful, enterprising sign and pre-press shop who had purchased both the Zund and then the Durst Rho. This is an unprecedented opportunity to learn the pros and cons of each machine, plus compared against each other. Nowhere else but from FLAAR can you obtain such independent, up to date, and pertinent information.





***A List of UV-Curable Flatbed Inkjet Printer Applications for screen printing and sign shops***

together with

***Everything you can Print with Flatbed Printers, especially Architectural Use.*** FLAAR Fast Facts, new September 2003, updated April 2004.

This brief inventory of what you can print on with UV-curable inkjet printers is a polite way of saying, here is what the ads claim you can print on. Now it is up to an evaluation institute to eventually certify these materials and applications.

Nicholas's background is in architecture so he has a personal interest in inkjet printing on doors, wall sections, window glass, window blinds and everything else. This is a preliminary list, in our FLAAR Fast Facts format.



***Glossary Of Terms Related to UV-Curable Inkjet Printers (Primarily flatbed printers)*** Combined with ***Bibliography of UV-Curable Inkjet Inks and Printers.***

New August 2003

This new FLAAR report allows owners of screen printing companies, sign shops, or any company that is considering a UV-curable inkjet printer to understand the basic jargon and terminology. Plus, as you would expect from reports researched by a university professor, this report has an ample bibliography. So you get all the information in one convenient packet. In full color, in Adobe Acrobat PDF format.



If you intend to figure out which quarter of a million dollar flatbed UV-curable ink printer to purchase, investing in the FLAAR evaluations is a clever move. \$280 or special price for FLAAR readers, \$236, if you have filled out the Survey Form.



**Nicholas Hellmuth's**

**"DRUPA 2004 Update" on UV-Curable Ink Flatbed Printers**

Dr Hellmuth spent 10 days gathering information on UV-curable ink printers at DRUPA. Since DRUPA is in Germany it helps to speak Deutsch to get the maximum information. It costs about \$2,000 to fly over, cover the hotel and other costs, so all these reports at \$100 for the whole group is a bargain. Even if you attended DRUPA yourself, unless you spoke German, and spent 2 weeks there, we suspect that Professor Hellmuth was able to extract tidbits that are not available elsewhere.

**"DRUPA 2004 Updates" on UV-Curable Ink Flatbed Printers**

**Notes on the Adhesion Situation for Materials Printed on with UV-Curable Ink**

**UV-Curable Inkjet Printers Shown at DRUPA Trade Show, May 2004**

**How does a UV-Curable Printer differ from a Solvent or Eco-Solvent Inkjet Printer?**

**What about White Inkjet Ink?**

At last you can print with white ink on dark cloth, on dark Lexan. But why do only some UV printers offer white ink, and others not?

**How a UV-Curable Inkjet Flatbed Works: Anatomy of a UV-Curable Ink Printer**

This is a FLAAR Fast Facts, so we won't overburden you with technical detail. Fast Facts are precisely that, a precis of useful information in an easy to understand format.

UV-Curable Flatbed Printers at DRUPA Trade Show 2004



Materials Printed on with UV-Curable Ink



UV-Curable Inkjet Printers at DRUPA Trade Show 2004



UV-Curable, Solvent and Eco-Solvent Inkjet Printer Differences



What about White Inkjet Ink?



Anatomy of a UV-Curable Ink Printer





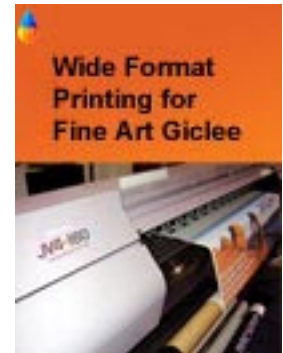
## Report Series for Artists, Art Museums and Fine Art Giclee Studios

FLAAR now has an Iris 3047 giclée printer (the Ixia version). We also have several HP DesignJets, several Epson's, two ColorSpans, a Mimaki, and we see plenty of Rolands when we inspect sign shops worldwide.

If you wish to try out each of these printers yourself, that is the way to make your decision. But since this is unrealistic, why not benefit from Nicholas's experiences. His PhD is in art history from a European university; both his MA degree (Brown University) and his undergraduate degree from Harvard were on ancient art. So if you intend to photograph or digitize art, Dr Hellmuth has many decades of prior experience.

We can also assist you to learn how to scan or photograph your art. FLAAR is one of the few universities in the world which has both a BetterLight and also a complete Cruse fine art reprographic system (all \$97,000 worth of Cruse digital camera).

***Large format printers for professional fine art giclee printing, for artists, both home, hobby, and commercial studios. This report covers only 36" and wider.*** Comparative discussions, comparing Iris, Mimaki, Epson, Mutoh, I-Jet, ColorSpan, Roland, HP and explains why Encad is not in this league.



If you want **only a 24" entry-level printer**, please ask for **The FLAAR Report on 24" printers for fine art giclee and photo-realistic quality.** Reviews Epson 7000, Epson 7500, a bit on the new 7600 and all other 24" printers.

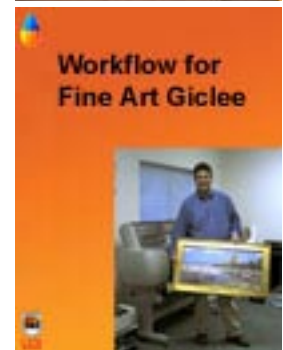


***Media for fine art giclee and photo-realistic museum-quality printing,*** with some sources for inks as well as the media.



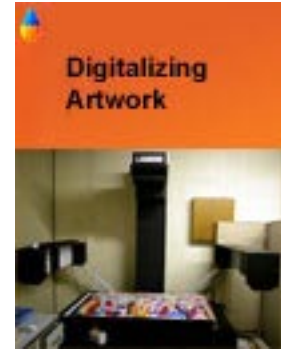
***Workflow for Fine Art Giclee Printing from scanning the painting through finishing the wide format print.*** New September 2003.

This describes the step by step process of how to achieve a museum-quality giclée print or an award winning photo print. Nicholas Hellmuth combines his experience with scanners and digital photography of paintings with his knowledge of fine art printing to produce a helpful primer on giclée printing.

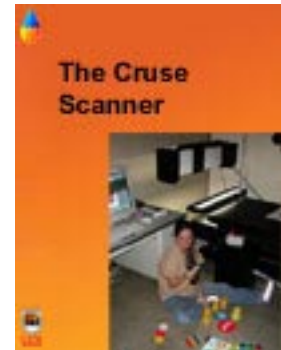




**Scanners: what flatbed scanners and large format digital cameras are best for digitizing your paintings or artwork so you can print them.** Comparison between drum scanners vs flatbed scanners. If your budget covers only a megapixel point-and-shoot camera, this report is not for you. If you want a cheap scanner for home use; this report is not for you either.



**The Cruse Scanner / Digital Camera System.** This is the FLAAR update and revision of the operator's manual for this reprographic system in the FLAAR facilities at Bowling Green State University. The Cruse system is the Rolls Royce for digitizing your fine art paintings in order to reproduce them subsequently as a giclée print. This camera is designed and built as you would expect for a German engineering company (Cruse GmbH).



**Iris Gprint:** a penetrating report kindly sent by an experienced user. This 3047 printer originally cost over \$110,000, but the report is a bargain in comparison. It is crucial that information is available so you don't waste money on a printer that has known defects (fortunately there is a new version, the Ixia, which got rid of the quirks).

**Inkjet Printing for Artists and Designers** New, January 2004

- greeting cards,
- note cards,
- gift cards,
- post cards,
- business cards
- invitations
- jigsaw puzzles
- game boards
- calendars

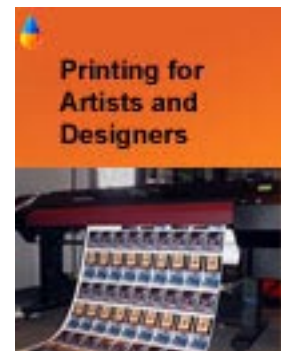


**What you can still do to a Giclee Print, After you have finished printing them**

- Clear-coating
- (Liquid) laminating
- Painting on top of an inkjet print

Every week painters are asking

- "how should I laminate or clearcoat my prints?"
- "What varnish will not crack or turn yellow with age?"
- Many artists ask, "How can I paint on top of my inkjet print once it is printed?"



So Professor Hellmuth did the kind of research you would expect and also checked around and has issued the first stage report, which is a FLAAR Fast Facts. This means he states the basic facts, pros and cons of various solutions, then quotes actual end-users on how they handle these situations. Nicholas then provides a useful bibliography of where you can go to obtain additional information.



This report is totally new for year 2003. This report has been issued to answer the most common question of all, "How can I print in raised ink to simulate oil painting, maybe even brush strokes?" Professor Hellmuth presents the pros and cons of three ways to satisfy this need with inkjet printers.

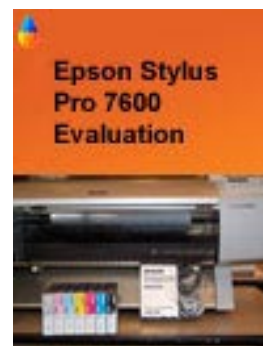


**Printers for 11x17 and 13x19 inches: Epson 5500 and HP 20ps.** FLAAR Fast Facts. Details the pros and cons of the Epson 5500 rather succinctly. Updated summer 2003.



**Evaluation & Review of the Epson Stylus Pro 7600 with UltraChrome Ink.** New August 2003.

This is one of the few totally independent reviews that exists. If you wish to learn the truth about this printer, based on actual use printing photographs and giclee, do yourself a favor and get a hold of this new report, by Stephanie Madeya (Bowling Green State University) and Nicholas Hellmuth (FLAAR at BGSU).



**Evaluation of Encad NovaJet 850 and 880 for production of Décor Prints; Site-Visit Case Study.** New, November 2003.

To our knowledge this is one of the few independent evaluations of any Encad NovaJet printer that exists. Nicholas Hellmuth interviewed the owner and printer tech operator of two NovaJet 850's and one 880. If you are thinking about an Encad printer for either décor, giclee, or fine art photography, you need to get your hands on this FLAAR report.



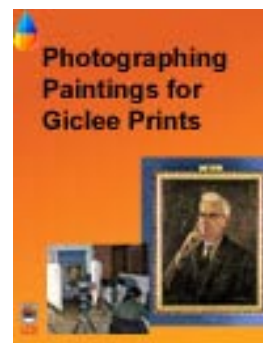
**Opportunities in the Décor Market for wide format inkjet printing**

- How to Distinguish Giclee from Décor
- How to Distinguish Fine Art Photography from Giclee
- How to Distinguish Fine Art Photography from Commercial Photography

New January 2004

**Options for Photographing Paintings to reproduce as Giclee Prints.**

If you intend to undertake giclée printing for either fun or profit, you need to figure out how to digitize the oil paintings or watercolor paintings. Dr Hellmuth spent a month doing this with 18<sup>th</sup> century oil paintings on canvas at the Malta Centre for Restoration, University of Malta. This report is the result of the work of his team. Also includes appendix based on the work of the FLAAR staff at Universidad Francisco Marroquin in Guatemala who also do giclée printing (which implies they also have to photograph the paintings to begin with). New, May 2003.



**Help and Tips Preparing a BUSINESS PLAN for setting up a wide format fine art giclée printing service.** New, August 2003.

If you need to prepare a business plan for your new giclée enterprise, the reports by Professor Nicholas Hellmuth have done much of the homework for you. As one reader told us, "Your FLAAR material saved me hours, actually probably days, of trying to find stuff on the web. Besides, FLAAR packages it all neatly together, and its based on actual usage of the printers being described."



FLAAR prints for the art faculty and students in the art department adjacent to our 6,000 square foot facility at a large state university. It would seem that we have a bit of experience with all this. So now you know where we obtain the documentation for our infamous pithy discussion of the pathetic hype that manufacturers try to bamboozle you with. We report from our personal experience as well as from visiting other fine art giclée printing studios.

If you intend to do serious fine art giclée printing, either commercially, or as a second business, hobby business, retirement business; or if you wish to consider adding fine art giclée to your photo studio, your sign shop, or any facility which has a wide format printer, the friendly helpful FLAAR Series provides the tips, help, and practical information.





***Glossary of jargon and other confusing terms related to Fine Art Giclee. Wide Format Inkjet Printing*** together with ***List of Suggested Additional Reading*** New, September 2003.

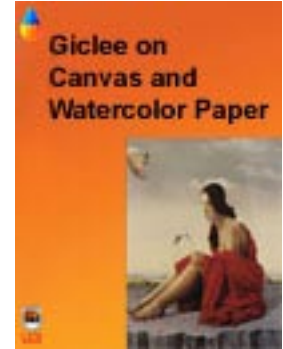
Readers asked for a glossary so they could more easily understand the jargon of giclée printing and printers. So Professor Hellmuth prepared a customized glossary for the introductory through intermediate level.

***Profit Potential with Giclee on Canvas and Watercolor Paper.*** New, March 2004.

147 booths at International Art Expo featured giclee prints, more than had serigraphs or lithographic art prints. So clearly hundreds of artists are earning big bucks selling giclee prints. Nicholas Hellmuth interviewed a sample of these artists and shows the work of several dozen. This report should be inspiration that you too can print giclee that others will desire.

The International ArtExpo is a mecca for art connoisseurs, gallery owners, artists, fine art photographers, and giclee printing masters. But many of these people are mom and pop folks, selling out of their home. Others are sophisticated galleries with millions of dollars in profits. Regular giclee prints were bringing in up to \$3,000. Normal price was \$1,200, per print!

So it may be worthwhile making an investment in the FLAAR Reports, to learn more about the world of giclee printing. We print giclee in the FLAAR studios at two universities, so we have experience to share with you. We also do the photography of the paintings, so the FLAAR Reports can help you every step of the way.



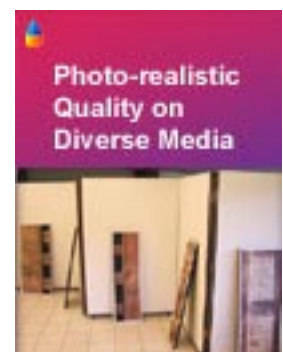
**Report Series for Photographers of all levels,  
Photo Labs; Photo Studios; commercial photographers  
Wide format inkjet printers for Exhibit-Quality Photos**

This series is for commercial photographers, portrait photographers, nature and landscape, as well as fine art photographers. Equally appropriate for pros or enthusiasts.

If you prefer to print on canvas or watercolor paper, you should consider the combo Set (includes the Photo Series and Giclee Series together at steeply discounted price).

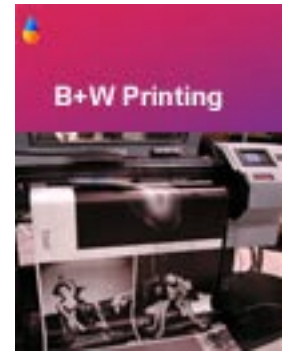
Nicholas Hellmuth's photos have been published by National Geographic. Highlights from his photo archive of over 50,000 images grace coffee table art books published in Japan, Austria, Germany, and university presses in America. Nicholas has been learning about using large format printers to output his photographs for many years now.

***Which wide format printer is a good choice when you need exhibit-quality photo-realistic prints for an art museum?*** There are two museums on our campus. FLAAR has organized different art exhibits of wide format prints for both museums. Which printers did we select? Which other printers turned out to be inappropriate (and why)? This report is completely different than the introductory report on fine art giclee printers (which is a comparative review of all printers). In distinction the present report shows an actual art exhibit of wide format inkjet prints and explains what printer accomplished this, why we selected that printer over others, and what the museum goes thought of the prints.



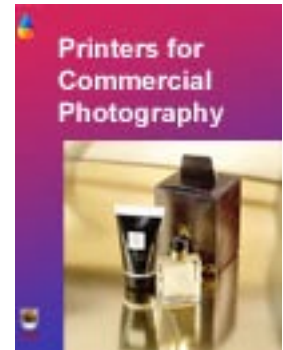


**B+W Printing with Wide Format.** We get so many requests for this that we are initiating evaluations of various solutions. B&W prints from the most popular low-cost piezo inkjet printers turn green; black-and-white prints from the most popular thermal printers have a bad magenta cast. So you might want to avoid them and their problems with metamerism by checking out this report. Newly updated after PMA 2004



**Wide Format Inkjet Printers for Commercial Photography should they be a different make and model than printers for Fine Art Photography?** New March 2004.

Portrait photography, architectural photography, commercial photography, fine art photography, and taking pictures of paintings to reproduce as giclee prints all call for different cameras and slightly different kinds of wide format inkjet printers. Nicholas Hellmuth has 42 years experience in photography and every size and shape of wide format inkjet printer in his two university labs. So here is the ideal place to get some facts, before you spend big bucks on what may be the wrong printer.



**Which Large Format Inkjet Printers are optimal for Photo Realistic Quality Inkjet Printing on Canvas, Photo Glossy, Satin, Matte, and other diverse Inkjet Media.**

We have nineteen inkjet printers at two universities. The lab manager at each university can select any printer in the studio. No one bribes the lab manager to choose that specific printer. He simply selects the printer which produces exhibit-quality output quickly, efficiently, and at reasonable cost. Each lab manager has an Epson and an HP, right next to each other (actually we have three Epson printers at Bowling Green State University).

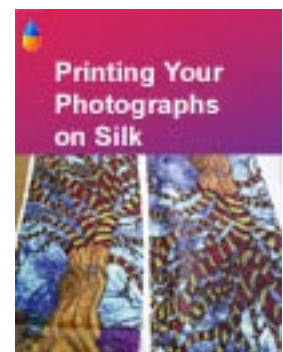


Yet both lab technicians, at each university, with no premeditated connivance (they are so busy they don't actually often communicate with each other) they both tend to use one brand about 80% of the time.

Why? One brand sucks ink by the gallon. The other brand uses less ink, and the ink seems more reasonable in price too.

One printer leaves banding defects all across the picture. The other printer does that seldom.

Before you buy what the ads lure you to believe is the cats meow, you might like to read this report. Hopefully we know digital photography equipment; we have a \$97,000 Cruse digital camera, two very costly BetterLight scan backs, a Nikon D100, Foveon chip in a Sigma SD9, and several Nikon Cool-Pix models. We also print for the art department. They own an Epson printer, so why do their students and faculty come to the FLAAR studio and use another brand of printer?



**Printing your Photographs on Silk.**

Professor Hellmuth explains how easy it is to print your own photos onto pure silk, in your home or office. Nicholas lists which printers, what inks, and where to obtain the silk. Amaze your friends, relatives, and business associates when they jealously look at your photos printed onto silk.



**Scanners and Scanning 35mm, medium format and large format negs and chromes.** FLAAR has significant experience as consultant for scanning slide archives, such as for the Japanese National Museum.

**Scanning Medium Format and 4 x 5 inch Transparencies for Photographers who wish to print on wide format printers: inkjet and/or laser-light digital imagers.** Scanning medium format and large format chromes is a bit different than scanning 35mm negs and slides, so we have a separate report on each in this series. The entire FLAAR project on digital imaging is based on the Japanese ministry of education providing a grant for Professor Hellmuth to assist the National Museum of Ethnology, Osaka, on how to scan their photo archive (which was largely Dr Hellmuth's own photos which the museum had purchased the year before). This Japanese project and a succeeding scanner project had a budget of about \$250,000. So you get all the results of all these years experience, for an economical \$142 for the entire series (or discounted down still further to \$120 if you have already become part of the FLAAR favored readers by filling out the inquiry form).

**First Look at New Generation Photo-Quality Printers: HP DesignJet 30 and HP DesignJet 130**

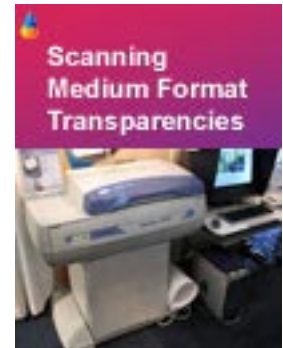
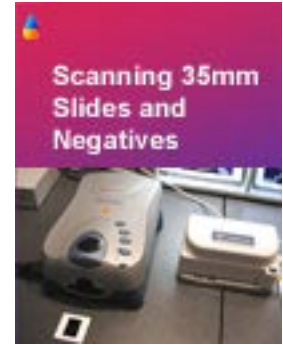
The HP DesignJet 30 and HP DesignJet 130 were shown to the public for the first time at PMA trade show. FLAAR was in the HP booth as well as gathering information from our extensive network of sources for learning more than is in the basic specs. It will be a while until production models are available to test. But common sense and a practiced eye allow us to dissect every word of the PR release, advertising, and specs. We have become adept at this kind of analysis of Epson printers and in fairness to all brands we need to apply the same scrutiny to HP printers too.

**FLAAR Fast Facts: Comments on Cymbolic Sciences LightJet, Durst Lambda and ZBE Chromira**

Many of our readers as "Should I buy a LightJet or Lambda, or have Inkjet printers caught up yet in continuous tone quality." This report is by Brent Cavanaugh, who writes from many years experience in a pro photo lab in Dallas, Texas, before taking over as manager of the FLAAR print facility at Bowling Green State University. Comments have been added by Nicholas Hellmuth based on his inspection of a photo lab which had several Durst Lambda's. Was an eye-opening experience.

**Digital Cameras Exhibited at PMA 2004.**

PMA is the largest photography trade show in North America. PMA is about three times larger than PhotoPlus in New York. Professor Hellmuth spent 5 days at PMA and offers his commentary on what he saw and experienced.





**Wide Format Inkjet Printers Exhibited at PMA 2004**

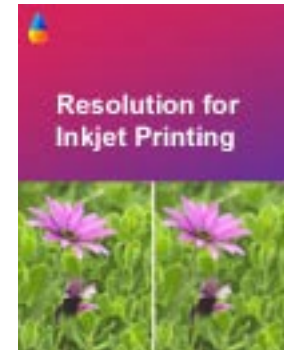
Since more and more photographers are printing their images with inkjet instead of darkroom enlargers or RGB laser light or LED imagers, it is logical that a photography trade show such as PMA would feature lots of wide format inkjet printers. Canon, HP, and Encad revealed new wide format inkjet printers. Roland was absent, why? Lots of tips, help, info, and behind the scenes tidbits that Dr Hellmuth is infamous for.

The FLAAR Report on PMA is divided into two halves, this one on printers, and another separate report on cameras and scanners.



**Resolution: How much DPI do you need for Inkjet Printing?**

This report actually informs you the different requirements for thermal print-heads (Canon, Encad, ColorSpan, and HP) vs piezo printheads (Epson, Mimaki, Mutoh, Roland). Professor Hellmuth also adds facts on what resolution is required for RGB laser light imagers such as Durst Lambda, LightJet. Dye sub dye transfer printers (wax or resin ribbons) are a different technology again, and require a resolution which is not the same as inkjet. Everything on resolution, for your scanner, for your digital camera, for your printer, are all contained here.



**Workflow for Digital Photography: from taking the picture through enlarging the image with an inkjet or other digital printer.** New, May 2003.

Summary of sort of everything you need to think about in doing the original photography to sending the image through software to get it enlarged with an inkjet printer, Fuji Pictography, Durst Lambda, LightJet, or other kind of digital printer.



If you prefer to buy both the Giclee SERIES and also the Photo SERIES the two are available as a SET at discounted price.

If you are a photo-journalist, portrait photographer, product photographer you should select the Photography SERIES. If you intend to reproduce your photos on canvas, on watercolor paper, or as giclees on photo-base inkjet media, then we recommend you select the Giclee SERIES.

If you are either, and wish to print giclee quality photographs, then buy the SET. SETs are described at the end of Series.

If you seek information on the HP DesignJet 5500ps, since this printer is appropriate for signs, posters, décor, giclee, as well as photo-realistic quality, we make it available to anyone who has ordered two or more series. The HP 5500ps report is free in the Bonus titles (once you order the appropriate number of other series, described on [www.wide-format-printers.NET](http://www.wide-format-printers.NET) in the link to Bonus Reports).



## Report Series for Success & Survival

Become an aware buyer, become an informed consumer. Why let yourself be at the mercy of sly advertising hype. It is actually interesting to attend industry conferences where experienced managers themselves say that their own industry ads are deceitful. These are managers who are no longer working for any manufacturer so they can speak from their prior experience.

The purpose of slick ads is to delude the unwary buyer. Over the past several years we have jotted down notes on all the major misconceptions, assumptions, as well as some downright misleading advertising claims.

***Glossary of Terms related to wide format inkjet printers.*** New for June 2003; updated April 2004.

This glossary is written to help newbies through intermediate users of inkjet printers learn the jargon of wide format inkjet printers. This glossary is based on the years of experience of Professor Hellmuth with his 12 wide format inkjet printers at the two universities where he maintains test labs for digital imaging equipment.

If you are about to buy your first wide format printer, or an 13 x 19 desktop size, or even if you already have some experience but want more, this glossary was written for your needs.

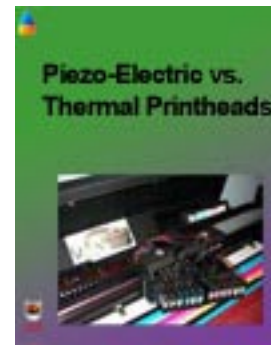
You can survive a lot better in the world of inkjet printing and digital imaging if you know the arcane jargon that some people hide behind. This glossary offers you a head start to cut through the verbiage and get to the true facts about inkjet printing.

***Piezo-electric printheads vs thermal printheads: fact vs fiction***

This key report deflates exaggerated claims and hype on both sides, discusses the advantages and notable disadvantages of both printhead designs. This report exposes lots of misinformation. You will be happy to learn, however, that piezo printheads do many things with outstanding quality, and that thermal printheads can also match, or exceed that quality. When it comes to choosing what printer to select, knowing about the printhead system is only one factor, albeit very crucial. You can make an informed decision on what printer to buy if you know the strengths, weaknesses, and differences between thermal and piezo printhead printers. Updated April 2004.

***What to watch out for when the sales rep is moving in to close the sale... how to avoid misleading advertising and hype.***

This pithy Survival Report cuts to the heart of the matter and exposes some of the basic bait and switch tactics and other favored ploys of over-eager sales people.





**FLAAR Comprehensive List of All Large Format Printers, Makes and Models**

This list is more complete than we have found in any trade magazine, plus this report provides tips on infamous weak points of pertinent printers. Before you buy your next printer, you might like to know all the options available from other brands. A different printer may be better for you? Nicholas Hellmuth has completely updated this comprehensive list for September 2003.

**Inspiration with Inkjet Printers: New Wide Format Printer Applications so you can sell into New Markets  
Tips, Help, Suggestions, for all the uses that you can apply your wide format inkjet printer to accomplish**

This is the original FLAAR version, substantially updated in April 2004. The published version was published earlier last year and therefore does not have the many updates that we insert into this full FLAAR version every quarter. If you wish to learn how to earn money with your wide format printer, this is the report to get you started.

**Is it advisable to buy a used Large Format Printer?**

Every month we receive e-mails from people who already have, or are about to, buy a used printer at such a low price that it tempts them to skip common sense. The purpose of this particular report is to do our best to bring up some aspects of reality that come along with the "good deal."

"After the introduction of one early solvent-system piezo inkjet model, it was discovered that the ink corroded the supply lines to the printhead, creating metal fragments that chewed up the printheads when they got there. This was an expensive lesson for both the manufacturer and its customers." (Sean O'Leary, ScreenWeb)

Now you know why this model is so cheap on eBay!

Learn what models of used Encad printers to avoid, and why?

Learn the two foibles of HP DesignJet series 2000 and 3000, and how to overcome them.

Learn which models of used Epson printers were a disaster for people who initially bought them. So of course they are plentiful and cheap on eBay.

Three printers by major brand names produced such mediocre output they earned the FLAAR "worst in show" distinction. Hundreds of these printers are available on the used-printer market. But if no one warns you, you might buy one by mistake.

Are you aware of which printers tend to have banding defects?  
Surprise, it's the printer that advertises its super quality.

Do you know which printers's inks can't reproduce cyan or red well?  
Surprise, it's the printer that advertises its capabilities to print blue and red. Two resellers of this printer brand stated publically it had trouble with cyan and sunset red.





This same printer is very slow. Yet its ads claim it prints at blazing speed.

See the pattern: take what your printer does worst at. Then claim it can do these things better than any other printer. The average buyer, who is not prepared with the true facts, won't recognize the subterfuge. All the documentation is in the FLAAR Report SERIES on Survival.

Now perhaps you can see why we call this the "Survival SERIES." This is what Nicholas Hellmuth is best known for, ombudsman for consumer protection. Simultaneously we seek to assist the manufacturers to understand what end-users need so that new models can overcome past mistakes and win "best in show" award.

**Suggestions, Tips, Help towards preparing a BUSINESS PLAN setting up a wide format printing service.** If you need to prepare a business plan, the documentation by Professor Nicholas Hellmuth is a god-send. His six years of experience is concentrated in this new title (new for 2003).

Before you consummate the actual purchase of a wide format printer, laminator, scanner or RIP, you might wish to think things over and do some planning. So as part of our year 2004 educational program, we have added this new title, "Help towards preparing a Business Plan."

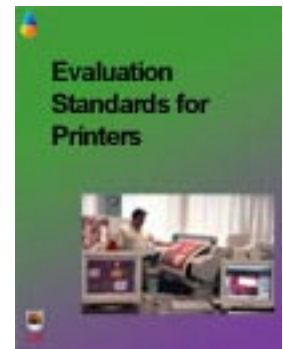
This report is appropriate for

- setting up a wide format printer in-house in any corporation,
- setting up or expanding a sign printing company (primarily with water-based inks),
- for a screen printer wanting to expand into digital imaging,
- for copy shops, quick print, and commercial printers
- for photographers and for artists (or sign shops) who want to print gliclee. We have noticed that many sign shops wish to enter the lucrative market for giclée printing, so we have included many tips for that (plus we have an entire series on giclée printing).

**FLAAR Standards for Evaluating Wide Format Inkjet Printers**, new June 2003, already being updated for April 2004.

This important opus describes how Nicholas Hellmuth evaluates each printer model. You can learn from this how to select and chose what wide format printer is the ideal one for you or your company to purchase. The tips and help within this report are based on Dr Hellmuth's years of experiences with twelve wide format printers at the two university testing labs as well as site-visit case studies of sign shops, gliclee and photo studios, individuals printing at home, and in-house corporate use of inkjet printers.

The questions we ask a printer during testing are comparable to the questions you should ask of the sales rep when you are deciding which make and model to buy. So we have two versions of the "100 Questions," one for our university test lab, and the other for you as a consumer.





**Questions to Ask Before you Buy your next Wide Format Printer.** This remarkable report provides a list of questions to ask before you buy any printer. Our list is unique (no one else would dare to provide so many pertinent, penetrating questions). This list is based on many years of experience with wide format inkjet printers. Exaggerated claims in printer ads are usually smoke and mirrors to distract you from finding out all the other things the printer is bad at, or sometimes things it is totally incapable of (such as printing economically enough so you can afford the inks and media). *Updated April 2004.*



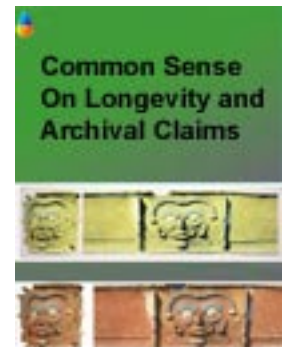
Every printer brand has its supporters. If you like that brand, don't let us distract you by a list of what that printer is poor at accomplishing. What counts is that it can at least do what you need it for. But if you are about to purchase your first printer, or even a second printer, the FAQ from FLAAR will make it easier for you to uncover the true pros and cons of each model.

This report contains the questions; with them alone you can initiate your search for the best brand and model. If you also need all the documentation for answers to the questions, that abundant factual material is contained in the various FLAAR SERIES. SERIES of reports are groups of reports, by theme, which are pictured on [www.wide-format-printers.NET](http://www.wide-format-printers.NET).

The "Questions to Ask" report is new for February 2003.

**Common Sense On Longevity and Archival Claims,** new February 2004

The FLAAR editor, Nicholas Hellmuth, is not paid by anyone to produce claims on inkjet print longevity which can be used to sell one brand or another of anything (neither ink, nor media, nor printers). In distinction, Dr Hellmuth is an experienced photographer at art museums throughout Europe, Japan, across the USA, Canada, and in Latin America. As an archaeologist, Professor Hellmuth knows a bit about longevity of color.

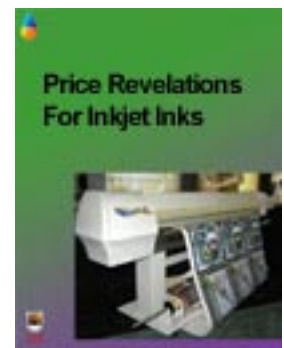


We review inkjet longevity claims in our "Survival" series, since you won't survive in business long if your clients demand you reprint their images which faded "prematurely."

So if you quote 200 year, or 100 year longevity claims on your website, or if you believe in the tooth fairy or Santa Claus then you might wish to invest in a reality check, available from FLAAR (our Survival series of reports), based on our experience (plus common sense).

**Price Revelations for Wide Format Inkjet Printer Inks,** new February 2004.

At last, a useful **price watch for inkjet inks**, helpfully organized by printer brand, type of ink (dye, pigmented, or eco-solvent). Easy to use because ink costs are cross-listed by cartridge or container size, by milliliter unit, and by liter unit. All inks are listed for all sizes so you really know, once and for all, the true cost of inks. Also includes tips from Dr Hellmuth on his experiences in which printers drain your pocket book, and which inks help your print shop survive.

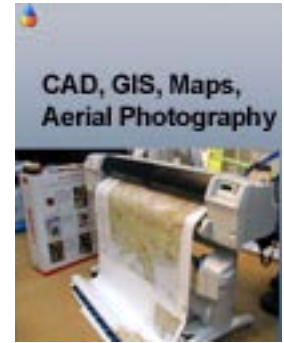




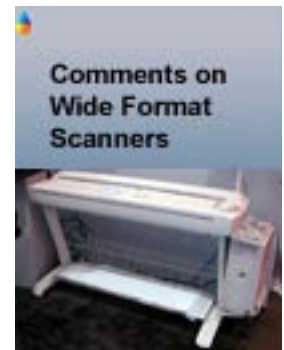


## Report Series on CAD & GIS

**Comparative Review of various Printers for CAD, GIS, and computer generated drawings.** At both universities FLAAR is associated with the architecture department on campus, and practically everyone in the Hellmuth family is an architect, so it is logical that Nicholas would report on which printers are good for printing drawings.

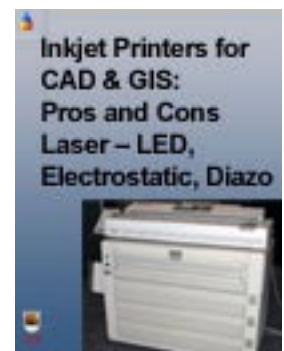


**Comments on Wide Format Scanners,** FLAAR Fast Facts. These are the large format sheet-fed scanners for maps, drawings, for CAD, GIS and other uses.



**Inkjet Printers for CAD & GIS: Pros and Cons compared with Laser – LED, Electrostatic, Diazo**

New, January 2004.



**Oil-Based Ink Wide Format Printers**

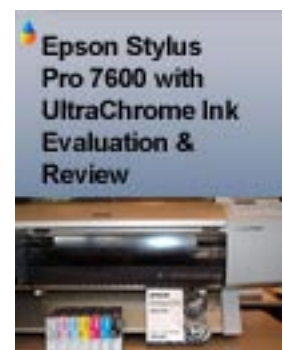
**Speed for CAD-GIS and short-term longevity for outdoor use without lamination.**

Now that DGI is also offering an oil-based printer, now that the Seiko produces better quality, and now that that XES ColorgrafX X2 has reappeared, it is time to have a separate discussion on oil-based printers for CAD and GIS. Updated January 2004.



**Evaluation & Review of the Epson Stylus Pro 7600 with UltraChrome Ink.** August 2003.

This is one of the few totally independent reviews on an Epson that exists. If you wish to learn the truth about this printer, based on actual use printing everything from photographs and giclee, do yourself a favor and get a hold of this new report, by Stephanie Madeya (Bowling Green State University) and Nicholas Hellmuth (FLAAR at BGSU). Epson uses piezo printheads and before you buy a piezo printer you need to be absolutely positive you fully comprehend the difference between a piezo printer (Epson) and a thermal printer (Canon, ColorSpan, Encad, and HP).

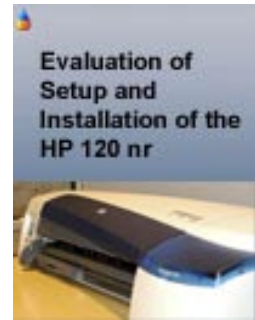




**Evaluation of Setup and Installation of the HP DesignJet 120nr**

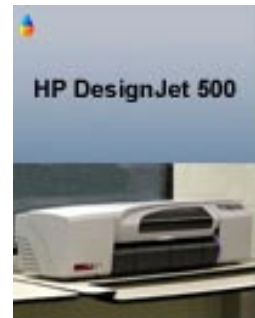
October 2003.

The 120nr is a multi-purpose 6-color desktop 24" printer. You can use this for proofing, printing, and many other purposes besides just CAD and GIS. People have asked for help in deciding among all the other 24" printers, so we are testing them one after the other: Epson 7600, HP 120nr, and Canon W7250. This is what should expect from a university institute: full coverage of all alternatives so you can make an informed decision and thereby become a savvy buyer.



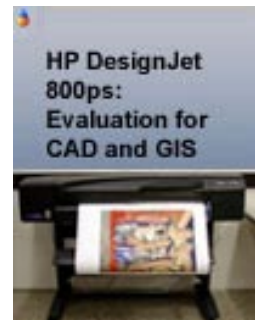
**HP DesignJet 500ps: Evaluation for CAD and GIS and 3-D Renderings**

We undertook a site visit case study of the HP 500ps in the architecture department of Francisco Marroquin University, which is in the adjacent building opposite FLAAR's facility. New, February 2004.



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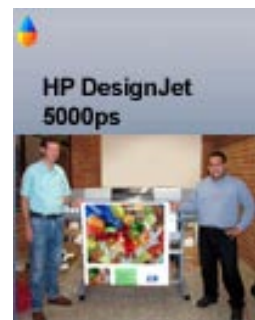
The architects on campus have the 500ps; FLAAR has the 800ps and we also have the HP DesignJet 1055cm. So you can look forward to frank discussion of the pros and cons of these printers for CAD, GIS, 3D renderings, and photographs. This report is brand new, February 2004.



**Assembling a typical printer on day of arrival.** A report on what to expect when the printer arrives at your facility. We use the example of the HP DesignJet 5000, but it could be any printer. Suggests which brands and models of printer you can assemble and set up yourself, and which you definitely need an installer to come to your place and work with you the first day.

**Evaluation of Setup and Installation of the HP DesignJet 5500ps** new, Sept. 2003.

Comprehensive report by Tim Brown, BGSU+FLAAR on the recent arrival of the HP 5500ps.

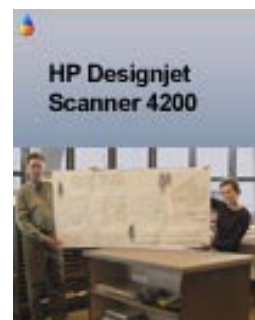


**Comprehensive Comparative Evaluation of the HP DesignJet 5500 in the FLAAR + BGSU testing facilities.** New February 2004.

The advantage of having the HP 5500ps is that you can use pigmented ink for greater longevity. This HP printer can also produce fine art giclee, museum-quality photographs, and even signage



**HP Designjet Scanner 4200** Museums and libraries have lots of traditional maps that need to be digitized. The HP DesignJet 4200 scanner is an alternative that a university, museum, large library network or comparable institution ought to consider. The scanner was shipped first to Bowling Green State University. Here we had two architects and Anne Behrnes test it. When the architects and museum curators at our other university found out about the scanner, they jointly requested that they be able to use it, since seemingly here at Francisco Marroquin University there is immediate need for this class of scanner. So at the moment the HP 4200 is on an airplane to Guatemala. We are very grateful since many of the archaeologists who work here have lots of maps and architectural drawings that can be digitized.





**Canon imagePROGRAF W7250**

Canon holds more patents on inkjet printheads than probably any other company. The W7250 is one of their first new-generation 24" models. The W7200 is the same but 36". FLAAR has the W7250 at our university so we can test it in real-life.

**Evaluation of Setup and Installation of the Canon imagePROGRAF W8200**, new, Oct '03.

*This is Canon's first pigmented ink wide format printer. It only became available in the USA in October, and FLAAR already has a report available on it. The printhead technology is phenomenal. This printer is in Prof. Hellmuth's office, adjacent to the architecture department, so you get factual information from an actual print shop. Furthermore, we have Epson, Mimaki, ColorSpan, and five HP printers in the same test lab, so we know their intimate pros and cons.*

**Evaluation of the Canon imagePROGRAF W7250 24" Six-Color Large Format Printer.** Evaluation by Chuck Spontelli. New August 2003.

The discussion of a Canon inkjet printer in this report is part of a new concept in assisting universities, museums, sign shops, and a host of different kinds of printing shops learn enough about each brand of printer so they can make an intelligent decision of which make and model to select.

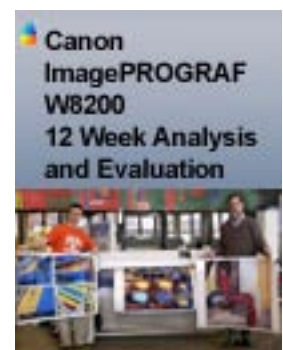
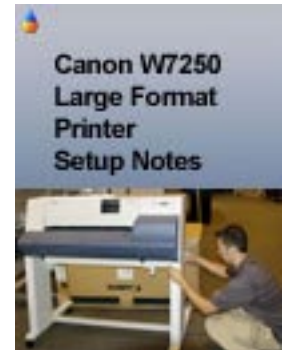
**Canon imagePROGRAF W8200: Comprehensive Comparative Evaluation: A 12-Week Analysis of a Photo-Realistic Wide Format Printer**

*Your main decision when you set up, or expand, is whether to go for a ColorSpan, Encad, Epson, HP, or Canon wide format printer. So we cover them in different reports. New Feb 2004.*

**Evaluation of Setup and Installation of the HP DesignJet 5500ps** new, Sept. 2003.

Comprehensive report by Tim Brown, BGSU+FLAAR on the recent arrival of the HP 5500ps. Basically every print shop today has to decide whether to buy an HP, Canon, ColorSpan, Encad, or Epson. We have all these printers as well as have done interviews with other owners during site-visit case studies.

Where else will you find a professor who has nineteen wide format printers in his own print shop? So now you know why owners and operators do not want to make a mistake by blindly purchasing, without the eye-opening FLAAR Reports.

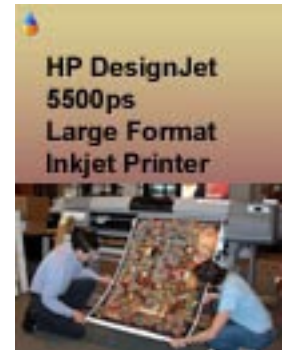




## Report Series on Print for Pay

***Comprehensive Comparative Evaluation of the HP DesignJet 5500 in the FLAAR + BGSU testing facilities.*** New April 2004.

The HP 5500ps review is in two parts. The Set-up part is finished. The comprehensive review will be finished in a few days and sent to you after you place your order.

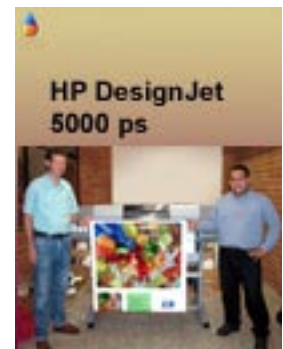


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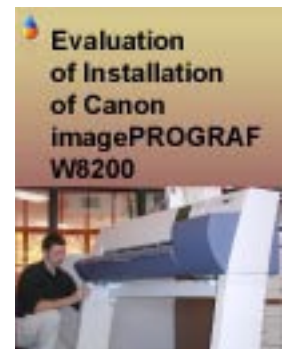
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Your main decision when you set up, or expand, is whether to go for a Color-Span, Encad, Epson, HP, or Canon wide format printer. So we cover them in different reports. Complete discussion of what you can expect if you order a pigmented ink 44" Canon printer, whether for signs, giclee, photography, or reprographics. It's dual advantages are speed and print quality. New February 2004; updated April 2004.

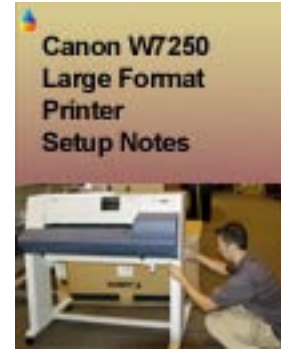


Our new format for full-scale evaluation of wide format printers entails two reports for each printer: Part 1: set up and installation; Part 2, testing usability, practicality, suitability and comparative recommendations.



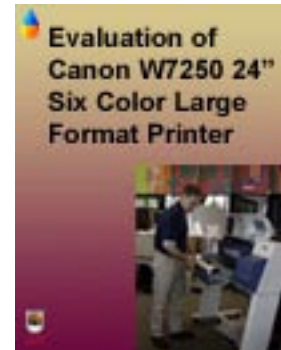
**Canon W7250 Large Format Printer Setup Notes**

A detailed explanation of what it is like to receive this dye-based ink 24" Canon printer into your home or company. Shows that you too could unpack and set up this printer on your own.



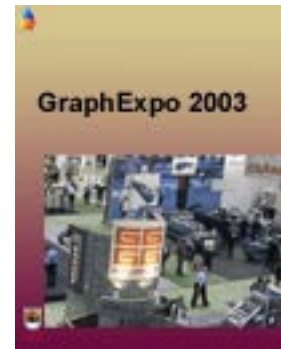
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**Graph Expo , '03, new (November 2003)**

Comments on wide format inkjet printers, UV-curable flatbed printers, solvent ink printers, laminators, RIPs for wide format printers, media, digital photography, books on digital imaging, and other related topics. Based on 3 days visit to Graph Expo by two FLAAR editors (Hellmuth and Magermans).



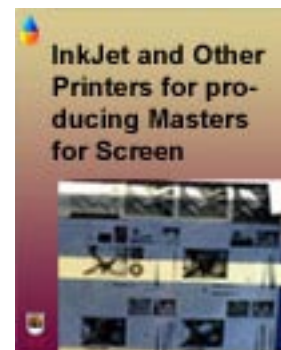
**Wide Format Inkjet Printers, Solvent Ink Printers, Eco and lite Solvent Ink Printers, UV-Curable Flatbed Printers, Inkjet Paper, Media & Substrates, at SGIA , October 2003.**

Nicholas Hellmuth and Anne Behrnes both attended all four days of SGIA, from Oct 15<sup>th</sup> through Oct 18<sup>th</sup>, in Atlanta.

In addition to inspecting printers, inks, media, RIPs, and accessories in the booths, Dr Hellmuth visited the Scitex Vision demo center outside Atlanta.



Even if you attended SGIA yourself, you receive a perspective from a FLAAR report which would be a challenge to duplicate on your own. This is in part because Nicholas Hellmuth brings a wealth of background to this report. A further asset is that he learns lots of facts from behind-the-scenes discussions. Dr Hellmuth received in-depth briefings in dozens of booths. Then in the evening it was possible to gather even more information during the private parties and viewings in hospitality suites or demo rooms. Thus when you acquire a FLAAR report on a trade show you too receive an overview on wide format inkjet printers above and beyond what a normal visitor to SGIA would have had available.



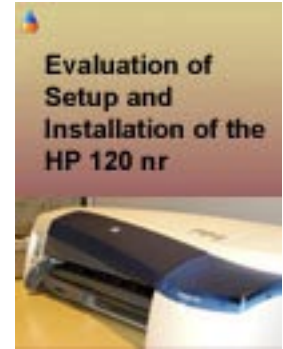
**Inkjet and other Printers for producing Masters for Screen Printing, FLAAR Fast Facts.** Warns you which printers to avoid; suggests which other printers might be better.



**Evaluation of Setup and Installation of the HP DesignJet 120nr**

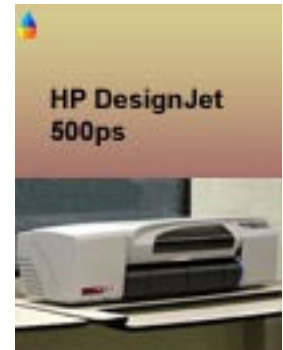
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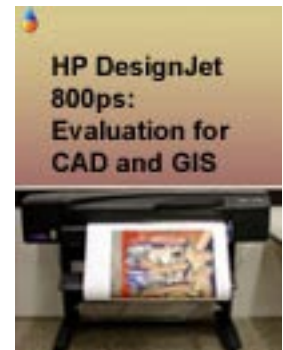
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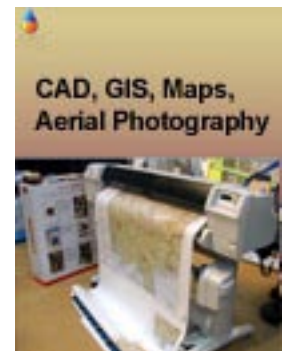
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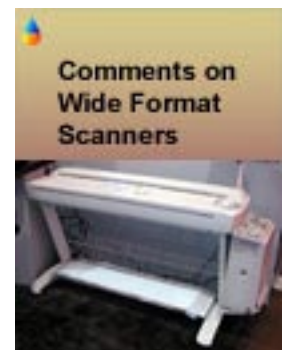


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***Oil-Based Ink Wide Format Printers***

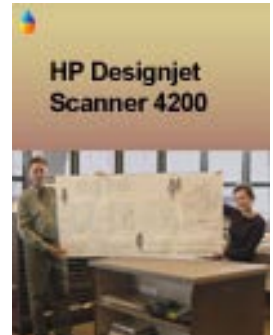
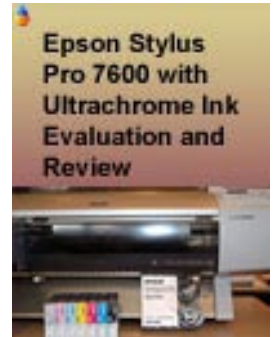
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The following Bonus Reports are included for Quick Print, Copy Shops, Commercial Printers, and Screen Printers:

***Direct Digital Printing on Fabrics with Wide Format Inkjets.*** An easy to read introduction to wide format printing on inkjet textiles such as silk, polyester, nylon, cotton and canvas.

***Comparison of the Performance of Adobe Applications between Apple Mac G4 and G5 and Dell Precision Workstations,*** by Brent Cavanaugh, Lab Manager, Large Format Digital Imaging Lab, BGSU.

This brand new report is one of the few fully independent tests of PC with Mac operating system. The Apple web site claims their G4 beat's Dell, and that the new Mac G5 is the fastest computer, but the benchmarking at Bowling Green State University with Adobe Photoshop, Adobe Acrobat, and other Adobe products shows that in actual everyday work, the tests used by Apple may not show the actual speeds of both kinds of processor. A Dell workstation is faster in many respects even faster than the G5. Both BGSU and FLAAR each use Macs and PCs. FLAAR uses both at each university where it has a facility, indeed Dr Hellmuth has a Mac G4 with cinema display on his desk in Latin America, in Germany, and in the university in Ohio.

We then tested the Mac G5 against Dell. We loaded the Mac G5 with 8 GB of RAM. The results are awesome, and document that either Apple or PC manufacturers are misleading the public. Gotta get the report to find how who is trying to bamboozle you. If you want to protect yourself, and become a savvy buyer, get your tips, help, and information from Professor Hellmuth in the FLAAR Reports.



**Consulting**

If you have purchased any four FLAAR Series you can have 30 minutes telephone consulting with Dr Hellmuth in person, or lab manager Brent Cavanaugh, for a flat \$300, or an entire hour for \$400.

If you have purchased any five FLAAR Series you get 30 minutes telephone consulting for \$200, or an entire hour for \$300. Or, you can drop in and visit us in person for \$300 per hour.

If you have purchased any six FLAAR Series you get 30 minutes telephone consulting for \$100 or an entire hour for \$200. Or, you can drop in and visit us in person for the same fee the first hour, \$300 per hour thereafter.

If you wish Dr Hellmuth and/or Brent Cavanaugh to visit your facility, anywhere in the world, fax 419 372 8283 or e-mail FLAARtest@aol.com for price list for on-site consulting.

If you wish complete training in color management, this is available only on-site (your place or ours), and is best done over two days.

Telephone consulting can explain what tools and software you need, but we can't rectify your ICC profiles by telephone (but we sure can by on-site visit at your place).

Telephone consulting is primarily to answer your general questions as best we can and to assist in deciding what makes and models of hardware and software would be optimal for your specific situation. We can also answer your questions about scanners and digital cameras. Assuming you have already read the FLAAR Reports, we can usually resolve your situation in 30 minutes on the telephone as follow-up.

Obviously consulting fees are non-refundable.

**Notice**

Please realize that all reports are in full color in Adobe Acrobat PDF format. The reader software is free from [www.adobe.com](http://www.adobe.com). PDF files are intended to be read on your computer monitor. Naturally you can print them if you wish, but if the files were high enough dpi for a 1200 dpi laser printer it would not be possible to download them. So the images are intended to be at monitor resolution. FLAAR itself makes the files available only in PDF format because that is the international standard. We have no mechanism to print them out and mail them.

Obviously if you have downloading problems we will try to help, but please realize that we assume you have a 56K modem (or better) and capabilities to handle a PDF file.



Dr. Hellmuth has personally read all 18,000 e-mails. Gaby is one of the secretaries at FLAAR.





## How to get your hands on the FLAAR Reports

You can write FLAAR in German, Spanish, French, Italian, and Portuguese. The reports themselves are all in English but we can read your inquiry form even if you fill it out in several languages. Of these German, French, and Spanish are the easiest for us to read. The entire FLAAR staff is all bi-lingual: two in German, one in French, and all in Spanish, plus naturally English. Italian and Portuguese we can read simply because those languages are so close to Spanish.

FLAAR is preparing to edit all the series of reports into a book and for this we need to know people's questions, queries, likes and dislikes. As part of our general education program we also need to know about trends so that we can suggest to the manufacturers what options and features they should include in their next-generation printers.

For example, many people wish that HP would facilitate **textile** inks and also would like HP to add pigmented inks to its 24" low cost printers. Thus when you ask for specific features, when you detail precisely what options you like (and equally important what options you don't need at all) we forward these want-lists to the manufacturers so that they can be more realistic when they design new models.

It is also of interest to know what people's perceptions are. For example, many people have astonishing concepts of piezo printers vs. thermal printers...(mostly incorrect and based on hype by the companies) yet other people could not care less about piezo vs. thermal...they just want a printer to function). We also get comments on problems in accomplishing adequate test-prints by sales reps. All this information assists us in gently reminding the equipment sales companies that people need less hype and more reality.

If you are doing research for school homework, or if you are already in the digital imaging or printing industry and just curious about what we say in the FLAAR reports, you too are welcome. Just indicate your true status so we can assist you in the most appropriate manner. It's sort of like filling out the marketing card to get a free subscription to a trade magazine. The difference is that FLAAR reports look at the equipment from the perspective of an end user who wants serious help. A trade magazine is an industry-to-industry service. In distinction FLAAR does not publish official company PR releases; we also refuse to use claims provided by the companies. You won't see any slick PR photos in our evaluations either.

We can't save you from a past mistake. If you already bought the wrong printer, sorry, we can't make it work for you. But if you want to junk it, or turn it back in for a well deserved refund and start from scratch with a better printer, then yes, tell us what your problems were and what you look for in a new and better printer (we still can't fix your old printer, however).

If you need additional information, please feel free to send us all your questions at [FLAARtest@aol.com](mailto:FLAARtest@aol.com). However we are able to respond only to individuals who have already filled out any of the survey forms. We read every word, however we can respond only with a pertinent report if one is available for your needs. Please do not ask about repairs, old software drivers, and so on. So if you see a report that might cover your questions, ask and describe precisely where you need assistance. If there is a free report which is appropriate, it will be sent within 48 hours. More likely your question is answered in a report within one of the thematic SERIES or SETS. These you can order on your own from [www.wide-format-printers.NET](http://www.wide-format-printers.NET). Because over 100,000 people a month read the FLAAR web sites, we are able to respond to your e-mail only by listing which report handles your questions. If your question is complex, it may be more realistic for you to sign up for a consulting session with Dr Hellmuth, a professional service available from FLAAR. Ask for the PDF on consulting with FLAAR. You can visit our facilities or Professor Hellmuth can fly to your location. The PDF is an automatic free download (available as soon as possible in August).



If you don't hear back within 72 hours, please ask what happened. Unless your question is outside our areas of coverage.

When our servers are down your inquiry may not reach us, or our answer may not reach you. So if you filled out the survey form with meaningful material about your needs, and if those needs are met by one or more of our free reports, we will answer you within 48 hours during normal times, 72 hours during holiday times, and within 72 hours after a major vacation period (Christmas, New Year, Easter, etc).

If you are unsure whether we cover your questions, just ask for the free FLAAR report on "Subjects FLAAR does not cover at all."

**Education is a two-way Process**

As you can see from the various reports, FLAAR works hard to provide you with a kind of assistance that we both know is not available anywhere else, not even on the Internet and not from any trade magazine.

In other to gather data for you our editors have attended Photokina, DRUPA, CeBIT (all in Germany), Sign-India (Mumbai), Seybold, Comdex, B.I.G. (Big in Graphics), BIG PictureShow, PMA, PhotoExpo East and countless others. However often the best information on how a printer, RIP, ink, media, or software functions comes from you, the end-user. Thus we welcome end-user descriptions of their trial and error, as well as your success stories. When you fill out the Inquiry-Survey form, you help us learn more about your likes, dislikes, your applications, markets. All together this makes it easier for us to know how better to provide information in the future. We add pertinent aspects of your observations into our reports. But more than this, when we know what our readers dislike about certain RIPs, media, inks, printers, or accessories, then we can often relay this as statistical documentation to the manufacturer or reseller so they can improve their product.

Since FLAAR has evaluation studies at two universities, the overall FLAAR education program allows students as well as industry managers to learn about end-user needs. The students also attend the , conferences, and seminars. However in many cases your Inquiry Form is more insightful than the trade show, because we prefer to hear from the end-user. Thus the Survey Forms are a veritable textbook for our students and crucial documentation for industry managers. They learn from your experience, and in turn they write the next month's FLAAR reports to be sure we cover topics that are of interest to you. We do statistical analysis of end-user requests so we can recognize which products need to be evaluated in next month's FLAAR Reports. We update as many of the Reports each month as possible.

Although FLAAR has been around for 30 years (doing professional photography in museums world-wide) the wide format web sites are less than three years old! Thus there are still many aspects of large format printing that even we too need some backup help on. Therefore if your questions can best be answered by a specialist in signs, media, RIPs, photo-printers, fine art giclee printers, we will forward your inquiries to partners who have staff to provide follow up or to equally appropriate people whom

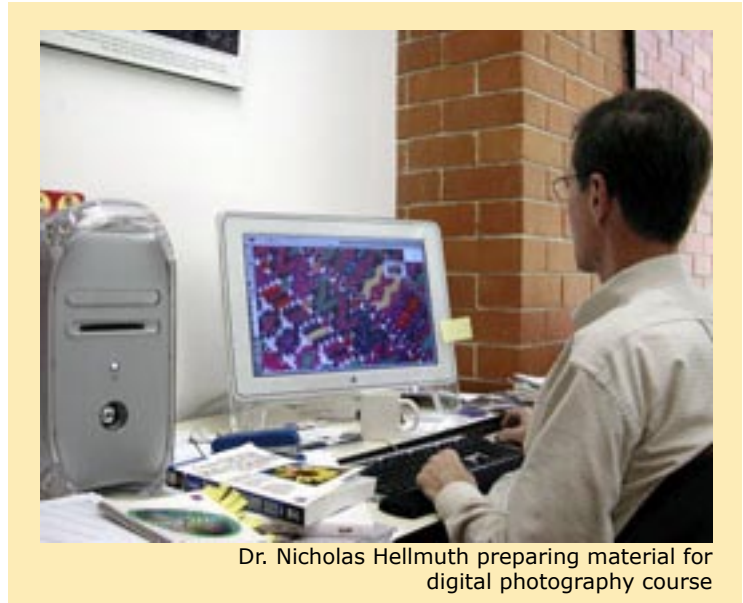


FLAAR facilities at both universities: **Above**, Bowling Green State University and **Below**, Universidad Francisco Marroquin



we have met at s. At each we interview the managers of the various companies who are respected for their printers, large format media, inks, RIPs, other hardware or software accessories. FLAAR will still always send you the FLAAR reports.

This is because our offices are in Europe and Latin America, and its tough for you to telephone us, or for us to telephone you with a follow-up. Don't worry; FLAAR is as American as apple pie and we are moving our facility from the community college where we were six years in Florida to technical college at a large state university in Ohio. Once settled there we hope to be able to follow-up personally, but until such time, we have asked our colleagues to assist us in helping you. Since practically everyone has questions on RIP that need follow-up, we have selected companies who know printers, RIPs, and color management. They will contact you and will be glad to answer your questions by phone, fax, or e-mail.



Dr. Nicholas Hellmuth preparing material for digital photography course

Reports themselves and this list prepared by Nicholas Hellmuth, FLAAR, sent to you by the staff of the Digital Imaging Resource Center, Francisco Marroquín University. Just be sure your questions are accompanied by at least an approximation of the fields requested in the Inquiry Form so that we know precisely which of the reports are best for your needs.

These reports answer the questions contained in the most recent 19,000 e-mails that we have received. As each new e-mail arrives, if it's questions are not covered in one or more reports then our editors do the research necessary to update the information in the pertinent report to cover such questions.

CLICK HERE TO VIEW EACH FLAAR NETWORK SITE

[www.cameras-scanners-flaar.org](http://www.cameras-scanners-flaar.org)

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

[www.digital-photography.org](http://www.digital-photography.org)

[www.wide-format-printers.org](http://www.wide-format-printers.org)

[www.laser-printer-reviews.org](http://www.laser-printer-reviews.org)

[www.ctpid.ufm.edu.gt](http://www.ctpid.ufm.edu.gt)

[www.flatbed-scanner-review.org](http://www.flatbed-scanner-review.org)

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Please realize that all reports are in Adobe Acrobat PDF format. The reader software is free from [www.adobe.com/products/acrobat/readstep2.html](http://www.adobe.com/products/acrobat/readstep2.html) PDF files are intended to be read on your computer monitor. Naturally you can print them if you wish, but if the photographic images within the reports were high enough dpi for a 1200 dpi laser printer it would not be possible to download them. So the images are intended to be at monitor resolution, naturally in full color. FLAAR itself makes the files available only in PDF format because that is the international standard. We have no mechanism to print them out and mail them. Obviously if you have downloading problems we will try to help, but please realize that we assume you have a 56K modem (or better) and capabilities to handle a basic PDF file.



## Readers Commentaries on the FLAAR NETWORK



- Thank you for your assistance. I will definitely share you organization with others.

- Please accept my most sincere thanks and appreciation for the excellent reports you sent. They are educational, well organized and at just the right level to help the professional quickly - yet they do provide the path for further study for those who are interested.

Keep up the good work - it is a gift to the community.

Regards

- I LOVE YOUR WEB PAGE HERE --- I'M GOING TO USE THEIR REPORT TO BUY MY PRINTER, ETC. IT'S EASY TO USE, INFORMATIVE, AND PAINLESS.

THANKS FOR CREATING SOMETHING FABULOUS AND WORTHWHILE!

- Thank you for your quick response. My daughter is a photographer & I've been sharing with her all information. This is especially interesting! Thanks again,

- First let me say how much I have enjoyed your work on the FLAAR web sites. I am new to digital photography and printing, and have learned a lot from your articles. Since this technology seems to change so quickly, and new models may have been announced recently.

Thank you VERY MUCH !!

- I have received different reports and they where all very useful. Printers is a new subject to me and reading your reports gave some knowledge that helped me decide which printer to buy...I will appreciate your advice.

I have already given your web address to friends that could be interested, It's a wonderful web-page to count on !

- Thank you very much for sending me this report. It will be very useful. I will try to spread the message about your organization.

- Thanks for the prompt response. You guys are providing a great service to a growing profession. I will spread the word wherever applicable. Without your coaching, someone would have tricked me into buying a proofer when I asked for a fine-art printer.

Best,

- I have been reading essays or reports on Flaar for about four years. Great reports.

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FLAAR Titles Catalog](#)