FLAAR Facilities

Forklifts are a regular sight outside the evaluation facility of FLAAR, where wide format printers, scanners and inkjet paper; professional cameras, studio lighting and computers arrive by the truckload.

More than $672,000 worth of equipment has been delivered to FLAAR at Bowling Green State University in Ohio, and to FLAAR's other center, at Universidad Francisco Marroquin in Guatemala, Central America. Recently uncrated were a Mimaki JV4 and an Ixia version of the Iris 3047 giclee printer, which both arrived on the dock at FLAAR-BGSU in the same week. Another month three printers arrived at the FLAAR facility the same day: a 60" HP DesignJet 5500ps, 24" HP DesignJet 120nr proofer, and 24" Canon imagePROGRAF W7250. This week an HP 30n and HP 130nr arrived the same day.

Real World Usage

FLAAR's reviews of studio cameras and digital imaging equipment are popular because readers quickly recognize that FLAAR editors speak from years of experience. Our first consulting project was for Japan's Ministry of Public Education, in 1996, at Japan's National Museum of Ethnology, in Osaka. There, FLAAR's director, Dr. Nicholas Hellmuth, was honored as a visiting professor and entrusted to develop programs for scanning, digital photography, data storage assessment, and data asset management.

While magazine reviewers may have access to a product for a few weeks or a month, FLAAR insists on scrutinizing products for a longer period. We want to be able to confidently tell our readers whether the product will last beyond the typical 30-day trial period. For example: we still have the first printer ever sent us, an Encad NovaJet Pro 36, vintage 1996.

Both of our university facilities run print shops, where the equipment is in use year-round, for the same types of jobs that readers expect it to do in their own businesses. This gives us the opportunity to evaluate the lifetime reliability of products. In effect we run a

- pre-press service bureau,
- sign shop for sports and musical events,
- photo lab (all digital),
- in-plant print shop for the university,
- giclée studio for the adjacent art department,
- CAD for the adjacent architecture department,
- GIS for geology and geography department,
- quick-print service for walk-in students and professors,

and a diverse variety of other applications. We have printed two traveling photo exhibits for the two different museums of Maya culture on the campus of Universidad Francisco Marroquin.

FLAAR
Digital Imaging Resource Center

Among the imaging equipment in our studios today is:

- A Cruse 145SL scanner-digital reprographic camera ($97,000)
- two Heidelberg Linoscan scanners
- Creo EverSmart Supreme scanner (11 x 18 inch, 5000+ dpi, $45,000)
- HP DesignJet 4200 wide format scanner (42”, color, circa $17,000)
- two BetterLight tri-linear scanning backs (Dicomed and Super 6K)
- two 4x5 Cambo Ultima cameras from Calumet Digital Solutions
- an entire digital studio from Bogen Photo, including:
    - full set of Elinchrome strobe lights
    - complete range of Bogen, Manfrotto, and Gitzo tripods, light stands, studio stand
    - Bogen light stands for all the lights
    - Gossen light meter
- a studio full of tungsten lamps from Lowel Lighting
- a studio full of fluorescent Balcar lights for digital photography
- two Ries tripods, and other professional equipment
- ample studio equipment from Calumet Photo including such useful accessories as Lee Filters, NorthLight SunSpots, and more.

The purpose is so that the more than 280,000 photographers who read our Web pages each year can see what photographer Nicholas Hellmuth recommends as a model facility for outfitting studios for digital photography.

Elinchrome studio lighting and other photography equipment arriving from Bogen Imaging.

Lowel Lighting kindly sent two studios full of equipment. FLAAR has students in its own facilities and in the museum on campus.

The German reprographic camera company, Cruse GmbH, sent a $97,000 digital copy-stand scanner.

· **Printers**

Wide format inkjet printers are the core of our evaluation programs. We have undergraduate, graduate and doctoral students, along with our professional staff, involved in studying the features and operation of a wide range of models. Among those in our facilities right now are:

- Canon imagePROGRAF W7250 (24”, dye ink)
- Canon imagePROGRAF W8200 (44”, pigmented ink)
- ColorSpan Display Maker XII (72-inch, full 12-colors)
- ColorSpan Mach 12 (72-inch, quad-black + 7 colors = 11 colors)
- Encad NovaJet Pro (36-inch)
- Epson 7500 (24-inch)
- Epson 7600 (24-inch Ultrachrome ink)
- Epson 5500 (13-x-19-inch)
- HP 20PS (13-x-19-inch)
- HP 30n (13-x-19-inch)
- HP 120nr (24” for proofing)
- HP 130nr (24” for photography)
- HP DesignJet 800ps (42 inch)
- HP DesignJet 1055cm (36-inch)
- HP DesignJet 2800 (36-inch)
- HP DesignJet 5000ps (42-inch at Francisco Marroquin University facility))
- HP DesignJet 5000ps (60-inch at Bowling Green State University facility)
- HP DesignJet 5500ps (60-inch)
- Ixia version of Iris 3047 giclee printer
- Mimaki JV4 (62-inch, dual 6-color)
- Mimaki Tx 1600s textile printer (62-inch)

So far three additional printers are scheduled to arrive later this year, that we know of.

Three printers arrive on a single day: 60” HP DesignJet 5500 ps, 24” Canon imagePROGRAF 7250, and 24” HP DesignJet 120nr.

Since so many print shops ask about giclee printers, we added an Iris 3047 giclee printer to our arsenal. Now we can document how well an Epson, ColorSpan, HP, Roland, Mimaki, or Mutoh compare with the legendary original Iris quality

We doubt if any other university, including RIT, has that many wide format printers in-house.

As well as five laser printers

- ·Lexmark Color Laser
- ·Minolta QMS 6110 (13-x-19-inch color)
- ·Minolta QMS 2060 (13-x-19-inch B&W)
- ·Tally Spectra Star (13-x-19-inch color)
- ·GCC Elite (13-x-19-inch B&W)

These machines are complimented by finishing equipment including laminator and two Metroschnitt trimmers (one at each university where FLAAR has a facility).

We also review monitors and compare PC vs Mac platforms for RIP print servers as well as digital imaging work stations

People Come to FLAAR for help making Purchase Decisions

FLAAR's reviews are published on eight Web sites in three languages — totaling over 1000 pages. More than 240,000 people will read our Web-based reviews of large format printers over the next 12 months. Another 220,000 people will read our reviews of scanners; an additional 240,000 will read our recommendations for which digital camera to buy. The total for the year is over a million. And this is not a hit count: the hit count is over a million, per month, for a single one of the web sites.

Forklift brings another digital imaging printer or camera or photo studio lighting to the FLAAR facilities at Bowling Green State University

Our staff also compiles reports based on readers' most frequently asked questions. Ranging from five-page "Fast Facts" to 50-page white papers, these reports are downloadable or can be ordered in PDF format from all of our Web sites.

During the past three years more than 21,000 companies and individuals requested reports. The typical corporate purchasing department looks to see what products FLAAR has selected as optimal for its own use.

When we meet our readers at tradeshows they tell us, " *you the people that write those FLAAR Reports. We use your reports as our shopping list. We figured if it will work for you it will work for us too. So we just buy what we see you all using."*

FLAAR Initiative on Inkjet Media

A recent FLAAR survey of print shops revealed a universal need for more information about inkjet media options. So, together with our university partners, FLAAR is developing a new program for the evaluation, review, and potential certification of media — based on common-sense standards of practicality, printability, and usability.

Our first step was to write up FLAAR standards for inkjet printability. This avoids the polemics of inflated longevity claims and focuses instead on the here and now: will the media make my clients happy.

This results in one of the industry's first independent discussions of inkjet media. We intend to continue this program during 2003 and 2004. Our efforts will be devoted to long-life dye inks, brighter colors of newer pigmented inks, and UV curable inks."

Tara media arriving at FLAAR for evaluation

Testing ink and media is the main occupation of the lab. Since décor and giclee are two leading applications, we are especially interested in evaluating various kinds of canvas

HP media arriving at FLAAR

In addition to receiving equipment, software, inks, and media, we also take training courses, both at paper mills, coating mills, as well as the IMI and Tiara seminars on inks and media.

HP media arriving at FLAAR

Dr. Hellmuth inspecting 350 year old paper mill at Germany.

Media from IJ Technologies arriving at FLAAR testing facilities at Bowling Green State University. We are especially interested in their water resistant media.

Wide Format Printers arrive for evaluation by FLAAR at BGSU

Epson printers arrive every few months

ColorSpan printers arriving

HP DesignJet 30n andHP 130nr can now be compared with HP 20ps and HP 120nr (as well as HP 5500ps, 5000ps) since we have them all in a single FLAAR facility

Metoschnitt trimmer arriving at BGSU, FLAAR facilities to evaluate finishing equipment of wide format printers

Laminators are scheduled to be featured in FLAAR evaluations for autumn 2003 and into 2004

Metoschnitt trimmer arriving at FLAAR-Latin America testing lab at Universidad Francisco Marroquin.

Computers, Monitors
We are honored that Dell Computer has selected our facility as a Success Story for high-end workstations in content creation.

Actually both universities where FLAAR is situated use primarily Dell computers when PCs are purchased. FLAAR itself was about 80% Macintosh but as PC processors got faster and prices plummeted, like so many other corporations we (and both universities independently) increased the percent of Dell over Apple. Nonetheless, we (and both our universities) recognize niche markets where Macintosh is still preferred. However for use with wide format inkjet printers, PCs are practically the only option since few RIP software packages work on a Mac. Raster Image Processor (RIP) software requires a dual-processor PC, so we are evaluating this class of computer. Dell is the first computer company who recognized that our ability to serve as an independent evaluating facility is beneficial for a manufacturer and their distributors.

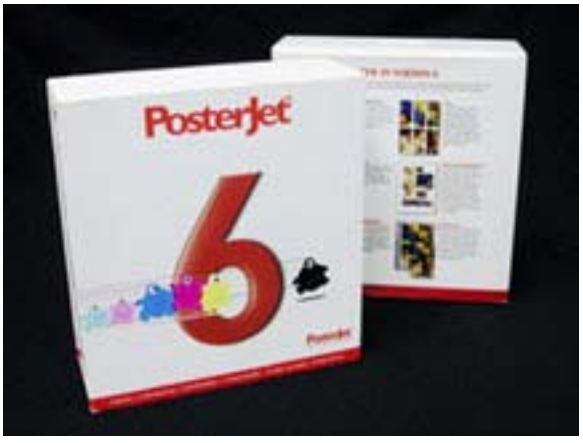
We are also interested in testing computer monitors, CRT vs LCD. Our favorite is the 23" Apple cinema display, but CRT monitors still offer advantages for color calibration, so we will evaluate more CRT monitors this year.

Dell computers and Adobe Software arriving at BGSU FLAAR facilities for benchmarking

Digital Imaging Software

Adobe recently sent several crates filled with digital imaging software, to test and benchmark for use on PC and Mac platforms. We have also received software for every imaginable kind of digital imaging, from Grain Surgery (for removing noise and grain from digital images) to nik sharpener for improving the output quality of wide format inkjet prints.

Sample of software sent to FLAAR for evaluation by Nicholas Hellmuth.

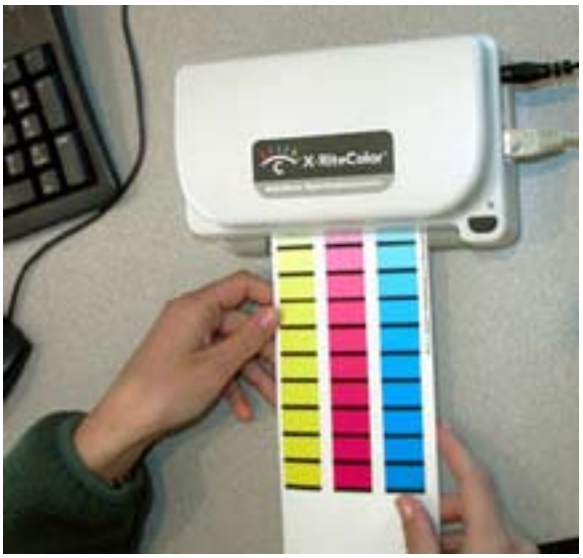


RIPs and Color Management Software

FLAAR has tested and reviewed all of the major RIPs on the market. We have also reviewed the capabilities of Monaco Profiler color management software, as well as how it works both with Gretag-Macbeth EyeOne and X-Rite DTP41-UV.

The lab personnel, headed by Technical Lab Manager, Brent Cavanaugh, have the experience to handle color management and produce ICC color profiles on any 4-color, 5-color, 6-color, 7-color, 11-color, and 12-color printer. As a result the BGSU+FLAAR facility and staff can provide training, consulting, and help on color management assessment.

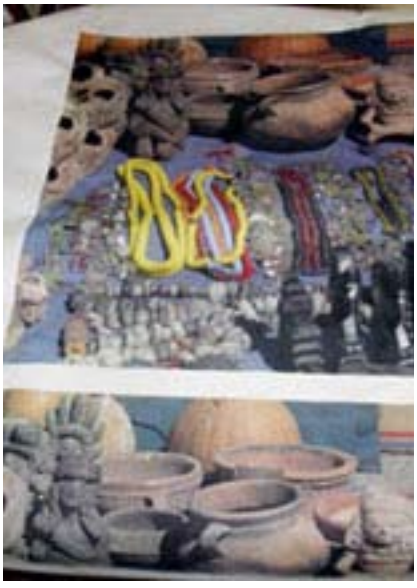
Sample of some of the many RIP software packages available in the FLAAR evaluation center. Having all these RIPs makes it easier to test color management instruments as well as benchmark tests of inks and media.



Testing and Evaluating Inkjet Inks

Whether for textiles, for black-and-white photography, or innovative wide-gamut breakthrough inks in pigmented chemistry, FLAAR+BGSU can do more than run tests, we can accomplish end-user surveys. No matter how good the ink recipe, ink companies need to understand the market to be sure the new ink is accepted (and acceptable). FLAAR has 240,000 readers who like to learn about everything that each ink can do better than the other brands of inks.

There is a growing need for a university to evaluate Eco-solvent (mild-solvent, lite-solvent) inks. Our efforts will be devoted to long-life dye inks, brighter colors of newer pigmented inks, eco-solvent inks, and UV-curable inks.



FLAAR also is preparing reports on how better to print textiles with inkjet printers, both with subsequent steamer treatment, as well as other textiles which don't need steaming.

ColorSpan Mach 12 arriving at FLAAR Facilities at BGSU

To further our experience with ICC color profiles and color gamut, we loaded the ColorSpan DisplayMaker XII with all twelve colors. We can now compare and contrast its output with the Mach 12, loaded with quad-black plus seven colors (to create a unique 11-color inkset).

Just calculate how many color patches are about to be measured on this color test from the 12-color system

Mimaki printer inks at FLAAR Facilities at BGSU

First Mimaki sent a JV-4. Then a few months later they also sent one of their textile printers.

Scanners

FLAAR has resulted in BGSU being one of the only three universities in the world, that we know of, to have equipment as sophisticated as the Cruse scanner, our $97,000 crown jewel of our facility. During April 2004 we added the Creo EverSmart Supreme and a 42" wide format HP scanner. The Creo is the best pre-press scanner bar none. The HP wide format scanner is rebranded from Contex, the Danish scanner manufacturer. Our interest in the wide format scanner is to digitize archaeological and historical maps and plans. Our need for the Creo is to scan the FLAAR Photo Archive of 50,000 35mm slides, over 10,000 medium format transparencies, and several thousand 4x5" chromes. In our office in Guatemala we have several excellent flatbed scanners provided by Heidelberg.

Cruse scanner at BGSU

Creo EverSmart scanner at FLAAR / BGSU being evaluated summer 2004

Heidelberg-Linoscan in FLAAR facility at UFM

The earlier Scitex version of the EverSmart Supreme being evaluated in the FLAAR office in Essen Werden, Germany, 2000-2001

A 42” wide format scanner, HP 4200, has arrived at FLAAR to enable us to scan archaeological maps and architectural drawings.

Creo EverSmart Supreme flatbed scanner arrives at FLAAR on BGSU campus to initiate scanning of the 50,000 35mm slides in the FLAAR Photo Archive

Evaluating and Recommending Digital Photography Equipment
Because beautiful output depends on professional quality input, FLAAR's training program in digital photography helps photographers and artists understand how to obtain the best possible image.

Dr. Hellmuth has more than three decades of professional photographic experience. His work can be seen in art books published in Japan, Austria, Germany, and the US. His wide-format inkjet giclee prints, currently featured in the two art museums at Francisco Marroquin University, generated such interest on opening night that the both shows were turned into a traveling exhibit. The online digital photography course he developed is in demand by other universities worldwide.

Balcar Lights arriving at BGSU FLAAR facilities

Our goal is to find a university that would like to have studios with comprehensive coverage of all fivekinds of lighting that are best for digital photography: digital fluorescent lighting, HMI lighting, ceramic discharge lighting, tungsten, and strobes.

For digital photography fluorescent lights have the benefit that they are cool. So fluorescent lights have advantages working in a museum situation. With digital camera softwware the color of fluorescent is not the problem it was with old-fashioned film. Besides, digital studio fluorescent is not at all the same as the kind of common fluorescent lights you get in offices or libraries. Balcar are professional digital video studio lights, now being used also for digital still photography with excellent results.

BetterLight Super 6K digital back on Cambo Ultima provided by Calumet Photographic.

The BetterLight can take mural-sized images up to 921.4 MB for a single file. Yes,we can handle these easily because Dell has provided dual processor work stations for benchmarking and evaluation

FLAAR Equipment Arriving

Here is the Creo Leaf Valeo 22 arriving in the FLAAR office for evaluation with a Mamiya 645 AFD and several lenses.

We are evaluating the Leaf Valeo 22 for architectural, portrait, fashion, product, and general commercial photography. But we are also testing the wireless potential for panoramic and nature photography out on location in Guatemala.

Tips, Reports, Evaluations, and Info available to license

FLAAR reviews a comprehensive range of products related to high-end professional digital imaging, from input (scanning and digital photography) through imaging, color management, and RIPing, to printing and finishing (trimming and lamination). The completeness of our coverage is what makes our reviews, evaluations, and how-to reports so popular with Fortune 500 corporations, graphic design studios, service bureaus, universities, quick-print shops, and sign shops. Many corporations are now writing to ask how they can license the FLAAR reports for all the decision makers and purchasing managers in their company, government agency, bureau, or organization.

Some companies are asking us if FLAAR can produce customized reports for their entire worldwide personnel for in-house and in-plant education.

FLAAR
Digital Imaging Resource Center

Views of FLAAR office, research, photography, and wide format inkjet printing evaluation facilities at Universidad Francisco Marroquin, Guatemala, Central America. The photos on the wall are from our traveling exhibit of rollouts of Maya art of the 8th century.

DP 101: Course on Digital Photography, FLAAR+BGSU

(Entry through Intermediate levels)

SLR 35mm Digital Cameras

Nikon D100 Digital Camera

Sigma SD9 Foveon

History and Timeline of Digital Photography

Professional Results from Budget-Priced Cameras

Pros and Cons of Digital and Film Photography

CCD and CMOS Image Sensors

Nature Photography

Photograph Composition

Portraits: Studio and Location Photography

Architectural Photography

Quicktime Virtual Object Movies

Equipment: On Location Photography

Computer Equipment for Digital Imaging

Camera and Computer Memory Storing Digital Files

File Formats for Digital Images

Lighting Digital Photography

Adobe Photoshop

Software that will Help your Digital Photography

Lenses and Filters

See www.digital-photography.org for the syllabus and course abstracts

DP 201: Taking Digital Photography to the Next Level

(Intermediate into Professional Digital Photography)

Digital Image Resolution

Introduction to Digital Photography vs.Scanning

Medium Format Digital Scanning Backs

Landscape Photography with Medium and Large Format Cameras

Pros and Cons of Digital vs Film Photography (Medium and Large Format)

Nature Photography with Medium and Large Format Cameras

Equipment: Studio Photography

Lighting Digital Photography

How to do a Rollout Photograph of a Cylindrical Object

History of Rollout Photography

Panoramic Photography for Digital Cameras

Adobe Photoshop for professional Digital Photography

Panoramic Photography for Digital Cameras

Taking Photographs with a Reprographic Copy Stand

Fine Art Giclée Photography

Color Management for Digital Photography

Glossary of Digital Photography

Bit Depth and Dynamic Range

Workflow Summary for Medium and Large Format Digital Photography

Computer Workstations for Digital Photography

See www.digital-photography.org for the syllabus and course abstracts

FLAAR facilities at New Media Building, Francisco Marroquin University, Guatemala

FLAAR facilities at Saddelmire Building, Bowling Green State University, Ohio

FLAAR and Dr Hellmuth also offer consulting services at Bowling Green State University, readily accessible from Toledo or Detroit airports. Appointments are through the business manager, Sheila Irving, sirving@bgnet.bgsu.edu. Be sure to ask for the Consulting Info first.

READERS COMMENTARIES

Thanks for the report on fine art digital printers, (very helpful). I now need to identify a scanner that is suitable to scan original artwork.

P. R. , # 14424.2, AUGUST 28, 2002

Thank you for your reports, after reading them, we will be purchasing the Colorspan Esprit with the upgrade to 12 colors.

S.F. , # 14645, AUGUST 18, 2002

I was in touch with you last year, when I received a lot of reports from you about this matter. I want to buy a large format printer HP 5000 42” UV and a Heidelberg Linoscan 1800 scanner

D. P. AUGUST 18, 2002

I have received reports before and have found them useful in getting close to a purchasing decision. I would just like these few reports to present to my boss.

D. K. , # 15039, AUGUST 21, 2002

Thank you for your prompt and extremely informative response to my questions regarding printers and rips. Because of your apparent enthusiasm, when the time is right, even though I haven’t seen any work done by the HP 5000, I will probably buy one.`

J. T. # 14607, AUG 1, 2002

THANK YOU FOR THE INFORMATION YOU HAVE SEND ME, I FOUND THE INFORMATION VERY HELPFUL, I AM SURE I WILL BE IN CONTACT WHIT YOU, BECAUSE I AM PLANINIG TO BUY A LARGE INKJET PRINTER

C.G., # 15516, SEPTEMBER 18, 2002

I received your information. Thank you. At this moment, I am going to consider to invest in large format ink jet machine

D. S. # 15187, SEPTEMBER 17, 2002

Thank You for sending the reports and for the free reports on your sites. Your work on this is much appreciated and is helping me narrow down my decision

T. G. #SEPTEMBER 9, 2002

Thank you very much for the info on the laminators. We will study and contact the people you have recommended

T M. , # 15430, SEPTEMBER 12, 2002

I think the HP5000 will meet our needs. I have read many of your reports and they have been very helpful in sifting through all the info and hype.

P.H. , # 15580, SEPTEMBER 10, 2002

Thanks in advance. You provide an incredible repository of knowledge on this subject that will save me untold amounts of time, heartache and money.

D. W., # 15247, SEPTEMBER 4, 2002

Thank you for these reports. Although we haven't the needs of a large sign shop nor the desire to make a huge investment, your information should be helpful in making a decision.

S.D. #SEPTEMBER 10, 2002

Your reviews and reports already helped me decide on the HP Designjet 5500ps.

J. C., # 15760, OCTOBER 10, 2002

Thank you so much for the PDFs. Especially the one on Inkjet Printers as Proofers will be very useful for us as we make our purchase decision.

B. T., # 15862, OCTOBER 4, 2002

I'm contemplating the purchase of the HP 5000. Thank you for providing this excellent resource.

B. K., #15346.3, OCTOBER 2, 2002

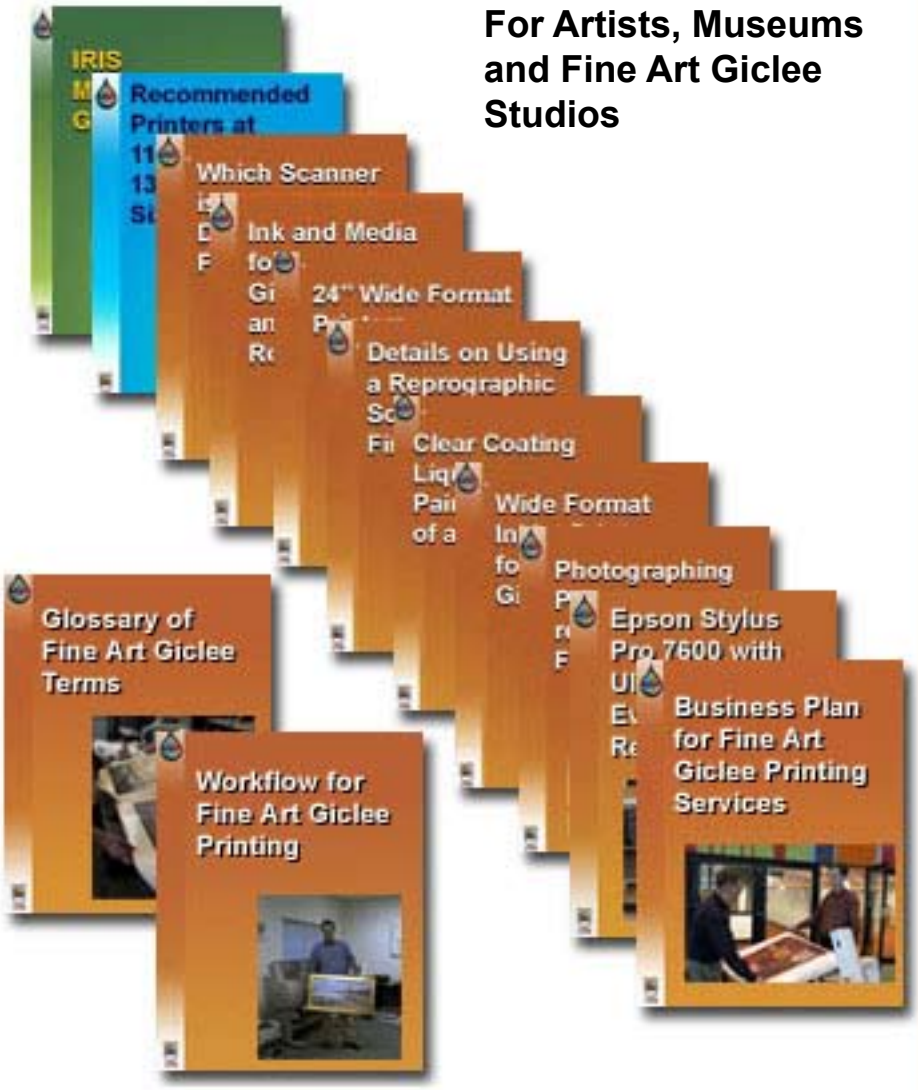
Thanks a million. We received everything just fine. Isn't technology great when it works the way it should. We appreciate the timely response. We will certainly look up the premium reports. We are in process to upgrade from an HP5000 42" to a 5500 60" plus add a RIP and a laminator - it sounds like some of the premium reports could be helpful.

G. N., # 18210, MARCH 24, 2003

FLAAR staff answering e-mails

FLAAR Report Series

For Artists, Museums and Fine Art Giclee Studios

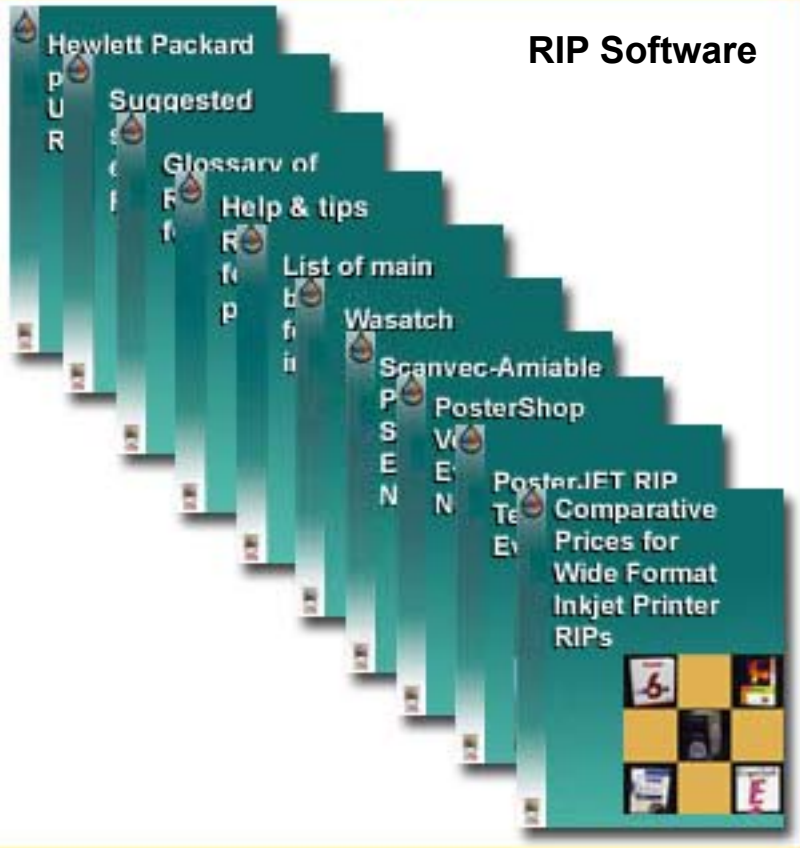


Media and Ink for Wide Format Printers

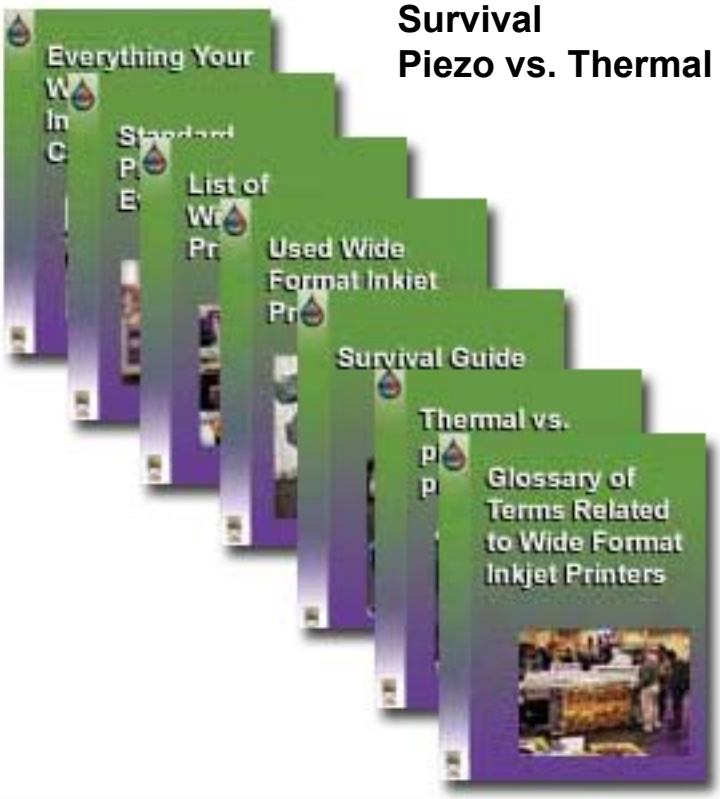
For Photographers, Photo Labs and Museums

FLAAR Report Series

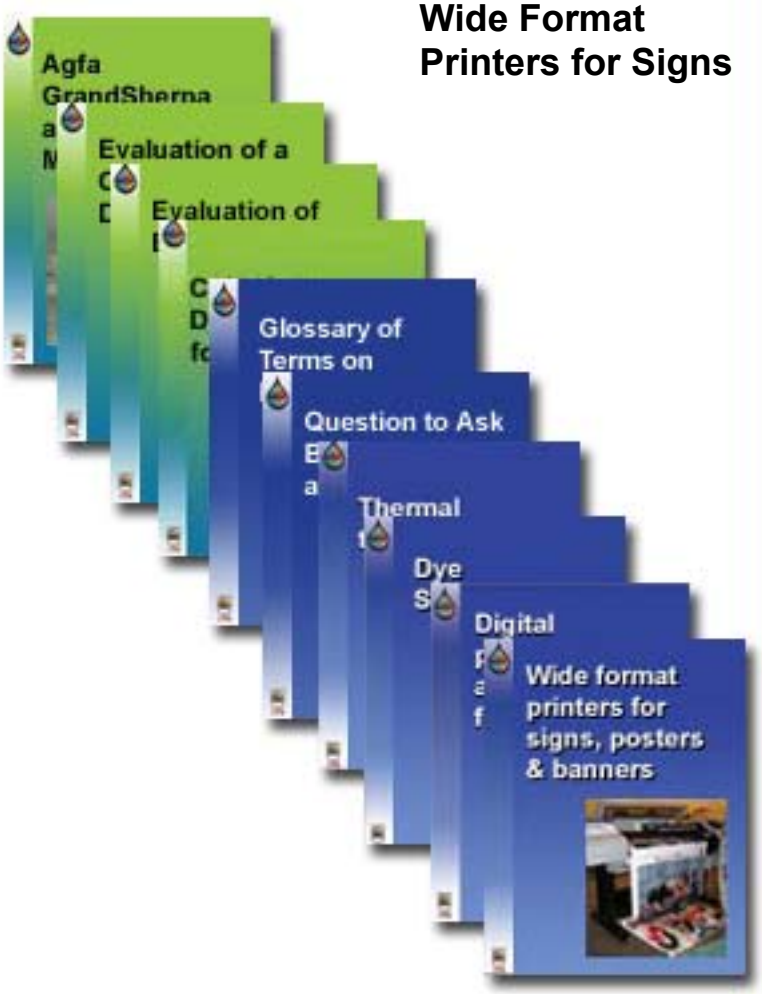
RIP Software



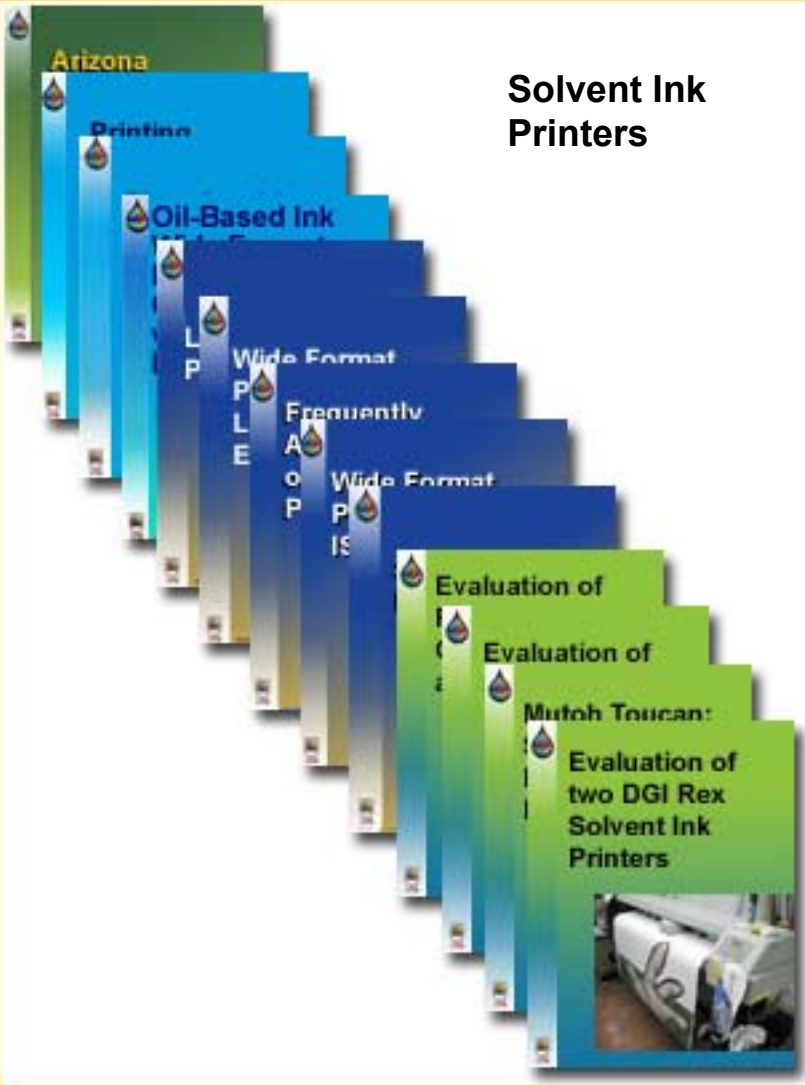
Survival
Piezo vs. Thermal



Wide Format Printers for Signs

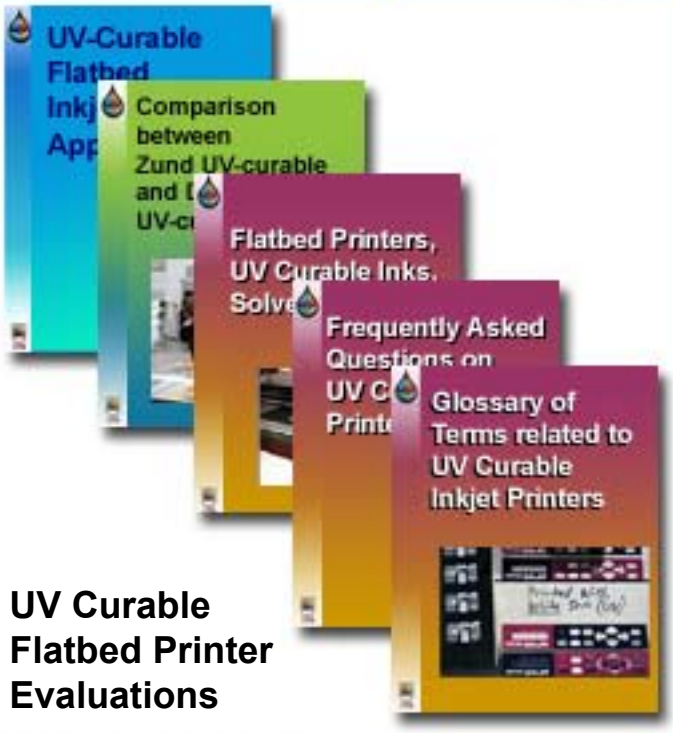


Solvent Ink Printers



These reports are grouped in these series, and can be ordered on www.wide-format-printers.NET

FLAAR Report Series



UV Curable Flatbed Printer Evaluations

Color Management

FLAAR Free Reports

Abstracts (free)

First Level Reports (free)

If you fill out the Survey Form you can have as many abstracts as you wish and up to six First Level reports, all for free