Applications for
all wide format printers
to accomplish

Nicholas Hellmut inspecting vehicle wrap at University of Malta where he is consultant on digital imaging.

UFM

Contents:

Introduction

You can earn considerable profit with your large format printer. As one person told me, "I made lots of money with my ColorSpan." I have met other people who have earned a handsome living with their Encads, HP, Roland, Mutoh, Mimaki, Iris and all the grand format printers as well. We just got an email from another ColorSpan owner; he said he had earned over a million dollars Canadian in a single year due to the productivity of his printer.

FLAAR is non-profit, so we find different ways to get satisfaction in producing the best quality at the most reasonable cost. Many of the people who read our reports are looking for a printer as a second business to run from home (garage, basement, or attic) to pick up some extra income. Thousands of photographers and artists seek help selecting a printer to use in their hobby to print art or photographs. The nice thing about a wide format printer is that you can do both, have fun and also earn some money.

The majority of our readers run sign shops, quick-print or reprographic shops, do pre-press proofing, CAD or GIS printing; others have a commercial photo lab or fine art studio. They need to earn a living with their wide format printers.

Here are some of the many kinds of prints you can accomplish with inkjet printers. Each is a potential source of income.

In past years FLAAR devoted its energies to reviewing equipment and software, brand by brand, model by model. We now cover virtually every brand and model of wide format inkjet printer 24 inches and over. We also comment on most scanners, most digital cameras, and over 80 brands of RIP software for wide format printers.

Although we will continue to update coverage-by-brand, and will add all new models and any equipment not yet covered, during 2003 and 2004 we are expanding beyond brands into applications. An application is how to use a product: in this case, how to use a wide format printer to produce products that are useful in your business or hobby.

There are several reasons for moving into applications. First, 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.

Second, 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 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. We include LightJet, Durst Lambda (laser light printers), thermal transfer (Matan), and other technologies other than inkjet if they are useful in the same applications as are inkjets.

Somewhat to our surprise, we are gradually learning that several of the major players in the industry independently were also recognizing that they too needed to reorganize along the lines of applications. So now both printer manufacturers and inkjet media companies are moving into applications. By good fortune FLAAR was just one step ahead of the crowd. Actually our first report on applications is already about two years old.

Late last year we made the decision to gradually transform www.large-format-printers.org into our directory of applications. This transformation may take the entire year, or longer. You can see the few initial links to applications in the lower right of the home page. In the meantime (until the applications portions of that web

site are finished later this year), we are putting the comprehensive list of applications for every kind of printing facility into several reports.

The present FLAAR Fast Facts is in a different format than that of the Survival Series. Gradually that earlier report on *Everything your Wide Format Inkjet Printer can Do* has developed into a longer document with photographs of each application as we find instances of the kind of print involved. But we try to always have free version of such longer reports. That way the free version (the present Fast Facts which you have in your hands, which is free) can allow you to decide whether you wish to purchase the longer version with more documentation and photographs.

Here is the free version, new this year.

Overlap

Many applications are so common that they overlap in many situations. "Signs" is the most ubiquitous application. Hard to easily distinguish between a sign, banner, and poster in some situations.

Then we have grouped together related kinds of corporations or institutions, and listed all the applications that these corporate entities would tend to use.

There are no rules, no one standard for classification of use or markets in the industry. Most classifications are just common sense. If you know of applications or industry segments that we have overlooked, please let us know.

Applications for Wide Format Inkjet printers

3D renderings

3D renderings come in many forms, everything from art through technical drawings.

- graphics display,
- three-dimensional drawings,
- computer generated art,
- computer animation,
- computer games,
- fantasy scenes,
- science fiction such as outer space and astronomical scenes,
- fantasy landscapes,
- exotic machines,
- fractal art,
- digital collages,
- computer graphics,
- computer painting,
- computer enhanced photography (photo painting),
- vector drawing,
- computer generated cartoon cels,
- giclee (covered separately under giclée)
- architectural renderings (covered separately under CAD)

Which printers should you consider? *FLAAR Report Series on Fine Art Giclee.* If the 3D drawings you produce are for technical use as CAD or mechanical illustrations, then you want the *FLAAR Report on printers for CAD.*

backdrops (theater, TV), see also event signage

Theaters, television stations, and comparable locations can use inkjet prints in fourteen uses and still counting.

Which printers should you consider?
- FLAAR Report on printers most appropriate for Signs, Posters, Banners;
- FLAAR Report on Inkjet Textiles
- and/or the FLAAR Report SERIES on which printers are best for printing photographs..

backlit displays

Backlit displays are what you see all over airports, in malls, and in bus stops. We intend to have a separate list of applications by class of printable media, but that will take a while to flesh out. In the meantime, we include backlit displays as a specialized form of signage.

To handle backlit you can glean information from the FLAAR series on RIPs; as for which printers you should consider for printing backlit, that would be the *FLAAR Report on Signs, Posters, Banners.*

banners, signs

Traditionally flags, banners, pennants and many signs were printed by a "banner company." In the past much of this was done with screen printing. Today short runs are being done with wide format inkjet. Not really any hard and fast rules any more of what distinguishes banners from signs. We group "posters" with signs.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners; FLAAR Report on Inkjet Textiles.*

Decals and tags we list separately elsewhere, even though many national banner companies include them. Decals and labels are actually more typically done by industrial inkjet printers or thermal transfer technology.
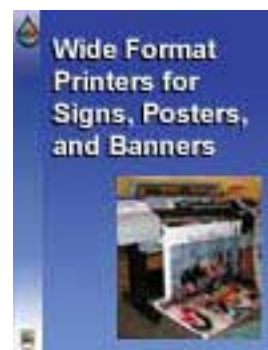
billboards, outdoor signs

Every city, anywhere in the world, is filled with outdoor signs. As an example, we get enough e-mail form Pakistan to suggest there is a boom in sign printing needs there.

Pull off any Interstate Highway and check out how many signs greet you within the first hundred yards. Calculate how many interstate highway exits exist.

A sub-category would be real estate signs, stadium signs, event signs. So many kinds of outdoor signs exist we dispair of cataloging them all. Most can be printed by wide format digital printers.

Which printers should you consider? *FLAAR Report SERIES on signs.*

book covers, CD, video covers

We ourselves did not recognize the size of the market for printing CD covers, video covers, and limited edition book covers with wide format printing. But every month we kept getting e-mails from people who wanted to print precisely these applications with an inkjet printer.

Then it turned out that one of the largest customers of our in-plant print shop at one of the two universities was the video department. They ordered hundreds of individualized video covers for the records of the graduation of each class every semester.

Just calculate how many schools are in your area.

FLAAR Report SERIES on which printers are best for printing photographs.

CAD, engineering drawings, architectural drawings

The origin of wide format inkjet printing springs from pen plotters for CAD drawings. EnCAD showed the market demand for color printing and the rest is history.
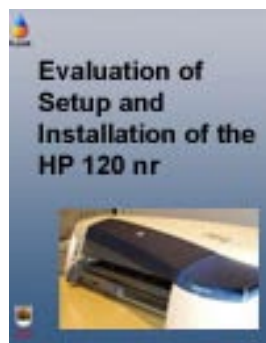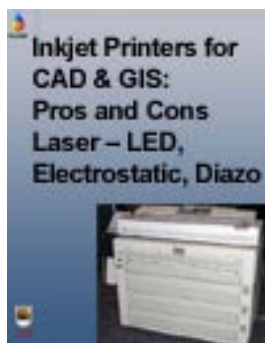
Every week we get letters from engineering and construction companies, contractors, electrical engineering, mechanical engineering, aerospace, oil exploration companies, landscape architects, interior designers, city planners, surveyors, and countless other companies who need to print line drawings.

- renderings,
- building graphics,
- project plans,
- AEC,
- CAD,
- architectural drawings
- interior design,
- fabrics

Every imaginable kind of security agency has written us, from the CIA at one end to local security systems who also need to print building plans and countless other drawings.

In the past most people took their work to a blueprint place. These companies are now reprographic printers. Today they tend to include wide format inkjet printers. But today every architect and engineer can have their own CAD printer in-house. The new HP model 100 is an example; as is the HP DesignJet 500 for color printing.

Which printers should you consider? *FLAAR Report on Printers for CAD and GIS*

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

Evaluation of Setup and Installation of the HP 120 nr

Oil-Based Ink Wide Format Printers Speed for CAD-GIS for outdoor use without lamination

Canon ImagePROGRAF W8200 12 Week Analysis and Evaluation

Evaluation of Canon W7250 24" Six Color Large Format Printer

Decals, labels (see also vehicle graphics)

Printing labels and decals is often done with thermal printers. However the Roland models may have banding defects. You need to read the FLAAR Reports before you buy an expensive printer.

FLAAR Report on Dye Sublimation Printers.

décor

Whereas giclee has made all the headlines, a steady growth has also been in printing for decoration of homes, offices, corporate headquarters, cruise ships and other needs. The advantage of décor is that you don't need quite as high a resolution or color management capability as for the higher demands of fine art giclee.

In other words, enter the market first in décor. As you gain experience, move into giclee. To learn which printer(s) are recommended for printing décor you can order either the FLAAR Report SERIES on photo printing or the SERIES on giclee printing. Both cover the same subjects so one series effective covers all three applications (photo, décor, and giclee).

fine art giclee

The paintings of Thomas Kincade inspired thousands of people to buy his reproductions. This has resulted in millions and millions of dollars in giclee prints.

The other 200,000 painters across America see how much profit Kincade makes. Thousands of the other painters realize their own work is probably better art and hence potentially also a money maker.

As a result, there is a considerable market for a good printer to create all the giclee prints for the impressive mass of artists. So far this is primarily an American phenomonen. But eventually Europeans and also artists and clients in Latin America will catch on.

For this reason FLAAR has an entire series of reports on giclee printing.

floor graphics, see signs

greeting cards, both commercial and hobby & crafts

- greeting cards,
- note cards,
- gift cards,
- post cards,
- invitations (wedding invitations, etc)

Hallmark Cards is one of the many companies who asked our opinion on what wide format printer to purchase. But usually inquiries are from individual artists, photographers or small companies.

FLAAR Report on 24" and Entry Level Budget Printers for Home or Hobby.

24" Wide Format Printers
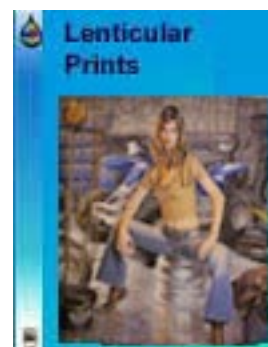
jigsaw puzzles

- jigsaw puzzles
- game boards

labels, stickers, tags, , see also decals

FLAAR Report on Dye Sublimation Printers.

lenticular prints (see also applications)

FLAAR Fast Facts on lenticular prints. These FLAAR Fast Facts are free.

Lenticular Prints

maps (GIS)

University geology and geography departments, mineral exploration companies, all branches of the military as well as federal intelligence agencies plus state and large metropolitan area polite departments, have asked Dr Hellmuth's help in what wide format printers to purchase. Maps and prints of floor plans are essential in today's needs to prepare for emergencies.

- CAD,
- GIS, geological, geographical information systems,
- maps,
- mineral and other natural resources exploration
- land use planning,
- real estate, housing development,
- land surveyors, land surveying,

CAD, GIS, Maps, Aerial Photography

FLAAR Report on Inkjet Printers for CAD, GIS (available free by filling out Inquiry-Survey Form)
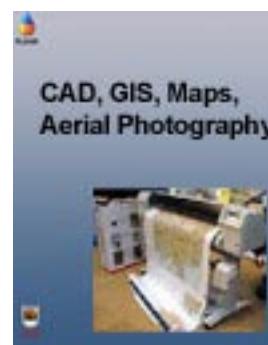
Packaging

- packaging proofs,
- actual packaging

Inkjet Printers as Proofers

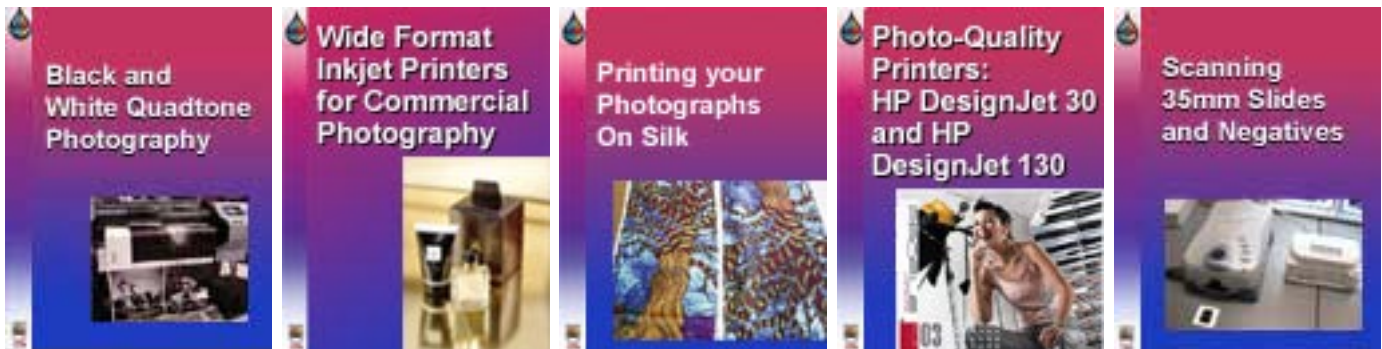One title you need is FLAAR Report on Inkjet Printers for Proofing

Photography

Three decades of photography make FLAAR a logical choice for ending up as a leader in wide format digital printing of photographs. We serve the entire range from pro-sumer through professional, from photo labs to one-person enterprises, from big corporations to a family running a retirement, hobby, or second business.

Portrait photographers, wedding photographers, architectural photographers, landscape photographers, product photographers, art photographers, industrial photographers, in-house photographers, and every other class of photographer you can imagine has found helpful tips from Nicholas's reports.

FLAAR has three series of reports on photography:
- Straight forward photography (FLAAR Report SERIES on printers for photos)
- Photography as giclee style printing on watercolor paper and canvas (FLAAR Report SERIES for which printers can produce giclee)
- And our 30-unit course on digital photography (abstract and syllabus are free and can be obtained by writing Audra Magermans, audram@bgnet.bgsu.edu).

Black and White Quadtone Photography

Wide Format Inkjet Printers for Commercial Photography

Printing your Photographs On Silk

Photo-Quality Printers: HP DesignJet 30 and HP DesignJet 130

Scanning 35mm Slides and Negatives

posters,

Reprinting old movie posters and period ads from bygone decades could be considered one form of décor. But plenty of modern posters are also still being designed and printed. If the print run is under several hundred, it may be more economical to reproduce them on a wide format printer.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

proofing

Companies who make proofing RIPs have learned how large the market is for proofing. I am always surprised that the market, so far, is not oversaturated. There are still many companies who used to send out to a service bureau who are now bringing proofing in-house.

When you think of printers for proofing you have several avenues: going with big-name heavy iron, going with big-name rebranding of cheaper printers, or doing it yourself with a RIP plus a regular inkjet printer (usually the identical printer rebranded by the fancy brand).

No need to spend $50,000 on a branded solution if you are a small family business. But if you are a Fortune 500 company you may indeed prefer having Creo(Scitex) package everything for you.

We offer solutions for every price range. One title you need is FLAAR Report on Inkjet Printers for Proofing

screen printers

Screen printers need to know which wide format printers can best produce needed screen positives. Industry analysts often use of the figure of 30,000 screen printing establishments.

In addition to screen masters, it is clear that a substantial portion of this number need to switch to wide format inkjet technology for short-run banners and signs in order to survive. FLAAR is working to provide suggestions and information for the transition.

FLAAR Fast Facts on wide format printers for screen positives.

signs posters, POP, indoor

Signs for indoor use can be anything from what you see in a mall to the directional signs in a large office building. Point of Sale signs still represent a huge business, but in-house needs for signage are considerable.

In earlier years many signs were made in small Ma and Pa enterprises using a vinyl cutter. Today many of those companies are extinct. Those who want to escape extinction are coming to the FLAAR web sites asking for help in learning about how to transition to wide format inkjet printing.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

Trade show graphics

Trade shows provide a venue for large graphics, primarily indoor. You get a wide range from soft signage through backlit to billboard-sized signage. Even after 9-11 and the weak economy, trade shows are still being held. For the foreseeable future, there is still a need for tradeshow graphics.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

vehicle graphics

The markets for vehicle graphics continue to grow. Thousands of trucks still offer surfaces for truckside advertising. Bus wrap has long ago gone beyond buses. Today cars of every size and shape are wrapped, especially to advertise car dealerships, radio stations, and almost anything that needs advertising.

wallpaper, wall coverings, see also decor

Wall covers including wallpaper can be considered part of décor but is usually treated separately.
- wallpaper,
- wall coverings,
- wall murals, mural reproductions

Wallpaper: large format printers for doing custom wallpaper, in the Report SERIES on which printers are best for signs. Yes, we know wall coverings are not signs, but the same printers which do signs are great for printing wallpaper.


Business Segments
that buy wide format inkjet printers

About 144,000 people read FLAAR recommendations on what printers, RIPs, and other products to buy on www.wide-format-printers.org in year 2001. Last year (2002), over 250,000 people read Nicholas Hellmuth's comments on that same web site.

In order to know what parts of the site we should expand, our staff classifies readers by their application (what they print) and by their market segment (what kind of company they are using the printer in).

The initial pages of this report listed the major applications. A separate additional FLAAR Report (in the Survival Series) gives comprehensive details of specific applications within the major application classes. Wall coverings is a class of applications: wall paper, wall murals, wall coverings are details. Some classes may have as many as 20 additional application details within the comparable theme.
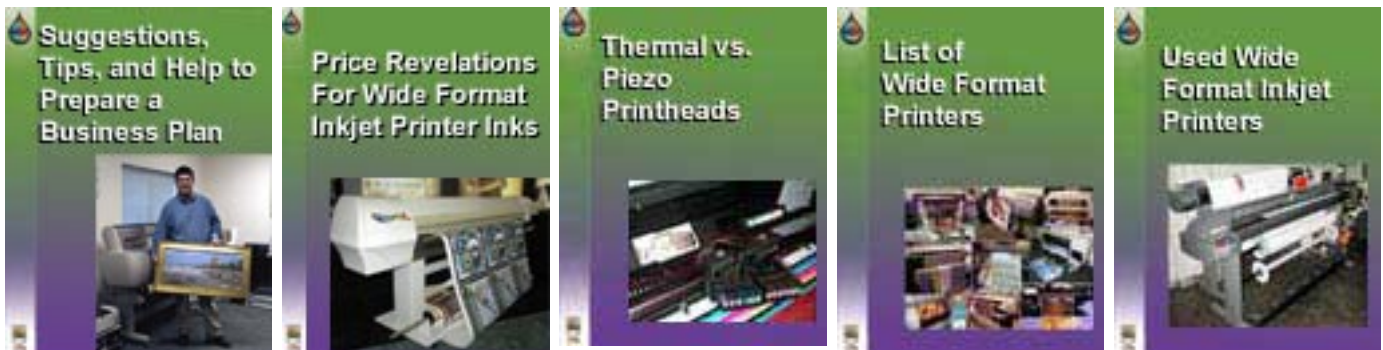
Now, on the following pages, we present the major market segments. These are the largest kinds of industry classes that tend to already buy large format inkjet printers. Several of these markets are rapidly expanding and represent future opportunities.

Everyone groups market segments differently. Some kinds of companies, such as quick printers, are in transition. Most of the companies who come to FLAAR and ask for personal consultation from Dr Hellmuth are print shops, especially screen printers, who need to learn how to survive in the world of digital printing.

It is especially notable that trade magazines for each industry often mix market segments from other industries. Again, this is because the traditional roles of a photo lab, or a service bureau, or a reprographic service, are all in transition.

But no matter how you classify these groups, they are attracted to the over 1,000 pages on the network of FLAAR web sites and the over 1,200 pages of Nicholas Hellmuth's full color reports in PDF format.

Advertising, Marketing, Graphic design

Ads themselves are printed with wide format printers. The advertising mock-ups and proofs are too. Advertising agencies, marketing and communications departments, and related graphic design companies are regular readers of FLAAR reports.

One of several pertinent titles is FLAAR Report on Inkjet Printers for Proofing. Graphic designers who work primarily with photographs may also need the FLAAR series on wide format printers for photographs.

After the ads are designed, the info on what to print them on is contained in the *FLAAR Report SERIES on Signs and Posters.*

Prepress, service bureau,

Traditionally these companies did scanning and preparation of material for subsequent printing. Printing could be for packaging prototypes, comps, general proofs. Today many of the traditional jobs of a prepress service bureau can be accomplished with a wide format inkjet printer. Proofs are but one example.

As soon as service bureaus have a wide format printer in-house, then they tend to move into using it for applications beyond what a traditional service bureau used to engage in.

Depending on their background, and where they wish to see themselves profiting in the future, the following titles would be useful, such as FLAAR Report on Inkjet Printers for Proofing. Service bureaus who work primarily with photographs may also need the FLAAR series on wide format printers for photographs.

Since it is very tempting for taking advantage of the same printer which does proofing to also print the finished product, some service bureaus may wish to acquire the *FLAAR Report SERIES on Signs and Posters*

Publishing

Publishing companies primarily need wide format printers for proofing. If you have the proper RIP newspaper publishers can print direct on regular newspring with their wide format printers (especially if you use an HP 1050 or 1055). That printer does not require coated stock for such proofs.

Mock-ups for book covers and a variety of miscellaneous uses can be listed. Of course most publications need ads, including point of sale signs. So again, wide format printers, in-house, can be useful to a publisher.

Limited edition giclee prints could also be considered a form of publishing, though giclee studios prefer that their clients think the giclee prints are produced individually only one at a time.

Publishers will definitely want FLAAR Report on Inkjet Printers for Proofing. Publishers that work primarily with photographs may also need the FLAAR series on wide format printers for photographs.

Since it is very tempting for taking advantage of the same printer which does proofing to also print the finished product, some publishers may wish to acquire the *FLAAR Report SERIES on Signs and Posters.*

In either or all cases a publisher will need to learn about RIPs and color management. Both these subjects are in the *FLAAR Report SERIES on RIPs.*

Copy shop

If you are a quick printing shop, commercial printer, copy shop, reprographics shop, digital color shop, digital printer, on-demand printing, print for pay company, service bureau, short run printing, instant printing, color graphics, specialty printer, then you probably realize that adding a wide format printer will help you survive competition from other companies who have already gone ahead and achieved digital success.

You are most likely to reproduce posters, signs, photographs. You may wish to expand into copying for décor or giclee markets. The pertinent report series are described on www.wide-format-printers.NET.

Sign shop, POP, posters, banners

Whether your family started with vinyl cutting of letters, or your earlier company was hand painting signs in the previous generation, today sign shops tend to need wide format inkjet printers to compete.

Many sign shops started with a Roland vinyl cutter, so naturally their first thought in wide format inkjet would be a Roland brand inkjet printer. Or they may already have, or be thinking of, a Roland thermal transfer printer (the ones which use the wax or resin ribbons).

But that was in the last millennium. Today Mimaki and Mutoh offer sign printers which may offer more of what you need. If you don't want the health and environmental hazards of solvent ink in your building, then several other brands can produce signs quite well. FLAAR uses both those brands to print signs at both universities where we operate in-house print shops. So if you wish first hand information (we have nine printers), you might wish to learn Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

Hundreds of sign shops and franchaises have come to us asking for help, tips, information.

Photography, photo lab, portraits, etc.

FLAAR has dedicated over 34 years to professional photography including the last several years in digital imaging. This experience is summarized in our reports on wide format printers for photographers. Hence any individual or company that work primarily with photographs will get lots of useful tips from the FLAAR series on wide format printers for photographs.

If you also intend to print giclee versions of photos on canvas or watercolor paper, then order the FLAAR Report SERIES on giclee.

You do not need both series. One, or the other, will suffice for all of the following applications: photos, décor, and giclee.

Entertainment, special events

You can classify entertainment and special events in multiple ways. These classifications share many aspects of what theaters also need, some aspects of what sports stadiums would display, and overall coincide with the rubric of printers for signs.

Golf, sports (outside of a stadium), ski regattas and a host of sports outside of a stadium also need signs of a wide variety.

Cedar Point Amusement Parks (near us at BGSU in Ohio), Walt Disney and others have come to FLAAR to ask which printers to chose.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

Hotels, resorts, restaurants

Cruse ships, gambling casinos, along with hotels, resorts and restaurants, have diverse needs for wide format inkjet printers. You will need to learn about décor and giclee printing too.

Which printers should you consider? *FLAAR Report SERIES on Signs, Posters, Banners and/or FLAAR Report SERIES on Giclee.*

Legal graphics

Lawyers use wide format output to replace flip-charts to show the judge and jury their stories.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

Sports centers, events, state fairs, world fairs, expos

When you attend a sports event or watch it on TV you see every square inch of the area surrounding the field festooned with signs. Many of these are printed with wide format inkjet printers.

Which printers should you consider? *FLAAR Report on Signs, Posters, Banners*

In-house, in-plant, corporate graphics

Internally we distinguish between in-plant print shops and corporate in-house work group or departmental printing needs. A large corporation may have both.

The two FLAAR print labs at the two universities each function as an in-plant wide format printing facility for each of the entire universities.

The reasons why we distinguish between in-plant and in-house use of wide format printers will be explained and documented during the course of 2003 and 2004. That is because FLAAR serves as consultants to major corporations who need in-plant as well as in-house wide format capabilities. One corporation needed to decide which brand to purchase for their hundreds and hundreds of distributors across the USA.

Every week Fortune 500 companies come to FLAAR to ask what printers they should use in-house: Boeing Aircraft, American Automobile Association, Intel, Mattel, MCI Telecommunications, Nike Shoes, Rockefeller Center, Sun Microsystems, etc.

Banks, other financial institutions, oil companies, etc.

Which printers should you consider? FLAAR Report on Signs, Posters, Banners

Museum, library,
Zoo, botanical garden, park, planetarium

Larger museums in major metropolitan areas would have needs comparable to any in-house print facility and sometimes same needs as a college or training programs (since many museums train docents or even run regular schools).

We receive requests for help from university libraries, city libraries, map departments

Which printers should you consider? *FLAAR Report SERIES on Signs, Posters, Banners, or*
FLAAR Report on 36" and Above for Photographers, Photo Studios, and other Professional uses.

Large Format Printers for Museum and Photo-realistic Quality

College, university, community college
High school, trade school
Training programs

We have received e-mails from several hundred universities across the USA, Canada, so clearly many universities and colleges have abundant applications for wide format inkjet printers. In essence these institutions are a special case of what any in-house print facility would need to produce.

Audiovisual centers, architecture and engineering departments, geology and geography deparments, biology, business school, chemistry, College of Medicine, of Dentistry and countless other departments come by the score every week, asking for suggestions.

Art, photography, graphics communications and comparable departments also have many of the needs of photographers and artists. Which printers should you consider for these needs? *FLAAR Report Series on Fine Art Giclee.*

Medical, health facility, home for aging, mental health, hospital, doctor's building

Some medical facilities would include much of what a university would need plus everything that any in-house print facility would produce.

Which printers should you consider? *FLAAR Report SERIES on Signs, Posters, Banners*

Government

Over the last two years we have received e-mails from every federal bureau, agency, every military branch. State, county, and local governments sent request for assistance every week.

Every department from Health to Hydrographic Service. Governors' offices write, prisons, every aspect of government you can possibly imagine.

Everything that any in-house print facility would produce.

Which printers should you consider? *FLAAR Report SERIES on Signs, Posters, Banners*

Organizations, non-profit, advocacy groups, churches, religions groups, charities

We have received requests for help from national religions as well as local churches.

Organizations, non-profit, advocacy groups, churches, and charities will have the same wide format printer needs as any in-house work group or department would also have.

Which printers should you consider? FLAAR Report on Signs, Posters, Banners

Some churches and other groups also have many of the needs of photographers and artists. Which printers should you consider for these needs? *FLAAR Report Series on Fine Art Giclee.*

Military, police, fire department

Military would also need many of the same kinds of wide format graphics as any in-house print facility. Training aspects of military, police, and fire department would also need the same kinds of graphics printing as a university, college, or training program.

We get requests for information on what printer to buy by state police, city police, county sheriffs even.

Which printers should you consider? FLAAR Report SERIES on Signs, Posters, Banners and/or *FLAAR Report on Printers for CAD and GIS*

Retail, grocery, department store, distributor

Anheuser-Busch made headlines three years ago when they chose the Encad 500 to place in their distributors across the USA. Recently Anheuser-Busch undertook a study to ascertain which printer would make a better choice for their distributors to enter the new millennium.

FLAAR has received e-mails from the leading retail, grocery, department stores, and distributors of America, all in the Fortune 500 list of corporations. Each of these corporations had essentially similar questions: what printer to purchase? Which printer has the most reasonable total cost of ownership.

Big corporations know that the purchase price is not the main factor of total cost of ownership. Interesting fact that individuals tend to buy Epson printers, but the large corporations (who know the hidden costs of inks, media, and maintenance) tend to buy HP DesignJets.

Circuit City, Meiers (the big super grocery store chain near our university and elsewhere in that part of the country), Publix Super Markets, Office Depot, Target and other retailers have already come to FLAAR asking for information.

Since FLAAR has already helped many of the Fortune 500, we can also help you. Our information is as readily available to small companies as it is to larger corporations. Actually many of the companies we assist are second-businesses, home businesses, or new start-ups.

Which printers should you consider? FLAAR Report SERIES on Signs, Posters, Banners

Retailers, grocery and department stores should see also, banners, labels, stickers

For Additional Information

In the future we will also offer applications-by-media-type. Backlit media would be one such class. Canvas would be another; watercolor paper another. Some aspects of these discussions are already in the FLAAR Report Series on Media.

Inkjet textiles and fabrics are another example of applications that are covered in a separate report in the Bonus Series. You can see previews on www.wide-format-printers.NET.

Comments

The previous text is the free version of the recently completely rewritten and updated FLAAR monograph on applications for inkjet printers. That expanded FLAAR Report by Nicholas Hellmuth is part of the Survival Series, dedicated to helping you survive choosing and buying a printer and then putting the printer to work to earn a profit.

You can order the Survival Series on-line from www.wide-format-printers.NET, from the links for Survival Series.

As part of its program for public education, FLAAR and the two universities where our evaluation centers are situated make two sets of reports available. An entry-level set is available at no cost in easy-downloading Adobe PDF format. Just find one of our Inquiry Forms on a site in the FLAAR network and specify what you need (and what your printing requirements are).

However many of our readers have written and said they prefer to get the entire batch of FLAAR Reports all at once. They asked that we figure out a way to sell them to avoid having to fill out an inquiry form for every new batch. It has taken us over a year to establish a separate web site system so you can order any report-group you wish and simply pay for them (without need of filling out an inquiry form). This new system is www.wide-format-printers.NET

Please Note

This report has not been licensed to any printer, RIP, media, or ink company to distribute. So if you obtained this from any company, you have a pirated copy. Also, since this report is frequently updated, if you got your version from somewhere else, it may be an obsolete edition. FLAAR reports are being updated all year long, and our comment on that product may have been revised positively or negatively as we learned more about the product from end users.

To obtain a legitimate copy, which you know is the complete report with nothing erased and hence a report with all the description of pros and cons, please obtain your original and full report straight from FLAAR.

Your only assurance that you have a complete and authentic evaluation which describes all aspects of the product under consideration is to obtain these reports from FLAAR at Francisco Marroquin University, via www.wide-format-printers.NET.

Citing and Crediting

The material in this report is not only copyright, it is also based on years of research. Therefore if you cite or quote a pertinent section, please provide a proper credit, which would be minimally "Nicholas Hellmuth, year, www.FLAAR.org." If the quote is more than a few words then academic tradition would expect that a footnote or entry in your bibliography would reference the complete title. Publisher would be www.FLAAR.org.

If you intend to quote any portion of a FLAAR review in a PowerPoint presentation, if this is in reference to any product that your company sells or promotes, then it would be appropriate to license the report or otherwise notify us in advance. FLAAR reports are being updated every week sometimes, and our comment on that product may have been revised as we learned more about the product from end users. Also, we noticed that one company cited the single favorable comment we made on one nice aspect of their printer, but neglected to cite the rest of the review which pointed out the features of the printer which did not do so well. For them to ☐

Follow up

We hope you enjoyed this report. We tried to send it to you quickly. You may notice that we have been going to a lot of trade shows and conferences in order to keep up with the latest hardware, software, and technology.

Eventually our staff and especially the students at both our universities will wish to follow-up with you. They are conducting surveys to check on the effectiveness of our educational programs. We are also working at nudging the printer manufacturers into producing printers that will better serve the needs of you, the end-user.

We appreciate it when you can tell other people about our web sites and information service. Being non-profit we do no advertising, hence depend on word-of-mouth to let people know. Telling other people in news groups that you belong to or to newsletters, is a good way to return the favor.

Legal notice

Inclusion in this study by itself in no way endorses any printer. Equally, exclusion from this study in no way is intended to discredit any printer. The same is true for the RIP, ink and media choices.

Advisory

We do our best to obtain information which we consider reliable. But with hundreds of makes and models of printers, and sometimes when information about them is sparse, or conflicting, we can only work with what we have available. Thus you should be sure to rely also on your own research, especially asking around. Find another end user of the make and model you need to know about. Do not make a decision solely on the basis of a FLAAR report because your situation may be totally different than ours. Or we may not have known about, and hence not written about, one aspect or another which is crucial before you reach your decision.

We are quite content with the majority of the specific printers, RIPs, media, and inks we have in the two FLAAR facilities at the two universities. We would obviously never ask for hardware, software, or consumables that we knew in advance would not be good. However even for us, a product which looks good at a tradeshow, sounds good in the ad literature, and works fine for the first few weeks, may subsequently turn out to be a lemon.

Equally often, what at first might be blamed on a bad product, usually turns out to be a need of more operator experience and training. More often than not, after learning more about the product it becomes possible to produce what it was intended to produce.

But we can't guarantee or certify any make or model nor its profitability in use because we don't know the conditions under which a printer system might be utilized in someone else's facility. As a result, products are described "as is" and without warranties as to performance or merchantability, or of fitness for a particular purpose. Any such statements in our reports or on our web sites or in discussions do not constitute warranties and shall not be relied on by the buyer in deciding whether to purchase and/or use products we discuss because of the diversity of conditions, materials and/or equipment under which these products may be used. Thus please recognize that no warranty of fitness or profitability for a particular purpose is offered.

The user is advised to test products thoroughly before relying on them. We do not have any special means of analyzing chemical contents of inks, media, or laminates, nor how these need to be controlled by local laws in your community. There may well be hazardous chemicals, or outgassing that we are not aware of. The user must assume the entire risk of ascertaining information on the chemical contents of inks, media or laminates as well as using any described hardware, software, accessory, service, technique or products.

We have no idea of your client's expectations. What students on our campus will accept may not be the same as your Fortune 500 clients. In many cases we have not ourselves used the products but are basing our discussion on having seen them at a tradeshow, during visiting a print shop, or having been informed about a product via e-mail or other communication. Tradeshows are idealized situations, with full-time tech support to keep things running. The same equipment may not work as well in your facility as we, or you, see it at a tradeshow. All the more reason to test before you buy; and keep testing before you make your final payment. Your ultimate protection is to use a gold American Express credit card so you can ask for your money back if the product fails.

Heat, humidity, dust, experience level of your workers (whether they are new or have prior years experience): these are all factors that will differ in your place of business as compared with our two universities.

Actually you may have people with even more experience than we do, since we deliberately use students to approximate newbies. FLAAR is devoted to assisting newcomers learn about digital imaging hardware and software. This is why Nicholas Hellmuth is considered the "Johnny Appleseed" of wide format inkjet printers.

Therefore this report does not warranty any product for any quality, performance or fitness for any specific task, since we do not know the situation in which you intend to use the hardware or software. Nor is there any warranty or guarantee that the output of these products will produce salable goods, since we do not know what kind of ink or media you intend to use, nor the needs of your clients. You will most likely need a color management system which implies color measurement tools and software. To handle ICC color profiles, you may need ICC color profile generation software and color measurement tools since often the stock pre-packaged ICC color profiles which come with the ink, media, printers and/or RIPs may not work in your situation. Not all RIPs handle color management equally, or may work better for some printer-ink-media combinations than for others.

Be aware that some RIPs can only <u>accept</u> ICC color profiles: you quickly find out the hard way that you can't tweak these profiles nor generate new ones. So be sure to get a RIP which can handle all aspects of color management. Many RIPs come in different levels. You may buy one level and be disappointed that the RIP won't do everything. That's because those features you may be lacking are available only in the next level higher of that RIP, often at considerable extra cost. Same thing in the progression of Chevy through Pontiac to Cadillac, or the new Suburbans. A Chevy Suburban simply does not have all the bells and whistles of the Cadillac version of this SUV.

Don't blame us… besides, that's why we are warning you. This is why we have a Survey Form, so we can learn when you find products that are inadequate.

Be aware that some inks have severe health hazards associated with them. Some are hazardous to breath, others are hazardous if you get them on your skin. And most inks are clearly not intended to be consumed. Obviously these tend to be solvent inks and UV-curable inks. Yet other inks are edible, seriously, they are printed on birthday cakes. Indeed Sensient is a leader in a new era of edible inks.

Just remember that every machine has quirks, even the ones we like. It is possible that the particular kind of images, resolution, inks, media, or other factors in your facility are sufficiently different than in ours that a printer which works just fine for us may be totally unsatisfactory for you and your clients. However it may be that the specific kind of printing you need to do may never occasion that shortcoming. Or, it may be that your printer was manufactured on a Monday and has defects that are atypical, show up more in the kind of media you use which we may not use as often or at all during our evaluations. Equally possibly a printer that was a disaster for someone else may work flawlessly for you and be a real money maker for your company.

In some cases a product may work better on a Macintosh than on a PC. Software may function well with one operating system yet have bugs and crash on the same platform but with a different operating system. Thus be sure to test a printer under your own specific work conditions before you buy.

You absolutely need to do print samples with your own images and the kind provided by your clients. Do not rely on the stock photos provided by the printer, ink, media, or RIP manufacturer or reseller. They may be using special images which they know in advance will look fabulous on their printer. Equally well, if you send your sample images to the dealer, don't be surprised if they come back looking awful. That is because many dealers won't make a serious effort to tweak their machine for your kind of image. They may use fast speed just to get the job done (this will result in low quality). Check with other people in your area, or in the same kind of print business that you do. Don't rely on references from the reseller or manufacturer (you will get their pet locations which may be unrealistically gushy): find someone on your own.

Another option is to bring your images on a CD disk to the FLAAR facility at BGSU. Here you can test your images on an Iris 3047 giclee printer (Ixia version), Mimaki JV4 (with textile inks for silk), either of two ColorSpan printers (DisplayMaker XII, Mach 12, HP 5000 (essentially same quality as the HP 5500 which is primarily faster). We also have a Canon W7250, Epson 5500, Epson 7600, HP 120nr and the HP 20ps. If you are curious to see your images on a color laser, we have 13 x 19inch color output available on a QMS-Minolta 6110. Such a visit is treated as a consultation which implies a 1-day minimum consulting fee plus the ink and media used.

Although we have found several makes and models to work very well in our facilities, how well they work in your facilities may also depend on your local dealer. Some dealers are excellent; others just sell you a box and can't provide much service after the sale. Indeed some low-bid internet sales sources may have no technical backup whatsoever. If you pay low-bid price, you can't realistically expect special maintenance services or tech support later on from any other dealer (they will tell you to return to where you paid for the product). This is why we make an effort to find out which dealers are recommendable. Obviously there are many other dealers who are also good, but we do not always know them. To protect yourself further, always pay with a level of credit card which allows you to refuse payment if you have end up with a lemon. A Gold American Express card allows you to refuse payment even months after the sale. This card may also extend your warranty agreement in some cases (check first).

Most of the readers of the FLAAR Reports look to see what printers we use in our own facilities. Readers realize that we will have selected the printers that we like based on years of experience and research. Indeed we have met people at trade shows who told us they use the FLAAR web site reports as the shopping list for their corporate purchases.

Yes, it is rather self-evident that we would never ask a manufacturer to send a product which we knew in advance from our studies was no good. But there are a few other printers which are great but we simply do not have them in our facilities yet. For example there are three Mimaki printers we would love to have (their flatbed, their newest textile printer, their new UV-curable ink printer)

We would definitely like to have a Gradco Mammoth (flatbed up to 3 inches). Would like to evaluate an Encad NovaJet 880 to print on thick material (up to half an inch if I remember correctly).

When Roland finally comes out with an 8 color version of Epson's 10000 printhead generation which offers 32 passes, wider than Epson's 44 inch limit and no banding whatsoever (if that is possible) that would be the ultimate fine art giclee printing factory. But since that printer does not yet exist, the art students on our campus use our HP DesignJet 5000ps, newly arrived HP 5500ps and ColorSpan Mach 12. The art department does museum exhibits and wins awards with the output.

We are also interested in the Western Graphtec cutter-printer with eight heads (their new model as of year 2001).

So if a printer is not made available by its manufacturer, then there is no way we can afford to have all these makes and models in our facility. Thus to learn about models which we do not feature, be sure to ask around in other print shops, with IT people in other corporations, at your local university or community college. Go to tradeshows….but don't use the booth…ask questions of people in the elevator, in line at the restaurant, anywhere to escape the smothering hype you get in the booth.

Taking into consideration we do not know the conditions in which you may be using your hardware, software, or consumables, neither the author nor FLAAR nor either university is liable for liability, loss or damage caused either directly or indirectly by the suggestions in this report nor by hardware, software, or techniques described herein because.

Acknowledgements

Actually, most of our reviews are based on comments by end users. We use their tips to check out pros and cons of virtually every product we discuss. You can't fool a print shop owner whose printer simply fails to function as advertised. And equally, a sign shop owner who earns a million dollars a year from a single printer brand makes an impact on us as well. We have multiple owners of ColorSpan printers tell us that this printer is their real money earner for example. We know other print shops where their primarily income is from Encad printers. Kinkos has settled on the HP 5000 as its main money maker production machine, and so on.

Yet we have documentation of several print shop companies whose business was ruined by specific brands that failed repeatedly. It is noteworthy that it is always the same two brands: one due to banding and printheads then simply no longer printing one color; the other brand due to pokiness of the printer simply not being competitively fast enough.

Grant funding, demonstration equipment, and training are supplied from all sides of the spectrum of printer equipment and software engineering companies. Thus, there is no incentive to favor one faction over another. We receive support from three manufacturers of thermal printheads (Canon, ColorSpan and HP) and also have multiple printers from two manufacturers of piezo printers (Epson and Mimaki). This is because piezo has definite advantage for some applications; thermal printheads have advantages in different applications. Our reviews have universal appeal precisely because we feature all competing printhead technologies. Every printer, RIPs, inks, or media we have reviewed have good points in addition to weaknesses. Both X-Rite and competitor GretagMacbeth provided spectrophotometers. Again, when all sides assist this program there is no incentive to favor one by trashing the other. Printer manufacturer ad campaigns are their own worst enemy. If a printer did not make false and misleading claims, then we would have nothing to fill our reviews with refuting the utter nonsense that is foisted on the buying public.

It is not our fault if some printers are more user friendly, print on more media than other brands. It is not our fault that the competing printers are ink guzzlers, are slow beyond belief, and tend to band or drop out colors all together. We don't need to be paid by the printer companies whose products work so nicely in both our universities on a daily basis. The printers which failed did so in front of our own eyes and in the print shops of people we check with. And actually we do try to find some redeeming feature in the slow, ink gulping brands: they do have a better dithering pattern; they can take thick media that absolutely won't feed through an HP. So we do work hard at finding the beneficial features even of printers are otherwise get the most critique from our readers. Over one million people will read the FLAAR Information Network in the next 12 months; 480,000 people will be exposed to our reports on wide format printers from combined total of our three sites on these themes. You can be assured that we hear plenty of comments □

We turn down offers of funding every month. These offers come from PO Box enterprises or products with no clearly visible point of manufacture. Usually the company making the offer presumes they can buy advertising space just by paying money. But that is not what our readers want, so we politely do not accept such offers of money.

Grant funding is, however, open to a company who has an accepted standing in the industry. It is helpful if the company has a visible presence at leading tradeshows and can provide references from both end users and from within the industry. Where possible we prefer to visit the company in person or at least check them out at a tradeshow. Obviously the product needs to have a proven track record too. Competing companies are equally encouraged to support the FLAAR system. We feel that readers ought to have access to competing information. Competition is the cornerstone of American individualism and technological advancement.

FLAAR also covers it's costs of maintaining the immense system of 12 web sites in three languages and its two university facilities in part by serving as a consultant such as assisting inkjet manufacturers learn more about the pros and cons of their own printers as well as how to improve their next generation of printers. FLAAR also serves as consultants to Fortune 500 companies as well as smaller companies and individuals who seek help on which printers to consider when they need digital imaging hardware and software.

A modest portion of our income comes from our readers who purchase the FLAAR series. All income helps continue our tradition of independent evaluations and reviews of inkjet printers, RIPs, media, and inks.

FLAAR
Digital Imaging Resource Center

www.wide-format-printers.org	www.fineartgicleeprinters.org	**CLICK HERE TO VIEW EACH FLAAR NETWORK SITE**
www.digital-photography.org	www.flatbed-scanner-review.org	
www.laser-printer-reviews.org	www.cameras-scanners-flaar.org	www.large-format-printers.org
www.FLAAR.org	www.ctpid.ufm.edu.gt	www.wide-format-printers.NET