FLAAR Reports

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Quick Peek at What New Printers to Expect in 2006

FLAAR Fast Facts

FLAAR Reports

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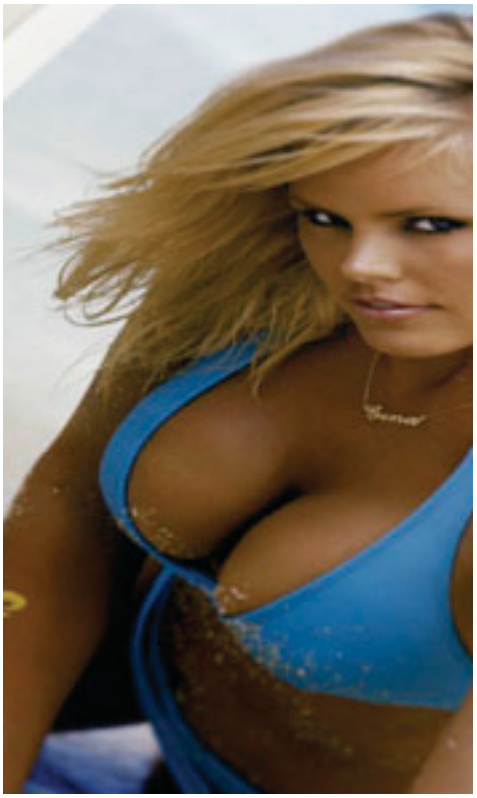


Caption for front cover: Print from Epson 4000 in the PerfectProof booth, Graphics of the America. This print certainly suggests that the Epson printer does an excellent job and works fine.

People keep asking us for help deciding what printer they should consider. Often they say, “Nicholas, I don’t want to buy old-technology that is already obsolete.”

Every one of our 80 titles is a response to someone’s question. So for 2006 we are again updating this FLAAR Fast Facts to answer all the people who have asked for “What is coming out during 2006 that’s new?”

You can use basic intuition to estimate what new printers are likely to appear this year.

How?

Just look at how long a particular printhead technology or overall print engine has been around.

- After one year their competition has something new
- After two years more competition has newer (and/or better) products
- After three years they are stale and the competition is better at lower price too.

So, when printers get stale the company needs to produce a new model or lose market share.

Then look at where the market is going: fine art, giclee, and decor are hot markets right now. Mild-solvent is a booming business. Flatbed printers with UV-curable ink are rising stars since 2002.

Manufacturers want to produce new printers for the hot markets. So estimate which company might most likely produce the needed printers. You can also use the process of elimination: neither Canon nor HP are likely to produce their own solvent ink printer, or even mild solvent (can’t get it through thermal printheads anyway). Epson is unlikely to go into the solvent-ink market either.

Plus, DRUPA 2004 trade show was held in Germany last year. DRUPA is held only every four years, so many companies worked hard to get some new product ready to show here. DRUPA occupies about 24 giant trade show buildings of Germanic proportions. So by May 2004 there were quite a lot of new printers to talk about. Except that Canon, Epson, and HP: none had a new printer at DRUPA.

Add up all these factors, and you too can predict what will appear this year.

Kodak-Encad

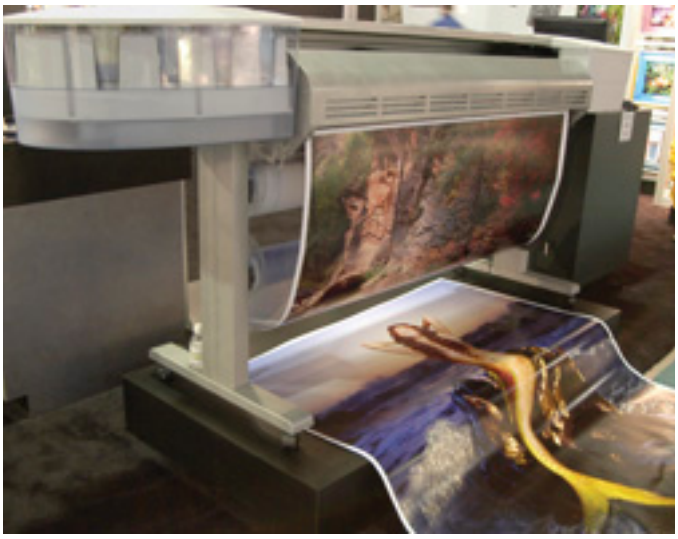
There has not been any new printer from Encad for years other than the innovative model 1000i last year. Hence this year we can hope for an unlikely Kodak attempt to get into the healthy market for high-quality photo printers (now dominated by Epson). The more likely option would be a printer for the reprographic, quick print, print-for-pay market. The advantage of the print-for-pay market is that output does not have to be the close-up quality of Epson or Canon. Most POP signs are viewed from several feet away, where Encad quality looks acceptable due to its deep saturation caused by heavy ink laydown.

Encad VinylJet was neither fish nor fowl. It is not UV, not eco-solvent, not solvent. It is unique, so unique it is also discontinued.

Holding them back is primarily a lack of a top notch printhead. Encad uses Lexmark printheads which are made for pie charts and bar charts. Epson, Canon, and HP heads offer higher print quality. But Encad does not have access to any of these printheads. All the printhead patents are owned by their competitors. The only high quality printhead available to Kodak was from Brother; but the last one Kodak tried had too many banding defects. Kodak did recently buy the Scitex digital press company, but their page-array printing technology would take gazillions to move into the mass market for desktop or office printers.

Since Kodak on its own can't easily achieve the dpi of Canon or Epson, Encad is working on speed. The last model they tried on speed, the Kodak 5260, failed because of a quirky system trying to pull the media through rather than feeding it and lack of enough media that would dry fast enough. So this time it appears they are beefing up the drying system.

So at PMA '04 Kodak unveiled the new Encad NovaJet 1000i printer from Encad. We wish Kodak and Encad well, since they need a star printer to replace their previous line of older printers.



Encad NovaJet 1000i at PMA 2004 trade show

It is sad that Lexmark has taken so many years to update their printheads. The other downside of Encad printers was lack of any totally new and improved ink delivery system. Each new NovaJet was sort of a tweaked version of the previous one. So today all current Encad models have essentially the same basic ink delivery system from the 1990's, with improvements patched here and there.

A totally new design, and a drastically updated printhead, would combine to produce something worth looking at.

Hewlett-Packard

There has not been a new wide format (over 24") from HP for several years now. Yet tests in the FLAAR evaluation facilities suggests the DesignJet 30 and 130 can produce prints of notable quality. Since Epson has really done a great job with new printer models in 2004, and as the quality of the new Canon bubble jet printhead is now becoming known, it would be logical to expect something new from HP during 2005. We sure hope so.

HP DesighJet 5500 at Photoplus 2003 trade show

In the meantime, the one advantage of HP DesignJet printers available already today is that they work well. If you need a production workhorse, might as well be producing all February, March, April, May and summer, because that way you can earn enough now to buy

the next new printer later this year. Besides, new products sometimes get delayed. It is not always a good idea to wait for bleeding edge technology.

At PMA trade show in mid-February 2004, HP introduced their DesignJet 30 and DesignJet 130. The DesignJet 90 has been added to compete with the Epson 4000 and 4800 size. Thermal printheads allow for more nozzles; nozzles are the horsepower of inkjet printers, so HP can achieve more speed than any piezo printer.

Piezo printheads allow for small picoliter size, so Epson features picoliter size in its ads, as if that is what defines quality.

Each company tries to convince buyers that its features are crucial.

The job of FLAAR is to sort through all this and assist the end user into figuring out which printer technology and which model is good for the application at hand.

If you wish a production printer, made for sustained commercial production, you will tend to find that HP printers are higher quality in design and longevity as a machine than Epson printers. Indeed Epson itself told me it considered it's desktop printers to be "disposable." This is a fact seldom mentioned in ads or reviews.

HP 5500 at GOA 2004 trade show printing panoramic photography of Antigua Guatemala by Dr. Nicholas Hellmuth

HP tends to be more friendly to after-market media. With an Epson the system is arranged to work primarily with Epson branded consumables. They work great, but you pay the price. With HP, they work best with HP branded inks and media too, but it is easier to utilize after-market media. As a result a wider diversity of after-market media is available for HP than is available for an Epson.

The new HP 30 is a desktop sized 2400 x 1200 dpi printer for discerning photographers and graphic designers. The HP 130 is 24" size with an option for roll-fed media. Both use printheads which offer notably higher quality than the HP 5000 or HP 5500. This is a polite way of saying that the grainy dot pattern of those model 5000 and 5500 printers is now overcome by the HP 30 and 130. We will have to do a jury test, but at normal viewing distance, the new HP printheads produce a quality better than that of Epson and Canon (Epson was the previous top quality; Canon's new printhead now matches Epson in image quality; the new HP printheads effectively match and slightly surpass Canon and Epson both). So in effect you have the future already available. With a 24" printer you can still do a 36" print, sideways (36" long by 24" wide).

The new HP 30, 90, and 130 use a long-life dye ink to achieve higher color gamut than a pigmented ink can offer. My estimate is that the new HP dye ink is longer-lasting than the Ilford, ColorSpan, and Encad dye inks, which previously held the record. I am not aware of any long-life dye ink from Epson.

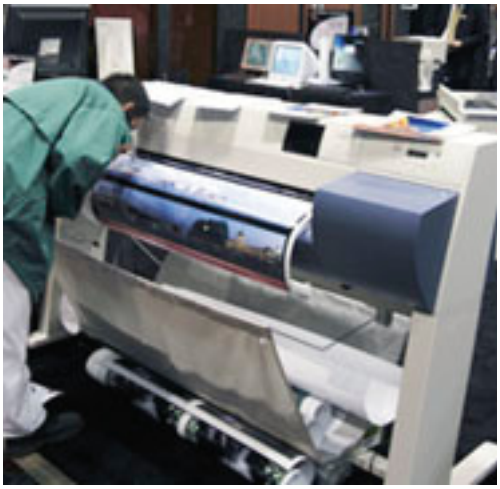
The HP 4000 came out with little fanfare in autumn 2004. This printer emphasizes speed for CAD and GIS. So this replaces the HP 1050 and 1055, as well as replaces the HP 500 and 800 in some respects.

What is missing from the HP, Canon, and Encad stable is a 7 or 8-color printer with the quality of the HP 130, but that can accept canvas and thick watercolor paper and at widths over 24 inches. Until such a printer exists the Epson 4000, 7600, 9600, and 10600 continue to gain market share.

Canon

Canon had four new products within the last two years, 6200, 7200, 7250 and 8200. What is to expect now is continued advances in this superior type of thermal printhead technology moved into a tabloid size for the desktop.

7250 and 7200 uses dye ink; 6200 and 8200 offers pigmented ink. Output is quite impressive. We have full reports on the 8200 and 7250 (valid for the 7200 which is same technology, just wider).



Canon W8200 printer at GraphExpo 2003 tradeshow

Then Canon came out with the w6400 and w8400. Their 60" printer will be out in early 2006; it has been pictured already in an Italian trade magazine. PMA is the most likely launch date because Canon Camera has its big display there. But most of the people that Canon gives free cameras to, the Canon Explorers of Light, they not only use Epson printers, they promote Epson printers at Epson trade show booths and at Epson trade show parties. In any event, Canon has great technology and if they can understand that photographers want a reasonable evaluation, and not a banner ad and a phony Success Story attached to the banner ad, then they would sell more than the 5% market share they have been stuck with for the last year.

In effect, Canon offers futuristic technology already today. But what is missing is pigmented ink in their desktop size printers: Epson is the only company that offers pigmented ink at tabloid size.

The other problem with Canon printers is that end-users think of Epson or HP, or even Encad, when they think of wide format printers. Most end-users don't consider Canon. This could be overcome with public education; Canon tried that with millions of dollars of advertising. But people still yawned. Canon never woke up to realizing they were advertising in the wrong places. Besides, it is public education, not "advertising" which will get the message out. As an institute at a large state university we have experience with how education can do a better job than mere advertising.

For three years Canon tried selling their printers through the same channels as their copiers. That failed; well, they raised their market share from 1% in 2001 to perhaps 5% in 2005. But that is insignifigent compared with HP or Epson; even Encad's shrinking market share is better than Canon.

Since selling wide format inkjet printers through traditional Canon copier channels did not work, Canon is now trying to sell through camera dealers. Canon is putting pictures of its printers into all its camera ads. Well this will sell a few, but it won't even catch up with Encad, much less come close to Epson or HP.

Canon could easily outsell Epson and make a run on HP, but until their marketing and advertising people realize that merely pouring more money into trade magazines ads and internet banner ads won't do it, Canon printers will languish. Yes, their market share will rise, but piddling compared to what Canon deserves if you look at their technology and brand name. Even Xerox is selling more rebranded Encad printers than Canon is selling their own image-PROGRAF printers.

Canon booth at DRUPA 2004 trade show in Germany

Since FLAAR is independent, we can produce innovative programs to help photographers, corporations, franchise owners, and every level of print shop owner learn about printhead technology, speed, and image quality, We are not stuck with any corporate tradition that relies merely on old-fashioned advertising.

Epson

Epson has been the most innovative and has produced the highest "wow" factor.

Their hot product is the Epson Stylus Pro series, 4800, 7800, 9800.

Yet the Epson R800 is the product to really watch. As soon as this appears in wide-format size (wider than the R2400), Epson will gobble up the market. Epson does its homework, listens to what people ask for, and then develops these features as quickly as possible. Epson is the best example of a company that interacts with its faithful public supporters. It is like the Macintosh phenomenon. People just love their recent model Epson printers.

What would be nice to see from Epson would be the technology in their letter-size R800 available in a 24", 44", and 60 or 62" model. Eight or even nine colors would be great too, plus a gloss optimizer.

And for digital camera fans, the Epson has their P-1000 LCD viewer, "Photo Viewer P-1000." Here both Compaq and Dell missed the boat totally. A photo viewer is an intelligent product. If you do professional digital photography, you need one of these Epson photo viewers for sure. Then there was a P-2000 and now a P-4000.

(Above) Print from the Epson 4000 printer at PerfectProof booth.(Below), the actual Epson 4000 printer, at another booth, stated by booth attendantnot yet to function. But we now know it does.

The rumor is that Epson will produce a printer wider than their usual 44". Epson is trying to go after the HP market which has the 60" HP 5500. Until now Epson used Roland, Mutoh, and Mimaki to go after the signage market (because Epson printers were too slow). But if Epson can speed up their piezo printheads, they can attempt to go after the sign market in 2006.

Special Epson models, Stylus Pro 4400, 7400, and 9400, are being test-marketed in most of the world except for America. These are similar to the 4800, 7800, and 9800 except the 4-series have dual CMYK to get around the lack of speed in the multi-color models. But getting rid of the multiple blacks and all the nice color seems to be regressing. They should do what HP does and Canon is about to do, put dual sets of printheads in so you can have all the color, and dual-speed at the same time.

Epson came out with everything new that they had available already in 2005. All their main competition now has an open field during 2006 to unleash all the new thermal printhead advances (mainly speed). But Epson has a faithful following, sort of a phenomenon like Macintosh computers. Even if Dell PCs are faster there are still people who will buy only a Mac.

But the faith of the faithful will be tested to the limit by temptations from the alluring competition.

Oce

We like Oce products in general and hope they can come out with something new and innovative for 2005. Some of the Arizona printer concepts date back to the 1990's. Otherwise the low-price Chinese, Taiwan, Korean, and Japanese companies will trample the slow and high-priced Arizona models one by one.

By CeBIT 2001 we learned that Oce had their own printer in development. This printer went through countless modifications over the years. By late 2002 it was an oil-based printer. But since this market never took off (as XES found out), by late 2003 the Oce prototype morphed into a UV-curable inkjet printer. And at Graphics of the Americas it was first shown widely to the American public as the Arizona 60UV. We discuss this in more detail in the FLAAR Series on flatbed printers with UV-curable ink. Unfortunately this printer, so far, has not been delivered. By January 2005 the Oce 60UV was no longer in their product list. $40,000 was just too low a price. The printer did not have enough features and the chassis was never originally intended to handle thick and rigid materials. Plus the printer was too slow.

OCE arizona booth at trade show

Oce dropped their Arizona T220UV printer. Not because it was bad, but because it was slow and could not compete with Gandinnovations at the high end or ColorSpan at mid-range entry level.

So this means Oce currently has no UV printer of their own. This means they need to develop one. In the meantime, they are selling the ColorSpan 72uvx in Europe.
Remember, that a printer under development means it will still be a year before you can actually use it. So even if Oce introduces a new UV printer at ISA 2006, it will not likely be functional until

2007. So waiting for that means all your competitors will get all the clients in your area. It makes more sense to buy a proven UV-flatbed today, rather than waiting for an unproven flatbed that is obviously not finished enough to show at SGIA 2005.

What to expect in eco-solvent, mild-solvent, and full solvent

There will be at least two substantially new mild-solvent printers in the 60-74 inch range during 2006. But it takes more than just a "new printer" to be a success. So positioning, and marketing these new printers, will be a challenge since ColorSpan has just dramatically announced it is lowering the prices on their printers substantially. These are the largest price drops in a printer line in recent history.

At present, from the current crop of mild-solvent printers, the one you should take a serious look at is from Seiko ColorPainter 64s. Seiko is a solid company (it owns Epson).

Xerox reputedly attempted to create a mild-solvent printer, the "ColorgrafX X3," but either the collapse of XES division or other factors resulted in no such printer being shown at DRUPA (May 2004). So Xerox has rebranded the Encad 1000i and sells this as though it were a Xerox printer.

Roland has a 100-inch solvent printer, waiting in the wings, using industrial piezo printheads. Print quality is not as good as the Seiko ColorPainter 64, which uses Konica heads. But print quality is probably a tad better than Xaar heads and probably a few seconds faster than using Epson heads. But Roland has not shown this printer widely and as long as the third-generation eco-solvent ink works, the Roland-100-inch solvent printer will remain out of sight.

Advances in Ink Chemistry

UV ink is where most advances will take place during 2006. Cationic chemistry is gradually becoming available for UV-curing systems. Previously all UV-cured flatbed used free radical photo initialization. If these terms are just jargon to you, it would be worth attending one of the UV seminars sponsored by IMI (www.imiconf.com).

The misleading eco-solvent concept will gradually be replaced by stronger inks that are really mild-solvent or lite-solvent; since no ink was ever really ecological. In general, inks get dramatically better every two years. The reason is that ink companies and printer manufacturers get most of their profit from selling this colored water.

The big advances in mild-solvent inks are by Agfa, and whatever ink will be in the new HP-Seiko printer. Remember, HP announced last year it was distributing Seiko printers starting in a few months in 2006. It is logical to assume this will be a mild-solvent printer. It is logical that it will have inks that are tweaked from those used by Seiko ColorPainter (which already were outstanding in color that really stood out).

Advances in Media & Substrates

The Chinese are dumping media in the US and this is causing two things: Swiss, German and US paper companies are dropping prices or going out of business. The result will be less investment in improving media: everything will go towards making the media cheaper. Not good, but that is what is happening. But chemists are working on improving media, so it will eventually get better, and less costly.

Advances in Software

RIP software tends to get more complex as the companies add more features. But color management gets easier as most manufacturers realize that the average user has no interest in doing custom ICC color profiles.

Advances in Printhead Technology

We cover printhead technology in our treatise on piezo vs thermal printheads, in our Survival Series, on www.wide-format-printers.NET.

What will happen more often in 2006-2007 will be page arrays or at least cluster-arrays. The Agfa: Dotrix and Sun/Inca FastJet each use a page array. This means there are is a row of printheads all the way across the page (the row is usually staggered so there is overlap to cover up any lines that might develop between individual printheads).

A cluster-array is packing say four heads together to make more nozzles available per color. Durst Rho does this with Spectra nozzle plates.

For the HP 4000 HP simply puts two ordinary heads together; they are not yet a cluster-array. There will be more dual-head machines during 2006, several more. Dual-printheads on thermal printers will increase the speed of thermal printers further past the slow crawl of piezo printheads. Some piezo printheads need 32 passes: that's back and forth, back and forth, many times. Agonizingly slow.

Five years ago sales reps sang the song of piezo superiority. Year 2006 will reveal how much life is left in thermal printheads. Lexmark is, so far, the only thermal head that is uninspiring. Encad and Kodak have, in the past, had access only to the Lexmark head. The "Brother" piezo head Encad and Kodak tried to use in their ill-fated 6250 printer failed to function adequately.

So even if thermal printheads eventually reach the end of their technology promise, and even if 20 years from now piezo heads are still advancing, none of that will benefit print shop owners today. Today, 2006, thermal printheads will showcase how many surprises still remain. The printhead on the HP 8750 and the printhead on the HP 130, offer spectacular quality, as but one example.

Spectra and Xaar printheads are gradually getting smaller picoliter drop sizes. Canon is already down to 1 pL in desktop size and 2 pL in other desktop units. HP and Epson are about 4 pL or less. Encad is still stuck with Lexmark printheads that have about 10 or 11 pL. Spectra heads are about 30 pL; the older heads are 80 pL. But generally expect to see higher quality from UV and solvent ink printers, especially in whatever HP produces together with its new partner, Seiko.

For 2006, improved Spectra and Xaar printheads will bring life and promise back to the world of industrial-strength piezo technology. So end-users will benefit in every aspect: fabulous thermal printhead technology in two lines of printers, and improved image quality in a wide variety of piezo heads. Remember that Konica, Toshiba Tec, and Ricoh (Hitachi) printheads also offer pleasing image quality.

How to measure Image Quality

In 2003 you could tell which prints were from an inkjet process: banding, grainy dot pattern, and differential gloss revealed that it was “an inkjet print, not a darkroom photograph.”

By 2004, the most recent models from Canon (6200, 8200), HP (30, 130), and Epson (4000, R800) have gotten rid of the dot pattern. Hopefully they have minimized banding. The only remaining feature that alerts a cognoscenti that it’s an inkjet print is differential gloss reflection pattern on pigmented ink with glossy media. Here is where HP’s move to a long-life dye ink helps: less gloss differential. Besides, most pigmented inks don’t print well on glossy paper anyway. Or if they do print they get quickly and easily damaged in handling.

What Printers would FLAAR Like to Have?

We would enjoy having the ColorSpan X-12+, but the two older ColorSpan (XII and Mach 12) do quite well as is. The X-12+ has the advantage of being a mature technology. Trust me, you do not always want to be on the bleeding edge. For any commercial print shop where you need your printer cranking out tons of images, the ColorSpan X-12+ sounds like an ideal solution. If they added the printhead quality of the HP 130, at the size of the ColorSpan, with 12 colors, that would be awesome.

Our dream printer would be with the quality of the Epson 9800, but at wider size, with 9 colors (with option for CMY lm, lc, and four levels of black. We use the ColorSpan Mach 12 with quad-black together with 7 distinct other colors (total of 11 colors). We use the ColorSpan Mach 12 with 12 distinct colors (but only one black).

A Canon with light black would be a market winner too.

And any photo-quality printer that can avoid differential gloss defect (bronzing is its most serious manifestation) will win our vote.

A glossy media for pigmented ink that did not scratch and self-destruct from normal usage would be a pleasant surprise. You can’t use glossy media with the Encad, Kodak,or Xerox versions of the Encad 1000i; they are very honest about warning you.

You can’t use glossy media with the Canon w8200; it scratches too easily; it is blemished even coming through the printer itself. We do not know if the Canon w6400 or Canon w8400 can handle glossy media because they were not sent to us for testing. But most printers with most pigmented ink can’t print on glossy media: it is the same with Epson printers, though this issue may have been resolved recently. We should receive the Epson 9800 within a week or so to evaluate. We will check to see how it handles glossy materials.

A dye ink that did not self-destruct in humid weather would be a welcome change. In high humidity dye ink turns back into a semi-liquid and “runs” inside the material it was originally printed on. It ends up looking slightly smeared, or out of focus, or faded.

A printer that is not designed to waste ink and media would be a nice gesture from printer manufacturers. Most printers, especially Epson and ColorSpan, waste too much media when doing test prints. Epson wastes by cleaning its clogged nozzles: they should concentrate on designing a printhead that does not clog to begin with.

Plus, if you read our reports, you know we will give a well-deserved blessing to any printer that can produce consistently with no banding defects and no roller-marks (media feeder scratch marks).

The Mimaki JV22-160 and the Roland (ErgoSoft) d'Vinci are two remarkable printers we are following with interest. We do not yet have either so can't recommend them from personal use.

We hope to add at least one mild-solvent printer this year and would definitely like to have a UV-curable ink flatbed printer to evaluate in our university facilities.

Our really favorite printers are the Agfa :Dotrix and the Noritsu Mytis. These are printers that would elevate our inkjet printer facility even higher. We also like the Xerox iGen3, Xeikon 5000, and HP Indigo. Although these are not inkjet technology, many of our readers ask us to help them decide which brand variable data press to buy.

Until we get our Dream Printer, what do we actually use?

The HP 5000 and 5500 are our main production workhorses. We use them for pigmented ink and the two ColorSpans for dye ink (long-lasting dye). FLAAR has a full-scale print shop at the university. This way our tests are realistic. We also do lab-type testing, but we prefer the real-life usage evaluation best.
We thought about switching some jobs over to the Canon 8200 since it has the same visual quality as the Epson 7600, 9600, 10600 but the Canon ink and media cost less. And the Canon is appreciably faster. But the Epson R800, Epson 4000, and P-1000 digital photo viewer are products that everyone will desire. Epson does a better job of marketing to individuals and to the SOHO market. We had trouble getting our main RIP to work with the Canon too. The Canon-provided RIP software was really not that different than a printer driver. And as we mentioned earlier, glossy paper did not work at all in the Canon: it scratched going through the printer. The fragile surface of the media simply did not hold up.

But since we can see through inflated marketing claims we tend to use printers that are more practical and cost effective. HP has a wider range of media and is a real workhorse for the two universities. Even though we have 23 printers available, the majority of our signage and general printing, including giclee on canvas and watercolor paper, is produced by the HP 5000 and HP 5500 (we have three of them). But for photographs, here is where the HP 130 and Epson 4000 have the quality. During 2006 we will add several Epson printers since most of our readers want to know our experiences with these printers.

If you need to buy a printer now, and just can't wait, then acquire our free catalog of all FLAAR Reports. We have reviews for everyone, at every level. All FLAAR reports can be accessed on www.wide-format-printers.NET. Sometimes our catalogs get behind; but the website has all the latest updates even if the catalogs are a few months behind.

As a courtesy, FLAAR has a policy of not releasing specific information on printers prior to the actual company first showing the printer. But as you expect, we know about the printers anyway, even down to their new model designation. But this report, to be fair, and to be ethical, does not use "insider information." Instead this report is based on inherent intuition, so that you too can learn the process of estimating what printers are about to be released. Actually they are shown to many people before the first trade show, so the details become known rather quickly. As soon as a printer is spoken about openly at a trade show, even if not presented in physical presence, it is fair to

on it. At Graphics of the Americas (first week of February 2006) there will be an abundance of fresh information readily available all over the floor. We include in this report only the aspects that were openly discussed beforehand.

A Mature Printer may be an advantage over the newest Prototype (that may not work)

If my company depended on a single printer for my success, I would rather depend on a printer with proven technology in a mature product (ColorSpan X-12+, Canon imagePROGRAF 7200 or 8200 for pigmented ink, HP 5500ps, HP 130, or Mimaki JV4) than risk my survival on fancy advertising claims for a printer that no one knows how long it will hold up, or what its quirks may be.

Three years ago Contax claimed to have produced a full-frame CCD digital camera. They offered them for sale even.

But the camera actually never functioned. Pentax had already cancelled their attempt with the same sensor chip a few months before. But Contax paid no heed and produced years of loud advertising claims, and, after painful delay, a sort of too-little, too-late camera, that won the lowest rating that a French review panel had available on its charts. But before people found out the truth, lots of people got squewered by the misleading advertising. It is also worth mentioning that after the French review, Contax allegedly refused to provide any cameras to astute reviewers in the US.

So if a printer manufacturer knows their printer will work well enough to convince the professors and graduate students who will examine it at our university, then these tend to be the brands we ask for or are offered.

You don't see printer manufacturers offering us printers that they themselves know won't pass our scrutiny. We asked one manufacturer why they had not previously provided their earlier model. They answered, "Nicholas we read your reviews. We noticed you had already learned the weak points of that printer model. We thus saw no sense in giving you this printer; you merely would have found the features that did not work well. So we waited until we redesigned a totally new printer. Now we believe our improved printer will meet your standards."
We subsequently received two different models from this company. We gave them to our graduate students to scrutinize; both printers did well in the lab inspection.

So now you know our secret: we have primarily the printers that we already know are the best. We have the time, the resources, and the knowledge to pick the best printers. We have over 34,000 e-mails from end users, so we get tips from all around the world.

So you might like to benefit from this situation. Look at what printers FLAAR uses, and note what printers we don't have.

So beware of a printer that is "too good to believe." You may find out that an advantage of a mature product today is that the newest splash of tomorrow may be a dud. The CrystalJet printer was a monumental failure, as was the Kodak 5260. Yet hundreds and hundreds and hundreds of sign shops, repro shops, and photo labs actually ordered these printers. The manufacturers even sold these models, even when they did not physically function and/or could not be manufactured to perform to spec. Obviously (we assume) that all monies were returned to the eager-beavers who bought them prematurely, but what about all the business plans that collapsed because the promised product never materialized?

We hope that you have enjoyed not only the vision of what was produced in 2004, but more useful for the long run, how you yourself can predict what new printers may appear in 2006 and which companies are likely to produce each new class of printer.

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HP is the most overdue to produce a breakthrough. Canon has immense technological capabilities and an impressive portfolio of printhead patents: but their sales plan is patterned after selling Canon copiers and Canon cameras. This model has not been productive for selling wide format inkjet printers. Otherwise until a new printhead from Konica or elsewhere can match the quality of Epson and surpass it in speed, the printer manufacturers to watch in 2006 are HP and Canon. Agfa and Fuji have relegated themselves to selling re-branded products from Epson; Xerox sells relabeled Encad printers. There will probably be one more Kodak-Encad printer, but if there are any breakthroughs by HP or Epson, or if Canon decides they wish to seriously sell wide format inkjet, there will be no catching up by any other brand.

And more importantly, this FLAAR report points out the benefit of a mature product, especially a product that has survived testing and evaluation in the FLAAR facilities at Bowling Green State University. The printer you are looking for in 2006 may already have been introduced in 2004 or even before.

Where will this all take place in 2006?

All the new printers have actually already been presented, under wraps. But with NDA (non-disclosure agreements), no one is allowed to mention them by model number, and no one is allowed to list their spec sheets, nor even their brand name.

So how do we know all about them already? Because, well, we need to be well-informed so we can assist our readers. But you will notice, we never try to scoup any official release. We politely wait until the manufacturers issue their own notices. Only then do we mention all the details. Except, except when the trade magazines pre-release the information anyway, or if so many people discuss the details openly that it is long ago public knowledge.

At Graphics of the Americas trade show, most of the new information will be so widely discussed as to become, in effect, public knowledge. But at most only one or two new printers will be released at GoA in Miami. The heavy artillery will be saved for PMA, a month later.

In case there are any last minute delays, you will see everything by ISA 2006.

FLAAR already has hotel reservations for GoA, PMA, Art Expo, and ISA 2006. We are skipping IPEX in England; not enough to attract us, and IPEX is stupidly the identical same days as ISA in the US. But if you are in Europe, most of the neat printers will be shown at IPEX in Birmingham (England, not Alabama).

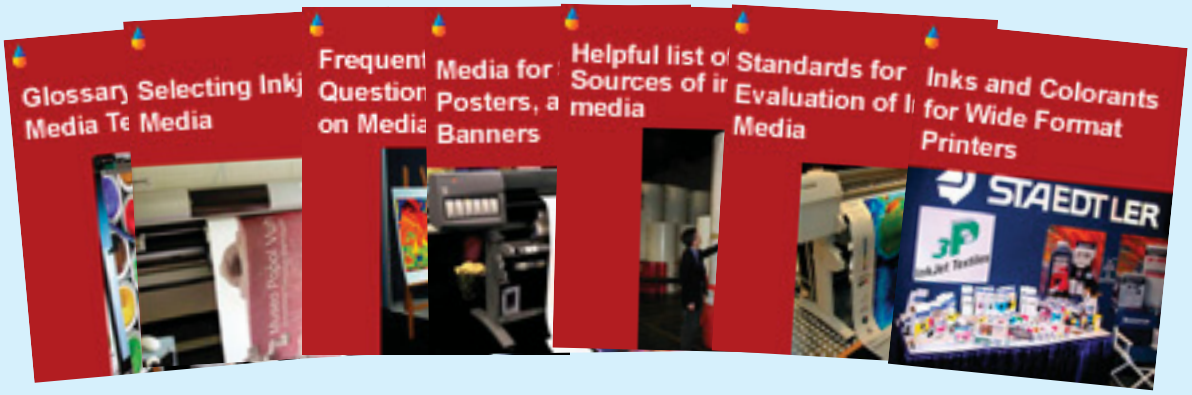
You will see everything at FESPA in May in Amsterdam too (plus FLAAR, since Nicholas is making a presentation there). To meet Nicholas sooner, you can find him giving the Keynote presentation at The Tiara Group conference in March, in Savannah.

There has never been a year in the history of inkjet printing like 2006.

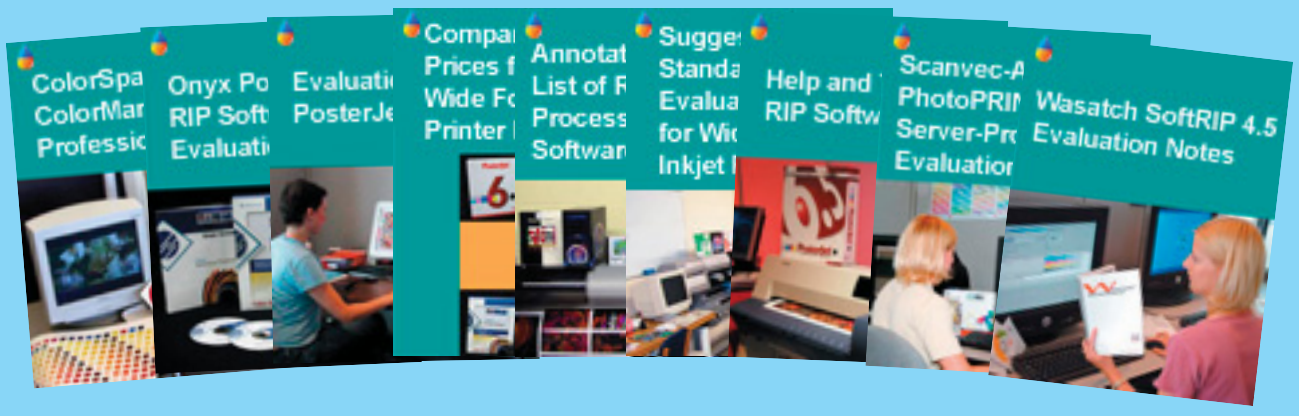
Acquire these reports at:

www.wide-format-printers.net

Media Series



RIP Series



Fine Art Glicee Printer Series

DP 101 : Achieving Quality in Digital Photography

SLR 35mm Digital Cameras

Aperture and Shutter Speed

Nikon D100 Digital Camera

Evaluation & Review of the Canon Digital Rebel

Sigma SD9 Foveon

Lens Reduction Factors: Chart

Hybrid Digital Cameras to hold Medium Format Digital Backs

Lenses and Filters

Professional Results from Budget-Priced Cameras

Practice & Critique

Pros and Cons of Digital and Film Photography

CCD and CMOS Image Sensors

History and Timeline of Digital Photography

Composition The Key to Prizewinning Photography

Nature Photography

Portrait Photography with 35mm SLR Digital Cameras

Architectural Photography with digital cameras

Lighting Digital Photography

Quicktime Virtual Object Movies

Shooting on Location with Digital Camera Equipment

How to Organize an Exhibit of Your Own Photographs

Computer Equipment for Digital Imaging

Camera and Computer Memory Storing Digital Files

Adobe Photoshop for Photographers

Additional Software for Digital Imaging

File Formats for Digital Images

Worthwhile Tradeshows for Digital Photographers

Digital Cameras at the Photokina Tradeshow in Germany, 2004

New Photography Equipment at the PhotoPlus Tradeshow in New York, 2004

FLAAR Reviews: Photo & Camera Magazines

For additional information on any FLAAR course you can write Nicholas Hellmuth and/or the course assistant Sebastion Dion directly at digitalphoto@FLAAR.org or fax 419 372 8283.

DP 201 : Taking Digital Photography to the Next Level

Digital Image Resolution

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

Digital Backs for Medium Format Cameras

Cameras to hold Medium Format Digital Backs

Recommended Equipment for Creating a Digital Studio

Lighting Modifiers for Portrait Photography

Lighting for Profitable Portrait Photography

Nature Photography with Medium and Large Format Cameras

Landscape Photography with Medium and Large Format Cameras

Panoramic Photography for Digital Cameras

Digital Panoramic Cameras

Architectural Photography with Medium and Large Format Cameras

Product Photography with Professional Digital Cameras

Computer Workstations for Digital Photography

Color Management for Digital Photography

Bit Depth and Dynamic Range

Workflow Summary for Medium and Large Format Digital Photography

Glossary of Digital Photography Terms

History of Panorama Photography: Circa 1840-1980

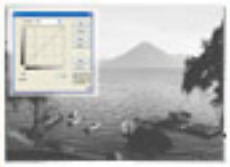
Photography of Art: Sculptures, Artifacts & other 3-Dimensional Works of Art

Taking Photographs with a Reprographic Copy Stand

History of Rollout Photography

Lighting for Product Photography

Gray Balance for Professional Digital Photography



Shooting On-location with Medium and Large Format Cameras

Portability: Which Digital Camera is best for Out on Location?

Professional Software for Working with RAW File Formats

FLAAR Book Reviews: Adobe Photoshop

FLAAR Book Reviews: Medium and Large Format Cameras

Trade Shows for New Camera and Printing Technologies

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