

## How to Select Your Next Wide-Format Printer

*Ask yourself some basic questions — about your business and your need for a printer.*

This is an interesting topic, to be sure, and one that could invite plenty of argument from interested parties (e.g. — sellers shouting, “Buy mine, buy mine!”).

Let’s take the option of argument out of it here, and use a common-sense approach to the topic. I operated a wide-format dealership in the “old days,” before everyone had one of these printers, and most of the buying research took place on the Internet and at trade shows. Of course, the axiom applies, “It must be true, I read it on the Internet.” Believe that, and I will tell you another one...

Enough attempts at weak humor, and on to some of the realities of this process. To do it right, you should consider it a process. Other than your home or car, a wide-format printer may be one of the larger purchasing decisions you will ever make. The good news is, even though the printer will lose value over time, it should pay for itself again and again over its life span, unlike your car.

Before we get to the technology, ask yourself some basic questions — about



Bob Flipse, President, GrafX Network

Remember, the carpenter did not need a drill. He needed a hole, which is why he bought the drill.

your business and your need for a printer. Remember, the carpenter did not need a drill. He needed a hole, which is why he bought the drill. Before purchasing, he had to have asked, “How big a hole do I need? What will it be drilled in, etc..?” In your case, you likely need a certain kind (or kinds) of output, and need the right type of device and technology to generate it. The concept is the same.

#### What products will the printer need to produce?

- Your intended products — indoor/outdoor, signs, banners, posters, vehicle wraps, transit, vanity/specialty, fine art/photo, etc. The list goes on.
- Media types — vinyl, banner, canvas, paper, fabric, rigid substrates, etc.
- Are there any products that you do not currently produce that you may like to in the future?

#### What is the size of typical output needed?

- Do the math — If you can go two- or more wide on a printer and media combo to economize on media and print times, then buy a larger model. This depends on media availability of course. Example: A few years back, I had someone come in who needed to print graphics for bus benches — all were a standard 24 inches tall. He wanted to buy a 42-inch printer. I told him to buy a 50-inch printer and print them two-wide on 50-inch media with very little waste. Otherwise, he would have been stuck using the 36-inch media available

at the time, and wasting 12 inches instead of two inches with each set of prints. Also, all printers will print at a higher square foot per hour speed at full media width.

- What is the availability of the various media types you expect to be printing on?
- If you need five-foot banners, a 54-inch printer, even if a deal, may not be good for you, for example.
- If only a small percentage of your work requires a greater size, perhaps farm out that work, and buy for what you need.
- Consider the size of your shop and the footprint the printer will occupy — not just for placement, but also for loading and unloading media and general service of the unit — especially important on flatbed printers where the stock is physically large.

#### What is your need for durability?

##### Ask yourself:

- Where will the graphic go?
- What are the environmental factors — sunlight, wind, abrasion, etc.?
- How is it mounted?
- How long must it last?

I refer to all of this as “reverse engineering” — start with your final product placed where it will end up, and consider the environmental factors. Only then can you determine what material and technology will generate that product for you.

Roland XF-640



### What is your need for quality?

- This is generally a function of viewing distance, and very dependent on the specific application.
  - Will it be seen at eye level from close up?
  - Or is it way up in the air, and seen from cars going 80 miles per hour?
  - Example — Fine art and photo producers want their work to be sharp. Billboard producers do not need to be as critical.
- Part of your quality considerations should be the number of colors available.
  - Conventional printing uses a four-color process of cyan, magenta, yellow and black (CMYK).
  - Some printers, commonly used for fine art and photo, have multiple blacks/grays for fine shadow detail.
  - Many printers offer white ink or varnish channels for greater variety.
  - Gold and silver are now available for specialty work.
  - CAUTION — White ink often uses a heavy pigment content to coat a substrate effectively. Despite the fact that many printers have agitation/reflow systems, the potential for printhead clogging can go way up if you do not do much white ink printing.

### What is your need for speed?

- Estimate your average square footage printed per day.

### Determine the speed of the printer(s) you are considering, in square feet per hour (SFPH)

- This speed must be calculated at an acceptable quality, not in draft mode. In other words, forget “spec” speeds for maximum speeds. The output is almost always useless at those speeds.
- Do the math on how many hours a day you will need to print to produce the amount needed.
- IMPORTANT — If a printer can do 80 SFPH, consider 60 SFPH a more accurate, real-world figure. Why?
  - Printers stop and clean themselves periodically, and all printing stops at this time.
  - Printers give you maximum speed only at full width.
  - Spec speeds do not take into account the cleaning time or the



Mimaki JFX500

slower speeds when printing less than full width.

- Media changeovers take time. So does waiting for the RIP if you have not RIP'ed jobs ahead of time.
- And always, do not forget the possibility of mistakes...

### What are your cost constraints?

- What is the willingness and ability of your customers to pay for acceptable quality?
- Though you need to produce as cost-effectively as possible, there is a balance where, if you cut corners too closely, it will come back to bite you.
- What can you afford as a monthly payment if you do not purchase the printer outright?

### Are you leaving room for growth in either products or extra production capacity in the model you are considering?

- Is the printer capable of printing on a wider variety of substrates than what you have intended it for?
- Are you leaving enough room in your need for speed calculations for that big job or company growth? It would be disheartening to outgrow your new purchase in a few months — with three-and-a-half years to go on the lease, for example.

### If this is not your first printer purchase, is it compatible with your RIP software?

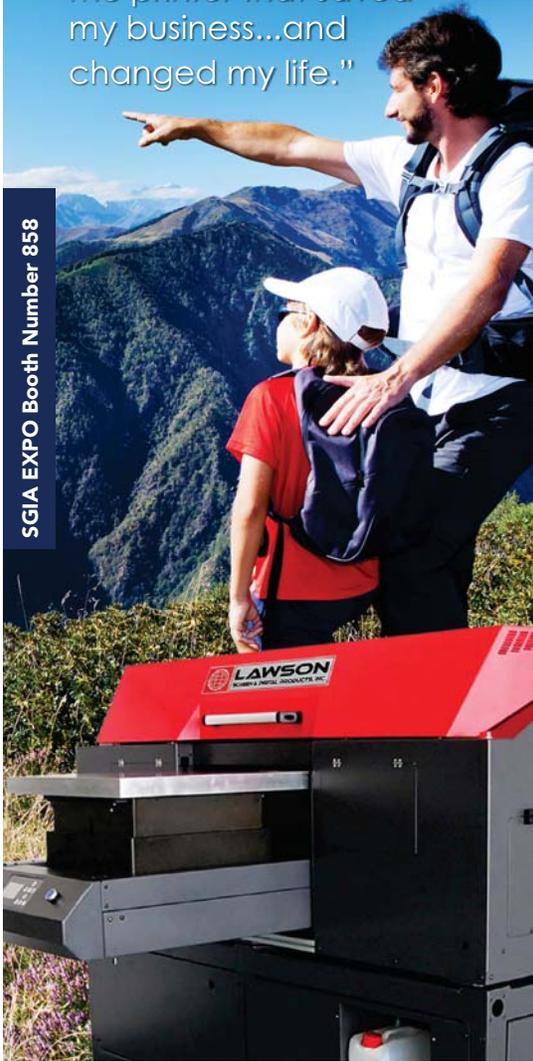
- Even if yes, you may need to purchase an upgrade. Ask the seller.
- If no, you may have to purchase a new RIP and adopt an entirely new workflow that may not be compatible with your system, creative applications, etc.
- Even if the RIP comes “free” with the printer, think about the prospect of having to learn the new workflow,

If you want to get the most from this investment, you would be wise to find a partner who will walk with you every step of the way during the life of your printer.

## Survival of the Fittest.

"The printer that saved my business...and changed my life."

SGIA EXPO Booth Number 858



## Integrate to Survive.

The Lawson Express-Jet/ASI is an LED/UV industrial printer that integrates new technology to add versatility to any print or ASI shop, standard features:

- **Unique 20" x 24" Image Area**
- **Adj. Height Vacuum Table**
- **1200 x 1200 Resolution**
- **Bulk Ink Delivery System**
- **Variable Drop/Grey Scale Print Heads**

*The Lawson Express-Jet/ASI really is a life changer. Call us to learn how the Express-Jet/ASI can change your life too.*



314.382.9300 | www.golawson.com

getting used to its performance with certain file types, not to mention color profile issues, or the need to match previous print jobs.

- In either case, are there profiles available for the media types you currently use?

### Do you have the ability to ventilate the printer?

This is a topic for a huge amount of debate. Personally, I would ventilate almost any of them except for the basic aqueous (water-based) ink technologies. More on ink technologies later. Scientists from some of the leading manufacturers coming at me with reams of data sheets and studies about product safety. Here are my thoughts, and you may consider them opinions. Start with:

- The liquids in the inks are designed to carry the colorants and, generally, must evaporate in order to cure and leave the coloration (print) behind. As they evaporate (another term is outgas), they go into the air. Where else?
- If it sticks to vinyl, what is it doing to your nose and lungs? And once ingested, to your liver, kidneys, and other organs and bodily functions?
- Even if it is odor-free, it is still wafting through the air. Please reread the last paragraph.
- Since I am offering only opinions here, I will tell you that I find the smell of cured UV ink almost more noxious than solvents, and headache-inducing.
- Modern latex ink technologies require comparatively extreme heat in order to cure them to the substrates. Though minor compared to others, there is still a smell — either the ink or heated vinyl (again, my opinion).
- Choose whether or not you are okay smelling anything in your shop, or exposing your employees to outgassing solvents and other ink ingredients.

So, now you have looked in the mirror, and feel that you know what you need. The next question, and one that is equally important, is whom you select to partner with in this journey.

When people came into my showroom to look at a printer, often they would come in saying, "I want to buy a (fill in the blank with a brand and model)." Call me crazy as a sales guy, but instead of saying, "Well, just sign right here," I would ask them why they wanted that brand and model. Usually it would be because their buddy had one — not always a great reason for such a decision, even if it was great for their

buddy. That was my prompt to continue my questioning and discussion, and all this is right out of any Sales 101 primer. Your rep should:

- Ask about your business — your products, customers, business cycle and your financial wherewithal.
- Make him or herself valuable to you by offering good information, and helping you make an informed decision.
- Provide detailed information to you about their experience or their customers' experience on any products they recommend.
- Be willing to offer references on these products.
- Be honest.

If you are reading this as a prospective buyer, you may ask why this is important. To me, if you are not getting this level of service and care, perhaps you should look for another sales rep or, better yet, another company to buy from. And no, it is not all about price! If you want to get the most from this investment, you would be wise to find a partner who will walk with you every step of the way during the life of your printer. Over time, you will no doubt be faced with questions and needs for:

- New materials and applications for them
- New color profiles for your RIP
- Service for your printer — Does the seller have local technicians? What are the manufacturer's service plans? What is lead time for service, etc.?
- Is an extended warranty available?

Ask your prospective vendor early in the buying process how they will be able to answer these questions.

Funny thing, I have said very little about the various technologies so far. What I hopefully have done is encourage you to ask yourself all the questions ahead of time, as your sales rep may not take the time to do so. Another way of looking at things is as I have said before, to "Reverse Engineer" your printer purchase using all the criteria mentioned so you choose the right piece of equipment and make an informed decision. Helping you make that informed decision, a quick review:

- Know your business, and why and for what reason you look to purchase a printer — based on what you need to produce with it.
- Know your business, financials and business cycle well enough to know what you can tolerate financially.

- Choose a good vendor partner, as this is a journey in technology — not just in the printer, but all associated technologies — inks, materials, RIP software and service.

Why have I harped on these parts of the equation so much, and not even talked technology? Because now I am in the service business, and I see a much different side of things. We hear sad stories almost daily about printers literally being pushed off trucks with little training on use and maintenance, very little application support, plus “I do not know why my dealer sold me this when I should have purchased something else,” etc.

### Equipment Selection

Let’s take a quick peek at the technology offerings, though the detailed version will appear in the second part of this article series.

The first and easiest way to categorize printers is by the ink technology. The names for the inks either indicate the carrier for the coloration (dyes or pigments) and/or the means of curing the inks:

- Aqueous (water-based) — Uses dyes or pigments for colorants, and for direct-to-substrate printing (paper, vinyl, banner, canvas). Also includes dye sublimation (transfer to secondary material), and direct to fabric products (with special curing requirements).



Mutoh 1624



Mutoh VJ-1638

# SGIA EXPO 2013

Select Your Next Wide-Format Printer at the Expo!

If you’re interested in continuing the conversation about making the best wide-format printer decision, join SGIA and Bob Flipse at the 2013 SGIA Expo (Orlando, October 23–25), where he will lead a session entitled “How to Select Your First (or Next) Wide-Format Printer.”

In this presentation, Flipse will cover the various technologies available, how to sort through them and how to make an informed decision for the needs of your business.

Topics will include ink technologies, print size/width, print speed and what it means, print quality, equipment service and “reverse-engineering” from your needs and applications to select the right device. Session attendees will learn how to best understand their company’s needs, both now and in the near future, how to manage budgetary considerations, and how to foster a better understanding of the technologies available in the marketplace.

Other Expo educational sessions that might interest you include:

- Strategies & Opportunities in Wide-Format Inkjet
- Photo Imaging and the Wide-Format Digital Revolution
- Selling Wide-Format Made Easy

Not yet registered for the Expo? Get your free pass today, at [SGIA.org](http://SGIA.org), Keyword: Expo!

# SGIA EXPO 2013

Make the Most Informed Purchasing Decision with SGIA

Before you make your next wide-format printer purchase, visit [SGIA.org](http://SGIA.org). For Association members, SGIA is the information resource when it comes to purchasing new equipment.

## 2013 SGIA Expo!

The 2013 SGIA Expo is on its way! Held this year, October 23–25 in Orlando, Florida, the industry's hottest event is the only place to see the full spectrum of imaging technologies and applications. Each year, The SGIA Expo draws thousands of imagers from around the world to one expansive show floor. Attendees can see hundreds of exhibitors showcasing the broadest range of technology available on the market. In addition, this year we're bringing even more markets to the Expo floor to help attendees get the widest (see what we did there?) range of possibilities and opportunities available today.

Find your next wide-format printer in Orlando! Register for your pass now, at [SGIA.org](http://SGIA.org), Keyword: Expo.

## Digital Equipment Evaluations

Performed by our very own staff experts, SGIA's Digital Equipment Evaluations provide unbiased information about the latest digital equipment devices on the market. Compare brands, review the specs and examine routine maintenance schedules.

Digital Equipment Evaluation Reports are produced in order to provide an objective comparison tool for companies utilizing digital imaging equipment. Equipment is evaluated in controlled conditions using a qualified equipment operator and a member of SGIA staff, who works as an objective observer and recorder of findings.

## Virtual Trade Show

In addition to the valuable Evaluations, SGIA also provides year-round access to Expo exhibitors. Check out who is coming to the 2013 SGIA Expo in October, who is bringing what equipment, and who is traveling to Orlando with the right equipment for you in mind!

- Substrates must be coated to be ink receptive, or require heat to transfer or cure.
- There is usually very high quality available in these printer types.

- Solvent (mild, medium, strong) — Generally used for products where great durability is required, and for direct-to-substrate printing (paper, vinyl, banner, canvas, fabric and a host of exotic materials).
  - For the most part, requires a PVC substrate to print on, or to coat on other materials.

- Quality depends on design of printer and heavily on printhead technology (generally defined by ink droplet size measured in picoliters).
- Ten picoliters or less will give you fine quality, and droplets of 15 picoliters or more may be noticeable.
- The RIP can cover some of this up.

- UV Curable — Almost like liquid plastic, the ink once deposited cures (dries) immediately upon exposure to ultraviolet light. Often very friendly to uncoated and unusual materials — coroplast, wood, glass, painted substrates, plex, etc. — to which other inks will not stick.
  - Commonly used in flatbed printers to print on flat substrates to eliminate the cost and labor to mount prints on vinyl.
  - There are hybrid printers that will do both flat and roll stock, and some have roll take-up systems.
  - White and other specialty inks and varnish are often available in UV curable printers.
- Latex — A comparatively new ink technology that requires additional heat in order to cure on most substrates. Very popular in shops of all sizes, and generally friendly to most substrates that are currently used on solvent printers.
  - Quality is quite high, though you may not find the inks as bright as some of the other technologies.
  - If you have a question of compatibility with your popular substrates, insist on testing with a printer using the same inks as your prospective printer before you purchase it.

It is probably a good idea to prepare a print checklist of your questions so you do not forget anything as you speak with the sales rep. Again, let's review the basics:

- Know your business and what you need.
- Prepare yourself ahead of time for a meeting, demo or sales presentation.
- Select a partner that will be with you for the long haul.
- Do not buy strictly on price. It will cost you more in the long run if you do not buy what you need.

- Understand that this will be a process if you are to make an informed decision.
- Maybe sleep on it one more night before you make that decision.

Good luck and happy printer hunting!

*A 25+-year industry veteran, Bob Flipse was an early innovator in wide-format digital printing. Starting in aqueous, his knowledge now covers solvent, UV and other ink technologies. Bob is currently a partner in GrafX Network, a nationwide service company for wide-format printing equipment. Much of their work is performed for dealers and manufacturers, some of whom outsource to them for overflow work while others use them as a primary service provider.*

*bob@grafxnetwork.com*



Mimaki JV400-160SUV

# signelements

## Save 25% on Royalty-Free Images with SGIA

Through SGIA's partnership with SignElements — an online, royalty-free subscription service specifically for the sign industry — SGIA members have instant access to high-quality, high-res:

- Images
- Graphics
- Templates
- Photos
- Vehicle outlines
- Vinyl-ready vectors
- Vehicle wraps

**Average Member Savings: \$73.25**

Download up to 50 images each and every week, and 200 vehicle templates each year.

Over **2 Million** Images



**Visit SGIA.org, Keyword: SignElements or booth 2407**