

## Print Technology and Format Trends in Production Color Digital Print

Those of you following market developments in digital printing technology for document production may have noticed multiple overlapping trends that have been playing out over the past decade or so. These typically revolve around two topics: print technology and format. In regard to digital print technology, the main ones are toner and inkjet. In regard to digital print format, this usually boils down to two broad segments: A3+ and B1/B2. This article describes how print technology and format trends are playing out in digital printing systems that are being offered for color document production. (For the purposes of this article, systems for large format graphics production and systems for packaging are excluded.)

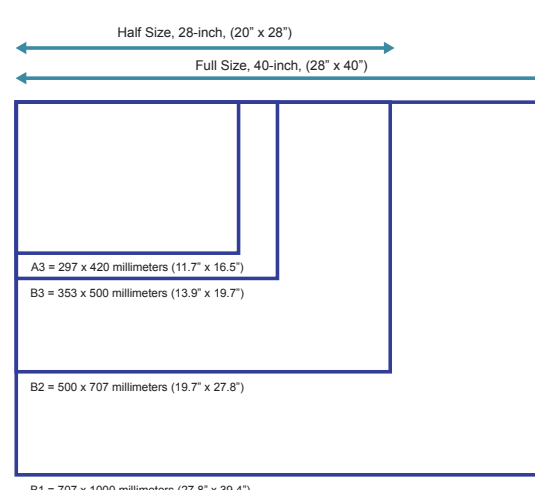
### Implications of format

Most production color digital printing systems support a format called A3+

(pronounced “A3-plus”). In other words, these systems can print on substrates larger than 11” by 17”, but often smaller than 14” by 20”.<sup>1</sup> Some of these systems are also capable of printing long sheets, as long as 50” or so. This is a nice feature that opens up applications like wrap-around book covers, multi-panel brochures, some multi-up page impositions, point-of-purchase signage, posters and some smaller folding carton packages.

More recently, a new digital printing category has emerged with formats larger than A3+. Most of these are B2 format (around 20” by 28”), which offset printers generally refer to as “half size,” as in a “half-size press.” The digital print model that supports the B1 format (around 28” by 40”), which is more familiarly known to offset printers as “full size,” is rare.

Figure 1: A and B Page Sizes



to offset presses. The biggest advantages of digital printing systems include ease of use; the ability to personalize; automatic duplexing features; and support for print on demand, just-in-time manufacturing and lights-out operation. For print service providers looking at these larger format production color digital printing systems, another pertinent aspect is whether their suite of applications can be adequately handled by A3+ format devices, particularly those with long-sheet capability.

The move to larger format is largely intended to appeal to commercial printers whose finishing systems are typically set up for B1 and B2 sheet formats. The dilemma for B1- or B2-format digital printing systems is that they are relatively slow in comparison

### Implications of technology

In terms of technology, the battle is between inkjet and toner—each with additional subcategories. Electrophotographic technologies, using either dry or liquid toners, have been

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## BUSINESS MANAGEMENT

### Writing Errors that Make You Look Bad

Do you have a hard time expressing yourself clearly in writing? If so, you're in good company. Unfortunately, many writing errors not only confuse the reader, they can also make you look bad. Here are three common errors that you should avoid:

#### 1. Making Vague Pronoun References

A pronoun (such as he, she, it, this or which) should clearly refer to the word or words it replaces.

**Wrong:** When Bob and Pete went for a walk, he got thirsty.

**Problem with this:** Who got thirsty – Bob or Pete?

**Right:** When Bob and Pete went for a walk, Bob got thirsty.

**Also Right:** Bob got thirsty when he went for a walk with Pete.

#### 2. Misplacing Modifiers

Words that are meant to modify something else should be placed as close in the sentence as possible to the thing that they're modifying. Putting the modifier in the wrong place can change the meaning of your sentence.

**Wrong:** Rebecca watched the sea lions out on the rocks wearing sunglasses.

**Problem with this:** Who was wearing the sunglasses – Rebecca or the sea lions?

**Right:** While wearing sunglasses, Rebecca watched the sea lions out on the rocks.

#### 3. Using Adjectives as Adverbs

An adjective is used to modify a noun; an adverb is used to modify a verb. It's important not to mix the two up!

**Wrong:** Herb did good on his math test.

**Problem with this:** In formal use, “good” is an adjective. However, here it is being used to modify a verb, “did.”

**Right:** Herb did well on his math test.

**Wrong:** Leticia sings beautiful.

**Problem with this:** “Beautiful” is an adjective, but it is being used to modify a verb, “sings.”

**Right:** Leticia sings beautifully.

**Another Possibility:** Perhaps you were actually trying to describe what Leticia sings, not how she sings. In this case, you can write: Leticia sings beautiful music.

Source: Plumtree Marketing, [www.PlumtreeMarketingInc.com](http://www.PlumtreeMarketingInc.com).



## HUMAN RESOURCES

### EEO-1 Reporting Deadline Extended Yet Again

Once again, the Equal Employment Opportunity Commission (EEOC) has announced that the deadline for filing EEO-1 Component 1 data for 2019 and 2020 has been extended, this time until October 25. The announcement implies that there will be no more extensions, so if you are a private employer with more than 100 employees and have not yet filed these reports, now is the time to do so!

For more information and to file your report, visit <https://eeocdata.org/eo1>.

### Tips for a Successful Open Enrollment

Open Enrollment, the time of year when you can make changes to your health plan, is coming up. Many employees don't realize it, but the choices they make can have a significant financial impact.

The following provides advice you can share with your team members to help them carefully consider their options. Before you share it, though, be sure to adjust item #3 to reflect the options that your company is offering.

#### 1. Choosing a plan

Once you receive the plan options offered by your employer, take a close look at your choices. What is covered? What does it cost? If your current plan is still offered, has it changed?

When comparing costs, be sure to look at all of each plan's costs to you. These may include:

- **Premiums** – The monthly cost to have the health plan, whether or not you use it
- **Deductibles** – The amount you pay for covered services before the health plan pays anything
- **Co-Pays** – A fixed amount that you pay for doctor visits, urgent

care, emergency room visits and prescription drugs

- **Coinsurance** – A percentage of costs of covered health care services that you must pay

As you're looking at this, it's a good idea to think about how often you go to the doctor, which medications you take, and what services you and your family might need over the next year. Then compare the costs of having and using each plan based on your likely needs.

Don't just look at premiums! You might find one plan offers low premiums, but when you dig into it further, you may see that you have to pay more when you actually use health care services.

You will need to look over the information provided for the various plans that you can choose from to make a smart choice.

Finally, check the provider network to see if your family doctor is included in the plan and if the hospital choices are convenient for you.

#### 2. Look at your spouse's benefits

Beyond examining your own coverage options, be sure to look at what your

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## PAPER BY DAMIEN

### Tips for Navigating Today's Allocated Paper Market

By PIASC Board Member Damien Bradley, Sr Vice President – Spicers | Print and Wide Format

As I discussed in my last column (see “What's Up with Paper Supply?” at [bit.ly/NN-09-06-21](http://bit.ly/NN-09-06-21)), current inventories of all paper products remain low...and the supply imbalance is expected to persist well into, if not throughout all of 2022.

Which means that just as demand for print has picked up, printers nationwide (and the paper vendors that serve them!) are scrambling to get the paper they need to fill their print orders.

What can you do to keep your customers happy and successfully navigate through this challenge? Here are some tips:

#### Set appropriate expectations

It's vitally important that you communicate with your customers. Be sure they're aware of what's happening in the paper market and the challenges that all printers are facing. Now is not the time to be promising them the moon. Instead, explain that paper is in such short supply that some varieties and grades are simply not available in the time frame required or in the sizes, basis weights and quantities that they need.

Plus, let your customers know that paper prices continue to rise. If you give a customer a quote now for a job that will run in the future, there's a good chance that the paper price will increase by the time the order comes in. Keep this in mind as you're setting expectations as well as when you're estimating the job.

#### Communicate with your vendors

More than ever, you need to stay close to your key paper vendors. Update them about your future needs for any key jobs that you are expecting to receive in the future.

Let your vendors continue to add value in the relationship! As part of this communication process, use your paper vendors as a resource for information on these unprecedented market conditions that you can share with your customers and ask them to help you find alternatives to the products you're looking for.

#### Give your customers options

If a particular paper is unavailable, don't just present your customers with this bad news—offer solutions.

Offering solutions requires you to be flexible (and convince your customers to be flexible, too). A key here is to work closely with your customers to understand the use



and purpose of the printed pieces.

If the first choice of paper isn't available, would it make more sense to consider either a premium or more economical grade? How will changing the paper affect your customer's overall budget for the project? Are there changes you can recommend that they can make to the design based on the available substrates, to ensure the job will run well on your equipment?

For example...

- **Consider alternative paper grades.** If commodity offset paper isn't available, can you move up to a higher quality opaque grade? If the customer asked for an unavailable commodity coated sheet, would it make sense to try to offer a premium coated sheet? If 70 pound paper is out of stock, would it be better for this job to move up to 80 pounds or to a lighter 60 pound basis weight? For a coated board job, if you can't get SBS board, would a laminated board work for the project?
- **Consider running the job differently.** Based on the paper products that are available, you may need to be flexible in your approach to how you print the job. For example, based on the available sheet size can something that is usually run

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## FEATURE ARTICLE

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the mainstay of the production color digital printing market for decades, providing high-quality output on a variety of substrates. At the same time, however, it has become clear that toner technologies are reaching their speed limit in terms of cut-sheet implementations. That speed limit is somewhere around 200 letter-sized pages per minute. Inkjet technologies have the ability to go much faster, and many roll-fed inkjet implementations run at extremely productive rates. Moving those levels of productivity to cut-sheet systems while maintaining high quality levels on a broad range of substrates has been a challenge, but this challenge is being addressed by a small number of A3+ cut-sheet inkjet products.

Technology is also a factor in B1 and B2 format products, where the system vendors have employed liquid toner and a variety of inkjet implementations, including water-based and ultraviolet (UV) ink types, in an effort to create compelling systems attractive to commercial printers.

**What does this mean for you?**

Table 1 provides a summary of the above discussion.

**Table 1: Technology and Format Trend Overview**

Technology	A3+ format (cut-sheet)	B1/B2 format (cut-sheet)
Toner	Two main classes: (1) 100-ppm+ systems at attractive capital acquisition costs  (2) The long-standing digital press category (iGen/Indigo/NexPress)	Liquid toner and a variety of inkjet technologies compete in this category
Inkjet	High-speed (200+ ppm), cut-sheet inkjet systems	

Note: Technology and format issues for roll-fed (i.e., continuous-feed digital color systems) are not covered here.

What does this mean to a print service provider that is considering the production color digital printing system options? In your product explorations for a cut-sheet production

color system for document applications, it helps to focus on the following topics:

- **Substrate:** Toner-based technologies have a long history of being able to print on a wide range of substrates for document printing application. Inkjet is a relative newcomer to this mix, and has adapted through the use of special inks, pre-coatings and inkjet-treated papers. If you are considering a cut-sheet inkjet system, you should confirm with the system vendor that the substrates you need are available and affordable.
- **Running cost:** One key to success for any print service provider is assessing the cost impact (e.g., capital acquisition, consumables, service, parts, electricity consumption) of any printing system. Those familiar with toner-based cost calculations must understand that the calculations for inkjet systems present a different cost equation. Your page volumes, substrate requirements, customer requirements and area coverage levels are key in tracking this accurately, whether the chosen technology is inkjet or toner.
- **Application mix and productivity:** Substrate use, quality levels and format requirements stem from the application mix of your customer base. The question of format, and what applications you can fit on a page (in multi-up impositions where possible), is central to the decision between A3+, A3+ with long sheet capability and B2. In addition, slight variations in maximum format size can play a huge role in productivity. For example, some B2 digital print devices can fit six-up letter impositions. That's good news in the US where letter size is the standard, but not so much in Europe where applications using A4 format do not fit six-up in B2 format.
- **Fit for the future:** This comes into play when comparing digital print systems versus offset presses. The ability to run without an operator in "lights out" workflows, achieving just-in-time print manufacturing and the overall simplicity of digital print system operation are factors that make digital printing systems competitive, even when they lag behind offset in overall productivity or running costs.

**The bottom line**

Print technology and format are important things to consider in today's evolving digital print environment. Keep your customers' needs at the forefront, and be sure to consider the role that substrate selection, running cost, application mix, technology and fit for the future play in your capital acquisition decisions. Once you've made these assessments, you'll be well-positioned to make the best choices for your business' future.

Source: Provided by Canon Solutions America

<sup>1</sup> Note: Some folks prefer to use the term B3; see Figure 1 for a summary of formats.

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## PAPER BY DAMIEN

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four up be done two up? Depending on your equipment, can you switch the job from offset to digital, or vice versa?

This advice applies to finishes, too. If a job calls for a gloss stock but there is no gloss stock to be had, can you buy a dull stock and apply a gloss varnish on it instead?

- **Consider custom converting.** Some paper merchants have custom converting capabilities. If the standard size sheets you've always used are not available, check to see if they have rolls that can be converted to the size you need. Keep in mind, you may need to meet minimum order quantities.

**There's always a solution**

Times like these are when your distributor's sales reps prove their value to you...and you prove your value to your customers. Solutions exist if we all remain flexible and patient. It's up to you and your vendor partners to identify these solutions. We're all in this together.

## Upcoming Events

## 2021 Los Angeles Printers Fair to be Held Both In-Person and Virtually

On November 6 and 7 the Los Angeles Printers Fair at the International Printing Museum in Carson, California will bring the best of letterpress, book arts and the paper arts to the Los Angeles area. With the backdrop of the world's largest collection of working antique presses, each year the Printers Fair brings together 80 artistic vendors and 2,000 visitors to experience the creative worlds of beautiful printing and handmade books.

Exhibitors include many of the greatest letterpress and printmaking artists in the Southwest and beyond, offering custom posters, printings, hand-printed cards, memorabilia,

hand-made paper and antiquarian books for sale. All proceeds from the Printers Fair go to the International Printing Museum, a non-profit institution dedicated to the heritage, preservation and advancement of the printing arts.

Tickets are available online at <https://www.printersfair.com>.



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## HUMAN RESOURCES

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spouse's insurance may provide. Just because you used your employer's plan last year doesn't mean that's the best choice now. It might make sense to switch.

**3. Consider all of your choices**

For example, for the 2021-2022 plan year companies that obtain their group health coverage through the Printing Industries Benefit Trust (PIBT) may choose to offer HMO health plans from Kaiser and Health Net, PPO plans from HealthNet and/or PIBT Freedom Plans.

**What are the PIBT Freedom Plans?**

The PIBT Freedom Plans are a relatively new health plan option offering benefits that are very similar to a PPO—but better.

The PIBT Freedom Plans are all about providing the best possible experience for you. You have an option of going to any provider. You can see a specialist without any preapprovals. And, best of all, you get access to a concierge service called Nurse Navigators.

Nurse Navigators are NOT gatekeepers whose task is to pre-approve treatment. Instead, their mission is to reduce the anxiety and make it easier for you to get the care you want and deserve. If you choose to call the Nurse Navigators, you'll have the assistance of a nurse to help you find a provider, schedule appointments, understand your diagnosis and much more. All at no extra cost!

## PIASC Events Calendar

NOV  
3**WEBINAR: Is Inkjet Revolutionary or Evolutionary? (presented by PIM)**

Wednesday, November 3  
Online  
[www.piasc.org/events](http://www.piasc.org/events)

DEC  
11**International Printing Museum: Holiday Kraft Day for Kids**

Saturday, December 11  
International Printing Museum, Carson, CA  
[www.printmuseum.org](http://www.printmuseum.org)

NOV  
6-7**International Printing Museum: Los Angeles Printers Fair**

Saturday, November 6 to Sunday, November 7  
International Printing Museum, Carson, CA  
[www.printmuseum.org](http://www.printmuseum.org)

For full list of workshops and virtual classes, please visit [www.piasc.org/events](http://www.piasc.org/events)