Design for Success

A GUIDE TO MAXIMIZING YOUR INVESTMENT IN INKJET
Making Inkjet Work for You

When implemented well, inkjet can be an incredible boost to production print operations, reducing operational costs and facilitating new revenue-driving application opportunities.

To be successful, it’s important to know how a new inkjet press will impact your jobs. You should understand what operators need to learn—and do—to make an inkjet operation successful right from the start, as well as what designers must do differently to get their files ready and achieve outstanding results.

There are obvious differences between inkjet and offset print production… as well as between inkjet and xerographic toner-based print production. There are also some not-so-obvious differences—and it’s important to know what they are before you get started. That’s why we’ve compiled this Guide. It’s full of knowledge, experience, and hints to help you get the most out of your new inkjet press while avoiding potential pitfalls.

How to Use This Guide

There is a significant amount of information contained within the upcoming pages, and we have designed it to be referenceable, easy to scan, and easy to read.

We know that press operators are most interested in operating tips and designers are most interested in design tips, so we have created the following icons to help you find what’s most relevant to you—quickly:

- **Inkjet Insights**
- **Operator Tips**
- **Design Tips**
There’s so much inkjet can do for you—and your customers.
It’s best to review this guide in its entirety before you start printing.
Harness Emerging Opportunities

Inkjet removes steps in the print manufacturing process, making it the ultimate efficiency engine. And with 100% personalization capability, inkjet also ensures you’re ready to unleash new levels of value-driving differentiation.

Reduce Costs with Inkjet

Many print providers see production inkjet as a way to re-evaluate their business and transform operations to drive costs down. This could be via consolidation of equipment, elimination of preprinted forms, workflow automation, an increase in productivity, or a decrease in run costs, waste, and inventory.

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<thead>
<tr>
<th>Transaction</th>
<th>Eliminate Preprinted Forms</th>
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<tr>
<td></td>
<td>Operational efficiencies can be achieved by removing preprinted statement and invoice forms. A white paper-in approach removes the need for offset shell production and costly warehousing.</td>
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<td>Maximize Communications</td>
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<td>Compile marketing offers into transactional communications already destined for the mail stream, eliminating shells and reducing costs associated with sorting and multiple mailings.</td>
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<th>Direct Mail</th>
<th>Eliminate Preprinted Templates</th>
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<td>An expanding range of inkjet media makes a white paper-in approach viable for more direct mail jobs, removing the need for offset production and costly warehousing of preprinted forms.</td>
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<td>Optimize Production Economics</td>
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<td>Inkjet delivers high volume and quality with attractive economics across a range of papers, making it easy to deliver high-value, full-color variable communications—cost-effectively.</td>
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<th>Books &amp; Publications</th>
<th>Run Low-Cost Book Media</th>
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<td></td>
<td>Inkjet reliably runs the majority of 60–90 gsm trade book media, keeping paper costs within expected ranges while delivering crisp quality.</td>
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<td>Eliminate Warehousing and Mitigate Risk</td>
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<td>For publishers, profitability depends on the ability to effectively manage book demand. Inkjet enables right-sized production runs to optimize run costs with technology flexibility.</td>
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<th>Catalogs</th>
<th>Leverage Offset Media with New Ink Sets</th>
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<td>As inkjet technology capabilities have broadened to support offset coated media, production runs can be optimized to deliver image quality rivaling offset at a compelling cost per page.</td>
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<td>Do More With Less</td>
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<td></td>
<td>To reduce paper and postage costs, catalogers are moving away from large, often costly generalized runs in favor of smaller, targeted catalogs that deliver maximum impact.</td>
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<th>Commercial Print</th>
<th>Optimize Run Lengths</th>
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<td></td>
<td>Inkjet technology unlocks opportunities to right-size run lengths to virtually any page count, reducing waste and associated costs when compared with offset.</td>
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<td>Reduce Manufacturing Steps</td>
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<td></td>
<td>Offset presses require specialized operator skills and extensive setup. Not so with inkjet technology. Presses are ready to run within moments and can be operated simply.</td>
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**Grow Revenue with Inkjet**

The other bottom line benefit of inkjet is revenue growth, which often requires re-engineering offset jobs to leverage variable information, adding relevance and value. This transformation can open the doors to new work and new growth.

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**Integrate Marketing Content for New Revenue**

By treating the white space on statements like a billboard, complementary products and services can be promoted. This leverages an idle asset to generate revenue.

**Move from Personalized to Personal**

Relevance is the key to direct mail success. Personalization is more than including a recipient’s name and address—it means tailoring imagery, messaging, and offers to that specific individual to drive higher response rates.

**Boost Engagement with Personalized Publications**

Magazines can be personalized in a variety of ways to better engage readership and meet the goals of publishers and advertisers. Segment-specific content, data-driven personalization, and personalized ads can all drive value—and new revenue.

**Drive Orders with Segmentation and Targeting**

More and more brands are opting to send customized catalogs that reflect an individual consumer’s past purchases or seasonal items in geographic regions. One retailer saw a 51% higher average order value with this approach versus static catalogs.1

**Add Valuable New Applications**

Applications such as direct mail, magalogs, and hybrid communications give commercial printers who adopt inkjet easy ways to add personalized value without sacrificing the quality consumers expect.

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1 Reppa Customer Test
Expect More from Statements and Invoices

Transactional documents are a necessary part of doing business for a lot of companies. “Must-read” customer communications—such as bills, statements, and invoices—can be printed on an inkjet press at a lower cost per page.

Inkjet technology also offers you, and your customers, an opportunity to generate new revenue with these jobs. You can upgrade standard transactional documents to TransPromo applications, bringing new marketing power and potential to a medium with proven open-and-read rates.

Opportunities to Engage

**Statements**

A. Personalized message
B. Inspirational imagery based on profile
C. Personalized chart data
D. Personalized QR code
E. Tailored savings based on purchase history

**Cyclical Billing**

A. Personalized message
B. Inspirational imagery based on profile
C. Personalized chart data
D. Personalized QR code
Inkjet Advantages

Color can be utilized without preprinted forms or shells.

High-speed productivity with low cost, full color makes plain paper an option.

Shorter run lengths are no problem—you can run virtually any form without additional press setup.

Allows you to entirely shift production to a white-paper in only factory.

Migrating to Your New Press

BEFORE YOU SWITCH TRANSACTION PRINTING TO YOUR INKJET PRESS, THERE ARE A FEW THINGS YOU SHOULD KNOW.

Coming from an offset shell workflow—While shells are printed on specific stocks, it’s critical to ensure the media you choose for inkjet will work broadly across multiple applications. Making these determinations up front minimizes performance “surprises” and reduces production time by eliminating the need to switch rolls.

Color management and matching—With its wide gamut and spot color capabilities, offset color is more intuitive than inkjet color. With inkjet, the gamut is smaller and you will need to have a color management strategy in place to reproduce brand managed spot colors. You’ll also need a management strategy to match color across presses. For more information, refer to the color tips on page 32.

Workflow—With xerography, you can simply load a shell and hit “print.” With inkjet, you’re submitting PDFs, merging data, and tracking information. With so many points to monitor, it’s important to have an established workflow in place before you print.

Insourcing—To ensure you’re making the most of your new technology and have good press utilization, you will want to gradually increase the volume of work. This can be done by bringing in jobs that would have been sent out in the past.
Document Conversion: You’ve Got Options

When it’s time to leverage the white space on your transaction documents with customized marketing messages, the advantages of inkjet are virtually endless.

Your customer may be used to sending fairly basic statements each month. This gives you several opportunities to add value.

If you have a fixed area of white space on every page, you can insert images or message blocks there. The images and blocks of text can be static or variable, but they must be contained to that fixed space.

Design Tips

Build in ample space wherever multiple images are used to prevent saturation.
Keeping the document structure the same while colorizing key elements can be a quick and cost-effective way to transition your monochrome apps to inkjet. Avoid scanning preprinted forms to use as an overlay. Instead, ask your forms vendor for the artwork or re-create it using standard tools like Adobe Creative Suite.

When it’s done correctly, document redesign allows you to optimize space and take full advantage of the inkjet technology.

Be aware of potential color trade-offs if you’re coming from offset—make sure to choose colors and papers that enable your desired color gamut of your new press.

Remember that paper choice—especially uncoated/untreated—can affect color saturation.
It’s all about the design. Whether you’re making a few minor updates or embarking on a complete redesign, it’s important to be smart about how you utilize variable data. What you include, how it’s displayed, and the colors you use can make a very big difference for certain types of transaction documents. Before you go to print, make sure you’ve considered all of the design tips below.

### For Financial Statements
- Represent several variable components of data using graphics that show performance or annual changes.
- Include a pixel or two of white or black space between bar graphs and pie charts for optimal show.

### For Cyclical Billing
- Use white space to add graphics showing usage or spending patterns.
- Choose colors within the inkjet gamut when transitioning from a preprinted form or “shell.”

### For Intelligent Variable Data
- Avoid overpowering the document with too many (or very large) images. Limit image content to a third of the page.
- Content should be customized to include relevant, targeted, and personalized marketing offers that contain a time-sensitive call to action.
Take Personalization to a Whole New Level

You’re already taking advantage of dynamic messaging and imaging to maximize personalization, but inkjet makes it more cost-effective and streamlined than ever before. As a service provider, you have the opportunity to position and sell advanced personalization as a more regular, affordable offering.

**SOLICITATIONS**
Many charitable organizations, associations, schools, and for-profit businesses depend on the success of their solicitations. And the more personalized they are, the better they perform – especially considering the low economics of inkjet.

**SELF-MAILER**
When it comes to high-volume full-color mailers, direct marketers love the results that dynamic, high-quality inkjet production lets them achieve.

**INSERTS TO ONSERTS**
Marketers typically include inserts with personalized documents, such as healthcare benefit explanations and bank statements – but inkjet makes it easy to print their messaging right in the body of that same document.

**POSTCARDS**
Postcards are an ideal way to deliver relevant, timely offers directly to specific individuals—and the expanding media range and image quality capabilities of production inkjet makes these types of jobs an ideal fit for the technology.
Consider the Imposition

Production inkjet takes advantage of something web-fed offset users have known for years: paper lengths can be virtually infinite. Choosing the proper imposition point can increase productivity and operational flexibility.

A continuous web allows you to employ a multitude of layout options that cannot be run on a cut-sheet printer. Four-panel folds and accordions are both great options for direct mail, and how you lay them out is important. The imposition directly affects productivity and cost.

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**Operator Tips**

- Use industry standard data such as PDF, AFP/IPDS, or PPML.
- Cache repeated resources in your variable data print streams.
- Optimize the layout and design to minimize RIP impact and maximize press performance.

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**Imposing in the design application** is the best way to ensure the piece is formatted the way the designer intended, but it limits mobility if the job needs to be moved to a different type of press.

**Imposing after the application** has run alleviates that concern, but you must create an imposition for each press type.

**Several inkjet DFEs have onboard imposition tools** that take the single pages from the application and lay them out without productivity degradation. This is the recommended place to impose because it offers flexibility without affecting performance.
DATA FOR DIRECT MAIL

For a long time, high-volume direct mail was typically static content printed on offset shells with a name and address added via laser or inkjet imprint. Not only was it cheap, the data it required was incredibly simple.

When you make the switch from offset to digital inkjet, data preparation is a little bit more complex because it needs to be “composed” for the press. Don’t let that scare you though; it’s quite simple—as long you enable your workflow properly.

You can use an off-the-shelf software package to merge your name and address file with the imagery you’re producing.

Working collaboratively with a variety of trusted partners, Xerox has assembled the industry’s most comprehensive array of workflow solutions. To take the first step in improving how your direct mail communications are processed, learn more at: xerox.com/workflow
Get a Read on Inkjet for Publishing

Driven by transformations in market demands and technology advancements, publishing supply chains—including those for monochrome trade books, color trade books, and magazines—have undergone significant changes in recent years.

This trend will continue thanks to an evolving combination of digital production inkjet presses and finishing solutions that combine to drive cost out of book manufacturing as well as add value to publications in the form of personalized content.

**MONOCHROME BOOKS AND MANUALS**

Digital printing has revolutionized the entire monochrome book supply chain by lessening the risks of mass production and offering a steadily increasing number of small and self-publishers faster time-to-market, reduced waste, and lower fixed costs. In this ever-changing market, inkjet is the technology you use to keep up.

**COLOR TRADE BOOKS**

When publishers can better manage the economics of color book production and keep more high-value titles in print, the color book supply chain can be more efficient. That’s where you—and your inkjet press—come in.

Production inkjet lets you drive cost out of the publishing supply chain via consolidation of equipment, workflow automation, and a decrease in run costs, waste, and inventory. Inkjet economics, when combined with the ability to print on a range of offset coated and plain stocks, support a large percentage of short runs and reprints of color books and allow jobs previously offshored to be taken back by your organization.

**MAGAZINES**

Magazines can be personalized in a variety of ways to better engage readership and meet the goals of publishers and advertisers.
High area coverage apps—such as publications and some color books—require treated or coated papers and longer drying time, which may mean slower press speeds. Make sure to plan accordingly.

A hybrid approach can be effective for color trade books, monochrome manuals, and magazines. Many publications choose to print repetitive areas on inkjet while printing higher area coverage sections—such as covers—on an offset or digital press. The two are then married in fulfillment or finished inline on a booklet maker.

When making the move from cut-sheet to continuous feed, it’s wise to take advantage of a much wider web to maximize paper use through imposition.
**PROCESS SIMPLIFICATION IS THE KEY**

Xerox has developed the workflow solutions to help printers manage this transformational activity from beginning to end—simplifying each step and adding value for their publishing customers. When you bring the components you need into one unified, automated solution, it makes color book production easy.

**ONGOING MONITORING AND REPORTING**

- Generate and manage order
- Prepare files for production
- Print book blocks and covers
- Manage offline and/or inline finishing
- Ship through physical/digital channels
- Track results

**Design Tips**

If printing black only, be certain to test results. It is particularly important to pre-test results if you are printing smaller text commonly found in technical manuals or books.

There can be some small inherent variability in the paper width of a roll. Make sure the design is safely within a few millimeters of the edge of the paper to prevent spraying into the press system.

When it comes to images, inkjet printing requires some consideration. Localized saturation is more common, so high-density images need to be positioned such that they don’t appear directly behind another high-density image, on the other side of the page. You can limit the amount of ink through color profiling or by changing drop sizes, but it is still best to address the concern with image placement.
Get Personal to Drive Results

Printed catalogs are making a comeback in both B2B and B2C markets, and they are delivering profitable results. Brands are using them as a vehicle to strengthen loyalty, while driving online and in-store sales. Thanks to advanced personalization options, they’re seeing enormous success.

Personalization capabilities are certainly not new for catalogs. With that said, Xerox has created a unified, automated solution that brings the must-have components for personalization and manufacturing together to make a rich omni-channel experience that’s more cost-effective than ever before.

Popular personalization options:

- Covers or inserts with custom offers
- Imagery based on personal preferences
- Messaging based on past purchases
Smart Production Means More Postal Savings

High volume and savvy sorting both go a long way when it comes to earning the best postal discounts. Simply presorting by postal code can save thousands of dollars—and electronically co-mingling lower volume jobs not only improves operation efficiency, it can save you up to 22% on postage.

**USPS Presorted discounts start at:**

<table>
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<tr>
<th>Local Mailings</th>
<th>In-State Mailings</th>
<th>National Mailings</th>
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<tr>
<td>over 5k</td>
<td>over 150K</td>
<td>over 250K</td>
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</table>

**CO-MINGLING**

It’s common to use a third-party sorting company that aggregates mail from multiple customers who then share the savings, but that’s not always the best way to keep costs low—especially with inkjet in the mix. You can keep every cent of the savings for yourself by electronically merging multiple jobs that utilize the same stock and envelope and printing the shells dynamically. This allows you to print bank and credit card statements in the same print run as other applications, increasing your own sorted mail volumes.

**HOUSE HOLDING**

You can take it even further than electronic co-mingling by combining more than one statement or bill in a single document. This is a great strategy for banking applications, considering the typical consumer will have more than one account with the same bank. The most common is checking and savings accounts, but they may also have a credit card, mortgage, or auto loan. Instead of sending four separate mailings that each require an envelope and postage, you can combine those documents in one print and mail run.

**Operator Tips**

In general, direct mail and publishing applications demand a higher print quality and use more ink. Choosing the right settings for the application you are running will optimize both costs and results.
When designing for applications that can be co-mingled or house-held, make sure you use the same font, barcodes, and placement on the page for the address block. This will help to make sure the address shows perfectly in the envelope window, which makes it easier for the postal service to read.

Direct Mail applications that are larger in size typically see better response rates—but when you must keep costs down, it’s wise to fit within postal standards. This will help you avoid postage penalties and ensure speedy mail sorting. In North America, #10 envelopes are the perfect fit.
Inkjet Is Outstanding, But It Isn’t for Everything

Production inkjet presses are designed to run high volumes of fully personalized content at a low cost. For applications such as transaction printing, direct mail, books, trade publications, and catalogs, it’s an ideal solution—or an integral part of a hybrid production environment.

As ideal as inkjet is for some applications, it’s equally as unfitting for others. Some applications don’t lend themselves to inkjet production, including:

- **Coverage**: Those with the need for very high ink coverage. Heavy area coverage should be evaluated for drying.
- **Paper**: Those with the need for stocks outside the media range inkjet can run. Very light weight and very heavy weight stocks should be evaluated before committing to inkjet.
- **Image Quality**: Demanding, photo-level image quality and/or areas of large solids should be evaluated before committing to inkjet.

Time and experience make it easier to spot potential challenges and know immediately which technology would be most suitable for a job, but in the meantime, it pays to have an established evaluation process.
Use the checklist below to help determine if a particular application is a good candidate for inkjet printing.

Regardless of the results, don’t forget to test the application before launching a full production run.

## IS THIS APPLICATION A FIT FOR INKJET?

### Job Onboarding Checklist

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<th>Step</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>Take a look at the history of the job</td>
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<td></td>
<td>If the file you’re printing has been built specifically for inkjet, that’s fantastic. However, if the file has a history of being printed on another type of press, you’ll want to test the design first before going into full production.</td>
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<tr>
<td>2</td>
<td>Review the resolution and color of images and graphics</td>
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<td></td>
<td>The color gamut of inkjet is not as wide, and colors are formulated differently from other printing processes. Test your job for acceptability and access tradeoffs.</td>
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<tr>
<td>3</td>
<td>Consider the paper type</td>
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<td>The size, weight, and finish of the media the job will print on is a determining factor in press selection. And when it comes to inkjet, paper selection is more important than ever. You do have plenty of paper options as inkjet media ranges continue to expand.</td>
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<tr>
<td>4</td>
<td>Assess area coverage</td>
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<td></td>
<td>Applications with high area coverage, particularly those that overlap on both the front and back sides of a page, may present drying challenges depending on the paper specified. Refer to the Xerox Tested Media List and be sure to test your job before going into full production.</td>
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Coming from Offset: What You Need to Know

If you’re accustomed to printing with an offset press, you’re used to running high volumes of static documents with high-quality results. Inkjet is an entirely different kind of press, intended for different purposes. However, many jobs can be seamlessly migrated, achieving comparable image quality when managed properly.

Keep the following differences in mind:

**Offset, xerographic, and inkjet printers each have their own unique ways of imaging.** That technology is what determines each particular press’s capabilities and the level of quality you can expect/achieve.

**Offset Presses**
Method: Apply ink to metal plates that transfer images to your media
Advantages: Cost-effective for printing long runs of static jobs

**Xerographic Presses**
Method: Use high heat to fuse toner to paper
Advantages: Quick turnaround times, cost effective for shorter runs of static and variable jobs

**Inkjet Presses**
Method: Jet ink onto the page through thousands of small nozzles
Advantages: Quick turnaround times, cost-effective for longer runs and variable data

**CALCULATING AREA COVERAGE**
Area coverage is calculated differently for inkjet than it is for offset.

With your offset press, you likely use a tool such as APFill to calculate coverage—and since each color is spread across a separate plate, it calculates how much color each plate is using.

Inkjet inks are delivered differently. You can manipulate drop sizes, resolution, and ink limits, which results in differences in ink usage.

**Calculating area coverage for inkjet.** The logic built into the Digital Front End and print head controllers separate the colors using a variety of algorithms and colored drops of ink are placed next to one another, exactly where they need to be to produce the color you’re looking for. Tools like APFill don’t understand these algorithms and cannot be used.

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<th>Total area coverage</th>
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<th>200%</th>
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<th>300%</th>
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<th>400%</th>
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<td>+ 100%</td>
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For an accurate approximation of how much ink a job should utilize, use Xerox ink estimation tools that are built into the Digital Front End or Cloud-based tools.
Area coverage:

Applications with high area coverage and rich graphics that overlap on the front and back may need special consideration.

High area coverage

Resolution: Inkjet works well for light to medium area coverage applications on baseline media (such as 90 gsm uncoated/untreated and inkjet treated stocks). It typically preserves gamut as well.

Resolution: Whenever possible, avoid having a lot of solid color in the same location on both the front and back sides of the page. You may also decide to specify a heavier or treated paper. However, too much ink on both sides of a sheet may result in the paper curling. It is best to have balanced low- to mid-level coverage on both sides.

Show through and finishing problems, when both sides of the page have areas of high coverage
Spot color considerations.

Using spot colors is a relatively straightforward process for offset presses. Inks are custom-formulated to the spot color specification and applied as a separate channel—typically 5th or 6th—depending on the press configuration.

Inkjet needs to emulate spot colors from CMYK inks. To produce your spot color, the Digital Front End of the press will mix CMYK based on a pre-determined recipe calculated by the RIP that is specific to that color on that press and for the paper specified.
Use the color profiles developed by Xerox (if available). They are specifically designed to balance ink load and output quality. Otherwise, create custom profiles for each paper type/drop size/resolution combination to optimize ink load. Excessive ink loads from custom profiles can create issues for the press. Profiling tools can graphically chart the gamut for each scenario.

Verify that your spot color is within your press’s range. Some Digital Front Ends have a spot color editor that allows you to make changes to the recipe. If you don’t have that capability, you can create a TRC curve to accomplish the same thing. If your customer is used to running offset shells, be sure to proof the migrated job on your new inkjet press to obtain approval on spot colors.

Operator Tips
Coming from Xerography: What You Need to Know

Migration of xerographic jobs to inkjet can offer many advantages in run cost and speed. Many applications that work well on xerographic presses can now be migrated to your new inkjet presses.

Depending on press settings, there are many cases where inkjet prints can look comparable to xerography. Learn how to use your press properly and successfully achieve the quality level you’re looking for with the following tips.

Differences in Quality
The output quality of toner-based presses has evolved to the point where it’s nearly indistinguishable from offset. The output quality of inkjet presses has come a long way, too. In many cases, it is a suitable replacement for specific toner-based jobs.

Color Consistency Considerations
In xerographic printers, color can change based on many factors, including the usage and age of the press’s components. When developer and other items break down over time, it causes shifts in color. Inkjet doesn’t use those components, so it holds its color once the paper-resolution-drop size combination is established.

A Few Notes on Format
Not everyone realizes it, but web-fed printers can run a surprisingly wide range of page sizes. In fact, in most cases they can run all the sizes a cut-sheet printer can. Sheet-fed xerographic printers typically have page sizes between 7” x 7” and 14” x 26”, while many web presses can accept widths up to 20” and much longer lengths.

Design Tips
Aqueous inks may appear slightly muted when compared to xerographic prints. Try using different media, larger ink drop sizes, and a higher resolution to counter the difference.

Operator Tips
It is best to set up a color profile for each press, setting (such as resolution and drop size), and media combination in order to achieve the most accurate color.

Inkjet Insights
Each inkjet press is different. Get to know your individual press’s imageable area at various resolutions.
When you migrate smaller sizes, place multiple pages across the web for fast and cost-effective throughput. Larger pages (like 14" x 26") may need to be rotated 90° to fit. If you find yourself running several smaller sized jobs, it may be worthwhile to use a narrower stock. With low volumes, the cost to cut the roll down may outweigh the wastage cost.

Because the paper on most inkjet presses is flipped over to print on the back side, the first printed side typically has its origin on the outside edge. Make sure the layout places the back side of each page in reverse order to adapt.

Depending on page size, you can often go 2, 3, or more across the web for book blocks. Make sure to leave room for cut marks to properly align the cutter. Because the back sides are the same for every copy, the order they are placed in doesn’t matter.

If you have a variety of finishing needs, consider printing roll-to-roll and finishing the application off-line. This way, if there is a problem with the finisher, the press can still create output.

For signatures, pad the signature with blank pages to ensure the set is correct and the new signature starts on a new front side.
**White Paper-In Workflow**

**High-volume content: typical workflow with offset shells.** Many printers will run shells on an offset press, then imprint the variable data portion of the job using a xerographic press. It certainly works, but it’s a far more complicated process that involves more components, additional costs, and extra production time.

![White Paper-In Workflow Diagram]

**High value, high volume: typical white paper-in workflow.** When the production is streamlined with a white paper-in workflow, you eliminate steps, which saves a significant amount of time and money.

![White Paper-In Workflow Diagram]
Be More Agile and Cost-Effective with Production.

Inkjet offers a unique opportunity to drastically cut costs while streamlining production. The goal of white paper-in is to use one type of stock for most of your work. This will open your production schedule by essentially eliminating time-consuming setup processes.
Paper Selection Makes a Big Impact

When it comes to inkjet, paper selection is incredibly important. The chosen paper has a direct impact on cost, overall quality, and production. It’s also a major factor in the final look, feel, and reliability of the document—which makes it the perfect starting point when setting the tone for design.

**EXPANDED MEDIA RANGE**

There are a variety of paper types that have been specifically developed for production inkjet printing.

<table>
<thead>
<tr>
<th>Uncoated Paper</th>
<th>Coated Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Offset/Laser</strong></td>
<td><strong>Standard Offset—Matte, Coated, Gloss</strong></td>
</tr>
<tr>
<td><strong>Inkjet Treated</strong></td>
<td><strong>Inkjet Coated</strong></td>
</tr>
</tbody>
</table>

**Best for:**
- Low area coverage such as statements, invoices, textbooks
- Jobs with limited gamut
- Cost-effectiveness

**Best for:**
- Moderate area coverage such as low to mid direct mail
- Good color vibrancy

**Best for:**
- Moderate to high area coverage
- High color vibrancy
- High-value jobs such as direct mail, catalogs, color books
- Cost-effectiveness

**Best for:**
- Moderate to high area coverage such as direct mail
- Use with inks that don’t support offset coated stocks

**COST-EFFECTIVE COMMODITY PAPERS**

Many inkjet devices on the market require that you use inkjet treated paper. Xerox® Production Inkjet Presses change that. Our low-water inks make it possible to image directly onto standard, commodity offset papers, saving time and cost in production.
If needed, calibrate each stock, resolution, and drop size for the best outcome. The resolution and drop size have a direct impact on ink saturation, gamut, and quality, so calibrating to these parameters helps improve image quality.

Store paper at a temperature of 68°F/20°C to 76°F/24.4°C and maintain a relative humidity of 35 to 55%, as the relative heat and humidity in the production room and storage areas affect the behavior of media.

Test paper stock for each job. Doing so ensures optimal quality and minimizes re-runs.

Reliable consumables are just as crucial to your production operations as reliable equipment. Using the right paper can determine whether the job is done right, the first time.
Effective Use of Color and Ink: What You Need to Know

No matter what kind of press you’re using, there’s no question that the color reproduction is a top concern. With an inkjet press, your output can be excellent with proper planning and preparation.

**Operator Tips**

It is recommended that you honor the image’s source color space as-is, saving color conversion for as late in the process as possible. If an image was provided as RGB, keep it RGB.

**You can optimize color settings at the press for certain object types.**

**PERCEPTUAL:** Best for rendering photographic images, this setting preserves the relationship among colors as they are perceived by the human eye. Colors may be scaled to fit the press gamut, but their relationship to each other will not change.

**RELATIVE COLORIMETRIC:** Best for spot colors and logos. Only colors that fall outside the Output Color space will be changed to the closest possible color within that space.

**RGB & CMYK**

**Design Tips**

You don’t have to convert RGB resources to CMYK. The press’s RIP will manage any needed color conversion for you.
SPOT COLORS

For the best possible match, make sure you create PANTONE® colors as spot colors. Simply renaming them may not properly convert them to CMYK.

If the spot color does fall into the press’s color gamut but doesn’t look right, you can tweak the recipe on the press to achieve the designer’s desired result. Remember, paper also affects how colors appear.

PROCESS VS. K-ONLY BLACK

Using K-only ink may cause images and text to appear dull and flat. Adding CM&Y produces a richer process black—but is more expensive. It’s best to use rich black when content needs to look more vivid.

Using process black can help with smoothness issues, but care should be taken with color registration. Keep in mind that printing in K-only can save on ink costs. Xerox presses provide flexibility for K-only printing.

For K-only or grayscale printing on roll-fed devices, ensure that Background Spray and/or Flush Lines are turned to maintain your color heads.
**SOLID AREAS**

If a jet is dirty or clogged, it may cause a visible line of missing ink on your print. This is especially true for solid color areas.

**INK COVERAGE**

Jobs with high area coverage or graphics that overlap on the front and back can be particularly challenging.

High area coverage with light tints or colors will be less problematic than dark colors.

With aqueous pigment inks, there is a general need to strike an optimal balance between ink and paper, as too much ink can create undesired results. Make sure to keep the following tips in mind...

Limiting the amount of ink is a critical strategy to maintaining image quality, mitigating the potential for paper defects, and reducing costs.

Reducing the amount of ink applied can lower the chances of bleed through/show through on lighter weight media and keep ink costs low when gamut and color matching is not a requirement.
TRANSPIRENCY

PDF transparency is complicated. In fact, RIPs and presses sometimes have problems printing PDFs with transparency. To help, you can either rasterize the image or apply vector transparency flattening to the PDF.

FOONTS AND BARCODES

Design Tips

Fonts should be used for barcode wherever possible. If using a barcode image, it should be 600 dpi at 100% size for the best results.

Always ensure your fonts are embedded into your file. Avoid using rasterized or bitmapped fonts for the best results.

Avoid using anti-aliasing in your design programs. It artificially softens edges and can create unpredictable print results.

When placing fonts over solid areas, turn overprint off to limit ink applied to the page and minimize spread or bleeding.
Whenever possible, try not to rasterize fonts, line art, or vector objects.

Images should be 300 dpi at 100% for optimal quality (higher is acceptable, but can slow the RIP). Remove hidden objects, which can also slow the RIP.

Highly detailed continuous tone images should be 600 dpi and 100% for optimal quality.
Understanding the Big Picture

With inkjet, smart design and prepress work go a long way. Poorly composed files with massive page or record sets can impact production performance. Use the following tips to get the picture you want—and the quality the job demands.

Some composition tools break single background images up into many similar parts, effectively creating a mosaic of content. Over thousands of records, this can create hundreds of thousands of records for the RIP to manage, increasing the risk of clutching—a temporary slowdown of the press so it does not outpace the controller.

This is why diligence in file optimization and testing is so critical. Preflighting only takes a few minutes and can prevent significant issues down the line.

If there is an image you use often, cache that image. Caching allows the RIP to process and store the image in memory, so it can be used again without reprocessing.
Setting Up for Success

Between design and production is the very important prepress process. Digital inkjet prepress has many of the same steps as offset prepress, without plate making, typesetting, and color separation of course. It has even more in common with digital xerographic prepress.

As you well know, incorrect file formats, missing or corrupted fonts or resources, unfitting image resolutions, and data errors can be incredibly costly mistakes. Employ the prepress process to make sure a file is optimized for fast, cost-effective inkjet printing.

The Inkjet Prepress Process:

**Preflight**
Find errors and identify missing resources.

- Utilize Acrobat Pro or a comparable plug-in tool, such as PitStop Pro. Run the “Analyze and Fix” feature in the Acrobat preflight tool to find and correct common issues, such as missing embedded fonts or improper spot color settings. It also helps to check to make sure ICC profiles are tagged to objects in the PDF.
- Check for PDF/X-4 compliance using these built-in profiles:
  - Acrobat X-Sheetfed Offset (CMYK)
  - Acrobat XI-Sheet CMYK 2012

**Manage Color**
Ensure the color you get at print time matches the color you expect.

- Be sure your monitor has been calibrated and profiled if you are correcting color. Also, ensure the Color Management settings for the Adobe® Creative Suite® are synchronized.
- Don’t assume a visual assessment is enough. Most documents need a more thorough inspection, especially when brand colors are being printed.
- Honor each image’s source color for best color fidelity. Save the color conversion as late in the process as possible.

**Imposition**
Make effective use of the print.

- Impose jobs using the press’s onboard imposition tools that take single pages from the application and lay them out without productivity degradation. Imposing from the DFE provides flexibility without affecting performance.
- Achieving bleed edge requires paper that is wider than the final application. Typical bleed edges in a design are about 0.29” on each side.
Proof a sampling of the application on your inkjet press, even if the user has signed off on the job. You may spot previously unseen artifacts or see anomalies that can be corrected through calibration and density optimization on the press.

Use the DFE or Cloud-based ink estimation tools to determine ink usage before production.

Generate Proofs
See exactly what the printed piece will look like.

Estimate Costs
Project how much ink and other consumables will be used in printing.

Output to the press:
Schedule the print job to run.
About Xerox

We are a $11 billion technology leader that innovates the way the world communicates, connects, and works. Our expertise is more important than ever as customers of all sizes look to improve productivity, maximize profitability, and increase satisfaction. We do this for small and mid-size businesses, large enterprises, governments, graphic communications providers, and our partners who serve them.

We understand what’s at the heart of work—and all of the forms it can take. We embrace the increasingly complex world of paper and digital. Office and mobile. Personal and social. Every day across the globe—in more than 160 countries—our technology, software, and people successfully navigate those intersections. We automate, personalize, package, analyze, and secure information to keep our customers moving at an accelerated pace.