

ELECTRONIC PUBLISHING

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ELECTRONIC[®] PUBLISHING

TECHNOLOGY
FROM DESIGN
TO PRINT...
AND BEYOND

MAY 2005

Digital Color Printing

Leading technology
suppliers comment
on the latest trends

■ Perspective



Jim Langley addresses
Kodak's recent flurry
of acquisitions and his
plan for helping each
one find its place under
the Kodak umbrella.

■ Success stories in DI printing and DAM solutions

■ Margulis shows how to optimize an image dominated by a single color

Forward
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to a friend!

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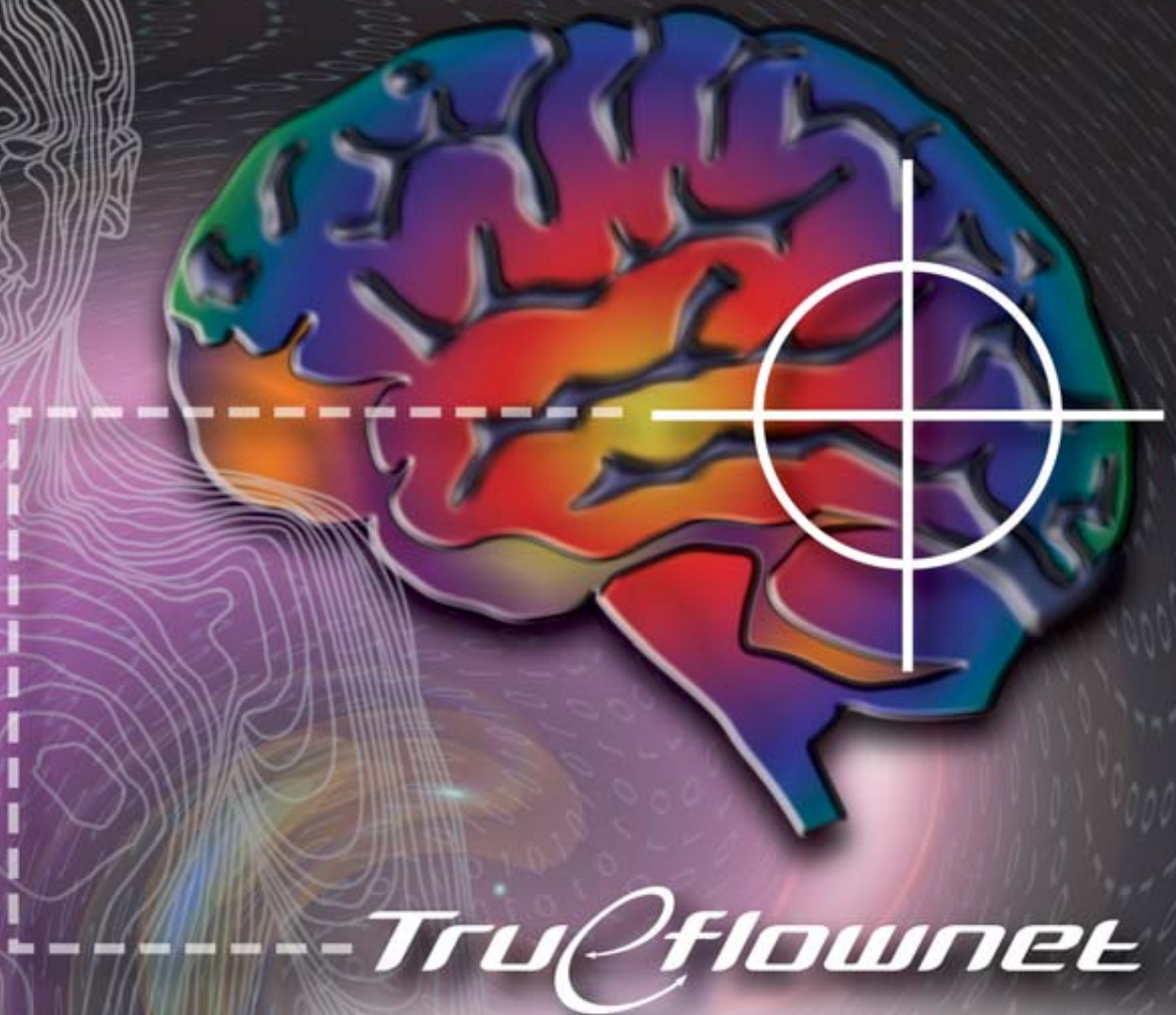
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ELECTRONIC PUBLISHING

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MAY 2005

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Following a flurry of growth and acquisitions, Kodak's Graphic Communications Group is poised to establish a dominance in the market.

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EDITORIAL KEITH HEVENOR

Numbers game

Data is the one thing of which the graphic arts industry suffers no shortage. The only problem is that the data varies widely from source to source, usually far beyond the margin of error.

People everywhere are fascinated with data and statistics. Through the ages, nations have boasted of their troop numbers, their wealth, the value of their exports, and nearly any other possible measure of success. Bigger has always been better, and our society is quick to point out where people or organizations fall within a defined range. Statistics give us a point of reference, a means with which we can make critical comparisons and evaluate performance. For example, if someone says that a business is ranked as the tenth largest, most of us immediately want to know out of how many. If the answer is "out of 10," we dismiss the data.

Data is the one thing of which the graphic arts industry suffers no shortage. The only problem is that the data varies widely from source to source, usually far beyond the margin of error. Whether the number in question is the installed base of computer-to-plate devices, the volume of digitally printed pages, the annual dollar value of offset printing, or the number of commercial printers, you can usually find a data source that will tell you what you want to hear.

In the past few months, I have seen figures on the size of the commercial printing market that indicate anywhere from 28,000 to 42,000 commercial printers in the United States, with losses of anywhere from

2000 to 4000 businesses each year. That's a pretty big range, but each source defines "commercial printer" in a different way and culls its information from a variety of sources. Anyway, if you happen to be a commercial printer, you really care about only one site—yours. The truth is that you ultimately won't run your business any differently if you have 42,000 competitors or only 28,000.

All of this is not to say that we don't need the research that produces data in our market—we absolutely do. We just need to understand the origin of the data and accept that there will always be unavoidable variations based on the way terms are defined and questions are asked. The important thing is that we use the data to improve the industry and work toward a better future. Too often we get caught up in the numbers and fail to see the reality right in front of us.

Writer and editor Norman Cousins once said, "There is a tendency to mistake data for wisdom, just as there has always been a tendency to confuse logic with values, intelligence with insight. Unobstructed access to facts can produce unlimited good only if it is matched by the desire and ability to find out what they mean and where they lead." Don't let yourself get mired down in the data, but know when to draw general conclusions and take appropriate action.

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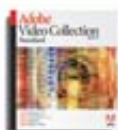
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WHAT'S NEW IRA A. GOLD

This month's grab bag

Our industry must have suddenly thawed out from the cold winter. In the last few weeks we have seen a flurry of announcements and activity, ranging from acquisitions and new creative software to a blizzard of digital cameras. It is difficult even to choose a starting point, so I'll just reach into my monthly grab bag of emails and blindly pick one to begin my column.

Adobe (www.adobe.com) announced last month its latest version of Creative Suite. It has an original name, Creative Suite 2, or CS2 (not very creative). While its name may not be creative, the software is. Aside from the usual enhancements to the basic suite, Adobe introduced Adobe Bridge, which is "connector" software that acts much like its name to bridge or connect the other products in the suite into a creative production system. The Bridge provides browser capability for PDFs and a window into stock photo libraries. This allows seamless integration for buying royalty-free images and processing them in creative projects without moving outside of CS2. Other new productivity enhancements are Camera RAW 3.0 for processing of RAW image formats from the most popular digital cameras, new XMP metadata searches, and asset management tracking using Version Cue 2. CS2 should be available this month; the upgrades start at about \$450 and the premium package is about \$1200.

News on the storage and capture front

After you have finished your projects, retouched your digital images, and burned them to CD, it is time to catalog and store your CDs. For many of us (yes, me too) that means putting the CD in a stack on the shelf over your desk, only to rummage through that stack later to find the image you need for the next project. Imation has been watching those of us with that workflow and has a product just for us—Disk Stakka (www.imation.com/stakka)—like "stacker," but with a Boston accent. Anyway, each Disk Stakka holds 100 CDs and you can stack and connect up to five devices without extra cables. The Stakka system connects to a Mac or Windows PC via USB and can manage more than 50,000 CDs from a single computer (that might manage my collection). Stakkas can be connected and disconnected without rebooting, so you don't need to have all 50,000 of your CDs connected at once, but you can connect more than 100 units to one computer. A single Stakka sells for about \$150.

What would "What's New" be without some digital camera news? Well, Nikon (www.nikonusa.com) came to the

rescue with a duo of digital SLRs. The latest version of the D70 looks and feels the same as its predecessor, but carries the name D70s. The D70s has an updated five-area autofocus system, a 2-inch LCD monitor, a higher-capacity battery, a wider-angle built-in flash, and a new color-coded menu system. All this added to an already great camera should make this a real show-stopper. If you are like me, and you already shoot with a D70, don't despair—rumor has it that Nikon will be offering a firmware upgrade for the menus, and the new battery will also work in the D70. The D50 is a lower-priced digital SLR for shooters who don't require speeds of 1/8000 of a second. This camera does have shutter speeds from 1/30 to 1/4000 of a second, with flash sync to 1/500 of a second—enough for all but most

Adobe introduced **Adobe Bridge**, which is "connector" software that acts much like its name to bridge or connect the other products in the suite into a creative production system.

professionals. The D50 is perfect if you want to get started shooting professional images, or if you want to add an extra digital body to your digital or analog arsenal.

Wacom (www.wacom.com) recently raised the bar for retouching and massaging those digital images and projects by uncluttering the desktop. The company did it by cutting the wire. Perhaps removing the wire is really the correct way of stating it. The new Graphire Bluetooth tablet allows you to wander up to 30 feet from your desktop, all without missing a pixel in your retouching. The new tablet is bundled with Adobe Photoshop Elements 2, Painter Essentials 2 by Corel, and Color Effects 2 GE from Nik Multimedia. The 6x8-inch Bluetooth tablet sells for about \$250 and comes with Wacom's pressure-sensitive pen with eraser and a batteryless mouse.

If this month is any indicator of what April showers brought forth, I can't wait to write next month's column.

Ira A. Gold, contributing technology editor, has contributed to Electronic Publishing for more than 10 years. He has spent many years consulting in the industry and is currently vice president of production for United Marketing Solutions in Virginia. Gold is a noted speaker at events such as Macworld, VUE/Point, and Seybold. You can reach him at iragold@earthlink.net.

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tech
news

Wacom unveils Graphire Bluetooth

Wacom Technology (Vancouver, WA) has expanded its Graphire line of pen tablets to include Graphire Bluetooth. Targeted at photographers, digital artists, and mobile professionals, the Graphire Bluetooth tablet sports a 6x8-inch active area, Bluetooth wireless technology, and a \$249.99 price tag. As is the case with Wacom's other pen tablets, the new release is accompanied by the company's patented cordless, battery-free pen, which has 512 levels of pressure sensitivity and a built-in eraser. The tablet also ships with a rechargeable lithium polymer battery, universal

power adapter with 12-foot cable, two on-tablet ExpressKeys, and a software bundle that includes Adobe Photoshop Elements 2, Corel Painter Essentials 2, and Nik Multimedia's Color Efex Pro 2 GE.

The company also has developed, with the support of Corel, the 6D Art Pen, designed to provide digital artists and designers with six dimensions of pen control while working in Corel Painter IX. The 6D Art Pen, priced at \$69.95, is compatible with Wacom's Intuos3 pressure-sensitive tablets and Cintiq 21UX interactive pen display. The pen works in the following dimensions: X-axis, Y-axis, pressure, tilt (or the angle of the pen when tilted), bearing (the direction in which the pen is tilted), and barrel rotation (the orientation of the pen around its long axis). To date, Corel Painter IX Art Pen Brush Pack, Synthetk's Studio Artist, Maxon's Body Paint, and Kyma's Studio and Symbolic Sound are designed to work with Wacom's 6D Art Pen. Turn to page 40 for an evaluation of the new 6D Art Pen from Wacom. www.wacom.com



Apple unleashes Tiger

Apple Computer (Cupertino, CA), in special events held at Apple retail stores and Apple authorized resellers on April 29th, began selling its latest operating system, Mac OS X version 10.4.

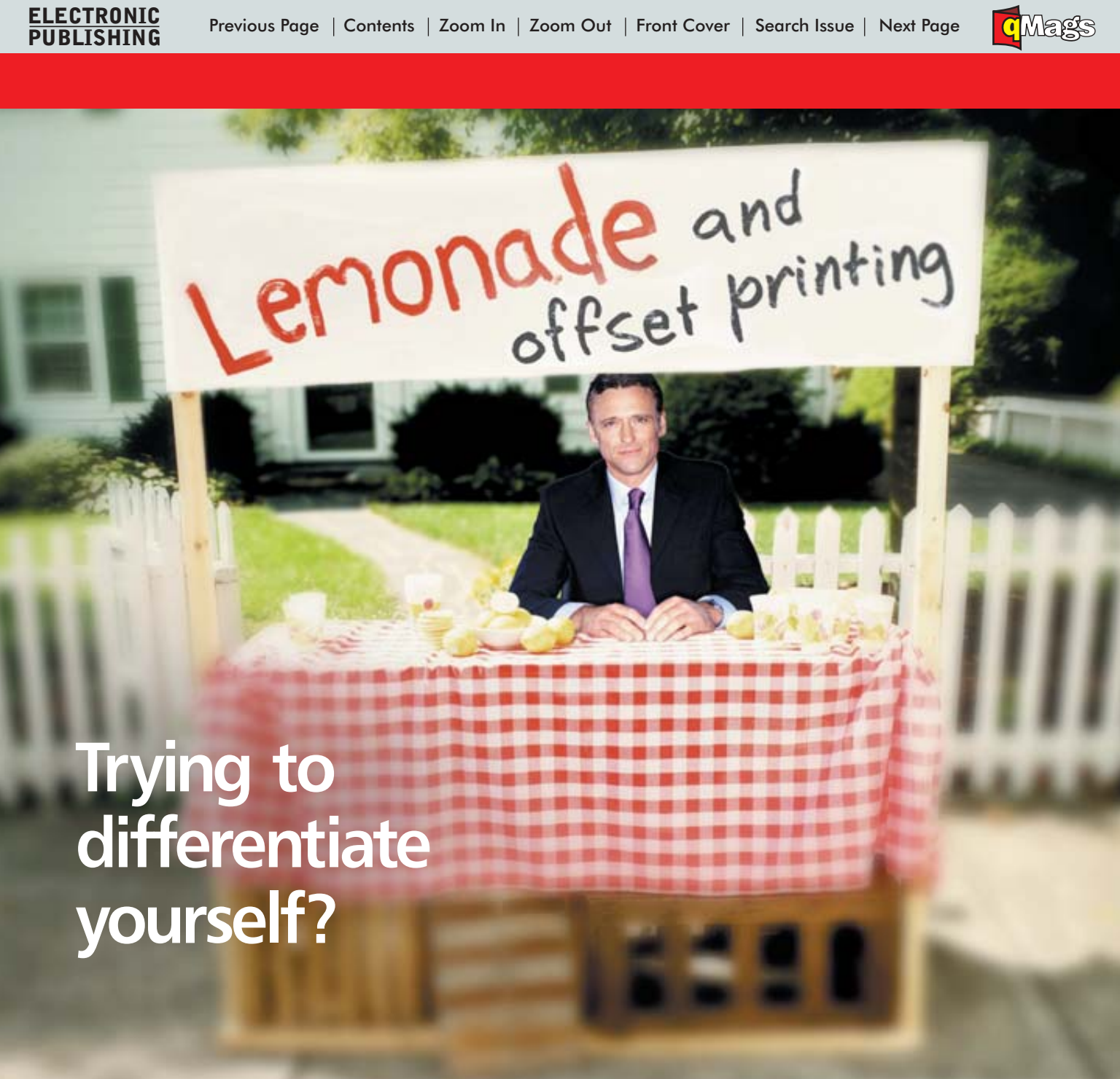
Called Tiger, version 10.4 boasts more than 200 new features, as well as increased innovation and security. Spotlight, new desktop search technology, aids users in locating virtually anything stored on their Mac, including images, documents, emails, and contacts. Another new utility, Dashboard, provides instant access to information via widgets, the name given to accessory applications. Accessible with a single click, widgets provide user-selectable information—such as stock quotes, currency conversions, weather forecasts, airline flight tracking, or a phone book—and disappear from the user interface as quickly and easily as they appear. Tiger includes Dashboard, built on such standard web technologies as HTML and JavaScript, and 14 widgets.

Designed to automate repetitive tasks, Tiger's Automator provides users with a library of more than 100 customizable actions that can be dragged and dropped into a simplified, efficient workflow. At the same time, iChat improves collaboration by enabling audio conferences with up to 10 people and video conferences involving a maximum of four participants. With support for the new H.264 video codec and QuickTime 7, iChat offers improved picture quality, live video resizing and video streaming, and the ability to create virtual 3D conference rooms.

Additional features include support for native 64-bit applications, Core Image and Core Video for image and video processing, Xgrid distributed computing, and the Xcode 2 suite of developer tools. An updated open-standards Unix-based foundation and enhanced compatibility with Microsoft Windows round out this latest upgrade.

Apple's Tiger OS is priced at \$129 for a single-user license. The Mac OS X Tiger Family Pack provides a single-residence, five-user license for \$199. Tiger requires a Macintosh computer with a PowerPC G5, G4, or G3 processor, built-in FireWire, and at least 256MB of memory. www.apple.com



A man in a dark suit and purple tie sits behind a wooden lemonade stand. The stand has a red and white checkered tablecloth and is filled with lemons and lemonade. A large sign on top of the stand reads "Lemonade and offset printing" in red and black lettering. The background shows a white picket fence and a house.

Trying to differentiate yourself?

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tech
newsCorel introduces
Art Pen Brush Pack

Corel Corporation (Ottawa, Canada), in conjunction with Wacom Technology's launch of its 6D Art Pen, has introduced Corel Painter IX Art Pen Brush Pack. The new offering is a collection of Corel Painter brushes designed to take advantage of the six-dimen-



sional pen from Wacom that works with Wacom Intuos3 and Cintiq models. Five brushes are included in the Art Pen Brush Pack: a thin, smooth calligraphy brush; grainy calligraphy brush; soft, flat oils brush; square, grainy pastel brush; and tapered gouache brush. The smooth calligraphy, grainy calligraphy, and pastel brushes enable the artist to move the pen stroke through a full 360-degree rotation. Corel's new Art Pen Brush Pack is available as a free download to Painter IX users. Corel Painter IX is priced at \$429 for the full version and \$229 as an upgrade. www.corel.com/painter

AIIM On Demand Conference
supports Declaration of
Education Program

Exhibitors participating in a special program at the AIIM On Demand Conference and Exposition (Philadelphia, PA) anticipate digitally printing and binding up to 10,000 books, which will be donated to Philadelphia-area school children in support of the Declaration of Education Program.

The three-day Books for Kids demonstration will take place at this month's AIIM On Demand Conference and Exposition, to be held at the Pennsylvania Convention Center, located in Philadelphia.

Exhibitors at the show who are contributing specialized products and processes to the program include Weyerhaeuser, Océ, Lasermax Roll Systems, MBO America, and Muller Martini Corporation.

Among the titles being produced during the AIIM On Demand Conference and Expo and scheduled to be donated to schools following the event are *War of the Worlds*, *The Odyssey*, and *Frankenstein*. The Declaration of Education Program is produced in coordination with the School District of Philadelphia and the Philadelphia School Reform Commission.

Books for Kids also provides attendees the opportunity to witness inline digital book production in a real-time demonstration. The continuous process, in which thousands of soft-cover texts will be digitally printed on-demand, assumes a 50x70-foot exhibit booth. www.aiimondemand.com

Xerox launches solid-ink multifunction device

Xerox Corporation (Rochester, NY) has released the industry's first color multifunction system to take advantage of the company's patented solid ink technology.

Targeted at small- to medium-size workgroups, the Xerox WorkCentre C2424 is capable of outputting color and black-and-white office documents—such as text files, spreadsheets, and presentations—at speeds of up to 24 pages per minute. The device also offers scanning, at a maximum speed of 20 images per minute, and copying, with a first color copy out time of roughly 15 seconds.

The new Xerox WorkCentre model employs solid ink technology, which uses solid, polymer-based ink, as opposed to powdered toner. Color ink sticks are heated and applied to an internal drum, which transfers the image to the page. Xerox CentreWare printer-management software and print and scan drivers accompany the multifunction system.

The WorkCentre C2424, starting at \$2999, is available now via Xerox's website, direct dealers and resellers, and Xerox's direct-selling organizations.

Xerox also introduced the WorkCentre M118 and M118i multifunction systems. The M118 offers copy and print functionality, and the M118i adds fax and scan-to-email capabilities. In fact, in addition to one-touch faxing, group dials, and faxing from the desktop, the latter is capable of 2-up faxing, combining two fax pages into one. Both models accommodate various paper types and media sizes, including up to 110-pound card stock, and employ Xerox's emulsion-aggregation (EA) toner.

www.xerox.com



tech
newsEFI announces pending
Vutek acquisition

Electronics for Imaging (EFI; Foster City, CA), a leading provider of digital imaging and print management solutions, has announced its intention to acquire Vutek Inc., maker of superwide-format digital inkjet devices for the commercial print market.

Vutek, headquartered in Meredith, New Hampshire, and having 330 employees globally, achieved approximately \$130 million in revenue during 2004.

EFI has signed an agreement to purchase Vutek for roughly \$281 million in cash. The company anticipates closing the transaction in the second half of 2005. www.efi.com

Adobe to acquire Macromedia

Adobe Systems Inc. (San Jose, CA) has entered into an agreement to acquire Macromedia, developer of such popular web publishing software solutions as Flash, Dreamweaver, Fireworks, FreeHand, Director, ColdFusion, and more.

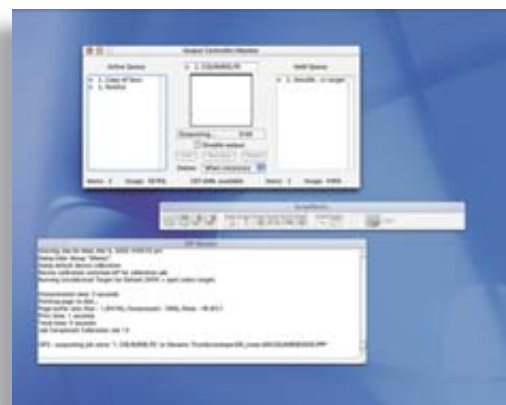
The all-stock transaction, in which Macromedia shareholders will receive 0.69 shares of Adobe common stock for each share of Macromedia common stock, is valued at roughly \$3.4 billion. The combined company will continue to deliver solutions for the creation, management, and delivery of content and experiences, as well as focus on growth in such areas as the mobile and enterprise markets.

Bruce Chizen will continue as CEO and Shantanu Narayen will remain president and COO; Macromedia president and CEO Stephen Elop will become president of worldwide field operations at Adobe. The acquisition is expected to close in the fall of this year. www.adobe.com

Global Graphics announces
Genesis Release

Global Graphics Software Inc. (Centreville, VA) has unveiled the latest version of its Harlequin RIP, called the Genesis Release.

The Harlequin RIP Genesis Release is designed to increase efficiency and productivity in prepress, printing, and workflow applications.



Now available to OEMs, the new solution boasts support for PDF/X-1a:2003, PDF/X-3:2003, and the JDF 1.2 specification. Its native compatibility with PDF version 1.5 lends to fast rendering, without the need to convert PDF files to PostScript.

Color management is enhanced by support of version 4.0 of ICC profiles and improved color rendition in overprinting regions and blending. In-RIP imposition, targeted at 2-up conventional printing and digital printing, is designed to be easy to use, and automatic. Advanced font emulation replaces missing fonts with typographically acceptable matches, taking into consideration character spacing, weight, and width. www.globalgraphics.com

calendar

MAY

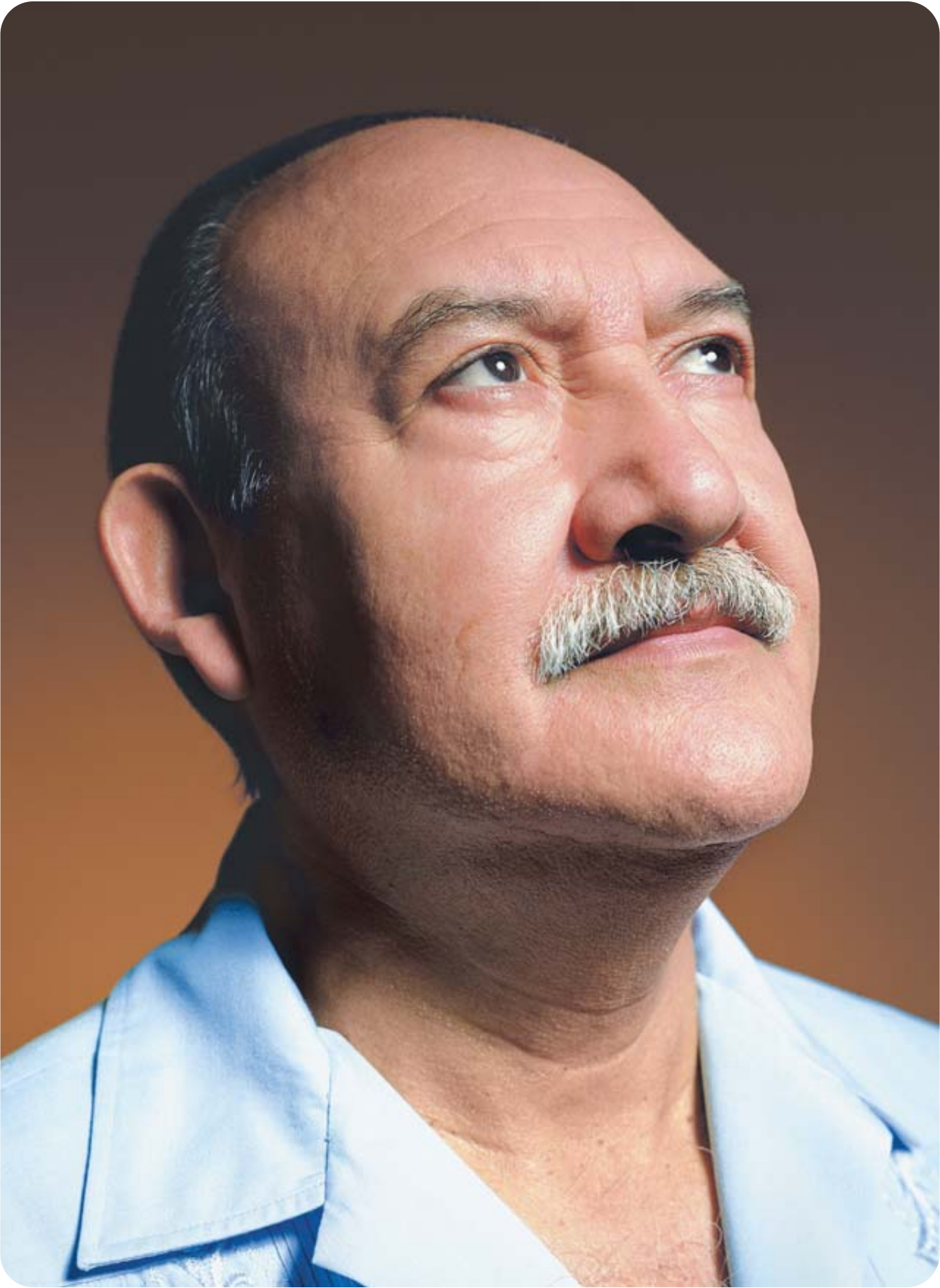
AIIM/On Demand Conference and Exposition 2005	17-19	Philadelphia	AIIM On Demand, www.aiimondemand.com
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JUNE

Seybold Amsterdam 2005	6-9	Amsterdam, Netherlands	Seybold Seminars, 415/905-2300, www.seybold365.com
2005 NAPL Sheetfed Pressroom Conference	12-14	Chicago	National Association for Printing Leadership (NAPL), 800/642-6275, www.napl.org
Seventh Annual Digital Smart Factory Forum	15-17	Miami Beach, FL	Research & Engineering Council of NAPL, 800/642-6275, www.napl.org
Mac Design Conference & Digital Photography Expo	21-23	Tampa, FL	877/622-8632, www.macdesignconference.com

SEPTEMBER

Print 05 & Converting 05	9-15	Chicago	Graphic Arts Show Company, 703/264-7200, www.gasc.org
Seybold Chicago 2005	11-14	Chicago	Seybold Seminars, 415/905-2300, www.seybold365.com



“MY LAST PRINT JOB MADE PEOPLE BARE IT ALL.”

– Carlos, printer

last print job: nudist vacations brochure

There's no getting around it. In the printing industry, there are good print jobs, and there are the “oh, jeez” print jobs. But at least, with QuarkXPress® 6.5, you know you can output any job quickly and easily and reliably.

It all starts with great features that can streamline your workflow. Features like:

- enhanced collect-for-output
- QuarkVista™ image optimization to speed production and RIP time
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- advanced color output (As-Is color space and DeviceN that supports spot colors in blends, multi-inks, and colorized TIFFs for composite output or in-RIP separations)

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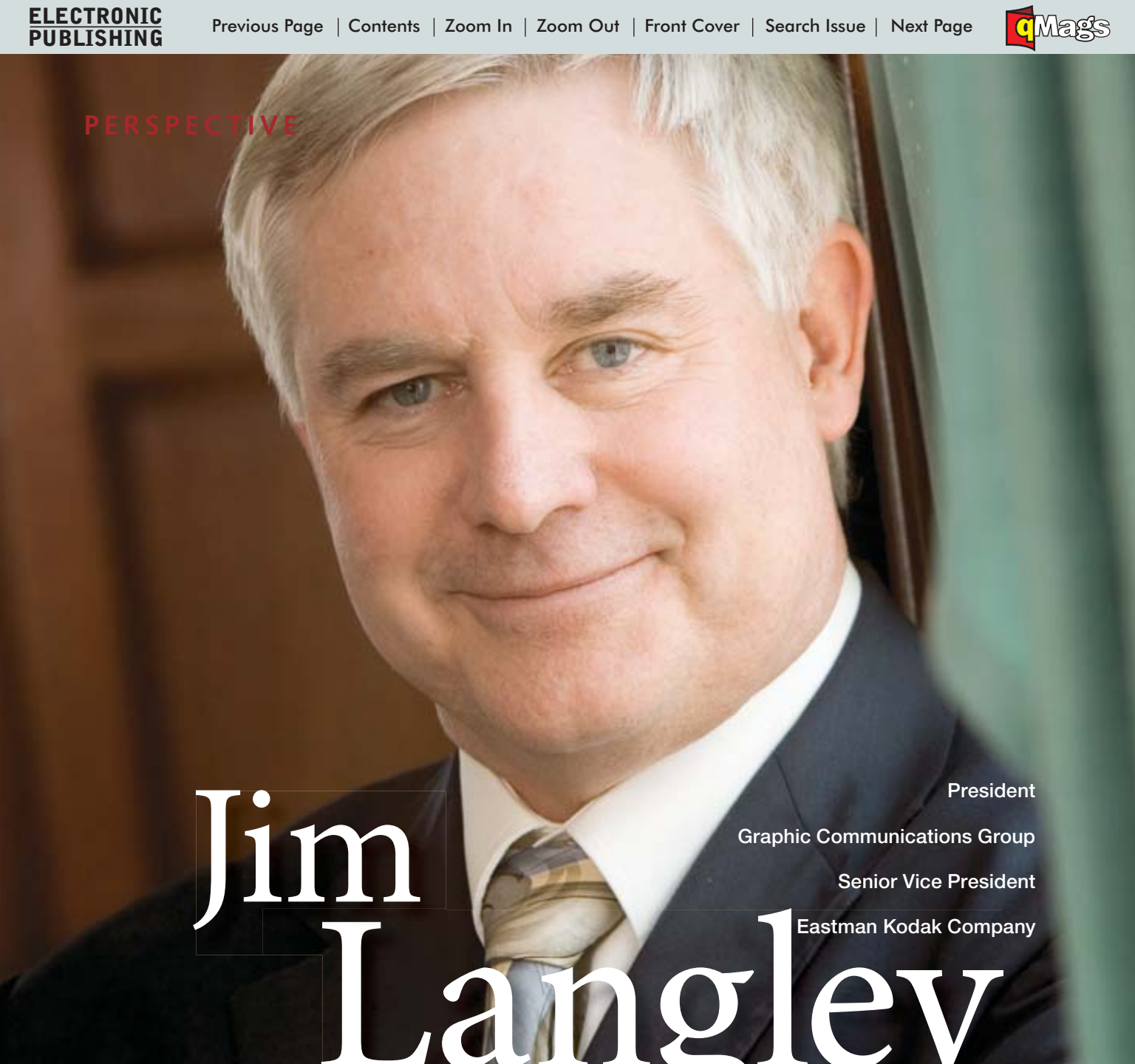


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PERSPECTIVE

A portrait of Jim Langley, a middle-aged man with light hair, wearing a dark suit, white shirt, and patterned tie. He is smiling slightly and looking towards the camera.

Jim Langley

President
Graphic Communications Group
Senior Vice President
Eastman Kodak Company

© 2005 Neil Cowley

In 2003, while just beginning to enjoy his first year of retirement from a 30-year career at Hewlett-Packard, Jim Langley received a call from Kodak's president and chief operating officer, Antonio Perez, asking him to take a look at Kodak, what the company was planning, and the technology it had that could be applied to the graphic communications market. Langley had worked with Perez at HP, so he agreed to visit Kodak, meet with the manage-

ment team, and tour the R&D facility in Rochester, New York. "When I looked at the whole picture—Kodak's digital strategy, the company's management team, the technology under development, and the transformation happening within the graphic communications market—I knew this was an opportunity I couldn't pass up," says Langley. Until 2002, he had been running HP's Commercial Printing division, and before that he ran the company's inkjet office printers business worldwide.

In the early to mid-'90s, Kodak had a substantial graphic arts presence, but then seemed to pull back for a while. What was the reason for this?

In some ways, that's true; on the other hand, we were never really out of graphic arts.

Let me take you back a bit to provide some perspective here. Prior to 1998, Kodak's biggest presence in the graphic arts market was in groundbreaking digital proofing technology in the Kodak Approval system, a strong business in graphic arts film and plates, and a deep installed base of analog black-and-white copiers.

In 1998, Kodak did two things. One was the agreement to sell the Office Imaging business to Heidelberg. Not everyone liked this move, but it was an important decision for Kodak. Management knew that the office and commercial print production market, served by Office Imaging, was migrating to digital. At that time, Kodak wasn't going to be able to meet customers' needs as digital began to take off. While the move was not popular with everyone, it was smart for Kodak and its customers.

In that same year, Kodak initiated its joint venture with Sun Chemical to form Kodak Polychrome Graphics (KPG). The KPG joint venture combined Kodak and Sun Chemical's technology, manufacturing, and distribution strengths. This was a highly successful arrangement for Kodak and KPG. Under the leadership of Jeff Jacobson (former CEO of KPG and now chief operating officer of Kodak Graphic Communications Group and president of the Graphics Solutions & Services unit), KPG became a leading supplier and technology leader to this industry. Our color scientists worked in close collaboration with KPG to develop innovations in digital proofing and color management, as well as in the manufacture of digital and conventional media.



"Kodak will be the primary brand we present to the market, supported by strong product brands."

In the end, the repositioning of the portfolio—through sales and joint ventures—was a strategic move to put Kodak's businesses on sound footing so that the company could recast its business in light of the market's digital future.

The company seems committed to being a market leader. What is your mission?

The mission of Kodak's Graphic Communications Group (GCG) is to provide market-leading technologies, products, and services at all stages in the graphic communications environment; to enhance the way customers work; and to help customers deliver relevant, timely communications to their customers. Our portfolio—combined with our expertise—enables customers to expand their businesses, making them faster, more efficient, more productive, and more profitable.

Since 2003, we've invested more than \$2 billion in building the broadest portfolio of technologies, products, and services for the graphic communications market—from intelligent business scanning, prepress, and workflow, to high-quality digital and offset output. We will work with our customers to understand their business and find ways to increase their value to their customers with better technology and tools.

More and more customers are in hybrid conventional and digital environments. They want to be able to turn to one company to help them be more competitive—regardless of what technology they're using. Our expertise, heritage, and portfolio allow us to be that one company.

You've been on a buying spree. How will you integrate all the companies you have recently acquired? How indepen-

dent will each one be?

We have been busy, but I wouldn't characterize it as a buying spree. Our moves have been well thought out and designed around customer needs. Our goal is to present a single face to the customer. This means having a single contact for sales and service, and a single contract and invoice. We've already made tremendous progress in this direction through integrating our global service organization and an integrated marketing campaign.

With the completion of the KPG acquisition, we've created a new organization that allows us to integrate our regional sales organizations, so customers will be able to look to our reps—backed by product specialists—for our full range of solutions.

Kodak will be the primary brand we present to the market, supported by strong product brands, such as Versamark, NexPress, and the other leading product brands in our stable. The companies within GCG are going to market under the Kodak banner, and our organization is focused on what we're delivering to our customers.

Are you done with the acquisitions?

When we announced our agreement to acquire Creo, we said we had substantially concluded the acquisition strategy that the company outlined in 2003. I'm really pleased with the technology and the people that are part of the GCG business. We've chosen the right companies and we're moving ahead with our growth strategy. However, I have learned to never say never.

Is consolidation good for the industry?

I think it's good when it delivers value to customers and helps customers become more competitive. Graphic communications is a highly competitive market. Everyone is looking for an edge. Graphic communications providers want to deliver more personalization, targeted marketing, high-value services, web-based workflows, faster turnaround, and streamlined processes. They want to make it easier for their customers to do business with them. They want output consistency, so they can choose offset or digital, depending on what they need for the job—or each part of the job.

How would you describe a typical Kodak Graphic Communications Group cus-



Your digital future.
More opportunities.





No limits.

For a digital future with no limits, partner with Kodak. As the world leader in imaging, Kodak offers you the broadest array of graphic communications resources available anywhere—from market-leading, high-speed document scanners to premier names like Kodak Versamark, NexPress Solutions, Kodak Polychrome Graphics, and Encad. All backed by the expert resources of KODAK Service & Support. As your needs grow for workflow solutions, wide format, transactional, variable data, and on demand printing, come with Kodak—where there are no limits to what we can accomplish together.

Please visit us at AIIM ON DEMAND booth #2150 or online or www.kodak.com/go/ondemand.

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Kodak NexPress printing solutions



NexPress 2100 presses & Digimaster systems

Reaching new heights with digital. More answers. **No limits.**

The digital world promises more speed for higher productivity. And NexPress printing solutions from Kodak can help you obtain it. Hardware, software, training, and support—the answers are all here. There's the Kodak NexPress 2100 digital production color press for high quality in quick-turn, personalized, and web-to-print applications. Plus, the family of Kodak Digimaster digital production systems for best-in-class image quality and increased productivity. So partner with Kodak and there are no limits to what you can achieve.

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PERSPECTIVE

tomers, and how have these customers changed over the years?

We're focusing our expanded capabilities on six key market segments. We have the right offerings to deliver solutions to corporate in-plant print shops, corporate data centers and data service bureaus, commercial printers, and what were formerly termed prepress shops and are now categorized as digital service providers, as well as packaging printers and newspapers.

We've seen a number of changes over the years. I'd say there are three areas where the customers are moving, driven by the need for better return on investments and the adoption of digital technologies.

First, marketing is moving from mass-produced communications to targeted marketing. Second, with print communication, you're seeing customers and printers still looking at cost-per-page—but more often moving toward cost-per-response metrics, again driven by that need to demonstrate the value of each communication.

And third, we're seeing a strong movement from monochrome to color. This is happening across the board—even in the transactional space. Digital advancements are putting high-quality short-run color within reach for more customers.

Our industry is undergoing a fundamental transformation. Digital technology is changing how companies communicate and market products and services. This is opening new ways for organizations to impact their customers. Many of our customers are telling us that they no longer see themselves just as printers. Of course, printing is still at the heart of what they do, but in addition to printing, they are marketers or communicators or direct mail consultants and lead generators. They are adding value at multiple levels.

Our customers are engaged in transforming their businesses and, in turn, the industry. And our plan is to be there to help guide them through the technology choices they'll need to make to do so effectively and profitably.

Which technology areas will provide the most opportunity in the next few years?

We are really excited about developments in the inkjet area. Our high-speed, high-volume continuous inkjet technology is really making an impact on the market today with our Versamark systems. Kodak has

“Digital technology is changing how companies communicate and market products and services.”

the leading patent portfolio of continuous inkjet technology. Over the next few years, as we incorporate breakthrough technology from our labs, you should continue to see improvements in speed and quality that will drive new applications.

We also see great opportunity in our electrophotographic portfolio in how we're advancing our platforms to better serve customers. And finally, we're excited about developments in the proofing area, especially monitor proofing.

Heidelberg and Scitex didn't see a bright future in digital printing. What do you see that they didn't?

Kodak sees a bright future in digital printing. This is a tremendous opportunity. The graphic communications industry is going through a fundamental change—the role of the printer is expanding. In addition to practicing the craft of printing, printers are becoming marketing partners, due to their expertise at combining data, ideas, and images that inspire action.

These changes are being spurred by a number of factors—from the speed and personal nature of email, the Internet, and wireless communications, to the improved depth of market data and CRM systems. All of this is driven by the desire of marketers to reach customers more effectively, with an array of media. Digital printing technology is—and will be—a key driver of these changes and a vital part of the marketing mix.

How will you leverage the benefits of Kodak R&D for the graphic arts?

Kodak has deep intellectual property resources in inkjet, digital media manufacturing, electrophotography, and color science. We are working hard on turning our science into new products and services

for our customers which will increase the speed, quality, and flexibility attainable with digital printing.

How will toner-based technology and inkjet coexist in the market?

Toner and inkjet-based technologies coexist today and will continue to do so for some time. Today, the difference between toner and continuous inkjet (CIJ) is in volume, application, and output quality. Our CIJ systems are designed for very high-volume, transactional, direct mail communications as well as high-volume industrial applications—millions of impressions per month for variable data applications that range from imprinting addresses to full-page statements and full-color personalized mailings, among other things.

Our toner-based systems are designed for shorter-run, on-demand, and variable data applications, and are able to deliver very high-quality color or monochrome output. For example, the quality possible with the NexPress 2100 digital color press is opening new opportunities in photography and other photo-rich applications. Innovations such as a fifth imaging unit and glossing unit make it easier to create custom, versioned, or personalized pieces with a quality indistinguishable from offset.

In the next few years, we expect to see significant advances in our CIJ technology, where it will maintain its competitive running costs in its volume class, as its quality continues to improve. We're not sitting still in electrophotographic technology either; we will continue to innovate in both areas, and we expect both to play a significant role in the market for a long time to come.

What is the Kodak strategy for graphic arts moving forward?

As I've said, we have met our first goal by putting together the kind of company that leverages our strengths and can help improve our customers' businesses. We're focused on completing our integration, getting closer to our customers, and understanding their businesses. If we can be the one company they turn to for the technology and expertise they need to be more competitive, we will grow this business over the long term and help our customers transform the industry.

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Interview conducted by Editor Keith Hevenor.

Digital color printing on the rise

Insight from major digital color printing technology suppliers reveals a vibrant market loaded with opportunity

by Michael Miley



Canon offers a range of digital color printers, including the CLC4000

“Are we there yet, Dad?” Any father who’s taken his kids on a long road trip has probably heard such words from the back seat, as the kids grow restless and clamor for a bathroom break. In a similar way, over the past number of years you might have heard traditional print providers of every ilk asking an analogous question to vendors of digital color print technology: “Are you there yet, Daddy-o?”

Well apparently, kids, Dad’s got good news. Not only has digital color printing technology itself finally arrived, showing better quality, higher speed, increased reliability, and lower cost, but digital color production printing among CRDs, quick printers, service bureaus, direct mail firms, and commercial printers is also on the upswing. As a TrendWatch Graphic Arts study noted last year, commenting on the TWGA report *Digital Printing: Destination Here*, where 12 percent of all printing firms responding noted an increase in digital color print jobs over a 12-month period:

“The new higher-quality/low-cost combination is jolting graphic arts firms to invest in digital color equipment. We’re not talking about super-sized growth, but over the last three years [now four], interest in purchasing digital presses has increased steadily. There is a definite sense in the marketplace—both among customers and printers—that these presses have finally ‘arrived’ and are producing output of sufficient quality, at reasonable cost, and with ample reliability, for broad-based market adoption.”

InterQuest analyst Gilles Biscos agrees. In a recent InterQuest survey of 100 print providers in North America and Europe titled *Color Variable Data Printing: 2004 Versus 2003*, Biscos provides some favorable statistics on digital color printing and variable data applications:

- While black-and-white printing accounts for about 87 percent of the digital print volume produced by respondents and color printing for only 10 percent, respondents project that in three years color printing will account for 29 percent of the digital printing volume.

- The companies currently involved with color variable data printing project a growth of over 50 percent per year for the application over the next three years.

- Direct mail, which is produced by 71 percent of the respondents, tops the list of color variable data printing applications.

- The largest percentage of respondents (27 percent) estimate that color variable data printing jobs are, on average, 20 to 29 percent more profitable than static jobs.

To better understand some of the market and technology trends in digital color, we asked a few general questions of a selection of digital color print vendors, to get a sense of what they were seeing in the field. What are the main drivers of digital color printing? How do the different technologies compare—and compete—and how have they improved? What are some of the best digital color applications? What workflow challenges do digital color printers face, and how do advances in controller technology help printers to meet them?

Naturally, each vendor sees the world from its point of view—a phenomenon in physics called “the observer effect”—and has an odd tendency to want to plug its products. Naturally also, the quotes we’re able to provide are short for reasons of space and are simply hints at the offerings and perspectives of each vendor. Readers are encouraged to visit the vendors’ websites for more product information and statements of direction. Those caveats notwithstanding, here are some of their answers.



Konica Minolta Business Solutions

"We focus on what I call the general production market, the 80 percent that's represented in small to midsize commercial printers, CRDs, print-for-pay shops, and data centers, who either can't afford the bigger digital iron and so, until recently, would buy fast office copiers to do production work; or have leased

a higher-end digital device and now find it underutilized as their production volume drops, so they're looking to scale down. Those who bought color copiers soon found they didn't have the production-oriented finishing capabilities they needed, like saddle-stitch booklet making, trimming, and some of the folding options for finishing digital products.

"Hence, the industry buzz when we introduced the Konica 8050 last year—and the parallel Minolta C 5001—with all the production bells and whistles. With the merger of Konica and Minolta, both earlier offerings have been supplanted by the bizhub PRO C500 Digital Imaging System, which is a multifunction device with a revised symmetry polymerized toner formulation for a wider color gamut. However, we fully understand that just buying a digital color printer or press isn't enough to build a viable business. The real challenge for these target groups will be to learn how to implement value-added solutions, including variable data, so we also provide turnkey solutions and services to help them do just that." —*Rich Latronica, senior group product marketing manager, Konica Minolta Business Solutions U.S.A., Inc. (<http://kmbbs.konicaminolta.us>)*

Canon USA

"We're targeting the digital color production market in three main areas: commercial print, retail quick print, and in-plant CRD. Each has significant challenges ahead. The profitability of commercial printers continues to decline. The decline has hit small and medium-size commercial printers hard—in fact, it has put many out of business. The quick printers are getting squeezed by corporations doing more of their communication printing inhouse, even as the bigger commercial printers are doing more with digital, diminishing their business. Finally, the CRDs and in-plant facilities are struggling to move from a cost-center model to a profit-center model, even as new digital color requirements are bubbling up from the desktop, where inkjets are spoiling everyone with color. They too have to become print-for-pay and to market their services to both in-house and outside organizations.

"All three groups need cost-effective production solutions for producing digital color, in order to build more value-added applications such as variable data printing or digital collateral, and to gradually grow a business that isn't focused just on commodity print. And that's our goal: to ease their pain with good-quality digital color technology—at a cost that's reasonable enough to allow these groups to make the transition without overspending. To this end, Canon provides the CLC 4000 and CLC 5100, which are four-color dry-toner laser digital production printers, along with the ColorPass enhanced platform controllers to orchestrate the workflow. With our partners, we also provide web-to-print solutions for both commercial and in-plant facilities." —*Forrest Leighton, manager, Product Marketing, Canon USA (www.canonusa.com)*

Xerox Corporation

"We're seeing increasing adoption of color across a number of different market segments, each leveraging the technology to various levels of advantage. For example, there's some crossover among higher-volume direct mail printers, who are learning to do variable data beyond just inkjetting somebody's name and address on a piece. We're also seeing movement in the transactional space, where customers are selling and managing the white space as a high-value application to their clients. Sumitomo Mitsui Card Co. Ltd., for example, which is one of Japan's leading credit card firms and the pioneer of the Visa Card in Japan, is developing a new service in conjunction with JAIS Ltd., a wholly owned subsidiary of the Japan Research Institute, that will provide millions of full-color, personalized credit card statements printed on-demand on 24 iGen3 Digital Production Presses. These statements are unlike anything you've seen here in the U.S.

"What this example shows is that the smarter firms are already selling the value of variable color marketing campaigns in the transactional/promotional arena. As opposed to looking at the cost per printed piece, which is higher, they're selling the cost per lead generated, which is lower, because of the greater rate of return. They're also not getting hung up on comparisons of xerography with offset. We've crossed a barrier as an industry and have gotten to the point where very good quality can be produced quite rapidly on very reliable digital color production machines. Xerox is central to this development, inasmuch as we



The Xerox iGen3 meets a variety of needs with its high speed and quality.

offer the most complete and robust digital color portfolio of any provider in the market, particularly through our DocuColor and iGen3 lines, supported by robust front-end choices among our DocuSP, EFI Fiery, and Creo Spire controllers, as well as by a good portfolio of third-party VI packages for building a variable data digital color production workflow. This broad portfolio lets us serve a wide variety of clients on every level, and stay with them as their business and volume grow." —*Fred DeBolt, vice president of Color Product Systems, Xerox Production Systems Group (www.xerox.com)*

Kodak Digital Solutions (NexPress)

"I wrote an article several years ago describing how a lot of people focus on VDP applications as the main reason to get a digital press, and how everyone immediately jumps to those kinds of applications. And I certainly think those are good applications. But at the time I thought—and still think—that the big killer app is in



The NexPress 2100 handles variable data, short runs, and a host of other applications.

web-to-print fulfillment services, where you post your collateral online and allow the customer or rep to order quantities that are specific to what they need and then print them in a short run. That can be taken in a static form, or taken to the next step, with versioning. With this app, printer sales reps that are accustomed to selling huge orders can still sell big, based on a purchase agreement. They can produce the company's brochures in many short runs over a period of time, but they can also manage the shipping and mailing in addition to the printing portion. It's thinking in terms of developing value-added solutions that make digital color printing exciting. We provide a business development program for commercial printers that includes a kit with all the components for building a business around just these kinds of solutions.

"On the technology side, one of the key benefits of the NexPress 2100 press is the fact that the press operator is able to control a lot of the characteristics of the press with replaceable components. It allows the customers to be very creative with how they choose to manage the press, similar to the offset world. We've also added a fifth imaging unit to the NexPress 2100 press that provides the ability to add spot colors or a clear dry ink overcoat, in areas that will come under heavy-duty usage or even over the entire image when it's used in tandem with the NexGlosser, our users find they can produce some very high-gloss effects with near-photographic quality, even on both sides of the sheet." —*Len Christopher, director of Vertical Market Development, Kodak Digital Solutions, Kodak Graphic Communications Group (www.nexpress.com)*

EFI

"Our controllers have undergone an evolution over the years that has tracked the way digital color and printing have spread out. For some users, in some applications, one of the critical developments for the Fiery has been to provide expert precision tools that are typically found in traditional offset prepress. On the other end of the scale, it's been important to provide easy-to-use tools, since the ability to produce color has come down to the desktop level, to users who aren't color experts. That means we're very conscious of the fact that not every user requires the depth of tweaking and control required in precision graphic arts applications. As we add sophistication to our product, we tend to isolate things that suit specific users in logical groupings of technology within the Fiery. We also see an absolute requirement for a synergistic approach—the ability to work with different combinations of black-and-white and color devices, as well in as hybrid shops that combine more traditional offset with digital printing.

"In fact, convergence is a big issue that we address, particularly in the transactional/promotional space, where we've demonstrated a Fiery that drives one of the high-speed roll-fed Kodak Versamark inkjet devices that outputs at 2000 pages per minute. Other requirements address the need to work with multiple inputs and source material, and we have an option called the Data Center Package. The same Fiery that you would have for your more graphics-oriented workflow is able to accept IPDS, so one piece of technology can have a dual purpose. We also provide late-stage tools for imposing and PDF editing in the Fiery, so print service providers can add a lot more value. Potential customers should also know that we do a lot more than just provide controllers; we have offerings for web, workflow, proofing, MIS, and enterprise applications as well. These solutions address a wider range of digital color production issues than are possible in a controller." —*Kathy Wilson, director of Server Product Marketing, EFI (www.efi.com)*

Xeikon International

"Ten years ago, Xeikon and Indigo exploited a niche for high-volume production color—somewhere between the Xeroxes and the Canons of the world—and offset printing. We had a web press with high-volume capability, but we were on the cutting edge and there was a lot of potential to carry the technology forward. Today, with our acquisition by Punch International, and after some flirtation with sheet-fed R&D, we've rededicated ourselves to the digital web technology we started with, having developed the new Xeikon 5000 for longer runs, while enhancing the Xeikon 500 for shorter ones. We're capitalizing on our ability to perform one-pass duplex with a noncontact fuser, so we don't have the problems of remelting toner in a second pass-through, or the paper reregistration problems of cut-sheet, or having too shiny a look because of fuser oil.

"This means one niche for us has been backlit signage printed on translucent material—like a Kodak Duratrans—but our web also enables other applications like point-of-purchase, newspaper, flexible packaging, labels, wallpaper, and banners and signs, at a much lower cost than inkjet, though our largest segments would be one-to-one marketing and direct mail. We've also introduced additional inks beyond CMYK so that if people want an enhanced gamut, they can reach some colors that aren't achievable with the four-color

Xeikon is re-establishing itself in the digital color market with the 5000.



process. When you couple this with the vertically integrated X-800 digital front end—the same for both the 500 and the 5000—we offer semi- to fully automatic printer calibration for constant density levels and excellent color stability. With the information drawn from the inline densitometer, the X-800 can literally calculate new tone curves on the fly and apply them instantly. The result is a consistently high print quality that means less color tweaking and time-loss by the operator.”

—Glen Toole, vice president of Business Development, Xeikon International (www.xeikonamerica.com)



Océ North America

“Let’s compare apples, peaches, and oranges for the moment—that is, drop-on-demand inkjet, electrophotographic, and our direct imaging magnetography for production printing—because Océ’s in the business of providing alternatives, and we believe we’ve built a better mousetrap. Drop-on-demand inkjet is still expensive because of the cost of the inks; moreover, it’s not scalable to high speeds because of the mobile print heads, though for wide-format applications such as signage and display it can be superb. Electrophotography is an excellent technology for producing color that has been scaled for production, having evolved considerably over the last 20 years in increased speed, gamut, and resolution. However, it still has the same fundamental shortcoming today that it did when it was created: it lays four layers of toner on top of one another, then cooks them on the paper. When you fold that document, the toner tends to crack and peel and can’t stand up to finishing, mailing, or laminating. Moreover, light, humidity, and temperature can easily influence the toner transfer in the printer, causing colors to shift in normal production environments. Therefore, ab-

The AFP Color Consortium

Color standards for the high-volume convergence market

All around the world, banks, credit card companies, utilities and telcos, as well as hospitals, insurance companies, and government agencies, are using high-speed variable data printing for bills, statements, and other customer communications—and have done so for more than 30 years. With the convergence of transactional printing and promotional materials, however, the production of variable color graphics and images is demanding new color solutions. Problems arise when the color technology of today is too slow, inconsistent, or expensive to use in the high-volume transactional markets it attempts to serve.

To address the needs of this emerging high-speed color convergence market, IBM founded a group of leading print vendors whose express goal is to bring the benefits of Advanced Function Presentation (AFP)—a platform IBM invented 20 years ago and continues to improve—to high-volume-production variable data color. Called the AFP Color Consortium, “the group has the stated goal of bringing reliability, data integrity, quality, and consistency to high-volume color printing environments,” says David Myers, director of Production Solutions at IBM Printing Systems. “It affects data throughput as much as color quality, when you stop to consider that if you add a color logo and pictures at the bottom of a traditional transactional statement, your file size can grow by 30 times. Of course, you also want consistent color across multiple devices and print technologies—quite a problem in the distributed, web-fed Internet age.”

From its inception in 1984, AFP was developed by IBM as a standard in the print industry for reliably printing variable data at very high speeds. “AFP is an object-oriented, device-independent architecture that can incorporate other industry formats within it—including EPS, PDF, TIFF, GIF, and JPEG/JFIF. In addition, AFP transforms can be used to convert XML, PostScript, PCL, LCDS, and PPML—to cover the entire range of text, graphics, and black-and-white and color printing,” says Jack Condon, solution strategist for Worldwide Production Solutions, IBM Printing Solutions, a figure who’s been involved in the creation and development of AFP since its inception. “AFP has long provided page-level print monitoring and error recovery, as well as the ability to print on a number of printing devices and deliver content via HTML, fax, email, or screen. Over the years, we’ve also expanded it to handle the color spaces of CMYK, RGB, and CIE Lab, as well as any highlight, process, or custom color requirement.”

According to the consortium’s spokespeople, the goal of the AFP Color Consortium is to further develop, define, and promote AFP as an open architecture for accurate and consistent output of color across different AFP color devices. Since color management is a complex function that affects all parts of a presentation system—applications, clients, servers, transforms, controllers, and print engines—a part of the Consortium’s initial effort has been to outline some goals for providing clients with the best possible architecture for effective color management:

- Accurate color rendering
- Consistent color rendering across AFP output devices
- Tunable colors and grayscale
- High-speed color conversions

The AFP Color Consortium currently is composed of IBM, Kodak, Lexmark, Océ, Xerox, Emtex, Intermate, and MPI; along with software application developers Cincom, COPI, DocuCorp International, Elixir Technologies, Exstream Software, GMC Software Technology, Group 1, ISIS Papyrus, Metavante, Printsoft, and StreamServe. So far, the members have met twice, for two- and three-day workshops (in December 2004 and in February 2005), where vendor engineers have begun to work through the process of defining and writing a set of open-standard color specifications, along with recommendations for implementation in AFP devices and software applications. The expectation is that they’ll meet every three to four months and that it will take approximately 18 months for their efforts to come to fruition.

“The participation by key industry players indicates a strong commitment to develop an open approach that addresses the complex functions of color management,” says Myers. “By evolving AFP to include a color management architecture that will be industry-defined and fully open, the consortium is confident the goal of consistency among printing devices and software systems can be achieved.”—MM



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solute color consistency is impossible, and frequent calibration is required in an effort to achieve reliable results.

"With Océ Direct Imaging, by contrast, there is no photoreceptor, no developer, and no light source, all of which are degradable by nature. Our Color Production Systems (CPS) use voltage and magnetism rather than the less stable electrostatic process, and our seven colors (CMYK plus RGB) are laid down side by side on a transfer drum, producing a mono-layer toner image for 100 percent consistent color. That means I get the same result, week after week. Having said all this, users should understand the Océ proposition for the CPS solutions is to provide a digital color technology that's superior to that offered in the usual color copier world, and is much less expensive than the digital presses of some of our competitors, so printers migrating to digital color can enter the realm of on-demand, variable data color production without 'betting their business' on the high expense required for traditional digital press devices, or sacrificing consistency and document durability, as with xerographic systems.—Corey O'Donnell, program manager for Color Systems, Océ North America (www.oceusa.com)



HP Indigo

"The fundamental premise that's driving digital printing is the one that's been talked about for a number of years, and that is short-run, on-demand printing, and the ones that are really the Indigo pioneers have been the digital service providers who have built a number of value-added capabilities in their facilities. These include the ability to accept jobs from the customer

electronically, jobs that are already proofed and ready to print, or jobs that are capable of efficiently merging the variable data with the fixed data before the job goes to the press. These jobs are then printed on the HP Indigo digital press, and on the backside are effectively post-processed—finished either inline or nearline—and then properly sent to the people they're targeted for. That means they're front-to-back solutions, not just print jobs. In the HP Indigo world, these applications are typically high-quality outbound collateral, often produced on heavier glossy stocks that can display the image quality, color range, and vibrancy that people have come to expect from an Indigo press.

"The people who produce this collateral, as with our top-of-the-line HP Indigo press 5000, value our ElectroInk liquid toner technology quite highly for its finer quality, greater sharpness, and ability to follow the contours of the paper, which lends itself to a wider range of media, where the quality centers around the ElectroInk's ability to manage a much smaller particle size. But in addition to the 5000 and all the other HP presses we provide that are targeted for the commercial market, we also have a whole line of presses targeted for the industrial market that can print on mylars and plastics—so we've got a very wide range of media we can print on. Then, for workflow efficacy, with the HP Press Production Manager we've got pretty much all of the capabilities that a commercial printer would expect from a digital front end, including hot folders, the ability to preview jobs—all the tools to get a job processed efficiently, to make sure the operator knows what's happening with that job.—Joe Bergeman, North America product manager for Commercial Digital Presses, HP Development Company (www.indigonet.com)

Kodak Versamark Inc.

"More than 95 percent of our core business uses the proprietary continuous inkjet technology of the Kodak Versamark, which often finds itself in extremely high-volume industrial applications of more than 1 million documents a month—and sometimes in applications that print as many as 100 million per month. People are often surprised to hear that more than 95 percent of all scratch-off lottery tickets in the world

are printed using Versamark technology, or that 60 to 70 percent of all direct mail pieces and approximately three-quarters of all transport documents with bar codes—such as Fed Ex, UPS, and DHL—are al-



so printed on this technology. That said, one of our most successful showcases is in transactional printing, which started when we began producing all the bills and statements of NTT in Japan. From there, we now have more than 90 percent of all high-volume statement and transactional printing in Japan—quite an achievement for an American company, particularly in a country that's so high-tech.

"The V Series printers that use 9-inch print heads, such as the VX 5000 and 5000e printing systems, are the top of the line and are used for some of the high-volume transactional printing just mentioned. These are followed by the VT 3000 and the VJ 1000. The D-Series narrow printers are used for such things as addressing, direct mail, envelopes, inserts, labels, and other applications, with 1-, 2-, 3-, and 4-inch print heads. Our continuous inkjet printers provide a very attractive TCO, are fully upgradeable from 350 to 2000 pages a minute, and even higher, and can be used not just for highlight color, but also for printing in full CMYK process color. That means our presses are quite ready for convergence applications—the convergence of statement printing, direct mail, and marketing communications into one variable data color document that's personalized—and are already being used for such applications today, right here in the U.S.—Kazem Samandari, executive vice president for Global Sales and Marketing, Kodak Versamark (www.versamark.com)

Michael Miley is a contributing editor based in Sonoma, California.

RESOURCE GUIDE

digital color presses

Content creators, print buyers, print service providers, and other industry professionals have been aware of the benefits of printing not only digitally, but also in color. And it seems as though an increasing number of people reap those benefits each year. It's evident that digital color printing continues its steady rise, fueled by continued enhancements to the output technology. The list of available digital color presses has grown, as you can see in the following chart. To learn more about the models listed, visit the manufacturers' websites directly.



Manufacturer	Model	Maximum resolution (dpi)	Maximum image size (inches)	Number of colors	Base price
Canon U.S.A. Inc. 800/652-2666 www.usa.canon.com	Color imageRunner C3200	600x600	12x18	4	N/A
Hewlett-Packard Company 800/613-2222 www.hp.com/go/graphic-arts	HP Indigo Press 1050	800	12.1x17.2	7	N/A
	HP Indigo Press 3050	800	12.1x17.7	7	N/A
	HP Indigo Press w3200	800	11.9x17.7	7	N/A
	HP Indigo Press 5000	800	12.1x17.7	7	N/A
	HP Indigo Press s2000	800	12.1x17.2	6	N/A
	HP Indigo Press ws2000	800	12.1x17.2	6	N/A
	HP Indigo Press ws4050	800	12.1x17.7	7	N/A
IBM Printing Systems 800/358-6661 www.printers.ibm.com	Infoprint Color 130	600	18.7	4	\$520,000
	Infoprint Color 130 Plus	600	18.7	4	\$750,000
	Infoprint 4100	600	19	4	N/A
	Infoprint 4000	600	19	4	N/A
	Infoprint 3000	600	19	4	N/A
Kodak Versamark 937/259-3000 www.kodakversamark.com	VT3000	300x1200	12x18	4	N/A
	VJ1000	300x1200	12x18	4	N/A
	VX5000/VX5000e	300x1200	18	4	N/A
NexPress Solutions LLC 585/253-5224 www.nexpress.com	NexPress 2100	600	13.4x18.1	4	\$392,800
Océ Digital Document Systems 800/523-6444 www.oceusa.com	Océ CPS 800	600x2400	12x17.3	7	\$109,400
	Océ CPS 900	600x2400	12x17.3	7	\$109,400
Xeikon International N.V. www.xeikon.com	Xeikon 320	600	12.1	4	300,000 euros
	Xeikon 330	600	12.1	5	360,000 euros
	Xeikon 500	600	18.7	4	410,000 euros
	Xeikon 5000	600	19	5	650,000 euros
Xerox Corporation 800/275-9376 www.xerox.com	Xerox iGen3 110	600x4800x1	14.33x22.5	4	\$580,000*
	DocuColor 2045	600x600x8	12.6x19.2	4	\$103,000*
	DocuColor 6060	600x600x8	12.6x19.2	4	\$192,000*
	DocuColor 5252	600x600x8	12.6x19.2	4	\$133,000*
	DocuColor 8000	2400x2400x1	12.6x19.2	4	\$300,000*

* Base price includes a color server

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MAKEREADY DAN MARGULIS

Command, click, control

The astounding power of LAB to drive colors apart from one another can be harnessed with a single click of the mouse. The problem is finding the area that you want to click into.

The poet, essayist, wit, color scientist, and notable enemy of morality in all its forms, Dorothy Parker, once remarked that no woman can be too rich or too thin. Baseball teams know that you can never have too much pitching; my wife knows that there is never enough chocolate mousse, and, after a lifetime in the computer field, I can absolutely attest that you can never have too many backups.

In our last installment, I took the position that you can never have too much color, either. Provided, that is, that it sits on its own layer, and that it has a lot of variation. If it does, and if you have a basic understanding of the LAB color-space, then you can make impressive-looking enhancements to otherwise flat-looking images, like transforming A into B on this page.

The approach is to set up a separate layer, drive colors so far apart from one another that the image looks like it's from another planet (hence, the title of the last column, "The Man from Mars Method"), and reduce the opacity of the wildly colorful layer to taste. I gave a simple recipe, and showed how it worked on three different images.

This time, we'll stick to one, as we dig deeper into why the recipe works, what the pitfalls are, and how to modify it for special occasions. (We've put the original image on the Web with this column so that you can follow along, at <http://www.electronic-publishing.com>.) The recipe is suitable for any image that's dominated by a single color, because human beings see more variation in such pictures than cameras do, owing to a variety of evolutionary factors that we need not get into. The Swiss mountainside image that is our opponent is dominated by green, although the presence of several brown objects is a complication.

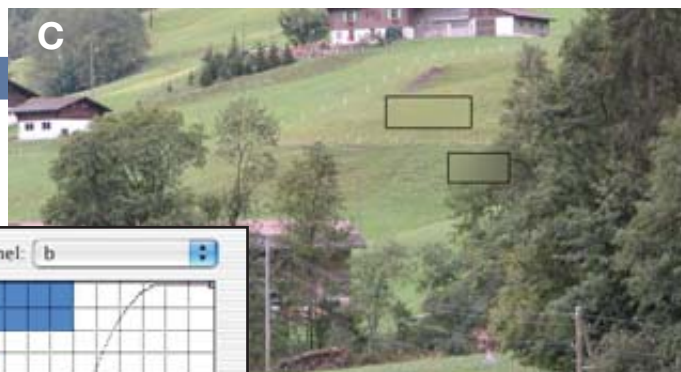
To review the recipe:

- Open the file, convert it to LAB if necessary, and add a curves adjustment layer. That brings up the

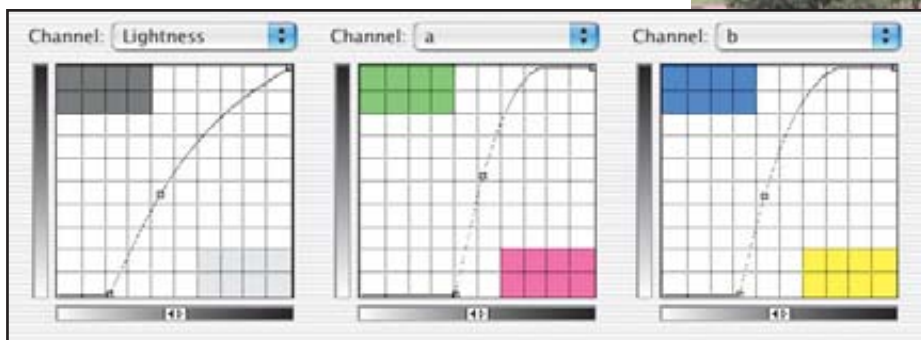
Top, the original image; bottom, a version enhanced using this column's recipe.



MAKEREADY DAN MARGULIS

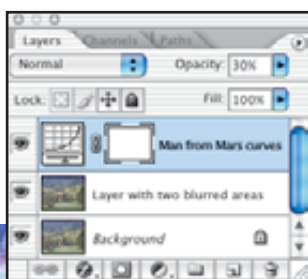


The choice of pivot point is critical. It must not be too colorful. The blurred area at lower right is the one used to make the curves at left and the left-hand images on the facing page. The higher blurred area is responsible for the right-hand images.



curve for the Lightness (L) channel.

- Decide what is the most typical area of the color you're trying to affect: a place that's not extremely green, magenta, yellow, blue, light, or dark. Command/Ctrl-click in that area, placing a point on the curve corresponding to the value you just clicked on.



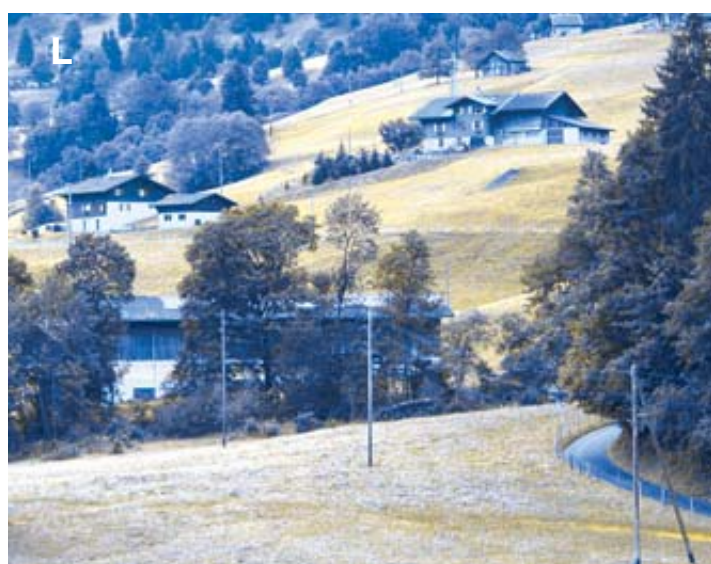
- Check the gradient bar at the bottom of the curve to verify that it has darkness to the right,

as shown above. If not, you can click inside the gradient to reverse it if you'd like to follow my curves exactly, or not bother if you can turn the curve upside down in your mind.

- Move the bottom-left point (the light, or highlight point of the L curve) horizontally to the right, approximately half the distance to the point you clicked into the curve, which henceforth will be called the pivot point.
- Without clicking OK, change over to the A channel curve,

The impact of differing pivot points. Images on the left side of these two pages were produced using the less colorful pivot points shown in C; on the right are corresponding views of a version produced with more colorful pivot points. Top row: the wildly colorful "Man from Mars" look. Bottom row: when layer opacities are reduced to 30 percent.





If the pivot points are chosen correctly, about half the image should move toward warmer colors and half toward cooler ones. In the top row, only the L and A channels are visible, showing the break between magenta and green. Version J is too biased toward magenta. In the bottom row, the B channel is made active rather than the A. Version L is bluer than version K, indicating that the pivot point chosen was too yellow.

and Command/Ctrl click in your chosen area to place another pivot point.

- Grab the lower-left point of the curve, but instead of going a fixed distance, watch what happens to the upper-right corner. When it stops being a curve that bulges upward (like the L curve is) and starts becoming a straight horizontal line, that's far enough.
- Without clicking OK, switch over to the B channel and repeat the A channel procedure. The pivot point will fall in a different location, so the curve won't be the same.
- Click OK, and behold the Man from Mars.
- Adjust the layer opacity to taste, usually to something less than 30 percent.

This recipe is highly effective—provided that you pick the right control points. Now look at what happens when you don't.

The opponent-color bust-up

The A and B of LAB are opponent-color channels, A from magenta to green, B from yellow to blue. The recipe works by sending what used to be very similar colors into wildly different directions.

The curves shown next to Image C illustrate the concept.

There's nothing complicated about the L curve. It adds contrast to the middle tonal range of the image. The fact that it also blows out highlights is of no concern because its opacity will be sharply reduced later on.

The real action is in the A and B. In the A curve, everything below the pivot point is being driven drastically toward magenta. Everything above it becomes wildly more green. In the B, everything below the pivot point is being moved toward yellow and everything above toward blue.

The trick is to pick a pivot point that is neither extremely colorful nor extremely dull. Best results happen when about half the colors move toward warmth and the other half toward coolness. Image C shows two possible choices: one conceivably correct, one definitely wrong.

You don't have to apply a blur to locate the exact color you're interested in, but I'm showing blurs here to make what's going on more obvious. The lower blurred area is relatively dark, but not as dark as the trees at the bottom of the image. It's fairly green, but neither so green as the grass nor as dull as the background trees. So, it's a good candidate for our pivot points. The curves shown are based on it.

MAKEREADY DAN MARGULIS



Layer Blending Options are used to exclude areas of the top layer from the final composite. By moving the top right slider to the left, items that are currently much more magenta than green are excluded. The settings at left cause harsh color breaks in the buildings. To avoid this, the slider in the right-hand settings has been split, creating a zone of transition where the top layer is partially visible.

The alternative, the upper blur, is among the most colorful areas of the picture, which makes it a poor choice. Our eight comparison images show why it doesn't work as well. The left-hand versions were made with the curves shown next to C; the right-hand ones correspond, but they were made with the overly colorful pivot points. To make the comparison one of color only, the L channel curves are identical in both sets of images.

D and E are the Men from Mars, wildly colorful, deceptively unrealistic. It can be hard to accept that they're actually steps in the right direction. But you can never have too much color in Photoshop, because you can always reduce opacity. These versions were created on adjustment layers, not on the original documents, for just that reason. Versions F and G show what happens when the opacities of the respective Men from Mars versions are reduced to 30 percent.

While both have more punch than the original, G isn't as good as F, because it has somewhat of a purple flavor. This occurred because the pivot points were too extreme. In the A channel, the point was higher—more green—than the one shown. Too much of the image fell below it and was therefore pushed toward magenta, and almost none toward green. Similarly, in the B curve the pivot point was lower—more yellow—than the one shown. Almost everything therefore became more blue and almost nothing more yellow.

When the changes are applied at such a low opacity, these deficiencies can be subtle enough that they're hard to identify. You can save yourself some head-scratching by having a look at individual channels while still in the overly colorful Man from Mars stage. We open the Channels palette and see what happens when we make the B channel invisible, and also with the A invisible. Doing so will show whether there's a sufficient break between colors in the channel that remains visible.

In versions H and J, we're looking at the L and A channels only; versions K and L show the L and B only. It's clear that the breaks between colors are decisively more balanced in the two left-hand versions. It's a combination of blue and yellow, not blue only. Version L is particularly poor, as it appears that almost the entire picture has moved toward blue and away from yellow. If we see something that unbalanced, we need to go back to the adjustment layer and move the pivot point more toward the center.

Excluding the off-color

The final variant on the recipe occurs when there are significant objects of a decidedly different color than the one we are trying to bust up. Here, we're breaking apart greens, but the houses are quite different, particularly in the A channel. They are much less green than even the dullest trees. They therefore fall well below the pivot point in the A curve, and get driven toward magenta. In versions D through G, I see the houses as too purple.

Fortunately, LAB lets us restore those areas with the aid of one of Photoshop's most powerful commands, Layer Blending Options. It's accessible by double-clicking on the icon of the appropriate layer, bringing up the Layer Styles dialog. The Blending Options are found at the bottom; one set of sliders for each channel, just like the two A channel dialogs at the top of this page.

In a layered document, the top layer ordinarily takes precedence. By moving any of the sliders toward the center, we instruct Photoshop to use parts of the bottom layer instead. We use the A channel sliders this time, because we would like to exclude items that are much more magenta than green, namely, the houses. It's marginally better in this case to use the Top Layer rather than the Underlying Layer sliders, because the houses are richer in color and therefore fall in a longer range on the top layer and are easier to isolate. But either set of sliders will work.

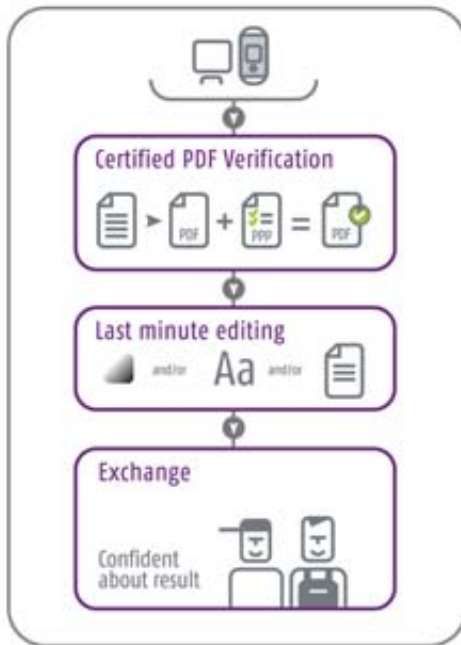
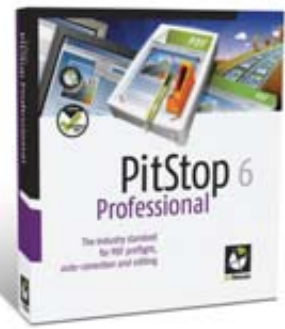
The top right-hand slider should come to the left until the houses start to break in two, partially pink, partially the original brown, as seen in version M. At that point, to avoid harsh edges where the two layers meet, we split the slider by Option/Alt-clicking and move the left half further to the left, establishing a transition zone where the two layers combine. When finished, we click OK and reduce the opacity of the top layer to 30 percent or whatever else we decide.

There's no such thing as too much color—unless it's too much of the wrong color. Command-click, and bring everything under control.

Contributing editor **Dan Margulis** (DMargulis@aol.com) is author of Professional Photoshop, Fourth Edition. For information on his color-correction tutorials in Atlanta, Chicago, and San Diego, call Sterling Ledet & Associates at 877/819-2665. To join Dan's online color discussion group, visit www.ledet.com/margulis.



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in the
field

Hybrid printer grows 20 percent a year

With a wide range of printing devices, including a new Presstek-enabled KPG DirectPress 5634 DI direct imaging press, Franklin Press quickly produces runs from 1 to 150,000.

Franklin Press Inc., a full-service direct mail and printing company, decided about 10 years ago to make some changes that would differentiate it from other commercial printers, and it has been evolving ever since. The changes have proven to be positive, considering the company has been growing at nearly 20 percent per year for the last couple of years.

Located in Baton Rouge, Louisiana, Franklin Press employs 70 people and has annual revenues of approximately \$7 million. The company's president, Ernie Seals, joined Franklin about 10 years ago. He says, "At that time, we realized that we needed to find a market niche so that we were not competing directly with every other commercial printer out there. We had been doing some mailing, but quite frankly, we were not doing it that well. So we decided to acquire the necessary technology, skills, and expertise to make mailing a market differentiator for us."

Offering turnkey direct mail programs

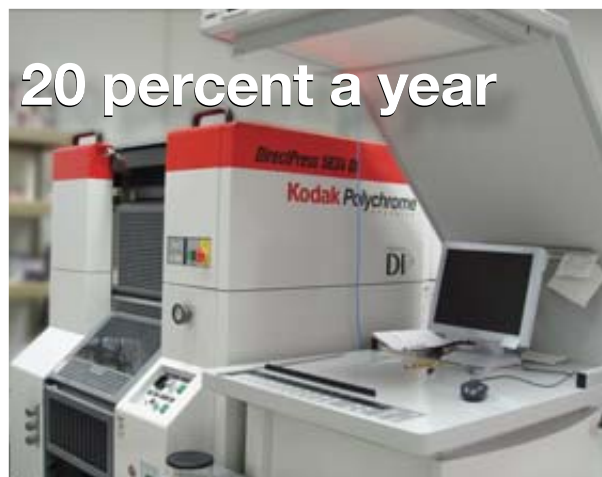
With that in mind, the family-owned company, which was founded in 1922, acquired mailing company Digitrans, bringing Digitrans' owner, Craig Chumney, and his staff on board. Chumney became Franklin's vice president of data management, and the company began to reorient itself toward direct marketing. Today, its tagline, From Pre-Press to Post Office, does a good job of encapsulating the set of services it offers its customers—high-quality, cost-effective, turnkey direct mail programs.

FOR MORE INFO

Presstek
www.presstek.com
603/595-7000

For a printing company, the press technology is clearly a critical part of the technology infrastructure, and Franklin has all bases covered. The company features conventional offset presses, two Kodak Digimaster black-and-white digital presses, and an HP Indigo digital color press. And in 2004, Franklin became one of the first companies in the United States to install a Presstek-enabled Kodak Polychrome Graphics DirectPress 5634 DI direct imaging press. Featuring Presstek's new ProFire Excel imaging technology, the press's high level of automation, 300-line-screen quality, and short-run four-color efficiency were attractive to Seals as he looked to expand his printing capabilities.

This array of equipment positions Franklin as a leading hybrid print operation capable of producing runs from 1 to 150,000 with ease. The addition of the DirectPress 5634



closed the gap between existing long-run offset and ultra-short-run digital, and was ideal for the 500 to 15,000 run lengths that were increasingly required. Most projects now carry a one- to three-day turnaround time.

Targeting the message

"But the key to our success," says Seals, "has been our emphasis on the importance of data management." Franklin counts the casino market as a major focus. Franklin also targets financial institutions and fundraisers as a key market for its specialized services. "A lot of people would like to do targeted marketing but don't have the databases set up and haven't gathered enough information to be able to target audiences," says Seals. "For those that have the data available, we will manage the data for them."

The KPG DirectPress 5634 DI plays a key role in the delivery of these programs. For many of Franklin's customers, the preferred method of producing variable data communications is to produce high-quality four-color offset printed shells, overprinting variable data in black using the Kodak Digimaster. For many of these programs, run lengths for offset printed shells range in the 500 to 15,000 quantity that Seals sees as ideal for the Presstek DI press. Franklin also produces a number of versioned campaigns, where a piece will be produced in short-run lengths of 2000 or less, and then changed slightly—either with a black-only plate change or re-imaging all four plates—to produce another 2000 of a different version. Seals says, "With the DI press, we can make those changes and be back up and running in 10 minutes or less because the makeready process is so fast. Even if we change only the black plate, we can be sure that everything will be in perfect register."

Franklin has been pleased that the KPG DirectPress 5634 DI has broadened its range of applications, while at the same time reducing cycle times to keep its offerings competitive. Seals is looking forward to developing more innovative applications to leverage his hybrid printing model, bolstering his specialty niche. Seals concludes: "We have positioned ourselves to stay clear of the commodity printing zone."

.....
Edited by **Nancy A. Hitchcock**, senior associate editor.

in the
field

A direct marketing company dramatically improves productivity

In its production department, Circulars Unlimited streamlined its workflow by improving its asset management system, implementing a new page-layout program for faster ad creation, and installing a new server and network system.

Circulars Unlimited labored for years to maintain its level of productivity, but the company's efforts were hampered by the sheer volume of its unmanaged digital assets, outdated software, and old-fashioned network. Moving to Quark Content Manager and QuarkXPress helped staff at Circulars Unlimited break through the glass ceiling that limited their productivity. The transition brought the company to production levels the group hadn't seen in years.

Circulars Unlimited, based in Norwich, New York, is a leading specialist in circular direct marketing—the advertising inserts you find in the middle of the Sunday newspaper or receive in the mail a couple of times a week. Clients include True Value, Ace, Agway, and Southern States. The company also serves as a general purpose service bureau: it designs and produces ads, business cards, and other business and marketing collateral. The company produces thousands of documents per year, rich in color, art, and images.

Finding digital assets, however, used to be a slow and arduous process. "This system was frustrating for everyone involved, from our designers to the product manufacturers whose art we were often reordering," says Deb Tobey, who serves as workflow administrator, corporate graphic designer, and trainer.

Circulars Unlimited needed to improve its workflow and productivity; therefore, it decided to organize its huge collection of assets into a system that permitted rapid and accurate retrieval, to update its page-layout software to a mainstream program, and to upgrade its server and network system.

Steps toward selecting Quark

The company implemented the Quark Content Manager-based workflow, which consists of three major components: QuarkXPress, Quark Digital Media Server, and Quark Dynamic Document Server. "Quark products have dramatically changed the way we do business," says Tobey.

The company chose this workflow because employees wanted to work with QuarkXPress for ad creation. Then, after the company's IT manager studied 27 asset-management systems, he selected Quark

Content Manager, in part because of the benefits of having an integrated system. The integration for Quark Content Manager, however, was not a trivial undertaking. The



total bill came to about \$280,000. But the results have made seeing it through more than worthwhile, says Tobey.

Drastic productivity improvements

During the past two years, Circulars Unlimited has been able to reduce production staff to the level it was at about four years ago. However, the company now produces almost three times as much work as it did back then, and profit margins have begun to increase.

In fact, at this point, Circulars Unlimited is showing an approximately 68 percent increase in productivity. The layout department alone has calculated that it has achieved nearly a 50 percent increase in design time because staff is able to use the combined power of Quark Content Manager and QuarkXPress to reuse previous work, quickly create work from workflow templates, and gain nearly instant access to more than 200,000 pieces of art in the Quark Content Manager organized production-art collection.

The company's type department has benefited as well. The group keeps up with a dramatically increased workload even though the department has been downsized by nearly 35 percent.

The company employs fewer people in its production department now than it did before implementing Quark Content Manager, but the group is sending out more than double the amount of work to the presses.

"These products completely organized our assets and increased our productivity to levels higher than anticipated," says Tobey. "Now, Circulars Unlimited can experience sustained growth without limitations."

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Edited by **Nancy A. Hitchcock**, senior associate editor.

FOR MORE INFO

Quark
www.quark.com
303/894-8888

the **digital**
paper PLATFORM

RIT helps pave the path for quality digital printing

By testing hundreds of media options, the Printing Applications Laboratory at RIT takes the guesswork out of delivering superior results.

by Nancy A. Hitchcock

They say that nothing in life is guaranteed. But some things actually are if you look in the right places. The Rochester Institute of Technology Printing Applications Laboratory (PAL), for instance, puts an enormous amount of time, energy, and brainpower into testing digital papers that help guarantee quality printing on digital presses.

Bill Garno, director of the PAL, says: "We're working with paper and synthetic media suppliers that are either exploring opportunities or more aggressively targeting the digital color printing market. These companies are seeking certification or qualification of media, as well as working with us on product development testing, competitive benchmarking, audits, and troubleshooting."

Paper manufacturers, media providers, technology manufacturers, and digital printers often turn to RIT for their resources, expertise, and objective perspective on the industry.

Laura Shore, Mohawk's vice president of marketing communications, says, "The RIT testing lab provides invaluable, unbiased evaluations that are critical for this highly technical area of paper use. It's like a one-stop-shop for digital expertise. It's like the *Consumer Reports* and the *Good Housekeeping Seal of Approval* all rolled into one."

On the leading edge

As digital press technology evolves and the substrate needs on those devices shift and expand, the RIT lab stays on the leading edge of change. RIT's PAL has been operating printing equipment and evaluating products for 50 years. For the digital presses, it has been qualifying papers since the late '90s, when it began its testing operations with one Xeikon and one Indigo press. Today, RIT provides paper qualification and certification for a Xeikon DCP50D, and three Hewlett-Packard (HP) Indigo color digital presses—a 1000, a ws2000, and a 3050, which will soon shift when a ws4050 replaces the ws2000. In addition, an HP Indigo 5000 will arrive this summer. A recent transformation at the testing facility involves qualifying substrates for the Kodak NexPress 2100 digital production color press.

"We were very pleased to recently transfer the NexPress Substrate Qualification Program to RIT's Printing Applications Laboratory to be part of RIT's industry-wide program that benefits both print providers and paper manufacturers," says Cumar Sreekumar, Ph.D., vice president, systems integration and manufacturing development, NexPress Solutions Inc. "With the Substrate Qualification Program, not



RIT tests papers on its HP Indigo presses and now presents more than 400 qualified digital papers that will meet high-quality standards.

only do users of the Kodak NexPress 2100 color press have a wider range of offset, digital, and specialty substrates, but also they are able to achieve high-quality printing with cost-saving results by optimizing their print settings with the provided substrate scripts. Paper manufacturers also benefit by the opportunity to showcase their range of products in the NexPress 2100 press' Substrate Catalog."

Testing on the HP Indigo presses

The lab stays very busy evaluating substrates on the digital presses. Not only are the number of media options for the Indigos continuously growing, but also the number of companies providing solutions is growing as well, according to HP's Judy Finlay. Today more than 400 qualified substrates are available for the types of Indigo presses operating at RIT. "In the last three years, the amount of qualified media has tripled," says Finlay. "There's been a huge increase in coated qualifications. And there's a huge increase in interest from paper suppliers, even from companies internationally."

Mohawk actively tests its new grades at RIT. "We recently developed a new surface treatment for paper used in the HP-Indigo engine," Shore reports. "Superfine will be the first paper introduced incorporating this new process, and it

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the digital paper PLATFORM

just passed qualification with flying colors. This testing process gives us great confidence in the rollout and gives the product instant credibility among users in the market.”

SMART Papers also touts the certification process for providing customers with confidence. “If you have the RIT certification,” says Chuck DeWitt, director of product management, “it allows customers to say, ‘I trust the sheet.’ Certification gives digital papers legitimacy.

“SMART Papers’ full line of non-Sapphire-treated IN•fusion papers have been tested and certified by RIT,” he continues. “When we introduced IN•fusion, it was across multiple gradelines—we had cast coated, matte coated,



With a NexPress 2100 recently installed, RIT now qualifies media and provides substrate scripts and ICC profiles.

and uncoated. We took each of those products to RIT and each was individually certified. The IN•fusion products are on Kromekote, Knightkote Matte, and Carnival papers. Through the combination of our own testing, and also through the RIT testing, these sheets have proven to be top performers on press.”

Stora Enso evaluates which of its coated products in the commercial market it could develop for digital applications and finds that RIT is a valuable source. For the Indigo, the company decided to develop the Futura Laser product line in 2003, and last year added the Futura Laser 100lb. cover. “RIT validates that the papers meet a certain quality level, and that provides a level of comfort for Indigo users,” says Dennis Essary, director of digital papers. “We have customers say that some of our papers that aren’t certified work great. But we will not guarantee anything other than certified products. People are always asking for label papers, heavier papers, and cheaper papers, and we determine the most viable substrates to offer digitally.”

In a few months, RIT will be operating an HP Indigo 5000, testing a wider range of substrates. Many paper suppliers are already lining up their products.

Testing media on the different digital platforms requires different procedures. For substrates to be certified on the

HP Indigo digital color presses, they must pass an initial screening test, and then be evaluated during a comprehensive day-long process. Sheets are tested for runnability, ink adhesion, and blanket memory. An optional test—a flaking test—simulates bindery applications to assess whether finishing equipment would scratch the ink, explains Brian Waltz, RIT’s digital printing technologist. The sheets are also tested for consistency over a long print run.

“The Indigo is a full-scale operation and is running daily with qualifications,” says Fred White, manager, press operations. “You can grab any paper off the shelf and stick it on a digital press, but it may not run very well. The paper might break down, the ink may not adhere well, or the image could emboss itself in the blanket.”

Waltz adds: “For blanket memory, it comes down to whether the printer wants to run cheaper sheets and spend money on extra blankets and supplies, or run better sheets and be able to get a better run life out of the machine.”

New procedure for a new press

For the NexPress 2100, the substrate qualification program is a little different from the Indigo program. The NexPress program includes testing and qualifying papers, and generating substrate scripts and ICC profiles.

Gary Lawniczak, system engineer, NexPress Solutions, says: “Some of our customers are very particular about color reproduction—about creating Pantone colors, for example. What we are able to do with the qualification program is to specifically create ICC color profiles and press settings that are unique to each of the paper substrates. The process of qualifying papers will create the best and most consistent prints possible on press.”

Prior to transferring the qualification program to RIT recently, NexPress had already qualified more than 400 substrates. RIT now has a waiting list of papers to test. One media manufacturer, however, was discouraged about having to qualify papers on the NexPress. It’s known in the industry that the press runs a wide range of media and now to have to qualify each substrate is a costly process that might boost the costs of the products, says the company spokesperson.

Although print providers can and do run unqualified media on their digital presses, technology and media manufacturers suggest that people use qualified substrates for optimal results.

“Generally, approved and qualified papers provide the best performance and are supported by us,” says HP’s Finlay. “Unapproved papers will sacrifice productivity and consumable lifespan, so they’re basically not recommended by us.”

To be able to offer a guarantee in printing quality on digital presses, RIT stays in tune with the latest technology and delivers a stamp of approval by qualifying a wide range of media.

Nancy A. Hitchcock is senior associate editor.



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reviews

FLATRON L1780Q

At any angle

LG Electronics' highly poseable LCD offers flexibility at a competitive price.

by Courtney E. Howard

For most of us in the graphic arts industry, job descriptions are not what they used to be, even just one or two years ago. Instead, we've taken on additional roles and responsibilities to keep pace with an ever-changing industry, and to compensate for less-than-robust economic conditions.

As a result of wearing several hats, we must complete a greater number of (and usually disparate) tasks in the same amount of time. It's no wonder, then, that we've come to expect the same levels of flexibility and efficiency from the hardware and software solutions we employ in these burgeoning roles. It is for this reason, in addition to its uniqueness, that LG Electronics' latest display attracted my attention.

The install

LG Electronics' Ultra Slim series of LCD monitors recently gained two new models: the 17-inch Flatron L1780Q and the 19-inch Flatron L1980Q.

When the Flatron L1780Q arrived, the package was noticeably small in size; its shipping dimensions are 18.7x5.5x15.6 inches and the shipping weight is 13.4 pounds (the display itself weighs roughly 9 pounds). I don't know the reason for my surprise, considering the display measures a mere 14.7x2.5x12.2 inches when folded. When fully extended on its base, it still



mounting bracket, a power cord, an AC adapter, and DVI-D and 15-pin D-sub signal cables. Hard-copy Easy Setup and Monitor Installation Guides, in addition to a user's guide on CD-ROM, aided me in the device's installation. I followed the instructions for loading the drivers and the included Forte Manager software, as well as calibrating the system—requiring a total of approximately 20 minutes.

I opted to use the Flatron L1780Q as a desktop device, instead of mounting it to a wall. I began testing the display with analog connectivity, and then switched to using a digital signal after a period of time. Both provided attractive results.

Aesthetically speaking

I was impressed by the image quality delivered by the monitor: photos were sharp,

colors were bright and true to life, and noise was minimal. Moreover, the company's f-Engine integrated digital picture system, which uses a picture-enhancing chip, enables the independent adjustment of brightness and color; typically the two traits are linked, and adjustments to one can detrimentally affect the other.

The LCD features a native (SXGA) resolution of 1280x1024dpi. Its 500:1 contrast ratio was a plus, and especially helpful when working with grayscale images. Perhaps most impressive is its 8-millisecond response time, one of the fastest I've had the benefit of using. The display's 160-degree viewing angle, both horizontally and vertically, also was a big plus. And I could optimize the screen using the various image adjustment settings provided.

Flatron flexibility

The Flatron L1780Q's physical appearance is eye catching. During the evaluation period, more than a few colleagues comment-

FOR MORE INFO

LG Electronics
800/243-0000
www.lgusa.com

reaches only 4.7x9.5x14.9 inches in size.

The display, flanked by styrofoam on all sides, was securely packaged for shipping. The entire unpacking and assembly processes took roughly 10 minutes. The device was accompanied by the company's Forte Manager software, a wall-

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reviews

WACOM 6D PEN

ed on its sleek look and compact size. Even its “on switch” is unique; it’s a touch-sensitive, translucent area with a border that lights up when the display is in use.

The back of the LCD is equipped with a unique double-hinged arm, an addition that enables the screen to fold down flat or even bend over backward. When discussing a layout with colleagues sitting across the table from me, I was able to flip the LCD to face them. And the display’s Forte Manager software adjusts the content on-screen accordingly. In fact, seconds after pivoting the screen, the degree to which it had been altered flashed on-

screen. The backflip may be its greatest physical feat, but it’s not the only trick in the L1780Q’s repertoire. It easily rotates to virtually any position; this capability aided me when using a Wacom tablet. I’ve always experienced a disconnect between holding my tablet at an angle and viewing the image on the landscape screen; cursor placement still was a little strange, but I found it easy to overcome. I mostly used the display at a 90-degree angle, in portrait rather than landscape orientation.

Its bezel measures 22 millimeters—a decent width that’s conducive to multi-

ple-monitor environments. Overall, the LCD, double-hinged arm, and stand base are all sturdy and well constructed; I experienced no problems as I frequently changed the screen’s orientation.

In the end

The Flatron L1780Q is available now and is priced at \$695, complete with a three-year QuickSwap Replacement Warranty. It’s an excellent choice for those who need maximum, quality screen real estate in a small, space-saving format.

Courtney E. Howard is managing editor.

Enter the sixth dimension

Wacom adds more levels of freedom to the creative process.

by Courtney E. Howard

Even if you don’t remember the details surrounding your introduction to or first experience with a pressure-sensitive tablet, chances are good that you remember the impact it had on the way you worked, and the way you created. I was recently reminded of that feeling of elation as I began using Wacom’s latest pen stylus: the 6D Art Pen.

Free of cords and batteries, as is the case with all other Wacom tablet accessories, the 6D Art Pen offers six dimensions of pen control. I had mastered the 3D environment and I’ve even experienced 4D on occasion, but was I ready for a full six dimensions? It took some getting used to at first, but now that I have achieved 6D, there’s no going back.

The six dimensions of creative control

to the left and right, whereas the y-axis corresponds to up and down motions. Pressure is present with a full 1024 levels of pressure sensitivity. Tilt detects the angle at which the pen is held. If you’re like me and recall having been a bit frustrated with the limitations of the tilt functionality, bearing will be a welcome addition. The 6D Art Pen conveys to the tablet the direction in which the stylus is tilted. This heretofore unnamed thing, this wont that I couldn’t adequately put into words, seems so obvious now; kudos to Wacom for doing its homework. The last dimension, the final frontier perhaps, involves the degree (up to a full 360 degrees) to which the pen’s barrel is rotated.

Installation? What installation?

As soon as it arrived, I began using the 6D Art Pen with my 6x8-inch Wacom Intuos3. Upon simply picking up the pen, I was ready to go. It proved simple to learn and to use, in keeping with other Wacom pens and mice I’ve employed.

The 6D Art Pen ships with a pen stand and four pen nibs—three of them felt, and one hard plastic. The 6D Art Pen looks

and feels different from the Intuos3 Grip Pen in that its body is wider and lacks an eraser; its nibs assume a chisel shape, as opposed to that of a pen tip; and it incorporates new rotation sensing technology.

Wacom has worked with industry-leading software vendors, including Corel Corporation and Adobe Systems Inc., whose software programs will aid creative professionals in taking full advantage of the 6D Art Pen and its capabilities. In fact, Corel unveiled its Painter IX Art Pen Brush Pack, a new collection of brushes for use with Painter IX, in conjunction with the release of Wacom’s 6D Art Pen. At the same time, Wacom users can enjoy the expanded brush selection offered in Adobe Photoshop CS2 and Illustrator CS2. Other software applications designed to benefit from the 6D Art Pen include Studio Artist by Synthetk, Body Paint by Maxon, and Studio and Symbolic Sound by Kyma.

Priced at \$69.95, the 6D Art Pen supports Intuos3 (and not Intuos or Intuos2) pen tablets, and the Cintiq 21UX interactive pen display.

Courtney E. Howard is managing editor.

**FOR MORE INFO**

Wacom Technology Corp.
800/922-9348
www.wacom.com

provided by the new pen are defined as the x-axis, the y-axis, pressure, tilt, bearing, and barrel rotation. If you’re a Wacom customer, especially one using a newer tablet, you’ve experienced a majority of these dimensions. The x-axis refers to movements

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Staff changes for Electronic Publishing
Nashua, NH; April 8, 2005 -- PennWell is pleased to announce the promotion of Steve Taneman to the Publisher ...

Total Training rolls out Adobe Creative Suite 2 materials
Carlsbad, CA; April 5, 2005 -- Total Training Inc. has announced a new series of DVD-ROM videos for mastering ...

Adobe unveils Creative Suite 2
San Jose, CA; April 4, 2005 -- Adobe Systems has announced a new release of Adobe Creative Suite. Adobe Creative ...

Pantone releases Color Bridge Guide for conversions
Carlstadt, NJ; April 1, 2005 -- Pantone has announced its color bridge guide, which shows how PMS Colors reproduce ...

Iomega Unveils Its Latest Professional Storage Solutions
San Diego, CA; March 30, 2005 -- Iomega Corporation has announced three new professional storage products: the ...

Annual Crea meeting yields approval for acquisition by Kodak
Vancouver, BC; March 29, 2005 -- Crea shareholders approved all statutory and special business submitted for ...

Current Issues, Newsletters and Resource Center

Quark joins Ghent PDF Workgroup
Ghent, Belgium; March 29, 2005 -- Quark has become a member of the Ghent PDF Workgroup (GWD), an international ...

Boston Print Buyers unveils new website, announces meeting
Boston, MA; March 18, 2005 -- Margie Dana, a former print buyer who's been an independent printing consultant ...

Adobe announces The Ideas Conference in NYC April 4
San Jose, CA; March 14, 2005 -- Adobe Systems Incorporated has announced that it will host the Ideas Conference, ...

PDF 2005 Conference announces keynote speaker
Boston, MA; March 22, 2005 -- Organizers of The Adobe Acrobat & PDF 2005 Conference have announced that the ...

KPG unveils Certified Matchprint Virtual Proofing System program
Norwalk, CT; March 17, 2005 -- Kodak Polychrome Graphics (KPG) is creating a network of certified Matchprint ...

Upcoming Events

On Demand
May 17 -19, 2005
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MacWorld Boston
July 18 -21, 2005
Boston, MA

Seybold SF
August 29 -31, 2005

Print 05
September 9 -15, 2005
Chicago, IL

From The Wire

Eastman Kodak to Donate Digital ...
PR Newswire (April 11, 2005)

Xerox Names EFI Top Software Partner
HQ Communications (April 8, 2005)

ABDick to Sell Presstek's ...
PR Newswire (April 7, 2005)

HP Awarded Five-Year U.S. ...
Business Wire (April 6, 2005)

Amazon to print books on demand
Vishnet.com (April 5, 2005)

Kodak Completes Acquisition of KPG
HQ Communications (April 4, 2005)

New Products

Roland releases

Roland DGA Corporation (Irvine, CA) has introduced the SoJet Pro II V series designed for professionals who produce high-resolution graphics, such as graphic and fine artists, photographers, signmakers, and printers. The SoJet Pro II V family includes the 74-inch SJ-74SEX and 64-inch SJ-64SEX wide-format inkjet printers and one printer/totter, the 54-inch SC-54SEX. The new SoJet ...

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Learning CS2

The National Association of Photoshop Professionals (NAPP; Tampa, FL), with members in 106 countries, has launched the Photoshop CS2 Learning Center. Helping to ease the transition to the latest versions of Adobe's creative software solutions, NAPP's online resource houses online videos, articles, reviews, news, and Adobe Creative Suite 2 product information, as well as a CS2 discussion forum.

www.photoshouser.com/photoshopcs2.html

Pantone prediction

Pantone Inc. (Carlstadt, NJ) has introduced the Pantone Color Bridge Guide, designed to aid users in predicting Pantone solid-to-process color conversions. Designed to increase accuracy when specifying and matching colors to be reproduced in CMYK, the new guide boasts the company's popular fan-guide format and color swatches that are 25 percent larger than those of previous guides. The new Pantone Color Bridge Guide demonstrates 1089 Pantone Matching System colors on coated stock in a side-by-side comparison with their closest four-color process match. CMYK screen tint percentages are provided with each process color, whereas RGB and HTML values accompany the solid colors. The Pantone Color Bridge Guide is available now at a cost of \$119.

www.pantone.com

Color Tuner upgraded

CGS Publishing Technologies International (Minneapolis) has unveiled the latest version of its Oris Color Tuner contract-proofing solution. Oris Color Tuner 5.1 for Windows has been infused with improvements in performance, such as a faster RIP/print process, and in accuracy, via the software's automatic color match and calibration capabilities. New software wizards simplify installation and proofer setup, whereas support



of Hexachrome proofing, ICC version 4 profiles, and toner-based output devices increase Color Tuner's flexibility. An optional module for use with version 5.1, Oris Soft Proof, takes advantage of Color Tuner's color-management engine to create view-ready PDF/X-3 files.

www.cgsusa.com

MODERN MEDIA

Océ Display Graphics Systems (Chicago) has introduced a line of 17-inch-wide inkjet media compatible with Epson Stylus Pro 4000 printers. The new 17-inch offering joins Océ's existing family of 24- through 44-inch substrates—including films, outdoor media, textiles, and canvas—for large-format Epson printers. Océ offers glossy, satin, and matte photopapers, as well as presentation matte papers, in 17-inch widths for use specifically with the Epson Stylus Pro 4000. They include the company's PhotoPerfect Plus Glossy, PhotoPerfect Plus Satin, PrintPerfect Matte, Instant Dry Satin, and Alternative Satin photopapers, as well as Presentation paper 24- and 46-pound, Presentation Bond 35-pound, and Color Proofing matte papers.

www.oceusa.com

Eastman Kodak Company (Rochester, NY) has expanded its inkjet paper offerings to include Kodak Professional Inkjet Photo Paper in a long-roll format for professional photographers. Boasting the quality and characteristics of its professional cut-sheet inkjet media, the new long-roll media is compatible with Epson Stylus Pro wide-format printers, and is offered in luster and glossy finishes. Quality pulp and the latest paper chemistry combine in a true photographic base, lending to whiter whites, a wide color gamut, and accurate flesh tones. Available now, Kodak Professional Inkjet Photo Paper is offered in 100-foot rolls at 24-, 16-, and 10-inch widths, priced at \$118, \$84, and \$60, respectively. www.kodak.com/proinkjet

Fuji Photo Film U.S.A. Inc. (Valhalla, NY) has debuted Fujicolor Crystal Archive Paper Type II, an RA-4 silver-halide color paper. Optimized for digital printers, the new media benefits from a new silver-halide emulsion technology, coupler technology, and the company's advanced thin-layer coating manufacturing technology. When combined with the CP-49E chemistry of the new Frontier 550 and 570 Digital Lab Systems, Fujicolor Crystal Archive Paper Type II enables Prints in Minutes performance for fast processing and improved productivity. Moreover, the new release is said to deliver more vivid color reproduction, high image stability, improved handling, and brilliant whites with greater highlight detail. Fujicolor Crystal Archive Type II is available now in a 610-foot roll in a variety of popular widths. www.fujifilm.com

Platesetter presentation

Mitsubishi Imaging (Rye, NY) has unveiled its DPX 4, a 4-up platesetter taking advantage of Silver DigiPlate polyester plates. Co-developed by Mitsubishi Paper Mills Ltd. and Esko-Graphics, the DPX 4 requires little operator intervention, considering it automatically loads, punches, exposes, processes, and dries plates of up to 26.7x29.5 inches in size. The DPX 4 polyester platesetter features a 54x42-inch footprint, an internal imaging drum, a fiber-optic red laser, a vacuum system to ensure perfect registration, and a choice of resolutions

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newproducts

Three from NEC

NEC-Mitsubishi Electronics Display (Chicago) has targeted the professional market with the release of three new monitors in its NEC MultiSync LCD product line. The 19-inch NEC MultiSync LCD1970FXi sports a 12mm narrow bezel, of benefit to multimonitor environments, and AmbiBright technology, which reduces energy consumption



between 1200dpi and 3000dpi. In conjunction with its release of the DPX 4, Mitsubishi Imaging also announced the availability of an improved matte-backed Silver DigiPlate, designed for tighter registration, improved tone reproduction, and high water retention for better on-press performance.

www.mitsubishimaging.com

Full-line upgrade

Enfocus Software (San Mateo, CA) has announced that its PitStop Professional 6.5 is compatible with Adobe Acrobat 7 and PDF version 1.6. Version 6.5 of PitStop Professional also marks the reactivation of a once-popular feature: embedded font editing. Restricted in version 6 due to Adobe's licensing conditions, the ability to text-edit PDF files using embedded fonts has returned in Enfocus's latest PitStop version. The company also is in the process of updating the rest of its Certified PDF product line—including PitStop Server, Instant PDF, PDF Workflow Suite, and OEM versions—with Acrobat 7 and PDF 1.6 support. www.enfocus.com

and eye strain by automatically adjusting the display's backlight in response to changing ambient lighting conditions. The NEC MultiSync LCD1570NX is a 15-inch flat-panel display accepting analog and digital input. The NEC MultiSync LCD2070NX 20-inch model, also with analog and digital inputs, sports a USB 2.0 hub. All three models, now shipping, feature No Touch Auto Adjust, which automatically adjusts screen settings for optimal viewing. www.necddisplay.com

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P R O F I L E S I N P R E P R E S S

Extreme Workflow

Challenge: Multiple obstacles with job. Press schedule not flexible.

Profile: Brett has been working with RIPs for over six years. Recently installed Xenith Extreme®.

The Job: Customer has late text changes throughout the job. Copy is RGB black and three different spot colors are defined for reflex blue. Entire job needs trapping and the customer requires another proof before going to press.

Outcome: Xenith Extreme converts RGB black to "true black" and merges the spot colors. In-RIP trapping is automatic and pre-defined for press and stock. A digital soft proof is e-mailed for approval. Entire job imposed and output within the hour.

Quote: "With the old system this job would have been severely delayed and perhaps rebuilt in the page layout app. The hard copy proof alone would have required an 8-hour turn-around via courier. Worse, the press would have been idle while we prepped another job. And you know how much fun that can be. Not."



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FRANK TALK FRANK J. ROMANO

Remembering paste-up

Photo-mechanicals, camera-ready art, keylines, and paste-ups were a part of our life for decades. Then, one day, along came desktop publishing, and it was all over. Artists once prepared art for reproduction using so-called paste-up mechanicals. They glued line art (type and drawings) on boards. They left “windows” for the halftone images, which were made as separate films. In many cases they added shading to their drawings, using dots or lines made with a pen or sheets of tinted material. The completed paste-up was said to be camera-ready, and the camera was a gigantic graphic arts camera that produced film negatives.

The printer would combine the film of the line art with the halftoned photographs in a process called stripping, followed by platemaking using a “double burn.” If the artwork was to be reproduced in color, the artist would produce overlays on clear plastic sheets, and each overlay would represent a color. The printer would make a film negative of each, and then a plate.

My first recollection of paste-up was rubber cement. The odor does stay with you. The eraser for cleaning the excess was called a pickup, or mouse. Waxers were one of the greatest inventions for manual paste-up. The thin wax coating gave just enough adhesion to allow you to place your type or graphics into position, and then reposition it if necessary. How many of you recall scented wax? I had lemon, but I wanted the scent to be that of rubber cement. Do you recall the debates about the efficacy of a solid coating of wax versus ribbed lines of wax? There was also spray adhesive. I pictured my nostrils being glued shut.

We cut and trimmed material with razor blades or X-Acto knives. There was an area on the art board with cardboard for cutting. Later they had those thick plastic sheets. Tweezers were needed to handle small type corrections, and all elements had to be aligned with T-squares and right-angle triangles for squaring up work, for cutting items that had been waxed, and for hand-ruling with pens.

Before computers, rules and lines were drawn by hand with Rapidograph pens—technical fountain pens. Most designers invested in an entire set of the pens, which were numbered and color-coded from No. 5x0-pink (a micro fine line) to No. 9-emerald green (a macro bold line). More expletives were generated in the art department because of burps and hiccups when drawing rules. It was not unusual for a designer to draw all horizontal lines one day, and then return to draw vertical lines the next day, after her nerves had calmed down. Remember: hold the pen straight up and down; do not press down.

Getting those corners right was a real pain when you needed a box. Often, we would extend the lines for the

corner and lay a piece of white tape at an angle, covering the extraneous lines. White tape was used when you had to cover up unwanted copy on paste-ups, hold down base sheets on your boards, or tape paste-up boards together. Border tapes created a border around type composition, art elements, or a combination of both. These pressure-sensitive tapes were sold in rolls of various widths and designs.

Burnishers were handy pieces of plastic to press your copy securely to the board. You could invest a couple of dollars for a roller, or use the rounded, blunt end of any of your other tools as a burnisher.

Here’s a word you have not heard in a while: Rubylith, the separable two-layer acetate film of red or amber emulsion on a clear base. It was most often used for stripping windows and color breaks. It was loads of fun when the halftone window was a silhouette.

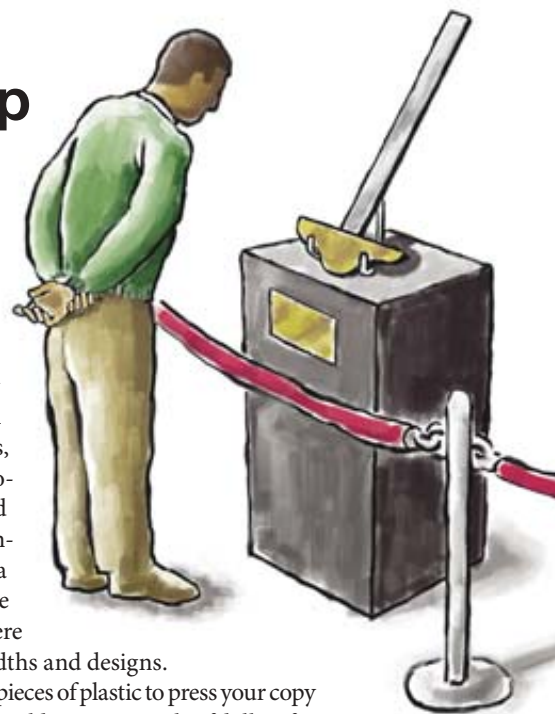
For line art we used stats, and later, PMTs. These were line-art enlargements or reductions. Later, some of us cheated and used plain-paper copies from copiers that had enlargement and reduction features. Veloxes and white prints were pictures that were shot as halftones to paper rather than film. They could be pasted down and then handled with the line art as one shot on the camera.

Transfer type was used for headlines, drop caps, and special effects. Compugraphic once had sheets of pi symbols that it called CompuRub (honest). Clip art was really art that was clipped out of a book of preprinted images.

Overlays were on tissue and clear acetate. We used tissue to protect and also to indicate instructions to the printer. We used clear overlays for color breaks. Tint and Benday sheets, such as Zipatone, were used to add shading to line art. Nonrepro blue pens and pencils were mandatory tools for writing instructions on artwork. The camera did not “see” blue when negatives were made.

Lastly, I remember repro type—the final pull used for paste-up. If errors were found after paste-up, there was someone in the department called “the magic knife” who had the ability to replace individual letters. I wonder what he is doing today.

Frank Romano is professor emeritus of Rochester Institute of Technology and founder of this publication 29 years ago.



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