

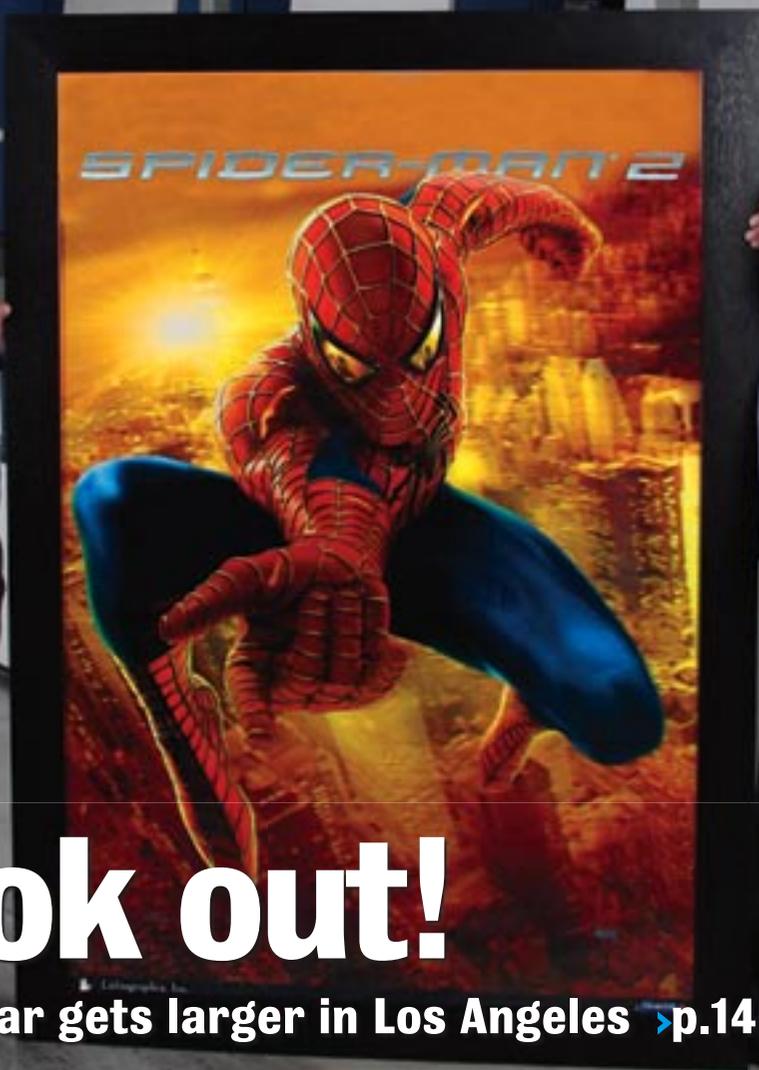
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August 2006

AMERICAN PRINTER

XXL Lenticular



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As big as all outdoors

Lithographix and TracerGraphix make lenticular history



On the cover

Herb Zebrack (left), president of Lithographix (Los Angeles); and Steven Spiro, CEO of TracerGraphix, pose with the largest lenticular sheet ever printed on a lithographic press. "It's a very dramatic 3D image," says Spiro. "Each layer of depth has been rounded. It doesn't look like a cardboard layer, one in front of the other. It looks very lifelike, as though Spider-Man is coming out of the picture."

This month's cover photographed at Lithographix (www.lithographix.com) by Carl Teger of TracerGraphix (www.tracergraphix.com).

Something dramatic. A few months ago, that's what Los Angeles-based Lithographix and TracerGraphix sought when they set out to produce the largest lenticular sheet ever printed on a lithographic press. With Sony Pictures' blessing, the two companies created a 50 x 80-inch lenticular sheet that is a 3D poster promoting "Spider-Man 2." Crouched in front of an urban skyline, Spider-Man is poised to sling a web. His right arm appears to pop out of the frame, almost as though the viewer could grasp the superhero's extended fingers. It's an impressive 3D effect and a great way to demonstrate the amazing XXL-format capabilities of Lithographix's new KBA Rapida 205 press—not to mention the two companies' lenticular expertise.

Aunt May would be proud

Like Spidey's alter ego, Peter Parker, Lithographix and TracerGraphix have humble origins. Herb Zebrack bought Lithographix in 1980. Founded in 1953, the company has transformed itself over the past decade from a \$27 million printer serving Los Angeles to a \$120 million, 380-employee operation with a national client base.

TracerGraphix occupies 8,500 sq. ft. in Lithographix's modern 280,000-sq.-ft. facility. "All we do is lenticular," explains Steven Spiro, CEO. Founded in 2002 in White Plains, NY, the company has its own equipment for producing lenticular jobs photographically. TracerGraphix has produced point-of-purchase pieces for Pepsi, Unilever, Gillette and many other national clients.

Using proprietary software and printing equipment, TracerGraphix creates lenticular jobs on photographic substrates. By contrast, lithographically produced jobs have no intermediate step—the ink is printed directly on the lens. Because it is a continuous-tone process, photographic lenticular offers a higher resolution, making it an excellent choice for creating smooth flowing motion effects. But, depending on the run size, producing lenticular jobs photographically can cost about twice as much as using a lithographic press.

Spiro founded TracerGraphix (then called Tracer Imaging) in New York about four years ago. Tracer Imaging initially offered lenticular printing primarily via the photographic method. Spiro found himself turning down many long-run lenticular projects that required a lithographic press, prompting him to seek a high quality offset printer.

Lithographix (Hawthorne, CA) fit the bill. Tracer Imaging and Lithographix soon formed a strategic alliance, a relationship underscored by the latter company's new name: TracerGraphix.

"Our goal was not only to be the biggest and best, but to handle almost all lenticular projects, from one-off lenticular panels to print runs in the millions," says Spiro.

"Two years ago, we realized that to be a substantial company, we needed a lithography partner with

the same commitment to quality," he continues. "We looked all over the world—Lithographix is the best color printer [because of] its focus on customer satisfaction and quality."

Lithographix, facing an overcrowded commercial marketplace, welcomed an alliance with the lenticular specialist. "Two years ago, we were [strictly] a commercial printer," says Mike Hecht, executive vice president of sales. "We determined that diversification is where the future lies."

Lithographix had long served the entertainment and automotive markets—the diversification strategy would begin with these clients.

"We went back to our [existing customers] and asked what else we could produce for them," explains Hecht. "The [answer] was outdoor applications—billboards, signs and so on. That led to the creation of Visiongraphix, our out-of-home division."

In 2005, the company installed two VUTEK (EFI) (Meredith, NH) Ultra VU 5330 machines—17-ft.-wide, solvent-based digital inkjet printers. Eight months later, the company added two 10-ft. machines, VUTEK 3360 and it recently installed two additional 5330s.

"We're now the largest billboard producer on the West Coast," says Hecht.

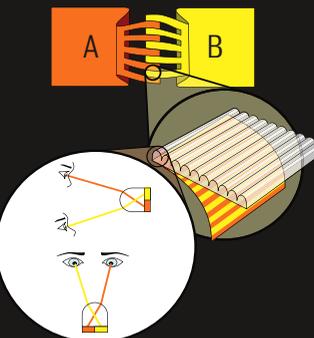
The ROI has been swift. Earlier this year, Sony awarded Lithographix a large national campaign for "The DaVinci Code." "We started in the first week of February and ended in the first week of May," explains Hecht. "It included every product we were capable of manufacturing: banners, posters, outdoor billboards, bus wraps and shelters."

The new 81-inch press will help Lithographix further expand its outdoors capabilities. George Wolden, Lithographix's senior vice president of manufacturing, says the Rapida 205 is a good fit with the VUTEK equipment. "Work being produced on the digital inkjet printers certainly will go hand-in-hand with the Rapida 205," says Wolden. "There always will be challenges and limitations with ink, water and coatings, when applied to unusual substrates for outdoor or commercial products; however, our research and development team has been very successful in meeting these challenges. We find the printing parameters (i.e., density, dot gain, print contrast, trapping, etc.) to be no different when comparing the 81-inch to 40-inch equipment."

Lithographix might be moving into new markets, but it hasn't budged from its commitment to quality and service. "Our customers want to enjoy the same predictability of color and print quality for their large format graphics, as they do from our commercial work," says Wolden. "We believe that the KBA Rapida 205 will deliver this exceptional quality for our customers and help us broaden our services and generate business from existing customers as well as new sales."

The Spider-Man lenticular test was conducted after the "DaVinci" marketing blitz ended, but it is very much in keeping with Lithographix's

How it works



1. Images are divided into strips and are interlaced together into one graphic.
2. The interlaced graphic is printed directly on the back of an extruded plastic lens.
3. The lenticule isolates and magnifies the interlaced image beneath it, determined by the angle of observation.
4. If the lenticules run vertically a different image can be delivered to each eye to create a 3D image.

Courtesy of Lenstar.org

Made you look!

Lenticular effects such as 3D, morph, flip, animation and zoom can stop consumers in their tracks. "We call it the Lenstar Shuffle," says Bruce Hammerbeck, Pacur's director of marketing. "People literally slide their feet and move their heads as the image goes from one frame to another."

Pacur will display the Spidey bus shelter image in a lightbox at two upcoming shows in Chicago: InStore Marketing Expo, Sept. 27-28; and Graph Expo, Oct. 15-18.

diversification effort. “These are two companies, Tracer and Lithographix, that are capable of working with agencies and design firms and offering a true one-stop shop,” says Hecht. “One account executive can handle an entire campaign. From commercial print to out-of-home billboards to lenticular products, we’re capable of delivering quite a few communication tools.”



Lithographix and TracerGraphix have collaborated on many previous lenticular projects, including this campaign for The Boeing Company.

Accurate plastic is fantastic

Nevermind the massive files, dyne levels, inks, adhesion or the liquid, UV flexo-based materials used to laminate opaque white backing materials. “The big thing about lenticular is the extruded piece of plastic and how accurate it is,” says Lithographix’s George Wolden.

Pacur (Oshkosh, WI), a custom sheet extruder played a key role in the success of the Spider-Man project. In September 2005, the company introduced a very large-format (VLF) 40-lpi sheet specifically designed for direct-to-lens litho printing. The VLF sheet is only 0.033-inch thick and is offered in a maximum sheet size of 47.25 x 81 inches.

The VLF sheet uses a resin (“Lenstar”) that’s a cooperative effort from Pacur and Eastman Chemical. The lens is designed primarily for indoor signage, but, if properly protected, it can be used for some outdoor applications.

According to Lenstar.org, an online resource for designers, agencies and printers, one side of an extruded plastic sheet is embossed with tiny corrugations called “lenticules.” The other side of the sheet remains smooth and serves as the printing surface.

Lenticules are all the same size, are spaced equally across the sheet and vary in line-per-inch (lpi) frequency from 10 to 200, depending on the application. Narrow angle lens sheets—with a viewing angle between 15 to 35 degrees—are best for 3D effects.

“When you are looking at 75 or 79 lpi, you’re looking at lenticules that are no more than 12 thousandths of an inch across,” says Wolden. “When the extruder sheets the plastic, with a ± 3 thousandths of an inch, you’ve just lost half your viewing capability on that lenticule during some part of the press run.”

To reduce inconsistencies/bias errors, says Wolden, the extruder must hold to the same tolerances. “On the Rapida 205, when we’re running 40 lpi [as we did on the Spider-Man bus shelter], if the extruder can hold the same tolerance as it does on 79 lpi, we’ve just reduced half of the inconsistencies/bias errors.”

Wolden has some advice for printers considering lenticular work: Don’t oversell the capabilities. Understand what is possible and design the work with the process mechanics in mind.

A very long lamp

Air Motion Systems (AMS) (Arvada, CO) supplied the UV system on Lithographix’s KBA Rapida 205. Technician Sven Lange (5 ft., 11 in.) is holding an 84-inch UV module for the Rapida 205. As with all AMS UV products, all modules are interchangeable and can be moved easily by a single operator. The UV module uses a single lamp that runs perpendicular to sheet travel and is used in either an interstation position or end-of-press position.



Web and sheetfed powerhouse

Lithographix began installing the KBA Rapida 205 press in September 2005 and was in full production by December 2005. The 81-inch press is the largest offered by any press vendor and one of about a dozen in the United States. The six-unit press has a rated speed of 9,000 sph and can run paper and board stock ranging from 80-lb. to 48-pt. The press is equipped with inline aqueous coating and UV drying capabilities. Lithographix recently added a slitter for producing two-up posters and other jobs.

To support the supersized press, the printer also installed a Kodak Magnus platesetter, 62-inch-wide Iris proofers, and a jumbo Harris Seybold cutter rebuilt by Colter & Peterson.

The new KBA press joined a fleet of Mitsubishi presses: five eight-color, 40-inch sheetfed presses with aqueous and UV coating; one six-unit, 38-inch web; two eight-unit, single-web 38-inch sleeved webs with inline UV coating, sheeters, pinless double former folding, pre-folding and combination folding with ribbon decks; and one six-color half-web.

Lithographix and TracerGraphix have years of lenticular experience on 40-inch presses—so stepping up to the 81-inch format posed few technical challenges. “Lithographix is really a pioneer in printing ink on the back of a lenticular lens,” says Spiro. “They’ve been doing it for 10 years.”

“There was a minimal learning curve,” Hecht agrees. “Our biggest [worry] was holding registration. But we were absolutely blown away by what came off that press. It’s an incredible piece of equipment.”

Spiro is excited to be pushing the lenticular envelope. “[Before we did this] it was almost impossible to produce a large-format piece lithographically. People were limited to either digital or photographic output on paper laminated with double-sided pressure-sensitive adhesive to a thick, expensive lens. There are cost savings and a tremendous quality upgrade [with lithography]. This will open new opportunities for both companies.”

Where did the old XXL presses go?

In his more than 40 years in the printing industry, George Wolden has seen just about everything, including vintage 77- and 78-inch presses from Harris and Miehle. Prior to the recent XXL revival, the format had essentially lain dormant since the mid-1970s. For almost three decades, printers who wanted a press bigger than 73 inches had only one option: used equipment.

Now in his 12th year at Lithographix, Wolden says paper instability and attendant slow press speeds probably contributed to the demise of the old XXL models. "They ran 4,500 sph, tops," he says. "People in the 1960s were running at 7,500 sph [on 40-inch presses]. It wasn't long—in the 1980s—before we were at 13,000 sph, and now we're at 18,000 sph on 40-inch presses."

Wolden also recalls that 40 years ago there were few web press choices. "Big sheetfed presses had the quality edge over the web presses of the day. Playboy was run for years on Regensteiner's 77-inch presses."

Lithographix saw the XXL format as a way to stand out in an overcrowded 40-inch market. Prior to learning about KBA's Rapida 205 81-inch press at Drupa 2004, the printer intended to buy a 1956 Miehle 77-inch press. "I really had my eye on a 55 x 78-inch press," says Wolden. "But they were made at the very end of Harris/Miehle's [company's] life and are hard to find."

Wolden says there's no comparison between the old-school XXL presses and the automation on the Rapida 205, which includes plate changing, registration and closed-loop color, Qualtronic inline sheet inspection, Densitronic quality control and more.

Two-around cylinders are better than one-around

Although Lithographix had put a down payment on the Miehle press, Wolden was won over by the Rapida 205's two-around cylinder design.

"If we wanted to stick to a narrow product range, the old Harris and Miehles would have been fine," explains Wolden. "But if we wanted to go beyond entertainment [markets] to retail and high-end packaging, we needed a KBA 205."

Wolden adds that one-around cylinder presses are limited to 24-pt. board and are prone to marking problems. "A two-around press can run 48-pt. substrates because the paper travels through the press in a straighter arc," says Wolden. "That configuration, coupled with the automation, make the 205 much faster to makeready and much more predictable. And that's what we vice presidents of manufacturing want. We don't like suspenseful, surprise-filled days!"

Wolden also praises the inker, which he says is similar to those on web presses. "Since the early 1980s, press designers have constructed inkers which place the majority of the ink load on the first form roller, the one closest to the dampening system," he says. "KBA has got the 205's inker very much in that mode. We like the bulk of the ink going down first. The ink distribution curve around the press, has more than proved itself. The solid print coverage is spectacular. A lot of thought went into this press."

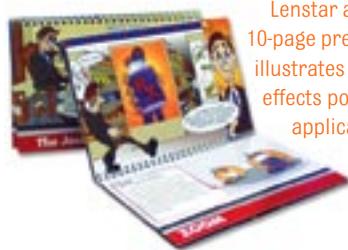
Works of art

At a February 2006 open house, Lithographix produced fine art reproductions on its new Rapida 205. One of the artists, Jayme Odgers (center), attended and signed his work. At left is second pressman Daniel Lara and at right is first pressman Daniel Bonilla, who produced the job.



Learning more about lenticular

TracerGraphix.com and Lenstar.org offer excellent overviews of lenticular effects as well as real-world examples. The Lenstar site serves printers, designers, ad agencies and brand marketers. Sponsors include press vendors KBA, Komori, Heidelberg, MAN Roland and Mitsubishi; Sun Chemical, Flint Ink and INX; software developers Flipsigns, Photo Illusion and HumanEyes; and substrate specialists Eastman Chemical and Pacur.



Lenstar also has a free 10-page presentation book that illustrates all of the lenticular effects possible in a variety of applications. See <http://lenstar.org/book>.

Size matters

Meticulous preparation also contributed to the trouble-free press run. "Lithographix has a long tradition of a strong prepress department," says Wolden. "We understand color very well, and we know how plastic prints, the fingerprint of our presses and the required color curves and profiles. And, because we interlace our own files, we have total control of everything."

One potential hurdle was addressed well before the new press was installed. Images used in lenticular printing are a composite of two or more graphics interlaced together. The resulting electronic files can be huge—a typical lenticular job printed on one of Lithographix's 40-inch presses might be 2GB. The Spider-Man file was almost 16GB. A year ago, as the Lithographix team was researching the 205 press, Spiro asked his business partner, Jim Cox, to revise TracerGrafix's proprietary lenticular software. "Jim and his son, Jay, the software's co-developer, immediately [revamped] their code to change the way the application deals with large files," says Spiro.

Lithographix has dubbed the KBA Rapida 205 press "Gigantix" and is marketing lenticular projects produced on this press as "VLFX." The 350-run

Spiderman project has proven to be an unusual, but effective, promotion piece. "There's been a high level of interest from the movie studios," Spiro reports.

At least three jobs are already in the works and Hecht anticipates many more in the months to come. "With the advent of the Internet, Tivo, satellite radio and other media, ad agencies are looking for other ways to reach customers with a high impact product. We believe in the short-term, lenticular will take a true foothold in marketing campaigns." 

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