

## Two-Sided Proofers

Four years after the arrival of the first product, the use of large-format printers to produce two-sided imposition proofs has matured. Not only are there six distinct product lines on the market today, with varying capabilities to serve particular needs, but these companies are looking for other ways to expand—such as into larger formats, where we already have one announced product and expect to see more soon.

Among the trends and issues in the air as we reach the four-year mark are these items:

- **Focus on automation.** Workflow-oriented customers are expressing the need to send a file for a proof and go back later to find it ready, rather than stand by the machine to feed it manually through, not once, but twice, with a 10- or 20-minute gap between actions.
- **HP DesignJet 1050 or Epson-Mutoh?** Market momentum seems to be moving toward the HP 1050 as the printer of choice, partly because of its speed, although two of the current machines use Epson technology and one of the HP supporters is adding an Epson 9000 to its line. In any case, the HP 1050, with its 600-dpi output (1,200 dpi for fine black rules) and faster speed, has virtually replaced the earlier HP 2000 series.
- **Alignment accuracy.** The accuracy demanded of imposition proofs remains unclear. After a lot of talk over the years about optimizing front-to-back alignment by tracking the image on the first side to help position the image on the back, only one of the six products—DuPont's—has a very elaborate system for doing so. Has it been concluded that accuracy isn't important? Or is it too difficult, in part because of limitations in these printers' mechanics and in part because of uncontrollable items such as the stretching of paper when it is wet with ink?

We'll start our report from Drupa with the biggest surprises: Purup-Eskofot's SpinJet 1000.

### **Purup-Eskofot shows automated process**

On the Purup-Eskofot stand, a new operation called TechSage had one of the hits of the show: the SpinJet 1000, a fully automated, yet remarkably simple, system based on an HP DesignJet printer. It was the first product developed by the TechSage R&D unit within Purup-Eskofot, working in conjunction with ColorGate, the RIP supplier, which contributed software. According to Purup-Eskofot, nearly every customer ordering one of its CTP systems ordered a SpinJet to go with it.

In essence, the SpinJet is an add-on mechanism attached to the front of a standard HP 1050 that has no effect on the original printer functionality. The SpinJet grabs the paper as it is printed on the first side and automatically reloads it back into the HP unit to print on the other side, making use of standard features of the print engine. There are no additional hardware sensors or guides, besides the device that does the turning. This gives the system a key advantage over every other two-sided proofer on the market: The customer can remove the SpinJet device from one HP engine and mount it on another one and keep working, such as in the case of engine failure. Thus, a backup system can be acquired for the minimal price of a second printer, which is by far the cheapest component of the system. It works with any 1000-series DesignJet.



**Purup-Eskofot's SpinJet 1000.** One of the highlights of the show was this innovative, automatic two-sided imposition proofer, based on an HP DesignJet 1050 and created by Purup-Eskofot's TechSage subsidiary. The keys are the metal attachment on the front, shown open here to expose the proof being printed, and some software from ColorGate.

We should point out, though, that the lack of additional sensors or guides may limit the registration accuracy of the system in comparison with some other products, but, so far, we haven't heard many people asking for greater accuracy for imposition proofing.

**Handling registration.** Although the SpinJet uses a standard DesignJet, it doesn't drive it in the standard fashion. Like several other vendors, TechSage bypasses HP's own driver and uses HP's VARware to optimize the printer speed. It also takes advantage of HP's Accessware software to help in registering the job with respect to the page margins.

Registration is based on the principle of controlling the placement of images with respect to the margins of the paper, rather than by trying to align the second side with respect to the image already printed on the first side. To minimize potential discrepancies, it calculates the placement of an imposed flat with respect to the center of the flat, thus spreading any potential difference in all directions.

In placing the image on the paper, the SpinJet uses the DesignJet's built-in sensor, which tracks the side margin of the paper as it advances. Using software in the RIP, it also calculates the advance from the top of the sheet to the beginning of the image, and makes an adjustment in software to ensure a consistent value.

Another way of stating the SpinJet's objective is that it attempts to place both sides of the proof as accurately as possible with respect to the page margins, on the theory that if they are both accurate with respect to their own page edges, they will be accurate with respect to each other. The potential downside is that, if the first side is slightly out of alignment for some reason, the target in printing the second side won't be to align the second side with the first; it will be to align it with respect to its own boundaries. The discrepancy is likely to be very

slight, however. In fact, the stated registration accuracy is within ?0.5mm.

**In operation. To print on** the first side, the paper is fed automatically from the online roll into the DesignJet in standard fashion. The rest of the process is quite straightforward, automatic, and very clever. The SpinJet mounted on the front of the DesignJet is equipped with a guide and gripper to grab the front edge of the media during the printing of the first side and automatically feed it back into the printer for the second side after the printer has cut the first page into a sheet. After the second side is printed, the imposition proof drops out the front.

The entire unit opens forward to provide access to the printer if necessary.

Besides alignment software, ColorGate has developed other features for the RIP that are part of a package called SpinGate. It accepts files from virtually any RIP, we were told, prepares the data for the two-sided imposition and performs color enhancement using ColorGate's Media Ink Match color matching software, which is ICC-compatible. (In addition to the SpinGate interface included with the SpinJet system, TechSage works with a range of OEM partners enabling direct control of the SpinJet from the RIP systems of these partners, which includes the Purup-Eskofot NewAge workflow system.)

As with the standard HP 1050, a wide range of media types can be used with the SpinJet. However, to prevent ink from bleeding through, a double-coated stock is recommended. TechSage says that there is no problem with the drying of the first side prior to the printing of the second side. There is no need to delay printing the second side to wait for the first side to dry.

Initial deliveries are scheduled for September.

Besides the individual orders noted above, generally accompanying sales of CTP systems, TechSage said it had received a letter of intent for the purchase of 1,500 additional units over the next two years. The identity of the party wasn't disclosed, but we were told it is a reseller.

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## **A Seybold Reprint**

This material appeared in The Seybold Report on Publishing Systems, Volume 29, Numbers 15 & 16, July 17, 2000. Seybold Publications has prepared this reprint at the request of Techsage.

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