



# TECHNOLOGY REVIEW

By Chris and Kathi Morrison

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## Nazdar's CATZper Spot-Color Solution

A stairway to heaven

### Key Information

#### Nazdar Consulting Services

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**Company Profile:** Nazdar originated in Chicago in 1922 and emerged to become a leading manufacturer of screenprinting inks. Nazdar now serves the U.S. and international markets. It manufactures inkjet inks based on all major inkjet chemistries – aqueous, solvent, low-odor solvent, oil-based, UV-cure and specialty inks – for textile printing, coding and marking.

Nazdar entered the digital-printing ink market in 1998 with its NDI range of solvent-based inks; in February 2006, it acquired the business and assets of Lyson inkjet inks and integrated it, with its NDI brand, into a single, digital-print product line under the Lyson® brand.

Nazdar Consulting Services works in the graphic-printing industries. It's an expert group that printmakers can consult with questions regarding productivity, profits and technological implementation.

Nazdar SourceOne, Nazdar's distribution division, is a nine-branch network that spans the U.S., Mexico and Honduras, offers a complete line of equipment and supplies for all graphic printing.

**At a Glance:** When matching spot colors, the actual print results often become a starting point and must be adjusted after the first print run. This can be tedious and time-consuming. The challenge is to hit the color on the first output. Most print devices use color look-up tables (CLUTs) to match PMS colors; however, one device rarely matches another's version of the PMS output, or even media to media. The CATZper® Visual Test Grid allows the print-device operator to quickly output a grid of hundreds of measured variations and match it visually and numerically, after the first output. Nazdar says you can pick any two, adjacent colors, and CATZper will place 100 colors between them.

**R**ed is red and blue is blue, right? Well, no. Not when you're attempting to match colors on a digital-print press. Although, at first glance, selecting colors would seem the easiest of steps, it isn't. Imagine a customer request for a simple display sign, but the logo must be a specific robin's-egg blue. You match their sample to your Pantone chart, load the requested media, process it through your software RIP and ... the printed color doesn't match the provided sample, and the customer won't accept it.

Ouch.

What follows is frustration – and wasted media and time. We know, because we've been there. Of course, matched-color profiles help, but, remember, you need to re-profile when you change media batches. Not types, mind you, but batches. Further, Photoshop and other color-table applications produce color simulations. The results may vary when different media or devices are applied. In short, spot-color jobs often become profit killers.

Read on if you've encountered spot-color hell, because you may discover a stairway to heaven.

Nazdar's consulting division has recently released its CATZper® Visual Test Grid, a software product that uniquely resolves spot-color dilemmas. Also, Nazdar has recently added a CATZper Color Shift function for non-spot colors that works directly with Adobe Photoshop. It starts with a base image and generates a set of variations that helps you zero in the final colors, without, again, constant tweaking.

We asked for a CATZper demo copy at ISA's 2009 Sign Expo and, once home, learned that it's a simple, effective and likeable product.

### Click next

The \$795 application is available for both Windows and Macintosh systems. It's available at [www.nazdarconsulting.com/CATZper-Download.asp](http://www.nazdarconsulting.com/CATZper-Download.asp). Once installed, you can use the product for 15 days before a license key is required.

We successfully installed it on our system's Microsoft Vista 32 OS, but our Windows XP system screen message said we needed a later, .NET Framework version (available free from Microsoft) loaded before it could accept the software. Once downloaded, run the installer, click next and follow the software's instructions.



## Have them select

CATZper's user interface comprises five tabs. These switch between program modes and include a Help function with videos. The program is simple and elegant. Unlike the Pantone system (when you choose colors from a predetermined table), you begin with set color values and, on screen, generate a color grid that automatically displays slight value changes. Save the table in a common file format: TIFF, JPEG, PDF or PNG. Also take note of the L\*a\*b\* color-space values above each gridded swatch.

L\*a\*b\* color space is a device-independent, color space that provides a universal reference standard; it was developed in 1931 by the Commission Internationale de l'Eclairage, an international organization often designated as the CIE.

Next, print the file on the target media, as usual, through your RIP or driver; then ask your client to select the best match.

To print the sign, enter the L\*a\*b\* value in your image-editing application, Photoshop or Corel, for example, to assign the spot color, then click print.

That may sound a little complicated, but it's quite painless. And, although the L\*a\*b\* part may appear confusing, it isn't. It's merely a reference used to represent a color in a color-space chart; in your computer, it converts to a mathematical formula. All sophisticated, image-editing applications support L\*a\*b\*.

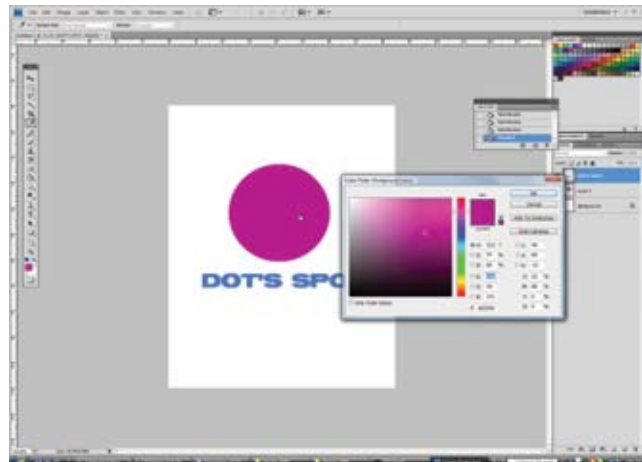
To illustrate how CATZper works, we created a simple Photoshop CS4-generated graphic, a magenta dot with blue text. Imagine that it's a client's logo, and they want a matching banner. To begin, we need to know the two colors' L\*a\*b\* values. So, on screen, we apply the eyedropper in Photoshop to get the values (**Fig. 1**). Here, the value for the circle is 46, 66, -21; for the text, it's 51, -4, -41.

CATZper supports certain X-rite and i1 color-measuring devices, if you need direct measurements from a physical sample.

To continue, go to CATZper and ensure you've selected the Spot Color Matching tab. Enter the values for the magenta circle in the Target fields and then click the Generate Grid button. Using Photoshop CS4, we get two outputs: a CATZper table that shows the modified L\*a\*b\* values results and the displayed RGB values rows (right side). The software also generates a color-swatch table PDF. Note that the initial, target value (color) is in the center and that variations surround it.

Any colors outlined by a black box won't be true to the grid's L\*a\*b\* number, because black, outlined colors exceed the Adobe 1998 RGB color gamut. However, because what you see is what you get, you may discount the software's selections and choose any shown color. If you select an out-of-gamut color, it will print the color you see on the grid.

Finally, print the file on the target media and show it to your clients. Have *them* select the best match and sign off. To print the selected color, change the (software



**Fig. 1:** This is a simple test graphic we created in Adobe Photoshop. We used Photoshop's Color Picker to read and enter the color model's supported values.

displayed) color-value numbers to the ones indicated above the selected swatch. The entire process takes a few minutes, as opposed to hours of manual tweaking.

## Color by committee

Life can get difficult when more than one person must job-approve colors. Suppose, for example, your client's customer, the one who will ultimately use the print, must approve your print job. Suddenly you have a color committee. Unfortunately, everyone sees color differently, and valid arguments as to what is the "right" color may evolve. Nazdar feels it may be impossible for some groups to agree on a color, so they devised a clever solution: Spot Color Tolerance. This function selects the closest match sample, derived from the spot-color-matching grid.

To begin, click the Spot Color Tolerance tab from the software; enter the value that your client believes is the best match; then click on the Generate Grid button. The software generates a new – snowflake – image, which displays a center starting point (the color value initially entered) and variations based on stepped values.

Print one "snowflake" for each reviewer and ask him or her to circle a range of acceptable values. The accumulated (approved) set will give you a common color range, which you will use to determine the proper print value. This gives you a documented approval and should ensure a print that's satisfactory to all.

## Pain-free color

All digital printmakers know that color matching can be a frustrating task. Nazdar has seen this dilemma and created a software toolset that helps you make quick and painless color choices. With CATZper's simple, prepress process measurements, you can determine a starting point that leads to acceptable colors and, thankfully, happier customers. ■