

Test Targets 3.0 Cover – from design to print production

by Gregory Firestone

Objective

The cover was created with both a design and print production perspective in mind. The goal was to create an eye-catching cover for the publication that would attract the reader's eye and reproduce well from a printing standpoint. The cover was color managed using new color profiles created by European Color Initiative (ECI). The measurement data used to create the profiles was recorded by FOGRA in the fall of 2002. The profiles were designed for offset printing, which is defined by ISO 12647-2.

Design Methodologies

Tom Chung, an art director from creativeputty.com, created the cover artwork concept. The purpose of the artwork design is to excite the viewer's visual system by combining several different information elements into a single image. The artwork consists of an eye abstracted down to 342 square boxes and placed within a pseudo test target frame. The eye has been rendered to the point of extreme pixilation. The closer the viewer is to the artwork, the more abstract it becomes. As the viewer moves farther away, the optical system is less sensitive to resolution and the image of the eye becomes more visible. This is very similar in the way that halftone dots work. When viewed up close, the image is unrecognizable. As the viewing distance increases, the image becomes more visible.

The phrase "Test Targets" is superimposed onto the abstracted image of the eye. This is achieved by modifying lightness levels of certain color blocks and by applying a spot varnish to the cover during printing. The effect is subtle so that the viewer will see the abstracted design, recognize the eye image, and then notice "Test Targets" overlaid onto it. This was experimental and a very difficult task to accomplish due to limitations within the optical perception of the artwork. The "Test Targets" phrase and the resolved eye image are in direct competition with each other. If the image of the eye becomes too well defined, the words "Test Targets" become indistinguishable. If the words are accented too much, the image of the eye becomes

irresolvable. Quite a bit of tweaking was required to bring both elements to a similar level. The spot varnish was added as a unique way to emphasize the "Test Targets" wording but not detract from the image of the eye.



Figure 1. Cover art without spot varnish

The color scheme for the cover and inside of the publication is based on the cover artwork. The purple color chosen for the outside cover was selected because it compliments the colors within the artwork. A bright color would have caused too much visual tension with the artwork. The darker color helps focus the viewer's attention on the artwork and bring a sense of uniformity to the cover. By selecting colors from the artwork for the inside of the publication, the relationship between the cover and text become part of a design system.

Production Procedures

The cover was printed on the Heidelberg Speedmaster 74 at RIT, a 6 color sheefed press with a maximum paper size of 20x28 inches. All 6 printing units were utilized in the production of the cover, which was printed 4 color process plus 1 spot color and a glossy spot varnish.

The cover artwork concept was supplied in CMYK. Because design is a creative process and not based on a reference point, the image was converted to ECI's RGB profile (ECI-RGB.V1.0.icc) for editing in Adobe Photoshop. The ECI profiles promise an exact match between the RGB and the CMYK versions. The image was then modified to the desired appearance in RGB. Once the artwork modifications were complete, the image was converted to the ECI's CMYK profile (ISOcoatedsb.icc). This ICC profile was optimized for offset printing on paper that is: grade 1 or 2, gloss or matte coated, 150lpi, and self backing (sb). The color settings in Adobe Photoshop used the Adobe ACE color engine, relative colorimetric rendering, and no black point compensation or dithering.

To successfully create the spot varnish, an extra channel had to be added to the CMYK file. First the blocks used to create the phrase "Test Targets" were selected. Then a new spot channel was added in the channels palette. The channel was named "varnish". The cover artwork was then saved as a Photoshop DCS 2.0 EPS file as a single file DCS with no composite. This allows the preservation of the 5th channel. The file was placed into QuarkXPress for page layout.

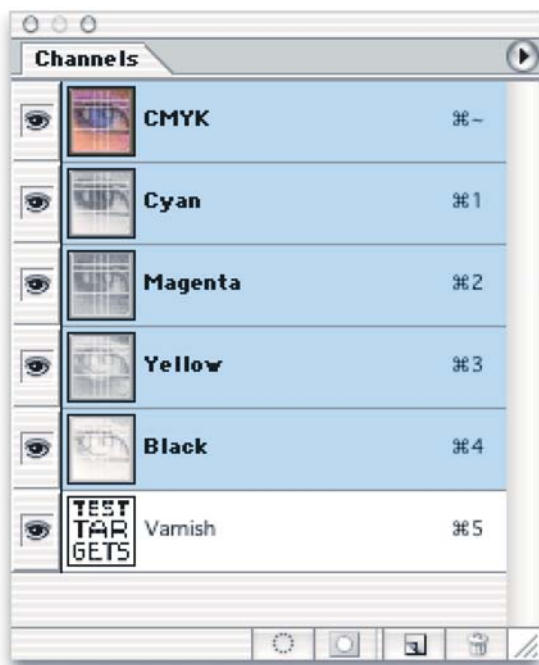


Figure 2. Photoshop channels for cover

The purple background on the cover is PMS 518C. There were several reasons behind the decision for selecting a spot color. Initially, the purple background was a 4 color process purple. However, a large solid area composed of 4 different inks can cause many problems relating to color evenness and knockout text trapping. A spot color is ideal because there are fewer problems to worry about regarding registration, trapping, and color consistency. This particular spot color was also picked for its ability to be reproduced as a 4 color process color. The text portion of the Test Target 3.0 publication was printed on a 4-color web offset press and uses the process values of the spot color used on the cover. It was important to find a color that would reproduce consistently on both presses.

Discussion

The cover design of this year's *Test Targets* publication was more complex than last year's (Figure 3) from both a design and print production viewpoint. All 6 printing units on the Heidelberg press were put to work. In many ways, this cover opened the doors to many new aspects of designing and printing. It was impossible to accurately proof the cover because no digital proofers are able to simulate spot varnishes. It was also the first time that ECI color profiles were used on an RIT publication. These profiles were not characterized to the Speedmaster 74 specifically but to general ISO 12647 standards. The cover for will pave the way for future experimentation in design and print production.

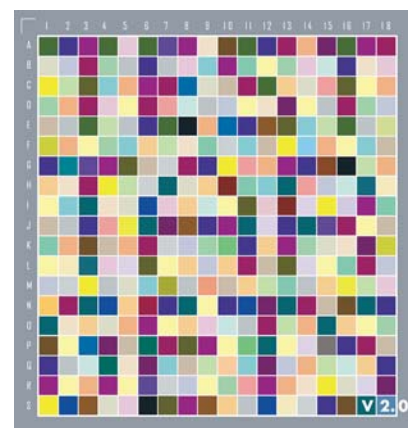


Figure 3. Cover artwork of *Test Targets 2.0*