



Certified - October 2004



ORIS
COLOR TUNER™

ORIS Digital Proofing System™ for Epson 4000

SWOP®¹ Off-Press Proof Application Data Sheet

I. Manufacturer

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II. Product

The ORIS Digital Proofing System™ for Epson 4000 consists of the ORIS Color Tuner™ software, Epson 8-color Epson® UltraChrome™ ink sets and CGS Digital Proofing Paper together with the following ink jet printer:

Epson® Stylus Pro 4000™

III. Introduction

The Epson printer listed above in section (II) is a non-half-tone, digital ink jet proofing system. It utilizes Epson's Micro Piezo™ technology, allowing it to achieve photo reproduction quality continuous tone proofs.

This document contains CGS ORIS operating procedures for conformance to the SWOP® Application Data Sheet for this system per SWOP specifications. The SWOP Review Committee has approved the use of off-press proofs as input material to publications. *(Please see explanations and recommendations as outlined on pages 21 and 22 of the 2001 edition of the SWOP Specifications).*

IV. Consumables

In order to closely simulate the appearance of a SWOP press proof, CGS specifies the use of the following:

- **CGS Media**

CGS PearlPROOF™ Publication Semi-Matte 185gm.

- **EPSON UltraChrome 8-color ink set**

EPSON eight-color UltraChrome ink set for the EPSON Stylus PRO 4000

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V. System Set-Up

In order to ensure the quality and consistency CGS specifies that a CGS ORIS Digital Proof must be run in a controlled and calibrated workflow. This workflow is described as follows:

- **Examination of device**

Using the Epson Stylus Pro 4000 device control panel, check that the printer nozzles are printing smoothly and alignment is correct. Please refer to individual Epson manuals for the specific procedures.

- **Automatic Printer Calibration of device to Reference Printer Profile**

Using the ORIS Color Tuner software application, perform an Automatic Printer Calibration of the Epson printer to the Reference Printer Profile reference file provided by CGS:

http://www.cgsusa.com/support/downloads/ORIS_SWOP_2004_E4000.zip

For detailed automatic printer calibration procedures using ORIS Color Tuner please refer to the *ORIS Color Tuner User's Guide*, Chapter 4-6 (Color Management).

VI. ORIS Digital Proof Control Strip

All proofs from the printer must print an ORIS Digital Proof Control Strip using ORIS Color Tuner. The control strip (*figure 1*) must fall within the specified CGS ORIS Digital Proof tolerance, defined in the following section of this document.

The control strip (in TIFF or ORIS-specific DDP format) is available at the CGS web site:

http://www.cgsusa.com/support/downloads/ORIS_CertProof_TR001.zip

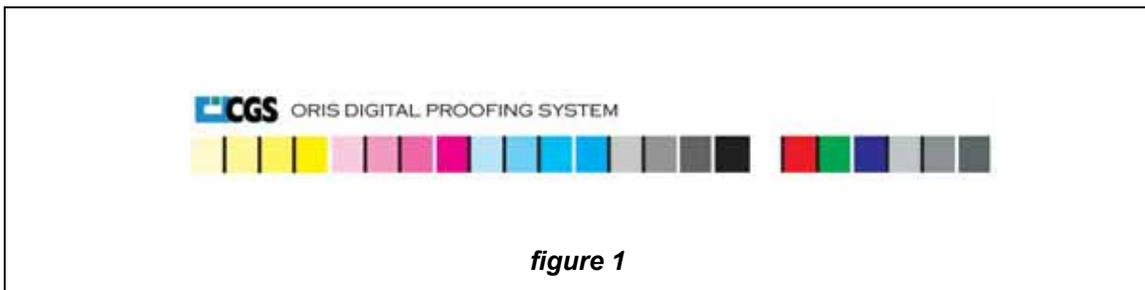


figure 1



VII. Final Proof Characteristics

All certified proofs must display the ORIS Digital Proof Control Strip. The control strip must be checked for color quality using the following expected color and image characteristics.

| Color | Density (+ / - 0.05) | TVI Dot Gain @ 50% (+ / - 5%) | Print Contrast @ 75% (+ / - 5%) | L | Color C (Delta ΔE_{ab}^* < 2.5) | h(ab) |
|---------|-------------------------|-------------------------------------|---------------------------------------|-------|---|--------|
| Cyan | 1.34 | 21.1% | 35.8% | 54.64 | 55.32 | 228.06 |
| Magenta | 1.46 | 22.4% | 35.6% | 45.83 | 68.37 | 356.26 |
| Yellow | 0.97 | 18.4% | 22.7% | 83.72 | 82.04 | 93.36 |
| Black | 1.72 | 23.0% | 42.4% | 14.91 | 2.85 | 72.41 |
| Red | NA | NA | NA | 46.49 | 74.69 | 33.73 |
| Green | NA | NA | NA | 50.13 | 64.71 | 159.75 |
| Blue | NA | NA | NA | 24.81 | 46.18 | 294.02 |

| Paper White Density Measurements (Tolerance +/- 0.02) | | | |
|--|------------|----------------|------------|
| Dc 0.12 | Dm 0.11 | Dy 0.12 | Dk 0.14 |
| Paper White CIE LCh(ab) Measurements (Delta ΔE_{ab}^* < 2.5) | | | |
| L 89.81 | C 3.40 | H(ab) 80.08 | |

* Delta E represents values within material color difference measured at target density.

The above CIE LCh(ab) measurements were made using a calibrated GretagMacbeth Spectrolino, using GretagMacbeth KeyWizard software. All CIE LCh values are in accordance with CGATS.5 Standard on Colorimetric Calculations.

The dot gain values were calculated using the Murray-Davies equation – all calculations are in accordance with the CGATS.4 Standard for densitometry.

The above density measurements were made using a calibrated GretagMacbeth Spectrolino, using GretagMacbeth KeyWizard software, with no filter, D50 illuminant and a 2° observer. All density values are in accordance with the CGATS.4 Standard for densitometry.

VIII. Sample Proofs

CGS Publishing Technologies International has submitted two sample proofs that confirm to this application data sheet specification. These have been submitted to the SWOP® certification committee for their analysis. Copies of this document are on file with SWOP® Inc., or can be downloaded via CGS' web site: www.cgsusa.com.

