



O.R.I.S.™ Digital Proofing System for Canon W2200

SWOP® Off-Press Proof Application Data Sheet

I. Manufacturer

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II. Product

The O.R.I.S.™ Digital Proofing System for Canon consists of the O.R.I.S.™ Color Tuner™ software, Canon process ink sets and CGS Digital Proofing Paper together with the following ink jet printer:

Canon imagePROGRAF™ W2200

III. Introduction

The Canon printer listed above in section (II) is a non-half-tone, digital ink jet proofing system. It utilizes Canon's Bubble Jet,™ six-chip head (C, M, Y, K, PC, PM) technology, allowing it to achieve photo reproduction quality continuous tone proofs.

This document contains CGS O.R.I.S.™ 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 Proof Publication Stock 160gm. This paper is pre-tinted to simulate the appearance of a Champion text web stock.

- **Canon Process Ink**

Canon six color process ink set for the Canon imagePROGRAF™ W2200

V. System Set-Up

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

- **Examination of device**

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

- **Linearization of device**

Using the O.R.I.S.™ Color Tuner™ software application, perform a linearization of the Canon printer, using the 11-step SWOP® linearization reference file provided by CGS:

<http://www.cgsusa.com/downloads/swop-11step-baseline.den>

as the master target density source. This density file contains Gretag Macbeth Spectrolino readings from a SWOP® certified press proof. An uncorrected output of the following target should be printed with the Special 5 High Quality setting:

http://www.cgsusa.com/downloads/target/Color_11_Step_8.5x11.tif

A linearization measurement should be obtained using a supported densitometer or spectrophotometer (ANSI-Status-T setting) within the O.R.I.S.™ Color Tuner™ application. This will linearize the Canon device to the SWOP® certified press proof via a linearization curve.



From this automatically generated linearization curve a final ORIS CC color table is generated to bring the Canon printer to a SWOP® baseline. For detailed linearization procedures using Color Tuner™ please refer to the O.R.I.S.™ Color Tuner™ User's Guide, Chapter 5, Step 3: Create Linearization Data. For color table generation procedures using Color Tuner™ please refer to the O.R.I.S.™ Color Tuner™ User's Guide, Chapter 6, Step 8: Color Correction and Fine Tuning Instructions When Using Color Tuner™.

- Calibration of device

- Once the printer baseline is achieved, the reference target TC6.02 file:

<http://www.cgsusa.com/downloads/target/TC6.02 CMYK.tif>

should be printed with the above-described baseline settings.

- Measure the printed TC6.02 target using Gretag Macbeth Profilemaker or Color Blind software and a supported spectrophotometer.

- Create a device link profile using the Canon measurement ICC profile and merge it with a SWOP® certified press proof ICC profile:

http://www.cgsusa.com/downloads/swop_press_profile.icc

- Create a final ORIS CC color table using the device link profile.

For color table generation procedures using Color Tuner™ please refer to the O.R.I.S.™ Color Tuner™ User's Guide, Chapter 6, Step 8: Color Correction and Fine Tuning Instructions When Using Color Tuner™. This final color table will contain automatic corrections for individual printer variations from information obtained from the ICC profile of the proof.

VI. O.R.I.S.™ Digital Proof Control Strip

After calibration, all proofs from the printer must print a O.R.I.S.™ Digital Proof Control Strip using the Special 5 High Quality setting within the O.R.I.S.™ Color Tuner™ software application. The control strip must fall within the specified CGS O.R.I.S.™ Digital Proof tolerance, defined in the following section of this document.

The control strip (in TIFF or O.R.I.S.™-specific DDP format) is available at the CGS USA web site:

<http://www.cgsusa.com/downloads/ORIS-Digital-Proof-Control-Strip.tif>
<http://www.cgsusa.com/downloads/ORIS-Digital-Proof-Control-Strip.ddp>



VII. Final Proof Characteristics

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

- CIE L*a*b* Measurements.

All readings must be performed with a Gretag Macbeth Spectroscan, Spectrolino, Spectroeye, SPM series spectrophotometer, or a X-Rite 938 spectrophotometer using CIE L*a*b* with no filter, D50 illuminant, and a 2° observer. All CGS O.R.I.S.™ samples must be backed with 3 sheets of identical unprinted media when taking the measurements.

All O.R.I.S.™ Control Strip measurements must measure to within 2.0 Delta E* units of the following aim CIE L*a*b* values

Color	Value	L*	a*	b*
Paper White		90.11	0.44	3.72
Y	100	82.78	-1.99	80.12
Y	75	84.49	-3.10	58.64
Y	50	85.80	-3.70	39.12
Y	25	86.72	-2.52	21.29
M	100	48.45	63.77	1.09
M	75	55.44	54.74	-2.98
M	50	66.35	35.59	-1.37
M	25	77.47	17.70	0.18
C	100	54.98	-37.55	-40.71
C	75	61.92	-30.69	-33.30
C	50	69.70	-21.23	-23.01
C	25	78.24	-9.61	-10.20
K	100	17.95	-3.98	0.52
K	75	35.29	-1.34	0.78
K	50	55.19	-0.29	0.11
K	25	72.70	0.73	1.60
R	100	48.84	63.37	43.38
R	75	54.47	51.33	36.41
R	50	65.21	31.92	27.85
R	25	77.24	16.00	16.88

Color	Value	L*	a*	b*
G	100	50.69	-62.75	26.63
G	75	59.08	-44.68	21.57
G	50	67.59	-28.15	12.00
G	25	77.80	-12.79	7.30
B	100	23.44	18.66	-44.22
B	75	36.13	15.07	-34.35
B	50	51.71	9.33	-23.27
B	25	68.78	5.66	-11.82
3K	100	20.32	-0.63	-5.77
3K	90	27.37	-1.85	-3.93
3K	80	33.36	-1.10	-1.68
3K	70	40.28	-0.51	0.47
3K	60	47.41	-1.69	1.29
3K	50	53.92	-1.62	-0.13
3K	40	60.29	-0.68	-0.43
3K	30	67.54	-0.04	-0.86
3K	20	74.04	0.21	-0.58
3K	10	80.44	-0.47	-0.08

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

The above CIE L*a*b* measurements were made using a calibrated Gretag Macbeth Spectrolino using Gretag Macbeth KeyWizard software. All CIELab values are in accordance with CGATS.5 Standard on Colorimetric Calculations.



- Density Measurements.

All density measurements must be performed with a Gretag Macbeth Spectroscan, Spectrolino, Spectroeye, SPM series spectrophotometer, or a X-Rite 938 spectrophotometer using CIE L*a*b* with no filter, D50 illuminant and a 2° observer. All CGS O.R.I.S.™ samples must be backed with 3 sheets of identical unprinted media when taking the measurements.

Paper White Density Measurements

Color	Density	Tolerance
Cyan	0.11	+ / - 0.02
Magenta	0.12	+ / - 0.02
Yellow	0.15	+ / - 0.02
Key	0.12	+ / - 0.02

Solid Density Measurements

Color	Density	Tolerance
Cyan	1.35	+ / - 0.05
Magenta	1.36	+ / - 0.05
Yellow	0.97	+ / - 0.05
Key	1.61	+ / - 0.05

Dot Gain Measurements @ 50%

Color	Dot Gain	Tolerance
Cyan	24.1%	+ / - 2.0
Magenta	21.8%	+ / - 2.0
Yellow	12.7%	+ / - 2.0
Key	22.1%	+ / - 2.0

Print Contrast Measurements @ 75%

Color	Print Contrast	Tolerance
Cyan	28.1%	+ / - 4.0
Magenta	27.2%	+ / - 4.0
Yellow	28.9%	+ / - 4.0
Key	33.5%	+ / - 4.0



The above Status T density measurements were calculated using a calibrated Gretag Macbeth Spectrolino device (D50 illuminant, 2° observer, no filter, absolute) using Gretag Macbeth KeyWizard software.. The dot gain values were calculated using the Murray-Davies equation – all calculations are in accordance with the CGATS.4 Standard for densitometry.

If CIE L*a*b* or density measurements do not fall within the above tolerance, please contact CGS technical support via e-mail at support@cgsusa.com



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:

<http://www.cgsusa.com>

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