SWOP® Off-Press Proof Application Data Sheet for

Latran Prediction Digital Halftone Proofing System

The SWOP® Review Committee has approved the use of off-press proofs as input material to publications. SWOP® Specifications state that: "The appearance of an off-press proof used in this application must closely simulate a SWOP® Certified Press Proof." See other explanations and recommendations as outlined on page 15, pages 18 to 22, and pages 40 to 49 of the 2001 Ninth Edition of the SWOP® Specifications for Web Offset Publications.

I. MANUFACTURER

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II. PRODUCT

Latran Prediction Digital Halftone Proofing System

Certified - January 2005

III. INTRODUCTION

The Prediction Digital Halftone Proofing System is a high-resolution (2400 or 2540 DPI) ink-on-paper proofing system based on Latran's Laser Ablation Transfer technology.

IV. CONTROL GUIDE

SWOP® Specifies that a process control guide such as the GATF/SWOP Proofing Bar be supplied on every off-press proof in order to ascertain that the proof has been made consistent with the Application Data Sheet. As a minimum, this guide must contain solids of the primary process colors and two-color overprints, as well as a 25%, 50% and 75% tint in 133-line screen ruling of each of the process colors. Also, 3-color gray patches at 25%, 50% and 75% must be included.

NOTE: The use of this color bar on final SWOP proofs is the responsibility/opportunity of the user/creator of the proof.

The following illustration is the control guide recommended by Latran to be used in producing the Prediction proof.

The Prediction RIP can be set up to automatically generate SWOP-conforming Color Bars having the same screening and color calibration as the proof being imaged. To create color bars on the 1420, 2000 and 4600 models, install the Color Bars page feature. and enable it with Enable Feature in the Page Setup dialog. On the 2230 models, enable the Slugline in the Configure Device dialog.

V. SYSTEM COMPONENTS

The following components and limited processing procedures shall be used with Prediction in order to achieve conformance with this Application Data Sheet.

	Components (2-up)	Components (4-up or 6-up)
	Prediction 1420 Prediction 2000	Prediction 2230 Prediction 2230a Prediction 4600
	Prediction RIP 5.5	Prediction RIP 5.5
	Prediction Finisher	Prediction Finisher
Media Description	**Product ID**	**Product ID**
Extended Range Media, matte, calendared	101828	106659
Publication Cyan ink sheets	101714	629896
Publication Magenta ink sheets	101715	629902
Hexachrome® Yellow ink sheets	106995	106991
Publication Black ink sheets	101717	629901
	cut size	**cut size**
Monterey Web Gloss paper	13.85 x 19.8 in.	22.5 x 29.18 in.

Prediction System Setup

The following procedures shall be used in order to achieve conformance with these SWOP Proofing Instructions.

1) Establish proper focus on Extended Range Media (hereafter referred to as ERM).

2) Establish proper power for each ink sheet using the Power Sweep procedure. (For additional details, see the appropriate Prediction User's Guide.) Before choosing the power levels, finish the power sweep using the Finishing Procedures section below. Enter the selected focus and power settings for your imager model as follows.

> For Prediction 1420, 2000 and 4600 imager models, open the Imager Setup dialog in the System Manager, select the hot folder you will use when proofs must comply with Swop Specifications, and enter the focus and power levels. Also, assign this hot folder as the output destination in your RIP. (See Step 3.)

> For 2230 and 2230a models, open the Page Setup Manager in the Prediction RIP, edit the Page Setup you will use when proofs must conform to SWOP Specifications, open the Configure Device dialog, and enter the focus and power levels.

3) For all imager models, open the Color Separation and Screening Styles Manager in the Prediction RIP, edit the 133 LPI Screening Style, and set the screen angles to:

> Cyan = 15° Magenta = 45° Yellow = 0° Black = 75°

Using the Page Setup Manager in the Prediction RIP, edit the Page Setup you will use when proofs must conform to SWOP Specifications. Assign the 133 LPI Screening Style to this Page Setup. For calibration purposes, temporarily set all four calibration entries to None. (The settings for Actual Press and Intended Press will be changed later in Step 6.) Since ERM is being used, enable the checkbox labeled Mirrorprint for all imager models except 2230 and 2230a. Save this Page Setup with a name that identifies it with SWOP proofing.

4) Using the Page Setup from Step 3, make a calibration proof by printing the target entitled:

> C:\Prediction_5.5\Prediction Setup\QuickCal_5.5.ps

Expose the ERM in the sequence cyan, magenta, yellow, and black. Finish the calibration proof using the procedure in the the Finishing Procedures section below. Using a black backing material as specified in CGATS.4, measure the percent dot area in the four tint scales of the calibration proof.

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5) Using the Calibration Manager of the RIP, set Device to Printing Press and set Colorspace to CMYK. Create a New Press Curve. Set the topmost item to Linear. Enter the % Dot data you measured in Step 4 into the corresponding color channel. Save the Press Curve with a name such as, "Actual_133_PPHP," denoting it as a calibration curve for the PPHP ink sheets. Also, create a second New Press Curve, enter the data in the following table, and save the Press Curve with the name, "Intended_SWOP."

Input	C	M	Y	K
100	100	100	100	100
95	98.2	98.0	97.2	98.1
90	95.9	95.6	94.3	95.1
85	93.6	93.1	91.4	92.0
80	91.2	90.4	88.5	89.0
75	88.5	87.7	85.6	86.1
70	85.6	84.9	82.6	83.3
65	82.5	82.0	79.5	80.4
60	79.0	78.8	76.1	77.3
55	75.2	75.4	72.4	73.9
50	71.1	71.5	68.5	70.1
45	66.7	67.1	64.1	65.8
40	62.0	62.1	59.3	61.1
35	56.7	56.4	53.9	55.9
30	50.9	50.0	47.9	50.2
25	44.2	42.8	41.3	43.9
20	36.4	34.9	33.9	37.2
15	27.6	26.6	25.8	29.7
10	17.9	17.8	17.2	21.4
8	13.9	14.3	13.6	17.8
6	10.0	10.7	10.1	13.8
4	6.2	7.1	6.6	9.6
2	2.9	3.6	3.2	5.0
0	0	0	0	0

6) Edit the Page Setup created in Step 3. Set the Actual Press curve to "Actual_133_PPHP." Set the Intended Press curve to "Intended_SWOP." Use this Page Setup when proofs must conform to SWOP Specifications.

VI. FINISHING PROCEDURES

The following finishing instructions are necessary in order that the Prediction proof conforms to this Application Data Sheet.

After completing exposures onto ERM, assemble a lamination pack comprised of four components:

(a) The topmost sheet is the ERM with the exposed image facing down.

(b) Below that is a blank sheet of Monterey paper.

(c) Below that is a blank sheet of ERM facing up.

(d) Below that is a blank sheet of text paper, 100 lb. basis weight.

Process the entire lamination pack in the Prediction Finisher. Peel the ERM base off the proof by peeling it slowly at a 180° peel angle.

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VII. FINISHED PROOF CHARACTERISTICS

When properly processed and/or produced, the following are characteristics to be expected in a Prediction proof:

Color	Density	TVI (Dot Gain) @50	Print Contrast @75	L*	a*	b*	C*	H°ab
tolerances	±0.05	±3	±3	±2	±2	±2	±3	±3
Paper	C 0.13 M 0.13 Y 0.16			89	-1	4	4	103
Cyan	1.21	20.5	30	56	-35	-38	52	227
Magenta	1.45	21.5	36	47	70	0	70	180
Yellow	0.87	17.0	24	85	-7	75	76	95
Black	1.59	18.5	44	18	2	6	7	69
Red (MY)				45	65	41	77	32
Green (CY)				51	-58	23	63	158
Blue (CM)				22	27	-39	47	305

Gray Balance				L*	a*	b*	C*	H°ab
tolerances				±2	±2	±2	max 2.5	
Gray Balance 25 (C25 MY16)				70.5	-1.5	-0.5	2	194
Gray Balance 50 (C50 MY39)				52.5	1	0	1	288
Gray Balance 75 (C75 MY63)				38	2	-1	2.5	339

All measurements were made with a calibrated X-Rite 530 spectro-densitometer (s/n: 4606218) using D50 illuminant, 2° observer, and a black backing material as specified in CGATS.4 and CGATS.5. Density measurements are in absolute Status T density. Unless specified, the density reported is the major filter value. TVI (tone value increase or dot gain using the Murray-Davies equation) and Print Contrast were computed using equations specified in CGATS.4.

VIII. SAMPLE PROOF

Latran has supplied two or more Prediction proofs, which conform to this Application Data Sheet to SWOP® for analysis and retention.

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