
Print & Copy Quality Comparison

HP Officejet Pro 8500 AiO Printer Series vs. Brother MFC-9440CN & Samsung CLX-3175FN Laser All-in-Ones

Spencer & Associates Publishing, Ltd.

David R Spencer, President

spencerLAB DIGITAL COLOR LABORATORY

Catherine Fiasconaro, Vice President, Operations / Director

Melville, New York

1.631.367.6655



Overall Print & Copy Quality – Comparative Analysis Scorecard

HP Print and Copy overall quality was superior to tested laser counterparts

Color AiOs		Print – Default			Copy – Default	
		Color	Images *	B&W	Color	B&W
I N K J E T	HP Officejet Pro 8500	✓✓	✓✓	✓	✓	⊙
	Brother MFC-9440CN	⊙	⊙	✓	✓	✗
L A S E R	Samsung CLX-3175FN	⊙	✗	⊙	✗	✗

* Color Images on Glossy Media

Comparative Rating: ✓✓ Above ✓ Average ⊙ Below ✗ Poor

Print quality elements of Text, Lines, Tints & Blends analyzed separately for Color and Black & White prints and Copy output. Independent testing by *SpencerLab* Digital Color Laboratory, commissioned by Hewlett-Packard Company.



Overall Print & Copy Quality Comparative Analysis Summary

HP Officejet Pro 8500

Default Color Print quality was above average on plain paper; Black & White was average

- *Text and Lines were overall smooth and crisp; Black Text exhibited minor splatter under magnification*
- *Tints & Blends were overall the smoothest; Colors were saturated and vibrant*

Color Images on glossy paper were smoothest, but with minor graininess; Color rendition was realistic

Color Copy quality on plain paper was average; Black & White was below average; overall comparatively acceptable

Brother MFC-9440CN

Overall Default Color Print quality was below average on plain paper; Black & White was average

- *Color Text and Lines were washed out and jagged, with noticeable screening; Black Text and Lines were smooth and crisp*
- *Tints & Blends exhibited a distracting screening pattern and colors appeared muted*

Color Images on glossy paper were desaturated and with visible screening; Images lost details and exhibited a Magenta cast; overall below average

Color Copy quality on plain paper was average and comparatively acceptable, but Black & White Copy quality was poor

Samsung CLX-3175FN

Overall Default Print quality on plain paper was below average

- *Text and Line quality was inferior, with thick character rendition and dropouts; noticeable screening and misregistration on Colors*
- *Tints & Blends exhibited screening; Blends were flat and colors appeared desaturated*

Color Images on glossy paper were comparatively poor quality, with noticeable contouring and severe loss of detail and definition

Copy quality on plain paper was comparatively poor, with thick character rendition, content loss, misregistration, and severe Yellow cast on color output

Independent testing by *SpencerLab* Digital Color Laboratory, commissioned by Hewlett-Packard Company.

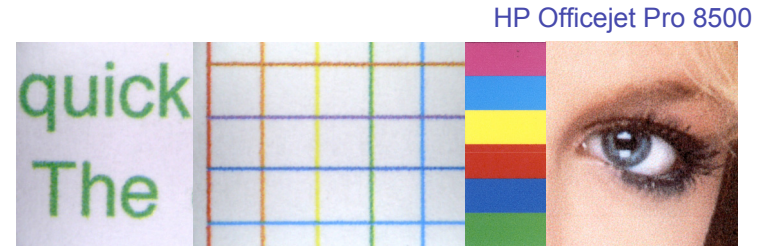


Print Output – Color (Default)

HP Officejet Pro 8500



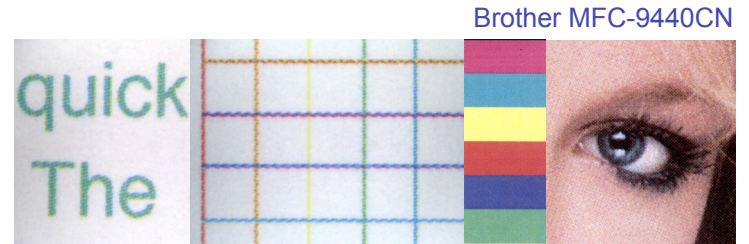
- ° Color Text and Lines were *smooth and crisp* and with *excellent saturation*, Lines maintained details
- ° Tints & Blends were *vibrant and smooth* with *excellent saturation*; Color Images were smooth, but slightly soft and had a slight Yellow cast



Brother MFC-9440CN



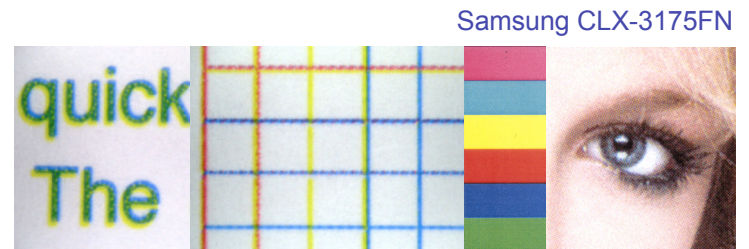
- ° Text and Line quality was overall low with characters being *washed out, jagged, and broken*; *distracting screening* was noticeable
- ° Tints & Blends and Color Images were *muted* with visible *screening pattern*; Images were *flat* with some loss of shadow detail and a *Magenta cast*



Samsung CLX-3175FN



- ° Color Text and Lines were overall low quality with *thick character rendition*, noticeable *screening*, and *misregistration*; Color Lines were rendered broken
- ° Tints & Blends were *flat and desaturated*; Color Images were *washed out with blown out highlights* and loss of detail



Comparison in default modes for Plain paper.
Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.



Print Output – Color Images (Default)

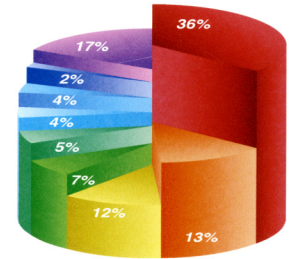
HP Officejet Pro 8500



- ° Color Images were smooth and with realistic color rendition, but with minor graininess; Tints & Blends were well saturated, but with slight mottle
- ° Color Text and Lines were smooth, crisp, and maintained very good saturation



HP Officejet Pro 8500



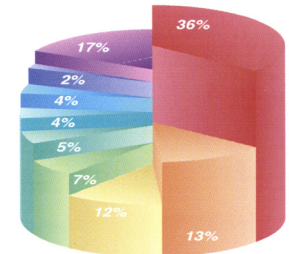
Brother MFC-9440CN



- ° Color Images and Tints & Blends had a distracting screening pattern, and appeared muted and desaturated; Images lost details and exhibited a Magenta cast
- ° Color Text and Lines were faded and exhibited a screening pattern; Lines were jagged and broken



Brother MFC-9440CN



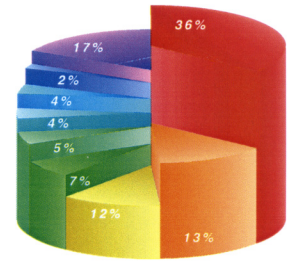
Samsung CLX-3175FN



- ° Color Images and Tints & Blends were overall flat; Color Images had contouring with severe loss of detail, definition, and sharpness
- ° Color Text and Lines were of very poor quality, with thick rendition, visible toner splatter, and noticeable misregistration; thin Lines were barely visible



Samsung CLX-3175FN



Comparison in default modes for Glossy media.

Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.



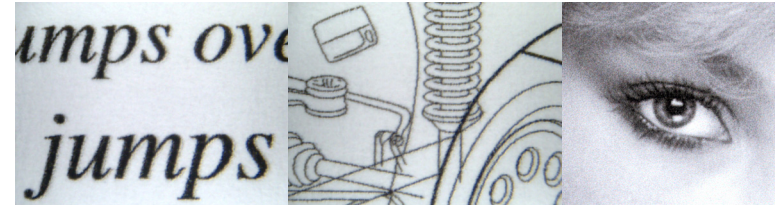
Print Output – Black & White (Default)

HP Officejet Pro 8500



- Black Text and Lines were **smooth and crisp** under normal viewing distance, but minor **ink splatter** was noticeable under magnification
- Tints & Blends and Images were overall **smoothest**; Images were **sharp** with slightly extended midtones into shadows

HP Officejet Pro 8500

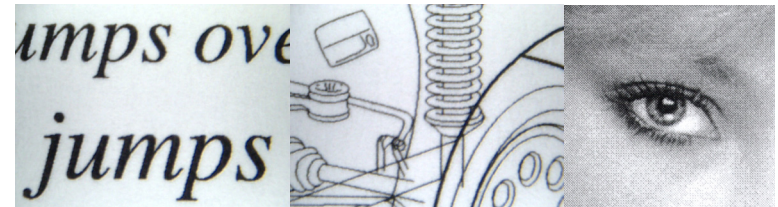


Brother MFC-9440CN



- Black Text and Lines were **smooth and crisp**
- Tints & Blends and Images had a **distractive screening pattern**; Images were **flat with loss of details** and noticeable **contouring**

Brother MFC-9440CN

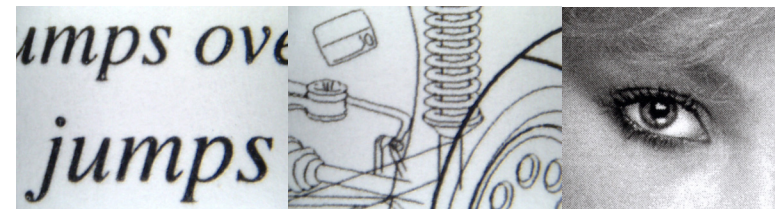


Samsung CLX-3175FN



- Black Text and Lines were **soft and thick with dropouts**; Text had **white unfilled spaces within characters**; **Random dropouts** caused thin black Lines to lose details
- **Xerographic edge effect** was visible around solid black areas
- Tints & Blends and Images displayed **screening** and some **banding**; Images had **plugged shadows** and **distractive contouring**

Samsung CLX-3175FN



Comparison in Grayscale/Mono default modes for Plain paper.

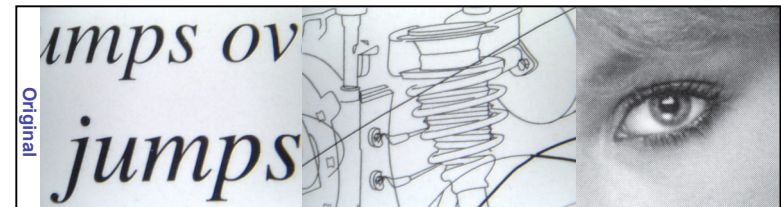
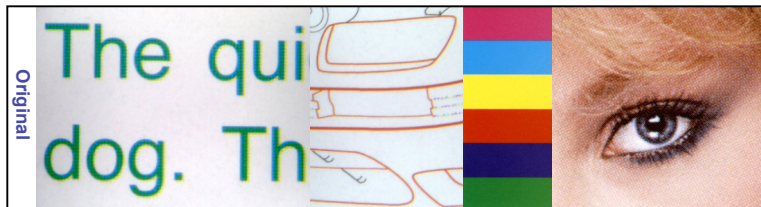
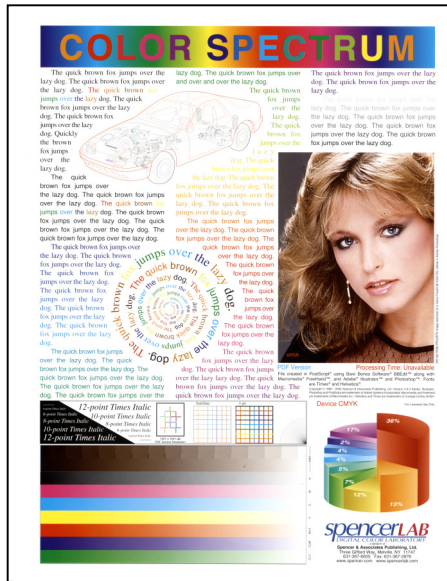
Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.



Copy Quality Analysis

All Copy output was produced in default mode (Black or Color) on plain paper
 Offset press output used as Copy originals

- Originals from a Heidelberg Speedmaster 74 sheet-fed offset press
- Printed using 175-line AM screening



Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.



Copy Output – Color (Default)

HP Officejet Pro 8500



- Color Text and Lines were rendered soft, but with good saturation; some Red and Purple Text and Line colors were misinterpreted and printed with mixed Black; fine Lines were rendered broken, with loss of detail
- Tints & Blends and Color Images were overall smooth and sharp, with good color reproduction; Reds had a slight Yellow shift



HP Officejet Pro 8500

Brother MFC-9440CN



- Color Text and Lines were overall sharp, but desaturated; Text exhibited visible screening, while fine Lines were broken with Original content loss on Copy
- Tints & Blends were grainy and overall desaturated; Greens had a Yellow shift; Color Images exhibited slight screening, and shadow areas had a Green cast and loss of detail



Brother MFC-9440CN

Samsung CLX-3175FN



- Color Text was rendered thick, appeared blurred due to misregistration, and with visible screening on tertiary colors; fine Lines were faded and broken, with Original content loss on Copy
- Tints & Blends and Color Images were low quality with visible screening and severe Yellow cast; Color Images were rendered soft and with distracting contouring



Samsung CLX-3175FN

Comparison in Color default modes on Plain paper.

Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.

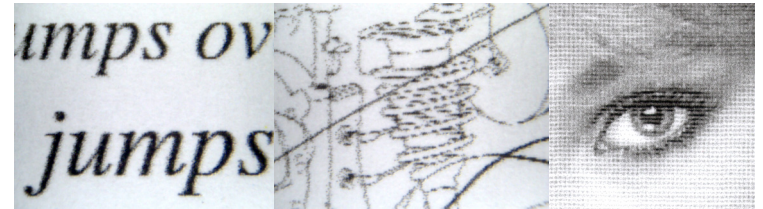


Copy Output – Black & White (Default)

HP Officejet Pro 8500



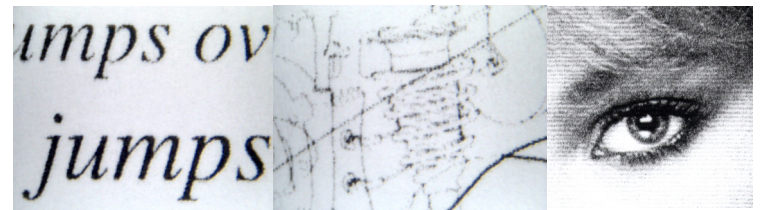
- Black Text and Lines were reproduced well but were **lacking sharpness**; fine Lines were rendered **soft and broken**; Original content **maintained on Copy**
- Tints & Blends and Images had **distractive patterning**, but acceptable tone reproduction; Images appeared overall sharp at normal viewing distance



Brother MFC-9440CN



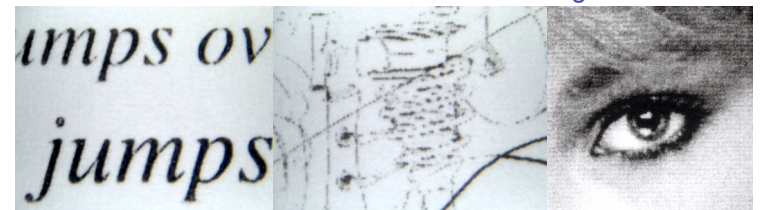
- Black Text and Lines were rendered smooth, but **thin and with some dropouts**; fine Lines were **broken**; most of the Original content was **lost on Copy**
- Tints & Blends and Images were rendered with **excessive contrast and noticeable streaking**; Images were sharp, but with **severe loss of highlight and shadow details**



Samsung CLX-3175FN



- Black Text and Lines were smooth, but rendered **thick and with dropouts**; fine Lines were **broken** with most of the Original content **lost on Copy**
- Tints & Blends and Images had excessive contrast and **noticeable streaking**; Images were **soft**, and **highlight and shadow details were lost**



Comparison in Black default modes on Plain paper.

Independent testing by SpencerLab Digital Color Laboratory, commissioned by Hewlett-Packard Company.



Print & Copy Quality – Methodology

Competitive Products Tested — Color All-in-Ones

HP Officejet Pro 8500 All-in-One Printer

Brother MFC-9440CN and Samsung CLX-3175FN

Printing test results are anticipated to apply to available printer-only versions⁺ of tested AiOs

◦ HP Officejet Pro 8000 Printer, Brother HL-4040CN and Samsung CLP-315

Test Parameters

Color Spectrum RGB and Enhanced Black PDF test documents from the *SpencerLab* Printer Test Suite

Printer Maintenance (*Print Head Cleaning, Alignment/Registration, Calibration, etc.*) performed prior to testing

Tests utilized a single printer of each manufacturer, assumed to be representative

Printed in default mode for each paper type

- Grayscale/Mono default mode used for *Enhanced Black* file
- Printed from Windows XP (SP3) using Adobe Reader 9.1.2 with “Let Printer Determine Colors” box checked

Copied in default mode (Black or Color) on plain paper

- Offset press output used as Copy originals

Media

- Plain Paper:
 - Domtar Multi-System Ultra with ColorLok Technology, 20#, 96 Brightness
- Glossy media:
 - Glossy Inkjet Paper on HP Officejet Pro 8500: HP Inkjet Glossy Brochure Paper 180g, 48#, 98 Brightness
 - Glossy Laser Paper on Brother MFC-9440CN and Samsung CLX-3175FN: HP Laser Glossy Brochure Paper 160g, 44#, 97 Brightness*

Ink/Toner

- All test output was produced using Genuine OEM Ink/Toner supplies

Print and Copy quality analysis

- Print: Emphasis on Text, Lines, Tints & Blends on Plain paper; Images on Glossy paper
- Copy: Plain paper only

Color Spectrum RGB



Enhanced Black



✚ Printer-only version model numbers provided by HP

* Samsung User Manual (p.41) recommends HP Brochure Paper. Brother Phone Technical Support recommendation for glossy media was any paper within their media specification; Brother User's Guide (p.212) states Paper Weight for MP tray paper input to be 60 to 163 gsm.

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HP Officejet Pro 8500 AiO Printer Series

Office Color AiO Comparison Tests



Spencer & Associates Publishing, Ltd.
David R Spencer, President

spencerLAB DIGITAL COLOR LABORATORY
Catherine Fiasconaro, Vice President, Operations / Director

Melville, New York 1.631.367.6655

