



iPF820/810



COMPETITIVE BRIEF

imagePROGRAF® iPF820/iPF810 Competitive Brief

With the introduction of these two new imagePROGRAF technical documents production printing systems, Canon has brought to market a breakthrough solution for **both** high-quality monochrome and color large-format printing.

Designed specifically for high-volume technical documents printing environments, the new imagePROGRAF iPF820/810 printers offer customers the opportunity to consolidate their printing operations and reduce costs while improving the overall quality of output. These highly versatile printing solutions offer:

High-Quality Color and Monochrome Output. Capable of outputting lines as thin as 0.02mm thick, small fonts, and intricate details in either color or monochrome, these new imagePROGRAF systems successfully bridge a gap in production printing by providing customers with a single solution for all their output requirements.

High-Speed Output. From click-to-print, these printers are built for speed. With two channels of Matte Black ink, Canon's high-speed L-COA Processor, enhanced file processing features, and a total of 15,360 nozzles to eject ink, these printers can output an intricately detailed "D-sized" print in just 24 seconds!*

High-Productivity. Built to support medium- to large-size workgroups, these printers are equipped with a generous 80GB hard drive that provides the capacity to process large image files while supporting the needs of multiple users. These printers can also be configured with a color scanner and/or stacker for even greater productivity from input to output.

Low Total Cost of Ownership. With a low initial cost of acquisition, low maintenance, durable print-heads, reduced power requirements, automated media-saving functions, and an Economy Print Mode that significantly reduces ink consumption, these imagePROGRAF printers provide high-value printing solutions with a low total cost of ownership.

PRO Workflow Solutions. The imagePROGRAF iPF820 PRO/810 PRO models include CAD|STATION PS+, a versatile software application that features True Adobe® PostScript® support, job management, and accounting capabilities. Each PRO model provides greater functionality for workgroups users, simplifies batch printing procedures, and includes advanced accounting and job-cost tracking features.

* Mechanical print time does not include data transfer time. Print time is measured for 60 consecutive minutes (including head cleaning and cutting time), printing multiple copies using Canon Printer Driver with Plain Paper setting at Draft (full-density) Mode. Enabling Economy Mode increases print speed to 120 D/A1 pages per hour.

What makes the imagePROGRAF iPF820/810 large-format printers unlike the others?

These easy-to-use printers are powered by advanced Canon technologies, seamlessly integrated into a comprehensive large-format printing solution.

UNIQUE SELLING PROPOSITION	FEATURES	BENEFITS
Choose the one that's right for you	<ul style="list-style-type: none"> • 44"-wide iPF820 with dual media rolls • 44"-wide iPF810 production printing system • iPF820/810 PRO versions 	<ul style="list-style-type: none"> • Large-format printing of GIS maps, CAD drawings, posters, photos and more!
High-Quality Printing	<ul style="list-style-type: none"> • Minimum line weight: 0.02mm • Line accuracy: +/- 0.10% • High-resolution: up to 2400 x 1200 dpi output • A tiny 4pl ink droplet of ink • Unique Five-Color Reactive Ink system • Color-fast dye-based inks for bold, expressive colors • Pigment black ink for durable line drawings and text 	<ul style="list-style-type: none"> • Easy-to-read text – even small fonts on colored backgrounds • Full-color graphics look great on coated and uncoated media • Precise details, solid fills, smooth curves, and fine lines • Durable scratch-resistant prints
Maximum Productivity	<ul style="list-style-type: none"> • Workgroup ready • Dual media rolls on iPF820 only • 80GB hard drive supports medium- to large-size workgroups and large image files • Super-high-density print-head with 15,360 nozzles • Double set of Matte Black ink channels increase output speed for text and line drawings • Auto selection of black ink type • Replace ink tanks on-the-fly • L-COA Processor • Enhanced HDI Driver • Print a high-resolution 6 ft² (D-sized) line drawing in just 24 seconds! • Print speeds up to 688 ft²/hr on plain paper 	<ul style="list-style-type: none"> • Multiple users can easily share the printer • Print longer without interruptions • Quickly produce multiple sets of documents • High-speed image processing means projects output faster • Increase output capacity
Cost-Effective	<ul style="list-style-type: none"> • The Economy Print Mode significantly reduces ink consumption • Long-life print-heads reduce maintenance costs • Auto rotation and nesting of HP-GL/2 files minimizes media waste 	<ul style="list-style-type: none"> • Lower overall total cost of ownership
Versatile	<ul style="list-style-type: none"> • Direct printing support for HP-GL2 and HP RTL • HDI Driver for direct printing from AutoCAD® • Canon Printer Driver 	<ul style="list-style-type: none"> • Software and workflow solutions help all levels of users get great results
PRO Workflow Solutions	<ul style="list-style-type: none"> • iPF820/810 PRO models include CAD STATION PS+ Software • True Adobe PostScript Color Support • Job Management features • Accounting Functionality 	<ul style="list-style-type: none"> • Improve workgroup efficiency • Simplify batch printing • Track job costs

HP DESIGNJET 4000 AND DESIGNJET 4500

Pros: Starting at \$8,995, the 42"-wide Dj4000 comes equipped with a 40GB hard drive and is intended for departmental and production printing. Network-ready with embedded print management functions to support remote user output, this printer is capable of 2400 x 1200 dpi output and accurate line placement. Starting at \$10,995, the Dj4500 is built around the same core print engine, but comes equipped for automatic media feed from two rolls. The MFP version of the Dj4500 is priced at \$29,995 and includes a large-format color scanner.

Cons: When it comes to technical documents applications such as CAD drawings, print quality is perhaps one of the more pressing concerns with these HP printers. The print-heads used in these printers produce a very large 15pl droplet of black ink. Compared to the tiny 4pl droplet output by the imagePROGRAF printers, the HP device is ejecting almost four times the black ink per droplet. When printing technical documents with intricate details, thin lines, and small fonts, the excessive amount of ink may have a tendency to bleed into the uncoated paper stocks commonly used in the industry. If the ink bleeds too much, images and text can become blurry and difficult to read. As a result, HP can only ensure a minimum line weight of 0.04mm, which is twice as thick as the imagePROGRAF printers' thin 0.02mm lines!

Cost-per-print and total cost of operation are additional concerns. Consuming nearly four times the ink with every drop of black ink, the cost of using the HP printers for long print runs and multiple copies can really add up as compared to the imagePROGRAF iPF820/810 printers. Printing with the Canon devices in Economy Print mode will further reduce ink consumption and costs. When it comes to saving media, a new feature in the Canon printers—Auto rotation and nesting of HP GL/2 files—further helps reduce the cost per print by automatically rotating the output direction of the image to optimize use of the media roll and reduce waste.

These HP printers have only 4,192 nozzles, less than a third of the number found in the imagePROGRAF iPF820/810 printers. Not only does this limitation hamper the HP's performance, it also puts more demand on each nozzle, thus increasing the possibility of failure. When this occurs, the cost and effort required to maintain all eight print-heads may be high. The Dj4000/4500 also have only one type of black ink (pigment), which limits the ability to produce high-quality images on a variety of coated media.

The maximum print speed published by HP for the Dj4000/4500 is 1000 ft²/hr; however, this is only in a low-quality print mode. And when processing and print times are considered together, HP indicates that actual output in one hour of continuous printing will actually be closer to 600 ft²/hr or about 100 "D-sized" prints. This point underscores the importance of the high-speed L-COA processor and enhanced file processing functions built into the imagePROGRAF iPF820/810 models, which have been specifically developed by Canon to address the need for both fast image processing and mechanical productivity.

While the HP printers have a 40GB hard drive, the imagePROGRAF iPF820/810 models come equipped with a much larger 80GB hard drive. With greater available space, the Canon printers have more capacity for job submission and print job data storing and processing.

OCÉ-TCS500 AND TCS300

Pros: Priced around \$18,995 for the three media roll TCS500 and \$13,995 for the two media roll TCS300, these ink-jet-based, multifunction systems are intended by OCÉ to address the growing demand for both color and monochrome output of technical documents. With high-speed throughput, multiple media rolls, print management software, Adobe PS3, an 80GB hard drive, and an optional large-format scanner, these devices are well equipped to service the workflow needs of medium- to large-size workgroups.

Cons: While these 36"-wide systems offer many similar workflow-enhancing features and functions as those available from the wider 44" iPF820/810 printers, OCÉ has put a steep price tag on a print engine that, when compared to Canon technology, is arguably sub-par.

Though the OCÉ printers have nine print-heads, they have a total of only 5,760 nozzles to eject ink, about a third of the 15,360 nozzles found in the imagePROGRAF's single print-head. When it comes to producing high-quality output at high-speeds, nozzle count is a critical core technology that's lacking in the OCÉ TCS500 and TCS300. The imagePROGRAF's high nozzle count not only improves throughput and quality, but it also minimizes maintenance costs by reducing the burden placed on each nozzle.

At just 600 x 600 dpi, image quality may also suffer on these Océ printers, particularly when it comes to printing small fonts and intricate details. The thinnest line these Océ devices can print is about 0.08 mm, which is four times thicker than the 0.02mm lines that the imagePROGRAF printers are capable of producing. The problem for your customer is that Océ's combination of low-resolution printing and thick lines means that critical details may be obscured and small fonts could be difficult to read.

Nor are these Océ printers as well suited as for printing full-color graphics on glossy media. With only one type of black ink, these printers lack Canon's ability to auto-switch between pigment and dye-based black inks for optimum output on the greatest variety of media types.

With Canon's advanced workflow features, productivity advantages, and significantly better print quality, it's hard to imagine why anyone would want to pay so much more for the Océ TCS500 or TCS300 printer.

MONOCHROME LED/LASER PRINTERS (Examples include the Xerox 6204 and Océ TDS320 MFP and RIP models):

While LED/Laser printers are not direct competitors with Canon imagePROGRAF solutions, you may find that due to an increasing need for both color and monochrome output, some customers who've traditionally used LED/Laser printers are now considering switching to a more versatile, ink-jet-based solution.

Pros: Found primarily in medium- to high-volume printing environments, LED/Laser printers typically feature low-cost output on inexpensive uncoated papers and achieve print speeds that can reach into the thousands of square feet per hour. The LED/Laser technology also enables these printers to produce intricate details with excellent clarity.

Cons: While LED/Laser print technology can economically produce high volumes of monochrome output with excellent detail, these 36"-wide devices are typically limited to 600 x 600 dpi and have no ability to print color images, such as renderings, GIS maps, or customer presentations. Built to print primarily on uncoated (Bond) papers, LED/Laser printers have a far more limited media set than the imagePROGRAF printers. LED/Laser printers are, therefore, significantly less versatile than the imagePROGRAF solutions and, in many cases, LED/Laser printers are unable to meet the end-user's full range of output needs, forcing these customers to purchase both an ink-jet printer for color output as well as an LED/Laser printer for high-speed monochrome output. Because of these limitations, you're likely to find that a customer's evolving output requirements may no longer be satisfied by LED/Laser printing technology.

With the introduction of the imagePROGRAF iPF820/810 large-format printers, these customers now have an upgrade option that makes sense. With high-speed output of intricately detailed documents in color and black and white, a greater range of media options, the ability to print up to 44" wide, a lower initial cost of acquisition, and a variety of features that reduce the total cost of operation, these new imagePROGRAF printers are a compelling alternative to a more limited, less versatile LED/Laser printer.

	CANON iPF820/810	HP DJ 4500/4000	Océ TCS500/300	LED/LASER* PRINTERS
• Prints thin lines and details	YES	NO	NO	YES
• Prints easy-to-read small fonts	YES	NO	NO	YES
• High-speed/high-quality monochrome output	YES	NO	NO	YES
• High-speed/photo-quality color output	YES	YES	NO	NO
• Prints widths up to 44"	YES	NO	NO	NO
• Prints on a wide variety of media	YES	YES	YES	NO
• 80GB hard drive	YES	NO	YES	YES

* LED/Laser printer comparison is based on the Xerox 6204 and Océ TDS 320 MFP

FEATURE COMPARISON CHART: imagePROGRAF versus HP

BRAND	CANON	CANON	HP*	HP*	HP*
Model	iPF820/810	iPF820 PRO/810 PRO	Dj4500/Dj4500ps	Dj4000/Dj4000ps	DjT1000/DjT100ps
Width	44"	44"	42"	42"	44"
MSRP	\$7,495/\$5,795	\$9,495/\$7,795	\$10,995/\$13,495	\$8,995/\$11,495	\$5,395/\$6,395
Number of Rolls	iPF820: 2 Rolls iPF810: 1 Roll	iPF820 PRO: 2 Rolls iPF810 PRO: 1 Roll	2 Rolls	1 Roll	1 Roll
Maximum Resolution	2400 x 1200	2400 x 1200	2400 x 1200	2400 x 1200	1200 x 1200
Memory	384MB	384MB	256MB (Expandable to 512MB)	256MB (Expandable to 512MB)	256MB
Hard Drive	80GB	80GB	40GB	40GB	40GB
D-sized Prints Per Hour	120	120	100	100	70
Time to Print One Color "D"	24 Seconds	24 Seconds	25 Seconds	25 Seconds	35 Seconds
Ink Tank Size	330/700ml	330/700ml	225/400/775ml	225/400ml	69ml/130ml
Ink Type	Pigment/Dye	Pigment/Dye	Pigment/Dye	Pigment/Dye	Pigment
Number of Colors	5	5	4	4	6
Ink Colors	C, M, Y, K, MBK	C, M, Y, K, MBK	C, M, Y, mK	C, M, Y, mK	C, M, Y, mK, Pk, GY
Total Nozzle Count	15,360	15,360	4,192	4,192	6,336
Black Nozzle	5,120	5,120	1,048	1,048	1,056
Ink Droplet Size	4pl	4pl	15pl (MK), 5.5pl (C,M,Y)	15pl (MK), 5.5pl (C,M,Y)	6pl (C,M,Pk,GY) 9pl (Y, MK)
Line Accuracy	0.10%	0.10%	0.10%	0.10%	0.10%
Minimum Line Weight	1/1200" (0.02mm)	1/1200" (0.02mm)	1/600" (0.04mm)	1/600" (0.04mm)	2/1000" (0.0423mm)
Print Languages	HP-GL/2, HP RTL, GARO	HP-GL/2, HP RTL, GARO, PLT, CGM, CALs, AutoCAD, DWF, DXF, DWG, PS, EPS, PDF, TIFF, BMP, JPEG	HP-GL/2, HP RTL, TIFF JPEG, CALS/G4	HP-GL/2, HP RTL, TIFF JPEG, CALS/G4	HP-GL/2, HP RTL CALs/G4 HP-PCL3-GUI
Borderless Printing	Yes	Yes	No	No	Photo Papers Only
Media Bin Standard Capacity	20 Sheets	20 Sheets	25 Sheets	50 Sheets	Not Specified by HP
Workflow Solutions	Canon Printer Driver, HDI Driver Digital Photo Front Access	CAD STATION PS+ a True Adobe PostScript and PDF processing, Color RIP for Graphics and CAD, Production plotting workflow solution, submission application, Web Cost tracking and Accounting features, Canon Printer Driver, HDI Driver, Digital Photo Front Access	HP Embedded Web Server Dj4500ps includes HDI Driver, embedded Adobe PostScript L3 RIP	HP Embedded Web Server, Dj4000ps includes HDI Driver, embedded Adobe PostScript L3 RIP	HP Embedded Web Server, HP Printer Driver, AutoCAD Driver, HP Job Center HP Easy Printer Care DjT1000PS includes embedded Adobe Postscript RIP

COLOR LEGEND

C = Cyan	M = Magenta	Y = Yellow	K = Black
mK/MBK = Matte Black	Pk = Photo Black	GY = Gray	

* Competitive information obtained from www.hp.com

FEATURE COMPARISON CHART: imagePROGRAF versus OCÉ

BRAND	CANON	CANON	OCÉ*	OCÉ*
Model	iPF820/810	iPF820 PRO/810 PRO	TCS500	TCS300
Width	44"	44"	36"	36"
MSRP	\$7,495/\$5,795	\$9,495/\$7,795	\$18,995	\$13,995
Number of Rolls	iPF820: 2 Rolls iPF810: 1 Roll	iPF820 PRO: 2 Rolls iPF810 PRO: 1 Roll	3 Rolls	2 Rolls
Maximum Resolution	2400 x 1200	2400 x 1200	600 x 600	600 x 600
Memory	384MB	384MB	512MB (Expandable to 1GB)	512MB (Expandable to 1GB)
Hard Drive	80GB	80GB	80GB	80GB
D-sized Prints Per Hour	120	120	100	100
Time to Print One Color "D"	24 Seconds	24 Seconds	~30 Seconds	~30 Seconds
Ink Tank Size	330/700ml	330/700ml	200ml/400ml	200ml/400ml
Ink Type	Pigment/Dye	Pigment/Dye	Pigment/Dye	Pigment/Dye
Number of Colors	5	5	4	4
Ink Colors	C, M, Y, K, MBK	C, M, Y, K, MBK	C, M, Y, K	C, M, Y, K
Total Nozzle Count	15,360	15,360	5,760	5,760
Black Nozzle	5,120	5,120	1920	1920
Ink Droplet Size	4pl	4pl	N/A	N/A
Line Accuracy	0.10%	0.10%	N/A	N/A
Minimum Line Weight	1/1200" (0.02mm)	1/1200" (0.02mm)	3/1000" (0.08mm)	3/1000" (0.08mm)
Print Languages	HP-GL/2, HP RTL, GARO	HP-GL/2, HP RTL, GARO, PLT, CGM, CALS, AutoCAD DWF, DXF, DWG, PS, EPS, PDF, TIFF, BMP, JPEG	HP-GL, HP-GL/2, Calcomp, HP RTL, TIFF 6.0, CALS, C4, NIRS/NIFF, JPEG	HP-GL, HP-GL/2, Calcomp, HP RTL, TIFF 6.0, CALS, C4, NIRS/NIFF, JPEG
Borderless Printing	Yes	Yes	No	No
Media Bin Standard Capacity	20 Sheets	20 Sheets	N/A	N/A
Workflow Solutions	Canon Printer Driver HDI Driver Digital Photo Front Access	CAD STATION PS+ a True Adobe PostScript and PDF processing, Color RIP for Graphics and CAD, Production plotting workflow solution, Web submission application, Cost tracking and Accounting features, Canon Printer Driver, HDI Driver, Digital Photo Front Access	OCÉ Power Logic Controller, OCÉ Adobe PostScript 3, HDI Driver, Windows® Driver, OCÉ Print Exec Workgroup Basic	OCÉ Power Logic Controller, OCÉ Adobe PostScript 3, HDI Driver, Windows Driver

COLOR LEGEND

C = Cyan	M = Magenta	Y = Yellow	K = Black
mK/MBK = Matte Black	Pk = Photo Black	GY = Gray	

* Competitive information obtained from www.oce.com

FEATURE COMPARISON CHART: imagePROGRAF versus LED/LASER Printers

BRAND	CANON	CANON	XEROX**	OCÉ**	KIP**
Model	iPF820	iPF820 PRO	6204 Printer	TDS320 MFP	3100
Print Technology	Ink-jet	Ink-jet	LED	LED	LED
Width	44"	44"	36"	36"	36"
MSRP	\$7,495	\$9,495	\$13,000 to \$20,995	\$15,000 to \$20,000	\$15,000 to \$17,000
Number of Rolls	2 Rolls	2 Rolls	1 (standard); 2 (optional)	1 (standard); 2 (optional)	1 (standard); 2 (optional)
Maximum Resolution	2400 x 1200	2400 x 1200	600 x 600	600 x 600	600 x 600
Memory	256MB	256MB	1.25GB	512MB to 1GB	N/A
Hard Drive	80GB	80GB	40 to 80GB	N/A	N/A
Maximum Print Speed	~700 ft ² /hr	~700 ft ² /hr	~1,440 to 1,800 ft ² /hr	~1,296 ft ² /hr	~2,160 ft ² /hr
Time to Print One Color "D"	24 Seconds	24 Seconds	12 to 15 Seconds	~16 to 17 Seconds	~10 Seconds
Ink Type	Pigment/Dye	Pigment/Dye	Toner	Toner	Toner
Number of Colors	5	5	1	1	1
Ink Colors	C, M, Y, K, MBK	C, M, Y, K, MBK	Black Only	Black Only	Black Only
Available Media	Over 30 Types	Over 30 Types	Only 4 Types	7 Types	3 Types
Line Accuracy	0.10%	0.10%	N/A	N/A	N/A
Minimum Line Weight	1/1200" (0.02mm)	1/1200" (0.02mm)	N/A	N/A	N/A
Print Languages	HP-GL/2, HP RTL, GARO	HP-GL/2, HP RTL, GARO, PLT, CGM, CALS, AutoCAD DWF, DXF, DWG, PS, EPS, PDF, TIFF, BMP, JPEG	HP-GL/2, HP RTL, TIFF, VRF, VCGL, CALS1	HP-GL/2, HP RTL, TIFF, Calcomp, CALS1, NIRS, C4, ASCII, PostScript	HP-GL/2, HP RTL, TIFF, Calcomp, CALS, DWF, PostScript
Output Capacity	20 Sheets	20 Sheets	20 Sheets	N/A	Various Options Available
Dimensions	TBD	TBD	51.6" x 22" x 43"	53.5" x 40" x 50"	49" x 24" x 44"
Standard Software	Canon Printer Driver HDI Driver	CAD STATION PS+ a True Adobe PostScript and PDF processing, Color RIP for Graphics and CAD, Production plotting workflow solution, Web submission application, Cost tracking and Accounting features, Canon Printer Driver, HDI Driver, Digital Photo Front Access	Embedded Controller	Embedded Controller	Kip IPS Software Suite

COLOR LEGEND

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mK/MBK = Matte Black	Pk = Photo Black	GY = Gray	

* Competitive information obtained from www.xerox.com, www.oce.com, and www.kip.com

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