BLI Comparative Lab Test Report

JUNE 2015

Canon imagePROGRAF iPF785 MFP vs.
Epson SureColor SC-T5200 MFP

Canon imagePROGRAF iPF785 MFP

Epson SureColor SC-T5200 MFP

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Print Quality	✔	
Copy Quality	=	=
Scan Capture Quality	✔	
Print Productivity	✔	
Copy Productivity	=	=
Scan Productivity	=	=
Direct Print Submission Functionality	✔	
Banner Printing	✔	
Walk-up Ease of Use	✔	
Device Feature Set	✔	
Print Driver Feature Set	✔	

TEST OBJECTIVE

Buyers Laboratory LLC (BLI) was commissioned by Canon Europe to conduct confidential document imaging device performance testing on the Canon imagePROGRAF iPF785 MFP and the Epson SureColor SC-T5200 MFP, and produce a report comparing the relative strengths and weaknesses of the two products in terms of image quality, productivity, direct print submission functionality, banner printing, walk-up ease of use, device feature set and printer driver feature set. All testing was performed in BLI's test facility in Wokingham, UK using the latest version of firmware at the time of test.

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Executive Summary

Offering a more robust device and driver feature set, higher print productivity and superior print quality, the Canon imagePROGRAF iPF785 MFP gave an excellent all-round performance in BLI's testing, outperforming the Epson SC-T5200 MFP in many of the categories tested. Specifically, the Canon model delivered far greater productivity than the Epson SC-T5200 MFP in print mode across the board. BLI analysts observed that the speed advantage of the Canon model over its Epson competitor became more pronounced as the quality level was increased; in High/Max Quality mode it was twice as fast at delivering colour and black output, and it also excelled when printing BLI's job stream, designed to simulate a typical mixed workflow for a large-format device.

Although the Epson device delivered a strong performance in the scan productivity tests in colour mode, one drawback is that it does not support batch scanning—unlike the Canon iPF785 MFP—which could have an adverse impact on productivity in many environments and make multi-page scan tasks a more labour-intensive process for users. Canon's scan speeds were faster in greyscale mode, and it also offers the ability to scan in 8-bit index colour and 1-bit monochrome mode (not available with the Epson device). By offering a 1-bit black mode, the Canon unit can create smaller file sizes and, in turn, more productive scan-to-desktop accessibility times. Further, its 8-bit index colour mode operates at faster speeds and generates much lower file sizes than full colour 32-bit mode.

Results were more mixed in copy productivity tests: the Epson model was faster in Fast/Speed mode, while the Canon model was significantly faster in Standard/Fine mode. Whilst it was the slower performer in tests using the devices' optimal Best/Fine quality settings, BLI noted that copy image quality achieved using Canon's Standard mode was comparable—if not better in some respects, such as text and fine lines—to that delivered by the Epson model in Fine mode. Arguably, Canon users in real-world environments would not have to resort to using Best mode, making the Standard/Fine mode test performance the more significant result.

In terms of operational ease of use, the Canon model has some significant advantages over the Epson unit including a large user-friendly 22" colour touchscreen display, unidirectional print capability, a sub-ink tank replacement system that ensures uninterrupted printing, support for direct PDF submission as standard, and, importantly, support for batch scanning. Furthermore, the Canon SmartWorks MFP interface entails a simplified, time-saving Preview Edit/Scan/Print workflow, which boosts productivity as users are capable of carrying out image adjustments prior to releasing a job. In contrast, the Epson model does not offer such workflow capabilities and as Preview functionality is not supported, users can only make image edits after the scan has been produced, which is clearly more time-consuming in real-world workflows.

As would be expected of models aimed at the GIS/CAD/AEC graphics market, both models delivered excellent GIS and AEC graphics, and showed an equally good depth of field. Whilst the Epson unit produced copy output with higher optical density for cyan, yellow and black and more accurate colour fidelity when copying BLI's saturated Pantone corporate logo test chart, the Canon model produced better text and fine line quality in copy mode, with darker and crisper fonts than the Epson model's which exhibited some slight ink bleed. In print mode, the Epson unit delivered superior, neutral greyscales in colour, whereas the Canon greyscales had in some instances a slight cyan or magenta hue; the Epson unit also delivered a far larger colour gamut when printing on glossy photo-quality paper. However, the Canon device produced larger colour gamuts than the Epson model in Standard and High quality modes on plain paper, and had more natural-looking skin tones, which were reddish in output produced by the Epson unit when printing on plain paper in the default image quality mode. Furthermore, the Canon unit delivered a finer level of detail in photographs and business graphics, and higher colour and black solid densities in print mode when printing on plain paper. There was no banding evident in print output from either model. However, in the banner printing test, the Epson device failed to deliver a faithful reproduction of the banner as it did not print background detail in the final quarter of the image.

The Epson SC-T5200 MFP is not without some strong features of its own, which include its ability to support dual paper rolls; significantly lower rated energy consumption during operation (65 W compared to Canon's 140 W); and higher-capacity cartridges that will need replacing less frequently than those of the Canon model's. However, the Canon device feature set includes a much higher non-upgradable RAM (32 GB compared with Epson's 1 GB) and a 320-GB hard drive as standard, whereas a hard drive is available only as an option for the Epson device. Further, with the hard drive and PostScript offered only as options, the Epson unit cannot function as a scanner without at least one of these features installed. In addition, the Canon model enables users to retrieve files from cloud storage for printing and supports direct PDF submission (only available with the Epson model's more expensive PostScript version) without the need to open an application. To facilitate workflows for mobile workers, the Canon model also offers an app to support PDF printing from Apple iPad tablets.

Print Quality

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Text	✔	
Fine Lines	✔	
Halftone Range	=	=
Halftone Fill	=	=
Solid Density	✔	
AEC Graphics	=	=
GIS Graphics	=	=
Business Graphics	✔	
Photographic Images	✔	
Colour Gamut (plain paper, Fast/Speed)	=	=
Colour Gamut (plain paper, Standard/Quality)	✔	
Colour Gamut (plain paper, High/Max Quality)	✔	
Colour Gamut (gloss paper, High/Max Quality)		✔

+, – and ○ represent positive, negative and neutral attributes, respectively.

○ There was no banding evident in output produced by either model in all tested modes.

+ When printing on plain paper, the Canon model delivered higher optical densities overall for cyan, magenta and black, while the Epson model produced the higher optical density for yellow.

○ When printing on glossy photo 240gsm media, the Canon device delivered higher optical densities overall for cyan and magenta, while the Epson unit model delivered higher optical densities for yellow and black.

+ In BLI's black image quality test, the Canon iPF785 MFP delivered higher optical density in all tested modes.

○ Both devices delivered very good colour and black halftone output across the full range, with distinct transitions from the 10% to 100% dot-fill levels in all modes.

— Greyscales were produced better on the Epson device and exhibited a consistent grey shade throughout. In contrast, greyscales produced by the Canon unit displayed a slight cyan or magenta hue at times due to their composite make-up.

+ The iPF785 MFP delivered very good halftone fill in all modes, while halftone fill produced by the Epson model was slightly grainy on plain paper up to the 40% level.

+ In text, there were some differences in the output of the two models: fonts produced by the Canon device were legible down to the 4-pt. level, but with some shadowing evident in Fast and Standard modes; in High quality mode, its fonts were much crisper. With the Epson model, serif fonts were fully legible only down to the 5-pt. level and sans serif fonts down to the 4-pt. level. No break up was evident in output from either model.

+ Text and line art produced by the Epson model in all modes exhibited some ink bleed into plain paper when output was viewed under magnification.

+ Fine lines in BLI's line art test target remained distinct down to the 0.1-pt. level in the output of both devices in all modes, with no evidence of stair-stepping in diagonal lines. However, the fine lines produced by the Epson model in Max Quality mode suffered from slight ink bleed and were not as crisp as those delivered by the Canon unit.

○ When evaluating Architectural, Engineering and Construction (AEC) graphics in Standard/Quality and High/Max Quality modes, both models delivered an excellent level of detail and distinct fine lines.

○ When outputting Geographic Information Systems (GIS) graphics in High/Max Quality mode on plain paper, both units delivered a fine level of detail and showed an equally good depth of field—a critical factor in delivering a realistic three-dimensional rendering of topographical features.

+ Business graphics produced by the Canon unit in Standard/Quality mode were more accurate and exhibited smoother transitions from light to dark areas, crisper text and sharper details than the output from the Epson device, which displayed some graininess that was visible even without magnification.

+ In photographic images, the Canon model delivered better detailing in dark contrast areas, better saturation, and more natural-looking skin tones. Skin tones produced by the Epson device were distinctly reddish in Max Quality mode.

+ When printing on plain paper, the Canon iPF785 MFP delivered the larger colour gamut in two of the three quality modes (22.7% and 13.4% larger than the Epson model's gamuts in Standard and High quality modes, respectively). In Fast/Speed mode, the devices produced colour gamuts of comparable size.

— However, when printing on each vendor's own brand of glossy photo quality paper, the Canon model delivered a colour gamut with a CIE volume of 488,074—30.5% smaller than Epson's CIE volume of 702,544.

+ The Canon model emerges as the stronger and more consistent performer in BLI's assessment of colour and black image quality, with a finer level of detail in photographs and business graphics, more natural skin tones, higher cyan, magenta and black solid densities, clean and crisp text and distinct fine lines which displayed none

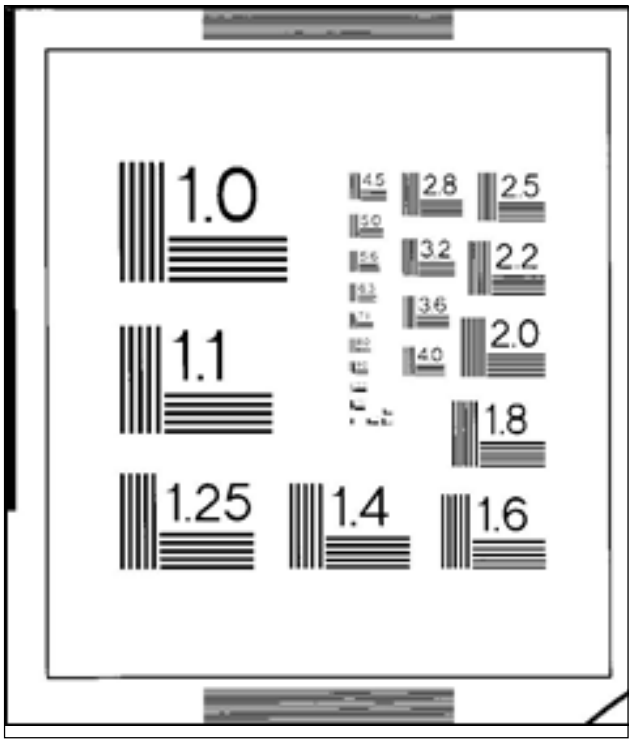
of the fuzziness seen in output from the Epson device when it was viewed under magnification. While the Canon model delivered the larger colour gamut in Standard and High modes on plain paper, the Epson model had the advantage for colour gamut on glossy photo media. Both models delivered detailed and distinct fine lines in AEC drawings and excellent GIS graphics in all modes.

Copy Quality

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Text	✔	
Fine Lines	✔	
Solid density		✔
Halftone reproduction	=	=
Colour Fidelity		✔

+ When evaluating text copy quality using the QA-1 test chart, fonts produced by the Canon model were legible down to the 6-pt. size (the smallest level on this chart) in all modes, with crisp characters, no breakup and no sign of haloing. In copied output produced by the Epson device in Fine and Speed modes, fonts were fully formed and also legible down to the 6-pt. level, but there was some slight ink bleed noticeable when output was viewed under magnification. Overall, the Canon device has a slight advantage over the Epson unit, with characters which are darker and crisper when viewed with the unaided eye.

+ Fine lines were evaluated using the same QA-1 test chart (see below) with the emphasis on the distinction between lines, rather than the rendering of each line. The fine lines produced by the Epson model in both Speed and Fine modes remained distinct only up to the 2.2-cpm (cycles per millimeter) level, compared with up to 2.5 cpm with output produced by the Canon unit at the 300-dpi setting.



Portion of QA-1 Image Evaluation Test Target used to evaluate fine line reproduction

— Solid density produced by the Epson device in copy mode was higher for cyan, yellow and black, with magenta density being comparable to that produced by the Canon iPF785 MFP.

○ When using the KATUN halftone chart, colour halftones produced by the Canon unit (in Best mode) and the Epson model (in Fine mode) were of equally good quality, with well graduated and smooth shades in copy mode.

○ Solids on the QA-1 test chart reproduced by the Canon unit were dark and consistent in all quality modes; and the Epson device delivered solids of comparable quality.

— In BLI's colour fidelity testing which is based on a select range of 12 saturated Pantone shades for corporate logos, the Epson device had a lower average Delta E drift of 11.5 compared with 16.8 for the Canon unit.

Scan Capture Quality

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Resolution and Sharpness at Optical Resolution	✔	
Text	=	=
Fine Lines	✔	
Geometric Accuracy	=	=
Halftone Capture Quality	✔	

+ Both devices offer integration with a SingleSensor scanner (employing the same hardware) therefore overall scan capture quality was quite similar between the two devices. However, when scanning text and fine lines using the QA-1 test chart, the Canon iPF785 MFP did benefit from using its maximum 1200-dpi resolution, whereas the Epson SC-T5200 MFP has a maximum resolution of only 600 dpi.

+ Only PDF and JPEG files are supported by the Epson device, whilst the Canon model can additionally support TIFF files.

+ For Epson users, the Scan to HDD files can only be printed if they are scanned as a JPEG at 360dpi (Direct Print); PDF files (even with the PostScript kit installed) and JPEG files scanned in other scan resolution settings—200 dpi, 300 dpi, 400 dpi or 600 dpi—cannot be reprinted and a message on the LCD display will alert users. The Canon model does not have this limitation.

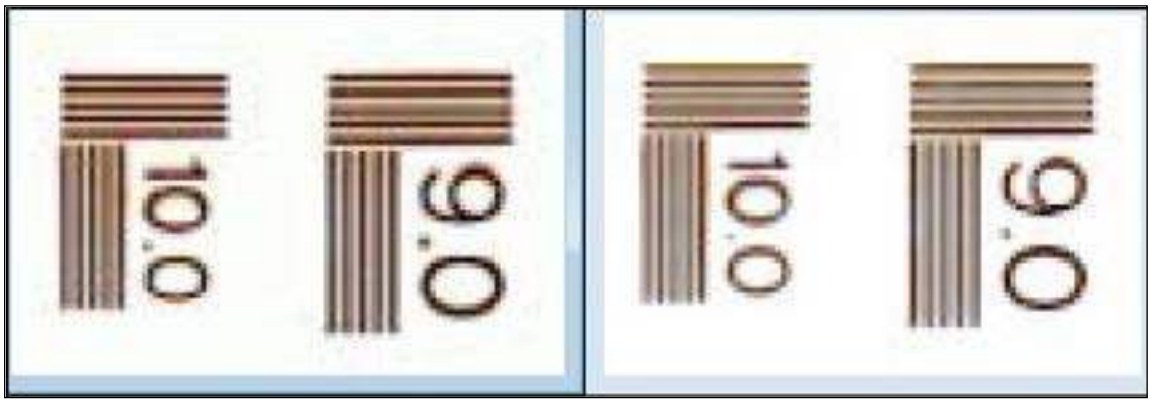
+ As illustrated below (under magnification) the Canon model delivered fonts that were slightly more crisp and distinct than those produced by the Epson unit when using the optimum scanning resolution.

Canon (left) and Epson (right) fonts at maximum resolution. All images were scanned using the Colour Line setting on both models.

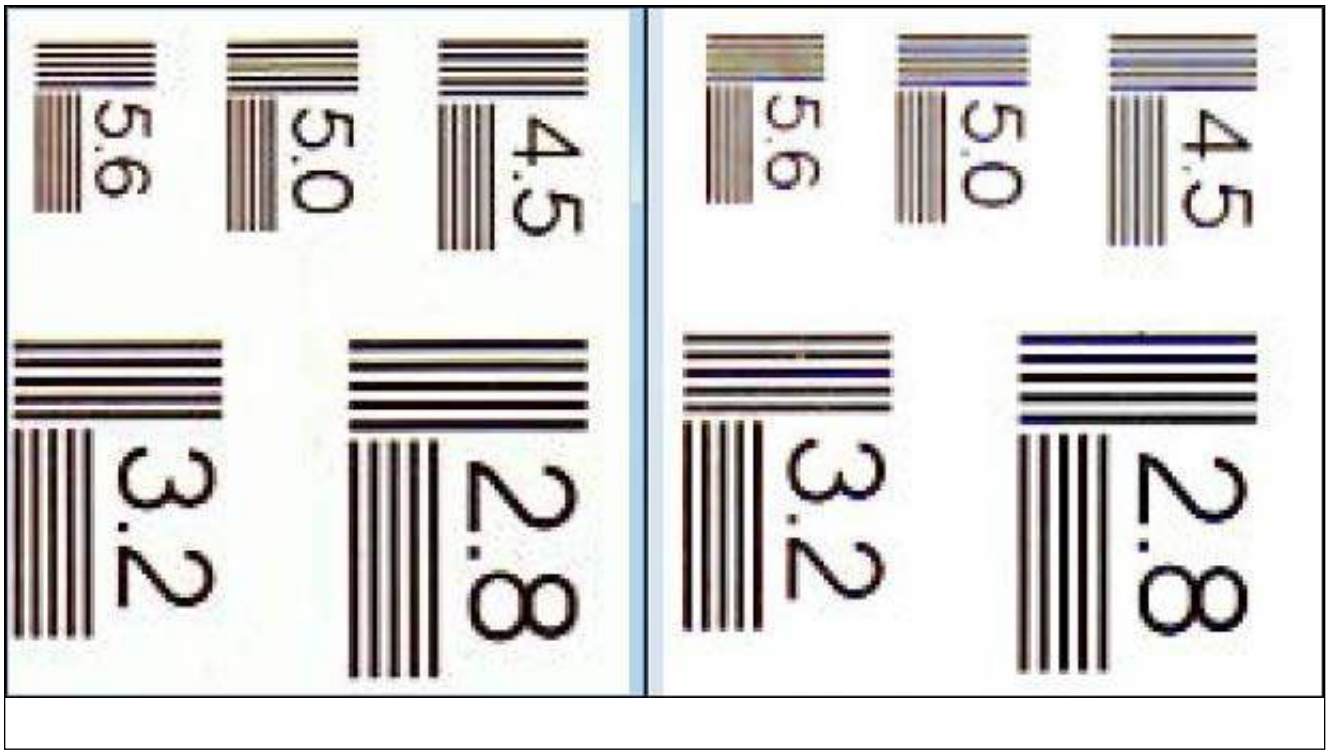
○ Text produced by both models (using line preset) at 300 dpi was legible down to the 6-pt. level, with very little difference between them.

Canon (left) and Epson (right) fonts at 300-dpi resolution.

+ In the MTF Line Pairs Test, where the emphasis of the evaluation is on evaluating whether there is a clear distinction between lines, rather than the rendering of each line, fine lines at 300 dpi were distinct down to the 4.5 level in output produced by the Canon unit, but only to the 4.0 level in output produced by the Epson model.



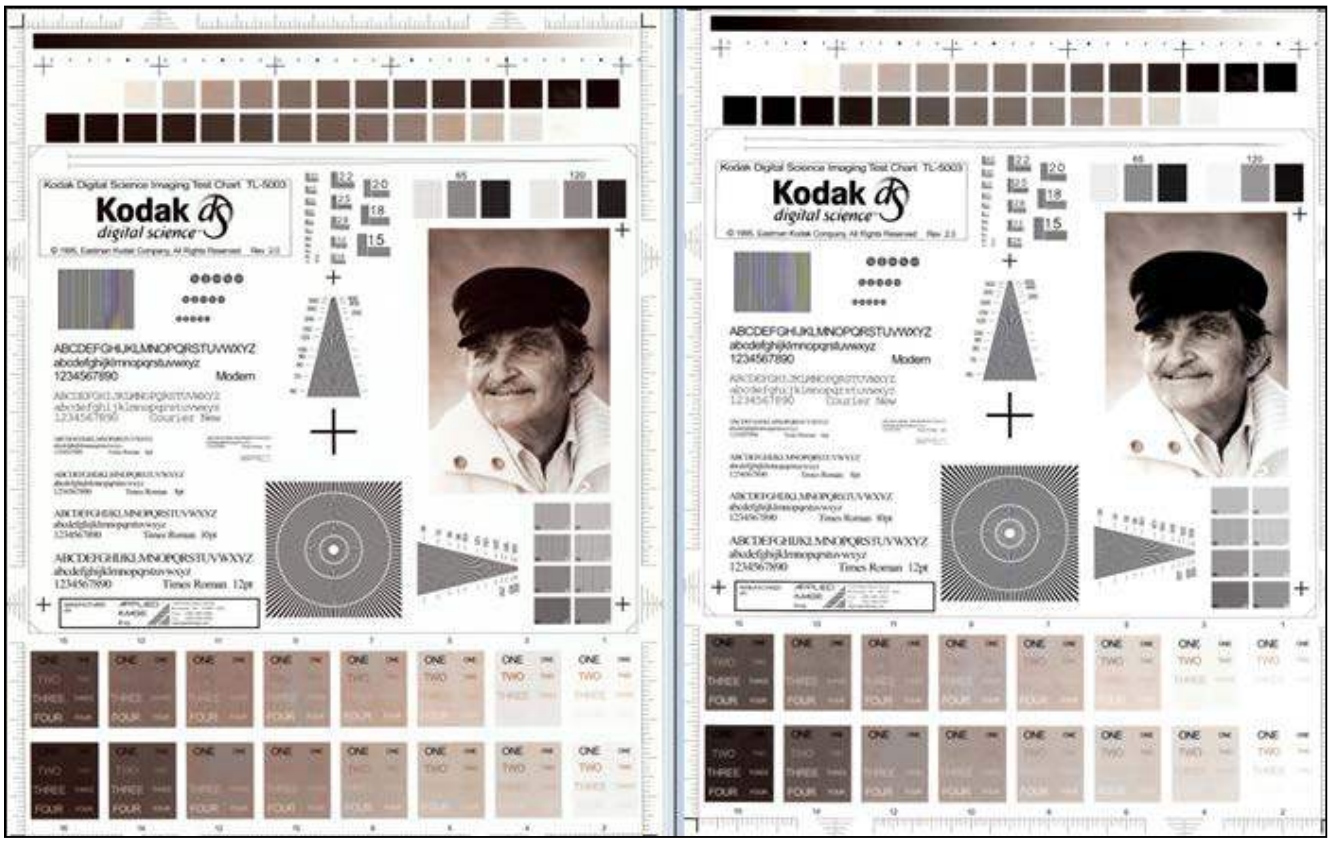
Canon (left) and Epson (right) fine line pairs at maximum resolution.



Canon (left) and Epson (right) fine line pairs at 300-dpi resolution.

○ Using the Adobe Photoshop Measuring Tool to evaluate geometric accuracy (defined as the variation between the actual document measurement and the length of the scanned image), both the Canon and Epson models delivered highly impressive accuracy, with a variation of just 0.1 mm in landscape and 0.3mm in portrait for Canon, compared with the Epson model's 0.2 mm in landscape and 0.2 mm in portrait (see Supporting Test Data).

+ When scanning the mixed text/image BLI test chart in full colour at 300 dpi, BLI analysts found that the Canon iPF785 MFP (in default settings) delivered far more subtle gradations of halftone shades, especially in dark contrast areas, than the Epson SC-T5200 MFP. The scan output from the Epson device exhibited a lack of detail in light contrast areas.



Halftone capture in full colour at 300 dpi with the Canon (left) and Epson model (right).

+ The Canon model includes an 8-bit Index Colour Function, allowing operators to capture documents with some colour content (e.g., highlights or red handwritten notes) without having to use the slower, more bandwidth-hungry 32-bit full-colour mode. This allows faster scanning speeds compared with full-colour workflow. Epson does not offer 8-bit index colour on its SC-T5200 MFP.

+ The Canon device offers a 1-bit black mode, allowing simple black line drawings to be captured with minimal bandwidth. There is no black mode offered on the Epson model, with users having to choose the 8-bit greyscale mode.

Print Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
First Page Out	✔	
Throughput Speed (fastest mode)	✔	
Throughput Speed (default mode)	✔	
Throughput Speed (highest-quality mode)	✔	
Job Stream (multiple jobs submitted to device in fast succession simulating busy network environment)	✔	

+ The Canon iPF785 MFP delivered a faster first-page-out time of 89.22 seconds after a weekend of non-use, compared with 115.00 seconds for the Epson device. Warm-up time before printing commenced was 49.19 seconds for the Canon model, 43.7% faster than the 87.31 seconds for the Epson unit.

+ The Canon iPF785 delivered a faster first-page-out time of just 59.87 seconds from its ready state, compared with 75.62 seconds for the Epson device.

— However, warm-up time from ready state before printing commenced was 19.47 seconds for the Canon model, compared with 12.59 seconds for the Epson unit.

+ When printing BLI's job stream, designed to simulate a typical mixed workflow for a large-format unit, both models delivered output in comparable times in Fast/Speed and Standard/Quality modes. In High/Max Quality mode, however, the Canon model was 40.28% faster than the Epson model.

+ When printing BLI's 12-page DWF test file in colour, the Canon unit was 18.32% faster than the Epson unit in Fast/Speed mode, 28.98% faster in Standard/Quality mode, and 51.19% faster in High/Max Quality mode.

+ When printing BLI's 12-page DWF test file in monochrome, the Canon unit was 11.31% faster than the Epson model in Fast/Speed mode, 27.69% faster in Standard/Quality mode and 50.85% faster in High/Max Quality mode.

+ In BLI's single-page A0-size House 3D PDF test, the iPF785 MFP delivered a first-page-out time that was 13.52% faster than the Epson SC-T5200 MFP. Similarly, the time to print five A0-size pages was 17.12% faster for the Canon unit than the Epson device.

Copy Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
A1 (Landscape) First Page Out in Fast/Speed mode		✔
A1 (Landscape) First Page Out in Standard/Fine mode	✔	
A1 (Landscape) First Page Out in Best/Fine mode		✔
A0 First Page Out in Fast/Speed mode		✔
A0 First Page Out in Standard/Fine mode*	✔	
A0 First Page Out in Best/Fine mode		✔

* The Epson SC-T5200 MFP does not offer a monochrome mode, therefore BLI was unable to compare copy productivity directly in this particular aspect of testing.

— In BLI's A1 (Landscape) testing in Fast/Speed mode, the Canon device's first-copy-out time was 47.2 seconds in monochrome. It was 29.8% slower than the Epson model in greyscale and 53.7% slower in colour.

+ The Epson model does not offer a monochrome mode for copy and scan functions—only grey and colour.

+ In BLI's A1 (Landscape) testing in Standard/Fine mode, the Canon iPF785 MFP's first-copy out time was 59.3 seconds (monochrome). It was 46.2% faster than that of the Epson in greyscale (68.8 seconds vs. 127.8 seconds for the Epson), and 33.5% faster in colour (85.8 seconds vs. 129.1 seconds for the Epson).

— In Best/Fine mode, the Canon device's first-copy-out time was slightly (7.9%) slower than that of the Epson model in greyscale and 44.0% slower in colour.

— In BLI's A0 testing in Fast/Speed mode, the Canon device's first-copy-out time was 67.7 seconds in monochrome. It was 13.6% slower than that of the Epson model in greyscale and 46.9% slower in colour.

+ In BLI's A0 testing in Standard/Fine mode, the Canon iPF785 MFP's first-copy out time was 100.8 seconds (monochrome). It was 52.9% faster than that of the Epson model in greyscale and 39.6% faster in colour.

— In Best/Fine mode, the Canon device's first-copy-out time was 8.7% slower than that of the Epson in greyscale and 41.1% slower in colour.

+ *BLI noted that as Canon's copy quality in Standard mode is comparable—if not better, with regards to text and fine lines—to that of Epson's in Fine mode, then it is unlikely operators would need to select Best mode in real-world environments. Therefore, users would be able to achieve good copy image quality without having to use Best mode, which makes the Canon's Standard vs. Epson's Fine performance comparison the more significant results.

Scan Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Single-Page Scanning		✔
Batch Scanning	✔	
First Page Out to Desktop	=	=

\+ Batch scanning is not supported by the Epson SureColor SC-T5200 MFP, so no times could be recorded by BLI. In some environments this could have a highly adverse effect on productivity.

\+ In BLI's scan-to-desktop A1 (Landscape) testing, measuring the time taken from initiation to the scan appearing at the desktop, the Canon iPF785 MFP was 30.23% faster than the Epson SC-T5200 MFP in greyscale at 200 dpi; results were comparable to those for the Epson model at 300 dpi.

— However, in full-colour mode, the scanning speeds of the Canon model were 33.10% slower than those of the Epson model at 200 dpi and 73.87% slower at 300 dpi.

O In BLI's scan-to-desktop A0 testing, the Canon iPF785 MFP was 35.62% faster than the Epson model in greyscale at 200 dpi, and 13.56% faster at 300 dpi; however, in full-colour mode, the Canon model was 43.83% slower than the Epson device at 200 dpi and 48.92% slower at 300 dpi.

\+ In BLI's A1 (Landscape) scan throughput testing, timing from initiation to the scan exiting the scanner, the Canon iPF785 MFP was 16.79% faster than the Epson model in greyscale at 200 dpi, and 10.66% faster at 300 dpi.

— In A1 (Landscape) scan throughput testing in colour mode, the Canon model was 161.90% slower than the Epson device at 200 dpi and 147.66% slower at 300 dpi.

— In BLI's A0 scan throughput testing, the two models delivered scans at 200 dpi and 300 dpi in comparable times in greyscale mode. In colour mode, however, the Canon device was 131.18% slower than the Epson device at 200 dpi and 90.66% slower at 300 dpi.

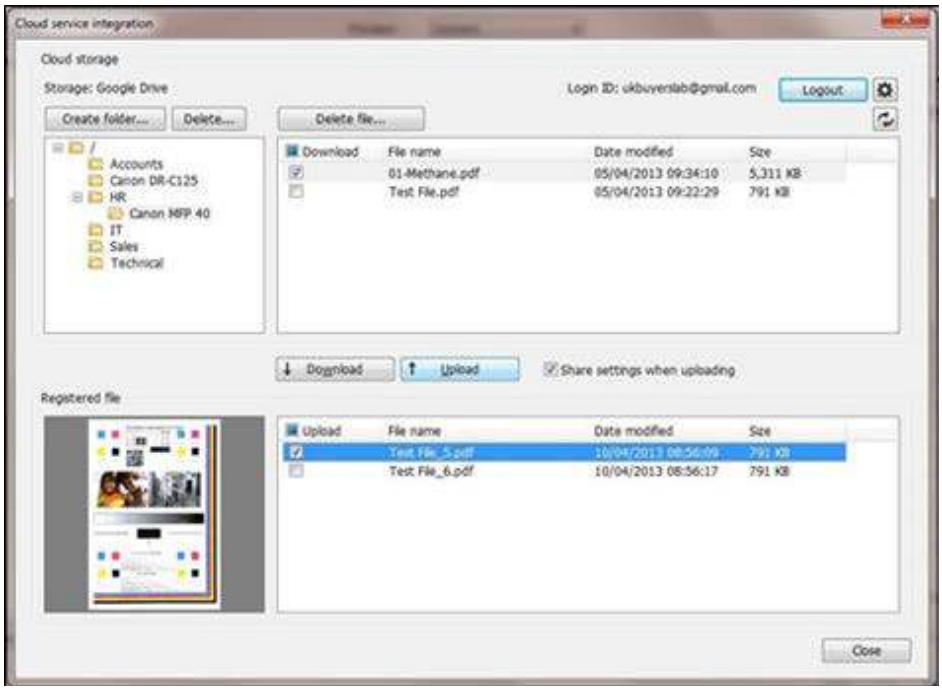
\+ The Canon device includes a 1-bit black scanning mode, which delivered faster scan throughput speeds than the Epson device in 8-bit greyscale mode. The Epson does not offer a black mode. The black mode also creates smaller file sizes further adding to the productivity advantage of the Canon device for scan-to-desktop accessibility time.

\+ The Canon device includes an 8-bit index colour mode which operates at faster speeds and generates much lower file sizes than 32-bit full colour mode. The Epson device does not offer an 8-bit index colour scanning mode which limits users to the slower, high bandwidth full colour mode when scanning documents with minimal colour content.

Direct Print Submission Functionality

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Functionality / Cost	✔	*

*BLI did not test Epson's optional, extra-cost PS module and therefore is unable to assess its direct printing functionality.



Canon's iPF Direct Print & Share Cloud Services Integration.

+ A free download from Canon's website, the iPF Direct Print & Share utility enables PDFs to be printed without opening Adobe Acrobat. iPF Direct Print & Share also allows users to retrieve files from Google cloud storage for printing.

+ The latest version (v2.0) of iPF Direct Print & Share supports "Shortcut Print" functionality, whereby combinations of several print settings are represented by a desktop icon and files are automatically printed with those predefined setting when users drag-and-drop them on to the icon. Multiple desktop icons can be created for different print settings.

O An optional (extra-cost) PostScript module will enable Epson users to print PDFs without the need for additional drivers—functionality operates via hot-folder 'drag-and-drop'- with configurable job processing options.

Banner Printing

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Print Image Quality	✔	
Print Productivity	=	=

+ The Canon iPF785 MFP successfully printed BLI's 40" x 117" banner (a 4,955-KB PDF file) in Fast 300-dpi mode in 4 minutes and 48.3 seconds from preview to final paper cut. In unidirectional mode, a further 59.1 seconds was added to the time.

+ The Epson SC-T5200 MFP required 2 minutes, 55.2 seconds to print the same banner in Fast mode. While it was faster than the Canon model, it failed to print the entire banner image due to its inability to print background detail during the last quarter of printing.

BLI's Banner Test File

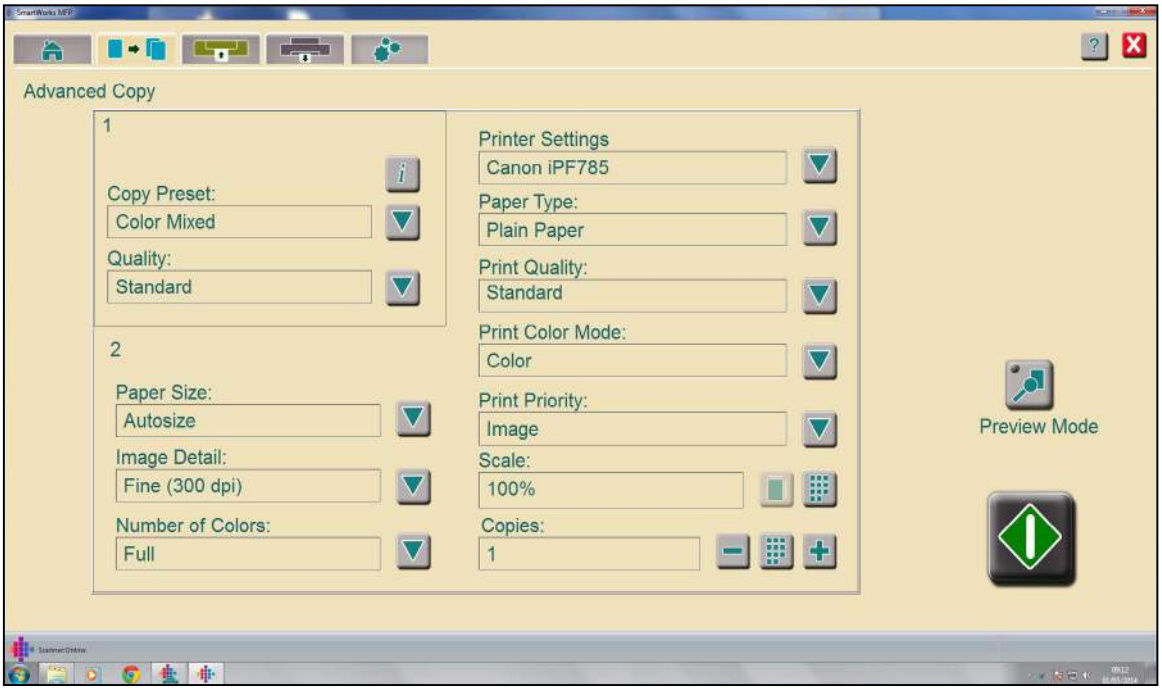
Walk-Up Ease of Use

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Advantage ✔		
Touchscreen / Control Panel Interface	✔	
Scanner Media Handling	=	=
Print Media Handling	=	=
User Maintenance/Consumable Replacement	✔	
Copy Programming	✔	
Scan to Desktop/Network Folder Programming	✔	
Scan to Email/USB/Cloud Programming	✔	
Stored Job Reprinting (including via USB key and cloud)	=	=

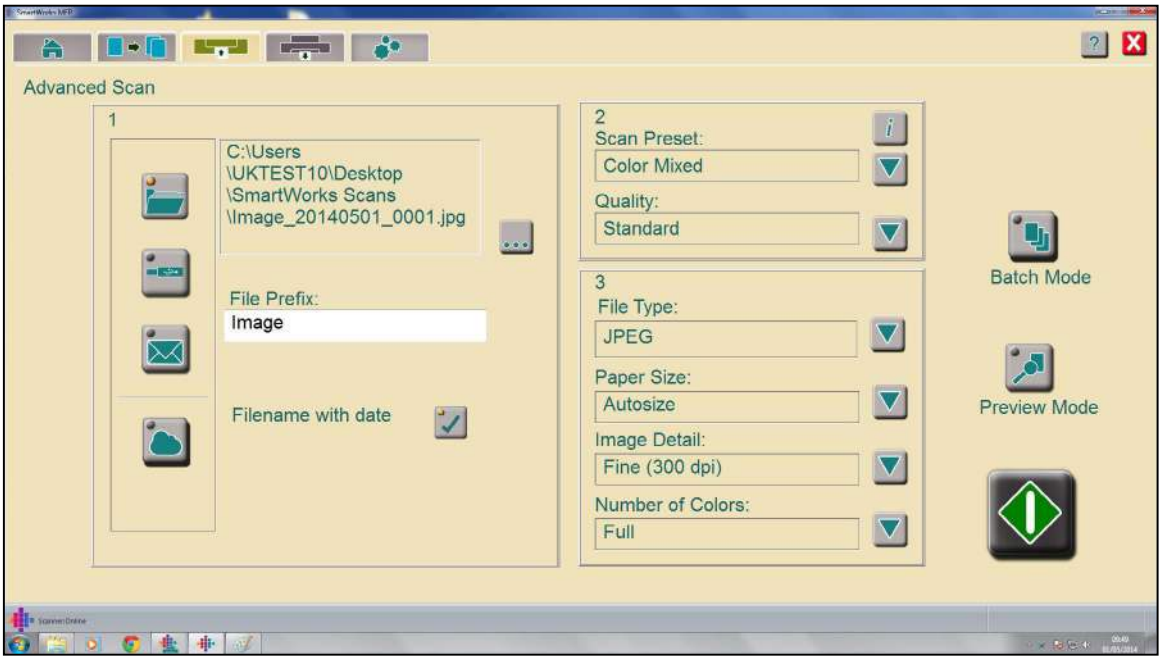
SmartWorks MFP Home Screen

+ BLI analysts were impressed by the clear and intuitive layout of the Canon model's 22" colour touchscreen interface, with selections for all the main functions—Copy, Scan and Print—available from the home page, enabling users to have control over their job at the printer. Users are able to 'pinch and zoom' to enlarge specific areas of the touchscreen. A 'Virtual Keyboard' can be displayed to make it easy to enter email addresses and a numerical keypad can also be displayed for quantity selections.

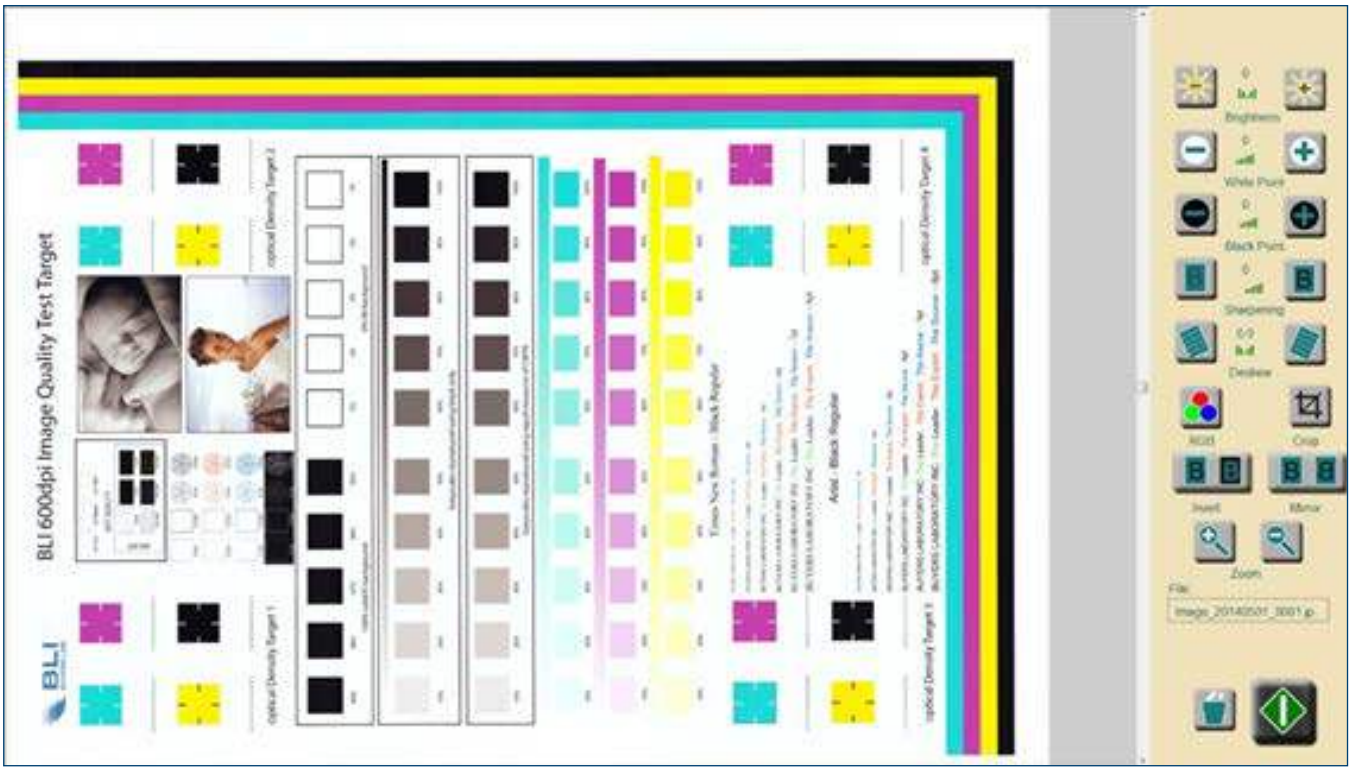
O Not all aspects of the Canon iPF785 MFP can be controlled via the 22" touchscreen; media control, ink and printhead maintenance and other tasks are handled by the Canon printer's control panel, which is an LCD screen with hard button navigation controls.



SmartWorks MFP Advanced Copy Screen

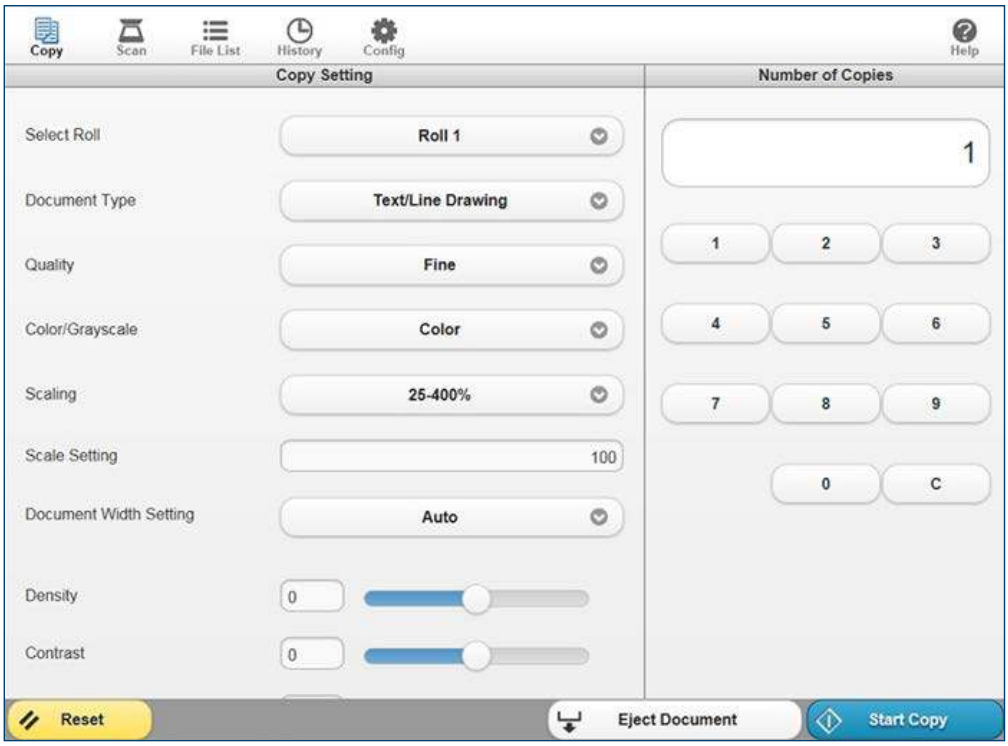


A Batch Scan selection, not available with the Epson model, can be found on the SmartWorks MFP Advanced Scan Screen.

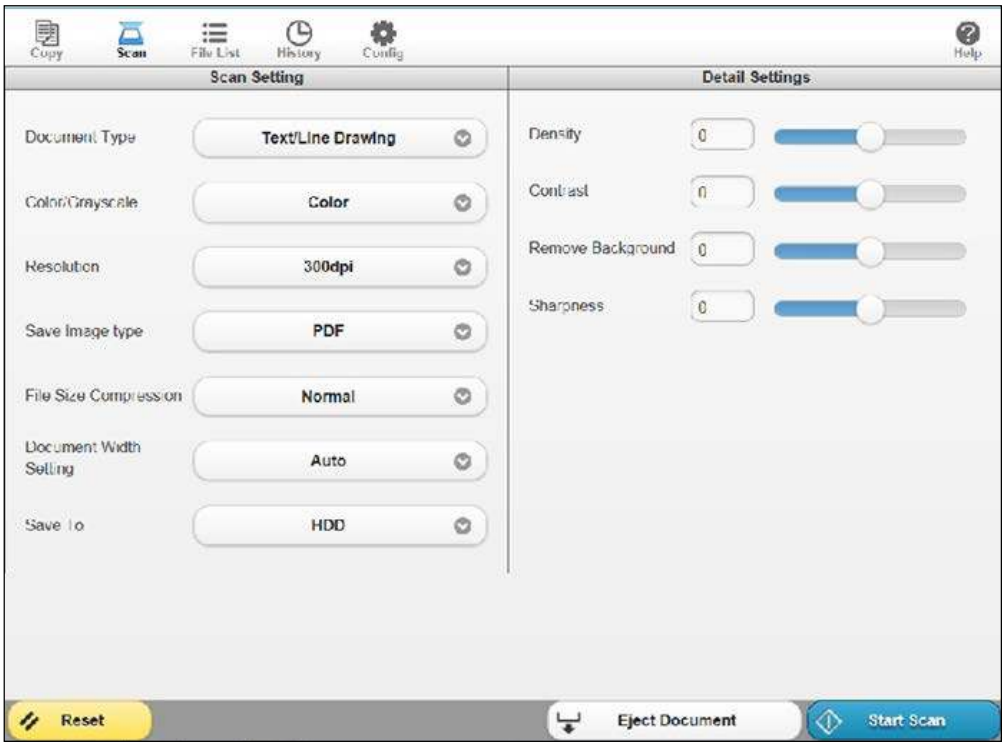


Preview screen showing the wide range of image adjustment settings on the right.

+ The Canon iPF785 MFP's Copy, Scan and Print functions each offer a Preview screen with the document displayed in the centre and a variety of image adjustment options on the right, which provides the user with full control over image quality before jobs are released. The preview allows users to zoom in to any level of magnification on a linear scale. The Canon SmartWorks MFP interface entails a simplified, time-saving Scan/Adjust/Print workflow. In contrast, the Epson model does not offer a Preview feature, nor does it enable image adjustments to be made prior to completing the job. Users must initiate the scan job at the desktop or device, and then view the scanned image in the relevant application at the desktop to assess whether the end result is desirable or requires rescanning—which is clearly more time-consuming in real-world workflows.



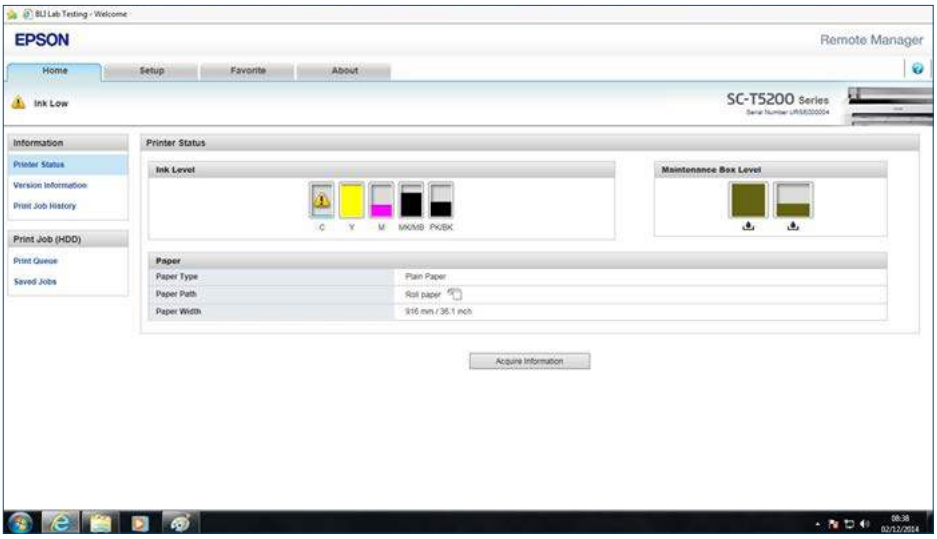
Epson SureColor SC-T5200 MFP Copy Centre Copy Setting Screen



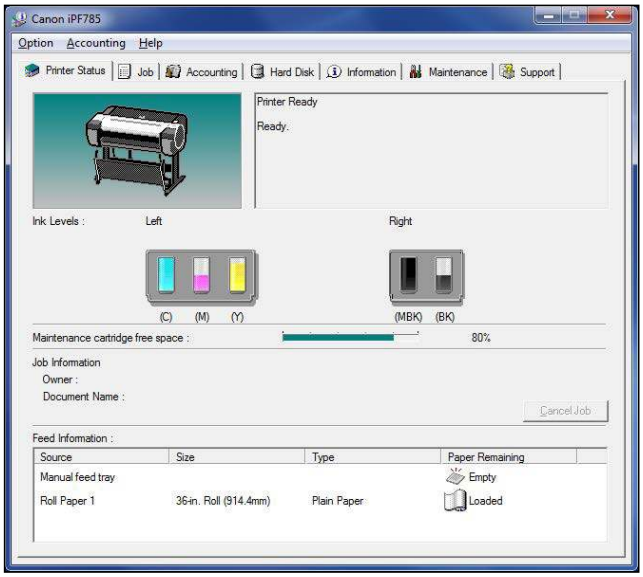
Epson SureColor SC-T5200 MFP Copy Centre Scan Setting Screen

O While the Epson device does not offer a touchscreen UI, BLI analysts found its smaller 6-line LCD display control panel straightforward to use and easy to navigate using the arrow keys. The Help hard key provides a list of key functions which, when selected, provide clear graphic instructions and simple step-by-step troubleshooting guidance. Entering details such as IP addresses or email addresses is tricky as it involves multiple key presses; users are more likely to use the desktop utility to preconfigure scan destination settings.

+ While the Epson device's LCD control panel was easy to navigate, it was time consuming and laborious— involving more click-throughs than BLI would like—with the operator having to 'reverse out' of functions after making selections using the back arrow button, which was not very intuitive. BLI would have preferred to have a home button available to allow for a fast exit. For example, to change a paper type on the Canon device requires eight key presses, while on the Epson device control panel menu it took 13 key presses.



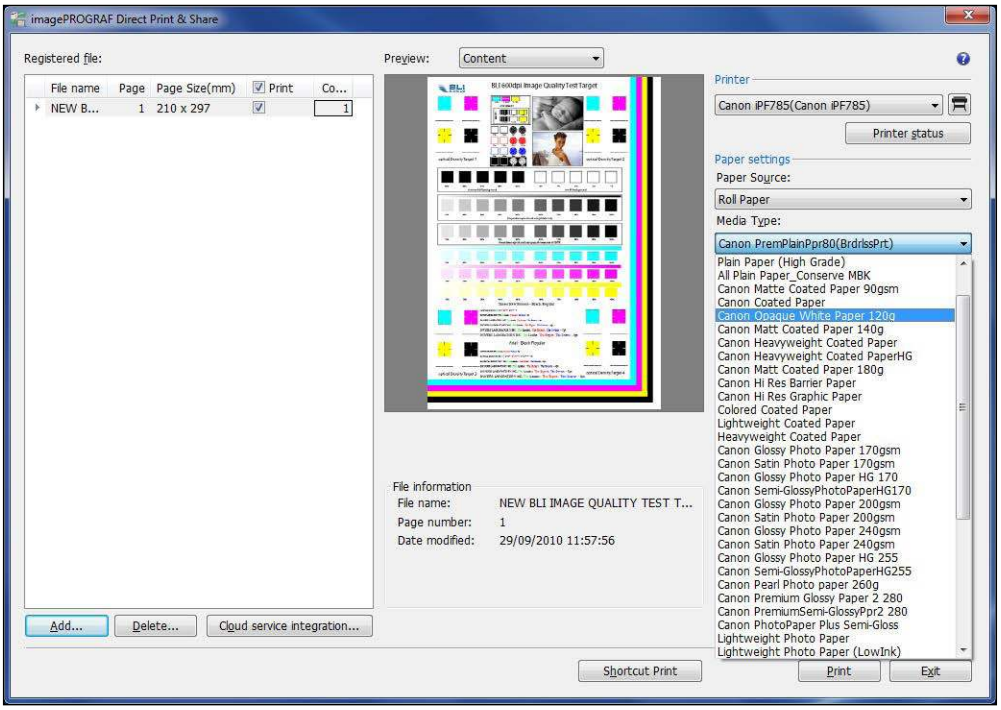
The Epson Remote Manager monitors jobs and consumable levels.



Canon's Status Monitor also provides feedback on consumable levels.

Media Handling

○ Both MFPs are compatible with a wide range of media types. The Canon unit supports 44 media types, plus five user-defined media, while the Epson unit supports 20, including Photo, Plain, Tracing and Matte Photo, Premium Gloss and Semi-gloss media for photographs.



iPF Direct Print & Share displays a wide range of media types.

O Both models support a single roll, but a sister model to the Epson SC-T5200 MFP (SC-T5200D MFP) offers a dual-roll design with support for two media rolls, giving users the added flexibility of switching between different media types or sizes without having to reload the media each time.

\+ The Canon model (like most competitors) has an adjustable insertion guide that makes inserting cut-sheet media a straightforward process. The Epson device features an alignment guide mark on the right hand side of the device to which users need to align the cut-sheet media manually when inserting the media. Once the media is in place, users need to select the media type on the control panel whereupon the device automatically feeds in the paper, detects the paper width and makes any adjustments required. This is an equally straightforward process, however, given the reliance on a manual alignment procedure the potential for skewed media is greater with the Epson device.

O Both units coped well when handling creased or folded originals.

O The Canon iPF785 MFP was able to scan and copy lightweight documents such as a newspaper in both portrait and landscape; the Epson model's scanner similarly accepts lightweight documents.

\+ The Canon SmartWorks software provides a means of manually adjusting skewed documents prior to saving or printing. Conversely, the Epson model does not include a deskew function, nor a preview mode, which would allow users to make the necessary adjustments prior to job output.

User Maintenance/Consumable Replacement

○ Ink replacement is a very simple process with both devices. Each cartridge is keyed differently to prevent incorrect replacement.

+ Ink cartridges can be replaced during operation with the Canon model but not with the Epson device, helping to reduce downtime for Canon users.

O Replacing the printhead is a straightforward process for Canon users; the Epson model's printhead is not user-replaceable, however it is designed to last for the life of the device.

— The Canon device includes a large maintenance cartridge that will occasionally need to be changed. This process cannot be conducted during printing. The Epson model offers two maintenance cartridges, so as one reaches its capacity, the device switches automatically to using the second maintenance cartridge. Note: BLI did not need to replace any maintenance cartridge with either model during its extensive tests.

Copy Programming

+ The Canon touchscreen in Copy mode offers a choice of seven preset profiles for colour graphics, photographic images, etc., and new custom preset profiles can be added at any time. When a document type is selected, the optimum settings including media type and resolution are automatically displayed and any adjustments can be saved as new presets. As SmartWorks is used to enter Copy mode, whereby documents are scanned and sent to the printer via the driver, a direct link to the device print driver is available if any more advanced settings are required. The Epson model offers five original document types (Text/Line Drawing, tracing paper, recycled, blueprints and poster), and more basic printer driver level job control compared to that offered by the Canon device.

+ Epson users can choose to program a copy job from the device LCD or using the remote control panel on a PC (if set up). While BLI found the remote control panel easier to use than the LCD panel, the choice of two control panels could potentially be confusing and lead to errors owing to the lack of dynamic communication between the two control options.

+ When an original has been scanned by the Canon device it is released; in contrast the Epson device holds the original until every copy is completed. Note: the original can be released from the Epson device if the operator knows how to open the clamshell scan head, but this is not obvious and increases the risk of damage occurring to the scanner over time.

Scan to Desktop/Network Folder Programming

+ Similar to the copy function, the same 'Preview & Edit' functionality is also available in Canon's Scan mode, with a similar list of preset scan profiles and a full listing of setting selections for each and the same ability to save new presets. The 'Advanced' button offers selections for scanning to email, USB sticks, network folders or the cloud, with the option of scanning concurrently both to the cloud and one other destination, with a date stamp automatically added to the file name if desired. A button to the right selects Batch Mode so that documents can be combined together in a single folder without the need for additional third-party software. The Epson model lacks this capability.

O Via Epson's Copy Center utility, administrators can program up to 10 user/network folder scan destinations.

+ The Canon device allows users to name files using the touchscreen control panel. In contrast, the Epson device only allows users to assign a specific file name when using the remote desktop utility, where a prefix can be programmed.

Scan to email/USB/Cloud Programming

+ Scanning to the cloud and one other destination with the Canon MFP is a quick and easy process, with files being uploaded or downloaded quickly, with no apparent delays.

+ The Epson SC-T5200 MFP does not support scanning to USB or to cloud repositories.

Stored Job Reprinting (including via USB key and cloud)

+ With the Canon iPF785 MFP, jobs which need reprinting can quickly and easily be retrieved either from the device hard drive or cloud storage using the Direct Print & Share utility, with the same Preview & Edit functionality giving full control over output quality and settings. A direct link to the driver is also available so that advanced settings, including those for Account Manager, can be reviewed and selected.

O For Epson users, stored jobs can be easily reprinted via the control panel or via Epson's Copy Centre utility, with the saved job queue option available to access on the main home screen.

+ Printing from a USB stick is a straightforward process with the Canon model, with users allowed full control over document settings.

+ Canon users can reprint any TIFF, JPEG or PDF document stored on the device irrespective of resolution, while the Epson device is limited to reprinting documents stored on its HDD only when scanned at 360dpi and stored as a JPEG file.

Device Feature Set

+ The Canon iPF785 MFP offers a 22" touchscreen LCD display for copy and scan functionality, whereas the Epson SC-T5200 MFP has a 2.7" 6-line LCD control panel. While the Epson unit's control panel was easy to navigate and straightforward to use, it doesn't provide as much flexibility to walk up users. For example, it is expected that users would input email addresses and other settings such as shared folder network paths and IP addresses at the desktop utility as there no simple way to enter information using the basic arrow keys; in contrast, the Canon's touchscreen will bring up a virtual keyboard to allow for these operations at the device.

— The Epson device's web server offers some functionality not matched by the Canon device's web server including: file deletion from the hard drive, email alerts and job reprinting.

Both the Canon (left) and Epson (right) models employ the same scanner; its SingleSensor array extends across the full width of the scanner.

+ The Canon iPF785 MFP's scanner offers a wider range of six scanning resolutions from 100 to 1200 dpi, whereas the Epson unit's scanner offers five, from 200 to 600 dpi.

+ The Canon unit supports batch scanning and scanning in full black and index colour, features which are not offered by the Epson device; this lack of batch scanning support would have an adverse impact on productivity in many environments.

+ The Canon scanner offers superior media-handling capabilities, handling documents up to 40" in width by 590.5" in length compared with 38" by 96" for the Epson scanner. When the rear exit paper path is used, the Canon scanner can accommodate media up to 2.0 mm thick, compared with 1.3 mm supported by the Epson scanner.

+ Scanned images can be saved as TIFF, JPEG or PDF files with the Canon unit, whilst the Epson device only offers only PDF and JPEG scan file creation.

+ The Canon scanner offers seven preset document types, (Colour Photo, Colour Graphics, Colour Lines, Grey Photo, Grey Lines, B&W, B&W Background Removal 1-3), in contrast to five (Text/Line, Tracing, Recycled, Blue-

print and Poster) for the Epson scanner. In addition, custom presets with a wide range of image processing options (deskew, crop, brightness, sharpen, black point, white point and invert) can be saved on the Canon MFP, a feature not offered by the Epson scanner.

— The capacities of the Canon cartridges (130 ml or 300 ml for all colours) are lower than those of the Epson model (110 ml/350 ml/700 ml for all colours), so they will need replacing more frequently than with the Epson device.

— The total capacity of Canon's starter cartridges (490 ml) is less than the 550 ml provided by Epson.

+ As noted above, ink cartridges can be replaced during operation with the Canon model but not with the Epson device.

+ Both models support roll paper with a comparable diameter—Canon's 150 mm versus Epson's 149.86 mm—but the Canon unit supports a higher maximum cut-sheet media length of 1.6 m compared with 914 mm for the Epson unit.

O The iPF785 MFP supports up to 0.8 mm as the maximum roll media thickness, the same as the Epson device.

+ The Canon model offers a hard drive capacity of 320 GB as standard; a hard drive is available only as an option for the Epson device.

O The Canon unit is a lighter model than the Epson device (117 kg versus 173 kg).

— The Epson SC-T5200 MFP's rated power consumption is much lower than that of the Canon model's while printing (65 W versus 140 W).

O However, both models have equally low power consumption in standby mode (0.5 W), in which they will likely spend most of their time.

+ Rated noise emissions are slightly higher with the Epson device (50 dB versus 48 dB with the Canon model).

Driver Feature Set

+ The Canon iPF785 has five speed settings (Fast 300, Fast 600, Standard 600, High 600 and High 1200), while the Epson device offers three settings (Speed, Quality and Max Quality). Note: not all speed settings are available with all media types.

O Both the Canon GARO driver and the Epson ESC/P driver provide a useful overview of the settings for predefined profiles.

— Seven predefined profiles are available with the Canon driver, while the Epson driver offers a range of eight settings.

+ The Canon driver supports multi-up (2 to 16) printing, while the Epson driver supports only 2 to 4 multi-up printing.

— Both models offer a poster mode: the Canon GARO driver offers a 2 by 2 poster mode, while the Epson driver supports 4 by 4.

— The Canon driver offers page stamping (Date, Time, Name and Page Number); the Epson driver offers a much wider range of options, including a wide variety of image quality attributes.

O Both the Epson driver and the Canon GARO driver offer a wide range of built-in adjustments for CMYK balance, brightness, contrast and saturation. ICC profile settings are also available with both drivers—in the case of Canon's GARO driver in the respective tab under Advanced Settings. Canon operators can select four matching modes (driver, ICC, driver ICM and host ICM matching) and one of four rendering methods (auto, perceptual, colorimetric or saturation).

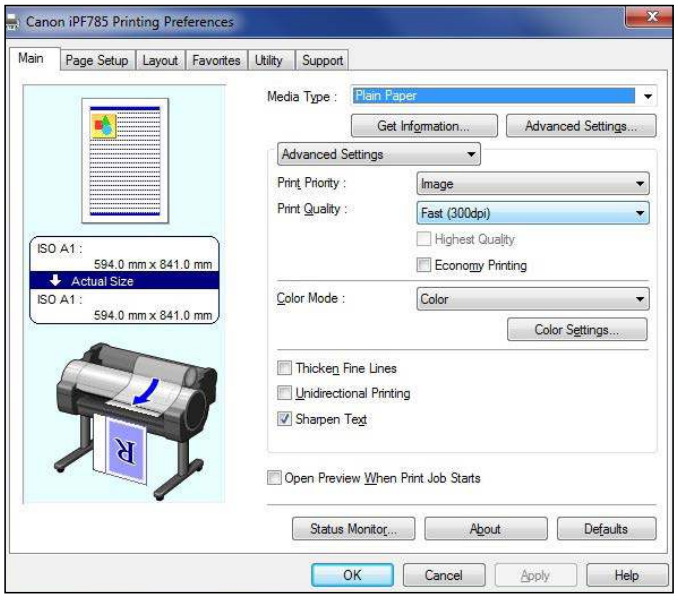
— The Epson model provides a handy thumbnail preview for users to check the effects on the image as they make colour adjustments. In addition, the Epson driver displays a list of all the current settings on each tab window, providing users with a quick, at-a-glance summary.

+ The Canon driver offers the option of unidirectional printing, even in Fast mode. This means that the printhead travels in only one direction to create the desired image, helping to avoid any banding across output. The Epson does not offer this feature.

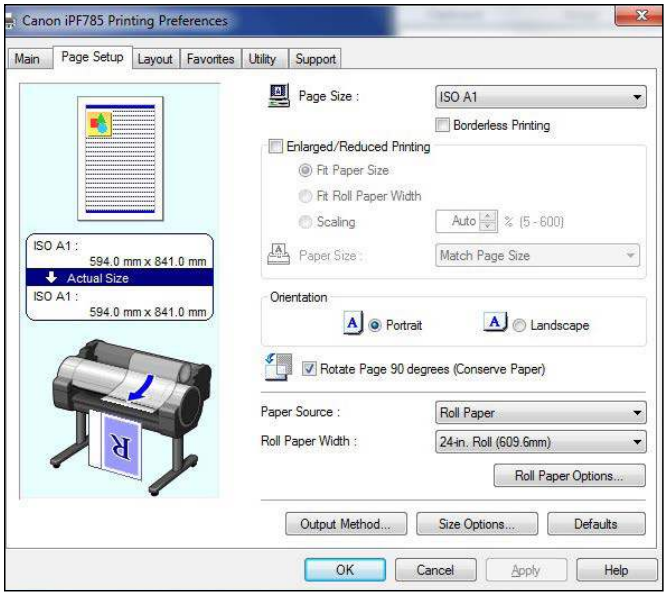
+ The Canon driver includes the Colour imageRUNNER Enlargement Copy Mode utility, which enables users to integrate a Canon small-format MFP device on the network with the iPF785. Documents scanned by the Canon MFP are automatically routed to a hot folder that is monitored by the driver of the iPF785. The image is then resized and printed, offering a fast, easy-to-use poster creation tool for office users. Epson users can choose comparable functionality via the extra-cost CopyFactory Utility.

O The Canon driver also includes a Free Layout nesting tool (also available for free download via the Printer Driver Extra Kit) that enables files—even files created with different applications—to be scaled, resized or grouped together as a single job from the printer driver. Images can be dragged and dropped to their desired locations and printed together on a single page, helping to save on paper. Epson also offers resizing functionality and the ability for users to combine multiple documents to print on a single page via its Layout Manager.

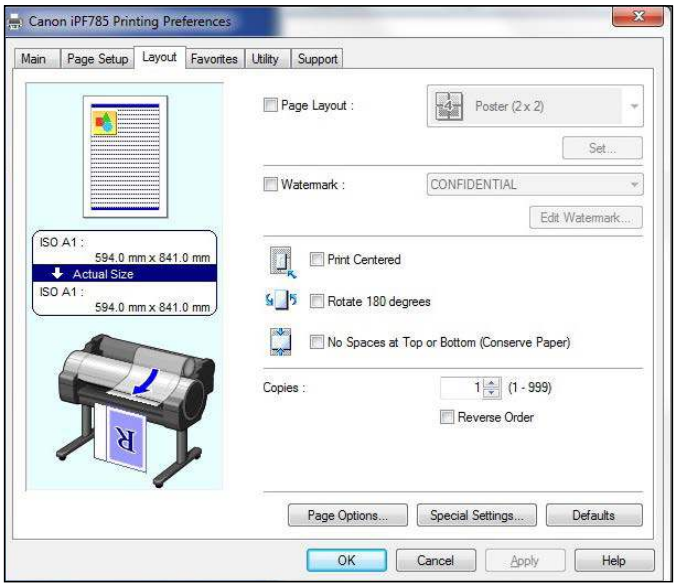
O The Canon model also offers a plug-in for printing from Microsoft Office applications, which provides a wizard that walks users through the process of creating posters for Word, Excel or PowerPoint, and includes useful tools for automatic media resizing, nesting and borderless printing. Epson offers similar software, LFP Print Plug-In for Office, to its users.



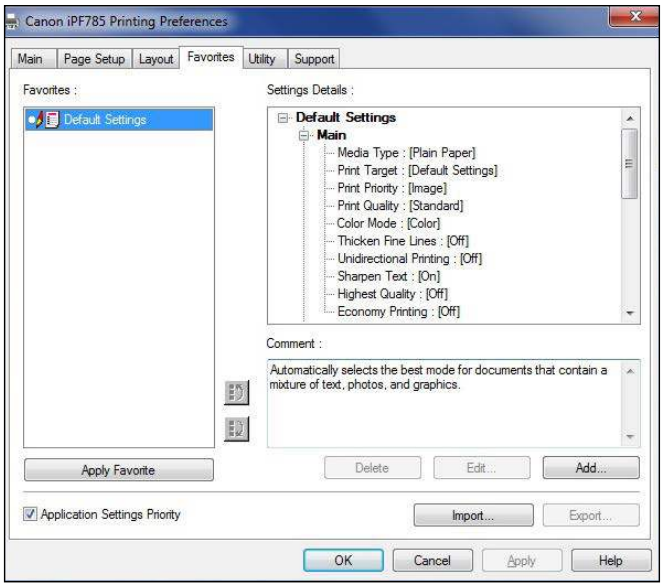
Canon Print Driver Main Tab



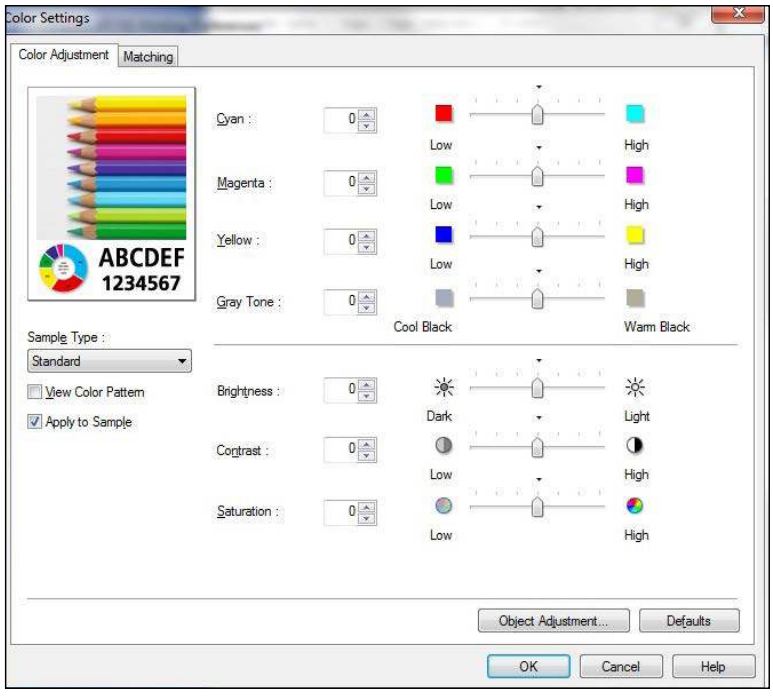
Canon Driver Page Setup Tab



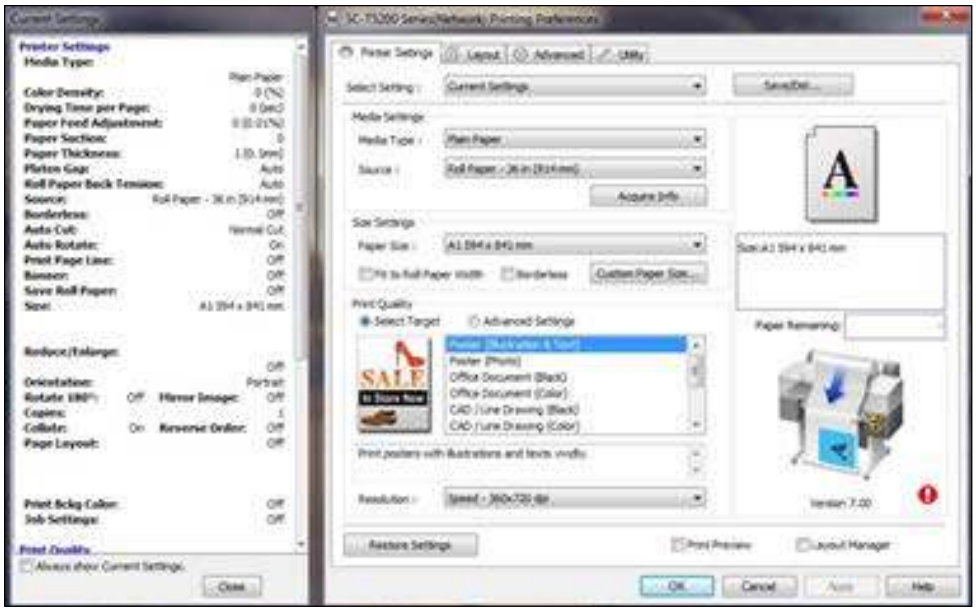
Canon Driver Layout Tab



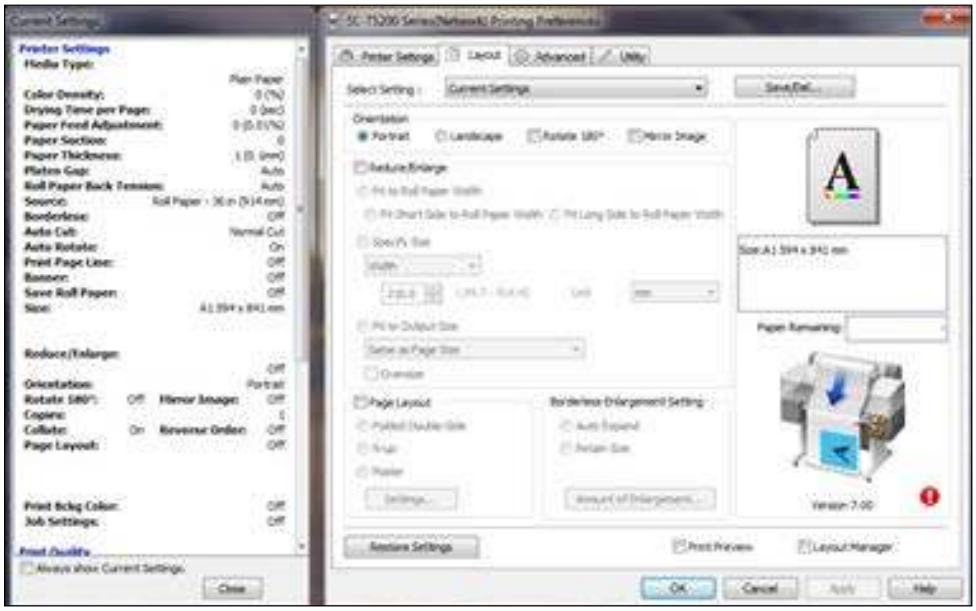
Canon Print Driver Favourites Tab



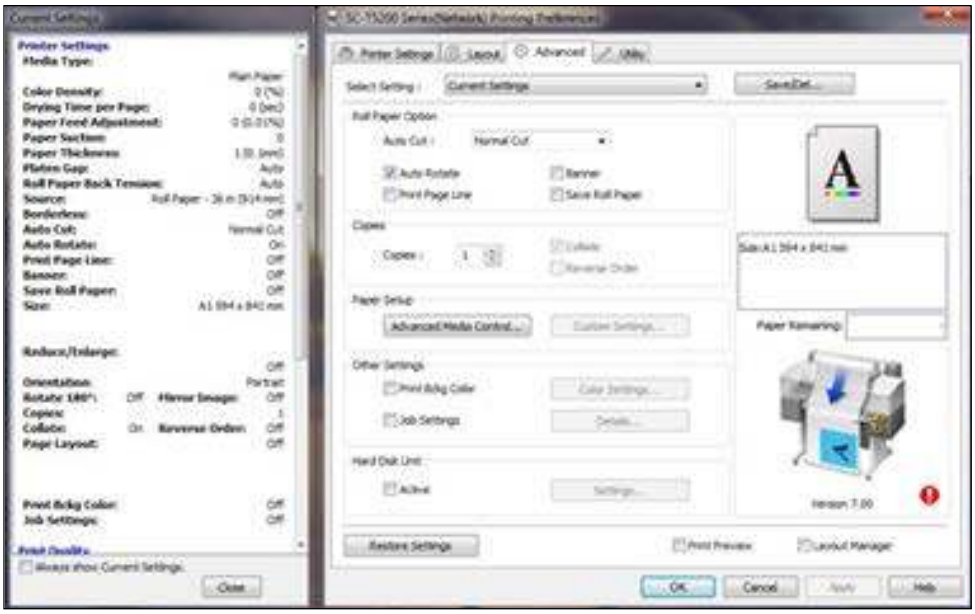
Canon Colour Adjustment Settings



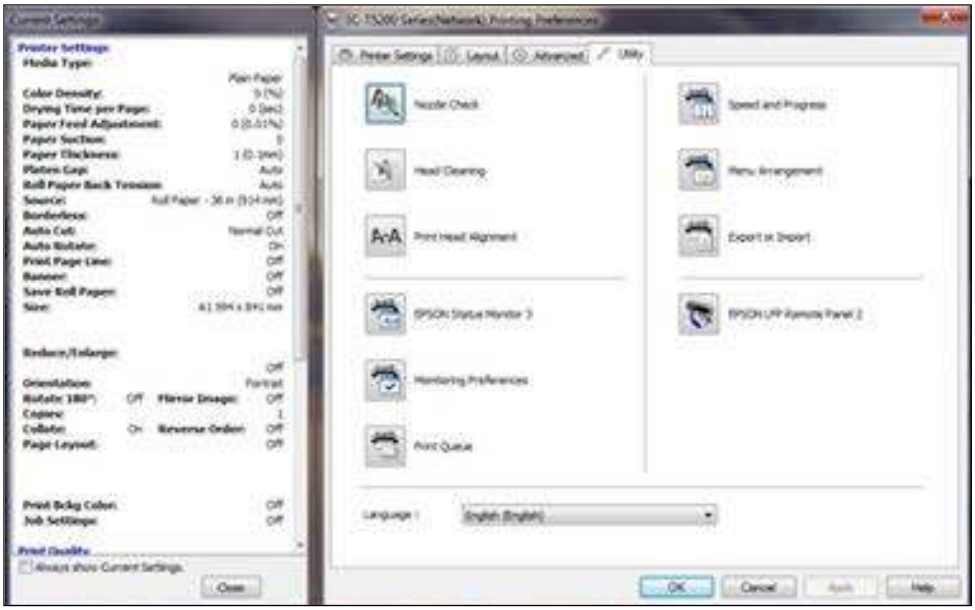
Epson Print Driver Printer Settings Tab



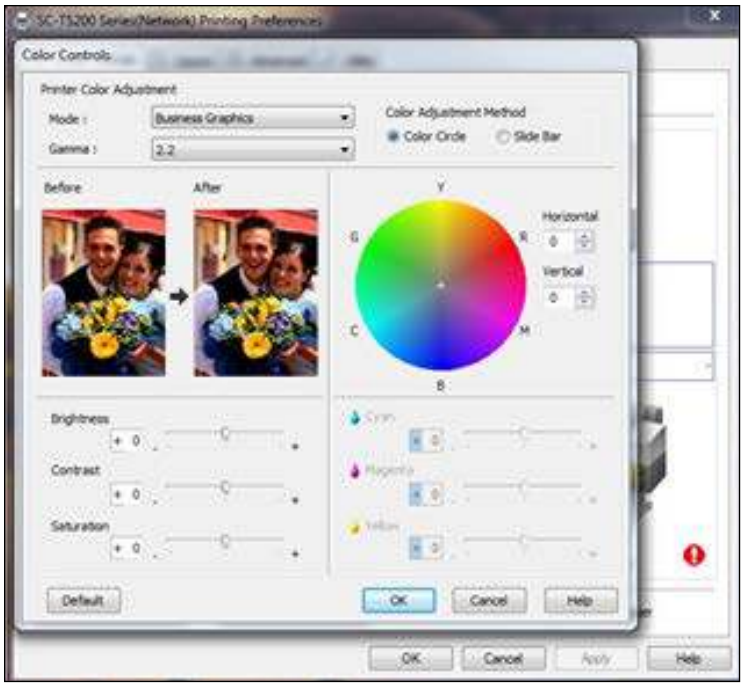
Epson Print Driver Layout Tab



Epson Print Driver Advanced Tab



Epson Print Driver Utility Tab



Epson Print Driver Colour Controls

SUPPORTING TEST DATA

Print Productivity

Job Stream Productivity

Mixed File Types, Same Size

Canon imagePROGRAF iPF785 MFP (time in seconds)		Epson SureColor SC-T5200 MFP (time in seconds)		Canon % Faster/Slower (-) than Epson
Fast	707.24	Speed	700.28	-0.99
Standard	1,281.75	Quality	1,277.34	-0.35
High	1,957.26	Max Quality	3,277.50	40.28

BLI's job stream consists of 10 files, including PDF and DWF files totalling 19 pages, all at Arch D-size. This test replicates the type of traffic a typical wide-format device might experience in a real-world, multi-user environment. All of the files are submitted to the controller in a specific order and sent to the printer as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Both devices were loaded with 914 mm rolls, with each file set to auto-rotate to save media.

Colour Multi-Page Productivity

Canon imagePROGRAF iPF785 MFP (time in seconds)		Epson SureColor SC-T5200 MFP (time in seconds)		Canon % Faster/Slower (-) than Epson
Fast	367.61	Speed	450.05	18.32
Standard	593.29	Quality	835.39	28.98
High	1,144.18	Max Quality	2,344.18	51.19

The 12-page DWF test file was printed using the device driver set to the plain paper/colour setting. Both devices were loaded with 914-mm rolls with each file set to auto-rotate to save media. The actual time indicated is the time it took to RIP, image and deliver all pages of the test document to the collection bin.

Monochrome Productivity

Canon imagePROGRAF iPF785 MFP (time in seconds)		Epson SureColor SC-T5200 MFP (time in seconds)		Canon % Faster/Slower (-) than Epson
Fast	390.28	Speed	440.07	11.31
Standard	607.30	Quality	839.88	27.69
High	1,154.16	Max Quality	2,348.19	50.85

The 12-page DWF test file was printed with the Canon driver set to the plain paper/monochrome setting and the Epson driver set to plain paper, greyscale, black ink only. Both devices were loaded with 914 mm rolls, with each file set to auto-rotate to save media. The actual time indicated is the time it took to RIP, image and deliver all pages of the test document to the collection bin.

First-Page-Out Productivity after a Weekend of Non-Use

	Canon imagePROGRAF iPF785 MFP (time in seconds)	Epson SureColor SC-T5200 MFP (time in seconds)	Canon % Faster/Slower (-) than Epson
Time Before Printing Commences	49.19	87.31	43.66
First Page Out	89.22	115.00	22.42

First-Page-Out Productivity From Ready State

	Canon imagePROGRAF iPF785 MFP (time in seconds)	Epson SureColor SC-T5200 MFP (time in seconds)	Canon % Faster/Slower (-) than Epson
Time Before Printing Commences	19.47	12.59	-54.65
First Page Out	59.87	75.62	20.83

First-page-out times are obtained by sending an Arch D-size PDF file to print, timed from release to page out with the Canon driver set to the plain paper/monochrome setting and the Epson driver set to plain paper, greyscale, black ink only. Both devices were loaded with 914-mm rolls, with each file set to auto-rotate to save media.

A0 First-Page-Out and Throughput Productivity

	Canon imagePROGRAF iPF785 MFP (time in seconds)	Epson SureColor SC-T5200 MFP (time in seconds)	Canon % Faster/Slower (-) than Epson
First Page Out	107.81	124.66	13.52
Five Pages Out	501.34	604.87	17.12
Speed per page without processing	98.38	120.05	18.05

First-page-out times are obtained by sending an Arch D-size PDF file to print, timed from release to page out with the Canon driver set to the plain paper/monochrome setting and the Epson driver set to plain paper, greyscale, black ink only. Both devices were loaded with 914-mm rolls, with each file set to auto-rotate to save media.

Copy Productivity

A1 (Landscape) First-Copy-Out Productivity: Fast/Speed mode

	Canon imagePROGRAF iPF785 MFP (time in seconds)	Epson SureColor SC-T5200 MFP (time in seconds)
Mono	47.2	NA*
Greyscale	47.9	36.9
Colour	56.7	36.9

*Not supported by the Epson SC-T5200 MFP

The single-page A1 (L) document was set to copy at 300-dpi scan resolution with copy settings left in default mode, with the exception of document size, which was set to A1 (Landscape). Print settings were set to Fast/Speed mode. Times were recorded from scan initiation to page exiting.

A1 (Landscape) First-Copy-Out Productivity: Canon Standard and Best modes/Epson Fine mode

	Canon imagePROGRAF iPF785 MFP Standard mode (time in seconds)	Canon imagePROGRAF iPF785 MFP Best mode (time in seconds)	Epson SureColor SC-T5200 MFP Fine mode (time in seconds)
Mono	59.3	102.5	NA*
Greyscale	68.8	137.9	127.8
Colour	85.8	185.9	129.1

*Not supported by the Epson SC-T5200 MFP

The single-page A1 (L) document was set to copy at 300-dpi scan resolution with copy settings left in default mode, with the exception of document size, which was set to A1 (Landscape). Print settings were set to Canon's Standard and Best modes and Epson's Fine mode. Times were recorded from scan initiation to page exiting.

A0 First-Copy-Out Productivity: Fast/Speed mode

	Canon imagePROGRAF iPF785 MFP (time in seconds)	Epson SureColor SC-T5200 MFP (time in seconds)
Mono	67.7	NA*
Greyscale	74.5	65.6
Colour	94.0	64.0

*Not supported by the Epson SC-T5200 MFP

The single-page A0 document was set to copy at 300dpi scan resolution with copy settings left in default mode, with the exception of document size which was set to A0. Print settings were set to Fast/Speed mode. Times were recorded from scan initiation to page exiting.

A0 First-Copy-Out Productivity: Canon Standard and Best modes and Epson Fine mode

	Canon imagePROGRAF iPF785 MFP Standard mode (time in seconds)	Canon imagePROGRAF iPF785 MFP Best mode (time in seconds)	Epson SureColor SC-T5200 MFP Fine mode (time in seconds)
Mono	100.8	202.9	NA*
Greyscale	117.5	271.3	249.6
Colour	152.9	357.1	253.1

*Not supported by the Epson SC-T5200 MFP

The single-page A0 document was set to copy at 300dpi scan resolution with copy settings left in default mode, with the exception of document size which was set to A0. Print settings were set to Canon's Standard and Best modes and Epson's Fine mode. Times were recorded for scan initiation to page exiting.

Scan Productivity

Batch Scanning Productivity

Batch Throughput Speed A1 (Landscape) Time in seconds to scan 10 pages

	Canon imagePROGRAF iPF785 MFP		Epson SureColor SC-T5200 MFP	
	Scan Time (seconds)	A1 (L) Pages/Hour	Scan Time (seconds)	A1 (L) Pages/Hour
Black 200 dpi	155.9	230.9	NA*	NA*
Black 300 dpi	159.1	226.3	NA*	NA*
Grey 200 dpi	144.9	248.4	NA*	NA*
Grey 300 dpi	149.2	241.3	NA*	NA*
Full Colour 200 dpi	206.6	174.2	NA*	NA*
Full Colour 300 dpi	248.6	144.8	NA*	NA*

* Batch Scanning is not supported by the Epson device

The 10-page A1 (L) document was scanned in batch mode with devices left in default mode, with the exception of document size, which was set to A1 (Landscape), and colour mode and resolution option changes as reflected in the table above. Applications were set to save jobs as PDFs on the test PC with auto-naming enabled. Timing was taken from initiation to when the final page exited the scanner.

A1 Single-Page Scanning Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP	Canon % Faster/Slower (-) than Epson
	Scan Time (seconds)	Scan Time (seconds)	
Black 200 dpi	6.9	NA*	NA*
Black 300 dpi	8.6	NA*	NA*
Grey 200 dpi	6.4	5.5	-16.79
Grey 300 dpi	8.2	7.4	-10.66
Full Colour 200 dpi	14.3	5.5	-161.90
Full Colour 300 dpi	18.5	7.5	-147.66

*Not supported by the Epson SC-T5200 MFP

The single-page A1 document was scanned with devices left in default mode, with document size set to A1 (Landscape) and colour mode and resolution option changes as reflected in the table above. Applications were set to save jobs as PDFs on the test PC with auto-naming enabled. Each test was conducted twice and an average reading reported. Timing was taken from initiation to when the page exited the scanner.

A1 Single Page Scan to Desktop Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP	Canon % Faster/Slower (-) than Epson
	Scan Time (seconds)	Scan Time (seconds)	
Black 200 dpi	8.2	NA*	NA*
Black 300 dpi	9.4	NA*	NA*
Grey 200 dpi	7.8	11.2	30.23
Grey 300 dpi	11.5	11.3	-2.13
Full Colour 200 dpi	15.0	11.3	-33.10
Full Colour 300 dpi	19.3	11.1	-73.87

*Not supported by the Epson SC-T5200 MFP

The single-page A1 document was scanned with devices left in default mode, with document size set to A1 (Landscape) and colour mode and resolution option changes as reflected in the table above. Applications were set to save jobs as PDFs on the test PC with auto-naming enabled. Each test was conducted twice and an average reading reported. Timing taken from initiation to the page being accessible at the desktop.

A0 Single Page Scanning Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP	Canon % Faster/Slower (-) than Epson
	Scan Time (seconds)	Scan Time (seconds)	
Black 200 dpi	9.3	NA*	NA*
Black 300 dpi	11.5	NA*	NA*
Grey 200 dpi	9.6	9.4	-1.91
Grey 300 dpi	16.6	16.1	-3.36
Full Colour 200 dpi	21.5	9.3	-131.18
Full Colour 300 dpi	30.2	15.8	-90.66

*Not supported by the Epson SC-T5200 MFP

The single-page A0 document was scanned with devices left in default mode, with document size set to A0 and colour mode and resolution option changes as reflected in the table above. Applications were set to save jobs as PDFs on the test PC with auto-naming enabled. Each test was conducted twice and an average reading reported. Timing was taken from initiation to the page exiting the scanner

A0 Single Page Scan to Desktop Productivity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP	Canon % Faster/Slower (-) than Epson
	Scan Time (seconds)	Scan Time (seconds)	
Black 200 dpi	10.1	NA*	NA*
Black 300 dpi	11.7	NA*	NA*
Grey 200 dpi	10.5	16.3	35.62
Grey 300 dpi	18.3	21.2	13.56
Full Colour 200 dpi	23.2	16.1	-43.83
Full Colour 300dpi	31.6	21.2	-48.92

*Not supported by the Epson SC-T5200 MFP

The single-page A0 document was scanned with devices left in default mode, with document size set to A0 and colour mode and resolution option changes as reflected in the table above. Applications were set to save jobs as PDFs on the test PC with auto-naming enabled. Each test was conducted twice and an average reading reported. Timing was taken from initiation to the page being accessible at the desktop.

Colour Print Quality

Colour Optical Density Evaluation

Canon imagePROGRAF iPF785 MFP						
Plain Paper						
	Fast		Standard		High	
	50%	100%	50%	100%	50%	100%
Cyan	0.60	1.04	0.65	1.15	0.61	1.15
Magenta	0.55	0.99	0.63	1.11	0.61	1.13
Yellow	0.45	0.77	0.52	0.88	0.51	0.89
Black	0.58	1.42	0.70	1.50	0.68	1.48

Epson SureColor SC-T5200 MFP						
Plain Paper						
	Fast		Normal		Best	
	50%	100%	50%	100%	50%	100%
Cyan	0.39	1.12	0.36	1.08	0.39	1.07
Magenta	0.34	0.92	0.28	0.89	0.29	0.97
Yellow	0.37	0.87	0.38	0.95	0.35	0.98
Black	0.66	1.32	0.64	1.45	0.64	1.40

Note: Colour density readings were assessed by printing a BLI test file on plain paper in default colour settings at all quality settings available and measuring the density of 100% dot fill and 50% dot fill using an XRite 508 densitometer.

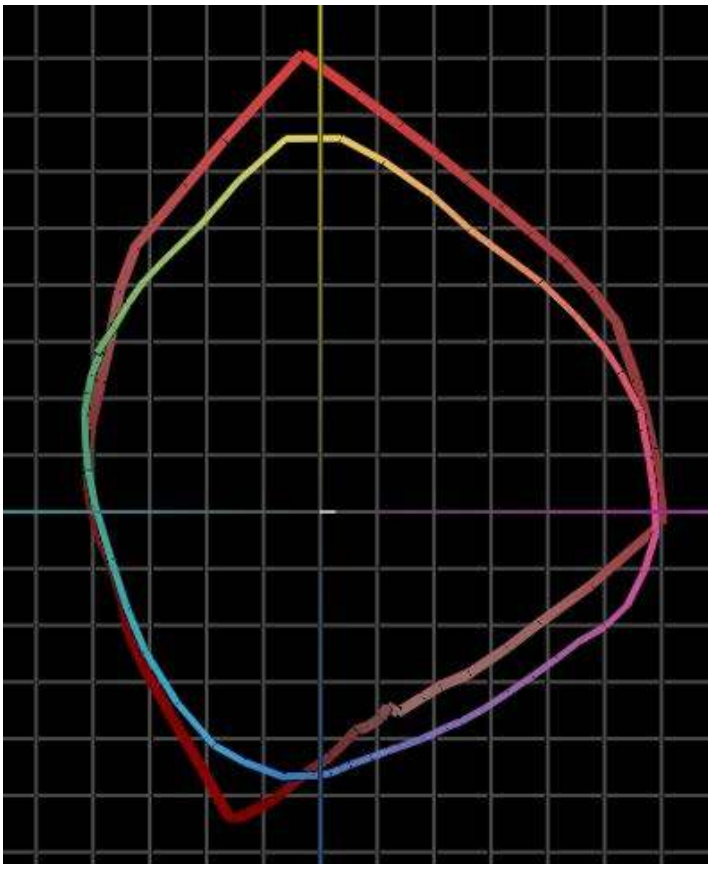
Canon imagePROGRAF iPF785 MFP						
Glossy Photo Paper 240 gsm						
	Fast		Standard		High	
	50%	100%	50%	100%	50%	100%
Cyan	0.56	2.05	0.55	2.04	0.55	2.03
Magenta	0.50	1.67	0.50	1.67	0.50	1.66
Yellow	0.40	1.02	0.40	1.01	0.41	1.01
Black	0.85	2.38	0.85	2.37	0.85	2.39

Epson SureColor SC-T5200 MFP						
Glossy Photo Paper 240 gsm						
	Fast		Normal		Best	
	50%	100%	50%	100%	50%	100%
Cyan	0.48	1.52	0.48	1.62	0.51	1.81
Magenta	0.33	1.24	0.34	1.24	0.33	1.26
Yellow	0.51	1.43	0.50	1.43	0.56	1.42
Black	0.75	2.52	0.75	2.52	0.77	2.56

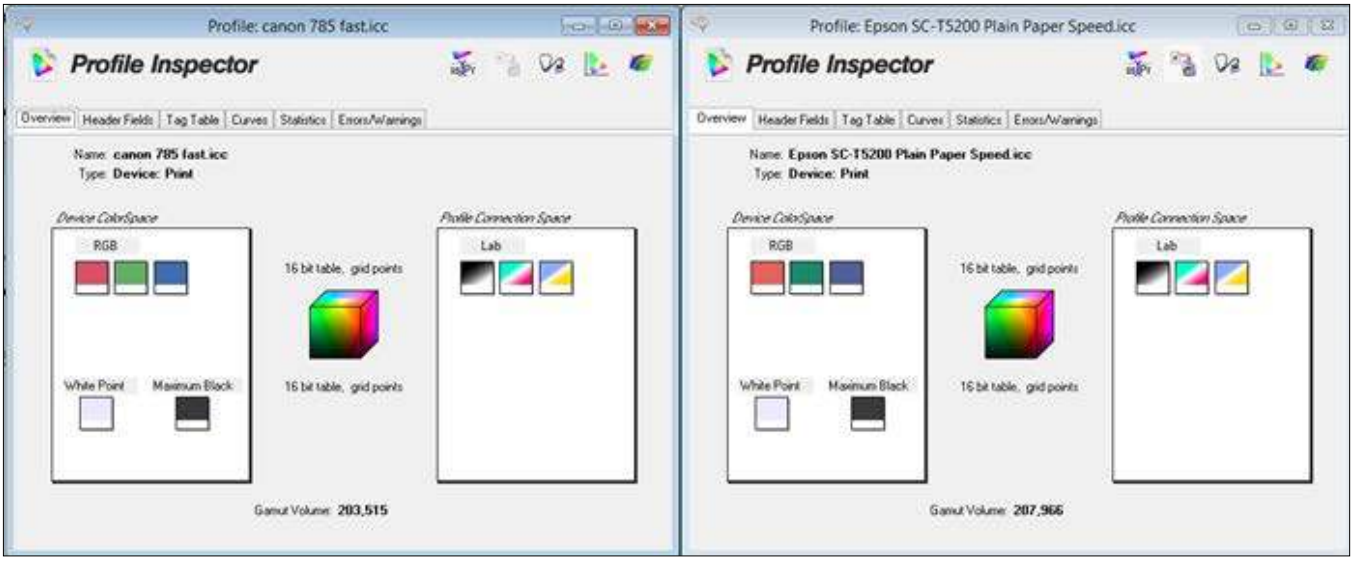
Note: Colour density readings were assessed by printing a BLI test file on 240 gsm glossy photo paper in default colour settings at all quality settings available and measuring the density of 100% dot fill and 50% dot fill using an XRite 508 densitometer

Colour Gamut Comparisons

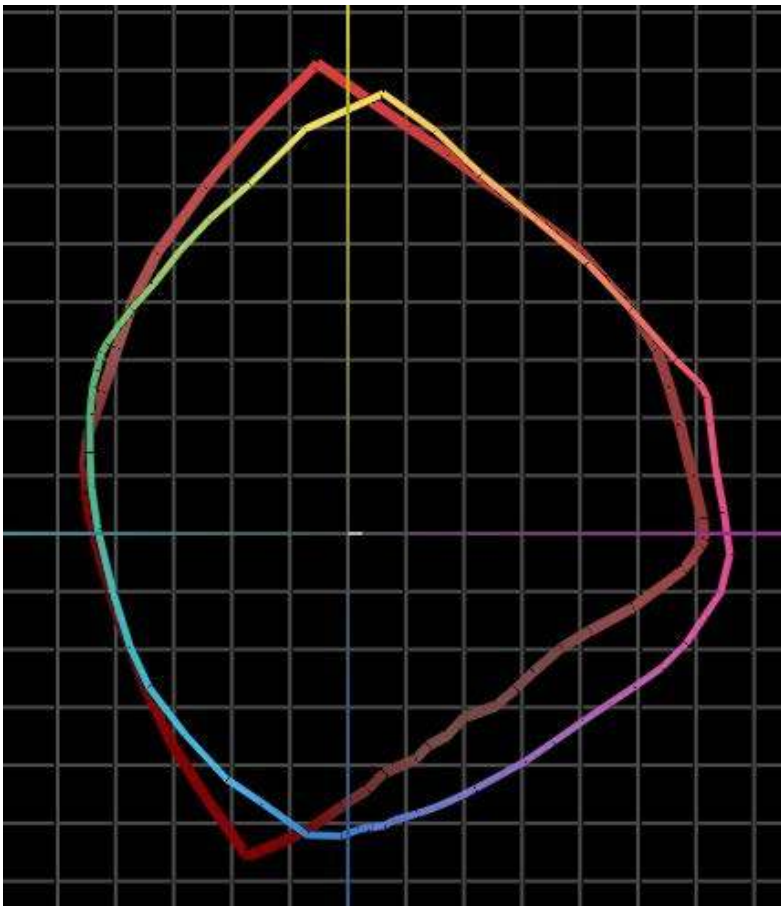
Media Type/Settings	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP	Canon % larger/smaller (-) than Epson
Plain Paper Fast	203,359	207,966	-2.1%%
Plain Paper Standard	273,359	222,735	22.7%
Plain Paper High	272,598	236,304	13.4%
Glossy Photo Best	488,074	702,544	-30.5%



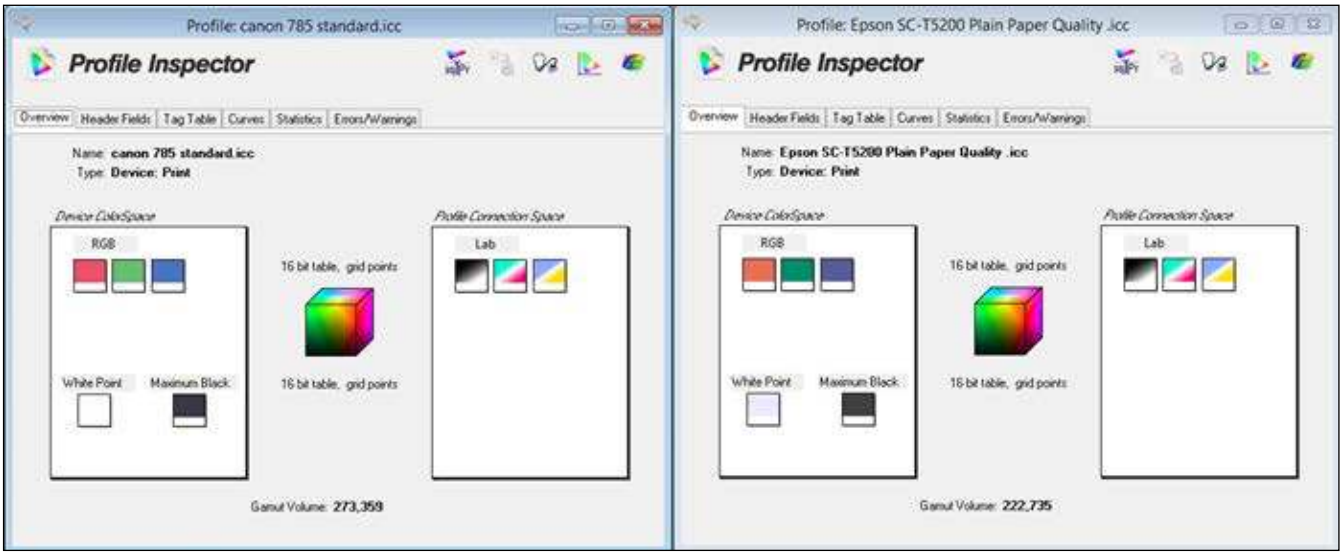
Epson SC-T5200 MFP colour gamut on plain paper in Speed mode (red) versus Canon imagePROGRAF iPF785 MFP colour gamut (shown chromatically) on plain paper in Fast mode.



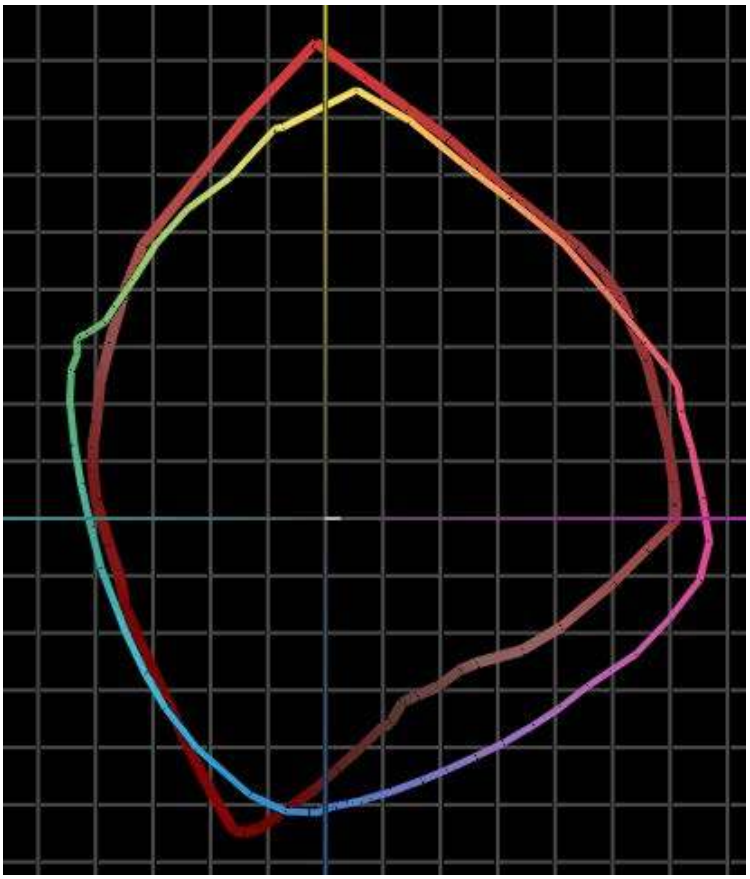
Colour gamut profiles for Canon iPF785 MFP on plain paper in Fast mode (left) and Epson SureColor SC-T5200 MFP (right) in Speed mode.



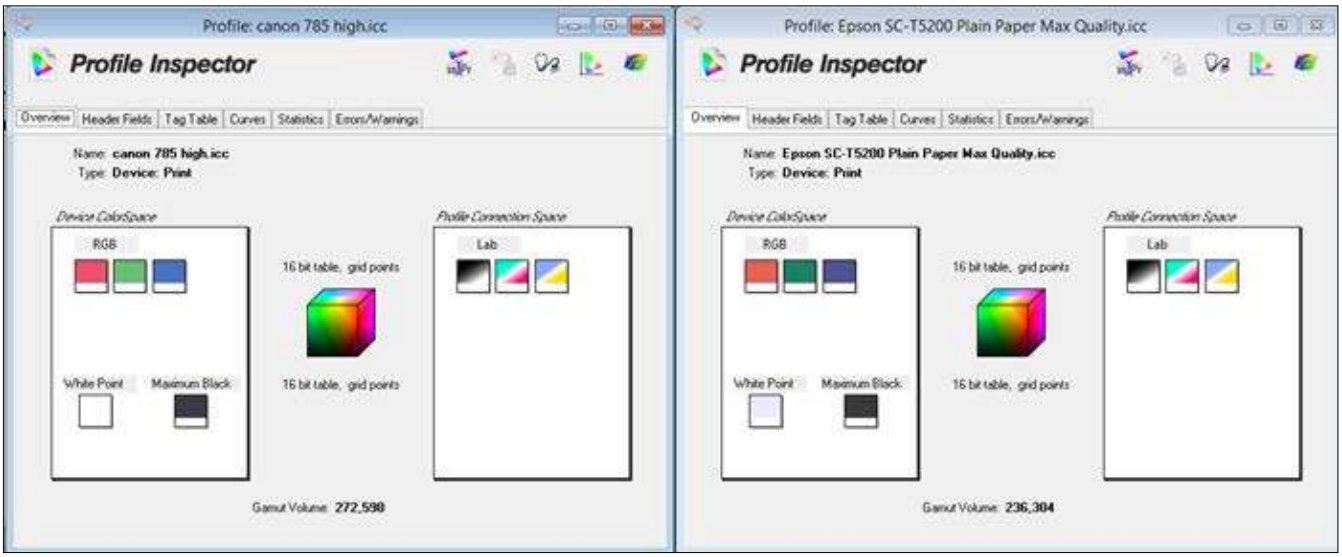
Epson SC-T5200 MFP colour gamut on plain paper in Quality mode (red) versus Canon iPF785 MFP colour gamut (shown chromatically) on plain paper in Standard mode.



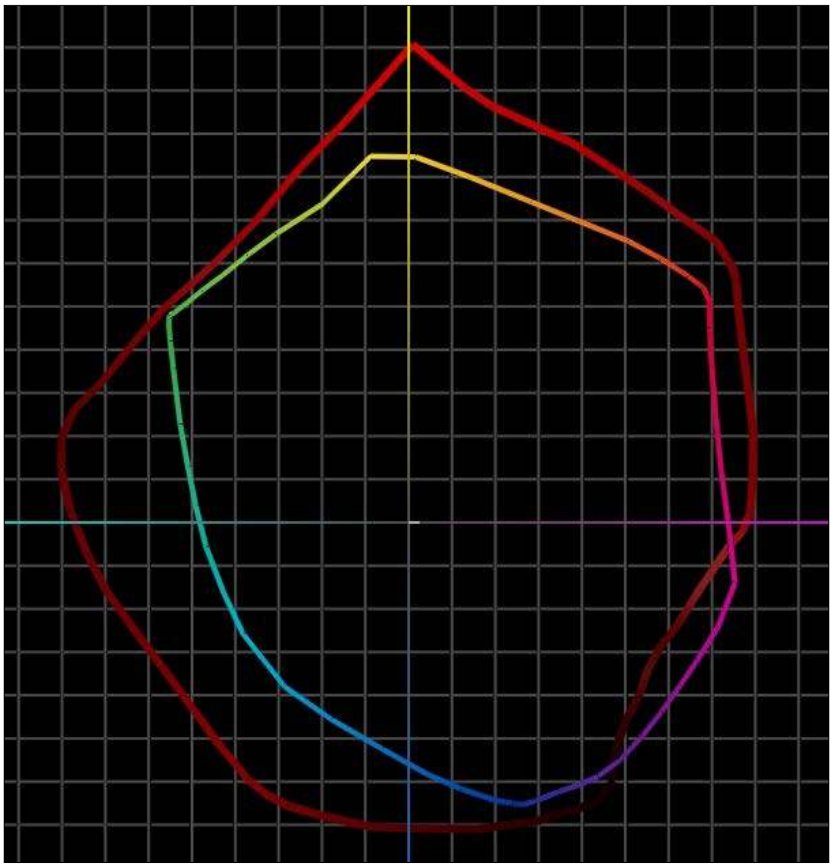
Colour gamut profiles for Canon iPF785 MFP on plain paper in Standard mode (left) and Epson SureColor SC-T5200 MFP (right) in Quality mode.



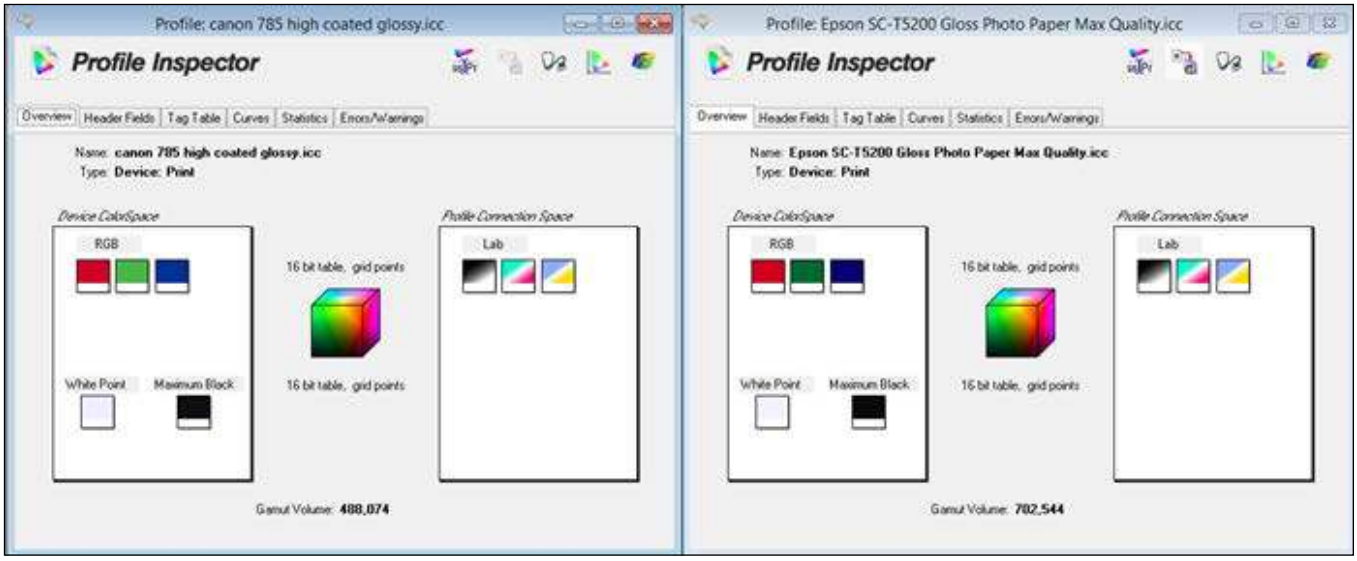
Epson SC-T5200 MFP colour gamut on plain paper in Max Quality settings (red) versus Canon iPF785 MFP colour gamut (shown chromatically) on plain paper in High quality settings.



Colour gamut profiles for Canon iPF785 MFP on plain paper in High quality mode (left) and Epson SC-T5200 MFP (right) in Max Quality mode.



Epson SC-T5200 MFP colour gamut on glossy photo quality paper in Max Quality settings (red) versus Canon iPF785 MFP colour gamut (shown chromatically) on glossy photo quality paper in High quality settings.



Colour gamut profiles for Canon iPF785 MFP on photo quality paper in High quality mode (left) and Epson SC-T5200 MFP (right) in Max Quality mode.

Black Print Quality

Solid Density

	Canon imagePROGRAF iPF785 MFP			Epson SureColor SC-T5200 MFP		
	Fast	Standard	High	Speed	Quality	Max Quality
Density Block						
1	1.39	1.46	1.42	1.40	1.44	1.35
2	1.41	1.44	1.40	1.39	1.45	1.37
3	1.39	1.46	1.43	1.39	1.42	1.36
4	1.41	1.46	1.44	1.38	1.43	1.35
AVERAGE	1.40	1.46	1.42	1.39	1.44	1.36

Note: Solid black density measurements are based on four readings taken from a BLI proprietary PDF test target file corresponding to four different 100% solid black locations on the output. The output was assessed at all quality settings available, with the Canon driver set to plain paper/monochrome setting and the EPSON driver set to plain paper, greyscale, black ink only. Density was measured using an XRite 508 densitometer.

Copy Quality

Solid Density

	Original Target	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Cyan	1.30	0.77	0.91
Magenta	1.36	0.94	0.91
Yellow	0.89	0.63	0.89
Black	1.78	1.16	1.26

Note: Solid density measurements in normal/colour copy mode based on copying a Katun test original containing blocks of all solid colours (based on an average of two readings for each colour) printed on plain paper. Density was measured using an XRite 508 densitometer.

Colour Fidelity

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
McDonalds	12.4	5.5
Coca Cola Red	26.1	19.6
FedEx Blue	17.5	16.8
Fed Ex Green	15.7	4.6
Microsoft	7.1	8.3
Sun Microsystems	11.5	7.9
Ikea Blue	15.3	9.8
Ikea Yellow	24.5	12.7
Time Fortune 500	23.1	16.0
Quark	14.7	4.1
Versonic	19.6	19.2
T-Mobile Red	14.3	13.6
AVERAGE	16.8	11.5

BLI's Pantone test chart was used for Image Quality testing, with Best/Fine Quality settings using 24-bit colour in the case of both models. Delta E measurements recorded the accuracy with which 12 Pantone corporate logo colours were reproduced.

Dimensional Accuracy

	Canon imagePROGRAF iPF785 MFP	Epson SureColor SC-T5200 MFP
Variation in line length in mm (scanned in landscape)	0.1	0.2
Variation in line length in mm (scanned in portrait)	0.3	0.2

Dimensional Accuracy was determined using the Applied Images QA-1 Test Chart (150 mm line length) and the Adobe Photoshop Measuring Tool. Charts were scanned in both Portrait and Landscape mode using the highest resolution available (1200 and 600 dpi) with both devices set to Line, B&W mode, and saved as JPEG files.

Device Feature Set

	Canon imagePROGRAF iPF785 MFP	Advantage		Epson SureColor SC-T5200 MFP
User Interface	22" Colour Touchscreen LCD	✔		2.7" LCD display control panel
Scanner Features				
Optical resolution (dpi)	1200	✔		600
Scanning resolution (dpi)	100, 200, 300, 400, 600, 1200	✔		200, 300, 360, 400, 600
Colour Scanning Speed	7.62 cm (3")/sec. (200 dpi/24-bit)		✔	8.4 cm (3.3")/sec.
Black Scanning Speed	33.0 cm (13")/sec. (200 dpi/24-bit)	✔		8.4 cm (3.3")/sec.
Scanning Mode	24-bit RGB Colour, 8-bit Greyscale, 1-bit Black & White	✔		24-bit RGB Colour, 8-bit Greyscale
Max. Document Size	1,067 mm x 15,000 mm	✔		965.2 mm x 2,438.4 mm

	Canon imagePROGRAF iPF785 MFP	Advantage		Epson SureColor SC-T5200 MFP
Max. Scanning Width	1,016 mm (40")	✔		914 mm (36")
Max. Thickness of Paper (mm)	2.0 (with rear exit paper path)	✔		0.05 to 1.3
Paper Path	Front (U-turn or switch-back), rear (straight)			Front (U-turn or switch-back), rear (straight)
File Formats	TIFF, JPEG, PDF	✔		JPEG, PDF
File Saving Area	Network folder, USB memory, Send by email, HDD (controller PC)	✔		Network folder, HDD (optional), Send by email (SMTP)
Presets of Document Types	Colour Photo, Colour Graphics, Colour Lines, Grey Photo, Grey Lines, B&W, B&W Background Removal 1-3	✔		Text/Line Drawing, Tracing Paper, Recycled Paper, Blueprint, Poster
Ability to Save Custom Presets	Yes	✔		No
Background Removal	Yes (in preview edits)	✔		No
Preview Scaling	Yes (Linear)	✔		No
Deskew	Yes (included in preview edits)	✔		No
Preview Editing	Yes (Skew, Crop, Brightness, Sharpen, Black Point, White Point, Mirror, Invert)	✔		No
Scan Speed Adjustment	Yes	✔		No
Batch Scanning	Yes	✔		No
Scan to Email	Yes			Yes
Auto Paper Size Detection	Yes			Yes
Rename and Save	Yes	✔		No
Printer Features				
Max. print quality (dpi)	2400 x 1200		✔	2880 x 1440
Number of inks	5			5
Ink tanks replaceable during operation	Yes	✔		No
Ink-drop size	4 picoliter		✔	3.5 picoliter (variable)
Ink cartridge capacity	130 ml/300 ml for all colours		✔	110 ml/350 ml/700 ml for all colours
Starter Ink (total)	490 ml (90 ml K, C, M, Y; 130 ml MBK)		✔	550 ml (110 ml C, M, Y, MBK, PK)
Number of nozzles	MBK: 5,120 nozzles, Other colours: 2,560 nozzles each; 15,360 in total	✔		3,600 (720 per colour)
Number of printheads	1 (User-replaceable)			1
Max. Paper Width	914 mm (36")			914 mm (36")
Line accuracy	+/-0.1% or less			+/-0.1%
Minimum line width	0.02 mm			0.02 mm
Minimum print margins	3 mm			3 mm
Borderless (0 mm) printing	Yes			Yes
Number of paper rolls	1			1 (a dual-roll option is available with the SC-T5200D model)
Maximum outside diameter of roll paper	150 mm			149.86 mm

	Canon imagePROGRAF iPF785 MFP	Advantage		Epson SureColor SC-T5200 MFP
Maximum cut-sheet media length	1.6 m	✔		914 mm
Maximum roll media thickness	0.8 mm			0.8 mm
Media loading	Front			Front
Optional media handling	Roll holder set			Roll media adapter
Standard RAM	32 GB	✔		1 GB
Maximum RAM	32 GB	✔		1 GB
Hard drive	320 GB (standard)	✔		320 GB (optional)
Interface	10/100/1000Base-TX, USB 2.0			10/100/1000Base-T, USB 2.0
PDL	GARO, HP-GL/2, EPSON RTL			HP-GL/2, HP RTL, Epson ESC/P
Net weight (unpacked)	117 kg			173 kg
Power consumption when in standby	0.5 W			0.5 W
Power consumption when active	140 W		✔	65 W
Acoustic pressure, active	48 dB(A)	✔		50 dB(A)
Acoustic pressure, standby	35 dB(A)			INA
Acoustic power, active	6.5 B(A)	✔		6.8 B(A)
Acoustic power, standby	INA			INA

Driver Feature Set

	Canon imagePROGRAF iPF785 MFP	Advantage		Epson SureColor SC-T5200 MFP
Speed settings	5 (Fast 300, Fast 600, Standard 600, High 600 and High 1200)	✔		3 (Speed, Quality, Max Quality), depending on paper chosen
Economy mode	Yes	✔		No
Predefined profiles	7 default (Poster, CAD colour and mono, GIS Perspective, Photo, Office Doc, Faithful Colour Reproduction)		✔	8 default (Poster (Illustration & Text), Poster (Photo), Office Document (Black), Office Document (Colour), CAD/Line Drawing (Black), CAD/Line Drawing (Colour), Perspective/GIS, CAD/Line Drawing (Bi-Level))
Overview of profile settings provided	Yes			Yes
Media profiles	44 + 5 user-definable	✔		20
IQ optimized for print profiles	Yes			Yes
Watermark	Yes	✔		No
Sharpen text	Yes			Yes
Thicken fine lines	Yes	✔		No
Mirror image	Yes			Yes
Multi-up printing	Yes, 2 to 16	✔		Yes, 2 and 4
Poster print mode	Yes (2 by 2)		✔	Yes (4 by 4)
Page stamping	Yes (Date, Time, Name, Page Number)		✔	Yes (Date, Time, Document/User/ Printer Name, Media Type, Print Quality Level, Resolution, Print Mode, High Speed, Finest Detail, Edge Smoothing, Colour Adjustment and Value, Colour Density)
Image rotation	Yes – auto 90 or 180 degrees			Yes – auto 180 degrees
Option to preview before print	Yes			Yes
CMY balance adjustment	Yes			Yes
Brightness adjustment	Yes			Yes
Contrast adjustment	Yes			Yes
Saturation adjustment	Yes			Yes
Advanced colour management options	Yes			Yes
Enlargement Copy Mode	Yes			Yes
Free Layout Capability	Yes			Yes
MS Office Plug-in	Yes			Yes
Accounting Capability	Yes			Yes
Disable automatic cutter	Yes			Yes
Unidirectional printing selection option	Yes	✔		No
Integration with MFP	Yes			Yes

iPF785MFP also offers PosterArtist Lite as bundled software.

Test Environment

Testing was conducted in BLI's European test lab, in an atmospherically controlled environment monitored by a 24/7 ExTech RH520 Temperature/RH chart recorder, ensuring that typical office conditions were maintained. All paper used in testing was allowed to acclimatize inside the facility for a minimum of 12 hours before being used.

Test Equipment

Test equipment: BLI's dedicated test network in Europe, consisting of Windows 2008 servers, Windows 7 workstations, 10/100/1000BaseTX network switches and CAT5e/6 cabling.

Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures. In addition to a number of proprietary test documents, BLI uses industry standard files including an IT8 test file and an ASTM monochrome test document for evaluating black image quality. In addition to a visual observation, colour print quality and gamut size is evaluated using a profile software tool from Colour Confidence that was read using an EFI ES-1000 colour spectrophotometer and analysed using Chromix ColorThink Pro 3.0 software. Density of black and colour output was measured using an X-Rite 508 densitometer.

About Buyers Laboratory LLC

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