

## Canon imagePROGRAF iPF755 vs HP DesignJet T1100 44"

|                           | Canon iPF755 | HP DJ T1100 44" |
|---------------------------|--------------|-----------------|
| Advantage ✓               |              |                 |
| Colour Print Quality      | ✓            |                 |
| Black Print Quality       |              |                 |
| Colour Print Productivity | ✓            |                 |
| Black Print Productivity  | ✓            |                 |
| Cost of Ownership         | ✓            |                 |
| Feature Set               |              |                 |



Canon imagePROGRAF iPF755 and HP Designjet T1100 44" under test in BLI's European test lab

### TEST OBJECTIVE

BLI International (UK) Ltd (BLI) was commissioned by Canon Europe to conduct confidential document imaging device performance testing on the Canon imagePROGRAF iPF755 and the HP Designjet T1100 44" which was tested in its entry-level HP-GL2 configuration, and produce a report comparing the relative strengths and weaknesses of the two products in terms of productivity, image quality, driver feature set and cost of ownership. All testing was performed in BLI's test facility in Wokingham, UK.

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## Executive Summary

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The Canon imagePROGRAF iPF755 outperformed the HP Designjet T1100 44" in most aspects of performance evaluated in the test. It proved to be significantly more productive, with faster speeds across a wide range of productivity assessment tests in both colour and black. Overall, it also holds the advantage in colour image quality, in spite of the fact that it has a smaller colour gamut. The HP model, however, offers superior photographic image output in black mode because of its true black output, whereas the Canon model's is limitation of printing in process black when glossy coated stock is used results in black output with a faint colour hue. The HP model also produced solid black output with higher density in all three modes than that of the Canon model. Still, the Canon model bests the HP model in its production of most other types of output in black mode, including half-tones, business graphics, text and line art.

During the cost of ownership evaluation, which involved more than 1,000 square meters of printing and assessments with three different document types, utilizing both standard/normal mode and economy/ mode settings. In standard/normal settings the Canon imagePROGRAF iPF755 consumed less ink in both weight and percentage of ink used compared to the HP model in both the line art and GIS workflow, but used more ink and a higher percentage of ink when carrying out the 3D CAD / CAM test run. In economy mode, the Canon showed a significant ink usage advantage over the HP model in its fast economode mode with the Canon consuming considerably less ink than the HP on both GIS and 3D CAD/CAM workflows; line art was not tested in economy modes, due to the file being made up mostly of lines.

The Canon model also offers a number of printer driver feature advantages over the HP model, with colour management and predefined profile ease of use being two stand-out areas. It should be noted, however, that this analysis was based on the HP Designjet T1100 44" and not the PS model, which would offer more colour management options compared to the entry-level Windows HP-GL/2-driven model that was tested.

## Colour Image Quality

|                     | CANON iPF755 | HP DJ T1100 44" |
|---------------------|--------------|-----------------|
| Advantage ✓         |              |                 |
| Text                | ✓            |                 |
| Fine Lines          | ✓            |                 |
| Halftone Range      | ✓            |                 |
| Halftone Fill       | ✓            |                 |
| Solids              |              |                 |
| AEC Graphics        | ✓            |                 |
| GIS Graphics        | ✓            |                 |
| Business Graphics   | ✓            |                 |
| Photographic Images | ✓            |                 |
| Colour Gamut        |              | ✓               |

+, – and ○ represent positive, negative and neutral attributes, respectively, of the Canon model relative to the HP model.

### Canon iPF755 v HP DJ T1100 44"

- + The Canon device successfully printed BLI's Excel test chart which contains a selection of cell formats and fill patterns. In contrast, the HP device failed to correctly reproduce some cell patterns.
- + Text printed by the Canon unit in colours other than black was more vibrant and bolder compared with the output of the HP unit and suffered less from ink overspray and bleed.
- Solid fills were richer on the Canon in draft mode (especially cyan and black) compared to the HP, but were marginally more intense on the HP in best quality mode with the devices sharing the spoils in default mode.
- + The HP device experienced problems reproducing some more graphically intensive PDF files, with portions of the document missing. HP recognizes this as an issue and on its Web site recommends that users select 'Print as bitmap' from the advanced section of the driver tab (which is not a default measure). The image quality issues were much less severe with this bitmap measure enabled, however, the downside is increased bandwidth demand and a consequent drop in productivity on the HP device. In one test conducted by BLI, a single-page A1 size PDF document spooled to 19.3 MB and printed in 32 seconds with bitmap printing disabled, but when bitmap printing was enabled, the same file spooled to 31.2 MB and took 46 seconds to print albeit with no data omissions.
- + Even with bitmap printing enabled, the HP model still experienced some image quality issues on graphically intensive PDFs, with halftone gradations being stepped, rather than smoothly migrating from light to dark, as reproduced by the Canon device.
- + High-resolution colour images printed on HQ satin coated paper by the Canon model had a more intense, well-defined appearance with greater depth compared with those printed by the HP model.
- + Fine lines and fonts were reproduced better by the Canon unit, with the HP unit's higher level of ink overspray and bleed resulting in less clarity. This could be seen clearly under magnification and even with the naked eye, with light coloured areas such as yellow having a black border from clearly visible bleed from the black ink.
- At default speed settings, the HP model displayed a colour gamut 10.1% larger on plain paper than the Canon model.

## Black Image Quality

|                     | Canon iPF755 | HP DJ T1100 44" |
|---------------------|--------------|-----------------|
| Advantage ✓         |              |                 |
| Text                | ✓            |                 |
| Fine Lines          | ✓            |                 |
| Halftone Range      | ✓            |                 |
| Halftone Fill       | ✓            |                 |
| Solids              |              | ✓               |
| AEC Graphics        | ✓            |                 |
| Business Graphics   | ✓            |                 |
| Photographic Images |              | ✓               |

### Canon iPF755 v HP DJ T1100 44"

- In black-only mode, the HP unit delivered higher solid black densities on draft and normal/standard modes, averaging 1.43 and 1.49 in draft and normal modes, respectively. At the same settings, the Canon unit delivered densities of 1.37 and 1.45, respectively. The Canon model delivered marginally higher black density in best quality, with an average density of 1.44 versus the HP model's 1.42.
- + Output produced by the HP unit on plain paper exhibited more ink overspray and bleed than output produced by the Canon unit, which resulted in less crisp fine lines and text.
- + The Canon model delivered moderately superior greyscale shades on plain paper with smoother transitions from light to dark compared with output produced by the HP model.
- Fine lines and fonts were produced to a comparable standard on both devices
- The Canon device's output options in monochrome on glossy coated media are limited to the Image setting in the print priority selection of the driver. Consequently, output on glossy media cannot be produced with black ink only (as this option is only available in line drawing/text mode), with the end result being that photographic output printed by the Canon model had a faintly coloured hue due to the composite creation of the black shades. The HP model did not have this limitation and delivered higher-quality monochrome output on glossy coated paper using only its black and grey ink supplies.

## Print Productivity

|   | CANON iPF755 | HP DJ T1100 44" |
|---|--------------|-----------------|
| <b>Advantage ✓</b>  |              |                 |
| 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) | ✓            |                 |
| Printing on High-Gloss Media  | ✓            |                 |

### Canon iPF755 v HP DJ T1100 44"

- + The Canon model delivered first-page-out time advantages versus the HP model from both the energy-save mode (87.5 seconds versus 136.1 seconds) and the ready state (62.4 seconds versus 128.0 seconds).
- + For single-set and five-set printing of a single-page A0-size test document, the Canon model displayed a speed advantage over the HP model of 46.5% on one set and 44.0% on five sets.
- + The Canon model delivered productivity advantages of 48.4%, 49.4% and 63.84% when the BLI 12-page Arch D-size DWF test file was run in colour draft, normal and best modes, respectively.
- + The Canon model also delivered productivity advantages of 46.1%, 46.4% and 62.9% when the BLI 12-page Arch D size DWF test file was run in monochrome in draft, normal and best modes, respectively.
- + In BLI's wide-format job stream (which simulates a busy network environment, with 10 jobs, each consisting of from one to five pages, being sent to the device at once), the Canon model outperformed the HP model, delivering all 19 pages in 1,169.0 seconds versus the HP model's 2,175.1 seconds.
- + When printing a high-resolution graphics file on glossy media, the Canon model delivered a productivity advantage over the HP model of 37.5% in default mode and 36.3% in highest-quality mode.

## Cost of Ownership

### DEFAULT 600-DPI MODE RESULTS

|  | Canon iPF755<br>Standard 600 dpi | HP DJ T1100 44"<br>Normal (Final) |
|--|----------------------------------|-----------------------------------|
| <b>LINE ART</b>  |                                  |                                   |
| Overall weight of ink used (grams)                       | 81.5g                            | 92.2g                             |
| Percentage of total ink used averaged across all colours | 9.8%                             | 11.3%                             |
| <b>3D CAD /CAM</b>                                       |                                  |                                   |
| Overall weight of ink used                               | 142.9g                           | 127.6g                            |
| Percentage of total ink used averaged across all colours | 17.2%                            | 15.6%                             |
| <b>GIS</b>   |                                  |                                   |
| Overall weight of ink used                               | 160.5g                           | 188.8g                            |
| Percentage of total ink used averaged across all colours | 19.4%                            | 23.3%                             |

### LOW-INK-USAGE MODE RESULTS

|  | Canon iPF755<br>Draft 300 Economy | HP DJ T1100 44"<br>Fast (Economode) |
|--|-----------------------------------|-------------------------------------|
| <b>3D CAD /CAM</b>                                       |                                   |                                     |
| Overall weight of ink used                               | 35.1g                             | 42.3g                               |
| Percentage of total ink used averaged across all colours | 4.2%                              | 5.2%                                |
| <b>GIS</b>   |                                   |                                     |
| Overall weight of ink used                               | 56.4g                             | 80.3g                               |
| Percentage of total ink used averaged across all colours | 6.8%                              | 9.8%                                |

### Canon iPF755 v HP DJ T1100 44"

- + The Canon imagePROGRAF iPF755 used less ink, both in terms of net weight and percentage of cartridge weight, compared to the HP Designjet T1100 44" in BLI's line art cost of ownership print run.
- The Canon imagePROGRAF iPF755 used more ink, both in terms of net weight and percentage of cartridge weight, than did the HP Designjet T1100 44" in BLI's 3D CAD/CAM cost of ownership print run.
- + The Canon imagePROGRAF iPF755 used less ink, both in terms of net weight and percentage of cartridge weight, than did the HP Designjet T1100 44" in BLI's GIS cost of ownership print run.
- + The Canon imagePROGRAF iPF755 in Draft 300dpi Economy mode used considerably less ink both in terms of net weight and percentage of cartridge weight, than did the HP Designjet T1100 44" in Fast Draft mode.

## Device Feature Set

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### Canon iPF755 v HP DJ T1100 44"

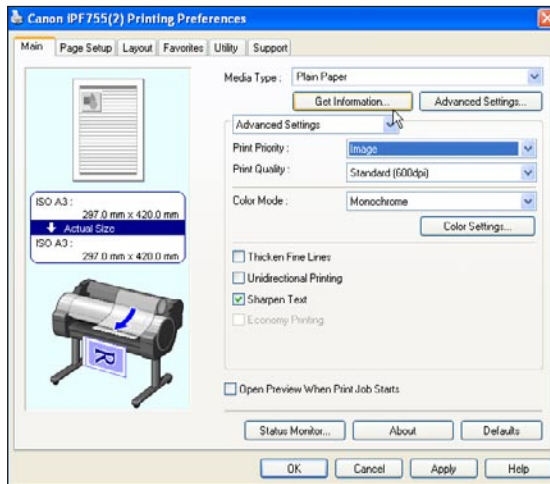
- + The Canon unit's ink delivery system dispenses a smaller drop size compared to the HP ink delivery system.
- The HP Designjet T1100 44" employs six inks, including grey, matte black and photo black; the Canon imagePROGRAF iPF755 employs six inks of which matte black takes up two supply lines.
- + The Canon model's ink tanks can be refilled during print operation, a feature not available to HP users who must wait for the device to be in standby mode.
- Both machines offer the same higher volume ink cartridge capacities (130ml), with the Canon offering a smaller 90ml cartridge option and the HP a 69ml option for colours except matte black
- + The Canon model offers borderless printing, whereas the HP model has limited borderless printing to Photo media.
- + The Canon model accommodates a larger roll size (150mm outside roll diameter) than the HP model (136mm outside roll diameter), allowing more prints to be run unattended before the roll requires replacement.
- The HP model can accommodate media up to 1,118mm wide, whilst the Canon model is limited to media up to 914.4mm wide.
- The HP model accommodates a longer printable paper length (91m) compared to the Canon model, which is limited to 18m, depending upon OS and application.
- + The Canon model can be reloaded with new media rolls from the front, whereas the HP model has to be loaded from behind, which means a larger overall footprint is required.
- + The Canon model offers a larger-capacity hard drive (80 GB) than the HP model's hard drive (40 GB).
- + The Canon model has a lower advertised peak energy value of only 140W compared to the HP model's 200W.
- + The Canon model includes a plug-in for Microsoft Office which provides a wizard printing walk through for users looking to create posters from Word, Excel or PowerPoint avoiding the need for complex resizing. This is not a feature offered on the HP model.
- + The Canon device includes a media mismatch option which allows jobs submitted to the device with media not currently loaded to be 'moved to the side' and allow other jobs submitted with the correct media to be processed, thereby reducing bottlenecks. The HP device does not offer this capability.

## Driver Feature Set

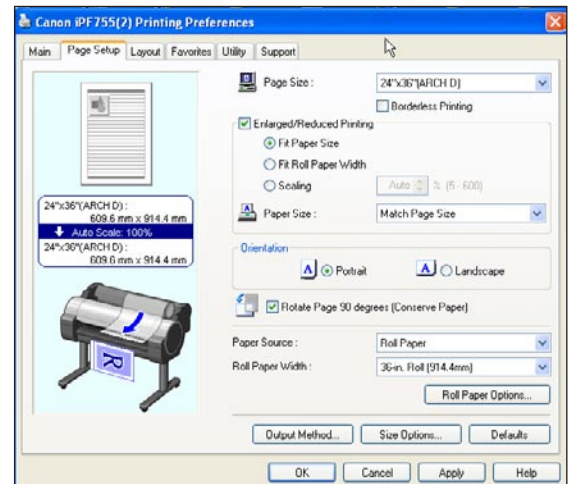
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### Canon iPF755 v HP DJ T1100 44"

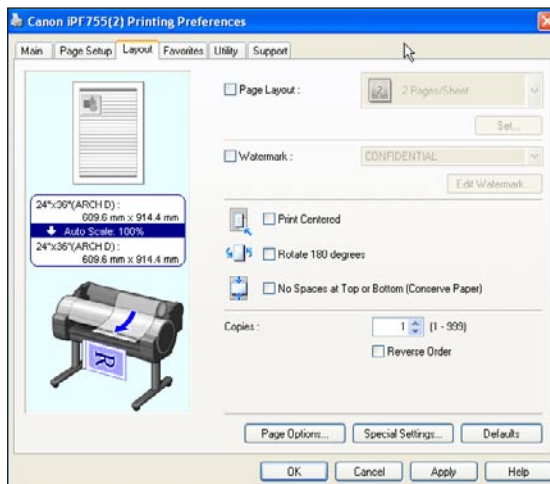
- + The Canon driver includes more predefined profiles (8 versus HP's 5) and also provides an overview screen, allowing users to see all settings of each profile. The HP offers no such summary option.
- + The Canon driver includes 47 media profiles versus 27 for the HP driver.
- + The Canon driver includes a watermark capability; the HP driver does not.
- + The Canon driver includes additional image enhancement options, such as sharpen text and thicken fine lines, whereas the HP driver offers neither.
- + The Canon driver includes both N-up (up to 16 up) and poster printing (2 x 2) capabilities; the HP driver offers neither.
- + The Canon driver includes page-stamping capabilities (date/user name/page number); the HP driver does not.
- + The Canon driver includes a utility (Colour imageRUNNER Enlargement Copy Mode) allowing users to integrate a Canon MFP device with the iPF755. Documents scanned by the Canon MFP are automatically routed to a hot folder, which is monitored by the driver of the iPF755. The image is then resized and printed, offering a fast, easy to use poster creation tool for office users. There is no such feature offered to HP users.
- + The Canon model's device status monitor can be accessed directly from the front tab of the driver, whereas for the HP model, device status is accessed via an icon on the services tab, requiring more clicks to access.
- + The Canon driver includes a wider selection of simple colour adjustment options, with brightness, contrast, saturation and CMYK sliding scale adjustments. The HP driver is limited to only CMY with a lightness control.
- + The Canon driver includes more advanced colour-matching capabilities, including the ability to match ICC profiles and select the rendering intent based on different elements in the document. As tested in its T1100 44" configuration without PostScript, the HP model offers limited colour-matching options, with no rendering-intent options. Note that the PostScript driver available with the PostScript configuration of the HP model would presumably offer more.
- + The Canon driver includes a unidirectional print selection, whereas the HP driver does not.
- The HP driver allows users to select monochrome output using black ink only in all modes, whereas the Canon model is limited to offering this feature on plain paper only.



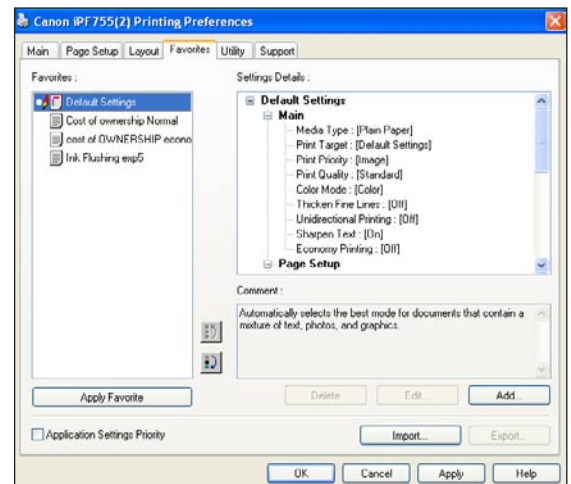
Canon Print Driver Main Tab



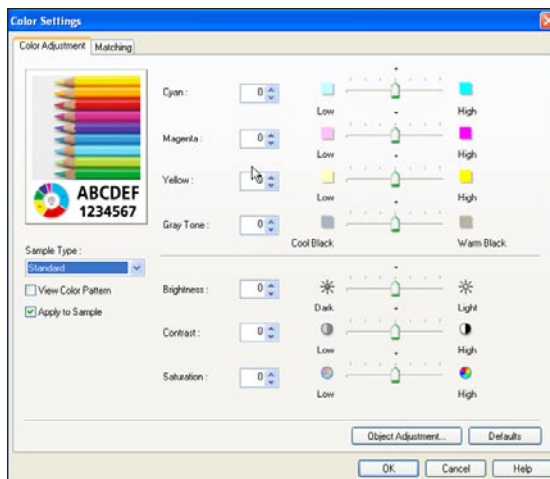
Canon Print Driver Page Setup Tab



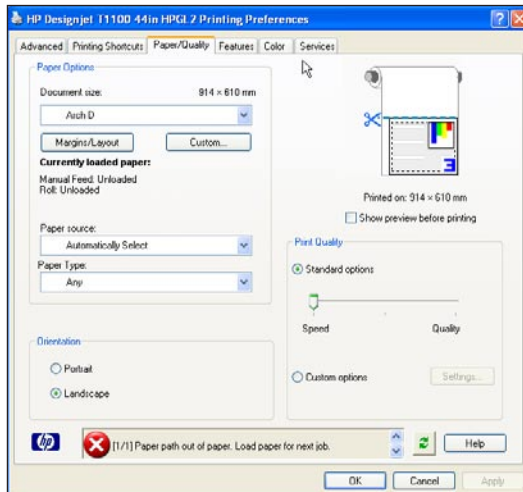
Canon Print Driver Layout Tab



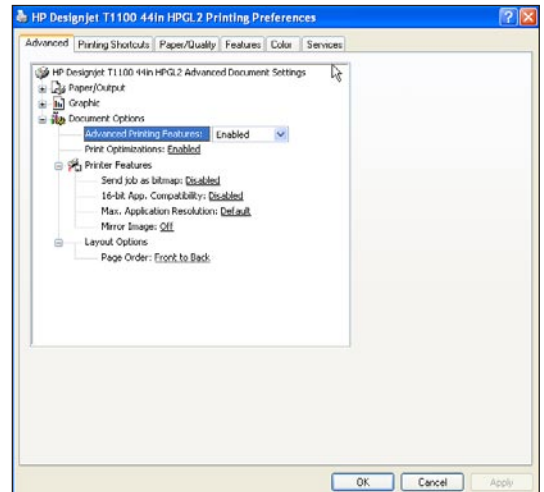
Canon Print Driver Settings Tab



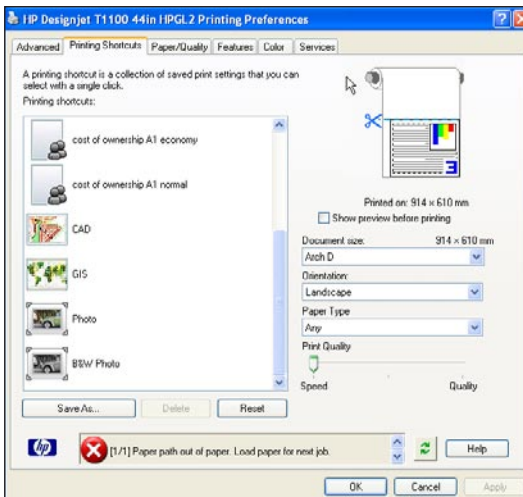
Canon Print Driver Colour Adjustment Tab



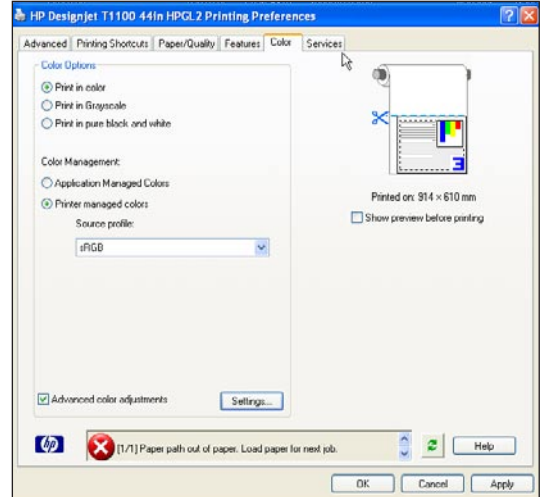
**HP Print Driver Paper Quality Tab**



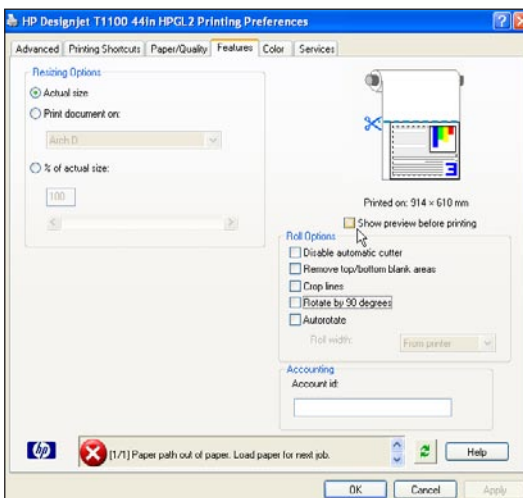
**HP Print Driver Advanced Settings Tab**



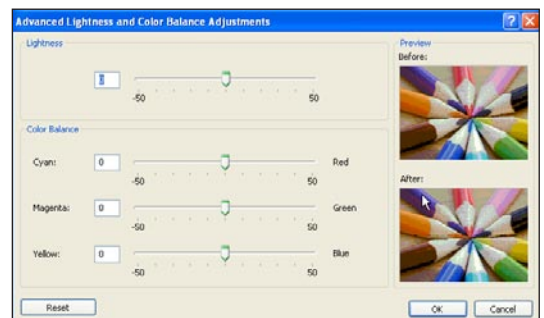
**HP Print Driver Shortcuts Tab**



**HP Print Driver Colour Settings Tab**



**HP Print Driver Features Tab**



**HP Print Driver Colour Adjustments Tab**

## Supporting Test Data

### Job Stream Productivity

#### MIXED FILE TYPES, SAME SIZE

| Sets | Canon iPF755<br>(time in seconds) | HP DJ T1100 44"<br>(time in seconds) |
|------|-----------------------------------|--------------------------------------|
| 1    | 1,169.0                           | 2,175.1                              |

BLI's job stream consists of 10 files, including PDF, TIFF 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 PRODUCTIVITY

|       | Canon iPF755<br>(time in seconds) |         |       | HP DJ T1100 44"<br>(time in seconds) |        |
|-------|-----------------------------------|---------|-------|--------------------------------------|--------|
| Draft | Standard                          | High    | Fast  | Normal                               | Best   |
| 425.1 | 708.3                             | 1,305.4 | 823.9 | 1,398.7                              | 3603.2 |

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 iPF755<br>(time in seconds) |         |       | HP DJ T1100 44"<br>(time in seconds) |        |
|-------|-----------------------------------|---------|-------|--------------------------------------|--------|
| Draft | Standard                          | High    | Fast  | Normal                               | Best   |
| 432.3 | 730.3                             | 1,336.2 | 801.3 | 1362.4                               | 3602.3 |

The 12-page DWF test file was printed with the Canon driver set to plain paper/monochrome setting and the HP driver set to plain paper, greyscale, black ink only. Both devices were loaded with 914mm 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 WEEKEND OF NON-USE

|                                | Canon iPF755<br>(time in seconds) | HP DJ T1100 44"<br>(time in seconds) |
|--------------------------------|-----------------------------------|--------------------------------------|
| Time Before Printing Commences | 38.5                              | 45.9                                 |
| First Print Out                | 87.5                              | 136.1                                |

## FIRST-PAGE-OUT PRODUCTIVITY FROM READY STATE

|                                | Canon iPF755<br>(time in seconds) | HP DJ T1100 44"<br>(time in seconds) |
|--------------------------------|-----------------------------------|--------------------------------------|
| Time Before Printing Commences | 13.6                              | 17.8                                 |
| First Print Out                | 62.4                              | 128.0                                |

First-page-out times are achieved by sending an Arch D-size PDF file to print, timing from release to page out with the Canon driver set to plain paper/monochrome setting and the HP 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 iPF755<br>(time in seconds) | HP DJ T1100 44"<br>(time in seconds) |
|----------------|-----------------------------------|--------------------------------------|
| First page out | 56.2                              | 105.1                                |
| 5 pages out    | 276.2                             | 493.2                                |

The single-page A0-size House 3D PDF test file was printed using the device driver with plain paper/colour setting in default speed mode. The actual time indicated is the time it took to RIP, image and deliver all pages of the test document to the collection bin.

## PRODUCTIVITY ON HIGH-GLOSS MEDIA AT DEFAULT AND MAXIMUM RESOLUTION SETTINGS

|                            | Canon iPF755<br>(time in seconds) | HP DJ T1100 44"<br>(time in seconds) |
|----------------------------|-----------------------------------|--------------------------------------|
| Default Speed Mode         | 136.9                             | 219.2                                |
| Highest Quality Speed Mode | 405.2                             | 636.4                                |

The single-page 24" x 27" graphic PDF file was printed using the device driver with high gloss paper/colour setting at default and highest-resolution speed modes.

The actual time indicated is the time it took to RIP, image and deliver the test document to the collection bin.

## Colour Print Quality

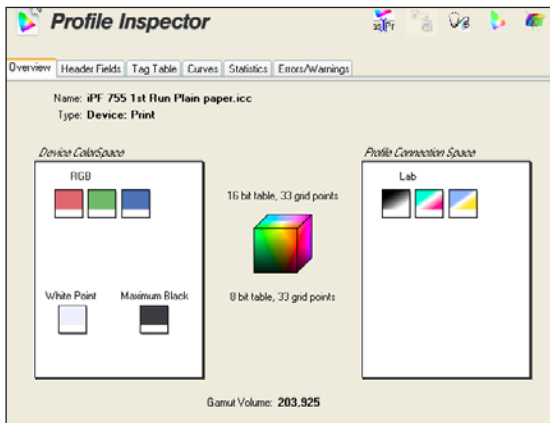
### CANON iPF755

| Plain Paper |       |      |          |      |      |      |
|-------------|-------|------|----------|------|------|------|
|             | Draft |      | Standard |      | High |      |
|             | 50%   | 100% | 50%      | 100% | 50%  | 100% |
| Cyan        | 0.55  | 0.86 | 0.51     | 0.84 | 0.53 | 0.87 |
| Magenta     | 0.44  | 0.91 | 0.43     | 0.97 | 0.44 | 0.98 |
| Yellow      | 0.36  | 0.75 | 0.34     | 0.81 | 0.34 | 0.84 |
| Black       | 0.44  | 1.20 | 0.43     | 1.15 | 0.44 | 1.19 |

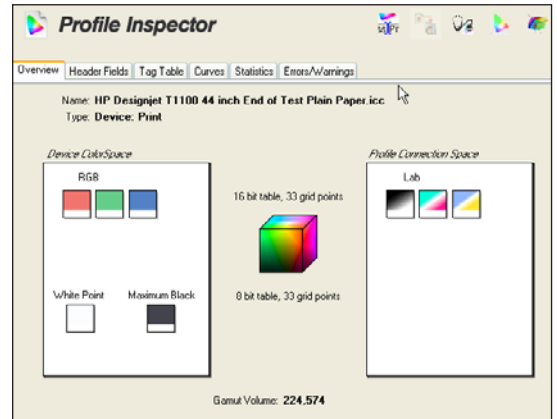
### HP DJ T1100 44"

| Plain Paper |       |      |        |      |      |      |
|-------------|-------|------|--------|------|------|------|
|             | Draft |      | Normal |      | Best |      |
|             | 50%   | 100% | 50%    | 100% | 50%  | 100% |
| Cyan        | 0.45  | 0.69 | 0.55   | 0.75 | 0.57 | 0.78 |
| Magenta     | 0.42  | 0.91 | 0.44   | 0.94 | 0.46 | 1.00 |
| Yellow      | 0.43  | 0.71 | 0.37   | 0.89 | 0.39 | 0.86 |
| Black       | 0.50  | 0.95 | 0.52   | 1.29 | 0.51 | 1.24 |

Note: Colour density readings were assessed by printing an IT8 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.

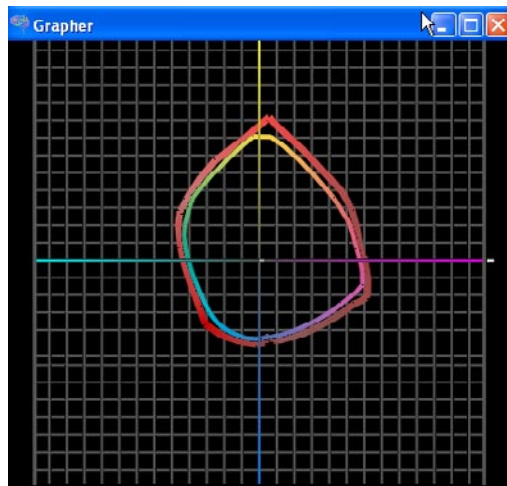


**Canon iPF 755**



**HP DJ T1100 44"**

## Colour Gamut Comparison



HP Designjet T1100 44" colour gamut on plain paper in default settings (red) versus Canon imagePROGRAF iPF755 colour gamut on plain paper in default settings

## Black Print Quality

|               | Canon iPF755 |          |      | HP DJ T1100 44" |        |      |
|---------------|--------------|----------|------|-----------------|--------|------|
|               | Draft        | Standard | High | Draft           | Normal | Best |
| Density Block |              |          |      |                 |        |      |
| 1             | 1.37         | 1.46     | 1.44 | 1.44            | 1.49   | 1.43 |
| 2             | 1.38         | 1.44     | 1.44 | 1.41            | 1.49   | 1.41 |
| 3             | 1.37         | 1.44     | 1.44 | 1.44            | 1.49   | 1.42 |
| 4             | 1.37         | 1.45     | 1.44 | 1.43            | 1.47   | 1.42 |

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, HP driver set to plain paper, greyscale, black ink only. Density was measured using an XRite 508 densitometer.

## DEVICE FEATURE SET

|  | Canon imagePROGRAF iPF755                  | Advantage |   | HP Designjet T1100 44"  |
|--|--|-----------|---|---|
| Max print quality                      | 2400 x 1200dpi                             |           |   | 2400 x 1200dpi  |
| Number of inks                         | 6 (C, M, Y, BK, MBKx2)                     |           |   | 6 (C, M, Y, MK, PK, G)  |
| Ink tanks replaceable during operation | Yes  | ✓         |   | No  |
| Ink-drop size                          | 4 pl per colour                            | ✓         |   | 6 pl (C, M, PK, G), 9 pl (Y, MK)  |
| Ink cartridge capacity                 | 90ml / 130ml                               |           |   | 69ml / 130ml (matte black only available in 130ml)  |
| Number of nozzles                      | 15,360                                     | ✓         |   | 6,336 (1,056 per nozzle colour)   |
| Number of printheads                   | 1  |           |   | 3   |
| Line accuracy                          | +/- 0.1%                                   |           |   | +/- 0.1%  |
| Minimum line width                     | 0.02mm (theoretical value)                 | ✓         |   | 0.043mm   |
| Minimum print margins                  | Borderless                                 | ✓         |   | 5mm or borderless photo papers  |
| Maximum outside diameter of roll paper | 150mm                                      | ✓         |   | 136mm   |
| Maximum printable paper length         | 18m (varies according to OS)               |           | ✓ | 91m (OS & application dependent)  |
| Maximum media thickness                | 0.8mm                                      |           |   | 0.8mm   |
| Maximum cut-sheet media length         | 1.6m                                       |           |   | 1.6m  |
| Maximum Media Width                    | 914.4mm                                    |           | ✓ | 1118mm  |
| Media loading                          | Front or back                              | ✓         |   | Back only   |
| Optional media handling                | None                                       |           |   | None  |
| Standard RAM                           | 256 MB                                     |           |   | 256 MB  |
| Maximum RAM                            | 256 MB                                     |           |   | 256 MB  |
| Hard drive                             | 80 GB                                      | ✓         |   | 40 GB   |
| Interface                              | Ethernet / USB standard, FireWire optional |           |   | Ethernet / USB optional /EIO<br>Jetdirect accessory slot<br>Optional: HP Jetdirect print server |
| PDL                                    | GARO, HP-GL/2, HP-RTL                      |           | ✓ | HP-GLS2/HP-RTL, CALS /G4,<br>HP PCL 3 GUI, Windows driver<br>optimized for AutoCAD 2000         |
| Net weight (unpacked)                  | 63.1Kg with stand and basket               | ✓         |   | 86Kg  |
| Power consumption when in standby      | 1W or less                                 | ✓         |   | 27W   |
| Power consumption when active          | 140W or less                               | ✓         |   | 200W maximum  |
| Acoustic pressure                      | Standby 35 dB (A) or less                  | ✓         |   | 44 dB (A)   |
| Acoustic power                         | 6.6 Bels (A) or less                       |           | ✓ | 6.5 Bels (A)  |

## DRIVER FEATURE SET

|                                       | Canon imagePROGRAF iPF755  | Advantage |  | HP Designjet T1100 44"  |
|---------------------------------------|--|-----------|--|---|
| Speed settings                        | 3  |           |  | 3   |
| Economy mode                          | Yes (available with Draft setting only)  |           |  | Yes (available with Fast setting only)  |
| Predefined profiles                   | 8  | ✓         |  | 5   |
| Overview of profile settings provided | Yes  | ✓         |  | No  |
| Media profiles                        | 47   | ✓         |  | 27  |
| IQ optimized for options              | Image / Line drawings / Office doc   | ✓         |  | None  |
| Watermark                             | Yes  | ✓         |  | No  |
| Sharpen text                          | Yes  | ✓         |  | No  |
| Thicken fine lines                    | Yes  | ✓         |  | No  |
| Mirror image                          | Yes  |           |  | Yes   |
| Multi-up printing                     | Yes (up to 16 up)  | ✓         |  | No  |
| Poster print mode                     | Yes (2 x 2)  | ✓         |  | No  |
| Page stamping                         | Yes (Date / user name / page number)   | ✓         |  | No  |
| Image rotation                        | Yes  |           |  | Yes   |
| Option to preview before print        | Yes  |           |  | Yes   |
| Link to device web server from driver | Yes (from status monitor icon on first tab)  | ✓         |  | Yes (from 'Status of my device' icon on services tab)   |
| CMYK balance adjustment               | Yes  |           |  | Yes   |
| Brightness adjustment                 | Yes  |           |  | Yes   |
| Contrast adjustment                   | Yes  | ✓         |  | No  |
| Saturation adjustment                 | Yes  | ✓         |  | No  |
| Advanced colour management options    | Driver-matching mode, ICC-matching mode, driver ICM mode, host ICM mode, rendering-intent options in each mode for image, graphics and text elements | ✓         |  | ColourSmart/sRGB, AdobeRGB1998, Managed by application, Printer Emulation to HP's DJ500/800 series, DJ 1000 series and DJ 4000/5000 series. |
| Disable automatic cutter              | Yes  |           |  | Yes   |
| Unidirectional printing               | Yes  | ✓         |  | No  |
| Integration with MFP                  | Yes, Colour imageRUNNER Enlargement Copy Mode  | ✓         |  | No  |

## Test Methodology for Cost of Ownership

**TABLE 1**

| Amount of Ink in Each Canon iPF755 Cartridge |        |         |        |        |                  |                  |
|--|--------|---------|--------|--------|------------------|------------------|
|  | Cyan   | Magenta | Yellow | Black  | Matte Black (1)* | Matte Black (2)* |
| Weight of cartridge prior to installation    | 176.5g | 178.2g  | 173.4g | 176.0g | 175.3g           | 174.9g           |
| Weight of cartridge at end of life           | 36.9g  | 36.5g   | 36.4g  | 36.8g  | 38.8g            | 39.7g            |
| Net weight of ink                            | 139.6g | 141.7g  | 137.0g | 139.2g | 136.5g           | 135.2g           |
| Total Ink Weight across 6 cartridges         |        |         |        |        |                  | 829.2g           |

\*Two MBK cartridges installed in machine; combined weights used.

**TABLE 2**

| Amount of Ink in Each HP DJ T1100 44" Cartridge |        |         |        |             |        |             |
|---|--------|---------|--------|-------------|--------|-------------|
|   | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Weight of cartridge prior to installation       | 191.7g | 191.5g  | 192.6g | 191.9g      | 189.5g | 192.6g      |
| Weight of cartridge at end of life              | 55.7g  | 53.8g   | 55.1g  | 55.4g       | 56.4g  | 55.3g       |
| Net weight of ink                               | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Total Ink Weight across 6 cartridges            |        |         |        |             |        | 818.1g      |

**TABLE 3**

| Ink Used in 200-Print Run of BLI's A1 Line Art Architectural Test Document on the Canon iPF755 |        |         |        |        |               |
|--|--------|---------|--------|--------|---------------|
|  | Cyan   | Magenta | Yellow | Black  | Matte Black * |
| Net weight of ink used in print run  | 2.2g   | 15.3g   | 1.8g   | 1.1g   | 61.1g         |
| Net weight of ink in cartridge   | 139.6g | 141.7g  | 137.0g | 139.2g | 271.7g        |
| Percentage of ink used in test   | 1.6%   | 10.8%   | 1.3%   | 0.8%   | 22.5%         |
| Overall weight of ink used   |        |         |        |        | 81.5g         |
| Total Ink Weight across 6 cartridges   |        |         |        |        | 829.2g        |
| Percentage of total ink used averaged across all colours                                       |        |         |        |        | 9.8%          |

\* Two Matte Black Cartridges in iPF 755; combined usage and weights reported

**TABLE 4**

| Ink Used in 200-Print Run of BLI's A1 Line Art Architectural Test Document on the HP DJ T1100 44" |        |         |        |             |        |             |
|---|--------|---------|--------|-------------|--------|-------------|
|   | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Net weight of ink used in print run   | 1.1g   | 10.2g   | 7.5g   | 10.9g       | 6.6g   | 55.9g       |
| Net weight of ink in cartridge  | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Percentage of ink used in test  | 0.8%   | 7.4%    | 5.5%   | 8.0%        | 5.0%   | 40.7%       |
| Overall weight of ink used  |        |         |        |             |        | 92.2g       |
| Total Ink Weight across 6 cartridges  |        |         |        |             |        | 818.1g      |
| Percentage of total ink used averaged across all colours  |        |         |        |             |        | 11.3%       |

**TABLE 5**

| Ink Used in 200-Print Run of BLI's A1 3D CAD Test Document on the Canon iPF755 |        |         |        |        |               |
|--|--------|---------|--------|--------|---------------|
|  | Cyan   | Magenta | Yellow | Black  | Matte Black * |
| Net weight of ink used in print run  | 12.6g  | 18.4g   | 24.4g  | 6.8g   | 80.7g         |
| Net weight of ink in cartridge   | 139.6g | 141.7g  | 137.0g | 139.2g | 271.7g        |
| Percentage of ink used in test   | 9.0%   | 13.0%   | 17.8%  | 4.9%   | 29.7%         |
| Overall weight of ink used   |        |         |        |        | 142.9g        |
| Total Ink Weight across 6 cartridges   |        |         |        |        | 829.2g        |
| Percentage of total ink used averaged across all colours                       |        |         |        |        | 17.2%         |

\* Two Matte Black Cartridges in iPF 755; combined usage and weights reported

**TABLE 6**

| Ink Used in 200-Print Run of BLI's A1 3D CAD Test Document on the HP DJ T1100 44" |        |         |        |             |        |             |
|---|--------|---------|--------|-------------|--------|-------------|
|   | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Net weight of ink used in print run   | 1.4g   | 2.1g    | 7.6g   | 11.8g       | 42.1g  | 62.6g       |
| Net weight of ink in cartridge  | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Percentage of ink used in test  | 1.0%   | 1.5%    | 5.5%   | 8.6%        | 31.6%  | 45.6%       |
| Overall weight of ink used  |        |         |        |             |        | 127.6g      |
| Total Ink Weight across 6 cartridges  |        |         |        |             |        | 818.1g      |
| Percentage of total ink used averaged across all colours                          |        |         |        |             |        | 15.6%       |

**TABLE 7**

| Ink Used in 200-Print Run of BLI's A1 GIS Test Document on the Canon iPF755 |        |         |        |        |               |
|---|--------|---------|--------|--------|---------------|
|   | Cyan   | Magenta | Yellow | Black  | Matte Black * |
| Net weight of ink used in print run   | 60.1g  | 36.3g   | 31.3g  | 2.3g   | 30.5g         |
| Net weight of ink in cartridge  | 139.6g | 141.7g  | 137.0g | 139.2g | 271.8g        |
| Percentage of ink used in test  | 43.1%  | 25.6%   | 22.8%  | 1.7%   | 11.2%         |
| Overall weight of ink used  |        |         |        |        | 160.5g        |
| Total Ink Weight across 6 cartridges  |        |         |        |        | 829.2g        |
| Percentage of total ink used averaged across all colours                    |        |         |        |        | 19.4%         |

\* Two Matte Black Cartridges in iPF 755; combined usage and weights reported

**TABLE 8**

| Ink Used in 200-Print Run of BLI's A1 GIS Test Document on the HP DJ T1100 44" |        |         |        |             |        |             |
|--|--------|---------|--------|-------------|--------|-------------|
|  | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Net weight of ink used in print run  | 38.6g  | 18.8g   | 22.8g  | 4.6g        | 82.9g  | 21.1g       |
| Net weight of ink in cartridge   | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Percentage of ink used in test   | 28.4%  | 13.7%   | 16.6%  | 3.4%        | 62.3%  | 15.4%       |
| Overall weight of ink used   |        |         |        |             |        | 188.8g      |
| Total Ink Weight across 6 cartridges   |        |         |        |             |        | 818.1g      |
| Percentage of total ink used averaged across all colours                       |        |         |        |             |        | 23.3%       |

**TABLE 9**

| Ink used in 200-print run of BLI's A1 3D CAD test document on the Canon iPF755 in Draft Economy Mode |        |         |        |        |               |
|--|--------|---------|--------|--------|---------------|
|  | Cyan   | Magenta | Yellow | Black  | Matte Black * |
| Net weight of ink used in print run  | 2.9g   | 4.0g    | 6.9g   | 0.4g   | 20.9g         |
| Net weight of ink in cartridge   | 139.6g | 141.7g  | 137.0g | 139.2g | 271.7g        |
| Percentage of ink used in test   | 2.1%   | 2.8%    | 5.0%   | 0.3%   | 7.7%          |
| Overall weight of ink used   |        |         |        |        | 35.1g         |
| Total Ink Weight across 6 cartridges   |        |         |        |        | 829.2g        |
| Percentage of total ink used averaged across all colours   |        |         |        |        | 4.2%          |

\* Two Matte Black Cartridges in iPF 755; combined usage and weights reported

**TABLE 10**

| Ink Used in 200-Print Run of BLI's A1 3D CAD Test Document on the HP DJ T1100 44" in Fast Mode Economode |        |         |        |             |        |             |
|--|--------|---------|--------|-------------|--------|-------------|
|  | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Net weight of ink used in print run  | 0.6g   | 1.1g    | 3.0g   | 3.7g        | 16.1g  | 17.8g       |
| Net weight of ink in cartridge   | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Percentage of ink used in test   | 0.4%   | 0.8%    | 2.2%   | 2.7%        | 12.1%  | 13.0%       |
| Overall weight of ink used   |        |         |        |             |        | 42.3g       |
| Total Ink Weight across 6 cartridges   |        |         |        |             |        | 818.1g      |
| Percentage of total ink used averaged across all colours   |        |         |        |             |        | 5.2%        |

**TABLE 11**

| Ink Used in 200-Print Run of BLI's A1 GIS Test Document on the Canon iPF755 in Draft Economy Mode |        |         |        |        |               |
|---|--------|---------|--------|--------|---------------|
|   | Cyan   | Magenta | Yellow | Black  | Matte Black * |
| Net weight of ink used in print run   | 21.7g  | 13.3g   | 11.8g  | 0.2g   | 9.4g          |
| Net weight of ink in cartridge  | 139.6g | 141.7g  | 137.0g | 139.2g | 271.7g        |
| Percentage of ink used in test  | 15.5%  | 9.4%    | 8.6%   | 0.1%   | 3.46%         |
| Overall weight of ink used  |        |         |        |        | 56.4g         |
| Total Ink Weight across 6 cartridges  |        |         |        |        | 829.2g        |
| Percentage of total ink used averaged across all colours  |        |         |        |        | 6.8%          |

\* Two Matte Black Cartridges in iPF 755; combined usage and weights reported

**TABLE 12**

| Ink used in 200-Print Run of BLI's A1 GIS Test Document on the HP DJ T1100 44" in Fast Economode |        |         |        |             |        |             |
|--|--------|---------|--------|-------------|--------|-------------|
|  | Cyan   | Magenta | Yellow | Photo Black | Grey   | Matte Black |
| Net weight of ink used in print run  | 16.3g  | 10.0g   | 10.8g  | 0.9g        | 36.0g  | 6.3g        |
| Net weight of ink in cartridge   | 136.0g | 137.7g  | 137.5g | 136.5g      | 133.1g | 137.3g      |
| Percentage of ink used in test   | 12.0%  | 7.3%    | 7.9%   | 0.7%        | 27.0%  | 4.6%        |
| Overall weight of ink used   |        |         |        |             |        | 80.3g       |
| Total Ink Weight across 6 cartridges   |        |         |        |             |        | 818.1g      |
| Percentage of total ink used averaged across all colours   |        |         |        |             |        | 9.8%        |

## Cost of Ownership Test Methodology Overview:

Buyers Lab's ink consumption analysis was conducted using three document types (line art, 3D CAD and GIS). Each document was formatted as a PDF and sized at ISO A1.

The Canon imagePROGRAF iPF755 was installed in BLI's lab with the latest level of firmware (as of March 16, 2009) and connected to a Windows XP Workstation using a 1000BaseT TCP/IP connection. The device was left in default configuration throughout testing. The Windows driver was used for all testing and was left in default Standard 600-dpi colour setting configuration with media selection set to plain paper and the image set to print at actual size.

The HP Designjet T1100 44" was installed in BLI's lab with the latest level of firmware (as of February 16, 2009) and connected to a Windows XP Workstation using a 1000BaseT TCP/IP connection. The device was left in default configuration throughout testing. The Windows HP-GL2 driver was used for all testing and was left in default Normal (Final) colour setting, with media selection set to plain paper and the image set to print at actual size.

Before installing the ink cartridges, BLI technicians weighed and recorded the weight of each with all packaging removed. At the end of the 200-print test run, the cartridges were weighed again and the resulting weight of ink used for the test run calculated for each colour. To ensure that the sub-tank on the Canon model did not affect results, a procedure was followed to ensure that the sub-tank level was at its maximum before the print run commenced and again after the print run was completed, thereby ensuring that ink replenishment of the sub-tanks was taken into account for each print run.

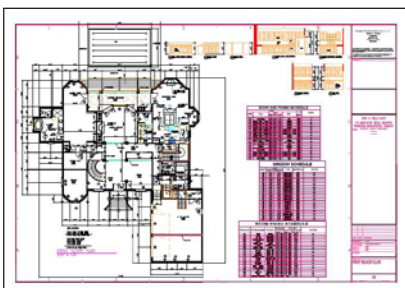
After conducting tests in default driver settings, the GIS and 3D CAD and Line Art test files were then reprinted following the same procedures with the driver settings changed to reflect the lowest ink-usage settings. Hence, the HP driver was switched from Normal (Final) to Fast (Economode) mode and the Canon driver switched from Standard 600 dpi to Draft 300 dpi with the Economy Printing option enabled.

Canon imagePROGRAF iPF755: all six cartridges (C, M, Y BK and MBKx2) were then run to exhaustion and the weight of the empty cartridges was recorded.

HP Designjet T1100 44": all six cartridges(C, M, Y, MK, PK, G) were then run to exhaustion and the weight of the empty cartridges was recorded.

The percentage of ink used per cartridge was calculated by dividing the net weight of ink used in the print run by the overall weight of ink in each cartridge and multiplying by 100. The results are found in Tables 1 and 2.

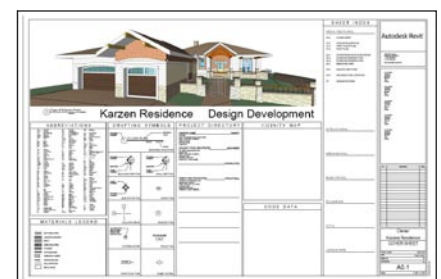
The percentage of total ink used per printer was calculated by adding the percentages used of each of the cartridges and dividing by the number of cartridges.



**Line Art Test Document**



**GIS Test Document**



**3D CAD Test Document**

## Test Environment

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### Test Environment

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

### Test Equipment

BLI's dedicated test network in Europe, consisting of Windows 2003 servers, Windows XP workstations, 10/100/1000BaseTX network switches and CAT5e 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 1,400-patch profile software tool from Colour Confidence that was read using an EFI ES-1000 colour spectrophotometer and analysed using Chromix ColourThink Pro 3.0 software. Density of black and colour output was measured using an X-Rite 508 densitometer.

## About Buyers Laboratory Inc.

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For 48 years, Buyers Lab (BLI) has been the leading independent office-equipment testing lab and business consumer advocate. In addition to publishing the industry's most comprehensive and accurate test reports on office document imaging devices, each representing months of exhaustive hands-on testing in BLI's US and UK laboratories, the company has been the leading source of competitive intelligence for industry professionals on copiers, printers, fax machines, scanners, duplicators, wide format devices and multifunctional products. The company's databases cover over 12,000 products globally and have a long-standing reputation for being the industry's most trustworthy and complete source for specifications and side-by-side comparisons, all of which are available as part of bliQ, BLI's web-based encyclopaedic resource. Subscribers also have access to BLI's renowned Lab Test Reports, First Look Reports, Solutions Reports, Environmental Reports, news articles and a complete library of manufacturers' product literature, as well as valuable tools including a Product Configurator and Total Cost of Ownership (TCO) Calculator.

Business Consumers and Manufacturers can also select from a vast array of confidential for-hire private testing services that include document imaging device beta and pre-launch testing, performance certification testing, consumables testing (such as toner, ink and photoconductors) and software and solutions and print media testing (including virgin and recycled papers).

For more information on Buyers Laboratory, please call Dean Armstrong on +44(0) 118 977 2000, visit [www.buyerslab.com](http://www.buyerslab.com), or e-mail [dean.armstrong@buyerslab.com](mailto:dean.armstrong@buyerslab.com).