

The iPF5000 answers pros' technological demands with improvements that build a foundation for the new iPF5100 and iPF6100.

BY ELLIS VENER

A step up

CANON IMAGEPROGRAF iPF5000



produces prints with depth and purity, especially in the blue range, and depending on the substrate, with archival qualities. One of my clients, an experienced and critical art buyer, compares the output to the best dye transfer prints he's ever purchased.

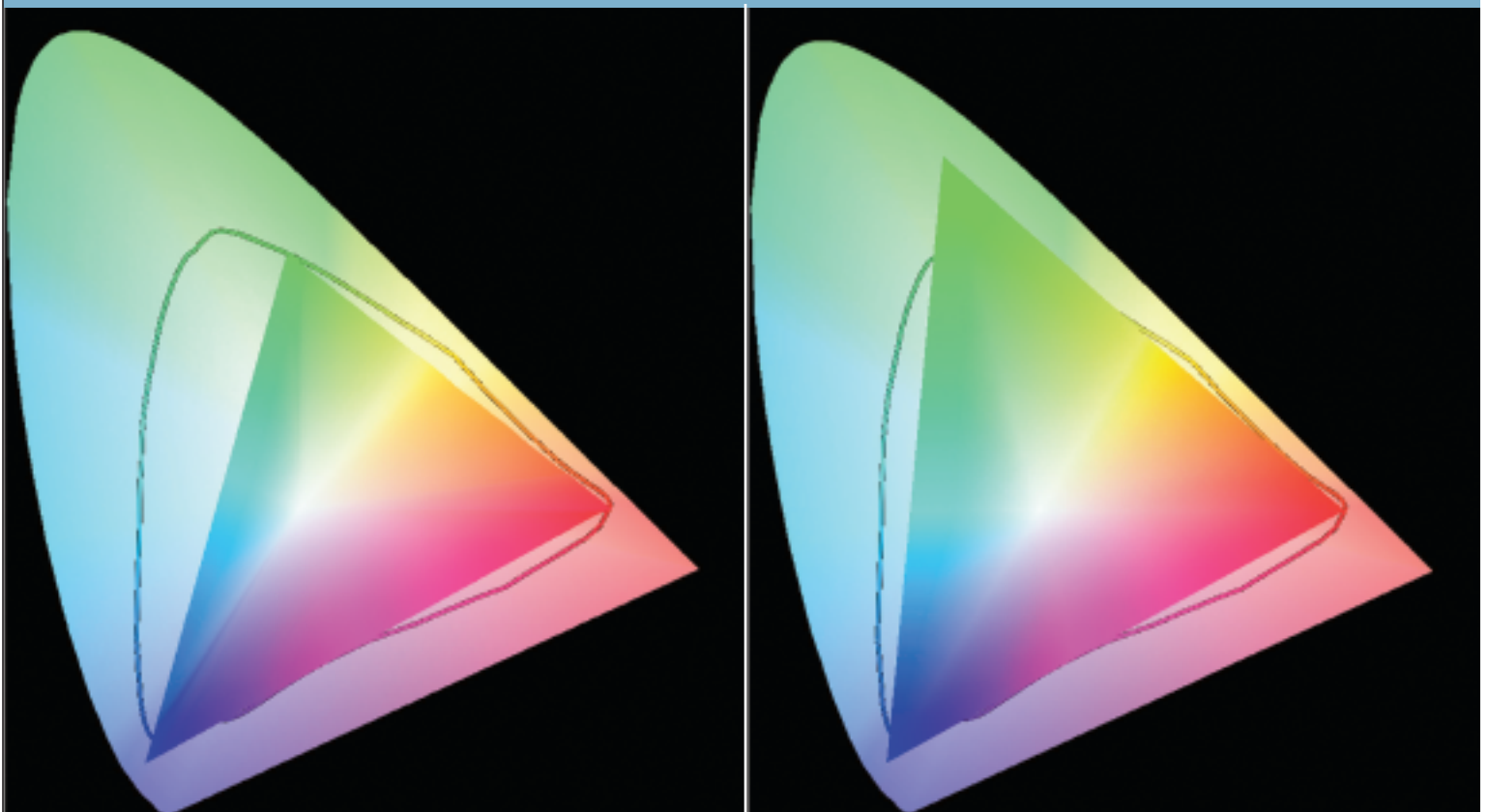
The iPF5000 uses 12 LUCIA pigment ink colors: yellow, photo cyan, cyan, photo gray,

The Canon imagePROGRAF iPF5000 is one of the most interesting inkjet printers released last year. With 12 pigment ink channels and a 12-bit-per-channel RGB color gamut, it can output 17-inch borderless prints on media up to 1.5m thick. This model and the HP Designjet Z3100 mark the end of Epson's monopoly of high-end desktop wide-format printers for

professional photographers.

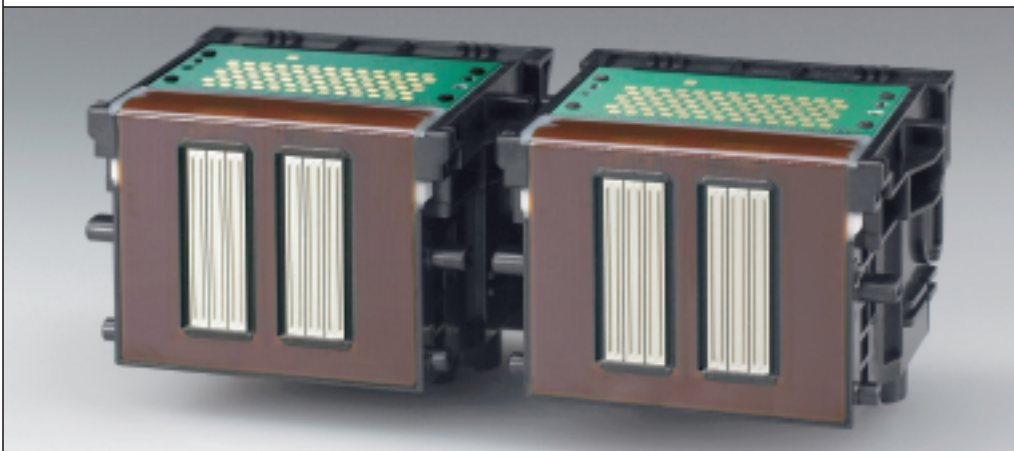
In 9 months of near constant use, my iPF5000 has been parsimonious with ink and entirely clog free. More important, once you've accurately profiled a specific paper and printer combination, the combination of the iPF5000, LUCIA inks and GAROS print driver makes print color as accurate and rich as any photographic process I've seen. The device

These two graphs show a comparison of the color gamut of the Canon imagePROGRAPH iPF5000 profiled for Hahnemühle Fine Art Pearl and the sRGB IEC61966-2.1 (left) and Adobe RGB (1998) (right) color spaces. The largest color field represents the visible spectrum, the outline shows the scope of the Hahnemühle profile, and the color triangle represents the color space. Graph created by Ellis Vener using ColorThink 2.2.





Blacks and grays in the imagePROGRAF iPF5000's Lucia pigment inkset have been reformulated for the iPF5100 and iPF6100 to reduce bronzing and improve scratch resistance.



The Canon dual print head design enables fewer passes for a more rapid print speed.

gray, matte black, photo magenta, magenta, black, red, green and blue. The use of matte black or black ink depends on the substrate. (Canon's recently announced imagePROGRAF iPF5100 and iPF6100 will use reformulated, non-interchangeable black and gray inks.)

The iPF5000 inks come in 130ml cassettes. Inks are dispersed through user-replaceable PF-01 dual print heads, each of which dispenses six colors. There are 2,560 dedicated nozzles per color, for a total of 30,720. If the Full-lithography Inkjet Nozzle Engineering system detects a clogged nozzle, it will map out that nozzle from the loop until the next cleaning cycle. In practice this means no downtime or wasted ink and paper.

The ink droplet size is a fixed 4 picoliters, output at a pitch of 1,200 dots, yielding maxi-

mum print resolution of 1,200x2,400dpi. These specs combined with the large color gamut produces prints with ultra-smooth tone and color transitions, rich blacks, and copious shadow and highlight detail.

Wilhelm Research's recent testing of LUCIA inks with various Canon papers shows light resistance lasting for about 95 years. even the best accelerated aging tests cannot predict every real-world condition, you're reasonably safe in marketing the prints as archival.

I was not satisfied with Canon's canned profiles for this model. If you're conscientious about getting the best color possible, make your own or have custom profiles created for you.

There are four ways to feed media through the iPF5000, depending somewhat on the

media. There's a 250-sheet front-loading cassette for media 0.83-0.3mm thick; a front-loading manual feed for 0.5-1.5mm single sheets; a top-loading feeder for media 0.08-0.5mm; and an optional roll feed unit for media 0.07-0.8mm thick. Using roll media helps control paper costs. The roll-feed unit is included with the iPF5100 and iPF6100 models coming this summer.

True borderless printing is possible with 10-, 13-, 14-, 16- and 17-inch, B4- and A2-width media. With the roll-feed unit and the much improved Photomerge tool in Adobe Photoshop CS3 Extended, I've printed panoramic views up to 84 inches long. (If you're printing and auto-cutting images

specs:

Canon imagePROGRAF iPF5000

PRINTER TYPE: PF-01 print head, FINE (full-lithography inkjet nozzle engineering) technology, user-replaceable dual print heads, 6 colors each

NOZZLES: 2,560 nozzles per color, 30,720 nozzles total, 1,200 dpi nozzle pitch, non-firing nozzle detection and compensation

PRINT RESOLUTION: 2,400x1,200dpi maximum

INTERFACE: USB 2.0 high-speed and 10/100 Base-T/TX, Firewire optional

INK: LUCIA pigment-based, 4 picoliter droplets, 130ml ink tank capacity per color

MEDIA: 8- to 17-inch width (cut sheets and rolls), .07-1.5mm thickness

MAXIMUM ROLL PRINT LENGTH: 59 feet, depending on the application, OS and RIP

DIMENSIONS: 39.3x28.9x12.5 inches; 39.3x31.9x13.5 inches with roll-feed unit; about 99 pounds, 108 pounds with roll-feed unit

MSRP: \$1,945

longer than 24 inches, set up a table to catch the print.)

This printer represented a big leap in technology and systems from Canon's W-series wide-format printers, and some missteps accompanied the initiation of the imagePROGRAF iPF5000. The dual interface—one on the printer and one in the print driver—is confusing at first, and the system lacks a good manual. There was an easily fixed mechanical design problem with a small gear in the roll-feed unit. With a

large international corporation like Canon, instituting change is like turning an aircraft carrier, and sometimes it takes a lot of insistent users demanding jet fighter agility.

Even so, once problems started surfacing in an organized way on various Internet forums, Canon handled them with relative speed, and deserves credit for it. A large share of the instigation of fixes came from John Hollenberg's unofficial Canon iPF5000 wiki (canonipf5000.wikispaces.com). What remains to be resolved is confusion over

the print head longevity and Canon's replacement policy. Canon's policy says users should replace the heads annually, but without taking into account the amount of usage. Canon also classifies print heads as expendable products, covered by only a 30-day warranty, but Canon has also indicated that it will replace defective print heads at no cost to the owner. As each print head costs almost one-third as much as the printer, it's a critical concern for iPF5000 owners. ■

CANON iPF5100 AND iPF6100 INKJET PRINTERS

In May, Canon announced two new printers, the 17-inch output iPF5100 and the 24-inch output iPF6100. Both printers feature reformulated black, matte black, gray and photo gray inks to reduce bronzing and increase scratch resistance. Because the print heads on the new models are also all-new, the reformulated inks are not backward compatible with the iPF5000.

With these models, Canon introduces a color calibration system, with the goal of bringing the print performance to a known state for consistent color accuracy, print to print and printer to printer. This should mean that a custom profile created for one printer-paper combination will be suitable for another printer using the same system and other similar Canon printers. Canon claims color variance between different printers will average no more than 2 delta-E (based on Canon's tests with Canon Premium Matte Paper). A 1 delta-E difference is considered a tonal difference, and is barely visible. A difference of 3 delta-E is considered

acceptable for most purposes.

The new printers' calibration system is not to be confused with ICC profiling capability. For that you'll need printer profiling tools like the GretagMacbeth/X-rite Eye-One Photo, Eye-One Pro and ProfileMaker 5 Photostudio. Canon does say that the printers will ship with a much improved set of generic profiles.

These printers also introduce Canon Kyuanos color technology, which should make it simpler to factor in the viewing conditions where the print will be displayed. It might be possible to use an Eye-One Display 2 or Eye-One Pro spectrophotometer to read the exact light, then have Canon's optional PosterArtist 2007 software use this data to apply an appropriate rendering correction during printing. The downside is that the system is compatible only with the Microsoft Windows Vista operating system—no Windows XP or Apple OS X support. If you have a newer Mac with an Intel processor, it should be possible to set

up a bootable partition on a hard drive using VISTA as the OS.

The iPF6100 sports a larger LCD panel that graphically displays the ink level in each of the 12 cartridges. The display is accessed through the Info button on the printer or through the print drivers on your computer. At press time it seemed likely that the iPF6100 will include a printer stand as standard equipment.

Canon says that it has improved printer documentation in response to customer feedback, with search capability and online Web links throughout the user manual, printer driver and software, and the LCD panel on the iPF6100 will also display illustrated instructions. Both printers feature roll-feed units, but the iPF6100 has no cassette feed option.

Expected for release this month, the iPF6100 will have an MSRP of about \$3,495. The iPF5100, scheduled to ship in August, will have an MSRP of about \$1,995. Also shipping this month, Poster Artist 2007 will sell for \$799.