



Rainbow warrior

Tim Daly tests Epson's new Ultrachrome HDR pigment inkset, which comes close to reaching the holy grail of reproducing the full Pantone colour range

Ultrachrome HDR is Epson's fifth generation pigment inkset and contains the familiar vivid magenta and light magenta colours employed in the standard Ultrachrome K3 set. At present only available on two large format inkjet printers, the Stylus Pro 7900 and 9900, the HDR inkset adds new green and orange

colours, allowing for much better skin tone reproduction, making the printers serious contenders for portrait, fashion and product photography.

Ultrachrome HDR has been developed primarily for the printed packaging market, where previous inksets were unable to provide accurate contract proofs

when spot colours were specified. When non-process ink colours are used in traditional lithographic reproduction, it's extremely tricky to proof their appearance when using a professional inkjet's CMYK, LM (light magenta) and LC (light cyan) inks, leaving many Pantone special colour mixes out of range.

Epson's new inkset plugs this gap in the market because the green and orange inks, like Hexachrome, can successfully reproduce 90% plus of the Pantone colour range (compared to around 60% achieved by standard CMYK inksets). By mimicking the CMYK or Hexachrome process in conventional lithography



Above: Results are smoother and Epson claims prints suffer less from display under varying lighting conditions.

with orange and green, Epson has radically extended the range of colours available to photographers.

The most important benefit offered by HDR inks is the vastly expanded colour gamut. Fewer colours are clipped in transition from screen to print, as is clearly evidenced by Photoshop's Gamut warning and View Proof tools. When 900 series profiles are targeted in Photoshop's View>Proof Setup>Custom command, the resulting soft-proof and gamut warning are far less modified when compared alongside standard Ultrachrome inkset profiles.

The disappointing experience that we all encounter when proofing vivid colours should now be a thing of the past. In preparing test images for this feature in CS4, I was able to extend the saturation values of a standard RGB image up to +35 with very little evidence of clipping, compared to my usual modest saturation increases of around +10.

From the same Epson stable, the recently introduced Ultrachrome Hi-Gloss 2 inkset

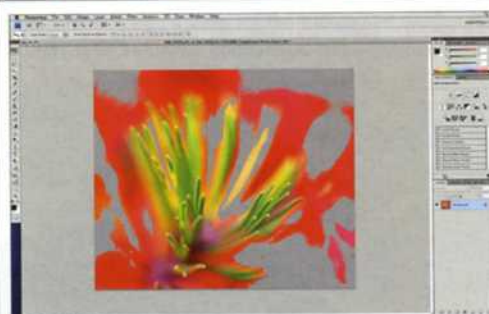
employs an extra red and orange ink. This provides additional range, but on a smaller scale and in a completely different direction to the Ultrachrome HDR.

Stuck in the middle of these two options is Canon's professional inkjet printer, the Pixma Pro 9500, which employs a 10

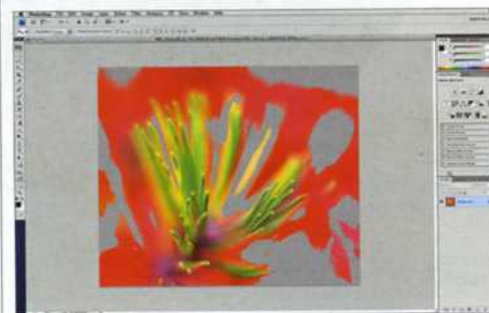
cartridge inkset containing green and red pigment inks. Although my experience of using the Pixma 9500 have been very positive, small capacity ink cartridges and maximum A3 size puts it at an immediate disadvantage compared with Epson's 900 series devices.



COLOURS COMPARED



Above: Proofed against the K3 inkset on the Stylus Photo 2880, most of the vivid colours lie outside the range of the inkset.



Above: Proofed against the set used on the Canon Pixma Pro using green and red inks, the results were slightly better than the K3 set. This was no doubt due to the additional red colour.



Above: Proofed against the 7900 HDR inkset, no gamut warning occurs in the yellow and orange and only a tiny amount in the ultra vivid magenta areas. The best result by a long way.

Evaluating results

To judge the performance of the new HDR inks, I ran three prints off the Epson 7900 using off-the-shelf profiles, rather than custom profiles made by the built-in spectrophotometer. The new HDR inks provide an improved D-Max of 2.6 when used with Epson Premium Lustre Photo paper (260), which creates a rich and punchy black, similar to a good quality C-type print.

The extra two orange and green colours provide better rendition of colours in the green-to-yellow and yellow-to-red ranges, and the new orange ink helps minimise the graininess of previous inksets when reproducing skin colours. The vivid colours in the resulting prints cannot be

Left: The 900 series printers use a new orange and green inks.

