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Science and technology

Babbage

## Kodak's woes Out of focus

Jan 12th 2012, 18:43 by G.F. | SEATTLE

THE digital camera had a serial number of "0000001" etched on its case, your correspondent recalls. The Kodak Digital Camera System (DCS) 100 he walked around with in 1991 was, quite literally, the first commercially available digital single-lens reflex (DSLR) camera. The device had a charged-coupled device (CCD) sensor array retrofitted on the back of a Nikon F3 body. It came with a shoulder-pack containing a computer, 200MB hard drive to store a 100 or so images, enormous batteries and a tiny LCD screen for viewing stored images. The lot weighed about 7kg. In 1991 Kodak was a decade ahead of its time. Now, with a looming bankruptcy filing, it looks a decade behind (as we report in [this week's print edition](#) (<http://www.economist.com/node/21542796>)).

At the Centre for Creative Imaging, a short-lived Kodak teaching outpost in coastal Maine, this Babbage used the remarkable digital device constantly. It was proof of Kodak's technological supremacy and marked a turning point in the history of photography. After a century where photographers relied on chemical reactions to record images on an analogue film, these could now be captured as a series of numbers.

The centre, run by Kodak from 1990 to 1993, swept in several thousand artists working in photography, illustration, animation, graphic design and suchlike. They paid hundreds to thousands of dollars to come to Camden, Maine, for classes lasting between two and five days. Many were in part drawn by the centre's impressive collection of hardware: 100 state-of-the-art Macintosh IIfx computers, piles of advanced scanners, even several dye-sublimation printers designed to be mounted in military tanks that produced digital photographic prints the likes of which Babbage did not see again for a long time (only years later did their staggering cost come down enough for commercial applications to become viable).

Then there was the staff who knew how to use it all. *Time* magazine's "Man of the Year" cover in 1991, Ted Turner's head emerging from a globe of television screens, was produced by photographer Greg Heisler with the help of the centre's employees. (Babbage's bailiwick as course manager was both designing curriculum and ensuring all the kit was running smoothly.)

Many people came specifically to lay their hands on the DCS100. With a price tag of \$25,000, only some companies and newsmagazines with very specific needs for portable and instant digital capture purchased this first model. (Though judging by the seven-digit serial number, Kodak may have been hoping to sell millions.) Photographers at those organisations came to learn to use the camera; others wanted to catch a glimpse of the future (albeit only at a resolution of 1.3 megapixels). Small classes

were held in which the camera was lugged into the field (in gorgeous coastal Maine) and participants were taught the nuances of digital photography. That the centre had the camera at all—and, notably, unit 0000001—was thanks to its director, a vice-president of Kodak who left his post to run the facility and who had been instrumental in bringing the DCS100 to market.

Professionals would not go near earlier, prototype digital cameras. But those were mere toys by comparison. The DCS100 took decent pictures, and it used a camera body that photographers were familiar with; it supported the Nikon's interchangeable lenses, for instance. The CCD was large enough to capture an image quickly, only requiring relatively short exposure times with a flash or in relatively well-lit conditions. Most remarkably, Kodak engineered the DCS100 to have a near-instantaneous shutter release. Press the button, and the picture was captured at that instant. This may sound like a prerequisite for any decent camera (George Eastman, Kodak's founder, incorporated the mechanism in his first snapshot camera back in 1888), but it took another 15 years before affordable consumer digital cameras managed the feat. (Professional DSLRs got there faster, but cost well over \$5,000 until recently.)

Given Kodak's current woes it may now seem strange that the company introduced the world to digital photography. In the early 1990s, though, it did not come as a surprise. There is a strong case that Steven Sasson, a Kodak employee, invented the digital camera at the company's lab in 1975. (He discussed his invention with photographer David Friedman [in a short interview recently](http://www.davidfriedmanphoto.com/blog/2011/04/inventor-portrait-steven-sasson.html) (<http://www.davidfriedmanphoto.com/blog/2011/04/inventor-portrait-steven-sasson.html>) .) Kodak invested substantially over the ensuing decade and a half to bring the DCS100 to market. Many Kodak executives, including the centre's director, often told Babbage that digital photography would eventually consume the analogue market. But the centre's instructors, including your correspondent, were asked to assure inquisitive students that "film will be a viable medium well into the future". The future has arrived, but Kodak's foresight must have fallen through the cracks along the way.

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