

Plugged In

Getting the picture

Digital camera quality improving on top models but still a bit pricey for home use / **Simson L. Garfinkel**

THESE DAYS, THE easiest way to get a picture into a computer is to shoot it yourself with a digital camera. Instead of using film, these cameras take pictures with a silicon CCD chip (charge-coupled device), similar to the chip that's built into most home video cameras. But instead of storing the image on film or videotape, digital cameras keep the images in digital storage until they can be downloaded to a personal computer.

One of the first digital cameras on the market was the Apple QuickTake. I played with one for about a month. The images were often blurry, with shimmering rainbows wherever there were sharp contrasts between white and black objects. Good enough for home use or novelty pictures on a Web site, but not good enough for commercial photography.

Since then, Kodak, Epson and Casio have all introduced their own consumer quality digital cameras, priced between \$300 and \$1,000.

At the other end of the digital camera spectrum is the Kodak DCS460. Built into a Nikon N90 body, the DCS460 costs \$27,995 and can take pictures with a maximum resolution of 3060x2036 pixels. The DCS460 can even make telephone-quality voice re-

cordings. A nice instrument, if you can afford it.

Right in the middle of the price range are Polaroid's PDC-2000 cameras. Priced between \$2,995 and \$4,995, the PDC-2000 can take "high resolution" photographs at 800x600 pixels, or "superhigh resolution" photographs at 1600x1200 pixels, both with 24 bits per pixel. The camera stores the images without compression and downloads them to a PC or Macintosh over a high-speed SCSI interface. The high-resolution images take 1.4 megabytes of disk space, but you can crunch them down to 50K using PhotoShop's JPEG compression program.

To take a picture, just squeeze the camera's black button. The PDC-2000 automatically focuses using Polaroid's patented ultrasonic range finder, then grabs the pictures. For each image, the camera remembers the time, date, focus setting, flash-setting, white-balance setting, and a 10-character label. The camera can take one photograph every five seconds or so.

Polaroid's camera comes with a program called PDC-2000 Direct that can run on both Macs and PCs. Using the software, you can adjust all of the camera's controls, look through lens (an electronic viewfinder), snap the

shutter, rotate the photograph, see thumbnail images of the stored photographs and download some or all of the images to your computer's hard drive. There is also a PhotoShop plug-in, which lets you take images directly from the camera into Adobe's popular image manipulation program.

Polaroid makes three versions of the PDC-2000: For \$2,999, you can buy the "tethered" camera, which cannot store any images. For \$3,695, you can buy a PDC-2000 with 40 megabytes of storage on a tiny built-in hard drive. And for \$4,995, you can buy a camera with 60 megabytes of storage, a solid-state flash RAM.

I was astounded by the quality of the PDC-2000's images. The company's advertising slogan, "see the picture, not the pixels" is dead-on. You can take a super-high-resolution PDC-2000 photograph, print it on the photographic-quality 8½-by-11-inch printer, and see an image that looks as good as a 35mm enlargement. For Web work, though, you'll actually need to use PhotoShop to either lower the resolution of the image or crop and zoom-in on a particular part of the scene. That's because 800x600 pixels is more than many computer screens can handle.

For all of its friendly features, though, there are problems with the PDC-2000. Because it is a viewfinder camera, it's easy to snap a picture with the lens-cap on. I took a lot of blank pictures that way without any warning from the camera. I'm also no fan of the nicad batteries that Polar-

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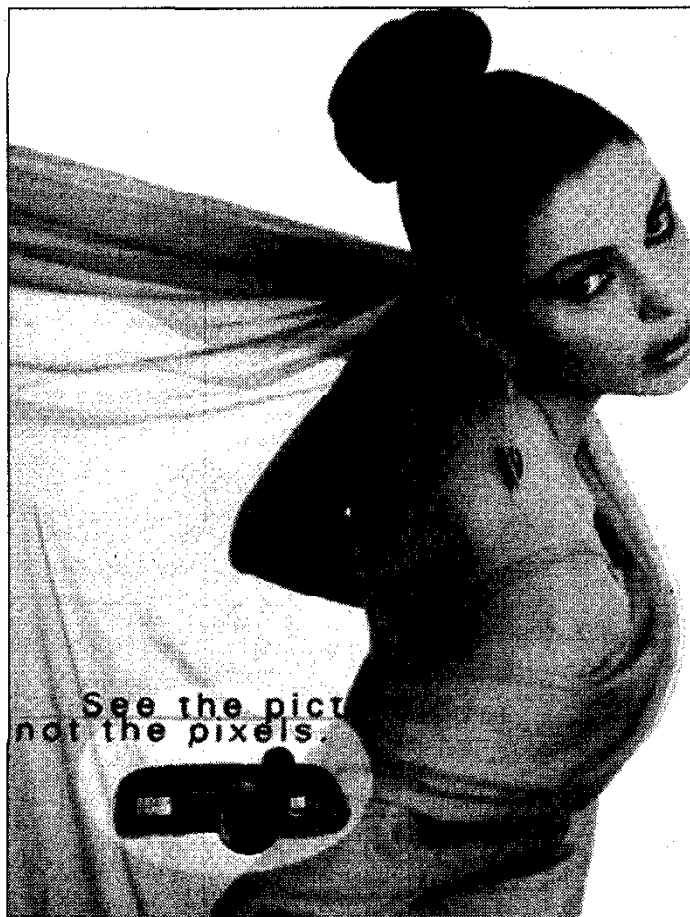
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Cyber Seer



An ad featuring a high-resolution photo taken with Polaroid's PDC-2000.

oid decided to use. Although the company claims that you can take 100 pictures on a full charge, I had a hard time taking more than 50 at a time when using the flash. Fortunately the batteries are replaceable; professional photographers will want to travel with spares.

Although the PDC-2000 is a bit pricey for home use, it's a good deal for commercial photographers and graphic designers who

need a quick way to get high-quality images into their computers. And it's nice to see an innovative imaging product coming out of Polaroid. Now if they could just bring out a consumer version.

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