IMAGE CAPTURE OPTIONS

Photography is about making images of people, objects or scenes which exist in the real world, because we want to remember, to dream or to sell, to explain or to understand. For the past 150 years, the act of photographing has been synonymous with triggering the shutter of a camera. Then, the magic happens: Light shines on film, a chemical reaction forms a latent image which can later be revealed, fixed and printed. That instant in time will ultimately live on the pages of a magazine, in a treasured album or a forgotten shoe box, on the front page of a newspaper, or inside an art book casually laid on a coffee table.

In the new world of digital tools, the focal point of image making shifts somewhat away from the finger on the shutter release button. Not that the act of making an exposure is any less decisive But the central role of the computer in the overall image-making process requires us to act in reference to it. Without the computer, the digital image is meaningless, and, to pass that gate, we must first transform real-world scenes into digital files the computer understands.

Video Cameras:

The use of CCDs is by no means limited to scanners. In fact, they are at the core of one of the most popular product categories of recent years, consumer camcorders, which store images as analog video signals intended for viewing on a television set.

The technical difference between analog and digital signals can best be illustrated visually: An analog signal is represented as a waveform, whereas a digital signal is a series of 1‘s and 0’s. The conversion of one to the other is called digitizing. It is based on a “sampling” process, whereby the analog signal is measured at regular intervals and the resulting information used to build a digital file.

The quality of the resulting digital image will depend both on the purity of the original analog signal and on the frequency of sampling: The more sampling points, the better the digital representation of the analog signal.

The products used to do this conversion are called digitizers. The higher-end models, called frame grabbers offer “real time” digitizing. That means they are fast enough to freeze a digital version of a single frame from a moving video sequence, whereas lower end models require that the video be “paused.”

Frame grabbers can therefore be used to grab images from any motion video source- camcorders to videotape to broadcast TV.

Filmless Still-Image Cameras:

Obviously, it has to occur to someone sooner or later that, if you could record moving images with a CCD-based camcorder, you could use similar technology to build still cameras.

Sony Corp. was first to announce the concept in 1981, and filmless cameras have been at the forefront of imaging technology ever since. The idea of making pictures without using film has a “science fiction” feel which appeals to the imagination.

Electronic cameras are instant gratification: No more darkroom, no more waiting. They hold the promise of reducing waste (by eliminating consumables), chemical pollution and water use. While the product category is still in its early stages of development, it has shown very dramatic improvement in recent years. Electronic cameras, even with their current significant limitations, are set to conquer significant segments of the camera market in the immediate future.

It’s a common misconception that all electronic cameras deliver a digital image. In fact, electronic cameras are based