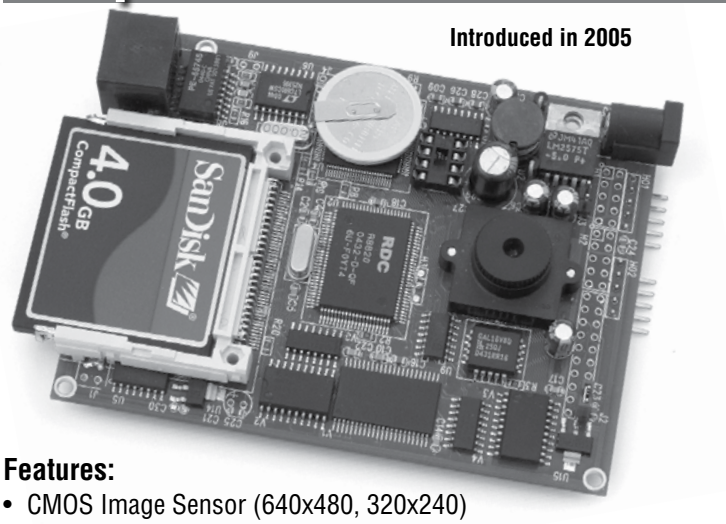
# CEye™ Low Cost, C/C++ Programmable, Standalone Vision System

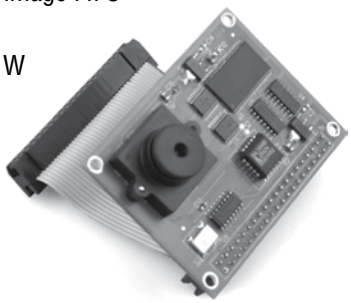
NEW!

Introduced in 2005




## Features:

- CMOS Image Sensor (640x480, 320x240)
- Supports Grayscale/Color, 1MB image FIFO
- Wide viewing angle Micro Lens
- 4"x3", 9-30V DC Power, Peak <1W
- x86 16-bit CPU, CompactFlash with FAT file system
- Ethernet, 0RS232/485, RTC, Battery, TTL I/Os



*Eye0™ Camera only*

## Introduction

The ***CEye™*** controller is an innovative new solution for a wide range of vision applications: machine vision; check ID marking; pattern recognition; industrial process control; motion position detection; security monitoring.

The ***CEye™*** is the ideal board for adding lowpower standalone digital image acquisition and recording to any embedded application. Existing CMOS camera systems generally rely on a connection to other central systems for data storage, image processing, or power. The ***CEye™*** is intended to be a true stand-alone solution.

## Image Acquisition

The onboard CMOS image sensor has 640*480 active pixels, and can output images in both VGA and QVGA (320x240) resolutions. With a pixel clock of 20 MHz, the hardware frame capture period is approximately 150ms. Real-time images are made available to the user-application in image array format, and indefinite acquisition/ storage to the CompactFlash card is possible at rates up to 4 frames/second.

The user application can access any pixel directly from this memory buffer. An application implemented on the ***CEye™*** might capture images, analyze any zones of interested pixels, and make control decision based on that image processing result in real-time. These images can also be rendered in Windows bitmap (.bmp) format for easy storage and later transfer to the PC. Tens of thousands of images can be stored on a FAT16-formatted CompactFlash memory card.

## Stand-alone Controller

The ***CEye™*** is a complete stand-alone controller including a 16-bit 40 MHz x86 CPU, onboard regulator, 512KB Flash, battery backed SRAM, 1 MB image FIFO, an image sensor, two RS232 ports and a CompactFlash interface.

Two RS232 serial ports (SER0 and SER1) can handle 115,200 baud with high reliability. SER1 can also be hardware configured as RS485. There is also a real time clock with battery backup, 10+ TTL I/O pins, multiple external interrupts, and 3 16-bit timer/counters.

The optional WIZNET hardware TCP/IP module can be used to offload images quickly and efficiently over the network. For example, a TERN-supplied webserver sample allows the board to send raw bitmap QVGA images at rates up to 2-3fps to remote Internet browsers over HTTP.

A high speed parallel data-bus expansion header supports external USB interface for high speed data transfer to a PC. A utility software "EyeC Viewer" is available on Windows-based PC for real-time display of camera image.

With dimensions of 3x4 inches, the ***CEye™*** is designed to fit into an Aluminum Extrusion Enclosure for easy deployment and installation. Optional switching regulator allows the EyeC to sleep in VOFF mode to reduce power consumption in less than 30 uA.

A camera only version (2.5x1.85"), ***Eye0™***, is available. The ***Eye0™*** must be driven by a TERN controller via cable. See sample images acquired by the ***CEye™*** and ***Eye0™.***


## Order Information

***CEye™*** **$179/$159/$139/$99 for Qty 1/50/100/1K**

Includes: 40MHz CPU, 256KW ACTF Flash, 64KW SRAM, Image sensor, Micro Lens, 1MB image FIFO, 2 RS232, 3 timers, 10+ TTL I/O.

## Add-on Options

1) 256K words SRAM ..... $20
2) RTC+BAT ..... $20
3) Ethernet ..... $30
4) CompactFlash Interface ..... $20
5) RS485 driver for SER1 ..... $10
6) Switching Regulator ..... $20
7) Aluminum extrusion enclosure ..... $40

***Eye0™*** **$99/$69/$49/$39 for Qty 1/100/1K/5K**

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