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## Quantix:6303E Photometrics 3072 x 2048 imaging array 9 x 9-µm pixels

The Quantix:6303E is a fast, high-resolution digital camera system designed for low-light scientific and industrial applications. This cooled CCD camera system provides 12-bit digitization at 5 MHz. The pitch of the pixels, 9 x 9 microns, provides fine detail within the image. The large format size allows wide field-of-view imaging to be performed at high resolution. The CCD uses indium tin oxide (ITO) technology to raise quantum efficiency, particularly in the blue/green.

### F E A T U R E S      B E N E F I T S

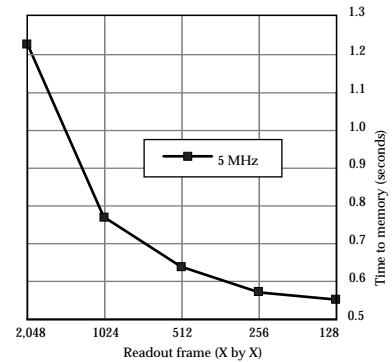
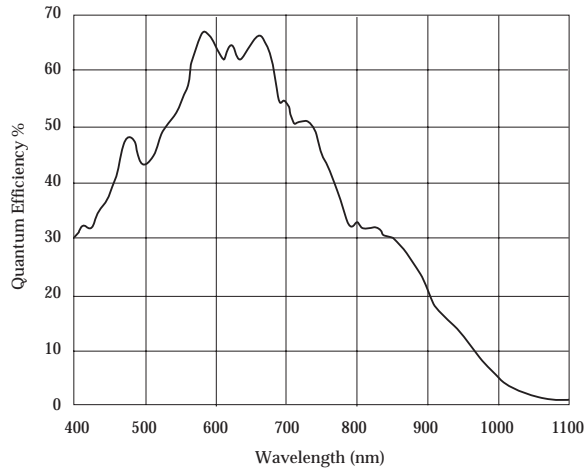
5-MHz digitization 1.4 seconds to read out full frame	Fast image readout for high-speed focus and image capture
3072 x 2048 imaging array 9 x 9-µm pixels	Resolves fine detail Ideally matched to optical microscope
Scientific-grade CCD	Few defects and hot pixels
Single-window imaging path	Minimizes reflections and distortion Higher QE performance
Three detection modes	Optimized for high sensitivity, high dynamic range, and high SNR
Flexible binning and readout	Increases light sensitivity while increasing the frame rate
12-bit digitization	Quantifies both bright and dim signals in the same image
Thermoelectric cooling	Long integration times for higher sensitivity
F-mount with shutter	Easily attaches to standard lenses or optical equipment
Compact camera head	Easily fits your instrument
PCI or SCSI interface	Works with PC, Macintosh, Linux®
Detailed calibration report	Proven performance characteristics





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To calculate total frame read time, add exposure time and shutter open and close delays to "time to memory."

## S P E C I F I C A T I O N S

CCD image sensor	Kodak KAF6303E; scientific grade; MPP; Metachrome® II UV enhancement (optional)
CCD format	3072 x 2048 imaging pixels plus 16/12 serial pre/postscan pixels; 4/4 parallel pre/postscan rows; 9 x 9-µm pixels; 100% fill factor; 27.7 x 18.4-mm imaging area (optically centered)
Grades	Grade 1: ≤35/≤14 point defects, ≤5/≤2 cluster defects, 0 column defects; Grade 2: ≤45/22 point defects, ≤18/9 cluster defects, ≤5/0 column defects; Grade 3: ≤90/45 point defects, ≤36/18 cluster defects, ≤9/4 column defects
User gains	Three detection modes or gains; software selectable; high sensitivity, high dynamic range, high SNR
Linear full well	160,000 e <sup>-</sup> @ 0.5x; 80,000 e <sup>-</sup> @ 1x; 20,000 e <sup>-</sup> @ 4x
Read noise (1/5 MHz)	High signal-to-noise ratio – 35/41 e <sup>-</sup> rms @ 0.5x; High dynamic range – 21/29 e <sup>-</sup> rms @ 1x; High sensitivity – 13/17 e <sup>-</sup> rms @ 4x
Nonlinearity	≤0.5%
Readout bits/speed	12 bits @ 5 MHz or 1 MHz; software selectable
Parallel shift rate	80 µsec/row
Serial discard rate	0.1 µsec/pixel
Frame readout	1.4 seconds for full frame at 5 MHz
Dark current	0.2 e <sup>-</sup> /p/s with forced-air cooling (-25°C)
Operating environment	0 to 30°C ambient, 5 to 70% relative humidity noncondensing (5 to 80% RH for F-mount)

Note: Specifications are typical and subject to change.