PHOTOMETRICS®
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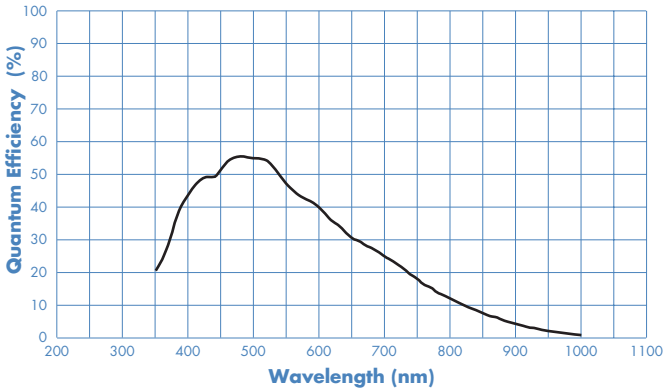
CoolSNAP*K4* Monochrome

2048 x 2048 imaging array | 7.4 x 7.4-µm pixels

The CoolSNAP*K4* Monochrome camera from Photometrics® is a high-resolution digital imaging system designed for low-light scientific applications that require a large field of view. This cooled CCD camera system provides 12-bit digitization at 20 MHz. The large format of the CCD allows the user to image the microscope's whole field of view, while the small pixel size is ideally matched to the resolution limit of the microscope. The four-megapixel detector enables very fine image detail to be resolved, yet the pixels can be easily binned to improve sensitivity. New interline-transfer CCD technology provides high quantum efficiency.

Features	Benefits
20-MHz digitization	High-speed, high-sensitivity image capture
2048 x 2048 imaging array 7.4 x 7.4-µm pixels	Resolves fine detail Ideally matched to optical microscope
Interline-transfer, progressive-scan CCD	Eliminates camera vibration and facilitates fast triggering
Flexible binning and readout	Increases light sensitivity while increasing the frame rate
12-bit digitization	Quantifies bright and dim signals in the same image
Thermoelectric cooling	Long integration times for higher sensitivity
Enhanced quantum efficiency	Provides higher sensitivity than typical interline cameras
C-mount	Easily attaches to microscopes, standard lenses, or optical equipment
Acquisition software	Captures, analyzes, and saves high-resolution images
PCI interface	High-bandwidth, uninterrupted data transfer
PVCAM® Circular buffers Device sequencing	Supported by numerous third-party software packages Real-time focus Precise integration with shutters, filter wheels, etc. *Compatible with Windows® 2000/XP, Mac OS X, and Red Hat® Linux® 9.0 (kernel version 2.4)*



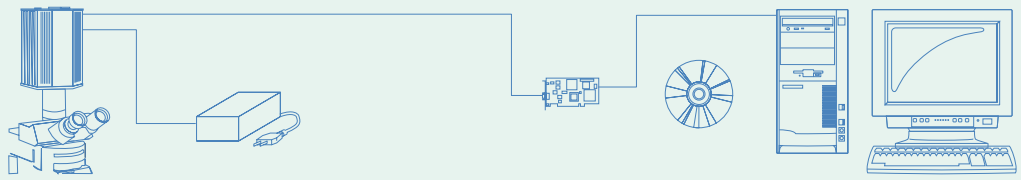
Binning	Region: 2048 x 2048	1024 x 1024	512 x 512
1 x 1	3	5	8
2 x 2	5	8	10
3 x 3	6	10	11
4 x 4	8	11	12

(Frames per second)

Note: Frame rates are measured at 20 MHz with 0-second exposure times.

Specifications

CCD image sensor	Kodak® KAI-4020M; interline-transfer, progressive-scan device with microlenses
CCD format	2048 x 2048 imaging array 7.4 x 7.4-µm pixels 15.16 x 15.16-mm imaging area (optically centered)
Linear full well	30,000 e- (single pixel) 60,000 e- (2 x 2 binned pixel)
Read noise	≤10 e- rms @ 20 MHz
Nonlinearity	<1%
Digitizer type	12 bits @ 20 MHz
CCD temperature	-25°C (regulated)
Dark current	0.1 e-/p/s @ -25°C
Operating environment	0 to 30°C ambient, 0 to 80% relative humidity noncondensing
I/O	TTL (trigger/status): trigger, invert, inhibit, exposing, interline shift, frame readout 8-bit TTL (programmable) 8-bit DACs (two)



Note: Specifications are typical and subject to change.

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