PHOTOMETRICS®

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CoolSNAP*HQ* Monochrome

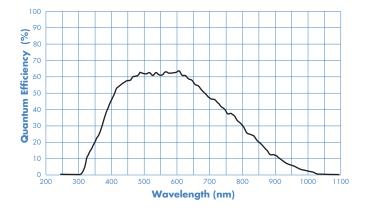## 1392 x 1040 imaging array | 6.45 x 6.45-µm pixels

The CoolSNAP*HQ* Monochrome camera from Photometrics® is a fast, high-resolution digital imaging system designed for low-light scientific and industrial applications. This cooled CCD camera system provides 12-bit digitization at both 10 MHz and 20 MHz. The fine pitch of the pixels is ideally matched to the resolution of optical microscopes. Megapixel resolution and small pixels allow imaging of very fine detail, yet the pixels can be easily binned to improve sensitivity. New interline-transfer CCD technology provides high quantum efficiency, most notably in the near-infrared (NIR) portion of the spectrum.

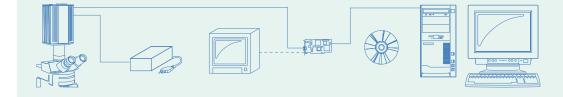| Features	Benefits
10-MHz and 20-MHz digitization	Dual-mode readout for high-speed and high-sensitivity image capture
1392 x 1040 imaging array 6.45 x 6.45-µm pixels	Resolves fine detail Ideally matched to optical microscope
Interline-transfer, progressive-scan CCD	Electronic shuttering eliminates camera 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 (especially in the NIR)
C-mount	Easily attaches to microscopes, standard lenses, or optical equipment
Acquisition software	Captures, analyzes, and saves high-resolution images
Video output	Compatible with standard video equipment
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)*

Photometrics CoolSNAP*HQ*™

Quantum Efficiency (%) vs Wavelength (nm) graph.

Region

	1392 x 1040	512 x 512	256 x 256
1 x 1	10	19	30
2 x 2	18	30	44
3 x 3	24	38	51
4 x 4	29	43	56

(Frames per second)

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

Specifications

CCD image sensor	Sony® ICX285; interline-transfer, progressive-scan device with microlenses
CCD format	1392 x 1040 imaging array 6.45 x 6.45-µm pixels 8.77 x 6.6-mm imaging area (optically centered)
Linear full well	16,000 e- (single pixel) 30,000 e- (2 x 2 binned pixel)
Read noise	6 e- rms @ 10 MHz 8 e- rms @ 20 MHz
Nonlinearity	<1%
Digitizer type	12 bits @ 20 MHz or 10 MHz (software selectable)
Frame readout	100 ms/frame
CCD temperature	-30˚C (regulated)
Dark current	0.05 e-/p/s @ -30˚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)
Video output	RS170/PAL selectable

Note: Specifications are typical and subject to change.

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