



# D A T A S H E E T

C O O L S N A P H Q S Y S T E M

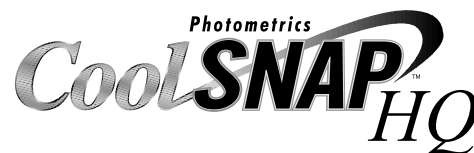
## CoolSNAP HQ Monochrome Photometrics 1392 x 1040 imaging array 6.45 x 6.45-µm pixels

The Photometrics CoolSNAP<sub>HQ</sub> Monochrome camera 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 both 10 MHz and 20 MHz. The fine pitch of the pixels, 6.45 x 6.45 microns, 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 CCD technology provides high quantum efficiency, most notably in the near-infrared (NIR) portion of the spectrum.

### F E A T U R E S

### B E N E F I T S

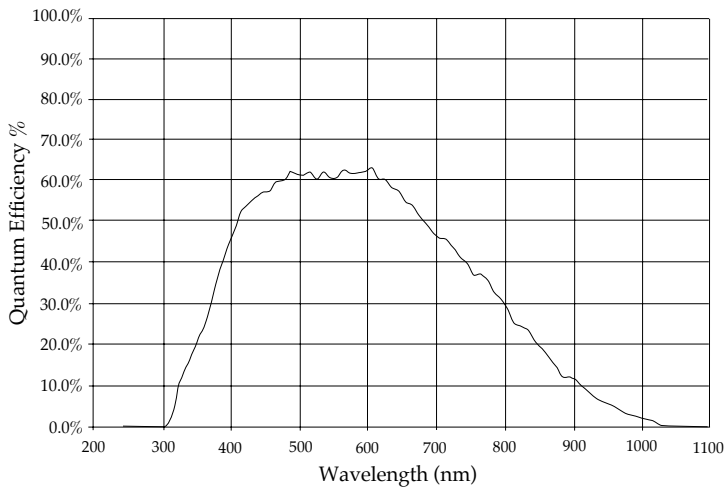
10-MHz and 20-MHz digitization	Dual-mode readout for high-speed and high-sensitivity image capture
1392 x 1040 imaging array 6.45 x 6.45-µm pixels	Resolves fine detail Ideally matched to optical microscope
Interline, progressive-scan CCD	Electronic shuttering eliminates camera vibration and facilitates fast triggering
Flexible binning and readout	Increases light sensitivity while increasing the frame rate
12-bit digitization	Quantifies both bright and dim signals in the same image
Thermoelectric cooling	Long integration times for higher sensitivity
Enhanced quantum efficiency	Provides higher sensitivity, especially in the NIR, than typical interline cameras
C-mount	Easily attaches to microscopes, standard lenses, or optical equipment
PCI interface	Works with PC, Macintosh, or Linux®
Video output	Compatible with standard video equipment





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		Region		
		1392 x 1040	512 x 512	256 x 256
Binning	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)

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

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

CCD image sensor	Sony ICX285; progressive-scan CCD
CCD format	1392 x 1040 imaging pixels; 6.45 x 6.45- $\mu$ m pixels; 8.77 x 6.6-mm imaging area (optically centered)
Linear full well	15,000 e <sup>-</sup> (single pixel); 30,000 e <sup>-</sup> (2x2 binned pixel)
Read noise	6 e <sup>-</sup> rms @ 10 MHz 8 e <sup>-</sup> rms @ 20 MHz
Nonlinearity	<1%
Readout bits/speed	12 bits @ 20 MHz or 10 MHz; software selectable
Frame readout	100 ms/frame
CCD temperature	-30°C regulated
Video output	RS170/PAL selectable
Dark current	0.05 e <sup>-</sup> /p/s (-30°C)
Operating environment	0 to 30°C ambient, 0 to 80% relative humidity noncondensing

Note: Specifications are typical and subject to change.

