

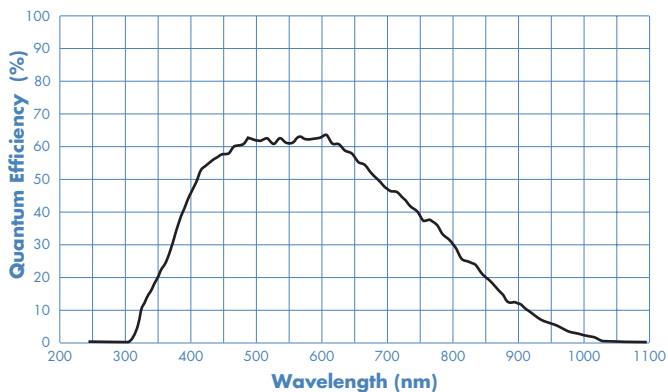
CoolSNAP_{ES} Monochrome

1392 x 1040 imaging array | 6.45 x 6.45- μ m pixels



The CoolSNAP_{ES} Monochrome camera from Photometrics® is a fast, high-resolution digital imaging system designed for low-light scientific and industrial applications. This moderately cooled CCD camera system provides 12-bit digitization at 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
20-MHz digitization	High-speed, high-sensitivity readout
1392 x 1040 imaging array 6.45 x 6.45- μ m 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	Increases 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
Subcompact, fanless design	Low profile allows easy setup
Acquisition software	Captures, analyzes, and saves high-resolution images
Video output (optional)	Compatible with standard video equipment
PCI interface	High-bandwidth, uninterrupted data transfer
PVCAM® for Photometrics® Circular buffers Device sequencing	Supported by numerous third-party software packages Real-time focus Precise integration with shutters, filter wheels, etc.
	<i>Compatible with Windows® 2000/XP, Mac OS X, and Linux® RH 9.0 (kernel version 2.4)</i>

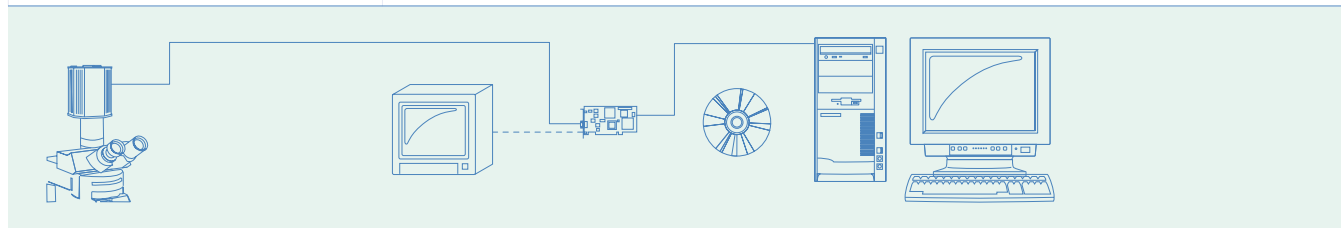


		Region		
		1392 x 1040	512 x 512	256 x 256
Binning	1 x 1	11	20	36
	2 x 2	20	36	58
	3 x 3	28	48	73
	4 x 4	35	58	83

(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- μ m 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	≤ 8 e ⁻ rms @ 20 MHz
Nonlinearity	<1%
Digitizer type	12 bits @ 20 MHz
Frame readout	91 ms/frame
Dark current	1 e ⁻ /p/s
Operating environment	15 to 30°C ambient
Dimensions	4.5" x 5.0" x 2.5" (1.9 lbs)
I/O	TTL output while exposing (BNC connector)
Video output (optional)	RS170/PAL selectable



Note: Specifications are typical and subject to change.