

### Description

The Peregrine™-486 is a high-performance imaging camera for use in applications that demand extreme sensitivity under low light conditions. The camera is based upon the CCD 486, a scientific grade 4k x 4k sensor, available in either front- or back-illuminated versions. The camera boasts a low-noise, dual-speed, four-port readout architecture for superior speed and sensitivity. Dark current is virtually eliminated with deep thermoelectric cooling to  $-50\text{ }^{\circ}\text{C}$ . Hard metal seals assure a reliable vacuum and continuous maintenance-free operation. Linear, 16-bit dynamic range and sophisticated features such as software-controlled windowing and binning make the Peregrine™ the ultimate instrument in scientific optical imaging. The camera is packaged in a compact and rugged housing and is readily adapted to your optical interface.



Features	Benefits
4k x 4k sensor	High resolution (16 Megapixel)
61 mm x 61 mm imaging area	Highest optical throughput
Back-illuminated CCD	Highest quantum efficiency
Four-port readout	Optimal design for speed and sensitivity
Deep thermoelectric cooling ( $-60\text{ }^{\circ}\text{C}$ )	Minimize dark noise
High performance low-noise electronics	Minimize read noise
Linear 16-bit dynamic range	Scientific precision and accuracy
Software-controlled binning & windowing	Optimize speed versus resolution



# Peregrine 486

Parameter	Specification
Sensor	CCD 486, scientific grade 1
Resolution	4096 x 4096 pixels
Pixel Size	15 $\mu\text{m}$ x 15 $\mu\text{m}$
Image Area	61 mm x 61 mm
Peak QE	> 90% (back-illuminated) > 40% (front-illuminated)
Read Noise	< 12 e- @ 1 MHz < 7 e- @ 250 kHz
Full Well	> 80 ke- (single pixel)
Linearity	< 1%
Dark Current	< 0.1 e-/pix/sec
Cooling	- 50 $^{\circ}\text{C}$
Output Ports	4
Readout Rate	4 MHz (4 x 1 MHz) 1 MHz (4 x 250 kHz)
Binning & Windowing	1x1, 2x2, 4x4 and 8x8 Arbitrary sized centered window
Gain	1.5 e-/ADU (nominal)
ADC Range	16-bit

Specifications subject to change