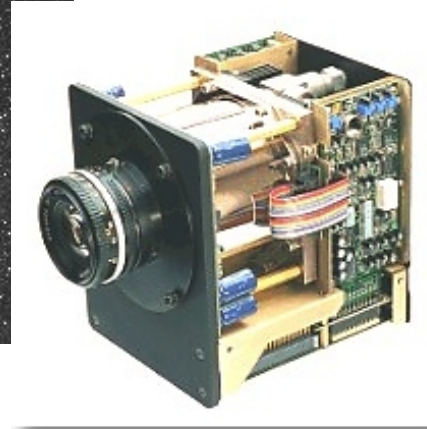
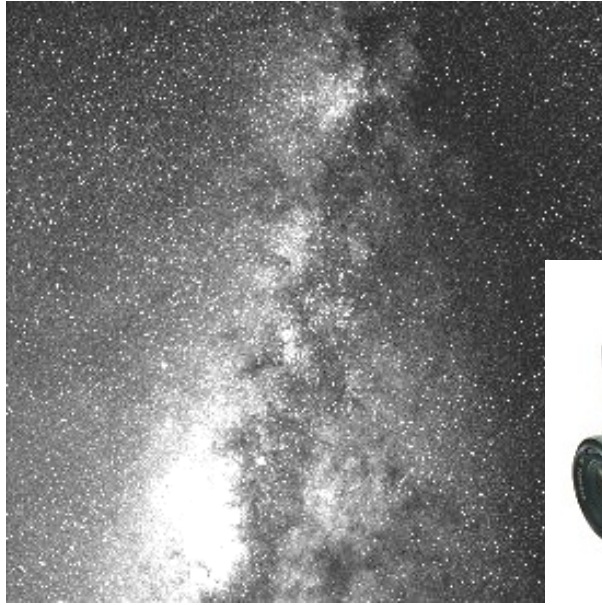


Cryocam® Model L 3

16-Bit High Sensivity Large Format 2048 x 2048 Pixel
Cooled CCD Camera



The Cryocam with covers removed

- 2048 x 2048 x 15 micron square pixels
- < 7e- Read noise
- Chilled to -60°C *without liquids*
- 16-bit ADC in the camera head
- Fast focus
- Multiple readout rates to 300K pixels/s
- Variable offset & gain prior to the ADC
- Aspect-variable on-chip sub-window
- Antiblooming
- On-chip binning
- A/R coated quartz window
- Built-in shutter
- Up to 100m from computer to camera
- External I/O syncs
- Includes software

Cryocam

Cryocam Model L3 2048 x 2048 CCD

General Specifications

ADC: 16 Bits

Readout Rate: 25, 50, 100, or 300 kHz

Focus Readout Rate (8-bits): 400 kHz

Readout Noise: < 6 e- @50 kHz Typical

CCD TE Cooling @ 15°C ambient: -60°C (75°C below ambient)
Liquid coolants are not used.

CCD Temperature Control: +/- 0.1°C over a user-set range of -100°C to +28°C in 0.5° increments. Cooling only. CCD is not heated.

Shutter: 1/20 sec. minimum cycle time.

Exposure Time: 1/20 sec. to hours.

Window: Broadband anti-reflective coated fused silica

External Syncs: 1 *trigger* input; 1 *camera busy* output.
TTL levels. User-set phase. BNC connectors.

Front Plate Interface: Four 8-32 tapped holes, 0.20 deep, on 4.186 B.C.

Lens Mount: Nikon, standard. (Lens is not included).

Tripod Mount: 1/4-20 thread on bottom of camera head.

Camera to Computer Cable: 50 ohm RG58C/U Coax. 300' max. (25' standard)

Power Supply Cable: Highly flexible 15 conductor. 25' max. (12' standard)

Dimensions & Weight:

Camera: 5"W x 6.2"H x 6"D 6 lbs.

Supply: 7"W x 4.6"H x 10"D 6 lbs.

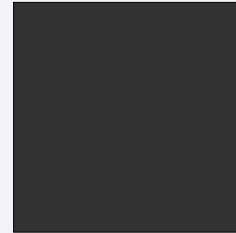
Power: 120-240 VAC 50/60 Hz 150 W max.

Minimum Computer Requirements (not included) :

Pentium or equivalent. 32 MB RAM (64 MB preferred)

100 MB free disk space. ISA bus required.

CCD Specifications



CCD Image Area
Actual size

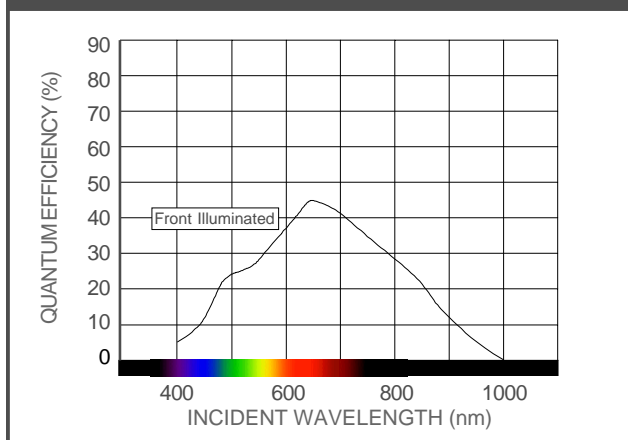
Manufacturer: Lockheed Martin
Part Number: CCD422A
Array: 2048 x 2048 pixels
Transfer: Full-Frame
Pixel Dim: 15µm square
Image Area: 30.7 mm x 30.7 mm
Full Well: 100,000 electrons MPP
Read Noise: 5e-
Illumination: Front
Dark Current: -45°C 0.55 e-/pixel/s
-60°C 0.06 e-/pixel/s

Order Model Numbers

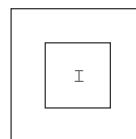
CCD Grade	Illumination	
	Back*	Front
A	L3AB1660	L3AF1660
B	L3BB1660	L3BF1660

*Available Fall 2001

CCD Spectral Response



CCD Grades



Zone I = Center 1024 x 1024 pixels

DEFECTS (Max)	GRADE	
	A	B
Zone I Columns	0	6
Zone I Pixels	40	200
Total Array Columns	3	20
Total Array Pixels	200	800

Micro Luminetics, Inc.

www.cryocam.com

3447 Greenfield Avenue, Los Angeles, CA 90034 (310) 559-2615 Fax: (310) 836-4733 e-mail: info@cryocam.com