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LumaDR™

The World's Best Digital Research High Speed Infrared Camera



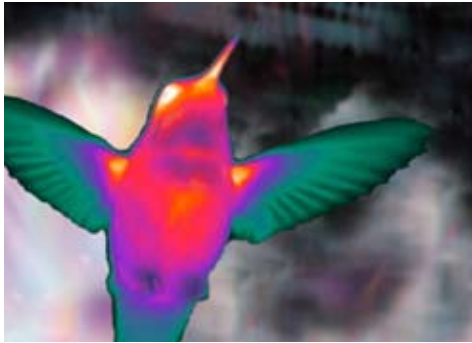
TM

Santa Barbara **Focalplane**





PD079-050



PD079-051

LumaDR

Discover the Digital Advantage with the LumaDR Digital Research camera. The LumaDR offers sharp integration time, high speed data output of 120 frames per second, ultra low noise and virtually no cross talk. The LumaDR uses Lockheed Martin's advanced Digital FPA technology.

Santa Barbara Focalplane (SBF) is a merchant vendor of the very latest in infrared components, imaging systems, cameras and technology. SBF specializes in designing and manufacturing the highest quality indium antimonide (InSb) focal plane arrays (FPAs) in many configurations from linear through large staring formats. Product groups include FPAs, Integrated Detector/Dewar/Cooler Assemblies (IDDCAs), digital camera heads, and complete imaging systems.

Specifications

Detector	
Detector	Indium Antimonide (InSb)
ROIC	High Speed Digital Output direct from FPA
Spectral Range	<1 μm to 5.2 μm
Resolution	640 x 512, windowable
Pixel Pitch	20 μm
Electronics & Data Rate	
Integration Type	Snapshot
Integration Time (Electronic Shutter Speed)	<0.1 μs to full frame time
Integration Turn-on Time	<150 nanoseconds
Integration Turn-off Time	<30 nanoseconds
Integration Delay & Jitter after Sync Input	<120 \pm 32 nanoseconds
Output Dynamic Range	14 bits
Data Rate	40 megapixels/sec
Max Frame Rate at Full Window	120 Hz
Subwindowing	Predefined & user selectable
Performance Specifications	
NEI / NETD	<20mK (<13 typical)
Well Capacity	7.0 million electrons
Operability	>99.5 (>99.95 typical)
Camera Specifications	
Sensor Assembly f/#	f/2.3 std, f/4.0 optional
Standard Spectral Range (Cold Filter)	CO ₂ Notch (2.2-4.1 μm & 4.4-4.9 μm)
Additional Cold Filter Options	3-5 μm , none
Sensor Cooling	Stirling closed cycle cooler
Lens Mount	Twist-lock Bayonet
Power at 24-36Vdc	15 W steady state
Advanced Communication & Data Transfer	
Command, Control and Data Output	Camera Link® (GigE / RS170 Optional)
Meta-Data	(IRIG-B Optional)
Software	WinIR™ & Software Development Kit
Physical Characteristics	
Size (width x height x length)	4.5" x 5.6" x 7"
Weight	7 lbs
Environmental	Rugged design - 95% non-condensing
Sun Protection (surface and shielding)	Thermal Enamel & optional Sun Shield
Optics	
Fixed Focal Length - Industry Std Interface	f/2.3 - {7mm, 13mm, 25mm, 50mm, 100mm}
Multi Position	f/4.0 {DFOV (50/250)mm & TFOV (50/200/500)}
Microscope	1x, 2.5x, 4x
Continuous Zoom	f/4.0 {50mm to 200mm}

Features

- Unique all Digital Large Format Camera System
 - High speed digital output FPA
 - Extremely stable Non Uniformity Correction compared to analog FPAs
 - No crosstalk
 - Ultra-low noise
 - Excellent uniformity
 - Sensitive from UV to 5.3 μm
- Super Sharp Integration (>10x faster)
 - Turn-on <150 nanoseconds
 - Turn-off <30 nanoseconds
- Ultra Fast Trigger Input Synchronization
 - Delay to start of integration <120 nanoseconds
 - Jitter < 32 nanoseconds
- Super-framing and Preset Sequencing Modes
- Fully Adjustable Integration Times & Frame Rates
- Ruggedized for harsh environment
- SBF offers a standard built-in CO₂ notch cold filter for optimum visibility
- Cold Filter Options:
 - CO₂ notch
 - 3 μm to 5 μm
 - UV to 5.3 μm
- FPA Impervious to Direct Sun Exposure
 - No residual after-image of ultra-bright objects
- WinIR™ Software (option for radiometric and superframing)
 - Stream data to disk
 - SDK for custom development
- Integrated IRIG-B + metadata stamped on each frame header
- Gigabit Ethernet, Camera Link™
- Simultaneous Analog and Digital Data Output

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Front top: PD079-048; Front bottom: PD079-049