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ImagIR™

The World's Most Configurable Infrared Lab Camera System

Santa Barbara *Focalplane*™

PD079-054

PD079-055

ImagIR

The ImagIR infrared camera is the most versatile laboratory camera system allowing the scientist to select color bands, array size and camera style to best suit the application.

Santa Barbara Focalplane (SBF) is a merchant vendor of the very latest in thermal 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

Camera Type	InSb (Digital)	InSb	QWIP	HgCdTe
Detector				
Spectral Range	1 μm to 5.2 μm	<1 μm to 5.2 μm	8.5 μm to 9.1 μm	<2 μm to >10 μm
Resolution/Pixel Pitch	640 x 512 / 20 μm	1024 x 1024 / 19.5 μm	1024 x 1024 / 19.5 μm	128 x 128 / 40 μm
		640x512 24 μm	640 x 512 / 24 μm	
		640 x 512 / 20 μm	320 x 256 / 30 μm	
		320 x 256 / 30 μm		
Electronics & Data Rate				
Integration Type	snapshot	snapshot	snapshot	snapshot
Integration Time	<0.5 μs to full frame time	<5 μs to full frame time	<5 μs to full frame time	<1 μs to full frame time
Dynamic Range	14 bits	14 bits	14 bits	14 bits
Data Rate	40 Mpixels/sec	32 to 128 Mpixels/sec	32 Mpixels/sec	32 Mpixels/sec
Frame Rate (Hz)	120	1K x 1K - 114	1K x 1K - 114	1,683
		640 x 512 - 94	640 x 512 - 94	
		320 x 256 - 366	320 x 256 - 366	Predefined &
Subwindowing		User selectable		
Performance Specifications				
NETD	<20mK (<13 typical)	<20mK (<14 typical)	<35mK	<25mK (<20 typical)
Operability	>99.5 (>99.95 typical)	>99.5 (>99.95 typical)	>99.5 (>99.95 typ.)	>98.0
Advanced Communication and Data Transfer				
Command and Control		Camera Link		
Image Data Output		Camera Link		
Software		WinIR™ & SDK		
Optics				
Fixed Focal Length	f/2.3 {13, 25, 50, 100}mm	f/2.3 {13, 25, 50, 100}mm	f/2.3 {13, 25, 50, 100}mm	f/2.3 {13, 25, 50, 100}mm
Industry Standard Lens Interface	DFOV 50/250 &	f/4.0 DFOV 50/250		
(custom lenses available)	TFOV 50/200/500	f/4.0 TFOV 50/200/500		
	microscope	f/4.0 60mm - 1K only		
Pour filled Camera Specifications				
Sensor Assembly f/#		f/2.3 std (easily customized)		
Sensor Cooling		LN2 pour filled		
Lens Mount		Twist-lock Bayonet		
Power		6 Watts, AC supplied		
Size		4" W x 8" H x 10.5" L		
Weight		7 lbs		
Hold time 1/3 liter capacity		>10 hours (14hrs idle)		
Closed Cycle Camera Specifications				
Sensor Assembly f/#		f/2.3 std, f/4.1 optional		
Sensor Cooling		Stirling closed cycle, both permanent & repumpable designs		
Lens Mount		Twist-lock Bayonet		
Power (steady state)		25 W at 24-36 VDC		
Size		5" W x 5.18" H x 7.75" L		
Weight		6.5 lbs		

Features

- Multiple Detector Materials and ROICs available
  - – High speed analog & digital output FPAs
  - – Low noise
  - – High uniformity
  - – InSb (UV to 5.2 μm), QWIP (8 to 9.1 μm), HgCdTe (<2 to >10.4 μm)
  - – 128x128, 320x256, 640x512, 1024x1024 formats readily available
- Broad Range of Dewar options:
  - – Liquid nitrogen, closed-cycle dewars, and re-pumpable closed-cycle dewars
  - – Cold filter wheel option for liquid nitrogen dewars
  - – Custom configurations available
- Impervious to direct sun exposure:
  - – No residual after-image of ultra-bright objects
- Camera Link™ Output
- Super-framing and Preset Sequencing Modes
- WinIR™ Software
  - – Stream data to disk
  - – SDK for custom development
- Adjustable Integration Times & Frame Rates
- Ultra Fast Trigger Input Synchronization:
  - – <130 nsec delay to start of integration with jitter of less than 40 nsec
- Digital FPA Super Sharp Integration Turn on & Turn off
  - – <100 nanoseconds (10 times better than analog FPAs)
- Digital Data Output with live analog data via video card
- Integrated Time Stamp

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Front top: PD079-052; Front bottom: PD079-053