Blackbird 1280

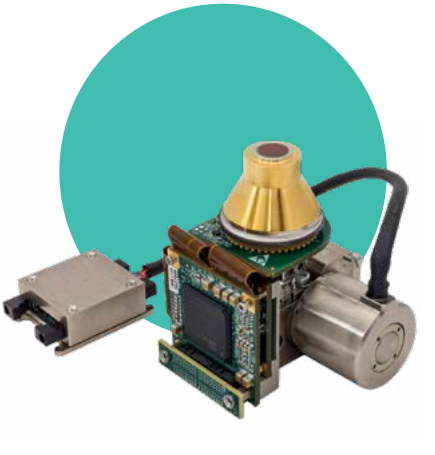
The BLACKBIRD SXGA represents SCD's advanced Mid-Wave Infrared (MWIR) High Definition detector, integrating their mature 1280x1024 Focal Plane Array (FPA) technology. This technology is based on Indium Antimonide (InSb), XBn, or Hot Full Midwave (HFM) with a 10µm pixel size. It includes a digital readout circuit fabricated using an advanced CMOS process. The accompanying proximity electronic board supports Video Engine capabilities while ensuring low power consumption. This results in a very large format detector with exceptional image quality, high frame rate, and a compact size. SCD remains dedicated to standing by our customers, ensuring they have access to the best solutions tailored to their needs.

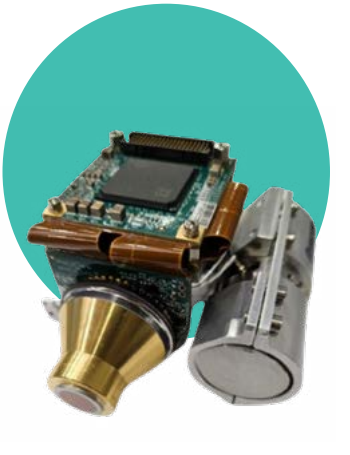
Main Features

- High sensitivity: characterized by low readout noise, low dark current, and high quantum efficiency
- High frame rate: capable of up to 180 Hz in full frame
- Simple electronic interface – maintains the legacy camera link interface
- Option for 1280x1024 or 1280x720 video format

Applications

- Persistent surveillance
- Long/medium range surveillance & targeting
- Remote weapon station
- IRST
- MWS





	Blackbird 1280 Family		
Technology	InSb	HFM	XBn
Detector Format	1280x1024, 10µm	1280x1024, 10µm	
Cooler options*	Split rotary/Integral rotary/ Integral rotary high reliability	Integral rotary high reliability	Integral rotary high reliability
Spectral band	3.6 - 5 µm (1-5.4µm available on request)	3.6 - 4.9 µm	3.6-4.2
Operating temperature	80K	120K	150K
Mission profile		High Reliability	Very high Reliability
Length (optical axis)	140mm	140mm	145mm
Weight	720g	720g	720g
Cooler power consumption	10W	8.5W	7W
Proximity electronics power consumption	3.5W	3.5W	3.5W
NETD (2Me- Cap.) at 70% Well fill	29mK	29mK	29mK
Maximal Frame Rate (FR) Raw image at full frame	60Hz	100Hz	60Hz
Advanced ROIC functionality	Binning, windowing	Binning, windowing	Binning, windowing

* Detailed specifications to be provided upon request

Integrated video processing key features

- Non Uniformity Correction (NUC)
- Bad-Pixel Replacement (BPR)
- Automatic Exposure / Gain Control (AGC)
- Dynamic Range Compression (DRC)
- Auto focus support (Q-Factor)
- Digital zoom
- Graphic overlay support
- Pseudo-color look-up-tables
- Spatial & temporal noise reduction
- Maximal frame rate 60Hz

	Mini Blackbird 1280	
Technology	XBn	HFM
Detector Format	1280x1024, 10µm	1280x1024, 10µm
Cooler options	Integral rotary / split linear	Split linear
Spectral band	3.6 - 4.2 µm (1-4.2µm available on request	3.6 – 4.9 µm
Operating temperature	150K	120K
Mission profile	Low SWaP	Low SWaP, High reliability
Length (optical axis)	82mm	92mm
Weight	350g	350 gr.
Cooler power consumption	3W	5W
Proximity electronics power consumption	3.5W	
NETD (2Me- Cap.) at 70% Well fill	27mK	27mK
Maximal Frame Rate (FR) Raw image at full frame	60Hz	60Hz
Advanced ROIC functionality	Binning, windowing	Binning, windowing

- Non Uniformity Correction (NUC)
- Bad-Pixel Replacement (BPR)
- Automatic Exposure / Gain Control (AGC)
- Dynamic Range Compression (DRC)
- Auto focus support (Q-Factor)
- Digital zoom
- Graphic overlay support
- Pseudo-color look-up-tables
- Spatial & temporal noise reduction
- Maximal frame rate 60Hz

Technical characteristics described in this data sheet are for information only.
They are not contractual and may change without prior notice.