



LWIR

Uncooled Detectors & Video Engines



LWIR Uncooled Detectors



ALWAYS A STEP AHEAD

At SCD, we are revolutionizing the field of infrared imaging with our cutting-edge developments in Long-Wave Infrared (LWIR) technology, reshaping the industry and delivering exceptional functionality to customers worldwide.

Our advanced uncooled detectors provide significant advantages, including excellent thermal sensitivity, high spatial resolution, high frame rate, and SWaP (Size, Weight, and Power) optimized design, making them highly attractive for critical applications.



ALWAYS WHAT YOU NEED

Our uncooled detectors stand out in the market by offering outstanding tactical advantages such as:

- Excellent Image Quality
- Low Noise Equivalent Temperature Difference (NETD)

With unparalleled support for a wide range of applications, our Long-Wave Infrared (LWIR) detection technologies capitalize on the advanced capabilities of VOx Microbolometer technology. They provide a variety of packaging and electronic solutions, along with a SWaP-optimized Video Engine, ensuring superior image quality.



ALWAYS BY YOUR SIDE

Experience unique service and expertise with SCD. We empower our customers to maintain a competitive edge by enhancing their tactical capabilities. Our support is steadfast and ranges from technical assistance to comprehensive training programs, ensuring excellence throughout your journey to tactical superiority.

We take pride in equipping our customers with state-of-the-art LWIR uncooled detection technologies that are optimal for a multitude of applications and systems. This enables a decisive advantage, providing the ability to be the first to detect and respond in both military and commercial sectors.



ALWAYS WHAT YOU
NEED



ALWAYS A STEP
AHEAD



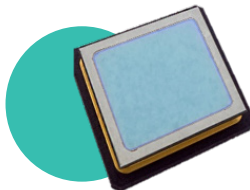
ALWAYS BY YOUR
SIDE

Bird 640

SCD's advanced $17\mu\text{m}$ VOx Microbolometer stands out as the ideal choice for VGA LWIR systems. With its exceptional image quality, remarkably low Noise Equivalent Temperature Difference (NETD), rapid image acquisition, and minimal weight, SCD's Microbolometer ranks among the leading LWIR sensors in the market. It is suitable for a wide range of applications, specifically tailored to meet challenges associated with Size, Weight, and Power (SWaP) constraints. Leveraging SCD's VOx technology, we offer a versatile and readily deployable thermal imaging solution. Our commitment to customer support ensures that they have access to the finest solutions available.

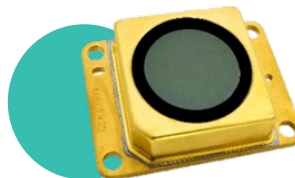
Main Features

- Vanadium Oxide technology
- $17\mu\text{m}$ pixel pitch
- 640×480 pixels focal-plane array
- Low power mode
- Ceramic or metallic package
- 2 analog outputs
- Various sensitivity levels from standard to very high sensitivity
- Option for simultaneous LWIR & MWIR on a single FPA (Broad-Band)



Applications

- Goggles
- Remote Weapon Stations
- Miniature payloads
- Airborne EVS
- Security and Mid-range surveillance
- Driving Vision Enhancement (DVE)



	Bird 640 Ceramic			Bird 640 Metallic
	LTTC Low Thermal Time Constant	HS High Sensitivity	BB Broad Band	HS High Sensitivity
Technology	VOx Microbolometer			
Format	640 x 480			
Pitch	17µm			
Temporal NETD@25°C F#1, 60Hz	≤55mK	≤35mK	≤26mK	≤32mK
Spectral response	8-14 µm	8-14 µm	3-14 µm	8-14 µm
Thermal time constant	7msec	14msec	14msec	14msec
Frame rate	25/30Hz, 50/60Hz, 100/120Hz			
Operating temperature	-40°C to 71°C			
Storage temperature	-40°C to 85°C			
Video output	Analog-1/ 2 lines			
Power consumption @25°C	400mW	350mW	350mW	350 mW w/o TEC
FPA stabilization	TEC-less	TEC-less	TEC-less	TEC
Size	23x26x5 mm	23x26x5 mm	23x26x5 mm	30x41x9mm
Weight	8gr	8gr	8gr	27 gr
MTTF	> 20 years @25°C vacuum life time (90% confidence)			



Bird XGA

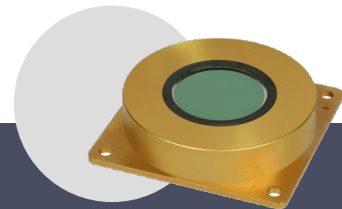
SCD's sophisticated 17 μ m VOx Microbolometer is an exemplary choice for XGA Long-Wave Infrared (LWIR) systems. Boasting outstanding image quality, exceptionally low Noise Equivalent Temperature Difference (NETD), swift image capture, and a lightweight design, SCD's Microbolometer is distinguished as a premier LWIR sensor in the industry. Designed to meet a diverse array of application needs, it specifically addresses the critical Size, Weight, and Power (SWaP) considerations. With SCD's advanced VOx technology, we offer a versatile and user-friendly thermal imaging solution. Our unwavering commitment to customer support ensures that our clients have access to the best-in-class solutions.

Main Features

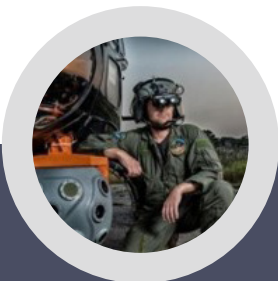
- Vanadium Oxide technology
- 17 μ m pixel pitch
- 1024x768 pixels focal-plane array
- Uncooled operation with TEC
- 4 analog outputs
- Internally computed coarse-NUC
- Adjustable GAIN & Integration time
- Mil-std qualification

Applications

- Long-range surveillance systems
- MWS
- Remote weapon station
- Driver's night-vision systems
- EO/IR tactical payloads
- Long-range flame detection



	FAST	HS High Sensitivity	BB Broad Band
Technology	VOx Microbolometer		
Format	1024 x 768		
Pitch	17µm		
Temporal NETD@25°C F#1, 60Hz	<100mK	<36mK / <50mK	<32mK
Spectral response	8µm-12µm	8µm-14µm/8µm-12µm	3µm-14µm
Thermal time constant	7 ms	14ms	14ms
Frame rate	25/30Hz, 50/60Hz, 100Hz		
Operating temperature	-40°C to 71°C		
Storage temperature	-40°C to 85°C		
Video outputs	Analog 2/4 lines		
Power consumption @25°C	750mW-900mW		
FPA stabilization	TEC		
Size	52mm X 52mm X 11mm (excluding pins & vacuum tube)		
Weight	70 gr		
MTTF	> 20 years @25°C vacuum life time (90% confidence)		
Optional proximity electronic available	Includes 4 video ADCs, power stages, TEC driver and shutter control		



VOx Imager - Video Engine

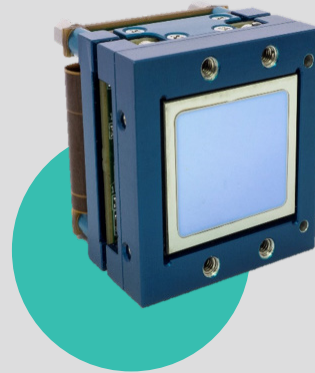
SCD's 17 μ m VOx Microbolometer technology is the ideal choice for any LWIR XGA system. With its exceptional image quality, ultra-low NETD, rapid imaging capability, and low weight, SCD's Microbolometer ranks as one of the top LWIR Video Engines on the market. Designed for applications that require minimal Size, Weight, and Power (SWaP), SCD's VOx technology offers flexible and easy-to-deploy thermal imaging solutions. SCD is always by our customers' side, providing them with the best solutions tailored to their needs.

Main Features

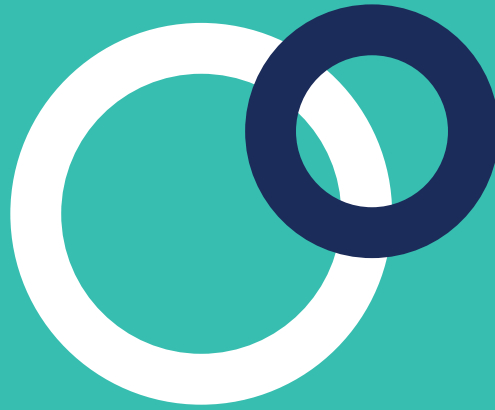
- Detector - VOx Microbolometer
- 17 μ m pixel pitch
- 640x480 resolution
- Advanced image enhancement and processing with unmatched performance
- High image sensitivity: NETD < 35mK @F/1,30Hz w/o NR
- Main digital video output - Glueless OLED / BT.656/ Parallel LVCMOS 8/14 bit
- Camera Link
- TEC-less and Shutter-less operation
- Time to Image - < 3 seconds
- Low SWaP
- External trigger
- Snapshots
- Overlay graphics: Icons, text, reticles
- Evaluation Kit available - Includes VOxI, lens, and cables (power, communication, video)

Applications

- Goggles
- Rifle sights
- Unattended sensors
- Miniature payloads
- Airborne EVS
- Security and short-mid range surveillance
- Fire fighting



System	Uncooled Thermal Imager
Spectral range	8-14 μm or 3-14μm for Broad Band configuration
Detector format	VGA, 640x480
Detector pitch	17 μm
Detector material	VOx Microbolometer
Detector package	Ceramic
Sensitivity (30 Hz, f/1,25°C)	< 35 mK with no Noise Reduction
Frame rate	9/25/30/50/60Hz
Time to image	< 3 sec
Latency	Sub frame
Power Consumption (30Hz, 25°C)	1.55W
TEC-Less operation	Yes, Temp. calibration
Video output	14 bit Parallel, BT.656, Camera Link
Optional video output	Analog video/USB3
Operation temperature	-40°C to +71°C
Storage temperature	-40°C to +85°C
Shock	500G @ 0.5msec
Size	31x31x29.7 mm
Weight	43 grams
Image correction and processing	<ul style="list-style-type: none">● Non Uniformity Correction (NUC)● Bad-Pixel Replacement (BPR)● Scene-Based NUC (SBNUC)● Noise Reduction (NR)● Dynamic Range Compression (DRC)● Dome Effect Correction



ALWAYS BY YOUR

SIDE



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