

High speed, high resolution, science-grade infrared camera with Gigabit Ethernet, Camera Link and USB interfaces for maximum flexibility and performance. Available in multiple wavebands, detector resolutions, and lens configurations.



- > Multiple Detector/ROIC Modes
- > Adjustable and Triggered Integration Times
- > Gigabit Ethernet, Camera Link™ and USB
- > Simultaneous Analog and Digital Data Output
- > Selectable Preset Sequencing
- > Integrated IIRIG-B Time Stamp
- > 14-bit Digital Data
- > Data Capture & Analysis Software Available
- > Full Featured Camera Control Software
- > Powerful Software Developers Kit Available

Control Analog & Digital Data Streams Independently

The SC6000 allows for both composite video and digital data simultaneously at all window sizes and frame rates. Additionally, the user can perform on-camera Non-Uniformity Corrections which can be applied independently on the composite video and digital data outputs, allowing for maximum flexibility. For example, a user could output corrected composite video and uncorrected digital data simultaneously.

Adjustable Integration Times

SC6000 supports up to four active presets, with adjustable integration times, embedded Non-Uniformity Correction and bad pixel replacement. The presets can be used individually or in a continuous cyclic mode for preset sequencing and superframing.

Advanced Triggering Outputs

The SC6000 features advanced triggering that allows the user to trigger the camera using external BNC input, IIRIG time, or a software trigger. The trigger can clock out a single image, multiple images, or multiple images from multiple presets.

Adjustable Frame Rates

Through the SC6000's camera control software or SDK, the user can adjust the output frame rate of the camera from 0.1Hz to the maximum frame rate at a given window size and integration time with 0.1Hz resolution.

Fast Frame Rates

The SC6000 features a high speed 50 Megapixel clock that streams 14-bit digital data at 126Hz at full resolution. The frame rates increase as the user windows down the camera.

- **640 x 512** – 126Hz
- **320 x 256** – 430Hz
- **128 x 128** – 1,491Hz
- **64 x 4** – 36,982Hz

Variable/Flexible Sub-sampling/Windowing

The SC6000 supports windowed readout modes, allowing the user to select a subset of the total image to be read out, resulting in faster frame rates. The user can select the window size and orientation relative to the total focal plane array. In windowing mode, the SC6000 still provides composite video along with high speed digital data.

Built-In IIRIG-B

The SC6000 has an integrated IIRIG-B clock/decoder that timestamps each frame of data. This clock can be slaved to a master IIRIG-B source using the IIRIG-B BNC input on the back of the camera. The built in IIRIG-B can also be used to trigger the camera.

Multiple Video Outputs

The SC6000 features multiple independent video outputs to include:

- **Analog** – Composite (BNC)
- **Digital** – Camera Link
- **Digital** – Gigabit Ethernet

Optional Software & SDK

The SC6000 is compatible with FLIR Researcher, ExaminIR, and RTools software for data acquisition, analysis and reporting. Additionally, FLIR offers a powerful software developers kit (SDK) for customer programming.

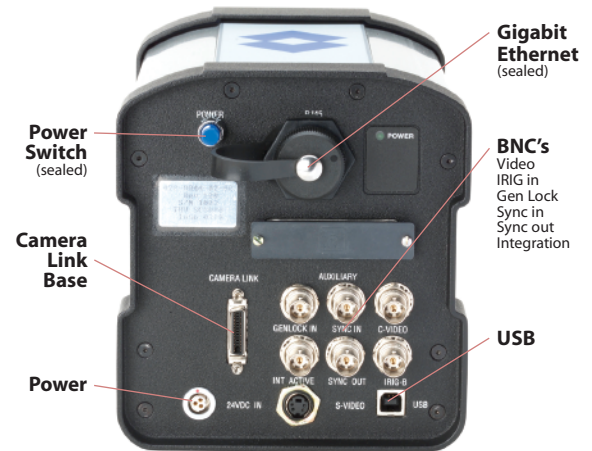
ThermoVision SC6000 Technical Specifications

	SC6000 NIR	SC6000 MWIR	SC6000 LWIR
Detector Specifications			
Detector	Indium Gallium Arsenide (InGaAs)	Indium Antimonide (InSb)	Gallium Arsenide (GaAs) Quantum Well Infrared Photodetectors(QWIP)
Spectral Range	0.9 - 1.7 μm	3.0 - 5.0 μm	8.0 - 9.2 μm
Broadband Option	0.4 - 1.7 μm (VisGaAs)	1.5 - 5.0 μm	NA
Resolution	640 (H) x 512 (V)	640 (H) x 512 (V)	640 (H) x 512 (V)
Pixel Pitch	25 x 25 μm	25 x 25 μm	25 x 25 μm
Electronics & Data Rate			
Integration Type	Snapshot	Snapshot	Snapshot
Integration Time (Electronic Shutter Speed)	2 μs to full frame time	10 μs to full frame time	10 μs to full frame time
Read-out Modes	Asynchronous Integrate while read Asynchronous Integrate then read Special Integrate then read	Asynchronous Integrate while read Asynchronous Integrate then read	Asynchronous Integrate while read Asynchronous Integrate then read
Dynamic Range	14 bits	14 bits	14 bits
Data Rate	50 MHz	50 MHz	50 MHz
Full Frame Rate	Programmable 1 Hz - 125 Hz	Programmable 1 Hz - 125 Hz	Programmable 1 Hz - 125 Hz
Subwindowing	Yes — user defined	Yes — user defined	Yes — user defined
Minimum Window Size	4 x 128	4 x 64	4 x 64
Superframing	Yes — up to 4 presets	Yes — up to 4 presets	Yes — up to 4 presets
Preset Sequencing	Yes — up to 4 presets	Yes — up to 4 presets	Yes — up to 4 presets
Performance Specifications			
NEI / NETD	Low Gain: 1.5e ⁻⁹ W/cm ² High Gain: 5e ⁻¹⁶ W/cm ²	< 20mK (18mK typical)	< 35mK
Well Capacity	Low Gain: 2.5 M electrons High Gain: 45 K electrons	11 M electrons / 2.8 M electrons	11 M electrons / 2.8 M electrons
Operability	>99.5% >99.8% typical	>99.8% >99.95% typical	>99.5% >99.8% typical
Camera Specifications			
Sensor Assembly f/#	Set by lens iris	f/2.5 standard, f/4.1 optional	f/2.5 standard, f/4.1 optional
Sensor Cooling	Thermoelectric cooler	Stirling closed cycle cooler; optional Liquid Nitrogen (LN)	Stirling closed cycle cooler
Lens Mount	Canon FD	Twist-lock Bayonet	Twist-lock Bayonet
Power	24 VDC	24 VDC	24 VDC
Advanced Communication and Data Transfer			
Command and Control	USB, Gigabit Ethernet, RS-232	-	-
Data	Gigabit Ethernet - Digital Camera Link - Digital Composite (BNC) - Analog Grayscale Video (NTSC or PAL)	-	-

Lenses - Optionally Available	
InSb Camera Lenses - (3.0 - 5.0 microns)	
Lens Focal Length	640 x 512 Resolution
13 mm	56.4° x 90.3° FoV
25 mm	36.7° x 29.3° FoV
50 mm	18.3° x 14.7° FoV
100 mm	9.2° x 7.3° FoV
1000 mm	.92° x .73° FoV
Dual Field of View 50/250 mm	50 mm (18.3° x 14.7° FoV) 250 mm (3.7° x 2.9° FoV)
Triple Field of View 60/180/500 mm	60 mm (18.3° x 14.7° FoV) 180 mm (4.6° x 3.7° FoV) 500 mm (1.5° x 2.4° FoV)
Microscope	1x 2.5x 4x
QWIP Camera Lenses - QWIP Cameras (8.0 - 9.2 microns)	
Lens Focal Length	640 x 512 Resolution
13 mm	56.4° x 90.3° FoV
25 mm	26.7° x 29.3° FoV
50 mm	18.3° x 14.7° FoV
InGaAs Camera Lenses - InGaAs Cameras (0.9 - 1.7 microns)	
Lens Focal Length	640 x 512 Resolution
8 mm	115° x 92° FoV
16 mm	57° x 46° FoV
25 mm	36.7° x 29.3° FoV
50 mm	18.3° x 14.7° FoV

Contact FLIR for additional lens options.

CAMERA INTERFACES



Made in U.S.A. 



1 800 464 6372
www.infraredresearchcameras.com

Specifications subject to change. ©Copyright 2008, FLIR Systems, Inc. All rights reserved. I040908PL