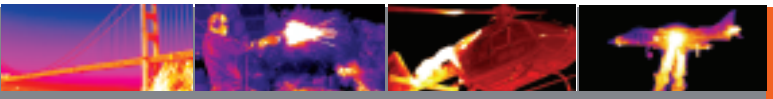
ThermoVision® SC6700

SCIENCE-GRADE INFRARED CAMERA

The Global Leader in Infrared Cameras



High speed, high resolution, science-grade infrared camera with a built in user configurable 4-position filter wheel. Standard interfaces include: Gigabit Ethernet, Camera Link, USB, BNC composite video, S-video, and Super VGA for maximum flexibility and performance. Available with multiple off-the-shelf filter options and lens configurations.

- Integrated 4-Position Filter Wheel
- Automatic Filter Recognition
- Gigabit Ethernet, Camera Link™ and USB
- Selectable Preset Sequencing
- 14-bit Digital Data
- Adjustable Integration Times and Triggering
- Simultaneous Analog and Digital Data Output
- Integrated IRIG-B Time Stamp
- GEN<i>CAM and GiGE Vision Compatible
- Powerful Applications Software & SDK

Integrated Filter Wheel

The SC6700 incorporates an "easy access" 4-position motorized filter wheel. The design of the filter wheel coupled with the exclusive SC6700 filter holder allows for effortless filter exchange in any environment.

Automatic Filter Recognition

The SC6700 has been engineered to automatically determine filter type and corresponding filter wheel position. This filter type and position information in relayed directly into the camera control software and is used to synchronize the appropriate camera set-up for the active filter.

Control Analog & Digital Data Streams Independently

The SC6700 allows for both analog 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 analog video and digital data outputs, allowing for maximum flexibility. For example, a user could output corrected analog video and uncorrected digital data simultaneously.

Adjustable Integration Times

SC6700 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 SC6700 features advanced triggering that allows the user to trigger the camera using external BNC input, IRIG 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 SC6700's camera control software or SDK, the user can adjust the output frame rate of the camera from 0.0015Hz to the maximum frame rate at a given window size and integration time with 0.1Hz resolution.

Fast Frame Rates

The SC6700 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** – 125Hz
- **320 x 256** – 408Hz
- **128 x 128** – 1,182Hz
- **16 x 4** – 4,175Hz

Variable/Flexible Sub-sampling/Windowing

The SC6700 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 SC6700 still provides composite video along with high speed digital data.

Built-In IRIG-B

The SC6700 has an integrated IRIG-B clock/decoder that timestamps each frame of data. This clock can be slaved to a master IRIG-B source using the IRIG-B BNC input on the back of the camera. The built in IRIG-B can also be used to trigger the camera.

Multiple Video Outputs

The SC6700 features multiple independent video outputs to include:

- **Analog** – S-video
- **Analog** – Composite (NTSC or PAL)
- **Digital** – Camera Link
- **Digital** – Gigabit Ethernet
- **Analog** – Super VGA (800 x 600)

Optional Software & SDK

The SC6700 is compatible with FLIR ExaminIR and RTools software for data acquisition, analysis and reporting. Additionally, FLIR offers a powerful software developers kit (SDK) for customer programming.

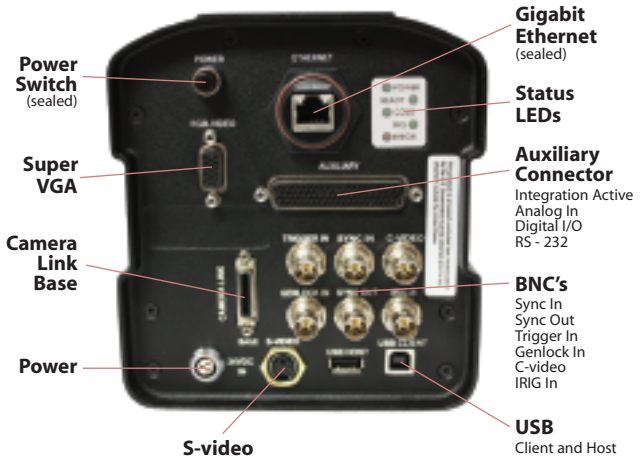
ThermoVision SC6700 Technical Specifications

	SC6700 MWIR
Detector Specifications	
Detector	Indium Antimonide (InSb)
Spectral Range	3.0 - 5.0 µm
Broadband Option	1.0 - 5.0 µm
Resolution	640 (H) x 512 (V)
Pixel Pitch	15 x 15 µm
Electronics & Data Rate	
Integration Type	Snapshot
Integration Time (Electronic Shutter Speed)	500ns to Full frame period - 107usec
Read-out Modes	Asynchronous Integrate while read Asynchronous Integrate then read
Dynamic Range	14 bits
Pixel Clock	50 MHz
Full Frame Rate	Programmable 0.0015Hz to 125Hz
Subwindowing	Yes — user defined
Minimum Window Size	16 x 4
Superframing	Yes — up to 4 presets
Preset Sequencing	Yes — up to 4 presets
Performance Specifications	
NEI / NETD	< 25mK
Well Capacity	7.2 M electrons
Operability	>99.8% >99.95% typical
Camera Specifications	
Sensor Assembly f/#	f/2.5 standard, f/4.0 Optional
Sensor Cooling	Stirling closed cycle cooler
Lens Mount	Twist-lock Bayonet
Power	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 Video (NTSC or PAL) S-video - Analog Video Super VGA (800 x 600) - Analog Video

Lenses - Optionally Available
InSb Camera Lenses - (3.0 - 5.0 microns)
Lens Focal Length
25 mm
50 mm
100 mm

Contact FLIR for additional lens options.

CAMERA INTERFACES



Filters — Optionally Available					
Filter ID	**FLIR Part No.**	**Filter Type**	**BP Low (nm)**	**BP High (nm)**	**Application(s)**
1	25730-001	ND 1.0	2000	5000	Divide by 10: Reduce IR signal evenly over spectral band from 2 to 5µm
2	25730-002	ND 2.0	2000	5000	Divide by 100: Reduce IR signal evenly over spectral band from 2 to 5µm
3	25730-003	ND 3.0	2000	5000	Divide by 1000: Reduce IR signal evenly over spectral band from 2 to 5µm
4	25730-004	ND 0.3	2000	5000	Divide by 2: Reduce IR signal evenly over spectral band from 2 to 5µm
5	25730-005	ND 0.6	2000	5000	Divide by 4: Reduce IR signal evenly over spectral band from 2 to 5µm
6	25730-006	ND 1.45	2000	5000	Divide by 28: Reduce IR signal evenly over spectral band from 2 to 5µm
7	25730-007	Standard MWIR	3000	5000	MWIR imaging
8	25730-008	ATM	3400	4170	Long distance inspections; reduces atmospheric attenuations
9	25730-009	Solar Block (SRX)	3500	5000	Long distance inspections; reduces solar reflections
10	25730-010	Thru Glass (TGL)	2295	2395	Inspections through glass
11	25730-011	Glass High Temp (GHT)	4928	5073	Makes glass surface opaque (glass temperature)
12	25730-012	Narrow Band Flame or HT	3825	3975	Sees thru flame
13	25730-013	Broad Band Flame	3700	4200	Inspections through flame
14	25730-014	Polyethelene (PEN)	3400	3500	Measurement of polyethylene
15	25730-015	Plastic	3345	3475	Makes thin film plastic opaque
16	25730-016	CO_2	4260	4440	Imaging CO_2 band
17	25730-017	Nitrous-Oxide	4420	4580	To detect Nitrous-Oxide
18	25730-018	COS	4178	4263	Flame imaging

GEN<i>CAM GiGE VISION™

Made in U.S.A.