

# FLIR A6750sc MWIR

Thermal imaging camera with FLIR cooled InSb detector



## HIGH SENSITIVITY, CRISP THERMAL IMAGES

FLIR A6750sc incorporates a cooled FLIR Indium Antimonide (InSb) detector that operates in the 3- to 5-micron waveband. Optionally, a broadband version that operates in the 1-5 micron waveband is available. Both versions produce crisp thermal images of 640 x 512. Achieving a high thermal sensitivity of <math><20\text{ mK}</math>, FLIR A6700sc is able to capture the finest image details.

## FAST INTEGRATION TIMES

Working in snapshot mode, the FLIR A6750sc is able to capture all pixels from a scene simultaneously in under 190 $\mu\text{s}$  for room temperature scenes. This is particularly important when monitoring fast moving objects where an uncooled thermal imaging camera would suffer from image blur. The camera supports image frame rates up to 4.1k frames per second when operating in windowing mode.

## STANDARD VIDEO INTERFACES

Using a standard GigE Vision<sup>®</sup> interface to transmit full dynamic range digital video, and GenICam for camera control, the FLIR A6750sc is a true “plug and play” thermal imaging camera. Additional interfaces include a BNC analog video output. The Gigabit Ethernet and analog video are simultaneously active yet independently controlled allowing greater flexibility for recording and display purposes.

## CUSTOM COLD FILTERS AVAILABLE

Custom cold filtering options for specific spectral detection and measurement are available. Perfect for imaging through glass, measuring temperature of thin film plastics, laser profiling and detection, or optical gas imaging

## SOFTWARE

FLIR A6750sc camera works seamlessly with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera. A Software Developers Kit (SDK) is optionally available.

## COMPATIBLE WITH 3RD PARTY SOFTWARE

Control the A6750sc and capture data directly into MathWorks<sup>®</sup> MATLAB software for custom image analysis and enhancement.

## KEY FEATURES

- FLIR built cryo cooler and insb detector
- Excellent image quality: 640 x 512 pixels
- High sensitivity: <math><20\text{ mK}</math>
- High speed image acquisition: up to 4,1 kHz in windowing mode
- Synchronization with other instruments and events
- Wide choice of optics & extender rings



Electronics microscopy



Motorcycle brake testing

**GigE**<sup>™</sup> VISION GEN<i>i>CAM



## Imaging Specifications

System Overview	FLIR A6750sc MWIR
Detector Type	FLIR Indium Antimonide (InSb)
Spectral Range	3 – 5 µm or 1 - 5 µm
Resolution	640 x 512
Detector Pitch	15 µm
NETD	<20 mK (18 mk typical)
Well Capacity	7.2 M electrons
Operability	>99.8% ( >99.95% typical)
Sensor Cooling	FLIR Closed Cycle Rotary
Electronics / Imaging	
Readout	Snapshot
Readout Modes	Asynchronous Integrate While Read; Asynchronous Integrate Then Read
Synchronization Modes	Sync In, Sync Out, Trigger In
Integration Time	480 ns to 687 sec
Frame Rate (Full Window)	Programmable 0.0015Hz to 125Hz
Subwindow Modes	User Defined Size, Centered in Image
Max Frame Rate (@ Full Window)	4,175Hz (16 x 4)
Dynamic Range	14-bit
Digital Data Protocol	Gigabit Ethernet (GigE Vision 2.0)
Analog Video	NTSC, PAL
Camera Control	GenICam and RS-232
Measurement	
Standard Temperature Range	-20°C to 350°C (-4°F to 662°F)
Optional Temperature Range	Up to 1,500°C (2,732°F) Up to 2,000°C (3,632°F)
Accuracy	± 2°C or ±2% of reading
Optics	
f/#	2.5 to 4.0
Available Lenses	3-5µm: 13mm, 13mm (low distortion), 25mm, 50mm, 100mm (all lenses are f/2.5) 1-5µm: 25mm, 50mm, 100mm (lenses are f/2.5)
Microscopes	1x (this lens is f/4 and requires an f/4 camera)
Focus	Manual
Filtering	Removable Behind the Lens or Permanent "cold" Filter Available
Analog Video	
Analog Palettes	Selectable 8-bit
AGC	Manual, Linear, Plateau Equalization, DDE
Digital Zoom	Video Zoom is Auto Selected: 1x for Full and 1/2 window, 2x for 1/4 window
General	
Operating Temperature Range	-40°C to 50°C (-40°F to 122°F)
Storage Temperature Range	-55°C to 80°C (-67°F to 176°F)
Altitude	0 to 10,000 Feet Operational; 0 to 70,000 Feet Non-Operational
Shock / Vibration	40 g , 11 msec ½ sine pulse / 4.3 g RMS Random Vibration, All 3 Axis
Power	24 VDC ( < 50 W steady state)
Weight w/o Lens	5 lbs / 2,3 kg
Size (L x W x H) w/o Lens	8.5 x 4.0 x 4.3" / 21.6 x 10.2 x 10.9cm
Mounting	2 x ¼"-20, 1 x 3/8"-16, 4 x 10/24



**PORTLAND**  
Corporate Headquarters  
FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070  
USA  
PH: +1 866.477.3687

**BELGIUM**  
FLIR Systems Trading  
Belgium BVBA  
Luxemburgstraat 2  
2321 Meer  
Belgium  
PH: +32 (0) 3665 5100

**SWEDEN**  
FLIR Systems AB  
Antennvägen 6,  
PO Box 7376  
SE-187 66 Täby  
Sweden  
PH: +46 (0)8 753 25 00

[www.flir.com](http://www.flir.com)  
NASDAQ: FLIR

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**NASHUA**  
FLIR Systems, Inc.  
9 Townsend West  
Nashua, NH 06063  
USA  
PH: +1 603.324.7611

**UK**  
FLIR Systems UK  
2 Kings Hill Avenue  
Kings Hill  
West Malling - Kent  
ME19 4AQ  
United Kingdom  
PH: +44 (0)1732 220 011