



# ThermoVision™ SC6000 HS and SC4000™ series



## Press release

### FLIR Systems launches infrared cameras for high-end research and development applications: the ThermoVision™ SC6000 and SC4000 series

*Each day researchers throughout the world are looking for new methods to help them solve their scientific questions. Infrared thermography has proven to be an invaluable tool to solve a wide variety of scientific problems.*

Because of its non-destructive analysis capacities, thermography systems have become indispensable instruments for a wide variety of Research & Development applications. FLIR Systems' latest development, the top of the line ThermoVision SC6000 HS is the new standard for science and research thermal imaging and measurement applications.

The ThermoVision SC6000 HS is a high-speed, high-resolution, high sensitivity, science-grade infrared camera with Gigabit Ethernet, Camera Link and USB interfaces for maximum flexibility and performance.

The rugged one-piece design and single cable PC connectivity creates a simplified system setup without compromising the high image performance required by today's demanding scientific infrared users.

#### **High performance camera head**

Available with a 640 x 512 pixel Indium Antimonide (InSb) detector, the ThermoVision SC6000 HS camera offers unmatched resolution and thermal sensitivity. Thanks to this extremely sensitive detector and high speed read out design, the camera provides extraordinary image quality for the most demanding applications.

The focal plane array (FPA) is the heart of any infrared camera system and a major component of overall system performance. The ThermoVision SC6000 HS Focal Plane Array incorporates FLIR's own proprietary readout technology in the form of a CMOS integrated circuit (ROIC). FLIR systems' ROICs offer many advanced features, including snapshot simultaneous pixel exposure, adjustable gain, variable exposure times, windowing, and precise external synchronization.

#### **High speed data output**

The ThermoVision SC6000 HS outputs 14-bit digital data at rates up to 50 Mega pixels per second, yielding 125Hz frame rates for 640 x 512 pixel imagery.

#### **Variable/flexible sub-sampling/windowing**

For high speed applications and increased frame rates the ThermoVision SC6000 HS supports windowed readout modes, allowing a subset of the total image to be selectively read out with user-adjustable window size at a much higher frame rate. The sub-sample window sizes and locations can be arbitrarily chosen and are easily defined using the camera control software. Example of the greatly increased frame output rates are for example 420 Hz, 320x256 pixel imagery.

#### **Precise automatic IRIG time stamp of all images**

IRIG timing is built directly into the SC6000 HS camera providing accurate time stamping in the camera header information.

#### **Independent digital & analog data streams**

The ThermoVision SC6000 HS has a built-in frame buffer for simultaneous and independent analog and digital output data streams. An example of this capability would be sending corrected imagery to a video monitor while uncorrected data is being sent to a digital recording system. This capability also works in windowing mode maintaining the analog video output.

#### **High Speed Data Recorder (HSDR)**

The optional High Speed Data Recorder (HSDR) is a PC-based digital recording system designed to collect, record, display, radiometrically calibrate, and analyze images from the SC6000 HS.

The HSDR utilizes FLIR Systems' ThermoCAM RTools™ radiometric software suite, a software package especially developed for high-end R&D applications. The HSDR can record full 50 Mega pixels per second SC6000 HS data rates to removable, nonvolatile storage for more than one hour. The system also features real-time image display capability while recording at maximum frame rates with zero dropped frames.



# ThermoVision™ SC6000 HS and SC4000™ series



## Press release

### Software

To complete the ThermoVision SC6000 HS, several software packages are available.

FLIR Systems ThermaCAM™ Researcher™ allows plug and play, very easy to use static or real-time image analysis. It contains powerful measurement and analysis functions for extensive temperature analysis, including isotherms, line profiles, area histograms, image subtraction capability and many more.

FLIR Systems ThermaCAM RTools™ is a highly developed modular software suite designed for advanced engineers and scientists and offering advanced processing and analysis of imagery captured by FLIR Systems high-end infrared cameras. It consists of four stand-alone tools for data acquisition, camera calibration, file archiving, data review and analysis. The RTools suite uses the Standard Archive Form standard created by the US Air Force.

Additionally the SC6000 HS has an optional Software Developers Kit (SDK) for easy custom programming and interfacing to the camera.

### Different versions for different users

The ThermoVision SC6000 comes in different versions with different detectors.

The SC 6000 HS is the full feature top of the line camera with 640x480 Indium Antimonide (InSb), to make events between 3.0 and 5.0 microns clearly visible. Typical applications are material testing, electronics, target signature.

The SC 6000 also exists in versions with Indium Gallium Arsenide (InGaAs) FPA for researchers that want to see what is happening between 0.9 and 1.7 microns. Typical applications are laser research and target signature. A Quantum Well Infrared Photodetector (QWIP) for scientists, interested in the long wave part of the infrared spectrum between 8 and 9.2 microns, is also available

The user can also choose the InSb version as the Thermo-Vision SC6000. This model incorporates all the features of the ThermoVision SC6000 HS except for the high output speed, advanced triggering and sync options, IRIG and camera link.

Users that do not need the extremely high image quality offered by a 640 x 512 pixel detector can choose all of the 4 mentioned camera as ThermoVision SC4000 HS (InSb), ThermoVision SC4000 (InGaAs), ThermoVision (QWIP) or ThermoVision SC4000 (InSb) all of them incorporating 320 x 256 pixels detectors.

If you would like more information about the ThermoVision SC6000 HS, please contact:

### FLIR Systems Belgium

Chris Maras  
International Marketing Manager  
Uitbreidingstraat 60-62  
2600 Berchem  
Tel.: +32 3 287 87 10  
Fax: +32 3 287 87 29  
e-mail: [info@flir.be](mailto:info@flir.be)  
[www.flir.be](http://www.flir.be)

