



# Infrared Hyperspectral Imager

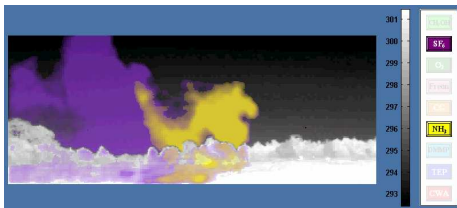
## Hyper-Cam

### Accelerating Imaging Spectroscopy

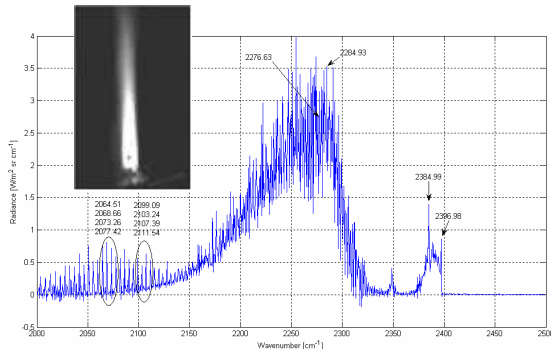
#### At Telops, Spectral Imaging Comes FIRST!

Every object at temperatures above absolute zero emits infrared radiation. By comparing a measured spectrum with the signatures of known gases and solids, the constituents and properties of a target can be identified.

This unique investigation tool becomes even more powerful when it is spatially resolved. The information content of a spectral/spatial datacube is extremely rich and lends itself to very diversified analyses. The examples below illustrate some ways this information can be exploited.



Telops' gas detection algorithms applied to a Hyper-Cam datacube. A simultaneous release of SF<sub>6</sub> and NH<sub>3</sub> is easily detected. Ask Telops for video files!



Measurement of combustion with the Hyper-Cam-MW: Rich spatial and spectral information is acquired!

#### Applications:

- Military
- Airborne
- Research
- Environmental



#### Benefits:

- Powerful, yet easy to use
- Compact and portable for field use
- Adjustable field of view and high spatial resolution
- Spectral resolution selectable by software (0.25cm<sup>-1</sup> to 150cm<sup>-1</sup>)
- Flexible data products with real-time on-board digital processing
- Consistently accurate measurements provided by an automated calibration module
- Simultaneous visible imaging
- Modular design for easy customization

#### Hyper-Cam Configurations

The Hyper-Cam is available in many configurations including midwave, midwave extended and longwave infrared. The Hyper-Cam sensor uses a Michelson-type interferometer to spectrally modulate the scene signal on a detector array. The Hyper-Cam-MW sensor is ideal for measuring the spectral signature of warmer than ambient objects such as rockets and missiles over an extended field of view. The Hyper-Cam-LW sensor is ideal for measuring the spectral signature of gaseous clouds over an extended field of view.



# Infrared Hyperspectral Imager

## Hyper-Cam

### FIRST Hyper-Cam Specifications

Parameter	Unit	Hyper-Cam-LW	Hyper-Cam-MW	Hyper-Cam-MWE	Comments
Spectral Range	$\mu\text{m}$	8 - 11	3 - 5	1.5 - 5	Other bands and extended range available
Spectral Resolution	$\text{cm}^{-1}$		0.25 to 150		Computer-selectable
FPA Format	pixels		320 x 256		Computer-selectable windowing and binning
Field of View	deg		6.4 x 5.1		Telescopes available to change FOV
Typical NESR	$\text{nW}/\text{cm}^2\text{sr cm}^{-1}$	20 @ 10 $\mu\text{m}$	4 @ 5 $\mu\text{m}$	6 @ 5 $\mu\text{m}$	For a single scan, center pixel & 16 $\text{cm}^{-1}$ resolution (other measurement schemes can improve NESR)
Maximum NESR		40 @ 10 $\mu\text{m}$	8 @ 5 $\mu\text{m}$	12 @ 5 $\mu\text{m}$	
Radiometric Accuracy	K	<1 @ 10 $\mu\text{m}$	<1 @ 5 $\mu\text{m}$		Using calibration module
Acquisition Software		Telops RVLPro			Sensor and data management suite
Communication		Ethernet 10/100Mbps			
Data Transfer			Camera Link		Long range fiber optic available
FPA Cooling			Closed Cycle		
Power Consumption	W		150		Depends on operating conditions
Weight	kg		29		(~64 lbs) Includes the calibration module
Operating Temperature	$^{\circ}\text{C}$		0 to 35		Extended temperature range available

These specifications are for illustrative purposes only. The exact specifications depend on each specific configuration.

Telops is committed to providing its customers with cost-effective solutions to all their special needs. Other sensor configurations are available upon request. Contact Telops for pricing, availability or to obtain a complete brochure.



### Telops Inc.

100-2600 Avenue St-Jean-Baptiste  
 Quebec City, Quebec, G2E 6J5 Canada  
 Phone: (418) 864-7808  
 Fax: (418) 864-7843

**Toll free North America: 1-888-880-7808**

**[www.telops.com](http://www.telops.com)**

**[contact@telops.com](mailto:contact@telops.com)**

Telops has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions and reserve the right to modify design and product characteristics without prior notice.