

HS-IR Family



THE HYPER-CAM MINI

KEY FEATURES



**HIGH SPATIAL RESOLUTION
AND IMAGING QUALITY**



HIGH SPECTRAL RESOLUTION



HIGH TEMPORAL RESOLUTION



HIGH SPECTRAL RANGE

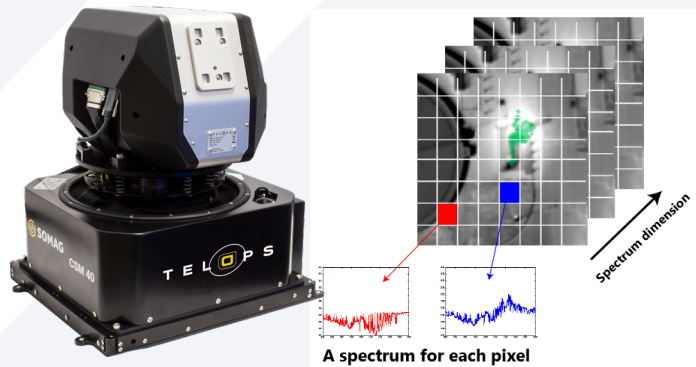


HIGH SENSITIVITY AND ACCURACY

The Hyper-Cam is an advanced infrared hyperspectral imaging system. This remote sensing instrument combines high spatial, spectral and temporal resolution providing unmatched performances. It is a versatile tool for remote detection, identification and quantification.

HYPER-CAM AIRBORNE MINI

The Hyper-Cam Airborne Mini paves the way towards a striking revolution in infrared hyperspectral imaging. This lightweight FTIR sensor is designed for use in compact aerial platforms without compromising measurement performance. The easy and flexible operation makes the Hyper-Cam Airborne Mini a versatile tool, well-suited to meet the requirements of the most demanding applications, including ground target signature collection, mineral mapping and gas detection and identification.



The Hyper-Cam delivers a spectrum for each pixel

SPECTROMETERS SERIES

SpIRS



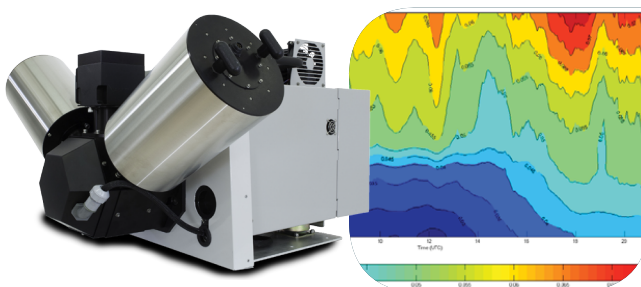
SpIRS is a fast-scanning interferometer modulator equipped with field imaging optics, designed specifically for hyperspectral applications. Its configuration offers acquiring on two 8x8 infrared detectors simultaneously at full frame rate of 45 frames/sec at a spectral resolution of 16 cm^{-1} .

The Versatile Spectroradiometer (VSR) is a compact high sensitivity spectroradiometer which uses Fourier Transform Infrared (FT-IR) technology. Its high speed, robust operation is ideal for multi-scenario operation, from the laboratory to airborne applications even those with heavy vibrational constraints. The VSR can provide real-time high resolution spectral information on slow and fast occurring phenomenon, as well as perform material and target signature analysis.

VSR

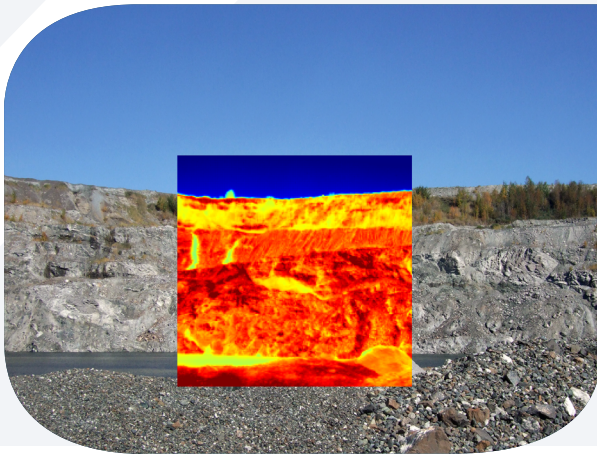


ASSIST

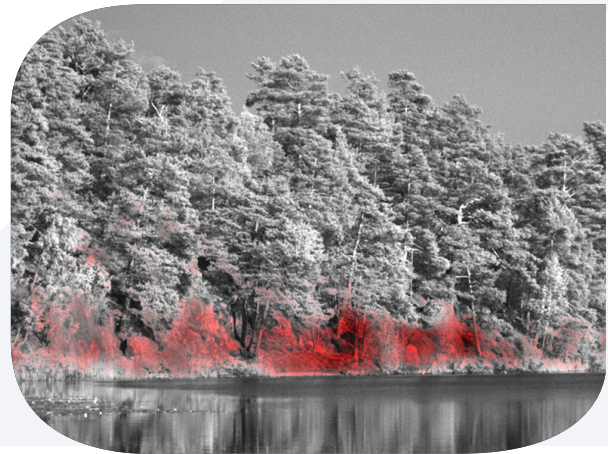


The ASSIST-II is a field deployable sounder which uses Fourier Transform technology. It is the latest development in ground based atmospheric sounding spectrometer. Its configuration is rugged, compact and can be adapted to various environment, such as ground and sea platforms. Thanks to its advanced software suite, it can be operated 24/7 to provide atmospheric profiles of various components at high temporal and spectral resolution as well as a wide choice of other applications.

EXAMPLES OF TYPICAL USES



Hyperspectral imaging of minerals from an open-pit mine



Hyperspectral imaging of methane emissions from a shallow lake scene

MINI SERIES

SPECIFICATIONS	HYPER-CAM AIRBORNE MINI	HYPER-CAM MINI xLW	HYPER-CAM MINI MWf
Detector Type	Cooled SLS	Cooled SLS	Cooled SLS
Detector Format	320 x 256 pixels	320 x 256 pixels	320 x 256 pixels
Spectral Range	7.4 – 11.8 μm	7.4 – 12.5 μm	2.9 – 5.2 μm
Spectral Resolution	Up to 0.5 cm^{-1}	Up to 4 cm^{-1}	Up to 4 cm^{-1}
Field of View	13.5° x 10.9°	14° x 11°	14° x 11°
Typical NESR	< 35 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$	< 30 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$	< 10 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$
Radiometric Accuracy	< 5 K	< 3 K	< 2 K

SPECTROMETERS SERIES

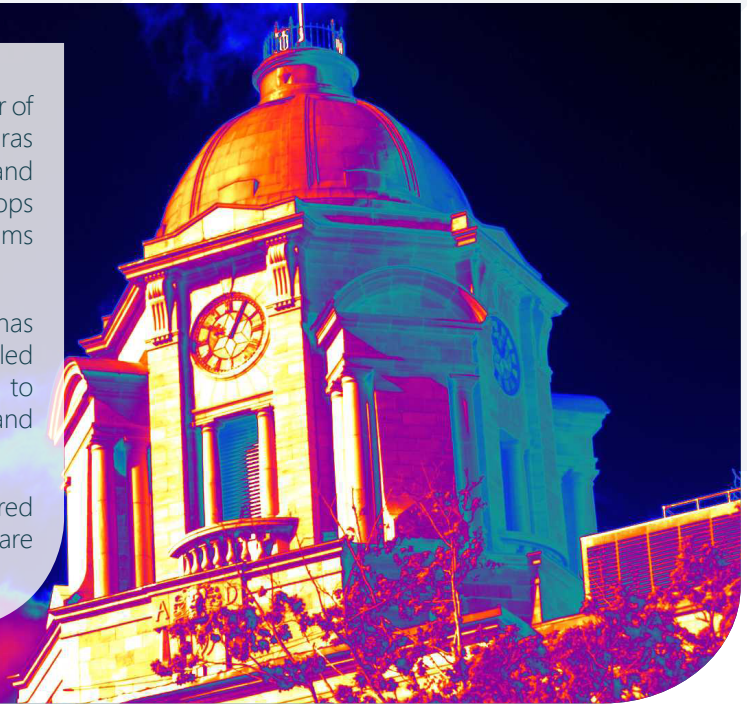
SPECIFICATIONS	SpIRS	VSR	ASSIST
Detector Type	Cooled SLS (LWIR), InSb (MWIR), InSb (SWIR) detectors Support up to 2 FPA modules simultaneously	HgCdTe (MCT), InSb, InGaAS detector	HgCdTe (MCT), InSb detectors
Detector Format	8 x 8 pixels	Single-Pixel	Single-Pixel
Spectral Range	5 – 12.2 μm (LWIR) 2.5 – 5.7 μm (MWIR) 1.47 – 2.63 μm (SWIR)	0.8 – 15 μm	3 – 19 μm (Optional extended range from 2 to 25)
Spectral Resolution	Up to 1 cm^{-1}	Up to 1 cm^{-1}	1, 2, 4, 8, 16, 32, 64, 128 cm^{-1}
Field of View	83 (iFOV: 9.43) mrad (SpIRS Wide-FOV (no telescope)) 41.5 (iFOV: 4.71) mrad SpIRS Medium-FOV (telescope 2x) 13.8 (iFOV: 1.73) mrad SpIRS Narrow-FOV (telescope 6x)	90 mrad Telescope 0.5x magnification 45 mrad Instrument FOV without telescope 22 mrad Telescope 2x magnification 6.4 mrad Telescope 7x magnification	45 mrad
Typical NESR	< 35 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$	< 30 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$	< 10 $\text{nW}/\text{cm}^2.\text{sr}.\text{cm}^{-1}$

ABOUT US

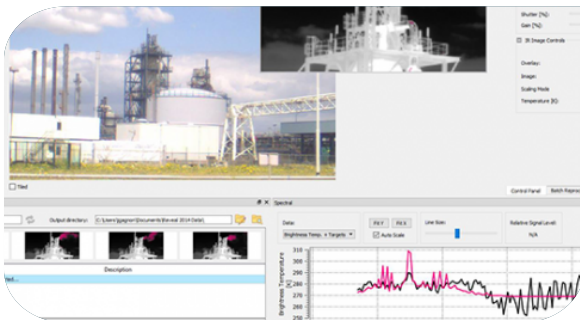
Telops, part of Exosens, is a leading supplier of high-performance scientific infrared cameras for the defense, academic, industrial, and environmental research industries. Telops also offers R&D services for optical systems technology development.

Since its founding in 2000, Telops has distinguished itself through its highly skilled personnel and innovative approach to the technological challenges in optics and photonics.

Today, its experts and cutting-edge infrared cameras and hyperspectral imagers are internationally recognized.



SOFTWARE

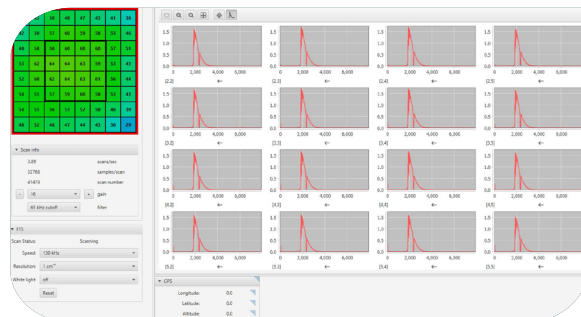


Reveal D&I

The ability to visualize and identify gases in real-time provides immense benefits in military, industrial, and environmental applications. Reveal Pro's D&I plug-in is a powerful real-time gas detection and identification software that utilizes data produced by the Telops Hyper-Cam long-wave infrared hyperspectral imaging system. Once activated and configured, the software searches every incoming datacube for the selected target signature(s).

Edgar

Edgar 2 is the tool of choice to acquire, analyse and display scientific data. It has been carefully designed as a modular framework where the user is in control and can choose which functionalities are required from a selection of plugins. Plugins can add or modify features of the software, allowing anything the user requires for its demanding applications.



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