

HYPERSPECTRAL IMAGING

SPECIM provides the most comprehensive line of hyperspectral imaging solutions. These products meet the unique requirements of industrial OEM clients and system integrators, as well as science and research customers. SPECIM also provides innovative hyperspectral solutions for remote sensing, military and security applications.



ImSpector V10E

ImSpector imaging spectrographs

SPECIM delivers industry standard spectrographs which employ our unique spectrographic technologies. These nearly polarization independent technologies provide high light throughput, and a high quality, aberration-free image, in an extremely rugged device.

PRODUCT RANGE

Raman	400 to 1000 nm
UV4E	200 – 400 nm
V8, V8E	380 – 800 nm
V10, V10E, Fast10	400 – 1000 nm
N17E	900 – 1700 nm
N25E	970 – 2500 nm
M50M	3000-5000nm
L120M	8000 – 12000 (14000) nm



SWIR Spectral Camera

Spectral Cameras

SPECIM offers a broad range of integrated and calibrated Spectral Cameras for line-imaging. These Spectral Cameras precisely measure all spectral data for each image pixel simultaneously. This push-broom operation is perfect for applications where either the target or camera is in motion.

In addition to providing standard products, system integration projects are often undertaken. At a customer's request, SPECIM is capable of partnering with the customer to develop unique Spectral Camera solutions, which are based on

their own detailed requirements specification. Please contact SPECIM for more information.

PERFORMANCE GUIDE

	Pixels	Spectral resol.	Speed, up to
UV	1000	2 nm	100 Hz
VIS/VNIR	640 - 2K	2 - 15 nm	2000 Hz
NIR	320, 640	6 nm	350 Hz
SWIR	320	10nm	250 Hz
LWIR	384	150-400nm	100 Hz

Multiple point spectrometers

Optionally, SPECIM ImSpector spectrographs and Spectral Cameras may be equipped with multiple fibre optical inputs. The Spectral Camera records the spectrum of the incoming light through each of the fibre optical probes simultaneously, making a Multiple-Point Spectrometer without any moving parts. Up to 100 fibre optic probes can be coupled to a single spectrometer.

SPECIM also provides custom made fibre

optical assemblies based on unique customer requirements. Some of the customisable features are

- number of fibre channels
- length and
- light collection optics



100 channel fiber optical spectrometer



SisuCHEMA Chemical Imaging workstation



AISA sensor system equipment



Rotary scanner



Hyperspectral fore lenses

SISU Hyperspectral Scanners

CHEMICAL IMAGING IN LABORATORY AND AT LINE

The first member in SPECIM's SISU series hyperspectral scanners is SisuCHEMA, a complete Chemical Imaging workstation. It provides an integrated all-in-one solution with the Spectral Camera, illumination, linear sample stage, scanning software, and advanced chemometrics software.

While in motion, the sample is scanned line by line. A high resolution spectral image (data cube) is produced within a few seconds of the scan. Due to the high light throughput of our Spectral Cameras, full range spectral imagery can be acquired far faster than using any other technique. With interchangeable fore optics, the scanner can be adapted to various sample sizes, from small tablets to large geological samples.

AISA Airborne Hyperspectral Sensors

SPECIM's market leading AISA sensors provide the highest performance at lowest investment for airborne remote sensing. They are turnkey solutions for installation and operating in a broad range of aircrafts starting from UAV's. All integrated AISA systems include:

- High performance hyperspectral imager
- Real time acquisition computer with user-friendly interface
- GPS/INS sensor
- Power supply

Specim also supplies Caligeo, which is the most advanced post-processing software available, for radiometric and geometric data processing.

PRODUCT RANGE

AisaEAGLE	VNIR	1024 pixels
AisaEAGLET	VNIR	1600 pixels
		• our smallest airborne sensor for UAV's
AisaHAWK	SWIR	320 pixels
AisaDUAL	VNIR + SWIR	
AisaOWL	LWIR	384 pixels

Imaging In The Field

SPECIM offers a Mirror Scanner option or a Rotary Stage unit for all Spectral Cameras and AISA imagers. Using the Mirror Scanner or Rotary Stage, a stationary hyperspectral camera scans a spectral image (data cube) over a stationary target or scene.

Hyperspectral fore lenses

SPECIM provides high quality fore lenses, which are specifically designed and optimized to produce uniform, high performance images, in the broad spectral ranges, covered by our hyperspectral imaging systems. All the lenses employ broadband AR coatings to minimize stray light, and locked adjustments, to withstand harsh operating environments.

PRODUCT RANGE

- OLE series for VNIR
 - 9, 18,5, 23 and 140 mm focal lengths
- OLES series for NIR/SWIR
 - 15, 22, 30, 56 mm focal lengths and macro
- OLEM series for MWIR
 - 23 and 43 mm focal length
- OLEL series for LWIR
 - 16,5 mm focal length