



# MICROSCOPE

Unique, Multi-modal, Ultra-high Resolution

## Hyperspectral Scanning Solution

The ClydeHSI Hyperspectral Microscope and auto-loader is a unique, multi-modal capable instrument that permits light and dark field microscopy, reflection, Raman, transmission microscopy, as well as luminescence and polarisation studies for sample bi-refringence.

The system offers a high degree of applicational versatility and ultra-high precision. With spatial resolution capabilities of  $\leq 1 \mu\text{m}$ , the system is ideal for applications with colour and materials identification needs such as forensic trace evidence identification and analysis, as well as crime scene investigation.

The system also has a motorised nosepiece and auto sample loading capabilities for ultimate user functionality.



## Technical Specifications

Parameter	Value	Units	Comment
Operational Modes	Reflectance, Transmission, Luminescence, Raman, Polarisation		Multi-modal operation with spectral correction and multi-strip mosaic imaging for large area high resolution scans
Spectral Range	400 to 1700	nm	Broad spectral range, ideal for colour and materials identification needs
Spatial Resolution	$\leq 1$	$\mu\text{m}$	Interchangeable objectives using motorised nosepiece
Spatial Range	25	$\mu\text{m}$	Large area, highly stabilised, motorised platform
Stage Repeatability	$\leq 1$	$\mu\text{m}$	
Max Sample Area	300 x 300	$\text{mm}^2$	
Auto-loader Sample Capacity	6		Robotic arm loads samples into sample area automatically

## ClydeHSI Hyperspectral Cameras

ClydeHSI manufacture push-broom (line-scan) hyperspectral imaging cameras of high spatial and spectral purity, and measurement systems that are used in a wide range of applications, ranging from scientific research to industrial inspection tasks. These hyperspectral cameras measure a line image one line at a time and register spatial position across the line while simultaneously recording the optical spectrum at each spatial position.

The ClydeHSI Microscope is capable of single and dual camera operation with simultaneous data acquisition capabilities, and is fully compatible with all ClydeHSI VNIR Series and NIR Series hyperspectral cameras, light sources, and our unique hyperspectral data acquisition and analysis software. This ensures broad adaptability to applications and the capability to capture hyperspectral data from a broad spectral range.

In addition, the system is capable of adding options for Raman Hyperspectral measurements: please consult ClydeHSI.

### VNIR Series



### NIR Series



## Hyperspectral Camera Options for Microscope

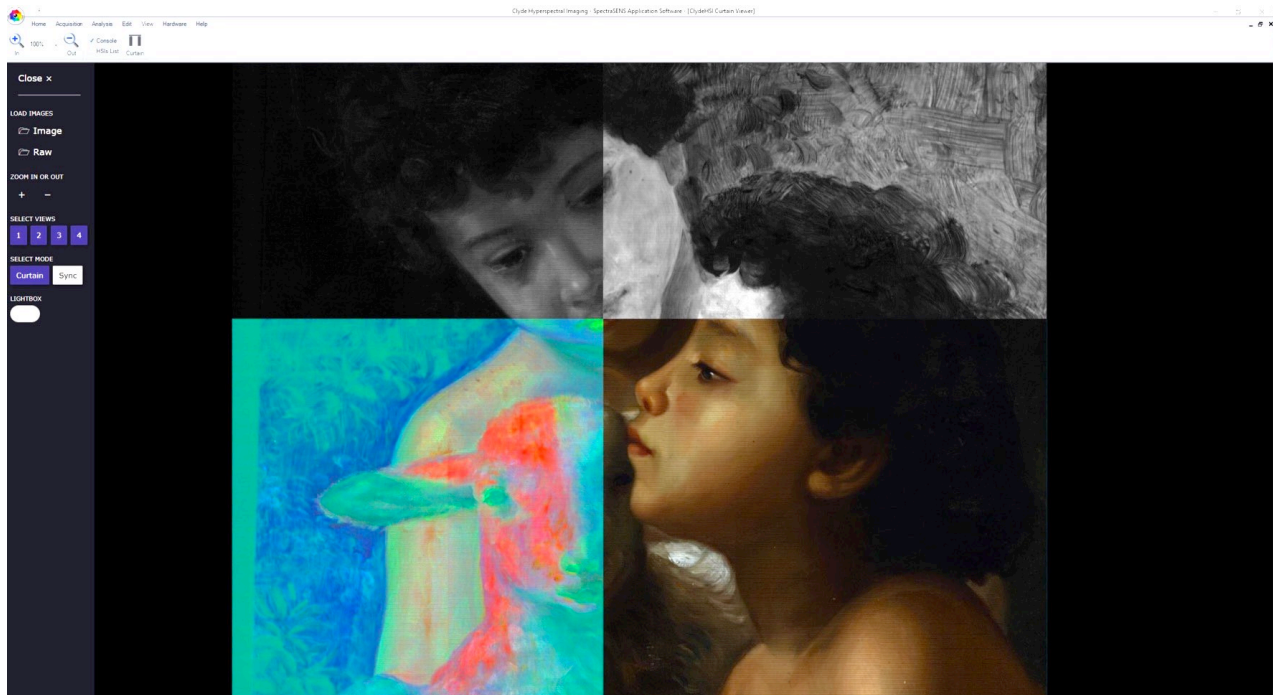
Parameter	Value				Units
Model	VNIR-S	VNIR-HR	NIR-HR	NIR-HR+	
Spectral Range	400-1000		950-1700		nm
Optical Spectral Resolution	8	<3	<5		nm
Pixels (Spatial Line)	2560		320	640	pix
Pixels (Spectral)	1024		256	512	pix
Smile and Keystone	Sub-pixel across output field				-
Camera output	Up to 14				bit
Camera Interface	USB-3, GiGe, CameraLINK				-
Frame Rate <sup>a</sup>	Up to 420		Up to 344	Up to 300	lfps
Shutter <sup>c</sup>	N/A	Integrated			-
Lens mount	C-mount				
Input Voltage	24				V DC

## About Us

### We make and measure rainbows.

ClydeHSI are specialists in optical spectroscopy and provide a wide range of both hyper-spectral and conventional spectroscopy instruments and full systems. All our products are supported by leading software for data acquisition, analysis and display.

**We take care of the technology, so you can focus on what matters to you: the spectroscopy, the imaging and the science.**



Our mission is to provide each and every one of our clients with a complete, end-to-end hyperspectral imaging solution, designed and rigorously tested to ensure **robust, reliable, accurate and repeatable** hyperspectral imaging measurements across a range of academic and industrial applications. Our ultimate goal for all of our systems is to **make hyperspectral imaging easy** for any and all end users.

We believe in **high quality engineering and design**, allowing us to develop market leading products and services. Within our Photonics Research Facility, we have the capability to rapidly develop new products and systems, and welcome the opportunity to partner with our customers on new developments - both within the scientific research community and for equipment for industrial applications.

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