



SC-XY-1500

Complete, High-performance, Turn-key, HyperSpectral Art Scanning System

From UV to SWIR

The ClydeHSI SC-XY-1500 2D Large Area HyperSpectral Scanning System is a **complete, transportable, high precision, all-in-one** hyperspectral scanning system, designed for scanning objects up to 1.5m x 1.5m with a spectral range from UV to SWIR. The system is supplied in a custom flight case, and includes 2x spectral cameras, scanning system, lights, high performance computer and all data acquisition, display, and analysis software, plus **unlimited technical support** from ClydeHSI.

The system design is optimised for **providing cost effective high spatial and spectral resolution** hyperspectral data, along with unmatched functionality and portability.

Speed of acquisition over 40mm/s at 0.1mm spatial resolutions in the SWIR range.

Network compatible with data base options.

ClydeHSI systems are your partner for visualisation and identification using hyperspectral imaging.



Scanning Stage Technical Specifications

Parameter	Value	Units	Comment
Scan Movement	X, Y, Zm		Multi-modal operation with spectral correction and multi-strip mosaic imaging for large area high resolution scans
Maximum Scan Area	1500 x 1500	mm ²	Other scan areas are available - please consult ClydeHSI
Maximum Scan Pixel Area	60,000 x 60,000	pix ²	Up to 3.6GPix HSI Images
Scan Step Resolution	25	µm	
Optical Resolution on Target	25	µm	In macro mode
Zm (Macro Stage)	±75	mm	Option
Zm Control System	Real-time distance measurement		Option
Spectral Camera Payload	≤50	kg	
Survey Camera	16Mpix 400Mpix options		Option

HyperSpectral Cameras from UV to SWIR

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 SC-XY-1500 Large Area Scanner is capable of single and dual camera operation, and is fully compatible with all ClydeHSI hyperspectral cameras, light sources, and hyperspectral data acquisition and analysis software. This ensures broad adaptability to applications and the capability to capture hyperspectral data from the broadest spectral range through ClydeHSI's full hyperspectral camera range.

In addition, the system is capable of adding options for: UV, Raman, conventional photogrammetry, NIR reflectography, as well as micro-XRF detection.

VNIR Series



NIR Series



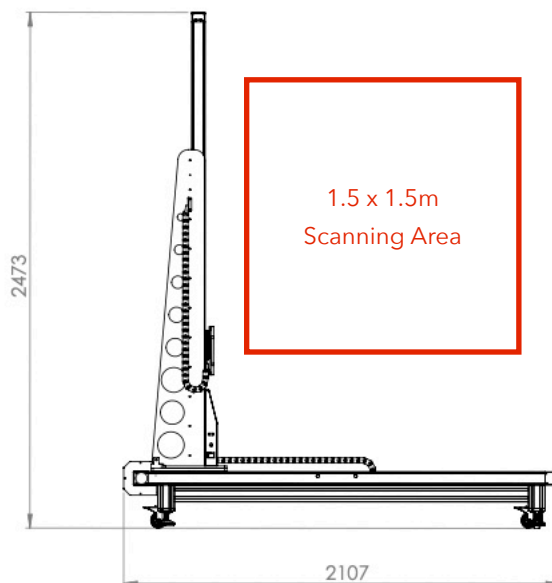
Hyperspectral Camera Technical Specifications

Parameter	Value					Units
Model	VNIR-S	VNIR-HR	NIR-HR	NIR-HR+	SWIR	
Spectral Range	400-1000		950-1700		1000-2500	nm
Optical Spectral Resolution	8	<3	<5		≤12	nm
Pixels (Spatial Line)	2560		320	640	384	pix
Pixels (Spectral)	1024		256	512	288	pix
Smile and Keystone	Sub-pixel across output field					-
Camera output	Up to 14					bit
Camera Interface	USB-3, GiGe, CameraLINK				Camera LINK	-
Frame Rate ^a	Up to 420		Up to 344	Up to 300	Up to 450	lfps
Shutter ^c	N/A	Integrated				-
Lens mount	C-mount					
Input Voltage	24					V DC

Entry Level System Configuration

Comprising of the following:

- XY Scanner,
- VNIR 400 to 1000nm, hyperspectral camera,
- NIR+ 950 to 1700nm hyperspectral camera,
- Broad-band illumination,
- Fore Objective Lens Kit,
- Setup, focus, and calibration tiles,
- Workstation computer
- Acquisition, visualisation, and analysis software
- Installation, and
- Application support.

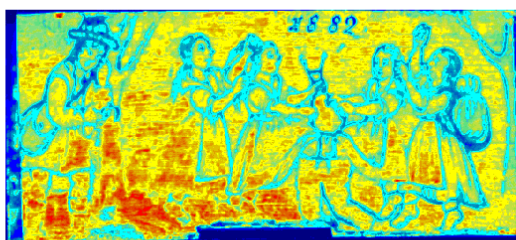
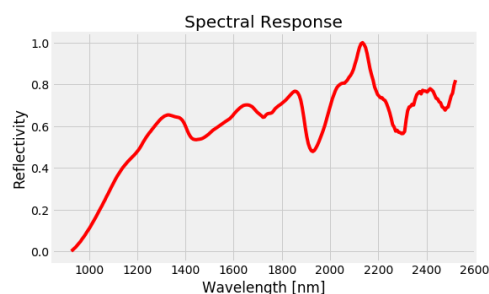


Optional Accessories

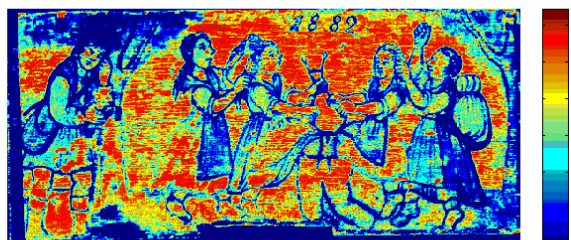
Comprising of the following:

- Photogrammetry (16 Mpix to 400 Mpix camera options)
- NIR Reflectography
- HSI Raman and laser line illuminators
- LED illuminators
- Micro X-ray fluorescence
- Zm Macro stage and optical distance sensors
- Microscope for spatial resolution to 1µm
- Database server and software
- Data Processing Help

Material Characterisation of a painted beehive panel by advanced spectroscopic and chromatographic techniques in combination with hyperspectral imaging. Retko, K, et al, Heritage Science 2020 8:120



Distribution of Dammar (1650 to 1750nm)



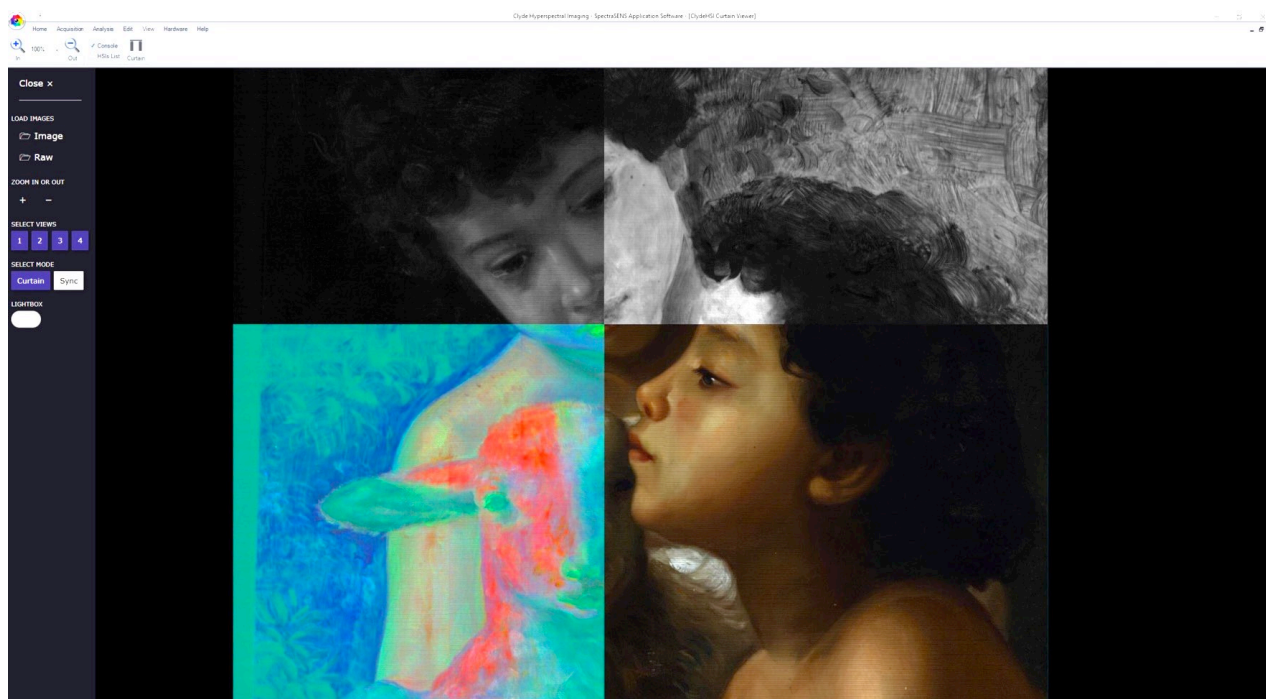
Distribution of wood features

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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