



# SC-PT SERIES

Portable, Turn-key, Pan and Tilt

## Hyperspectral Scanning Systems



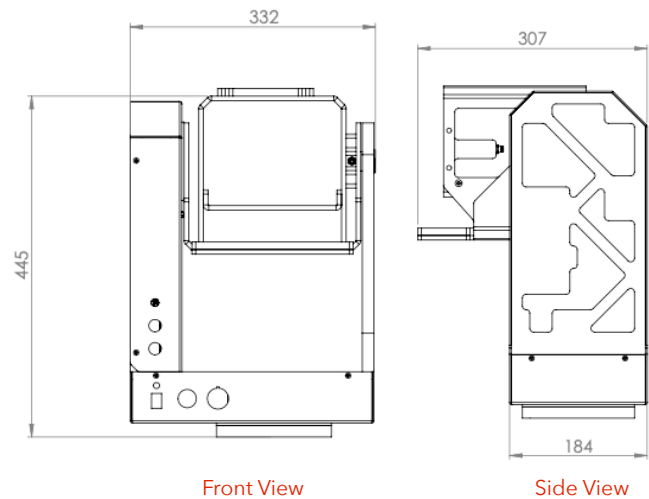
ClydeHSI SC-PT Pan and Tilt Hyperspectral Scanning Systems are complete, transportable, hyperspectral scanning systems, designed for scanning objects and large scenes in hard to reach places at high speed and high resolution. Operates in both single and dual-camera modes within the spectral range from UV to SWIR (300-2500nm). The system is tripod mountable and can be supplied with an airline check-in friendly case, and includes spectral camera(s), SC-PT Series scanning system, illumination system, high performance computer, and all data acquisition, display, and analysis software, plus unlimited technical support from ClydeHSI.

All SC-PT Series scanners have auto-exposure, auto-frame rate and scan motion correction, as well as laser target finding systems and time-of-flight sensors for accurate region-of-interest selection across full measurement area.

User interchangeable fore-optics with automatic lens magnification correction for all spectral camera and lens configurations.

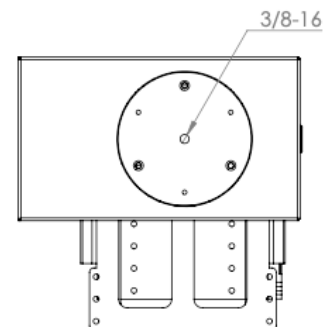
### Key Features:

- Single or Dual Camera Operation
- Tripod Mountable
- Battery Pack Option for Field Use
- Laser Crosshair for Accurate ROI Setting
- Entire System in One Airline Check-in Friendly Case
- Automatic Spherical-to-rectangular Coordinate Transformation
- Auto-exposure Setting



Front View

Side View



Bottom View and Mounting

## Scanning Stage Technical Specifications

Parameter	Value	Units	Comment
Scan Movement	Pan and tilt		Multi-modal operation with spectral correction and multi-strip mosaic imaging for large area high resolution scans
Pan Angle	360	deg	
Pan Resolution	0.01	deg	
Tilt Angle	±30	deg	
Tilt Resolution	0.01	deg	
ROI Setting	Laser crosshair assisted		
Stand-off Distance Measurement	Manual or time-of-flight assisted		Time-of-flight sensor option
Payload	25	kg	Accommodates multiple spectral cameras with simultaneous data acquisition, and illumination modules
System Weight	15	kg	
Power Supply	85-264 50/60	V AC Hz	

## ClydeHSI Hyperspectral Cameras

The ClydeHSI SC-PT is capable of single and dual camera operation with simultaneous data acquisition, and is fully compatible with all ClydeHSI hyperspectral cameras, light sources, and data acquisition and analysis software. This ensures broad adaptability to applications and the capability to capture hyperspectral data from a broad spectral range.

## Hyperspectral Camera Options for SC-PT

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 FWHM
Pixels (Spatial Line)	1936		320	640	384	pix
Pixels (Spectral)	1216		256	512	288	pix
Spectral Sampling/pixel	0.3		3	1.5	5.6	nm
Smile and Keystone	Sub-pixel across output field					-
Camera output	Up to 14					bit
Camera Interface	USB-3, GigE				Camera LINK	-
Frame Rate (full frame)	Up to 155		Up to 344	Up to 300	Up to 450	lfps
Shutter	N/A	Integrated				-
Lens Mount	C-mount					
Lens Options	17, 23, 35, 50		15, 22.5, 30, 56, 1:1 Macro			mm

### Example System Configuration

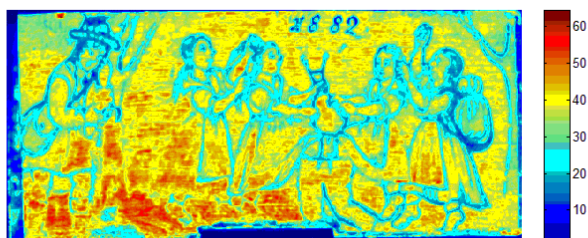
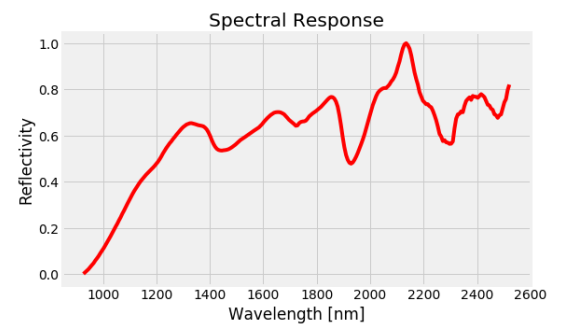
- SC-PT Series Scan Module
- Photographic Tripod
- VNIR-HR 400 to 1000nm, hyperspectral camera
- NIR-HR+ 950 to 1700nm hyperspectral camera
- Free wavelength selection within spectral range of each camera
- Broad-band (400-2500nm) illumination system
- Fore Objective Lens Kit
- Setup, focus, and calibration (reflectance) tiles
- Laser target finding system for accurate ROI setting
- Workstation computer
- Acquisition, visualisation, and analysis software
- Installation and testing by ClydeHSI engineer
- Application support and data processing help



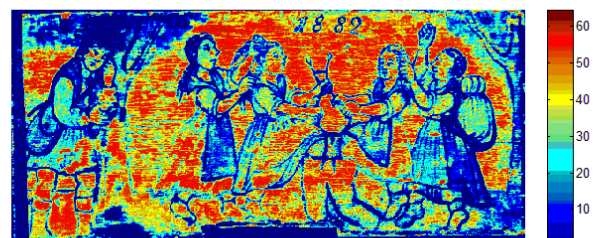
### Optional Accessories

- Photogrammetry (16 Mpix to 400 Mpix camera options)
- NIR Reflectography
- HSI UV (320-500nm) and UV illuminators
- HSI Raman and laser line illuminators
- SWIR-384 1000-2500nm Hyperspectral Camera
- LED illuminators
- Database server and software

**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)



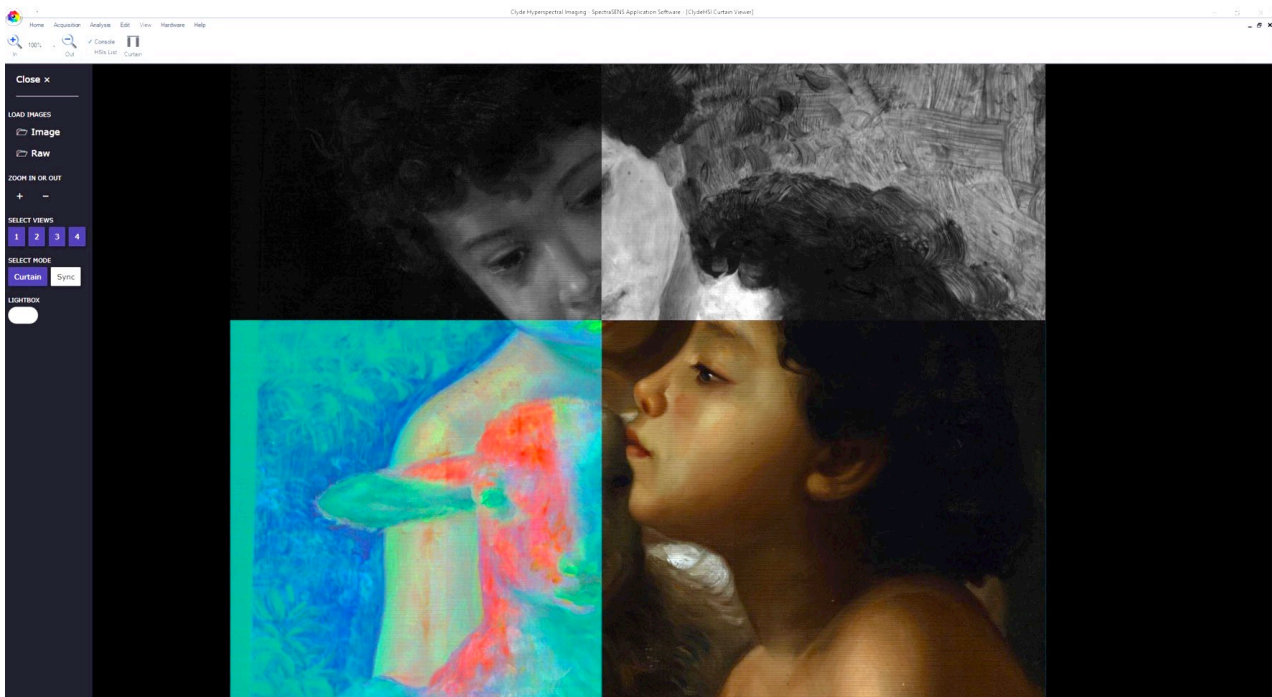
Distribution of wood features

## 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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