QUAKELOGIC

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HYPERSPECTRAL IMAGING CAMERA



QL-HyperSpec VNIR

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Hyperspectral Imaging Camera





VNIR PUSHBROOM HYPERSPECTRAL IMAGING

The QL-HyperSpec VNIR is a pushbroom hyperspectral camera for laboratory reflectance imaging and spectral analysis across the 400–1000 nm range. It captures 1,200 spectral bands over 1,920 spatial pixels at 2.5 nm nominal resolution, with full-band acquisition at 128 fps in 12-bit mode. Built for research labs, it ships with a 25 mm lens, USB 3.0 connectivity, and factory wavelength calibration, and integrates directly with the QL-HyperBench Reflectance System.

- 1,200 spectral bands across 400–1000 nm resolve fine reflectance features for materials analysis, classification, and quantitative spectral research.
- Full-band acquisition at 128 fps keeps line-scan throughput high, shortening sample imaging time without sacrificing spectral depth.
- Factory wavelength calibration with radiometric and dark-current correction delivers traceable, repeatable reflectance data straight out of the box.
- USB 3.0 connectivity and bundled acquisition software integrate the camera into the QL-HyperBench system with no third-party tools required.

STANDARD FEATURES »

- 25 mm Lens Included
- USB 3.0 Connectivity
- Factory Wavelength Calibration
- Radiometric Correction
- Dark-Current Correction
- Acquisition & Analysis Software
- Communication Cables
- Power Connections
- Operating Accessories
- Operating Documentation
- Virtual Training
- Remote Technical Support
- Three-Year Warranty

Key Features

- Pushbroom line-scan architecture builds a full hyperspectral datacube line by line, giving continuous, high-fidelity spectral coverage of each sample.
- 1,200 spectral bands at approximately 0.50 nm sampling resolve closely spaced absorption features for detailed reflectance characterization.
- 1,920 spatial pixels per line deliver wide-field spatial detail across the imaged sample in a single scan.
- 2.5 nm nominal FWHM spectral resolution supports fine discrimination of materials with similar spectral signatures.
- 12-bit digital output at 128 fps balances dynamic range and acquisition speed for demanding reflectance imaging.
- Selectable ROI acquisition captures only the spectral or spatial subset required, reducing data volume.
- USB 3.0 interface provides straightforward, high-bandwidth connection to the host workstation without specialized capture hardware.
- Factory wavelength calibration across the full spectral range ensures accurate band-to-wavelength mapping from first use.
- Radiometric and dark-current correction tools in the bundled software yield clean, quantitatively reliable reflectance measurements.

PRODUCT FEATURES

Imaging Architecture
Pushbroom / line-scan hyperspectral imaging · 1,920 spatial pixels per scan line

Spectral Performance
400–1000 nm spectral range · 1,200 spectral bands · 2.5 nm nominal FWHM resolution · ≈0.50 nm spectral sampling interval

Acquisition
12-bit digital output · 128 fps full-band acquisition

Interface & Optics
USB 3.0 communication interface · Compatible 25 mm focal-length lens included

Calibration & Correction
Factory wavelength calibration, full range · Radiometric correction supported · Dark-frame acquisition and subtraction

For more information about the features, specifications, and available configurations of the QL-HyperSpec VNIR, please contact QuakeLogic.

TECHNICAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Imaging Architecture	Pushbroom / line-scan hyperspectral
Spectral Range	400–1000 nm
Spectral Resolution	2.5 nm nominal FWHM
Spectral Sampling Interval	≈0.50 nm
Spectral Bands	1,200
Spatial Pixels	1,920
Digital Output	12-bit
Full-Band Acquisition Rate	128 fps at 12-bit
ROI Acquisition	Selectable spectral / spatial ROI
Communication Interface	USB 3.0

SPECIFICATION	DESCRIPTION
Lens	Compatible 25 mm focal length, included
Wavelength Calibration	Factory, full spectral range
Radiometric Correction	Supported via software tools
Dark-Current Correction	Dark-frame acquisition and subtraction
Software	Acquisition and analysis suite included
Platform Compatibility	QL-HyperBench Reflectance System
Accessories	Cables, power connections, operating accessories
Documentation	Operating and data processing instructions
Training & Support	Virtual training and remote support
Warranty	Three years

ACQUISITION & ANALYSIS SOFTWARE

The bundled software suite covers the full hyperspectral workflow for the QL-HyperSpec VNIR: configuring acquisition, capturing and assembling datacubes from the pushbroom scan, applying calibration and correction, and analyzing reflectance spectra. It operates with the QL-HyperBench Reflectance System and requires no third-party acquisition or processing tools.

DATACUBE ACQUISITION

Configures full-band or ROI capture, drives the pushbroom line scan, and assembles 1,200-band, 1,920-pixel datacubes from the camera over USB 3.0, with 12-bit output at up to 128 fps full-band.

CALIBRATION & CORRECTION

Applies factory wavelength calibration, supports radiometric correction, and performs dark-frame acquisition and subtraction so reflectance data is accurate, traceable, and free of dark-current bias across the full 400–1000 nm range.

SPECTRAL ANALYSIS

Processes acquired datacubes for reflectance imaging and spectral analysis, enabling inspection and quantitative evaluation of per-pixel spectra across the sample within the integrated QL-HyperBench workflow.

Product images are representative and may differ in appearance from the delivered equipment. The delivered configuration is defined by the specifications in this datasheet and the applicable quotation.

QUAKELOGIC

QL-HyperSpec VNIR

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About QuakeLogic:

QuakeLogic Inc. is a California-based engineering and technology company providing innovative, reliable, high-quality solutions to customers worldwide.

Our Commitment

We are committed to quality, innovation, and customer satisfaction — building lasting partnerships through reliable solutions and dependable support.

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