## Headwal

## **Data Sheet**

## HYPERSPEC<sup>®</sup> III SOFTWARE

Headwall's Hyperspec<sup>®</sup> III software with SpectralView<sup>®</sup> brings together a powerful set of hyperspectral acquisition and data manipulation tools in a single, easy-to-use environment for use across a wide range of applications.

Hyperspec<sup>®</sup> III calibration and geo-referencing software is extremely versatile, using the industry-standard CameraLink and USB interfaces while supporting Windows and Linux operating systems. It implements seamlessly into everything from advanced machine vision systems to airborne applications and interfaces with all of Headwall's hyperspectral sensors. The software provides full calibration of spectral, radiometric, and geometric calibration files.

Across all operating situations, Hyperspec<sup>®</sup> III software supports high frame rates in excess of 400 fps and is multithreaded for simultaneous processing and scalability. In a machine-vision application, for example, Hyperspec<sup>®</sup> software integrates with downstream robotics via FTP and socket messaging.

For airborne applications, orthorectification is crucial when capturing hyperspectral data. Hyperspec<sup>®</sup> software interfaces with GPS/ IMU devices to make this possible and to allow for precise calibration and start/stop data capture (which can also be triggered using a time-based method). Also, multiple sensors can be simultaneously controlled by the software. Regardless of the application, Hyperspec<sup>®</sup> III software manages all camera parameters and motion-control features such as pan-and-tilt as well as Headwall's Starter Kit with moving web.

Because Hyperspec<sup>®</sup> III software and all connected sensors can be controlled remotely, full automation is possible. Airborne remote sensing applications can be fully automated with respect to control and operation of the sensor. Working in conjunction with Hyperspec<sup>®</sup> III software is Headwall's SpectralView<sup>®</sup>, an embedded application that allows users to open, manipulate, interpret and manage the hyperspectral data cubes created by the sensor hardware. Both Hyperspec<sup>®</sup> III and SpectralView<sup>®</sup> are loaded onto all versions of Headwall's Hyperspectral Data Processing Units (HDPU).

Application-Specific Solutions For Critical Environments



## Hyperspec<sup>®</sup> III Software with SpectralView<sup>®</sup>

Headwall's powerful Hyperspec III software with SpectralView® is designed for laboratory, ground-based, and airborne applications. The software is pre-loaded onto Headwall's Hyperspec Data Processing Units (standard and compact versions). Depending on the application and use-case, various modules within the software package are available. For example, airborne applications will benefit from GPS and Polygon perimeter triggers, plus ortho-rectification capabilities during post-processing.



Waterfall Display Settings

Q Calibration (Emul)

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1,000

5.000

10,000

15,000

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Intensity

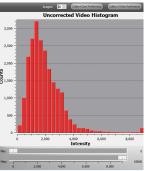
40 000

20,000

60 000

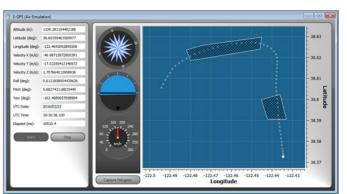
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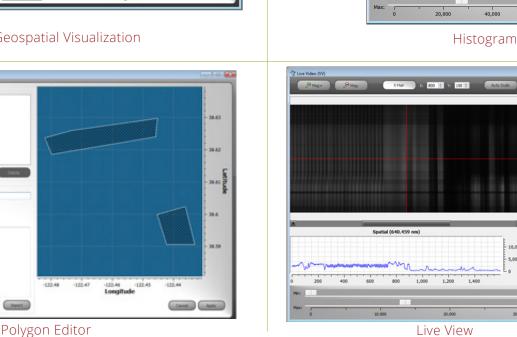


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Geospatial Visualization



About Headwall Photonics: Headwall is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by OEM and end-user customers around the world for use in critical application environments. As a pioneer in advanced, patented optics technology, Headwall enjoys a marketleading position through the design and manufacture of spectral instrumentation that is customized for application-specific performance.

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March 2016



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