



The Hyperspec® Point & Stare sensor provides superior spectral and spatial imaging for military, defense, and homeland security applications in the VNIR spectral region of 400 - 1000nm

Headwall's Hyperspec® Point & Stare sensor provides a superior imaging solution for imaging applications requiring stationary deployment of the hyperspectral imager. Offering considerable deployment flexibility, the Hyperspec® Point & Stare sensor is ideal for mobile sensor deployment where the unit can be mast-mounted for such applications as base protection, border security, and perimeter observation.

The award-winning Hyperspec® Point & Stare sensor is optimized for stationary sensor requirements in harsh environments. Easily mounted in configurations with other sensors, key attributes of the 'point & stare' Hyperspec® sensor include superior imaging performance, a wide field of view with a tall image slit, and a robust design for environmental durability .

The sensor also features wavelength-selectable hyperspectral scanning options, an embedded image processor for data management and high-speed system throughput, automated adjustable focus, and internal calibration standards for wavelength accuracy and measurement integrity.

Hyperspec® imaging spectrometers are built on a totally reflective concentric, f/2.4 optical design and optimized for imaging in harsh environments. All Hyperspec instruments are based on Headwall's patented aberration-corrected, imaging design featuring all-original high efficiency diffraction gratings.

To minimize stray light and aberrations, transmissive optical components such as prisms are not used within the imaging spectrometer. This platform is further enhanced by a telecentric optical input design which enables superior spectral and spatial imaging.



Applications:

- Military, defense & homeland security
- Threat Assessment
- Perimeter & Base Security
- Border Security
- Search & Rescue
- Mobile Sensor Deployment

Key Benefits:

- Superb imaging performance
- Designed for harsh environment
- Exceptional spectral & spatial resolution
- Wavelength selectable scanning
- Accurate, consistent spectral measurement
- Internal calibration standards
- Optional motorized pan & tilt
- Rugged design for durability & stability

Application-Specific Solutions For Critical Environments

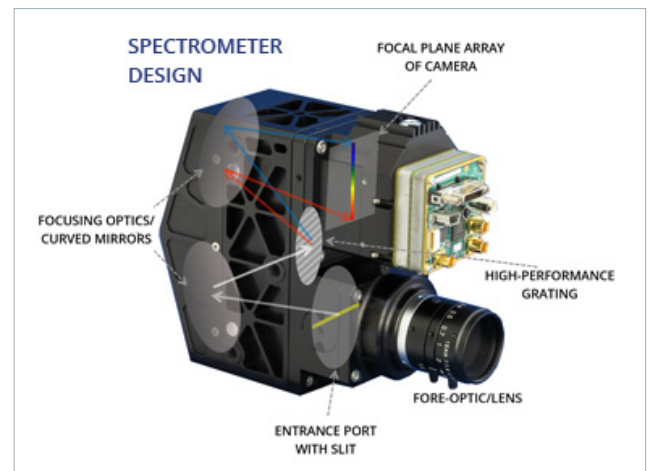
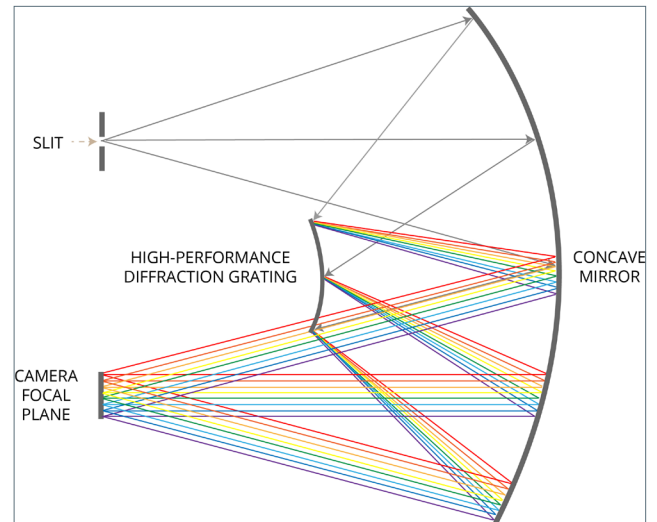
Hyperspec® Point & Stare	Specification
Wavelength Range (nm)	400-1000
Spectrograph Design	Aberration-corrected, concentric
Aperture	F/2.0
Spectral Dispersion	100 nm/mm
Slit Width (microns)	25 μ m
Spectral Resolution (25 μ m slit)	1-3 nm
Downwelling Irradiance Sensor	170° Irradiance, fiber-optic coupled
Fore-Optics Configuration	Telecentric
Wavelength Calibration	HgAr source, on-board integ sphere
Lens Focal Length	70mm
Lens Focus Controlled	10 meters to infinity
Board Level Detector	Si, CCD (EMCCD)
Detector Geometry	1000 x 1000 pixels, 8 micron pixels
Detector Cooling	2-Stage, -20° C
Acquisition Method	Full Image, multi-track, random track
Frame Rate	15 - 250 fps (ROI)

Embedded Processor	Specification
Speed	1.6 Ghz
Protocol	Ethernet 100/1000 mb/sec

On-Board Sensors	Specification
Temperature	-40° - 120° C
Humidity	0 - 100% RH (\pm 4%)
Radiometric Detection (Integrating Sphere)	0 - 100 Lumen (\pm 0.2%)
Location - GPS	\pm 2.5 meters (Commercial)
Location - Magnetic Direction	\pm 2° (Commercial)

Environmental	Specification
Ingress Protection	IP66
Air Conditioner	IP66
Temperature Range (External)	-20° to +35° C
Electrical	24 VDC, 30A

All-Reflective Concentric Imager



Sensor Motion	Specification
Targeting/Aiming Detector	CMOS, 30 fps, with 75° FOV
Scanner Type	DC-Servo, feedback control
Angular Scan Range	\pm 15° (\pm 0.262 rad)
Angular Accuracy	\pm 0.002°
Small Angle Step Response	20 ms

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 market-leading position through the design and manufacture of spectral instrumentation that is customized for application-specific performance.

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