

The **OCI™-D2000** snapshot hyperspectral cameras (OCI is a phonetic spelling of "All Seeing Eye") are designed specifically for use on unmanned aerial vehicles/systems (UAV/UAS), or remotely operated vehicles (ROV). Packed with a high-performance, miniature single-board-computer, they acquire full VIS-NIR hyperspectral data with continuous spectral and spatial coverage in simple "point-and-shoot" operations. The design features signification reduction in size and weight, and faster data transfer rate (up to 60 hyperspectral cubes per second) with automatic data capturing and processing. OCI-D2000 as a snapshot hyperspectral imager fundamentally eliminates artifacts caused by motions during flight. These innovations significantly reduce the requirements on UAV system, so that integration is almost effortless for many UAV/ROVs. BaySpec also provides ready-to-fly hyperspectral total solutions. Extreme compactness with uncompromised performance, automatic operation and data processing make the OCI-D2000 a straightforward system for applications such as precision agriculture and remote sensing.



**OCI™-D2000** system on a gimbal during flight

**KEY FEATURES:**

- Snapshot "point-and-shoot" hyperspectral imager;
- Full VIS-NIR wavelength coverage;
- Up to 50 hyperspectral cubes per second;
- Extremely compact and flexible;
- No GPS/IMU needed for ground image reconstruction;
- Real-time ground image preview;
- Ready-to-fly system with automatic control software available.

**Applications:**

- Precision Agriculture
- Airborne Mini UAV/ROV
- Remote Sensing
- Ground Survey
- Forest Survey
- Environmental Studies
- Law Enforcements
- Forensics
- Security and Defense
- Mining and Geology
- Oil and Gas Exploration
- Ocean Monitoring

**About BaySpec, Inc.**

BaySpec, Inc., founded in 1999 with 100% manufacturing in the USA (San Jose, California), is a vertically integrated spectral sensing company. The company designs, manufactures and markets advanced spectral instruments, from UV-VIS spectrometers, bench-top and portable NIR and Raman analyzers, Hyperspectral imagers to confocal Raman microscopes, for the biomedical, pharmaceuticals, chemical, food, semiconductor, homeland security, and the optical telecommunications industries.

	<b>Specifications<sup>1</sup></b>
<b>Model</b>	<b>OCI™-D2000</b>
Operation Mode	Snapshot
Spectral Range	Approx. 475-875 nm or 475-975 nm with a 100 nm gap starting at 600
Number of Spectral Bands	Approx. 35-40
Spectral Resolution	12-15 nm FWHM
Spatial Pixels	Approx. 500 X 270
Lens (Standard)	50 mm (13° FOV) <sup>2</sup>
Lens Interface	C-mount
Exposure Time	20 μs - 1 s
Wavelength Calibration	Factory calibrated
Frame Rate	Up to 50 frames/sec (each frame can be converted to a hyperspectral cube)
Operation	Automatic exposure; frame rate control; delayed start
Data Storage	400 GB (enough for 24 hour non-stop, high-speed imaging), optional upgrade to 1 TB
Data Format	ENVI-BSQ for hyper-cube, BMP band images, ROI spectra, and RAW (pixel data)
Operating Temperature	-20°C to +60°C
Power Consumption	< 4 W (powered by USB 3.0)
Size	Camera (with standard lens): 10 cm (L) x 6 cm (W) x 8 cm (H) (4.0 in. x 2.4 in. x 3.2 in.)
Weight	Camera (with standard lens): 300 g (0.7 lb.)
Data Transfer Interface	USB 3.0 SuperSpeed
Remote Control	WiFi (when in range)

1. Product specifications and data are subject to change without notice to improve.
2. Other lens with different FOV available.

