

## OCI™-F Series Hyperspectral Cameras

Ultra-compact and fast – covering the VIS-NIR range

The OCIM-F Series ("All Seeing Eye") camera is a miniaturized pushbroom hyperspectral camera covering the full VIS-NIR (400-1000 nm) wavelength range, with a SuperSpeed USB 3.0 interface. It features ultra-compactness (14 cm x 7 cm x 7 cm) and light weight (~ 570 g) with fast data transfer rates (up to 60 fps). As an innovative "true push-broom" imager: one can simply move the imager by hand or move the sample to finish the scan. Not dependent on a constant scanning speed, the OCI-F Series offers versatility on various platforms such as UAVs with perfect hyperspectral image stitching. Compactness, fast imaging, simple operation, and intuitive software make the OCI-F's THE choice for first-time practitioners and old-pros alike. They're Ideal applications such as precision agriculture, remote sensing, conveyor sorting, forensics and all airborne applications.

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OCI-F hyperspectral camera with standard lens. Easy mounting on UAV's, tripods, pan/tilt's and gimbals. Total weight < 570 g

#### **KEY FEATURES:**

- Full VIS-NIR coverage (400-1000 nm)
- Real-time sample preview
- Extremely compact and light-weight
- No moving parts, high reliability
- "True push-broom" scanning with random speed
- · Easy integration on a variety of platforms
- Eliminates costly GPS/INS orthorectification post processing
- Yields distortion-free hyperspectral band images
- Three models to fit your budget select from 60, 120 or 240 bands



#### **Applications:**

- Precision Agriculture

- Ø□ Remote Sensing
- Ø□ Anti-Counterfeiting
- Ø□ Biomedical Diagnostics
- **∅**□ Pharmaceuticals
- Ø □ Security
- Ø□ Oceanography

- Ø□ Bathymetry

#### 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-NIR spectrometers, fiber sensing interrogators, 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.



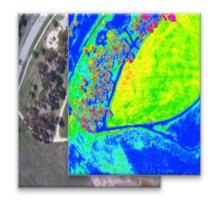
# OCI™-F Series Hyperspectral Cameras

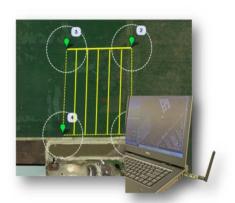
# Ultra-compact and fast - covering the VIS-NIR range

	Specifications
Operation Mode	Push-broom
Spectral Range	400-1000 nm
	OCI-FL 60 bands
Number of Spectral Bands	OCI-F 120 bands
	OCI-F-HR 240 bands
	OCI-FL ~ 10-12 nm FWHM
Spectral Resolution	OCI-F ~ 5-7 nm FWHM
	OCI-F-HR ~ 3 nm FWHM
Spatial Pixels	800 px X scan-length
Standard Lens <sup>1</sup>	16 mm (21° FOV)
Exposure Time	20 μs - 1 s
Wavelength Calibration	Factory calibrated (calibration fixed permanently)
Objective Lens Interface	C-mount
Frame Rate	Up to 60 frames/sec
Software	3 Module Suite – SpecGrabber, CubeCreator & CubeStitcher
Data Format	Hyperspectral cube (ENVI-BSQ), Color image (BMP), Band image (BMP), ROI spectra (CSV format) and RAW (pixel data only)
Operating Temperature	0°C to 50°C
Power Consumption	< 3 W (USB 3.0 power)
Weight	~ 570 g (including standard lens)
Size	14 cm x 7 cm x 7 cm (including standard lens)
Camera Interface	USB 3.0

<sup>1.</sup> Other lenses available, please inquire.









# OCI™-F-SWIR Hyperspectral Camera

Ultra-compact and affordable SWIR hyperspectral camera

As light in the shortwave infrared region (SWIR, 900–1700 nm) penetrates deeper and is not interfered by visible light, SWIR hyperspectral imaging offers a number of advantages compared to visible light when used for remote sensing, inspection, sorting, surveillance, quality control, and a host of other applications.

The *OCI*<sup>m</sup>-F-SWIR (OCI is a phonetic spelling of "All Seeing Eye") camera is a miniaturized push-broom hyperspectral camera covering the full SWIR (900-1700 nm) wavelength range. It features ultracompactness (17 cm x 7 cm x 9 cm) and light weight (~820 g) with fast data transfer rates (up to 50 fps). As an innovative "true push-broom" imager: one can simply use a hand to move the imager or sample to finish the scan. Not depending on a constant scanning speed has enabled OCI-F-SWIR versatility on vast platforms such as UAVs, with perfect hyperspectral image stitching. Compactness, fast imaging, simple operation, and intuitive software make the OCI-F-SWIR very straightforward for varieties of applications.



OCI-F-SWIR hyperspectral camera with a standard lens. The package is easy to mount on tripods or gimbals. Total weight ~820 g

#### **KEY FEATURES:**

- Real-time sample preview
- Extremely compact and light-weight
- No moving parts, high reliability
- "True push-broom": scanning with random speed
- · Easy integration on different platforms

#### **Applications:**

- Remote Sensing
- Chemical Detection
- Pharmaceuticals
- Ø Airborne/UAV
- Security
- Precision Agriculture
- Food Quality
- Anti-Counterfeiting
- Biomedical Diagnostics
- Forensics
- Counterfeit Detection
- Mineral Discovery

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# OCI™-F-SWIR Hyperspectral Camera

# Ultra-compact and fast hyperspectral imaging engine

### **Performance Specifications:**

Pervasive Spectroscopy

	Specifications <sup>1</sup>
Operation Mode	Push-broom
Spectral Range	900-1700 nm
Number of Spectral Bands	Up to 80
Spectral Resolution	< 10 nm FWHM
Spatial Pixels	250 pixels X scan-length
Standard Lens	16 mm (28° FOV), SWIR optimized
Objective Lens Interface	C-mount
Frame Rate	Up to 50 frames/sec
Software	Included with BaySpec's SpecGrabber for camera control and data acquisition, and CubeCreator for hyperspectral data processing
Data Format	ENVI-BSQ hyperspectral cube, Band Image (BMP format), ROI spectra (CSV format)
Operating Temperature	0°C to 50°C
Power Consumption	< 5 W (USB 2.0 power)
Weight	~ 820 g (including standard lens)
Size	17 cm x 7 cm x 9 cm (including standard lens)
Camera Interface	USB 2.0
Trigger	External trigger signal, software time delayed start

