

The **OCI™-F Series** ("All Seeing Eye") camera is a miniaturized push-broom 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 for applications such as precision agriculture, remote sensing, conveyor sorting, forensics and all airborne applications.



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

## Applications:

- Precision Agriculture
- Food Quality
- Sorting
- Airborne Mini UAV
- Remote Sensing
- Process Control
- Anti-Counterfeiting
- Biomedical Diagnostics
- Forensics
- Pharmaceuticals
- Security
- Counterfeit Detection
- Oceanography
- Forestry
- Estuary Monitoring
- Bathymetry

## About BaySpec, Inc.

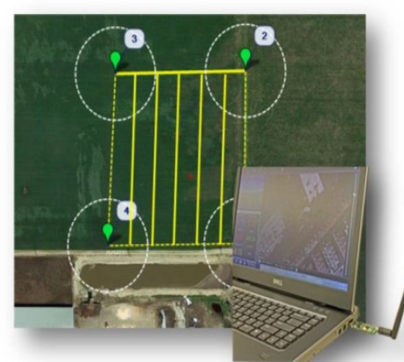
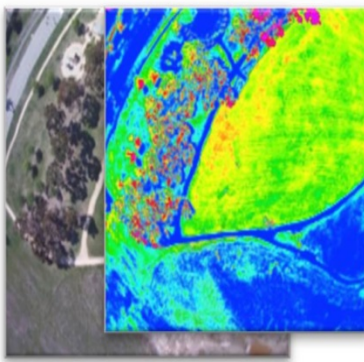
BaySpec, Inc., founded in 1999 with 100% manufacturing in the USA (San Jose, California), is a vertically integrated spectral sensing company. The company designs, manufactures and markets advanced spectral instruments, from UV-NIR spectrometers, fiber sensing interrogators, bench-top and portable NIR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

## 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**

|                            | Specifications                                                                                                         |
|----------------------------|------------------------------------------------------------------------------------------------------------------------|
| Operation Mode             | Push-broom                                                                                                             |
| Spectral Range             | 400-1000 nm                                                                                                            |
| Number of Spectral Bands   | <b>OCI-FL</b> 60 bands<br><b>OCI-F</b> 120 bands<br><b>OCI-F-HR</b> 240 bands                                          |
| Spectral Resolution        | <b>OCI-FL</b> ~ 10-12 nm FWHM<br><b>OCI-F</b> ~ 5-7 nm FWHM<br><b>OCI-F-HR</b> ~ 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                                                                                                                |

1. Other lenses available, please inquire.



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™-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 ultra-compactness (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.

## **Applications:**

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

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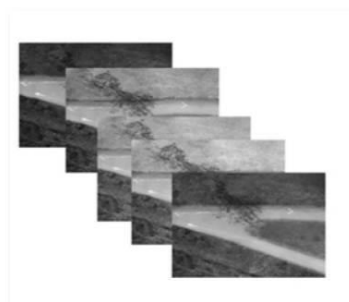
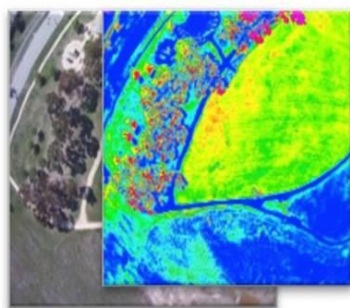
**OCI-F-SWIR** hyperspectral camera with a standard lens. The package is easy to mount on tripods or gimbals. Total weight ~820 g

## **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

**Performance Specifications:**

|                          | <b>Specifications<sup>1</sup></b>                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                           |


[WWW.OPTONLASER.COM](http://WWW.OPTONLASER.COM)

01 69 41 04 05

[contact@optonlaser.com](mailto:contact@optonlaser.com)