

## CHAI V-2048

*Wide swath, science grade; incorporates newest FBX image sensor technology*

### DESCRIPTION

The CHAI V-2048 is based on the newest Fully-depletion, Backside-illuminated eXtreme performance, FBX image sensor technology. This hyperspectral imager is ideal for science applications requiring high SNR and the widest available swath. Low-distortion, all-reflective fore-optics make this instrument an ideal partner with coastal bathymetric and topographic LIDAR. The CHAI V-2048 is meant for the most challenging earth science campaigns.

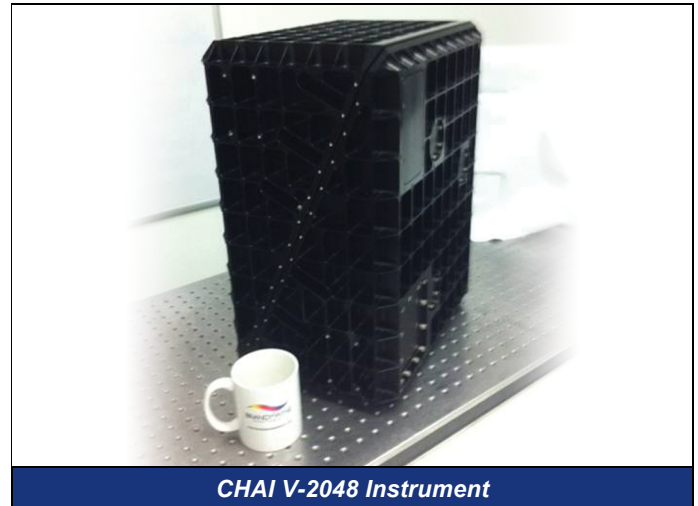
### APPLICATIONS

- Aerial Survey (>500 frames/second)
- Satellite Imaging

### ADVANTAGES

- Rugged, environmental stabilized flight enclosure
- Integrated Radiometric Stability Monitor
- Integral flight electronics (no flight rack needed)
- Pilot-mode for single-man operation
- Nitrogen purged for extended life coatings

**Contact us for application-specific performance modeling and benchmarking.**



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## SPECIFICATIONS

MECHANICALS	ESTIMATE
Minimum Size	200 x 150 x 400 mm
Weight	25 kg
Power	300 watts
Temperature Range	-30 to +50 C
<i>Size does not include laptop, processor or INS.</i>	

OPTICS	SPECIFICATION
Spectrometer Type	Offner
Field of View	40 degrees (other upon request)
Cross Track Pixels	2048
F-Number	f/2.8
Spectral Range	380-1020 nm
Keystone	< 0.1 pixels
Stray Light	< 1e-4 Point Source Transmission
Spectral Bands	256
Spectral Sampling	2.5, 5, 10 nm
Polarization	< 5%
Peak Grating Efficiency	88%
Slit Size	30.72 x 15 microns

IMAGE SENSOR	
Image Sensor	FBX-2k256 High Performance CMOS 2048 x 256 pixels 15 micron pixels Row-selectable gain
Full Well Capacity	Gain 0: 500,000 electrons Gain 1: 60,000 electrons Gain 2: 10,000 electrons
Read Noise	Gain 0: < 63 electrons Gain 1: < 42 electrons Gain 2: < 10 electrons
Maximum Frame Rate	> 500 frames/second
Broadband Response	≥ 50%QE@380 nm; ≥ 80%QE@400-900 nm; ≥ 30%QE@980 nm
Camera Interface	USB-3
Data Acquisition	1 Terabyte Solid State Recorder Serial interface for GPS/INS

CHAI SOFTWARE	
Trigger Modes	Pilot, operator, TTL, INS
Visualization	3-band RGB waterfall display of real-time and recorded data
Metadata	Shock, temperature, pressure, and humidity
Data Format	RAW, ENVI BIL, or Processed
Processing	EXPRESSO™

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