

CHAI S-640

Compact and near-infrared; based on the Dyson spectrograph

DESCRIPTION

The CHAI S-640 is the first in our line of SWIR Dyson spectrometers developed for remote sensing. The Dyson spectrometer is popular for its compact size, lower polarization, and high throughput. The S-640 form factor is suitable for multi-unit arrangements, whether side-by-side, fore- and aft- viewing angles, or varying polarizations. Brandywine Photonics specializes in UAV mounting and optimizing flight configurations for the S-640.

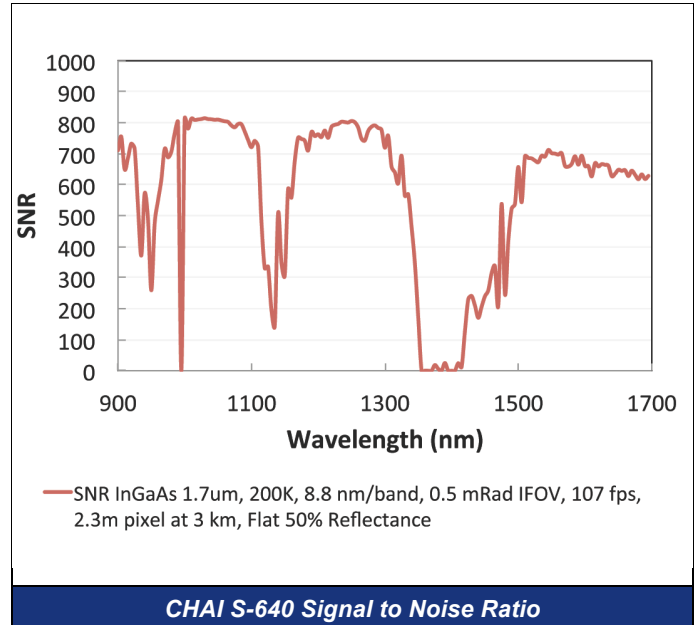
APPLICATIONS

- Aerial Survey
- Mining and Core Sample Measurements
- Machine Vision
- Precision Agriculture
- Forestry

ADVANTAGES

- High Sensitivity Ex-InGaAs
- ***NEW*** Extended wavelength to 2.1 microns
- Easily changeable fore-optics lens

Contact us for application-specific performance modeling and benchmarking.



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SPECIFICATIONS

MECHANICALS	ESTIMATE
Minimum Size	152 x 127 x 76 mm
Weight	5 kg
Power	200 watts
Temperature Range	-30 to +40 C
<i>Size does not include laptop, processor or INS.</i>	

OPTICS	SPECIFICATION
Spectrometer Type	Dyson Spectrometer
Fore-optics	Refractive Lens or Reflective Telescope
Field of View	18 degrees (other upon request)
Cross Track Pixels	640
Spectral Range	825-2125 nm
Smile	< 0.1 pixels
Keystone	< 0.1 pixels
Stray Light	< 1e-4 Point Source Transmission
Spectral Bands	260
Spectral Sampling	5 nm
Peak Grating Efficiency	88%
Slit Size	9.6 mm x 15 microns

IMAGE SENSOR	
Image Sensor	640 x 512, 15 μ m pitch *NEW* High Performance Extended InGaAs,
Full Well Capacity	10k, 60k, and 500k electrons (row-selectable)
Read Noise	< 50 electrons
Maximum Frame Rate	120 frames/second
Quantum Efficiency	70% @ 1.5 μ m (peak)
Camera Interface	USB-3
Data Acquisition	1 TByte SSDR Recorder Serial interface for GPS/INS

CHAI SOFTWARE	
Trigger Modes	Pilot, GUI, electronic, and Lat/Long triggered acquisition
Visualization	3-band RGB waterfall display of real-time and recorded data
Metadata	Temperature, pressure, and humidity
Data Format	RAW, ENVI BIL, or Processed
Processing	EXPRESSO™

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