



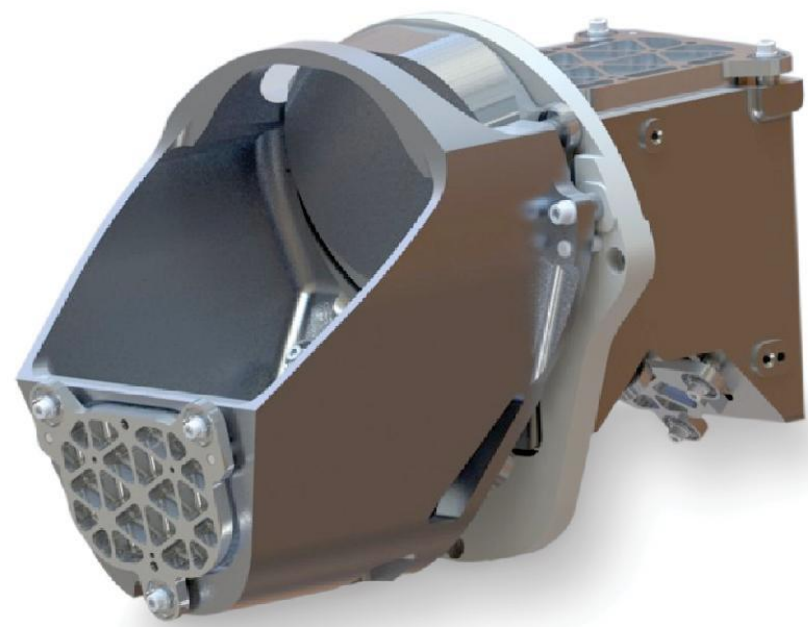
CORNING

Corning® Hyperspectral Imaging Technology

Corning Enhanced Long-range vis-SWIR Imaging Spectrometer

Overview

Corning vis-SWIR imaging spectrometer is a compact (6" in diameter, <10" long) high performance assembly sensitive in the vis-SWIR spectral range (0.4-2.5 μm). It is an all-aluminum athermalized construction, built upon Corning's HSI system heritage, using Corning's proprietary high-efficiency, high durability silver coating and "snap together" processes. It is designed for manned aircraft and UAVs. Other choices of fore-optics can allow close range operation. The optical engine can be integrated with a variety of detectors, including high-end FPAs for high resolution (spectral and spatial), and sensitivity.



vis-SWIR Imaging Spectrometer

Applications

Corning vis-SWIR imaging spectrometer is used for commercial and military airborne applications, such as:

- Remote sensing
- Tactical reconnaissance
- Disaster relief support
- Environmental monitoring
- Agriculture crop assessment

With different fore-optics, the vis-SWIR imaging spectrometer can be used for close range applications, such as:

- Industrial process monitoring
- Pharmaceutical analysis
- Forensic analysis

Typical Performance with several cameras. Other cameras and fore-optics can be integrated

Corning® vis-SWIR Hyperspectral Imaging Spectrometer

Design Parameter	With InGaAs Detector 20 μm x 640 pixels	With MCT Detector 30 μm x 320 pixels	With InGaAs Detector 12.5 μm x 1280 pixels ITAR Camera	With MCT Detector 15 μm x 1500 pixels ITAR Camera
Spatial Resolution (cyc. μrad , 50% MTF-Polychromatic MTF)	6	4	9	8
Cross-Field Track-of-Field View (μrad)	57	43	71	100
Spectral Range (nm)	600-1700	800-2500	600-1700	400-2500
Spectral Channel Spacing (nm)	10	10	5	10
f/#	3.25	3.25	3.25	3.25
IFOV (μrad)	89	133	56	67
Illumination Black Body Solar Spectrum (W/m^2)	1000	1000	1000	1000
Signal to Noise (SNR mean)	296	238	239	111
Sensor Rate of Advancement ($\mu\text{rad}/\text{sec}$)	9	46	2	27
Volume	152.4 mm dia x 304.8 mm long	152.4 mm dia x 304.8 mm long	152.4 mm dia x 304.8 mm long	152.4 mm dia x 304.8 mm long

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For more information, visit our website:
www.corning.com/advanced-optics

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