

SOC750

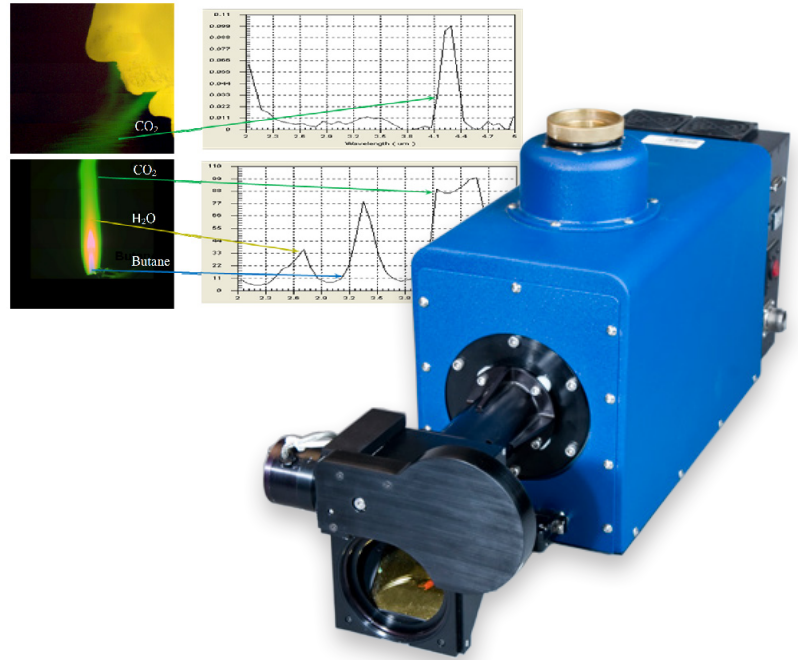
MIDWAVE INFRARED HYPERSPPECTRAL VIDEO CAMERA



**SURFACE OPTICS
CORPORATION**

The SOC750-MW Mid-Wave Infrared Spectral Imager is a one-of-a-kind, video-rate (15 cubes per second) high quality, off-the-shelf spectral imaging system covering the 2.0 to 5.0 micron region.

Coupled to an optional SOC MIDIS Processor, it provides the basis for the most demanding analysis, quality control and detection.



APPLICATIONS

- Machine Vision
 - Web and surface inspection
 - Sorting of automotive electronics/plastics
 - Agricultural inspection
- Agricultural
 - Precision farming
 - Classification
 - Water stress
 - Crop health
- Scientific
 - Microscopy
 - Biological Analysis
- Military
 - Target discrimination
 - Chemical clouds
 - Identify friend or foe
- Remote sensing
 - Ground truth
 - Military mapping

KEY FEATURES

Composed of a high-speed, HgTdCe focal plane array, high speed scanning system, quality imaging spectrometer, and calibration and analysis software; the SOC750-MW can record hyperspectral images in the 2.0 to 5.0 micron range at a nominal 93 nm spectral resolution. The system includes SOC's HSAAnalysis software for calibration and data analysis. Data is recorded in open format which can be read into third-party spectral analysis packages.

Real-time applications such as machine vision, biological screening, and chemical leak detection require immediate feedback. SOC's MIDIS Processor performs on-the-fly hyperspectral processing at super computer speeds, while overcoming the processing bottleneck inherent in most hyperspectral processing systems. With multiple matched filters examining incoming data and three spectral integrators, the MIDIS processor supports many common processing challenges.

CONFIGURATIONS

Surface Optics Corporation offers the SOC-750 2-5 μ m hyperspectral imager in two configurations, each using a different focal plane. These two configurations differ in spectral resolution, spatial resolution, temporal resolution, sensitivity, and maximum viewable radiance.

	High Brightness	High Resolution
Spatial Pixels	256 x 240	512 x 512
Spectral Bands	42	64
Spectral Bandwidth	0.073 μ m	0.048 μ m
Cube Rate	11 c/s @ 256 x 240 x 42 30 c/s @ 160 x 144 x 42	2 c/s @ 512 x 512 x 64 24 c/s @ 128 x 146 x 64
Detector Material	Indium Antimonide	Indium Antimonide
FPA Well Capacity	20 Me-	5 Me-
Detector Pixel Pitch	30 μ m	20 μ m
IFOV with 50mm lens	0.6 mr	0.4 mr
IFOV with 1000mm lens	0.3 mr	0.2 mr
Maximum Target Temperature	1250°C	1100°C

