

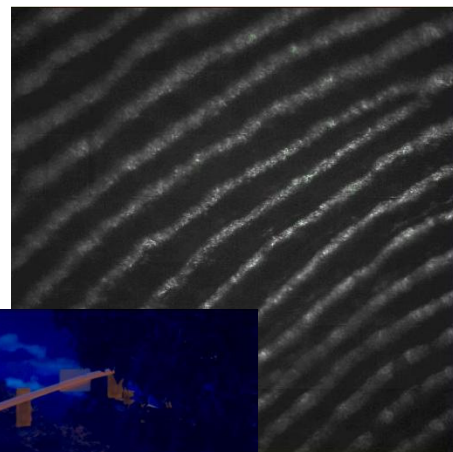
SOC750-MW

Mid-wave Infrared Hyperspectral Video Camera



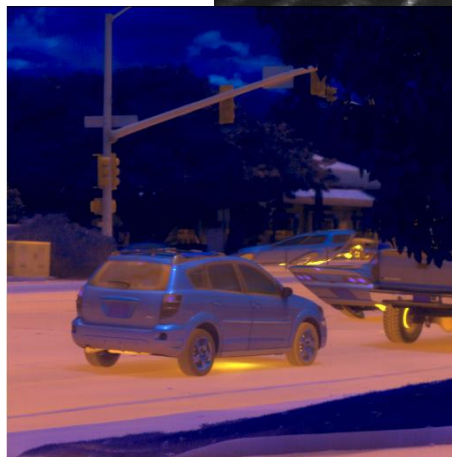
Real-Time Processing

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.



Imaging System

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.



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Specifications

Camera Configuration

Parameter	Basic High Sensitivity	High Brightness	High Resolution
Spatial Pixels	256 x 256	256 x 240	512 x 512
Spectral Bands	32	42	64
Spectral Bandwidth	0.097 μ m	0.073 μ m	0.048
Cube Rate	15 c/s @ 256x256x32 27 c/s @ 256x144x32	11c/s @ 256x240x42 30 c/s @ 160x144x42	2c/s @ 512x512x64 24 c/s @ 128x146x64
Detector Material	HgCdTe	Indium Antimonide	Indium Antimonide
FPA Well Capacity	1.4 Me ⁻	20 Me ⁻	5 Me ⁻
Detector Pixel Pitch	40 μ m	30 μ m	20 μ m
IFOV with 50mm lens	0.8 mr	0.6 mr	0.4 mr
IFOV with 100mm lens	0.4 mr	0.3 mr	0.2 mr
Maximum target temperature	450°C	1250°C	1100°C

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.

Applications

- Machine Vision
 - web and surface inspection
 - sorting of automotive electronics and plastics
 - agricultural inspection
 - chemical analysis
- 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
 - Material Mapping