

SOC716

Video-Rate Spectral Imaging System



The Full Motion Video – Spectral Imaging (FMV-SI) system simultaneously captures and processes all three dimensions of a spectral cube at 60Hz video rates through a novel, plenoptic based design using a single focal plane array.

In contrast to Bayer type multispectral designs, placing the filter tray in front of the objective lens allows the system to be 'spectrally modified' within the response range of the focal plane array by simply switching the filters or the filter tray itself. In this way, the instrument can be spectrally (or polarimetrically) tailored to an application.

FMV-SI models are available for the UV (300-500nm), VNIR (450-950nm), and SWIR (1000-1700nm) spectral ranges.

SPECIFICATIONS

CAMERA CONFIGURATION

PARAMETER	VNIR	UV	SWIR
Spectra Dispersion	Bandpass filter array	Bandpass filter array	Bandpass filter array
Spectral Range	450-950 nm	270-550 nm	900-1700 nm
Bands / Resolution	16 / Configurable	16 / Configurable	16 / Configurable
Objective Lens	Custom telecentric achromatic	Custom telecentric achromatic	Custom telecentric achromatic
Focal Length / TFOV	85mm / 12.3 Degrees Diagonal	84mm / 12 Degrees Diagonal	125mm / 11 Degrees Diagonal
Cube Dimensions	640 x 540 x 16 (C x R x lambda)	320 x 256 x 16 (C x R x lambda)	320 x 256 x 16 (C x R x lambda)
Cube Scan Rate	60 cubes per second, max	30 cubes per second, max	30 cubes per second, max
Image Sensor Type	Si-CCD	Back-Illuminated CMOS	InGaAs
Bit Depth	12-Bit	10-Bit	12-Bit
Size	6.78" x 4.5" x 5.6"	10.75" x 3.9" x 3.9"	10.5" x 2.5" x 2.5"
Power	12 Watts @12VDC battery	2 Watts @ 12VDC battery	3.8 Watts @ 12VDC
Weight	7.83 lbs	4.2 lbs	4 lbs