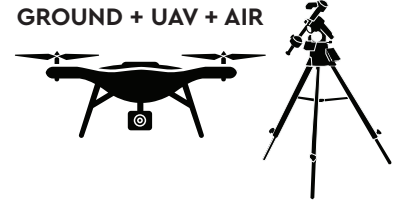


INTERNALLY COOLED AND CALIBRATED,
SMALL FORM FACTOR, HYPERSPECTRAL
SWIR IMAGER

GROUND + UAV + AIR



MICRO**SASI**640

FIELD-PORTABLE HYPERSPECTRAL MICRO-SWIR IMAGER FOR AIR & GROUND USE

- Portable Air/Ground Hyperspectral SWIR Imager
- 0.95- 2.5 μ m Spectral Coverage
- 256 Spectral Bands
- 40° FOV
- 640 Spatial Imaging Pixels
- GNSS/MEMS-Inertial System Capability
- Diffraction-Limited Optics Across Spectrum
- All Reflective Fore-Optics
- Self-Contained Camera and Data Recording
- Internal Calibration System & Internally Cooled
- Easy Lidar Integration
- Remote Operation via R/F Link or Autonomous via Waypoints
- Precision Data Time Stamping to External Devices
- API Available



Control via R/F Link



or waypoints



MICRO **SASI**640

Small Form Factor, Hyperspectral Pushbroom SWIR Imager with Diffraction, Limited Optics. Continuous VNIR-SWIR Coverage When Used with ITRES μ CASI-1920

Target Detection and Synthetic Materials Mapping / Classifications / Geological Exploration / Vegetation Speciation / Aquatic Pollution Presence / Utility Corridor Mapping / Mineral Composition /

SENSOR TYPE

SWIR Pushroom Sensor
Shortwave Airborne Spectrographic Imager

PERFORMANCE

Spectral Range (Continuous Coverage)	0.95-2.5 Microns
# Spectral Channels	256
Cooling System	Cryo-cooler
# Across-Track Pixels	640±3%
Total Field of View	40°
IFOV	1.8 mRad (0.1°)
F/#	F/2.5
Spectral Width Sampling/Row	5.8nm
Spectral Resolution (FWHM)	<8.5nm
Pixel Size	15 Microns
Dynamic Range	16-Bits
Detector Full Well	> 1 Me
Date Rate	100 FPS
Spectral Smile/ Keystone Distortion	< ±0.35 pixels
Optical Spot Size (Pixels)	<1.5
Calibration Accuracy	2% (NIST-Traceable)
Data Recording Capacity	2TB (SSD, SATA III) ~8 Hrs @ 100FPS



DIMENSIONS, WEIGHTS, AND POWER

ITEM W / H / D(CM) / WT. (KG)

SHU, CONTROL, RECORDING 10 / 23 / 25 / 4.8KG¹
POWER 24-32VDC, ~70

¹Subject to change

OPERATION

Operator Control remotely via laptop & existing R/F downlink, or pre-programming track and way points

Multiple Sensor Operation Up to 5 ITRES imagers may be simultaneously operated via MuSIC™ System

INTERFACE, TIME-STAMPING, REMOTE OPERATION & CONTROL

- GigE or USB-3
- TTL input for waypoint trigger (external)
- Automated control for pre-planned coordinates requires MEMS inertial (accepts .shp, .kml, etc.)
- Precision data time-stamping to external devices

DATA PROCESSING SYSTEM

- Processing software Linux or Windows-based
- Playback software (Quicklook)
- Generates 16-32 bit BIP format data compatible with ENVI (BIL, BSQ formats possible)

GEOCORRECTION SYSTEM

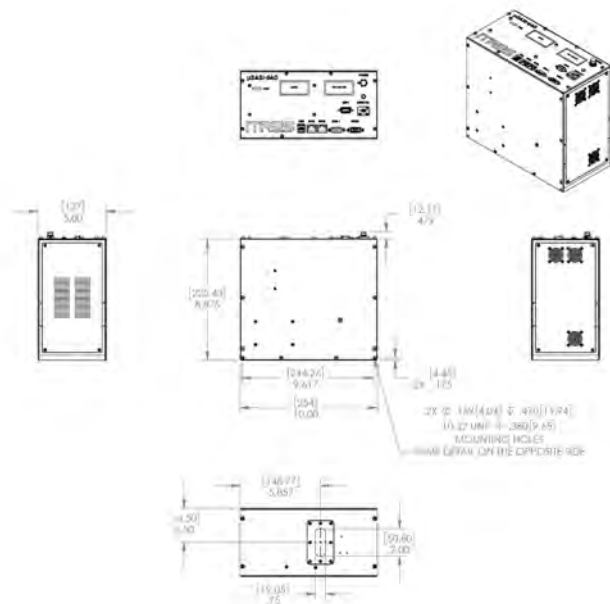
- GNSS-inertial or MEMS-inertial integration (optional)¹
 - Data synchronization (GPS, attitude, & image streams, if INS used)
- ¹Many inertial systems can be used with ITRES micro imagers. Required outputs are pulse per second (PPS) and suitable GNSS timing records.

GEOCORRECTION/ORTHO CORRECTION/ MOSIACKING SOFTWARE

- Accepts Lidar, Ifsar, and USGS DEM inputs
- Nearest neighbor algorithm used - maintains radiometric fidelity

EMBEDDED CALIBRATION MODULE

- Dark data collection
- Spectral lamp and uniformity measurements



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