MICROCASI1920

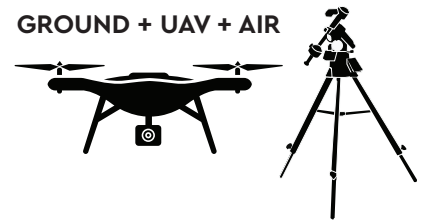**GROUND + UAV + AIR**

PORTABLE HYPERSPECTRAL MICRO-VNIR IMAGER FOR AIR & GROUND USE

- Portable Air/Ground Hyperspectral VNIR Imager
- 0.4–1.0µm Spectral Coverage
- Self-Contained Camera & Data Recording
- 288 Spectral Channels
- 36.6° FOV,
- 1920 Spatial Imaging Pixels
- GNSS/MEMS-Inertial System Compatibility
- Custom Fore-Optics Available
- Optional GPS/IMU
- Internal Calibration System
- Easy Lidar Integration
- Remote Operation via R/F Link or Autonomous via Waypoints (e.g. KML)
- Precision Data Time Stamping to External Devices
- API Available

WITH INTEGRATED ITRES NAV MODULE

Georeferenced and radiometrically corrected microCASI airborne mosaic. Acquired March 19, 2016 over Nitrogen Production Facility, Carseland, AB. 50cm resolution: flight altitude 1000m, ground speed 75 knots. RGB Display bands: 714nm, 650nm, 550nm

Visible-near infrared spectral signatures represent varying levels of dissolved organic content and suspended solids in each of the settling ponds.

Control via R/F Link

or waypoints

ITRES

HYPERSPECTRAL & THERMAL REMOTE SENSING
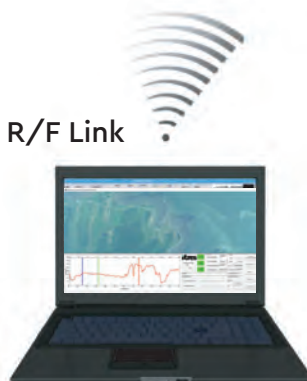
MICRO**CASI**1920

Small Form Factor, 288 Channel, Wide Array, Hyperspectral Pushbroom VNIR, Imager, Continuous VNIR-SWIR Coverage When Used with ITRES µSASI-640.

Vegetation Classifications / Invasive Species / Optical Water Quality / Coral Reefs / Wetlands / Forestry / Agriculture / Change Detection / Environmental Impact Assessments / Utility Corridors

SENSOR TYPE

VNIR Pushbroom Sensor
Compact Airborne Spectrographic Imager

PERFORMANCE

Spectral Range (Continuous Coverage)	400 – 1000nm
# Spectral Channels	288
# Across-Track Pixels	1920 (1840 effective)
Total Field of View	36.6 Degrees
IFOV	0.36 mRad (0.021°)
F/#	F/2.5
Spectral Width Sampling/Row	2.1nm (Average)
Spectral Resolution (FWHM)	<5nm
Pixel Size	5.86 x 5.86 microns
Dynamic Range	12-Bits
Detector Full Well	32,500 Electrons
Maximum FPS	83 FPS (full frame)
Spectral Smile/	0.5 pixels
Keystone Distortion	0.5 pixels
Data Recording Capacity	>1 TB (SSD, SATA III)
Data Recording Capacity(hr)	>3 hours (@ 83 fps)

DIMENSIONS, WEIGHTS, AND POWER

ITEM Control, Recording	W / H / D(CM) / WT. (KG)
SHU	21.1 / 11.3 / 16.9 /<2.5KG
POWER	Sensor Head 24-32VDC , ~45W Subject to change

OPERATION

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

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
- API available

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)
- [1]Many inertial systems can be used with ITRES micro imagers. Required outputs are pulse per second (PPS) and suitable GNSS timing records.

GEOCORRECTION/ORTHOCORRECTION/ MOSIACKING SOFTWARE

- Accepts Lidar, Ifsar, and USGS DEM inputs
- Nearest neighbor algorithm used – maintains radiometric fidelity
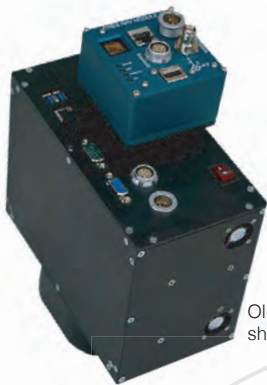
Older model (folded optics) shown with integrated Nav Module

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