

# MICRO **TABI** 640

CRYO-COOLED, SMALL FORM FACTOR,  
BROADBAND PUSHFRAME THERMAL IMAGER



PORTABLE BROADBAND MICRO-TIR IMAGER FOR AIR & GROUND USE

Portable Air/Ground Broadband TIR Imager

3.7–4.8µm Spectral Coverage

40° FOV

Custom FOVs/Fore-Optics Available

640 Spatial Imaging Pixels

Cryo-Cooled

High Thermal Resolution

Wide Speed Range

Internal Blackbody Calibration Source

Optional GPS/IMU

Optional Real-Time Processing

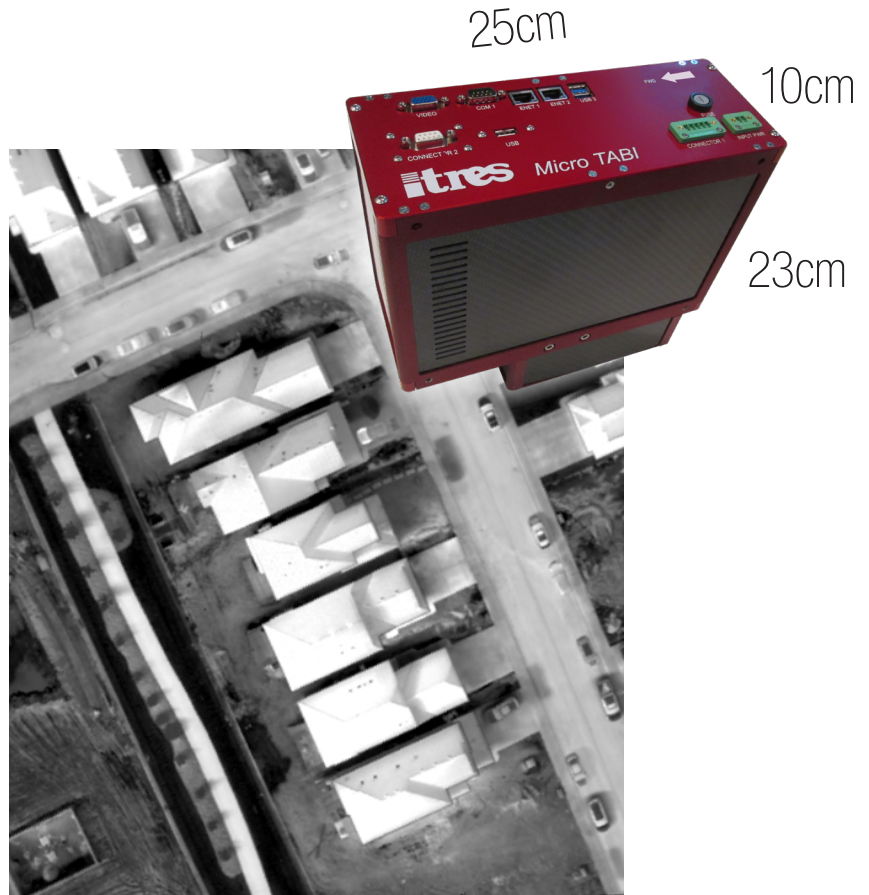
Easy Lidar Integration

Remote Operation via R/F Link or

Autonomous via Waypoints

Precision Data Time Stamping to External Devices

API Available

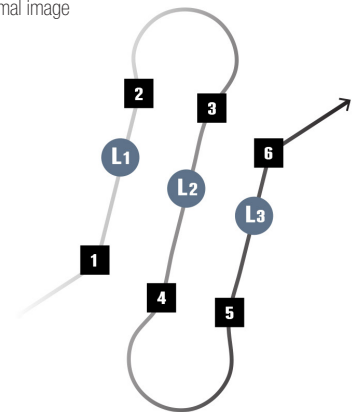
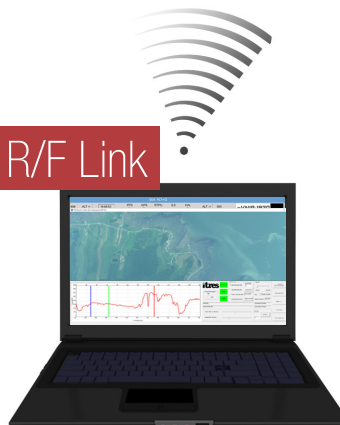


Radiometrically corrected and georeferenced microTABI thermal image



HYPER SPECTRAL & THERMAL REMOTE SENSING

Control via R/F Link



or Waypoints

# micro **TABI640** SMALL FORM FACTOR, BROADBAND, PUSHFRAME THERMAL IMAGER

Wildfire Mapping / Building Heat Loss / Emergency Response / Power Line Mapping / Soil Moisture  
Wildlife Surveys / Soil Moisture / Subsurface Karst Feature Detection / Buried Pipeline Delineation /  
Hotspot Mapping / Vulcanology / Rapid Urban Thermal Mapping /

## PERFORMANCE

<b>Spectral Range (Continuous Coverage)</b>	3.7-4.8 microns
<b># Spectral Channels</b>	1 (Broadband)
<b>Cooling System</b>	Cryo-cooler
<b>Image Frame Dimensions</b>	640 x 512
<b># Across-Track Pixels</b>	640
<b>Total Field of View</b>	40° Custom
FOVs available at extra cost	
<b>f/#</b>	f/2.0
<b>Pixel Size</b>	15 x 15 microns
<b>Dynamic Range</b>	14-bits
<b>Detector Full Well</b>	≥ 4 Me
<b>Data Rate @30fps</b>	20 MB/s
<b>Maximum FPS, Full Frame NETD @ 300K</b>	120 <0.025°C @ 300K, <1% <sup>1</sup>
<b>Data Recording Capacity</b>	≥1TB (SSD, SATA III)
<b>Data Recording Capacity (hr)</b>	~17 hours (@ 25fps) <sup>2</sup>
<b>Time Stamping</b>	<1 ms
<b>Data Output</b>	Apparent Temperatures

## DIMENSIONS, WEIGHTS, AND POWER

ITEM	W / H / D (CM) / WT. (KG)
<b>SHU, Control, Recording</b>	10 / 23 / 25 / 3.8kg <sup>1</sup>
<b>Power Draw</b>	24-32VDC, ~70W <sup>1</sup> <i><sup>1</sup>Subject to change</i>
<b>ENVIRONMENTAL CONSTRAINTS</b>	
<b>Operating Temperature</b>	Ambient 0 to +40°C (+32 to +104°F) RH 20-50% non-condensing
<b>Maximum Altitude</b>	3,048m (10,000 ft) ASL (unpressurized, non- condensing environment)
<b>Storage Temperature</b>	Optimum -20 to +60°C (-4 to +140°F) RH 20-50% non-condensing

## OPERATION

<b>Operator</b>	Control remotely via laptop & existing R/F downlink, or pre-programmed track and waypoints.
<b>Multiple Sensor Operation</b>	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
- 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)
- Real-time radiometric calibration and inflight thermal anomaly detection (optional)

## GEOCORRECTION SYSTEM

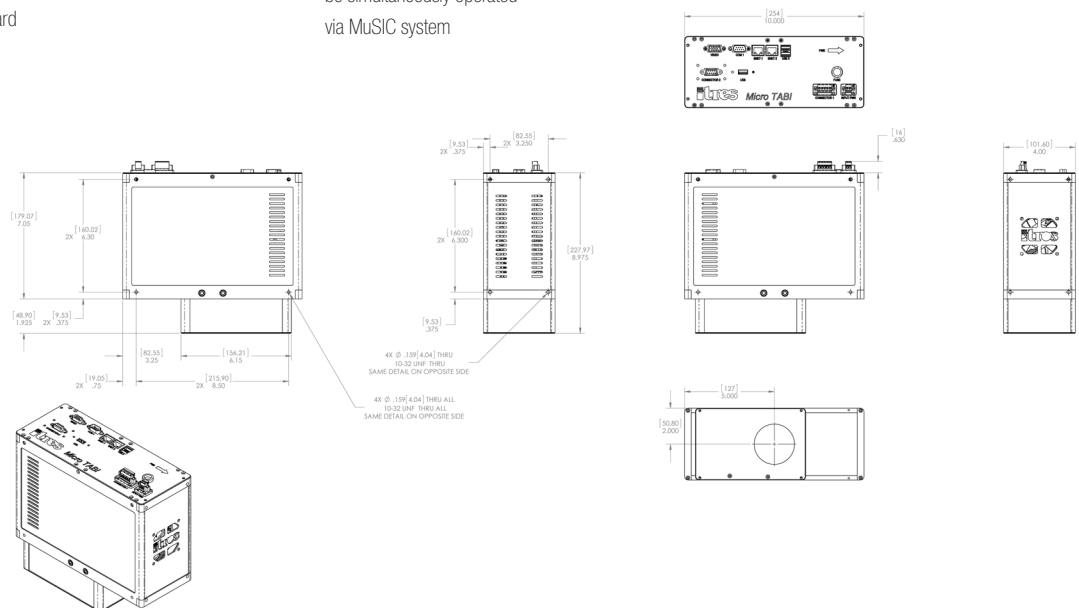
- GNSS-inertial or MEMS-inertial integration (optional)
- Data synchronization (GPS, attitude, & image streams)

## GEOCORRECTION/ORTHO CORRECTION/MOSAICKING SOFTWARE

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

<sup>1</sup>Sensor calibration traceable against NIST-traceable standard

<sup>2</sup>Continuous recording.



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All ITRES sensors are calibrated to traceable standards.  
Specifications subject to change without notice.