

μ VNIR1920

SMALL FORM FACTOR, 288 CHANNEL, PROGRAMMABLE,
WIDE ARRAY HYPERSPECTRAL PUSHBROOM VNIR IMAGER

PORTABLE HYPERSPECTRAL MICRO-VNIR IMAGER FOR AIR & GROUND USE



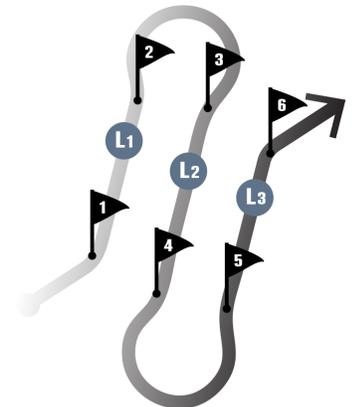
19.0cm

17.8cm

10.2cm

- Portable Air/Ground Hyperspectral VNIR Imager (0.4–1.0 μ m)
- Self-Contained Camera & Data Recording
- 288 Spectral Channels
- 36.6° FOV, 1920 Spatial Imaging Pixels
- Custom Fore-Optics Available
- Optional GPS/IMU
- Internal Calibration System
- 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



HYPERSPECTRAL & THERMAL REMOTE SENSING

microVNIR1920

SMALL FORM FACTOR, 288 CHANNEL, WIDE ARRAY, HYPER SPECTRAL PUSHBROOM VNIR IMAGER

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

PERFORMANCE

Spectral Range (Continuous Coverage)	400-1000nm
# Spectral Channels	288
# Across-Track Pixels	1920
Total Field of View	36.6 degrees
IFOV	0.36 mRad (0.021°)
f/#	f/2.0
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:	280 fps (full frame)
Spectral Smile/	≤0.5 pixels
Keystone Distortion	≤0.5 pixels
Data Recording Capacity	480GB (SSD, SATA III)
Data Recording Capacity (hr)	3 hours (@ 40fps)

DIMENSIONS, WEIGHTS, AND POWER

ITEM	W / H / D (CM) / WT. (KG)
SHU, Control, Recording	10.2 / 19 / 17.8 / <1.5kg ¹
Power Draw	Sensor Head 45W ¹ ¹ Subject to change

OPERATION

Operator	Control remotely via laptop & existing R/F downlink, or pre-programmed 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
- Precision data time-stamping to external devices
- API available

DATA PROCESSING SYSTEM

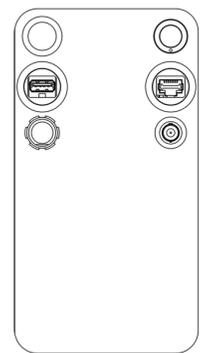
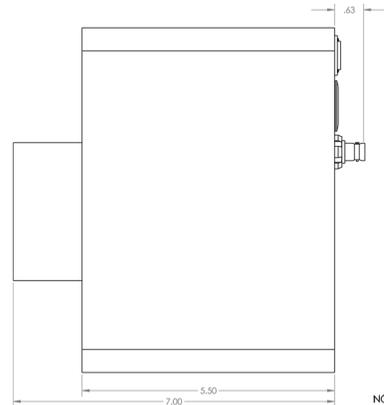
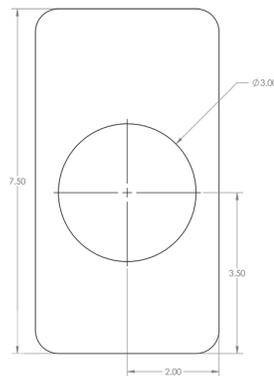
- Processing software Linux or Windows-based
- Playback software (Quicklook)
- Generates 16-32 bit BIP format data compatible with ENVI (BIL, BSQ formats possible)

GEOCORRECTION SYSTEM

- GPS/IMU integration (optional)
- Data synchronization (GPS, attitude, & image streams, if INS used)

GEOCORRECTION/ORTHO CORRECTION/MOSAICKING SOFTWARE

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



NOTES:

1. INTERPRET DIMENSIONS AND TOLERANCES AS PER ANSI Y14.5 1994.

UNLESS OTHERWISE SPECIFIED:		DATE	NAME	 110, 5500 51ST STREET NW CALGARY, ALBERTA T2C 2K7 403.209.9144 403.255.9916
DIMENSIONS ARE IN INCHES TOLERANCES:		DRAWN	PH	
FRACTIONS 1/16		10/08/14		VNIR (SUBJECT TO CHANGE)
DECIMALS ±.0005		CHKD BY		
HOLE POSITION ±.005		ENG APPR.		REV
HOLE DIA ±.0005		APPR APPR.		D N/A
SURFACE FINISH AS SHOWN		DATE		SCALE: 1:1
		COMMENTS		W/F
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ITRES RESEARCH LIMITED. ALL RIGHTS ARE RESERVED. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.		MATERIAL	N/A	SHEET 1 OF 1
REF ID: A10077-01	USED ON	FINISH	N/A	
APPLICATION				

ITRES Research Limited

Calgary, Alberta, Canada info@itres.com
 T: +1.403.250.9944 www.itres.com
 F: +1.403.250.9916

Document ID: U10077-01
 © 2014 ITRES Research Limited

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