



# 01

## Exceptional Optical Performance

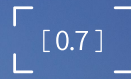
BL-HP1 utilizes our advanced hyperspectral sensor RDU410. Combined with three-axis gimbal and steady optical-mechanical structure, BK-HP1 is suitable for airborne working condition.



Spatial Bands 3400



Spectral Bands 880



Dispersion 0.7 nm/pix



FWHM 2.8 nm



400 - 1000 nm Sensitive



Sensor Size 1"



Global Shutter



Lens Exchangeable

# BL-HP1

BL-HP1 is an advanced airborne hyperspectral camera designed for DJI Matrice 300/350 RTK. It is developed based on BLTrace RDU410. BL-HP1 provides a resolutions of 3400x880 (spatial x spectral ) and FWHM up to 2.8nm. It could be rapidly deployed to M300/M350 UAV on-site and take off within 3 minutes. Data captured by BL-HP1 is compatible with BLStudio post-process software, and could be used for big area researches and applications.



## Greater Spectral Vision

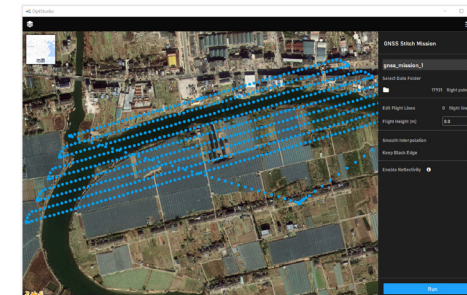
### 01 Premium UAV Platform

BL-HP1 offers a maximum control range of 15 kilometers with DJI M300/M350. The effective operation time is up to 35 minutes.



### 03 Fast Data Process

Standard version of the post-process software, OptStudio, is free for BL-HP1 user. Flight route extraction and data stitching could be done within several minutes.



### Hyperspectral Specs

Spectral Range	400-1000 nm
Dispersion per Pixel	0.7 nm
Measured FWHM	3.5 nm (2.8 nm optional)
F#	F2.4
Spectral Band #	880
Spatrial Band #	3400
Scanning Method	Pushbroom
Lens Mount	C-Mount
Field of View	Typ. 26.5°
Positioning	RTK

Dedicated To Airborne Hyperspectral Solutions

### 02 Gimble Integrated

Integrated with three-axis gimbal DJI-XPort, BL-HP1's capture angle is resistant to attitude changes of UAV while flying.

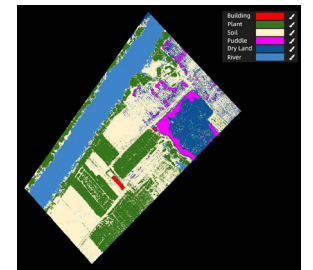


### 04 Auto Classification

Professional version of OptStudio supports supervised training including sample selection, model training and large area prediction.



Raw image



Classification result

### FPV Specs

Resolution	16 MP
Field of View	64° H, 52° V
Focusing	Auto
Working Distance	0.3 m - inf.

### Other Specs

UAV Mount	DJI SKYPORT
Storage Device	NVMe SSD, 1 TB
Size( w. lens and gimble)	189 * 129 * 156 mm
Weight	Typ. 0.9 kg

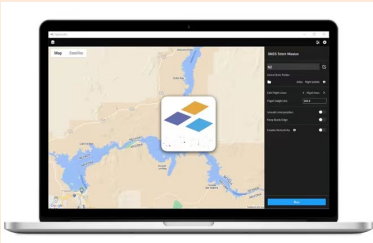
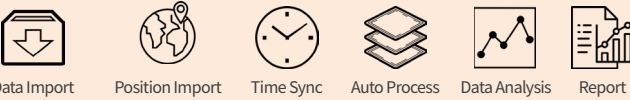


# BLStudio post-process software

BLStudio is a one-stop post-process software for UAV hyperspectral analysis. Standard functions including single-strip stitch, multiple strip fusion, bandmath, model generation and application are all supported. BL Studio utilizes multi-threads computing technique to speed up data process. The software could be applied in area of environment protection, precision agriculture, forestry and scientific research.

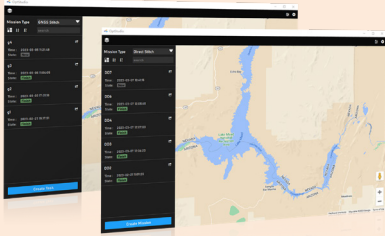
## 01 Date Process Functions

BLStudio provides common functions needed for UVA hyperspectral data process. Deep learning model generation is also supported.



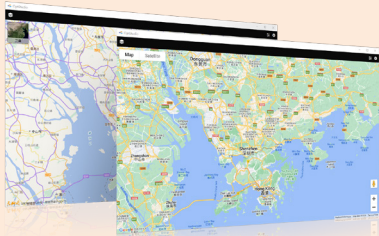
## 02 Task Management

BLStudio categorizes tasks based on their types and allows user to easily manage their tasks in a centralized manner.



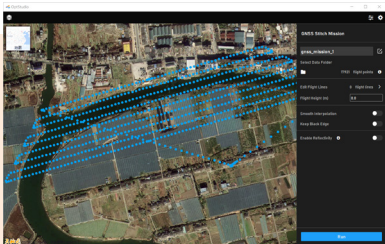
## 03 Support for Multiple Maps

BLStudio offers the flexibility to switch between Google Maps and Map World, catering to different user preferences and requirements.



## 04 What You See is What You Get

BLStudio parses positioning file automatically, allowing user to view the complete UAV flight lines. Stitching results are displayed in real-time, providing a visual representation of the output.



## 05 Typical Process Steps

- Generate flight strips - import data, select flight lines and run.
- Create hyperspectral map - load multiple strips, stitch them together into a large map with GNSS info.
- Select AOI - use optical mask to select AOI from hyperspectral map.
- Run algo - extract critical information, e.g water parameters, AOI, and their statistics with specific algorithm or model.
- Output result - export full image or AOI image. All raw data is located in task folder and could be used for further analysis.

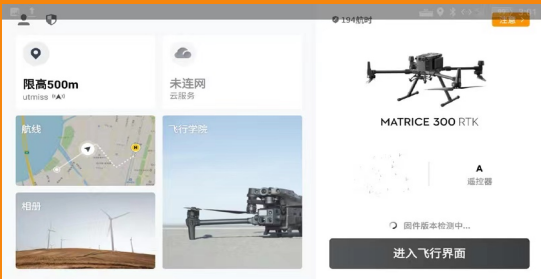


# BLTracer data acquisition software

BLTracer is a data acquisition and control software developed based on DJI PSDK. It enables parameter control and status monitoring for hyperspectram camera. Combined with DJI Pilot 2, users can easily plan UAV routes and collect hyperspectral data all with just one remote controller.

## 01 Easy to Use

BLTracer fully supports DJI M300/M350 RTK UAV and launches automatically upon UAV power on.



## 02 Comprehensive Control

With remote controller, BLTracer allows user to setup optical parameters, start and terminate acquisition task conveniently.



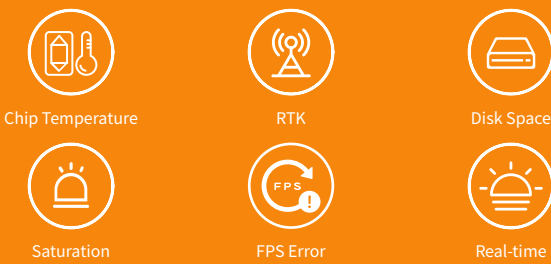
## 03 Fast Optical Setting

BLTracer is designed for RDU410 sensor, allows fast optical parameter setup, including FPS, exposure, gain and binning.



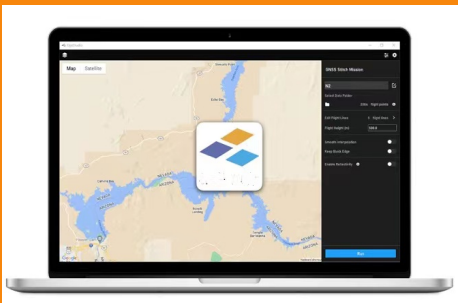
## 04 Real-time Monitoring

BLTracer leverages the DJI PSDK to realize real-time monitoring of device status and acquisition process.



## 05 Data Compatibility

Raw data captured by BLTracer is fully compatible with the post-process software OptStudio.



## 06 Typical Acquisition Steps

- Define flight height, speed and binning mode based on ground resolution requirement.
- Plan flight route with DJI Pilot 2.
- Setup optical parameters - FPS, Exposure, Gain and Binning.
- Start acquisition. If reflectivity needed, fly over a scatteringboard to get reference spectrum.
- Execute flight route task and wait until the flight route completed.