

# LiAIR H1500F

## UAV LiDAR System



LiAIR H1500F is a long-range LiDAR scanning system developed by GreenValley International. It integrates a long-range laser scanner, high-precision inertial navigation system, and a 45 megapixels full-frame mapping camera. With a maximum range of 1500m and a lightweight body weighing only 3.5kg, it can be adapted to various platforms such as small rotary-wing drones and fixed-wing drones for fast acquisition of large-scale point cloud data. It is widely used in terrain mapping, power line inspection, forestry monitoring, mining exploration, and other fields for three-dimensional spatial information acquisition.

### Advantages

#### Lightweight & Simple

Equipped with a 1550nm long-range laser scanner, it can achieve a maximum range of up to 1500m and a maximum point frequency of 2,000,000 points/s. This enables efficient and rapid acquisition of large-scale three-dimensional point cloud data.

#### High Penetration with Multiple Returns

It can reach up to 7 returns, providing excellent vegetation penetration capability. In areas with dense vegetation cover, it can capture more complete sub-canopy terrain and generate high-precision topographic results.

#### High Efficiency & High Accuracy

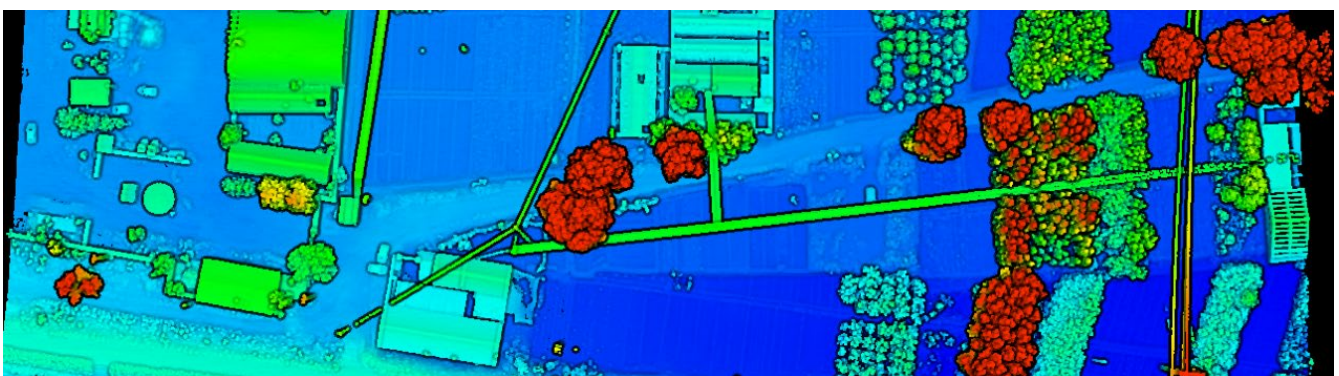
With a horizontal field of view of 75 degrees, a 100% utilization rate of laser point cloud, and a repeat ranging accuracy of 5mm. The system operates at a height of 200m, with a single flight strip having an effective bandwidth greater than 300m. The vertical positioning error at a flight height of 200m is less than 5cm.

#### Full-frame Camera, Ultra-high-definition Image Quality

It is equipped with a built-in 45 megapixels high-resolution mapping camera with a large field of view of 81°(H) x 60°(V), which enhances operational efficiency. At a flight altitude of 200m, it can capture high-definition images with a ground resolution of 4.2cm, enabling the generation of high-precision Digital Orthophoto Map (DOM) data. By integrating the point cloud data, it can achieve highly realistic and accurate colorized point clouds.

#### Whole-process Solutions

Combined with GreenValley's self-developed pre-processing software LiGeoreference, post-processing software such as LiPowerline and LiDAR360, it can provide a complete solution from integrated navigation solution, point cloud processing to 4D product generation, individual tree segmentation reports, and power line inspection analysis report generation.



# Specifications

## System Specifications

Detection Range	1500m @ 80% reflectance	Accuracy (Vertical)	5cm @ 200m
	1000m @ 60% reflectance	Memory	256GB TF Card
	700m @ 20% reflectance	Weight	3.5 kg
Voltage	18-24V, 2.6A @ 24VDC	Power Consumption	63 W
Protection Class	IP54	Communication	WIFI
Operating Temperature	-20~50°C	Storage Temperature	-30~60°C

## LiDAR Unit

Wavelength	1550nm	Number of Channels	1
FOV	75°	Number of Returns	7
Point Rate	2,000,000points/s		

## Inertial Navigation System

GNSS	GPS, GLONASS, Galileo, BD	Attitude Accuracy	0.005°
Azimuth Accuracy	0.01°	IMU Data Frequency	1kHz

## Camera

Pixels	45 MP	Sensor size	36 * 24mm
Focal Length	21mm	Field of view	81°(H) x60°(V)
Image Size	8184x5460		

## Software

Pre-processing	LiGeoreference	Post-processing	LiDAR360/LiPowerline (Optional)
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