

# LiAirX3-LIR

## Integrated LiDAR Infrared Hyperspectral Imaging System

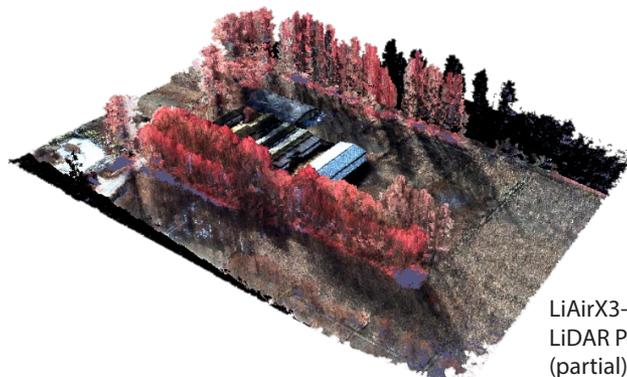


An excellent integrated system of LiDAR, infrared, and hyperspectral imaging, a powerful tool for multi-source remote sensing of unmanned aerial vehicles (UAVs)!

The LiAirX3-LIR airborne LiDAR infrared hyperspectral imaging system is a multi-functional UAV remote sensing equipment that integrates LiDAR, thermal infrared and hyperspectral imaging. It captures LiDAR, infrared and hyperspectral image data simultaneously. Its main features include high-resolution hyperspectral imaging based on light field technology, a spectral range of 350-1000nm, a 3.5MP high-definition panchromatic camera, a solid-state LiDAR with a range of up to 450m (@80%Ref), and a large-array high-precision thermal infrared imaging capability. The system includes a built-in control system, high-precision inertial navigation, and solid-state storage, making it suitable for various unmanned aerial vehicles.

### Advantage

- 350~1000nm, 164-channel instantaneous synchronous imaging.
- By utilizing light field imaging technology, it achieves fast imaging without distortion.
- 1886 x 1886 large-array spatial dimension high-definition image.
- Integrated high-precision solid-state LiDAR for synchronous measurements.
- Thermal infrared simultaneous imaging, 640\*512 pixel full-screen temperature measurement.
- It can be mounted on various unmanned aerial vehicles to measure large-area data images.
- High integration, total weight <2kg.



LiAirX3-LIR Hyperspectral CIR and LiDAR Point Cloud Fusion Image (partial)

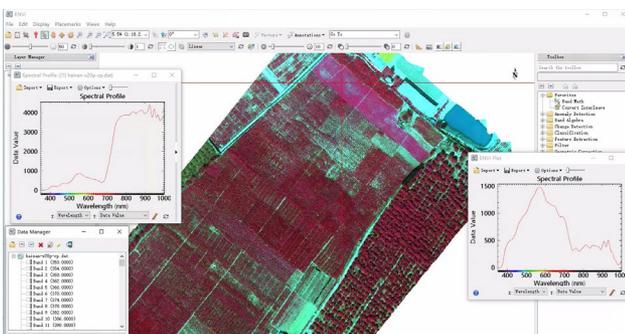
# Specifications

## LiAirX3-LIR— an integrated LiDAR infrared hyperspectral imaging system

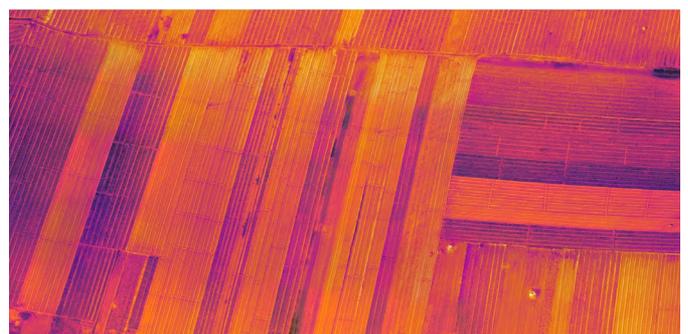
Spectral Range	350~1000nm+905nm-LiDAR+7.5~13.5μm-IR	Hyperspectral Image	1886*1886 pixels / frame
Number of Spectral Channels	>160	Sensor	20 MP hyperspectral CMOS + LiDAR + Vox IR + 3.5 MP panchromatic integrated design
Imaging Mode	Frame-based hyperspectral and thermal infrared imaging, synchronized measurement with solid-state LiDAR and panchromatic camera	Hyperspectral Imaging Speed	≥2 Cubes/s (1886*1886 pixels/Cube)
Panchromatic Camera	3.5 million pixels, real-time simultaneous imaging of hyperspectral data	Thermal Infrared Resolution	Full-screen temperature measurement with 640*512 pixels
Temperature Measurement Accuracy	±2°C	Laser Radar	905nm solid-state LiDAR, Class 1 eye-safe
Detection Range	450m @ 80% reflectance	Range Measurement Accuracy	2cm (1σ@20m)
Inertial Navigation System	GNSS: GPS, GLONASS, BeiDou	Azimuth Accuracy	0.038°
Attitude Accuracy	0.008°	External Interfaces	2*GigE, 2*USB, HDMI, Micro-SD
Storage Memory	Built-in solid-state drive 512GB/8GB	Trigger Control	The flight controller provides trigger signals to synchronize the acquisition of GPS data

## Recommended UAV:

M300 RTK or A6 series and other multi-rotor unmanned aerial vehicles (UAVs) with a payload capacity greater than 2kg



LiAirX3-LIR Hyperspectral CIR Image Map



LiAirX3-LIR Large-area Thermal Infrared Imaging Operation Data Map