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Пермь (342)205-81-47
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Гиперспектральная визуализация Airbone
Airbone Hyperspectral Imaging

ATHL9010 series is the 3rd generation hyperspectral imager integrated LiDAR system. This new series feature compact and light.

It consists of eight main parts of six-rotor UAV, high-stable cloud platform, hyperspectral imager, LiDAR, big memory storage, GPS navigation system, ground receiver station, and ground control system.

It depends on linear LiDAR to get surface elevation, images ortho-rectification, and 3D object attitude, whose LiDAR data and spectral data are being combined to analysis open up new research way.

ATHL9010 integrated high-precision hyperspectral imager and high-resolution LiDAR, which generates field true color point cloud, one fly can get as fast as >2 km2 point cloud data.

From real-time measure spetral data collection to spectral images analysis, and final physicochemical properties calculation. They've widely applied to plants classification and growth assessment.

DETECTOR

Type	CCD
Effective Pixels	1920 × 1200
Range	350~1100 nm
Dynamic Range	66 dB
Bit Depth	12 bit
Mode	Software Binning or hardware binning（software setup）
PC	I7，16G，512GB，Max 2TB

OPTOSKY OPTICAL PARAMETERS

Spectral Range	400~1000 nm (customization option)
Spectral Resolution	＜1.5 nm
FOV	14.6°
Smile	<1/3 pixel
Keystone	<1/3 pixel
Lens FL	35mm
Slit Size	30μm
NA	0.2(F/2.4)
Optical Bench	PG imaging spectrometer
Frame Rate	130 Hz
Image Resolution	1920×1080
Imaging Mode	Push broom
Resolution Before Binning	1920（spatial-axis）×1080（spectral-axis）
Resolution After Binning	480（spatial-axis）×270（spectral-axis）

OPTOSKY ELECTRICAL PARAMETERS

Power Supply	12V，5W
Storage Temp.	-20 ~ 65℃
Operating Temp.	-10 ~ 45℃
Working Humidity	≤85% RH
Interface	USB3.0
Load PC	Intel I7 CPU 16G
PC Hard Drive	512 GB SSD，Max 2T

OPTOSKY VISIBLE CAMERA

DETECTOR

Resolution	2-mega pixels
Frame Rate	20 FPS

UAV SYSTEM

Drone	Luxury Six Rotor Drone customized with load hour > 45 minutes
Cloud Platform	High stable Cloud platform driven by 3-Phase BLDC Motor
Rotor No.	Six Rotors
Lift	Take off and land vertically
Wheelbase	1500 mm
Max Base	6 Kg
Max Altitude	5000 m
Drone Size	1650 X 1410 X 500 mm
GPS Accuracy	0.5 m
Flight Duration	>45 minutes
Ground Control Distance	10 Km
Remote Change Imaging Specs (Y/N)	Yes

LIDAR

Principle	The LIDAR system uses the time of flight(TOF) to measure the distance
Laser	1550nm Eye-safe
Speed	500,00 points per second, max 1,000,000 points per second depends on the distance
Scan Line	1750 lines
FOV	Horizontal 15°°
Angular Resolution	Horizontal 0.009°

DETECTOR

Scan Rate	500 Hz
Elevation	1~300 m，Max 600 m
Laser Return Mode	Multiple returns
Altitude Deviation	<20 mm
Weight	1.5 Kg

SOFTWARE

Basic Functions	Flexible to set exposure time, gain, speed, dynamic real-time images and curves
Focus Adjust	Dynamic real-time image obtained through precision focus adjustment can avoid human visual focusing error
Software Functions	Data acquire software can real-time shows images and curves Transmission and reflectance measure mode set exposure time, speed in flexible Standard in-built Library and self-built library Others like images cut and identify spectrum