

UAV 6-Band Multispectral Imager

ATH9626

Features

- Channels: 6 multispectral
- Fov: $48^{\circ} \times 36.8^{\circ}$
- Resolution: 4096 x 3000
- Filter: Strip
- Altitude: 50~1000m (recommended 100m)
- Computer: I7, up to 2tb storage, 100 hours data
- Drone: 1.5m wheelbase, high payload, expandable
- Flight time: ~45 minutes

Application

- Agriculture and crop management,
- Environmental monitoring
- Land use and planning
- Water resource management
- Areas such as climate research, ecology, archeology and remote sensing
- Industrial sorting
- Garbage classification

Description

The ATH9626 UAV 6-band multispectral imager by Optosky is an advanced camera system designed specifically for UAV applications. It offers wavelength flexibility and seamless integration with various aircraft platforms.

Using advanced optical and image processing technologies, the ATH9626 captures multispectral data across 6 channels. Users can select wavelength ranges for each channel as needed, making it suitable for agricultural, environmental monitoring, and resource management tasks.

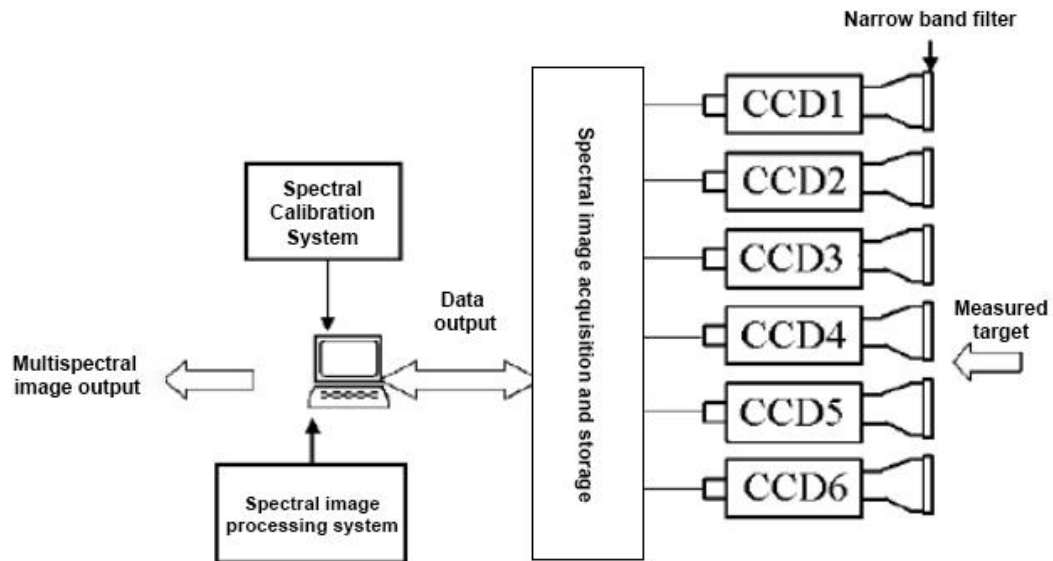
Its high-speed data acquisition capability ensures detailed imaging of fast-moving targets and dynamic processes. Optimized data processing algorithms deliver high-quality, accurate images for crop monitoring, soil analysis, and vegetation assessment.

The ATH9626 supports multiple interface options (UART, SPI, CAN), enabling easy connectivity with fixed-wing aircraft, multirotor drones, and VTOL UAVs. Its performance and flexibility make it ideal for UAV applications, providing customized spectral imaging solutions for accurate data collection in agriculture and environmental monitoring.

Explore Optosky's ATH9626 UAV 6-band multispectral imager for enhanced aerial imaging capabilities in agriculture and environmental assessments.



1. Working principle



The design principle of the imager is to package 6 camera units together, each camera unit has an independent filter and corresponding image sensor. The function of the filter is to select a specific wavelength range, so that only the light in this wavelength range can pass through, and the light of other wavelengths is filtered out. In this way, each camera unit is able to capture spectral information in a specific wavelength range.

During the working process, these 6 camera units perform synchronous acquisition to ensure that image data from different channels are acquired at the same time point. This synchronized acquisition method ensures that data between channels has consistent timestamps, allowing images at different wavelengths to be accurately aligned and compared.

The collected image data is processed by the data processing system inside the camera. These processes include steps such as calibration, correction, and alignment to obtain accurate and reliable multispectral images. The processed image data can be stored through the camera's internal storage device, or transmitted to external devices through the interface for further analysis and processing.

The advantage of the ATH9626 lies in its multi-channel design and flexibility in wavelength selection. Users can freely select the wavelength range of each channel according to specific application requirements to obtain the required spectral information. This imager is widely used in agriculture, environmental monitoring, resource management and other fields, providing users with powerful

spectral data support to help them better understand and analyze the characteristics and changes of the target area.

2. Parameter

ATH9626		
Spectral performance	Spectrumaisle	450nm@30nm,555nm@27nm,660nm@twenty twonm,720nm@10nm,840nm@30nm,RGB
	Coverage width	Multispectral:109m×82m@h120m;RGB:2.60cm@h120m
	Ground resolution	Multispectral:5.28cm@h120m;RGB:2.60cm@h120m
	Quantization bits	Multispectral:12bit;RGB:8bit
Imaging lens*1	Shutter type	multispectral: global;RGB: roller blind
	Target size	multispectral: 1/1.8"; RGB: 1/2.3"
	Effective Pixels	multispectral: 3.2Mpx; RGB: 12.3Mpx
	Field of view	multispectral: 48.8°×37.5°; RGB: 47.4°×36.4°
	Optical window	Sapphire optical glass window
Electrical properties	Host size	130mm×160mm×150mm
	Total Weight	780g
	Installation interface	X-Port
	Powered by	X-Port
	Power consumption	10w/15w
	Image Format	multispectral: 16bitoriginal TIFF & 8bitReflectivityJPEG RGB: 8bit JPEG
	Video format	MP4
	Storage media	Standard configuration128G, maximum support2TofUSB3.0storage device
	Shooting trigger	Overlap rate trigger, timing trigger
	Shooting frequency	camera mode : 1Hz;video mode: 20Hz

	Working temperature	-10°C~+50°C(Relative wind speed ≥ 1 m/s)
	Environment humidity	RH(%) $\leq 85\%$ (non-condensing)
Flight system	Flying platform	Customized version for long time and high load capacity 6rotor drone
	PTZ	Three-axis DC brushless Motorized high stability gimbal
	Number of rotors	6rotor
	Take-off and landing mode	vertical takeoff and landing
	Wheelbase	1500mm
	Maximum load	6kg
	Maximum ceiling	5000m
	Drone size	1650 x 1410 x 500mm
	GPS	1.5m
	Modify imaging parameters remotely	no
	Endurance flight time	>45minute
	Ground station working distance	5 km