

# Real-Time Spectral Imaging: introducing the Firefly



# UHD 185

## Easy and reliable imaging spectrometer for UAV

### Short facts

The Cubert UHD 185 is the lightest version of our revolutionary full frame imaging technology. Thus it combines the precision of hyperspectral cameras with the ease of use of a snapshot camera.

In combination, this camera provides the smartest access to hyperspectral areal images you could ever imagine. With no need of an IMU you will get full hyperspectral cubes in 1/1000 of a second!

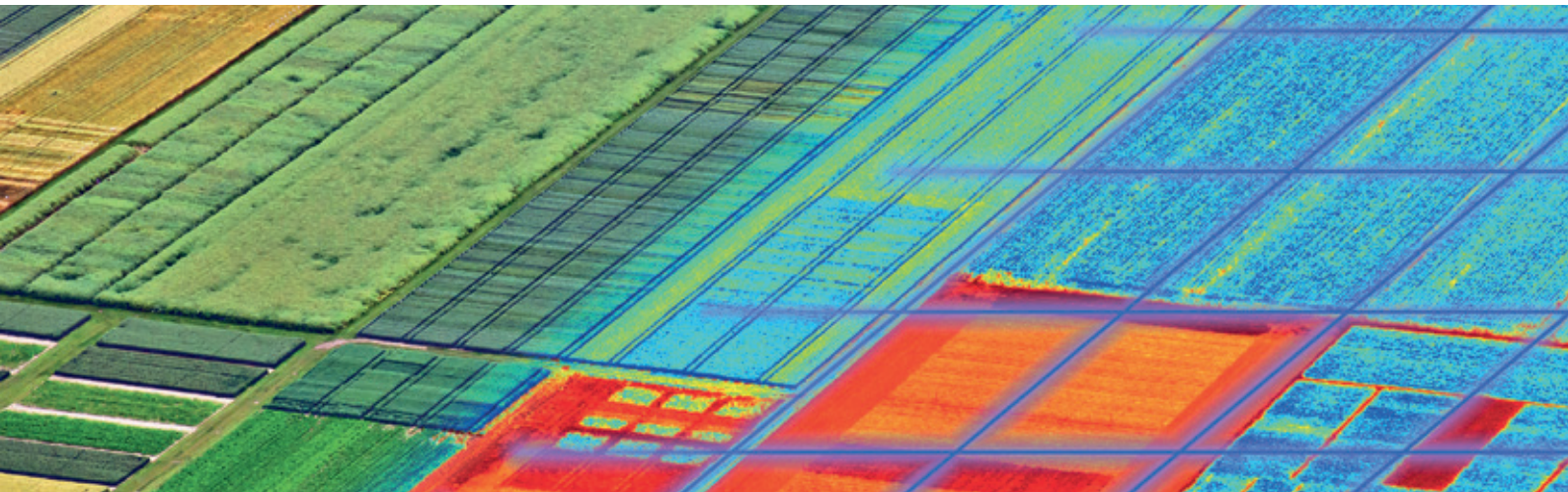
Furthermore the preprocessed cubes are transferred to the ground station during flight and you can start to analyze your areal hyperspectral images already on site!

### Principal applications

- » UAV applications
- » Agriculture
- » Archeology
- » Remote sensing
- » Precision farming
- » Vegetation monitoring
- » Hyperspectral stereo photogrammetry
- » 3D-hyperspectral surface models
- » Spectral mobile mapping



# UHD 185 - the Firefly



## Technical specifications

Spectral properties	
Wavelength range	450 – 950nm
Sampling interval	4nm
Spectral resolution	8 nm @ 532nm
Channels	125
Camera properties	
Detector	Si CCD
Digitization	12 bit
Measurement time	down to 100 µs
Camera interface	2x Gigabit Ethernet
Hyperspectral cube rate	up to 5 cubes/s
Cube resolution	1 megapixel
Spectral throughput	2 500 spectra / cube
Processing software	included
Software development kit	included
Optical properties	
Objective	selectable
Mount	C-mount objective
Ground resolution	selectable mm - m
Physical properties	
Environment conditions	dry / non condensing
Operating temperature	0 - 40 °C
Weight	470 g
Power	DC 12 V, 15 W

## More Spectra More Fun

## What you should know

The UHD 185 uses a unique technology which establishes a fair balance between areal resolution and spectral resolution. The result is an imaging spectrometer with no need for scanning (like push broom technology) or image combination after fast filter shifts. Our technology provides clean hyperspectral images out of the box without any moving artifacts.

During the development of the Firefly we miniaturized our laboratory platform. The weight was reduced from 3 kg to a total weight of 470 g (including camera and optics). This was achieved by the use of lightweight and yet stable materials like aluminum and Kevlar. Due to the abstinence of any moving part, the package provides a light but longtime stable product.

In combination with an industry grade processing unit for the on air data storage and the ground communication, we achieve a ready to fly weight of as low as 840 g.

## Your benefits

- » Full frame hyperspectral imaging in the Vis-NIR
- » No moving artifacts due to low integration time
- » WiFi remote control of all parameters
- » Real time hyperspectral preview on the ground
- » Hyperspectral video