ULTRACAM EAGLE MARK 2

One system for endless possibilities
An ultra-large footprint coupled with a unique user-exchangeable lens system makes the UltraCam Eagle one of the most versatile aerial systems on the market.

The UltraCam Eagle ultra-large format camera system is the only digital photogrammetric aerial sensor that features a user-exchangeable lens system to provide you with a “workhorse” sensor to serve all your aerial acquisition missions. The updated Mark 2 sensor head offers an exchangeable lens system with four different focal lengths—a groundbreaking enhancement in digital photogrammetry. Furthermore, the UltraCam Eagle boasts proven forward motion compensation by time-delayed integration without moving mechanical parts for consistent and reliable motion blur removal. Unwanted noise in shadow areas of the image is significantly minimized through an unmatched signal-to-noise ratio made possible by the latest generation of custom CCD imaging sensors featuring an optimized full-well capacity. The result is an ultra-efficient, ultra-flexible, ultra-reliable camera for streamlined image acquisition for all your mission needs, guaranteeing an accelerated return of investment.

“We have built a strong reputation on the performance of UltraCam cameras and the quality of UltraCam imagery. There has never been a more exciting time to be involved in this technology.”

MARK DEUTER
ULTRACAM EAGLE CUSTOMER
With the UltraCam Eagle, customers can capture more data in less time and complete mapping projects in fewer flight lines and with greater efficiency than ever before.

**USER-EXCHANGEABLE**

Exchange the lens kits on-site by trained personnel within 3-4 hours.

**FLEXIBILITY**

**USER-EXCHANGEABLE**

Exchange the lens kits on-site by trained personnel within 3-4 hours.

**NO RECALIBRATION**

Photogrammetric grade accuracy is maintained even after multiple lens exchanges.

**4 FOCAL LENGTHS**

Take full advantage of the entire camera footprint of 23,010 pixels across the flight strip at different altitudes.
For photogrammetric applications requiring minimal flight altitude.

For photogrammetric applications, balancing flight altitude and footprint under lean restrictions at the image edges.

For photogrammetric applications, optimizing usable footprint under lean restrictions at the image edges.

For regions with flight altitude restrictions when collection of high resolution images of highest quality is required.

Illustration of respective flight altitudes above ground level at a ground sampling distance of 10 cm.

ULTRACAM EAGLE MARK 2 - PAN FOCAL LENGTH (MM)

- f = 80 mm
- f = 100 mm
- f = 120 mm
- f = 210 mm

Specifications & details

- 23,010 pixels across flight strip
- 14,790 pixels along flight strip

- Max. 92% forwardlap for 10 cm GSD at 140 kts
- Max. 348 kts flight speed for 10 cm GSD at 80% forwardlap
- 1 frame per 1.65 seconds
- 23,010 pixels across flight strip
- 14,790 pixels along flight strip

Max. 348 kts flight speed for 10 cm GSD at 80% forwardlap

Max. 92% forwardlap for 10 cm GSD at 140 kts
SENSOR SYSTEM

PAN image size: 23,010 x 14,790 pixels
PAN physical pixel size: 4.6 µm
Color image size: 7,670 x 4,930 pixels
Color physical pixel size: 4.6 µm
Pansharpen ratio: 1 : 3

Imaging sensor: CCD
Shutter (longlife central leaf): 1/1000 to 1/64
Forward-motion compensation (FMC): TDI controlled
Maximum FMC capacity: 50 pixels
Frame rate (minimum inter-image interval): 1 frame per 1.65 seconds
Dynamic range: > 72 db
Analog-to-digital-conversion at: 14 bits

DATA STORAGE SYSTEM

In-flight exchangeable & redundant storage system: Solid state disk pack
Data unit storage capacity: 10 TB (~6,100 images)
Input data quantity per image: 1350 MB
Weight of data unit: 2.2 kg

Power consumption: max. 350 W
Weight:
- 61 kg
- 68 kg (f210)
Configuration: Integrated housing concept

LENS SYSTEM

PAN lens system focal distance:
- f100: 80 mm
- f120: 100 mm
- f210: 120 mm
- f210: 210 mm
PAN lens aperture:
- f100: f=1/5.6
- f120: f=1/5.6
- f210: f=1/5.6
- f210: f=1/7.8
Color (R, G, B & NIR) lens system focal distance:
- f100: 27 mm
- f120: 33 mm
- f210: 40 mm
- f210: 70 mm
Color (R, G, B & NIR) lens aperture:
- f100: f=1/4.8
- f120: f=1/4.8
- f210: f=1/4.8
- f210: f=1/6.6
PAN total field of view, across track (along track):
- f100: 67° (46,1°)
- f120: 55,8° (37,6°)
- f210: 47,6° (31,7°)
- f210: 28,3° (18,4°)
Flying height for PAN pixel size @ 10 cm GSD:
- f100: 1,739 m
- f120: 2,174 m
- f210: 2,609 m
- f210: 4,565 m
Footprint for lean restriction of 1 m lean @ 5 m height (across x along):
- 6,956 x 6,956
- 8,695 x 8,695
- 10,434 x 10,434
- 18,260 x 14,790

OPERATIONAL SPECIFICATION

Flight altitude: ≤ 7000 m
Humidity: 5 % to 95 % no condensation
Temperature: 0 °C to +45 °C (operation, computer stack)
-20 °C to +45 °C (operation, sensor stack)
-20 °C to +45 °C (storage)
Mounting: UltraMount (GSM 4000, SSM 350L & SteadyTrack LG) and most current third party mounts
GNSS/INS/FMS system support:
- UltraNav (Applanix Postrack OEM) and most current third party systems
- Data processing: UltraMap processing suite, including data export in standard formats

¹ For separated housing concept options please contact our sales team.
² Please contact our sales team for detailed information.
BENEFIT FROM OUR TECHNOLOGY

When you partner with Vexcel Imaging, you get more than a camera. You get cutting-edge technology combined with a progressive service concept for constant product upgrades, world-class support and one-stop solutions. Today and tomorrow.