VEXCEL
IMAGING

ULTRACAM OSPREY 4.1

New perspectives on 3D Aerial Mapping

ULTRACAM OSPREY 4.1

Taking collection efficiency to new heights.

The UltraCam Osprey 4.1 collects photogrammetry-grade nadir imagery plus oblique images simultaneously, enabling unprecedented flight collection efficiency at industry-leading image and data quality.

AICKE DAMRAU
ULTRACAM OSPREY CUSTOMER

"We selected the UltraCam Osprey knowing that it was developed based on sound photogrammetric principles. The integration of the sensor and the uniquely continuous UltraMap software workflow are a winning advantage over other solutions on the market."

The UltraCam Osprey introduces the 4th generation UltraCam aerial imaging sensors. A highly versatile system, the UltraCam Osprey simultaneously collects photogrammetry grade nadir images (PAN, RGB and NIR) and oblique images (RGB) in four directions. As a result of a combination of industry-leading customized lens systems, next generation image sensors with custom electronics, and a best-in-class image processing pipeline, the UltraCam Osprey 4.1 delivers imagery of unprecedented quality in terms of detail resolution, clarity and dynamic range. The system pushes urban flight productivity to new levels, collecting

1.1 Gigapixels every 0.7 seconds. Customers can fly faster, cover more area and see more detail.

The new and innovative Adaptive Motion Compensation (AMC) method compensates for multidirectional motion inducted image blur and additionally also compensates for ground sampling distance variations in oblique images, produces imagery of unprecedented vividness and sharpness.

From orthophotos to point clouds and 3D models, the UltraCam Osprey 4.1 high-performance system sets new standards in urban mapping and 3D city modeling.

Specifications & details

Technical changes, printing errors, mistakes and amendments reserved.

SENSOR SYSTEM

Nadir					
PAN image size	20,544 x 14,016 pixels		Imaging sensor	CMOS
PAN physical pixel size	3.76 µm		Shutter (longlife central leaf)	Prontor magnetic-0 HS; field exchangable
Color capability (multi-spectral)	4 channels - RGB Bayer pattern & NIR		Motion compensation (multi-directional)	Adaptive Motion Compensation (AMC)
Color image size	12,840 x 8,760 pixels		Frame rate (min. inter-image interval)	1 frame per 0.7 seconds
Color physical pixel size	3.76 µm		Dynamic range	> 83 dB at base ISO
Pansharpen ratio	1 : 1.6		Analog-to-digital-conversion at	14 bits
			Spectral bands (FWHM[1])	R (580 - 690 nm)
				G (480 - 600 nm)
				B (420 - 510 nm)

Oblique				
Color capability	3 channels - RGB Bayer pattern		IR (690 - 800 nm)
Color image size	14,144 x 10,560 pixels		PAN (430 - 690 nm)
Color physical pixel size	3.76 µm		

[1] Full Width at Half Maximum.

DATA STORAGE SYSTEM

Type:
Solid state disk pack (in-flight exchangeable)

Redundancy:
Yes, optional

Storage capacity:
16 TB

Size of one raw image:
3,300 MB (2,400 MB without optional redundancy)

Weight of data unit:
1 kg

Number of raw images:
4,100 (6,200 without optional redundancy)

Power consumption:
330 W (average)
350 W (peak)

Weight:
<58 kg

Cylinder diameter:
395 mm

Operator display:
Vexcel IPT v3 with 1024 x 768 resolution and 2.1 kg

43 cm

80 cm

LENS SYSTEM

FLIGHT DIRECTION

Forward Oblique

Left Oblique | Nadir | Right Oblique

Backward Oblique

Nadir		
PAN lens system focal length	80 mm	
PAN lens aperture	f=1/4.8	
Color (RGB Bayer pattern & NIR) lens system focal length	50 mm	
Color (RGB Bayer pattern & NIR) lens aperture	f=1/4.0	
Total field of view, across track	51.5°	
along track	36.5°	

Oblique		
Color (RGB Bayer pattern) lens system focal length	120 mm	
Color (RGB Bayer pattern) lens aperture	f=1/4.0	
Total field of view, across track	45° (+9.2° / -15.1°)	
along track	45° (+9.2° / -9.2°)	

Sample flying heights:
2128m @ 10cm GSD
1596m @ 7.5cm GSD

OPERATIONAL SPECIFICATION

Flight altitude:
≤ 7,000 m above sea level

Humidity:
5 % to 95 % no condensation

Temperature:
-20 °C to +45 °C (operation, sensor)
0 °C to +45 °C (operation, computer)
-20 °C to +65 °C (storage)

Mounting:
UltraMount (GSM 4000 & GSM 3000) and most current third party mounts[2]

GNSS/INS/FMS system support:
UltraNav (Applanix POSTrack OEM) and most current third party systems[2]

Installation (Camera, UltraNav & UltraMount):
<98 kg weight, 480 W (avg.) and 560 W (peak) power consumption

Data processing:
UltraMap processing suite including data export in standard formats

[2] Please contact our sales team for detailed information.

BENEFIT FROM OUR

TECHNOLOGY

When you partner with Vexcel
Imaging, you get more than an
UltraCam.
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.