Microsoft

ULTRACAM
FALCON

NEW!

The new Microsoft UltraCam Falcon digital photogrammetric camera system fills the gap between the UltraCamLp and the ultra-large UltraCam Eagle on the continuum of image footprint and price. With the introduction of the UltraCam Falcon, Microsoft continues to add products to its camera line that maximize customer benefits with sensor systems that provide unique features and capabilities at varying price points. Like all UltraCam systems, the UltraCam Falcon was designed with the different needs of aerial camera users in mind, such as varying project requirements and budget restrictions. To address these differences, the UltraCam Falcon is available in custom configurations, selected at the time of purchase, while also leveraging the impressive computing, storage, electronics and UltraNav technology introduced with the ultra-large UltraCam Eagle.

The UltraCam Falcon provides enhanced flexibility and operational efficiency compared to comparable digital camera technologies in its class. At the time of purchase, customers select from two image footprint sizes and two lens focal lengths, as well as two housing configurations. To meet the evolving needs of the customer data acquisition company, the UltraCam Falcon can be easily upgraded to become an UltraCam Eagle.

• *Image footprint capacity: 14,430 pixels across the flight strip.*

• *Lens focal length options: choice of 100 mm (standard) or 70mm (wide angle) focal length PAN lens systems to meet each customer's specific project needs.*

• *Housing configuration options: choice of a fully integrated system or separate sensor head and external computer/storage unit, selected at time of purchase.*

• *An integrated package that contains all components in the sensor head, including a solid-state image storage system to store approximately 7,500 images (with 14,430 pixel footprint) and 5,200 images (with 17,310 pixel footprint). Storage units can be exchanged in flight, resulting in minimal ground time.*

• *Capture PAN, color and NIR data all in one pass.*

• *PAN 7,600 gray values per pixel, offered by the latest CCD technology and silent-board camera electronics, for optimal radiometry and photogrammetric results.*

• *A user-focused interface with touch-screen technology to ease configuration and operation, and allow in-flight control of each image.*

• *A compact unit weighing less than 75 kg (165 lbs) and reduced power consumption of 350 watts @ 24-28 VDC for increased flight efficiency.*

Fig. 1: Range of UltraCam image footprints

Ultra-Large Format

UltraCam Eagle
20k

UltraCam Falcon
15k   17k

Large Format

UltraCamLp
12k   *pixel across*

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To address the growing demand for lighter sensor packages with smaller form factors, the UltraCam Falcon integrates all system components into the sensor head, including the UltraNav embedded GPS/INS/FMS system. The result is a complete data acquisition system that sits over the camera mount, occupies less space in the aircraft, weighs less and minimizes the amount of external hardware devices, connections and cables. Installation is simpler and "cleaner."

○ Specifications

Image Product Specification
- Image data formats: JPEG; TIFF with options for 8 and 16 bits, standard tiff format
- Image storage format in level 2: full resolution panchromatic, separate color channels at color resolution
- Color at level 3: full resolution R, G, B, Near-IR channels, planar or pixel-interleaved

Camera Digital Sensor Subsystem
- Panchromatic image size: 14,430 * 9,420 pixels
- Panchromatic physical pixel size: 7.2 µm
- Input data quantity per image: 418 Mega Bytes
- Maximum frame rate <1.2 seconds per frame
- CCD signal to noise ratio: 72 dB
- CCD image dynamic: 14 bit; workflow dynamic: 16 bit
- Physical dimensions with 100 mm (70 mm) PAN lenses, including computer and storage module: 43 cm x 43 cm x 76 cm
- Weight with 100 mm (70 mm) PAN lenses, including computer and storage module: approximately 75 kg
- Power consumption at full performance, including computer and storage module: 350 watts

Camera Computer and Data Storage Subsystem (CFDF)
- Solid-state disc pack with RAID system for data protection
- Unlimited with use of multiple data units DF; per DF unit ~3.3 TB, ~ 7,500 images

Camera Operational Specification
- Data recording time @ 10 cm GSD, 60 percent forward overlap, 140 kts @ 8 hours per data unit
- Maximum forward overlap @ 10 cm GSD (@ 5 cm GSD) with 140 kts @ 92 percent (85 percent)

○ Info

For more information about UltraCam Falcon, visit **www.iFlyUltraCam.com**.

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