Hyperspectral Camera for UAV based Remote Sensing

The ULTRIS X20 Plus, a dual-sensor iteration of the X20, is tailored for UAV-based aerial mapping. Accompanied by a second camera capturing **panchromatic images**, it delivers a resolution of **1886 x 1886 pixels**, ensuring highly detailed imagery. This additional data facilitates pansharpening, enhancing images and boosting the spatial resolution of spectral data.

Despite integrating two sensors, the ULTRIS X20 Plus remains **lightweight** at 630 g, making it compatible with various drones, including the **DJI Matrice M300/350 RTK**. When assembling individual data files post-flight, the panchromatic data significantly enhances the spatial accuracy of the resulting mosaic.

Technical Specifications ULTRIS X20 Plus

Technology	Light Field, Dual-Sensor	Integration Time	0.1 – 1000 ms
Readout	Global Shutter	Attachable Optics	-
Spatial Resolution	410 x 410 pixel,	FOV (Field of View)	35°
Spatial Resolution Pan	1886 x 1886 pixel	Data Depth	12 bit
Wavelength Range	350 - 1000 nm	Max Frame Rate	3 Hz
Spectral Bands	164	Data Link	GigE
Spectral Sampling	4 nm	Sensor	CMV20000 / IMX264
FWHM	Constant 10 nm	File size processed	< 55 MB / < 1.2 GB pan
Spectral Data Points	164 x 168 100 (24.5 M)	Weight	630 g
Bandpass Filter	Mosaic	Dimensions	86 x 121 x 105 mm

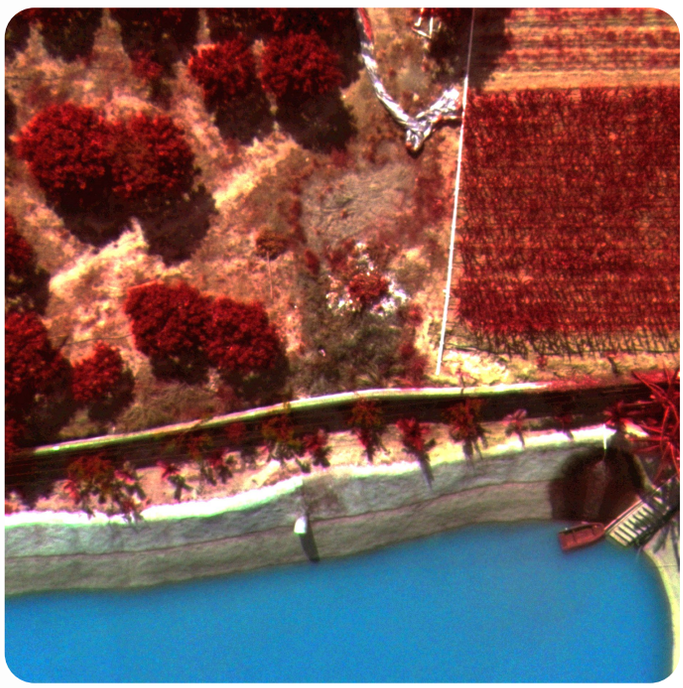
ULTRIS X20 Plus

A gimbal for DJI

The ULTRIS X20 Plus offers compatibility with various drones, providing flexibility for data recording in time lapse mode or direct UAV triggering. Specifically designed for the X20P, the **UXG Gimbal** featured in the image on the left is tailored for mounting on the **DJI Matrice M300/350 RTK**. This gimbal incorporates a Windows-based mini computer running Cubert CUVIS software, ensuring seamless data recording during flights. Connected via **DJI-Skyport**, it enables automatic camera triggering and provides **RTK GPS** signals for each individual data file.

Comprehensive options

The CUVIS software takes **Raw data**, **Reflectance** and **Radiance**. While retaining a minimal raw data consumption, the exported data, available in **ENVI** and **TIFF**, seamlessly integrates with common GIS and mapping software, including pansharpening. Meta data like GPS information, a necessary input for the stitching software, is written to the exported files as well. The image on the right shows a **pansharpened** Colored Infrared scene taken with a X20 Plus of a corn field, trees and a lake. The data was taken in a height of 40 m, with a resulting panchromatic resolution of stunning 1.5 cm per pixel.



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VIDEO SPECTROSCOPY

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Need more information?
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