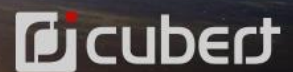


# ULTRIS

## UV-VIS-NIR

### Hyperspectral Video Camera



#### Introducing the ULTRIS X20

The award-nominated 3D hyperspectral light field cameras ULTRIS 20 and ULTRIS 20 Plus have been upgraded to include a wavelength range of 350-1000nm enabling UV-VIS-NIR coverage.

Building on the success of the ULTRIS 20 and ULTRIS 20 Plus, the **ULTRIS X20** expands the wavelength range from 450-850nm to **350-1000nm**, thereby including the UV spectrum and making UV-VIS-NIR coverage possible.

With a constant FWHM of 10nm across all channels, over 160 spectral bands compared to the previous 100 plus, and a native image resolution of 410x410 pixels (combined with the pan sensor on the **ULTRIS X20 Plus** model over 1800x1800 pixels is possible), the ULTRIS X20 takes hyperspectral imaging to new heights, enabling even more applications.

Small and lightweight (under 350 grams), and with over 3200 lines per second - a speed equivalent to a push-broom camera - the ULTRIS X20 remains perfectly suited to UAV mapping applications, amongst others.

## ULTRIS X20 X20 Plus

#### Advantages

- 3D hyperspectral snapshot imager (x, y,  $\lambda$ )
- 350 – 1000nm (UV-VIS-NIR)
- >160 bands
- 410 x 410 pixel (ULTRIS X20)
- 1880 x 1880 pixel (ULTRIS X20 Plus)



**ULTRIS X20**



**ULTRIS X20 Plus**

## What you should know

With its mass of less than 350g, the camera is perfectly suited for any application from **lab to UAV**. The **ULTRIS X20 Plus** additionally involves a second camera sensor, providing a much higher resolution through pansharping, an image fusion technique to increase the spatial resolution. This model weighs 630g, making it also easily accessible for UAVs.

To meet the requirements of harsh industrial environment, a special **ruggedized housing** is available with IP65, ensuring a high robustness. Upgrade the ULTRIS X20 to waterproof IP68 and use it **underwater** to a depth of 10m.

### TECHNICAL SPECIFICATIONS ULTRIS X20 – ULTRIS X20 PLUS

|                                           |                                 |
|-------------------------------------------|---------------------------------|
| Technology                                | Light Field                     |
| Number of Sensors                         | 1<br>2 (X20 Plus)               |
| Wavelength Range                          | 350 – 1000 nm                   |
| Spectral Bands                            | 164                             |
| Spectral Sampling                         | 4 nm                            |
| Spectral Resolution (FWHM)                | Constant 10 nm                  |
| Spatial Resolution                        | 410 x 410 pixel                 |
| Spatial Resolution 2 <sup>nd</sup> Sensor | 1880 x 1880 pixel<br>(X20 Plus) |
| Total Spectra / Image                     | 168 000                         |

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| Total Data Points / Cube | 27 Million                                       |
| Data Depths              | 12 bit                                           |
| Readout                  | Global shutter                                   |
| Max Frame Rate           | 8 Hz                                             |
| Integration Time         | 0.1 – 1000 ms                                    |
| Field of View (FOV)      | 35°                                              |
| Power Consumption        | 8 W                                              |
| Data Link                | 1-2 GigE                                         |
| Weight                   | 350 g<br>630 g (X20 Plus)                        |
| Size                     | 60 x 60 x 57 mm<br>60 x 107 x 95 mm<br>X20 Plus) |

