

MAIA WV – the multispectral camera

MAIA WV allows the simultaneous acquisition of high-resolution multispectral images in VIS-NIR electromagnetic spectrum regions, and is designed to be employed onboard UAV systems, aircrafts and terrestrial or marine rovers.

Wavelength intervals of spectral bands are the same of the DigitalGlobe's **WorldView-2™** satellite.

- 9 global shutter sensors (1 RGB + 8 mono-chromatic)

- image resolution: 1280 x 960 pixels

- sensor pixel size: 3.75 µm x 3.75 µm

Through a web panel accessible via Wifi or Ethernet, all parameters of a proper **multispectral survey** can be easily settled by the user.

MAIA MultiCam Stitcher Pro is the image pre-processing software provided with **MAIA**, developed to correct the geometrical and radial distortion of images, to get the coregistration pixel-pixel for each band and to correct the radiometrical informations within the pixel.

MAIA MultiCam Stitcher Pro software permits to have a preview of RAW images, to create multi-layer and multichannel tiffs, band combinations and indexes.

Sensor	Start WL	Stop WL	Band
S1	395 nm	450 nm	COASTAL
S2	455 nm	520 nm	BLUE
S3	525 nm	575 nm	GREEN
S4	580 nm	625 nm	ORANGE
S5	630 nm	690 nm	RED
S6	705 nm	745 nm	RED EDGE
S7	750 nm	820 nm	NIR 1
S8	825 nm	950 nm	NIR 2
S9	-	-	RGB

- Acquisition: Single Shot / Continuous Acquisition
- File format: RAW 8 bit; RAW 10 bit; RAW 12 bit
- Fixed Focus Lens – Focal Length: 7.5 mm
- Open f/#2.8 – 35° HFOV; 26° VFOV; 43° DFOV
- Exposure: Manual / Auto / Based on Exp. Time
- Exposure Time: 0.1 ms -> 50 ms (typical: 1 ms)
- Memory type: Internal SSD – 250 GB
- Data download and preview: GigaEthernet / Wifi

Height AGL	Ground Sample Distance	Field of view	Max speed with 10 ms exposure time
50 m	23 mm/pixel	30 x 23 m ²	2.3 m/sec
75 m	35 mm/pixel	45 x 34 m ²	3.5 m/sec
100 m	47 mm/pixel	60 x 45 m ²	4.7 m/sec
150 m	70 mm/pixel	90 x 68 m ²	7 m/sec
200 m	94 mm/pixel	120 x 90 m ²	9.4 m/sec
300 m	141 mm/pixel	180 x 135 m ²	14.1 m/sec



MAIA ILS – Incident Light Sensor



The **MAIA Incident Light Sensor (ILS)** measures the level of the ambient light for each single shot of **MAIA** camera.

ILS allows the correction for **light changes** during acquisition, such as those caused by clouds covering, and calculate the true reflectance ratios for the correct index calculations.

A **high precision GNSS** version with **RTK** is embedded with **ILS**, which allows a centimeter-level positioning accuracy.

Key features

- Irradiance levels of light measured matched with MAIA bands
- GNSS receiver with onboard or external antenna
- 6-axis IMU and environmental sensors
- Single-cable connection to MAIA for power supply and control
- All measured parameters are included in the MAIA log file
- 1s measurement rate for all parameters
- Synchronization with the image acquisition by MAIA
- Micro SD card for additional log files storage (8GB bundled)
- USB interface to access the SD from the host computer

Benefits

- Equalization of incident light for **each shot** of each sensor
- Improving the accuracy of radiometric correction of imagery, regardless of **cloud** cover, **timing**, **date** of survey, **sun** position
- All measured parameters are integrated in **MAIA** log file
- Fully integrated with **MultiCam Stitcher Pro** to provide immediate radiometric correction of multispectral imagery
- Possibility to conduct **multi-temporal surveys** on the same crop, water body, dump, plant or building to enhance **real differences** in vegetation health status, in pollutant detection and in physical-chemical characterization
- Pixel-level geo-referenced images **without GCPs**, and pixel-level radiometrically corrected images **without white target**

MAIA WV – the multispectral camera
Size: 129 mm x 99 mm x 47 mm
Weight: 420 g

MAIA ILS – Incident Light Sensor
Size: 70 mm x 70 mm x 40 mm
Weight: 160 g