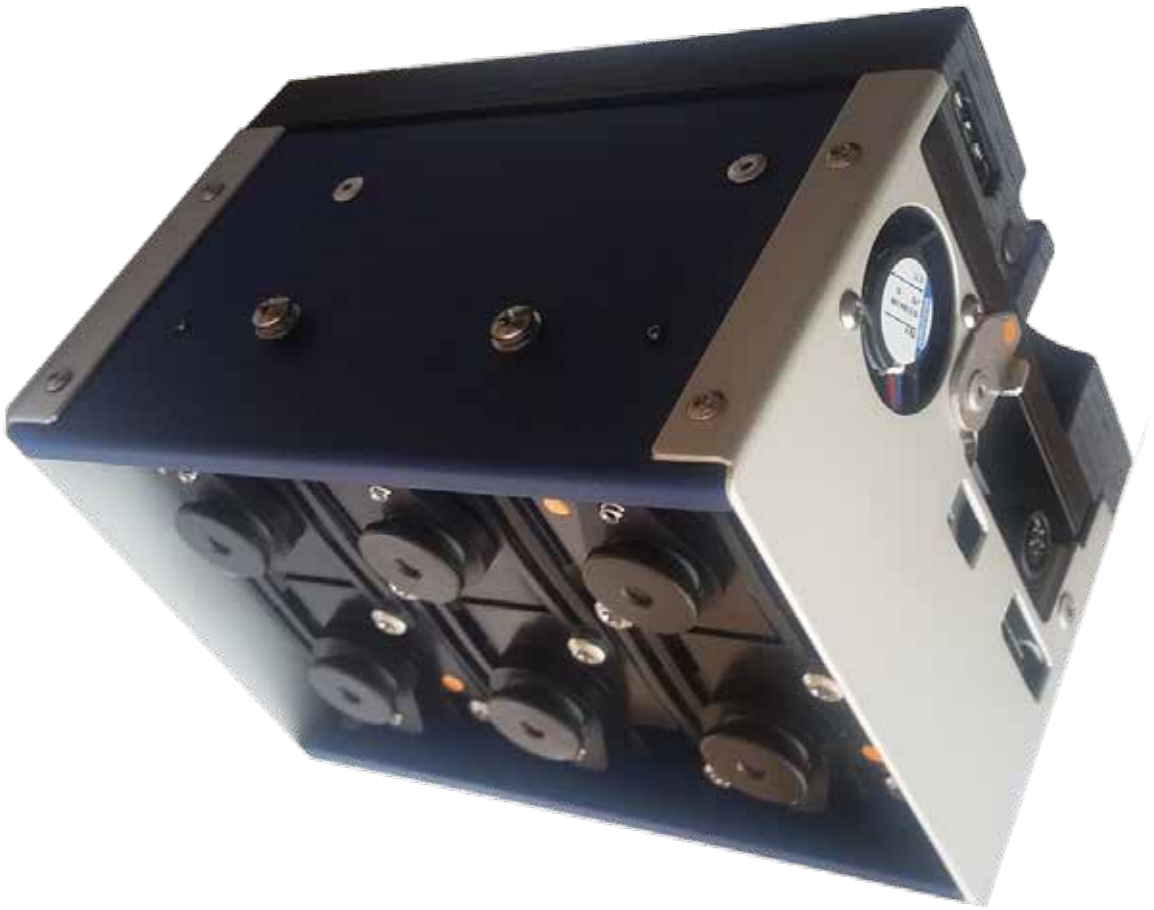
TETRACAM Multispectral camara system

TETRACAM MCAW



The Macaw upgrades the MCA electronics to a full-featured Linux computer system, with open source architecture, and a SATA solid state drive (SSD) for computation intensive missions. While images are being taken, the Macaw can align image planes and extract vegetation indices, such as NDVI in real time. It can do this at approximately the rate that the images are acquired, thanks to its 2 GHz quad-core ARM CPU.

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MCA Wireless (Macaw)

Hardware Improvements

- Pluggable large SATA solid state drive
- Only one single multi-core processor
- WiFi & USB3 interfaces
- Logic elements to control capture
- Real-time video from any channel
- User changeable bandpass filter
- Tetracam u-ILS compatible

Software Improvements

- Onboard Linux OS with implemented camera control software, offering a variety of advan tages:
  - Robust File system
  - IP protocol management
  - Web browser user interface
  - In-camera documentation and help files
  - Open system architecture.
  - SSH server for remote connection, control, and failure diagnosis
- Live video switchable to any channel and vegetation index
- Files saved as multi-page tiffs, WITH alignment performed in camera
- Tiff files fully tagged with Exif / Exif GPS data structures / Tetracam band processing information
- Very large capacity file system
- Files can be extracted at very high speed
- operating modes: continuous capture, triggred, GPS offset, various exposure modes etc.
- Background processing can be used to align images, produce NDVIs, and eliminate unneeded files

Specifications (6 Channel)			
Power	1.45 amps at 12 volts, 9 to 15 volt input	Command/ Control	— Trigger Switch input — Auto trigger mode (continous capture) — External RS232 command interface — External timing line for integration start — NTSC / PAL Video display and user interface
Weight	600 g		
Lens Focal Length	9.6 mm fixed		
Lens Aperture	f/3.2		
Temperature	0 - 40 Degrees Celsius	Imaging	— Six 1280 x 1024 global snap shutter sensor with individual filtering (450 - 1,000 nm) — all channels scaled, translated and rotated to match the master channel — high sensitivity 5.2 micron pixels — images tagged with calibration / GPS metadata
Humidity	less than 85 % relative h., non-condensing	serial I/O	RS232 serial input for external GPS (NMEA, Mavlink)
Data Storage	240 GB SSD SATA	Host Interface	single plug USB 3.0 controller & WiFi
Included Software	PixelWrench 2 image processor, Icaros One-Button mosaic stitcher (1 year), embedded Linux OS		

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