ARGONAUT

- **Accurate and Affordable geo-location.**

- **GNSS receiver and Positioning-as-a-Service postprocessing (PaaS)**

- **Compact, lightweight and low power end-to-end solution**

- **Multi-constellation GNSS + IMU logging device.**

- **Plug&play, compatible with main controllers and sensors.**

- **Accurate geo-tagging of external events (such as camera trigger).**

ARGONAUT is a GNSS receiver able to provide accurate and affordable geo-location. Less than 0.4 m error using Rokubun's PaaS (http://paas.rokubun.cat/) and better than 2 m in real-time. This is possible because GNSS and IMU raw measurements are stored for off-line processing with our PaaS. Rokubun's PaaS (Positioning-as-a-Service) is proprietary cloud service for navigation data advanced processing. ARGONAUT will also register external events, within microseconds and decimetric accuracy. The embedded IMU allows for increased rate of navigation fixes as well as robust solutions in scenarios with impaired GNSS availability.

ARGONAUT is specially suited for drone based photogrammetry and remote sensing applications, allowing the drone operators to dramatically reduce the number of ground control points to be deployed and to obtain a good quality final ortho-rectified product.

	Similar devices	ARGONAUT
Accuracy	2.0 m	0.4 m[1]
Raw Data	No	Yes
Data Logger	No	Yes
External events	No	Yes

[1]Post-processing with Rokubun's PaaS (Positioning-as-a-Service)
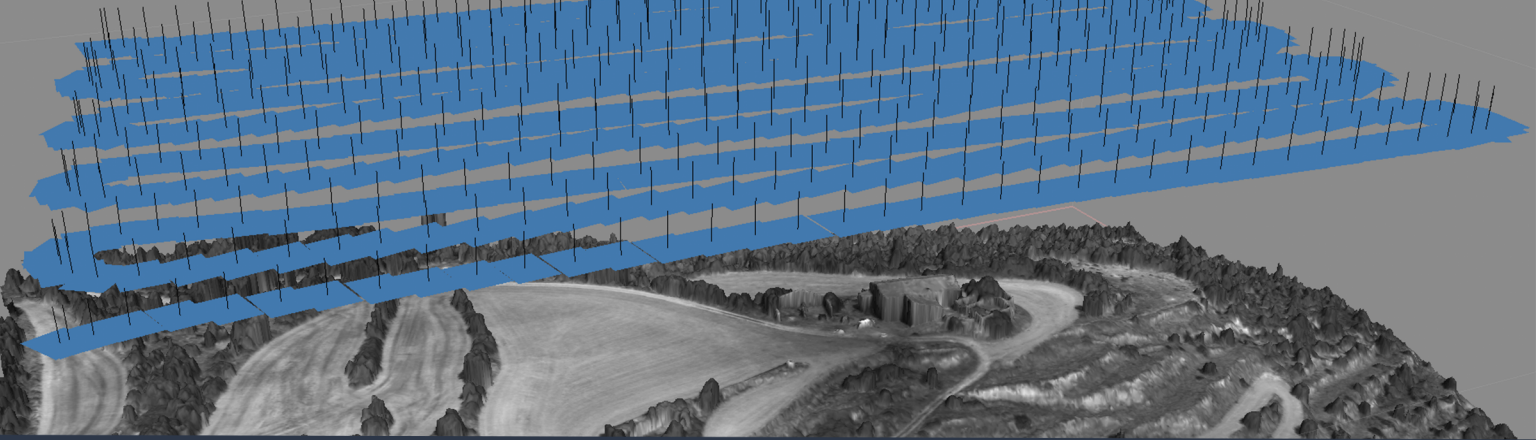
ROKUBUN

USAGE STEPS:

1. Insert microSD card.
2. Connect power supply to start recording and streaming navigation data.
3. Unplug power supply.
4. Remove microSD card.
5. Upload microSD content to Rokubun's PaaS to get decimetric geo-location.

SPECIFICATIONS:

- Real time geo-location accuracy better than 2 m.
- Offline geo-location accuracy better than 0.4m using Rokubun's PaaS[2].
- Multiconstellation: GPS, Galileo, GLONASS, Beidou, SBAS.
  - GPS + GLONASS antenna with increased ground plane for multipath mitigation.
- Shielded high gain RF subsystem for SNR optimization.
- Sensors:
  - L1 GNSS receiver (Ublox NEO-M8T).
  - 9 degree IMU (accelerometer, gyroscope, magnetometer) InvenSense MPU-9250.
  - Additional magnetometer, HMC5883L.
- Data rates:
  - GNSS measurements (pseudo-range, carrier-phase, Doppler, C/N0): 10 Hz[3].
  - IMU measurements: 100 Hz.
  - Real time navigation rate: 5 Hz.
  - Offline navigation rate: 100 Hz.
- Compatible with drone controllers (Pixhawk) and remote sensing payloads (Micasense).
- GNSS + IMU raw data logger (either via an SD card or using the 4-pin JST-GH connector).
- Receiver can be configured using the USB port, using Ublox U-center software.
- The device can be powered via the USB or the 6-pin (JST-GH) connector.
- Dimensions: 65 x 65 x 20 mm.
- Weight: 60 gr.
- Power consumption: 80 mA.

SYSTEM REQUIREMENTS

- microSD card.
- 5 V power supply (USB or JST-GH interface).
- Computer with SD card reader and internet access for Rokubun's PaaS processing.

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[2]Rokubun's PaaS (Positioning-as-a-Service) is proprietary cloud service for navigation data advanced processing

[3]Default configuration is 5 Hz