Kambill

Parrot®

www.kambillsystems.com

Parrot® SEQUOIA

Sensor

BY

KAMBILL SYSTEMS PVT. LTD.

Parrot®

THE ULTIMATE MULTISPECTRAL IMAGERY

ABOUT THE PRODUCT

The Parrot Sequoia is a multispectral camera designed for agricultural and environmental applications. It captures high-resolution imagery across multiple spectral bands, allowing users to monitor crop health, detect stress, and assess vegetation vigor. With its compact design and easy integration onto drones, the Parrot Sequoia enables precise data collection for precision agriculture, environmental research, and land management.

APPLICATIONS

- Precision Agriculture
- Environmental Monitoring
- Urban Planning and Development

FEATURES

MULTIPLE SPECTRAL BANDS

Equipped with four distinct spectral bands (RGB and near-infrared), the Sequoia captures detailed imagery across various wavelengths, enabling precise analysis of vegetation health and stress.

HIGH-RESOLUTION IMAGING

Sequoia captures high-resolution images, allowing users to observe small-scale details and anomalies in crops and vegetation.

COMPACT AND LIGHTWEIGHT

Designed for easy integration onto drones, the camera's compact and lightweight form factor minimizes payload impact and ensures efficient aerial data collection.

CONTACT US

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HARDW ARE

POWER SUPPLY

Whether it is supplied by the drone or an external power bank, the **power supply shall comply Parrot Sequoia's specifications.**

- **Voltage:**
  Minimal threshold 5V
  Maximal threshold 6V
- **Current:**
  Minimal threshold 2.4 A
  Optimal recommendation 3A
- **Power:**
  Minimal threshold 12W
  Optimal recommendation 15W

USB CABLES

It is recommended to use only the cables provided with the Parrot Sequoia sensor.

If you want to use different cables, please refer to the Parrot Sequoia USB document.

HIGH RESOLUTION RGB CAMERA

In addition to its 4 spectral bands, Parrot Sequoia carries a 16Mpx RGB camera. The RGB camera should be used to get an overview of the field in true colors.

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SET UP THE SENSORS

POSITIONING

For an optimal use, the two sensors have to be positioned according to these instructions:

The Sunshine sensor has to be integrated on the top of the drone with a **clear hemispheric view above it.** It has to be perfectly horizontal, aligned with the drone.

The main body has to be integrated under the drone, facing toward the ground.
It has to be horizontal but can be held in any x-axis direction.

Both sensors have to be firmly held to limit vibrations during the flight. Their holding has to be consolidated. **Their movement must be in unison**, the change in one's orientation must be reflected in the other **such that the angle between their planes remains constant.**

PS: **Stabilized gimbals are not recommended**

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DO'S AND DON'TS

✔ When setting up the sensors, make sure that the **cables are properly tightened** and will not move during the flight.

✔ To ensure high-precision results, Parrot recommends to take off the protective lens before the flight.

✔ If a connection loss appears between the multispectral sensor and the Sunshine sensor, follow these steps:

- Make sure that the minimal stress is applied on the USB connectors.
- Use KF F2 or an equivalent product to clean the connectors

✖ **Do not use adhesives** such as hot glue or cyanoacrylate adhesives on the camera.

✖ **Do not apply stress** on the cables and connectors.

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THERMAL MANAGEMENT

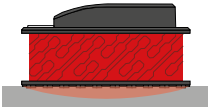
The main body of Parrot Sequoia carries a lot of technology. Consequently, it can get hot when operating. It is totally normal, Parrot Sequoia was designed to be integrated in a drone and cooled down during a flight.

When on a drone, the integration should facilitate air flow on its back heat sink to cool down during the flight. Therefore, **Parrot does not recommend blocking the radiator at the back of the Parrot Sequoia** unless a thermal paste is used and the heat is properly channelled.

If integrated on a different platform (tractor, robot, mower …), the same air flow attention should be taken in consideration. On big and slow platforms, the air flow can be improved by a small cooling fan.

When on a desk, the **Parrot Sequoia has to be placed on its side with a small cooling fan**

on the edge and not on the back heat sink.



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ACCESSORIES

POWER SUPPLY

It is **recommended to use Parrot Sequoia on the Parrot's fixed wing drones:** Parrot Disco Pro AG & Sensefly eBee SQ, which benefit from a full, hardware, mechanical and software integration. If you want to integrate Parrot Sequoia on a different drone, please first refer to the sensors positioning section.

INTEGRATION KITS

Micasense developed integration kits for the 3DR Solo and the DJI Phantom 3.

Learn more at www.micasense.com/accessories

SD CARDS

It is recommended to use only the cables provided with the Parrot Sequoia sensor.

Please refer to the list of compatible SD cards in the Parrot Support page.

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SOFTWARE

PTP COMMANDS

PTP protocol has been standardized as ISO 15740. The standard can be found at www.iso.org

Parrot created an official PTP Extension for Parrot Sequoia. Please refer to the Parrot PTP Extension document to find out about these specific commands.

HTTP COMMANDS CF DEV.PARROT. SEQUOIA

Parrot Sequoia also supports HTTP. Please refer to Parrot Sequoia page at developer.parrot. com to learn more about HTTP commands on Parrot Sequoia.

PIXHAWK INTEGRATION CF CAMREMOTE

Parrot Sequoia can be triggered by the drone thanks to the autopilot hardware Pixhawk. Integrating of Parrot Sequoia to the Pixhawk needs a remote control device that will host the USB connection.

VP-Systems provides a small hardware device called CAMremote that allows Parrot Sequoia to be triggered by PixHawk.

Lean more about the Pixhawk at pixhawk.org.

Lean more about CAMremote at vp-systems.eu.

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