

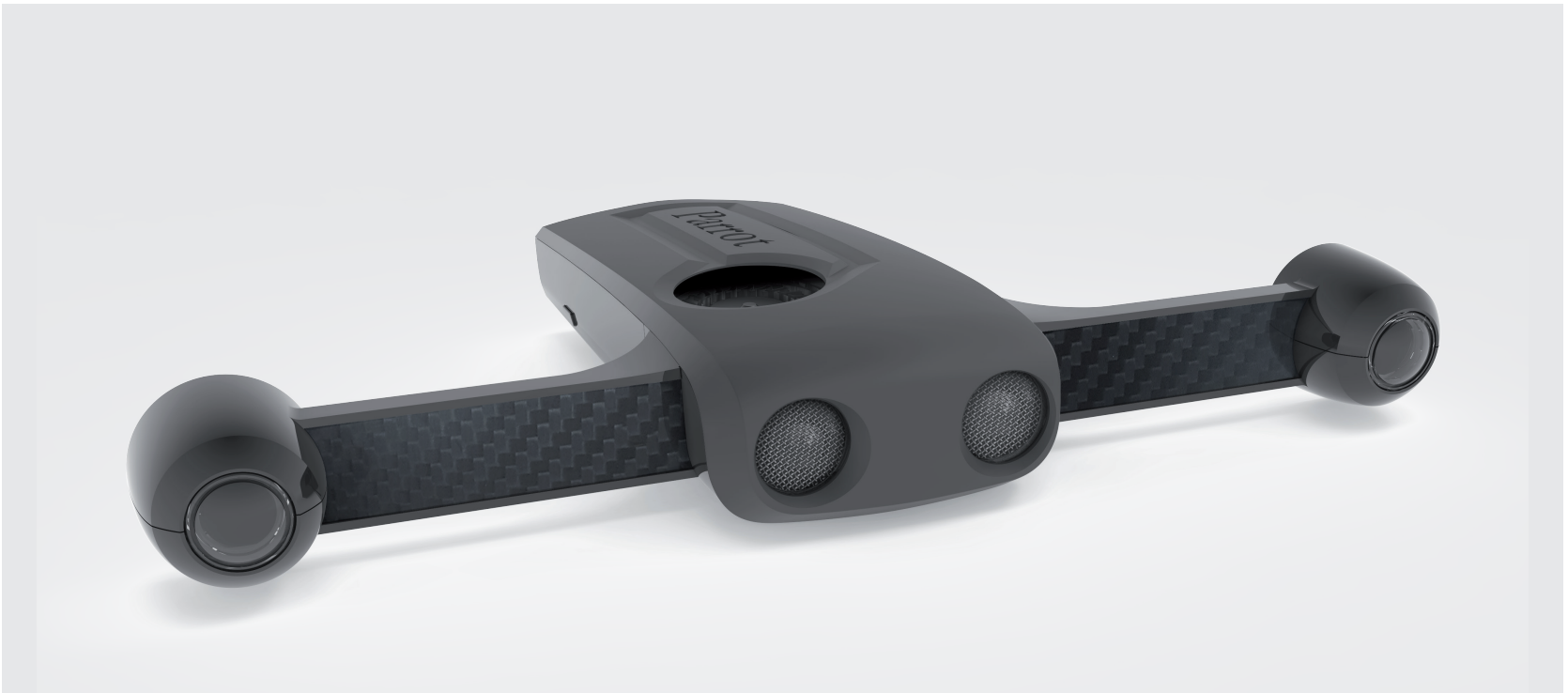
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## PRODUCT SHEET

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# Parrot<sup>®</sup> S.L.A.M.dunk

ALL-IN-ONE INTEGRATED KIT  
FOR ADVANCED NAVIGATION APPLICATIONS



### STEREO VISION

High resolution and wide angle stereo camera that compute the environment depth map which helps the drone to understand its physical surroundings

### 3D S.L.A.M.

Three Dimensional Simultaneous  
Localization and Mapping Solution

Core integrated software algorithms that leverage multiple on board sensors for real-time localization and three dimensional environment mapping with point cloud generation

### EMBEDDED COMPUTER

POWERED BY  
**NVIDIA**

Parrot S.L.A.M.dunk is a complete powerful computer that will allow you to turn your drone into an intelligent flying robot. Parrot S.L.A.M.dunk embed a NVIDIA<sup>®</sup> Tegra<sup>®</sup> K1 mobile processor

### SDK

designed for developers

ROS Robotics  
Operating System  
based Software  
Development Kit

### 140g

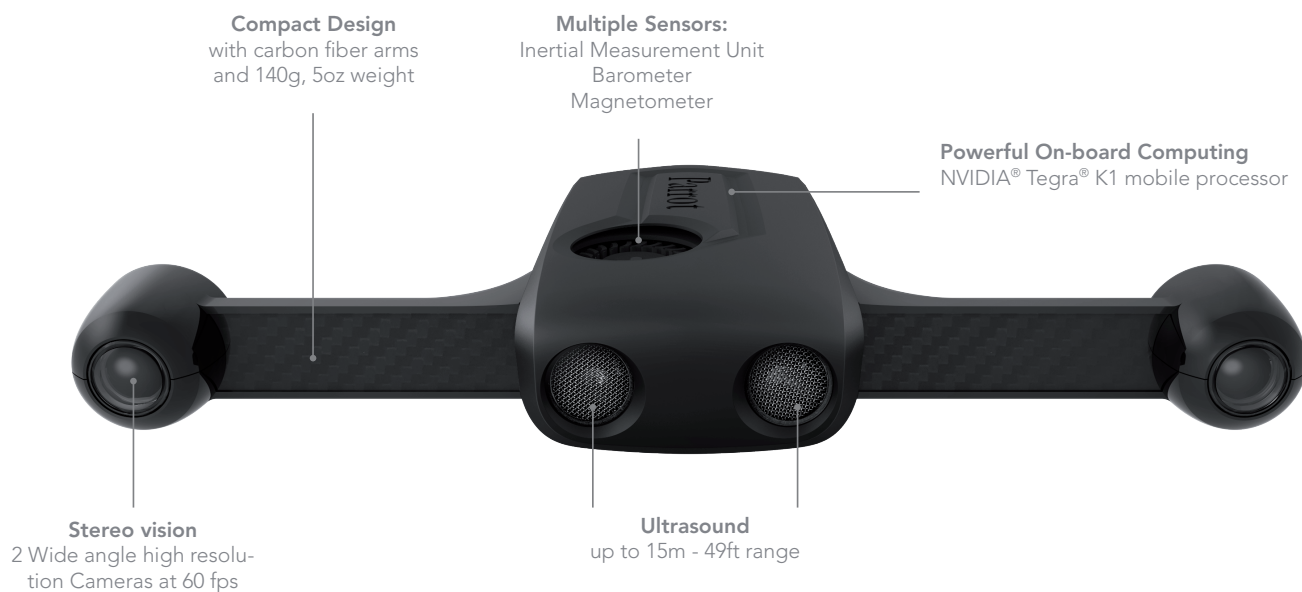
5 oz

compact design  
with carbon fiber  
for a 140g, 5oz  
weight

Available at [parrot.com](http://parrot.com)

PARROT S.L.A.M.dunk IS THE ALL-IN-ONE INTEGRATED KIT  
FOR DEVELOPERS TO CREATE ADVANCED NAVIGATION APPLICATIONS FOR DRONES AND ROBOTS

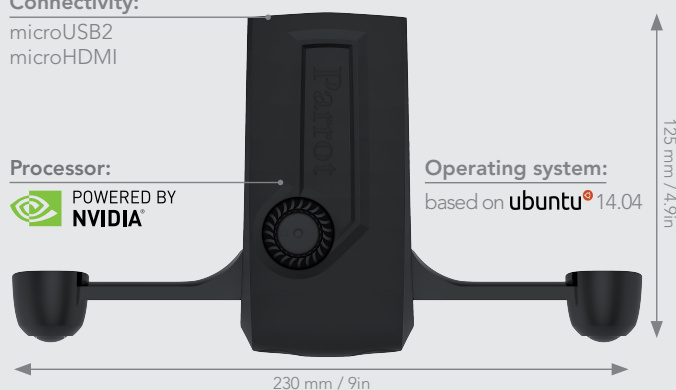
- This new device is a unique combination of hardware and software designed to help developers to accelerate the development of advanced navigation applications for drones and other robotic technologies.
- Parrot S.L.A.M.dunk allows the developers and researchers to access to integrated advanced sensors optimized to deliver synchronized data with low latency through a standard framework: ROS
- Parrot S.L.A.M.dunk has also integrated advanced software applications based on a Simultaneous Localization And Mapping algorithm. It can understand and map its surroundings and localize itself in cluttered GPS denied environments.
- Parrot S.L.A.M.dunk is a complete compact solution that allows developers to turn their drones into highly intelligent flying robots.



**Connectivity:**  
microUSB2  
microHDMI

**Processor:**  
POWERED BY  
NVIDIA

**Operating system:**  
based on ubuntu® 14.04



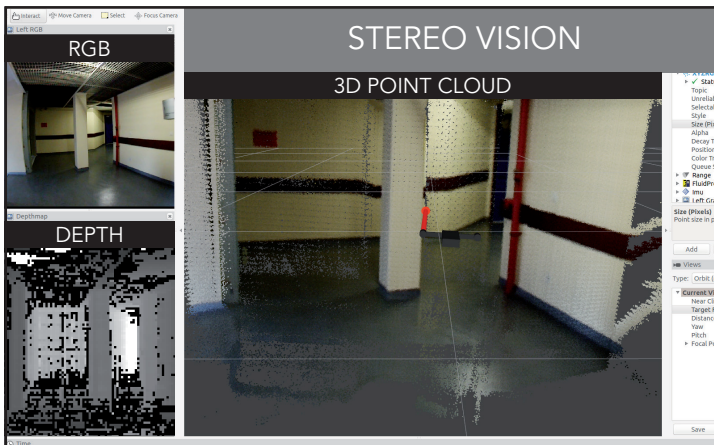
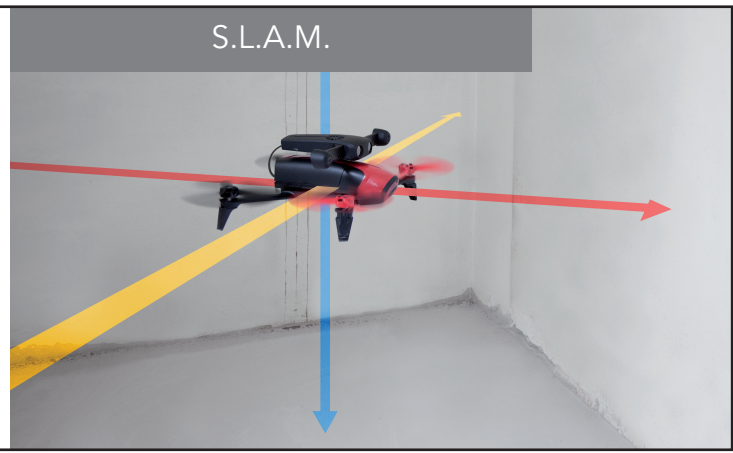
**3D Visual Sensor:**  
2 fisheye Cameras

**Sensors:**  
Ultra-Sound  
Inertial Measurement Unit  
Barometer  
Magnetometer



Accurate positioning without GPS based on integrated S.L.A.M. algorithm : Simultaneous Localization And Mapping for you to develop:

- Autonomous discovery of indoor environment
- Indoor waypoints navigation with real time trajectory planning

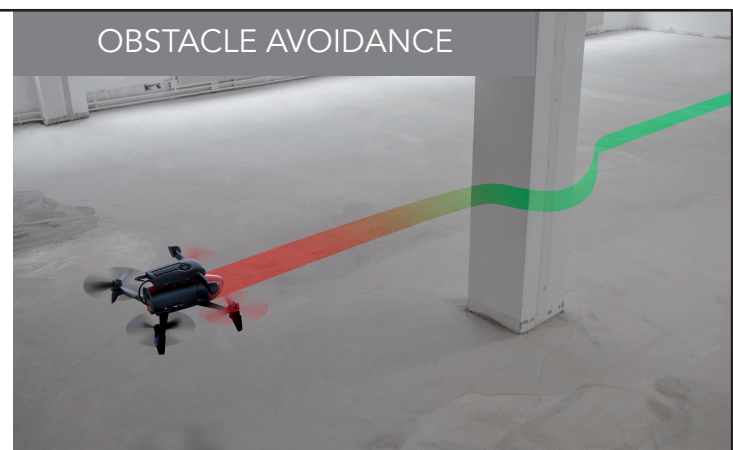


High resolution wide angle stereo cameras at 60 fps for:

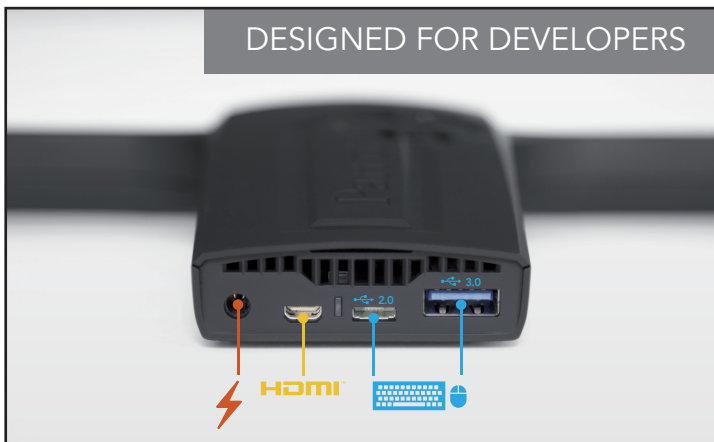
- Depth map computation
- 3D environment reconstruction

Integrated sensors and algorithms to help you to develop a sense and avoid solution for your drone such as:

- Assisted piloting and fully automated collision avoidance
- Distance keeping from surfaces for inspection



DESIGNED FOR DEVELOPERS



- Complete development computer based on Ubuntu 14.04: plug your keyboard and display and develop directly on Parrot S.L.A.M.dunk
- Compact design: 140g, 5oz weight
- ROS based SDK
- High processing capability: NVIDIA® Tegra® K1 mobile processor
- Multiple Sensors : stereo camera, Inertial Measurement Unit, ultrasound, magnetometer, barometer

## TECHNICAL SPECIFICATIONS

### CAMERAS

- **Stereo video modes:** 960p 30FPS  
1500x1500 60 FPS - 900x700 120 FPS
- **Camera Baseline:** 20cm - 8in
- **Sensor:** Rolling shutter
- **Lens:** 200° FOV, 0,2% F-theta distortion

### SENSORS

- **Ultrasonic:** 15m - 49ft range
- **IMU:** 8KHz
- **Barometer**
- **Magnetometer**

### ONBOARD COMPUTER

- **Processor:** NVIDIA® Tegra® K1 mobile processor
- **RAM:** 2GB DDR 3
- **Memory:** 16GB EMMC

### OPERATING SYSTEM

- **Based on Ubuntu 14.04**
- **Desktop environment:** Optional

### SDK

- **ROS node**
- **Onboard development enabled**

### CONNECTIVITY

- **USB:** microUSB 2.0 OTG, USB 3.0 Host
- **Display:** microHDMI output
- **(Wi-Fi):** Through USB dongle, see list of natively supported dongles

## ALGORITHM PERFORMANCE

### DEPTH MAP

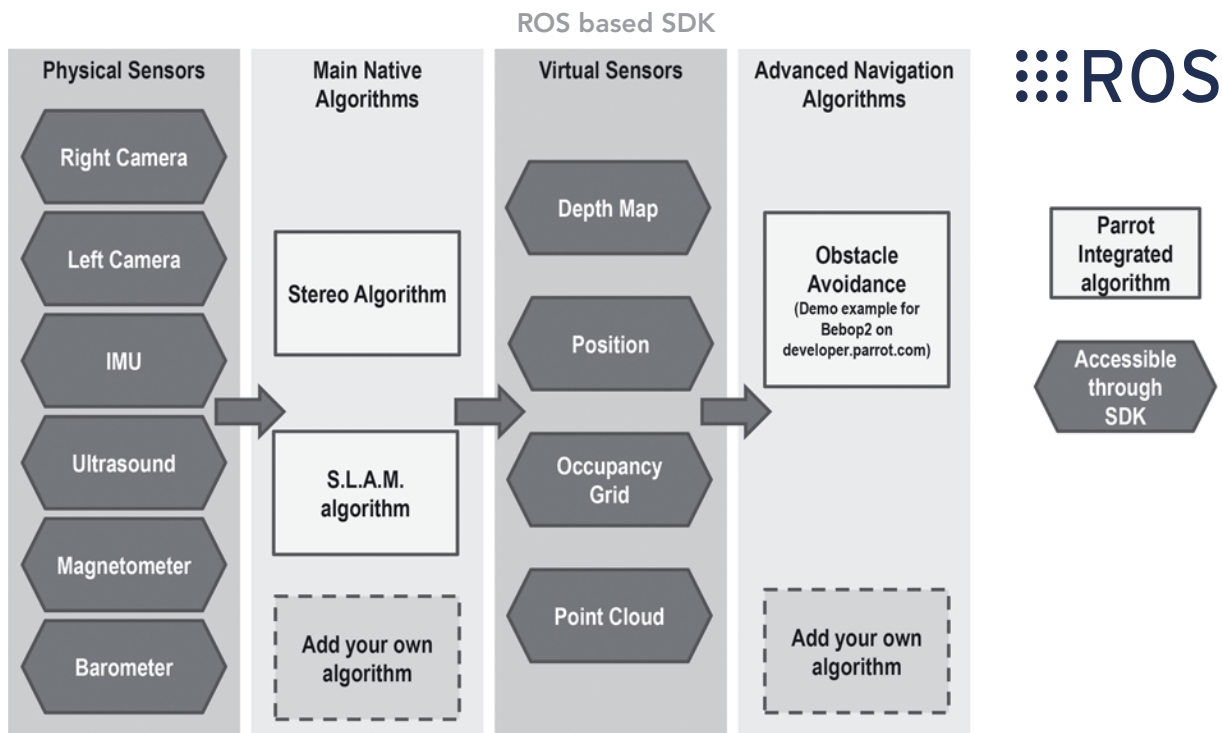
- **Framerate:** 30fps, adjustable
- **FOV:** Up to 120° DFOV, adjustable
- **Accuracy:** 1cm @1m - 0.4in @ 3ft

### LOCALIZATION

- **Drift:** <1%\*
- **Frequency:** 60 Hz

\*under standard conditions

## SOFTWARE DEVELOPMENT KIT



More information available at [developer.parrot.com](http://developer.parrot.com)

## FITS ON VARIOUS DRONES AND ROBOTIC PLATFORMS



FLY



WHEEL



FEET



ARM

**IN THE BOX:** 1 Parrot S.L.A.M.dunk, 1 AC ADAPTER, 3 PLUGS, 1 CABLE: USB A to MICRO-USB B, 1 CABLE: MICRO-USB A to MICRO-USB B, 1 XT60 CABLE, 3 MOUNTS, 1 USER GUIDE