

## **Introducing the new consumer drone**

Parrot Bebop Drone, the ultra-light drone with a full HD camera digitally stabilized on its 3-axis!



**With Bebop Drone, Parrot demonstrates its technological expertise and confirms its commitment to the civil drone market. The Bebop Drone is a super-high-tech leisure quadricopter with features of a professional one.**

Equipped with a 14 mega pixels fish-eye camera, the Parrot Bebop Drone takes video and pictures of the world in a 180° field with remarkable image quality. Endowed with a fully digital technology of image stabilization, the Bebop Drone captures video despite the movements inherent in aerial footage.

The combination of numerous sensors gives it impressive stability and great maneuverability when piloting with a smartphone or a tablet. The use of the latest Wi-Fi 802.11ac MIMO and of four ceramic antennas 2.4GHz and 5GHz ensures an unequalled reach.

For extreme sensations, the Parrot Bebop Drone can be piloted with an optional controller compatible with FPV glasses.

Parrot extends its range of leisure drones with the Bebop Drone that takes professional-quality images.

**The Parrot Bebop Drone and Parrot Skycontroller will be available in Q4, 2014  
MSRP: TBA**

## A 180° vision

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**Parrot Bebop Drone** is equipped with a **14 megapixels « fisheye-lens »** front-facing camera that records video in Full HD (1080p x 1920p) and streams live immersive views of the flight on the screen of the piloting Smartphone or tablet.



The pilot can control the angle of the camera simply with his thumb, directly from the piloting application. The shifting on a 180° angle is fully digital.

Thanks to algorithms developed by Parrot engineers, the **Bebop Drone** benefits from an exclusive 3-axis image stabilization system that maintains a fixed angle of the view, regardless of the inclination of the drone and movement caused by turbulence.

The camera of the **Parrot Bebop Drone** is mounted on an ingenious structure with rubber shock absorbers that cushion vibrations.

The images taken by the **Bebop Drone** are digitally treated thanks to the Parrot P7 Dual core processor, its GPU and a proprietary Image Signal Processor.

The landscapes are captured on the **8 GB flash memory** of the **Parrot Bebop Drone** with a gripping precision and sharpness.

After the landing of the drone, videos (*MP4 format*) and photos (*JPEG and DNG formats*) can be transferred onto the piloting device or a computer via Wi-Fi or via the embedded micro-USB connector.

## An astounding stability

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The **Parrot Bebop Drone** is piloted via Wi-Fi through a free application available for iOS and Android Smartphone and tablets.

To guarantee optimal stability of the quadricopter, without compromising maneuverability, the **Bebop Drone** integrates data coming from numerous sensors:

- One 3-axis accelerometer
- One 3-axis gyroscope
- One 3-axis magnetometer
- One ultrasound with a reach up to 8 meters
- One pressure sensor
- One vertical camera

### ➤ **A MIMO Wi-Fi connection**

The **Parrot Bebop Drone** is equipped with 4 Wi-Fi antennas so it can manage the **2.4 GHz** and **5 GHz** frequencies in MIMO (Multiple Inputs Multiple Outputs) format.

The Wi-Fi liaison uses the latest Wi-Fi 802.11ac.

Depending on network interference, the pilot can select the frequency of his choice.

### ➤ The **Parrot Bebop Drone** integrates a **GNSS chipset** that associates the GPS, GLONASS and GALILEO data. The **Bebop Drone** is capable of autonomous flight and automatic return to the take-off position.

The **Bebop Drone** automatically records the data of each flight on Parrot cloud: "Pilot Academy".

## A featherweight of high technologies

About 50 engineers, specializing in **digital signal processing**, **aeronautics**, **Wi-Fi radio** and **industrial design**, worked on the development of the **Parrot BeBop Drone**, a highly performing high-tech jewel weighting 380 g without its hull (400 g with the hull) and enabling indoor and outdoor flights without the risks linked to the weight of more imposing drones.



- 01. Mother board** (Parrot P7 dual core CPU and quad core GPU - 8Gb flash memory - All are fixed on a magnesium shelf that acts as electromagnetic shielding and as a radiator.)
- 02. Fisheye lens** (6 optical elements – 14 Mega pixels sensor)
- 03. Brushless out runner engines**
- 04. Glass fiber reinforced (15%) ABS structure**
- 05. Three-blade propellers in Polycarbonate** with fast disassembly system
- 06. Inertial measurement unit** (GPS+Glonass+Galileo - 3-axis accelerometer - 3-axis gyroscope - 3-axis magnetometer – pressure sensor)
- 07. Wi-Fi MIMO antennas** (2 double-set of ceramic antennas for 2.4 and 5 GHz)
- 08. Vertical stabilization camera** (Every 16 milliseconds, an image of the ground is taken and compared to the previous one to determine the speed of the BeBop Drone)
- 09. Hull in EPP** (Clip and unclip easily to adapt to indoor and outdoor flight - Protects the propellers against potential bumps - Can be removed to reduce wind factor )
- 10. Anti-vibration Bumpers**

## FreeFlight 3.0: An ultra-intuitive application



The **Parrot BeBop Drone** comes with a free piloting application, **FreeFlight 3.0**, for iOS and Android Smartphones and tablets.

The ergonomics of the application have been developed to offer a perfect ease-of-use and to let the pilot focus on the pleasure of flying.

On the welcome screen, the pilot accesses the ground functionalities: Piloting, photos/videos, flight plan, Cloud 'Pilot Academy'.

When the 'take off' button is touched, the **Parrot BeBop Drone** starts its engines, takes off, stabilizes and awaits the pilot's instructions.

The left thumb activates a virtual joystick that enables control of the altitude of the drone, its rotation and movements while tilting the smartphone/tablet, to indicate the direction: forward, backward, left, right.

The right thumb enables control of the angle of tilt of the front camera while flying.



A 'flight plan' piloting mode enables the pilot to program an autonomous flight, using the functionalities of the GNSS chipset.

When the 'landing' button is touched, the **Parrot Bebop Drone** lands smoothly.

A 'Return Home' button makes the **Bebop Drone** come back to its take-off position, guided by GPS.

## Skycontroller: fly further, higher\*



To benefit from a more powerful Wi-Fi connection, Parrot will offer the **Skycontroller** as an option.

Equipped with an amplified Wi-Fi radio and with 4 antennas, the **Parrot Skycontroller** extend the Wi-Fi range up to 2 kms.

The piloting Smartphone or tablet is fixed on a shelf that is compatible with the vast majority of the tablets available in the market.

The pilot takes the helm of the drone via 2 joysticks.

For extreme sensations, it is possible to connect FPV (First Person View) glasses to the **Parrot Skycontroller** with the HDMI plug. Then, leaning the head will position the camera of the **Bebop Drone**!

*\*Expert pilots and beginners should take the helm of leisure drones in a responsible manner and in respect of the local rules and regulations.*

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### Parrot Bebop Drone technical data

- CPU Dual core A9
- Linux
- Open source SDK
- Wi-Fi:
  - . Wi-Fi 802.11 a/b/g/n/ac
  - . Wi-Fi MIMO 2.4 and 5GHz
  - . 26dBm
- GNSS : GPS+Glonass+Galileo
- Inertial unit: Gyroscope, Accelerometer, Magnetometer, Altimeter, Ultrasound, Vertical camera.
- Battery : Lithium Polymere 1200mAh
- Flight time: Around 12 minutes
- Compatibility: iOS and Android Smartphones/tablets
- Weight: 380g without the hull - 400g with the hull
- Dimensions:
  - . 28x32x3.6 cm without the hull
  - . 33x38x3.6 cm with the hull

### Parrot Skycontroller technical data

- Android 4.2
- Wi-Fi:
  - . Wi-Fi 802.11 a/b/g/n up to 36dBm
  - . Antennas directives range up to 2km
  - . Wi-Fi MIMO 2.4 and 5GHz
  - . Second chipset Wi-Fi to connect to a tablet
- GPS
- USB, HDMI extensions
- Sun-visor included
- Weight: 450g
- Sun-visor included

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Parrot also offers the most extensive range of hands-free communication systems on the market for cars. Its globally recognised expertise in the fields of mobile connectivity and multimedia around Smartphones has positioned Parrot as a key player of in-car infotainment.

Additionally, Parrot designs high-end wireless multimedia products dedicated to sound, and explores new possibilities with Bluetooth Smart technologies.

Finally, Parrot is expanding on the UAV market with the Parrot AR.Drone, the first quadricopter piloted via Wi-Fi and also with new solutions to address the UAV market for professional use.

Parrot, headquartered in Paris, currently employs more than 850 people worldwide and generates the majority of its sales overseas.

Parrot is listed on Euronext Paris since 2006. (FR0004038263 – PARRO). For more information: [www.parrot.com](http://www.parrot.com)

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