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# Aion Robotics

## R1 Rover

<https://drive.google.com/drive/folders/1UBtwsaYdh-tAuM2Nxa8K3IujrxcZdLEH?usp=sharing>

R1 rover is a ground based vehicle.

A picture containing text, transport, gear

Description automatically generated

The R1 rover comes in two types shown in the table.

|  |  |  |  |
| --- | --- | --- | --- |
| **Package** | **Configuration** | **Hardware** | **Software** |
| ArduPilot | AutoPilot Control | Pixhawk 2.1 | ArduPilot |
| ArduROS | Hybrid Control | * Pixhawk 2.1 * Jetson TX2 | * ArduPilot * ROS |

The ArduROS package uses Linux Ubuntu, this package is meant for users who want to program and have more configuration options with their rover.

ArduPilot allows for the use of a ground control station such as mission planner:

Documentation - <https://ardupilot.org/planner/>

Download - <https://github-docs.readthedocs.io/en/latest/ardupilot-autopilot-setup.html>

Controlled via RC system or with mission planner.

The R1 rover can be purchased with a bundle including a Wi-Fi telemetry kit, the network password for this is “aionrobotics”.

<https://github-docs.readthedocs.io/en/latest/ardupilot-wireless-telemetry-connection.html>

R1 documentation - <https://github-docs.readthedocs.io/en/latest/r1-ugv.html>

# ArduPilot

## Drone

https://drive.google.com/drive/folders/1G5TCw9jjJIQQNsoP9qvl7u07lqiocLpl?usp=sharing

# DJI

DJI currently have 14 consumer grade UAVs available to the public as of 11/02/22. DJI also offer specialized UAVs for other purposes such as public safety inspections and aerial surveying.

All UAVs contain a camera.

Most do not specify anything to do with GPS.

UAVs come with a controller that a mobile is inserted into. The mobile can run software provided by DJI to allow you to see the cameras perspective. There should be important data that is transmitted from UAV to mobile and vise versa.

DJI offers a wide range of software and applications for their UAVs.

They also offer a tool to decrypt encrypted SD cards:

<https://www.dji.com/uk/downloads/softwares/dji-decrypt-tool>

Most UAV manuals specify there is a return to home feature indicating that GPS coordinates are stored on the UAVs.

Software has been created to analyze the .DAT log files produced by many of DJIs drones:

CsvView/DatCon - <https://datfile.net/>

DROP - <https://github.com/unhcfreg/DROP>

DatCon is not very intuitive and outputs a csv that doesn’t make much sense.

DROP is specifically designed for the Phantom 3 UAV.

## Agras MG 1s

<https://drive.google.com/drive/folders/1hOPz8rApPXlepXq7KdaFw_77tLWx8xeL?usp=sharing>

## Inspire 1

<https://drive.google.com/drive/folders/1gH9IzwXsT5wPTX9lge6rbUNEfqz4ykIo?usp=sharing>

## Inspire 2

<https://drive.google.com/drive/folders/1JevrJm5teq_sNo7cA9wIEV5wKKW63q59?usp=sharing>

## Matrice 210

<https://drive.google.com/drive/folders/11SQsxqGgGtSZgr-DGRfJ_xH43aHYJoSP?usp=sharing>

## Matrice 600

<https://drive.google.com/drive/folders/1qDgl9ecAjJrvLAVUPwgdNaU-pmaTfu9Z?usp=sharing>

## Mavic 2

<https://drive.google.com/drive/folders/1ISuWCl7t8MRRPVO5hohp_LSgKSZcm-di?usp=sharing>

## Mavic 2 Enterprise

<https://drive.google.com/drive/folders/132E-jMeUJZf1APMkdLnh3M-h4BCxxwXK?usp=sharing>

## Mavic Air

<https://drive.google.com/drive/folders/1wcKvRqOTgK-uC3HKbLGfwV6LlMxmlJCA?usp=sharing>

## Mavic Pro

<https://drive.google.com/drive/folders/1wHgYh9LTjcy2t0VJJ6SZv5eaWpob3C-m?usp=sharing>

## Phantom 3

<https://drive.google.com/drive/folders/1Y5ILJsGKrHapkuLi7oVWiZOWnbED-KQW?usp=sharing>

## Phantom 4

<https://drive.google.com/drive/folders/1GpNyRTRrh-g6VVKnuoieqTKaZtSfRBsl?usp=sharing>

## Phantom 4 Pro V2

<https://drive.google.com/drive/folders/1fNq7G8adjDeFX1nqXp6Iq5k98avC5rZn?usp=sharing>

## S1000+

<https://drive.google.com/drive/folders/1R5UzZTdun41tv0Qqq6A8LznC0K2Fq-Sc?usp=sharing>

## Spark

<https://drive.google.com/drive/folders/1wDV7SQT3GeyquilMUkjfItSBlPnX2D8a?usp=sharing>

# Intel

## Falcon 8+

<https://drive.google.com/drive/folders/1lV1W-M5zFSL0OvRbErR9kEQfSl1VLhFD?usp=sharing>

Discontinued, Intel offers very little information on the product.

They don’t seem to have any manuals or further information apart from the specifications and downloads available here:

<https://www.intel.co.uk/content/www/uk/en/products/sku/98476/intel-falcon-8/specifications.html>

# Parrot

## Anafi

<https://drive.google.com/drive/folders/1F-xJKkgZPX-uQC9ycPWYXr6pXxO3zkV2?usp=sharing>

Controlled via the freeflight application for mobile.

UAV has a return to home and low altitude feature, GPS and altitude information should be found on the UAV.

The Anafi encrypts all data on the SD card using an AES-XTS algorithm (512 bit key). Likely key is stored on the paired mobile device.

Parrot is partnered with WISeKey to help protect the UAVs identity, prevent firmware and data compromises, and guarantee secure connections between controller and UAV.

## Bebop 2 plus Sky Controller

<https://drive.google.com/drive/folders/1uNq7XVkRG3yuKzaFRszQRauXtbSTcG67?usp=sharing>

GPS coordinates should be stored on the UAV as it has a return to home feature.

Max altitude can also be set.

Photos / videos can be retrieved by using the freeflight application or by connecting the UAV to a computer. Nothing is specified about encryption on this certain UAV.

Sky controller manual:

<https://www.parrot.com/assets/s3fs-public/2021-09/skycontroller_user-guide_uk.pdf>

Bebop 2 manual:

<https://www.parrot.com/assets/s3fs-public/2021-09/bebop-2_user-guide_uk_2.pdf>

## Bluegrass

<https://drive.google.com/drive/folders/1VsYXiMm9OAVnrh3SUehCCMct-VW8ncLd?usp=sharing>

The Bluegrass UAV is specifically designed for agriculture.

To use this drone an account is needed on my.parrot-business.com.

Software available includes: ParrotFields, Pix4Dcapture and freeflight pro mobile applications and the Pix4Dfields desktop solution. ParrotFields and Pix4Dfields can only be downloaded with a key.

Pix4Dcapture allows for autonomous flights. Flight plans and data capture is likely to be found within this application.

Documentation:

<https://www.parrot.com/uk/support/documentation/bluegrass-and-bluegrass-fields>

## Disco

<https://drive.google.com/drive/folders/1hB3NIJZJx_nQPRyofz8MiRb47wykIfJ4?usp=sharing>

This UAV is a plane type which can be controlled via rc controller or mobile application. The only mobile application mentioned for this UAV is freeflight pro.

The Disco has on board GPS as it will return to home when disconnected.

To retrieve photos / videos the UAV can be connected to a desktop, they can also be transferred over the devices Wi-Fi.

Documentation:

<https://www.parrot.com/assets/s3fs-public/2021-09/disco-fpv_user-guide_uk.pdf>

# Qysea

## FiFish P3

<https://drive.google.com/drive/folders/10o9icfOMy7N9T6RAXyMfxTgVSicPo3j4?usp=sharing>

The P3 is an underwater device so no GPS or location data will be available.

Retrieving the images and videos is done over FTP, they recommend 3rd party software FileZilla.

Connecting to the device is easy as the Wi-Fi ID is FIFISHRC\_XXX (the last three digits are the ID of the RC) and the password is 1234567890.

Qysea provide this manual for downloading the files:

<https://www.qysea.com/uploads/file/download-file-from-fifish-rov-version1-for-windows.pdf>

The operation manual is found here:

<https://www.qysea.com/uploads/file/quick_start_and_maintenance_guide_V1-2.pdf>

# Ryze Robotics

## Tello

<https://drive.google.com/drive/folders/1sYc2abzQuezyDvA5lj0OaRwBb6jAG8MO?usp=sharing>

Tello is a very basic UAV aimed at helping users learn about drones. It can also be programmed.

The UAV is controlled via the Tello application.

DJI components are used.

No GPS or location data is specified.

Files are saved to the mobile device controlling the UAV.

Manual can be found here:

<https://dl-cdn.ryzerobotics.com/downloads/Tello/20180404/Tello_User_Manual_V1.2_EN.pdf>

Some SDK documentation is also available:

<https://terra-1-g.djicdn.com/2d4dce68897a46b19fc717f3576b7c6a/Tello%20%E7%BC%96%E7%A8%8B%E7%9B%B8%E5%85%B3/For%20Tello/Tello%20SDK%20Documentation%20EN_1.3_1122.pdf>

# SenseFly

## Albris

https://drive.google.com/drive/folders/1mYp9uqS43NN63FA\_2PCjkRWBZ8Cop1U1?usp=sharing

## eBee

https://drive.google.com/drive/folders/1eHyl4lrTizpy-pzpuLtw5YPf0fAcJVh-?usp=sharing

# Skydio

## R1

https://drive.google.com/drive/folders/15n4gh1lG4W5Yz4OLgHklsYrUIPXkZUaw?usp=sharing

# SkyViper

## 2450GPS

https://drive.google.com/drive/folders/1FUEANu1M7ukmJwOohPWGPq4DwToabNgX?usp=sharing

# Yuneec

## H520

https://drive.google.com/drive/folders/19m5qZ-VeTbNpEe55kzyUJIGLAtB2ZGc\_?usp=sharing

## Typhoon H

https://drive.google.com/drive/folders/13n7wcdcMXElpgEJRyS0ZOLO6BHB8YDHD?usp=sharing

## Typhoon Q500 4K

https://drive.google.com/drive/folders/1TlIntixL2gInvdoN7QhsaJTOLS9viYFv?usp=sharing