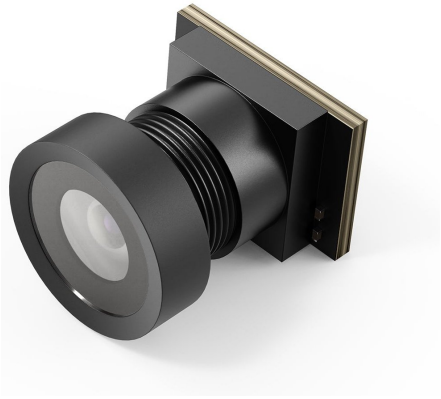
Air HD Camera

BetaFPV
Digital FPV camera for the ArtLynk system – user manual



Read this manual carefully before installation. Always connect and disconnect the camera with the drone battery disconnected.

Importer: Rotorama, s.r.o. · www.rotorama.com

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1. Safety instructions

1.1 Before you start

The **BetaFPV Air HD Camera** is an electronic component designed to be installed in an FPV drone. Installation requires basic experience with building and servicing FPV drones. Before installation, read this entire manual and the manual of the flight controller to which you are connecting the camera.

- The product is not a toy. It is intended for persons aged 14 and over.
- Install and disconnect the camera only **with the drone battery disconnected**.
- Keep small parts out of the reach of children and animals – they may be swallowed.
- Do not modify the product. Interfering with the camera or its cable may cause damage that is not covered by the rights arising from defective performance.

1.2 Handling the camera

- The camera contains components sensitive to **electrostatic discharge**. Discharge yourself by touching a grounded object before handling and do not touch the circuit board or the connector contacts directly.
- The camera connector and the coaxial cable are very delicate. Do not force the cable in, do not lever it and do not pull on the wires.
- Do not touch the lens with your fingers – fingerprints and grease degrade image quality.
- Do not point the lens directly at the sun or at a source of laser radiation for longer than necessary – the image sensor may be permanently damaged.

1.3 Operating environment

- The camera is not waterproof. Protect it from water, moisture, dust and sand.
- Do not use it in environments with flammable gases or vapours.
- Operate the drone with the camera in accordance with the regulations in chapter 3.

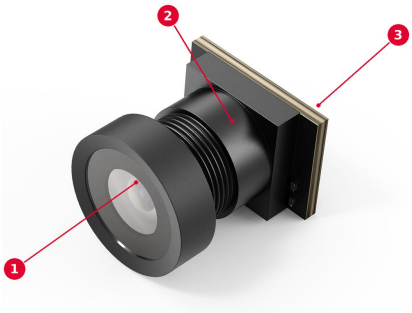
2. Product description

2.1 Package contents

- 1× Air HD Camera

The flight controller, video receiver and FPV goggles are not included.

2.2 Parts description



BetaFPV Air HD Camera

① Lens

② Camera body with lens holder

③ Camera circuit board (0.8 mm thick)

2.3 Technical data

Parameter	Value
Image sensor	1/2.9" CMOS
Field of view (FOV)	153°
Aspect ratio	16:9
Signal-to-noise ratio	41.5 dB
Camera connector	DF36-15 (15 pins)
Coaxial cable length	50 mm
Dimensions	11.9 × 11.8 × 14.2 mm
Weight	1.34 g (cable included)
Compatible flight controller	BetaFPV Matrix 1S AIO P1 HD
Video transmission system	ArtLynk
Video transmission	1080p / 60 fps, latency approx. 60 ms (P1 Air Unit transmitter in the flight controller)

3. Legal requirements for flying a drone with a camera

3.1 The law of the country where you fly applies

Regulations (EU) 2019/947 and 2019/945 apply in all Member States of the European Union, but national implementing rules differ from country to country – registration portals, minimum pilot age, geographical zones, compulsory insurance, permitted frequency bands and maximum transmit power. The information in this chapter describes the situation in the Czech Republic. If you operate the drone in another country, you must comply with the regulations of the country in which you fly.

3.2 Operator registration

Installing this camera turns the drone into an unmanned aircraft equipped with a **sensor able to capture personal data**. Under Article 14(5) of Regulation (EU) 2019/947, the operator of such a drone must therefore register, **regardless of the drone's weight**, i.e. even below 250 g. The only exemption applies to toys under Directive 2009/48/EC – an FPV drone is not a toy. In the Czech Republic, registration is carried out with the Civil Aviation Authority (ÚCL). The operator registration number assigned must be clearly displayed on the drone.

3.3 Personal data protection

- Respect the privacy of other people when flying. Do not film people or private property without their consent.
- Video recordings in which people can be identified may be subject to the General Data Protection Regulation (GDPR) and to laws protecting personal rights.
- We recommend taking out third-party liability insurance for damage caused by operating the drone.

4. Compatibility

4.1 Flight controller

The camera is designed for the **BetaFPV Matrix 1S AIO P1 HD** flight controller. This flight controller (FC) combines the flight controller, electronic speed controllers (ESC), an ExpressLRS 2.4 GHz receiver and a P1 Air Unit video transmitter for the ArtLynk system. The camera is not included with the flight controller and is sold separately. According to the manufacturer, the flight controller weighs 4.60 g, and 5.99 g with the Air HD Camera.

The manufacturer recommends the flight controller for the Air65 II, Air75 II, Meteor65 Pro II and Meteor75 Pro II drones.

The manufacturer states compatibility of the camera only with the Matrix 1S AIO P1 HD flight controller. The standalone BetaFPV P1 Air Unit HD video transmitter uses a different camera and a 26-pin cable – the manufacturer does not state compatibility with it.

4.2 ArtLynk system and video receivers

The camera image is transmitted by the flight controller's video transmitter in the **ArtLynk** system. ArtLynk is an open digital HD video transmission system in which transmitters, receivers and FPV goggles from different manufacturers are mutually compatible. According to the flight controller manufacturer, the following devices, for example, are compatible with the system:

- BetaFPV P1 HD VRX (Standard), P1 HD VRX (Nano), VR04 HD FPV goggles and ArtLynk Monitor,
- HGLRC Draco,
- TJRC VTX, XJRC XJ3D and XJRC 02L FPV goggles.

The manufacturer points out that for use with the Matrix 1S AIO P1 HD flight controller, BetaFPV receivers and goggles (P1 HD VRX Standard, P1 HD VRX Nano, VR04 HD and Monitor) must be updated to the current firmware. The update procedure is described in the manual of the respective receiver or goggles.

4.3 Coaxial cable

The camera is connected to the flight controller with a **15-pin coaxial cable**. Compared with the 26-pin cable of the standalone P1 Air Unit HD, it has fewer wires and lower weight. The manufacturer also offers a replacement cable separately under the name **Camera Coaxial Cable** – double-ended DF35-15P-0.4SD connector, length 43 mm, 44 AWG wires, 50 Ω.

5. Installation

5.1 Before installation

- Disconnect the drone battery and remove the propellers.
- Prepare a clean, well-lit workplace and tweezers with insulated tips.
- Check that the connectors on the camera and the flight controller are clean and undamaged.

5.2 Connecting the coaxial cable

① Check the orientation of the cable connector relative to the connectors on the camera and on the flight controller.

② Place the connector straight and press it evenly, perpendicular to the board, until it is fully seated. Do not use excessive force and do not lever the connector.

③ Route the cable without sharp bends or kinks so that it cannot touch the propellers or chafe against frame edges.

④ When disconnecting, hold the connector – never pull on the cable.

5.3 Mounting the camera

- Mount the camera in a holder or canopy that matches the camera dimensions of 11.9 × 11.8 × 14.2 mm.
- Fix the camera firmly so that it does not vibrate in flight – vibrations show up as a blurred or “jello” image.
- Do not clamp the lens and do not obstruct its field of view with frame parts or propellers.
- Choose the camera tilt angle according to your flying style – the faster you fly, the more upward tilt.

5.4 First power-up and image check

① Switch on the ArtLynk video receiver or FPV goggles.

② With the propellers removed, connect the drone battery.

③ Bind the flight controller's video transmitter to the receiver as described in the manuals of the flight controller and the receiver.

④ Check that the camera image is displayed, sharp and correctly oriented.

⑤ The camera captures in a 16:9 aspect ratio. If the receiver or goggles allow it, set the display to 16:9.

6. Maintenance

6.1 Camera care

- Clean the lens with a soft microfibre cloth or a lens cleaning wipe.
- Do not use solvents, high-concentration alcohol or abrasive agents.
- Remove dust and dirt around the connector with a soft brush.

6.2 Inspection after a crash

- Check the lens – a crack or scratches will show as a hazy or blurred image.
- Check that the coaxial cable connector has not popped out or been torn off and that the cable has not been cut by a propeller.
- Check that the camera is still firmly mounted in the frame.

6.3 Storage

- Store in a dry place away from direct sunlight.
- Keep the loose camera in its original packaging, which protects it from mechanical damage and electrostatic discharge.

7. Troubleshooting

Problem	Possible cause and solution
No image after connecting the battery	The cable connector is not seated correctly – disconnect the battery and reconnect the connector. The cable or connector is damaged – replace the cable. The video transmitter is not bound to the receiver – bind it as described in the flight controller manual.
Image is black-and-white, noisy or flickering	Check the connection and condition of the coaxial cable. Make sure the receiver or goggles have the current firmware (chapter 4.2).
Image is blurred or hazy	The lens is dirty or scratched – clean it (chapter 6.1). If the lens is damaged, the camera must be replaced.
Image “wobbles” in flight	The camera is vibrating – mount it more firmly in the holder and check the propellers and motors.
Image is distorted or cropped	Set the aspect ratio to 16:9 in the receiver or goggles.

8. Information for the EU and Czech Market

8.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

8.2 Product conformity

CE

- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorama.cz.
- **Product identification:** the type designation (Air HD Camera) is given on the product packaging; the product code is 01060026_1.

8.3 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

9. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 8.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.