Osprey 90mm u.FL LHCP

FlyFishRC – antenna for a 5.8 GHz video transmitter
User manual



Never power on a video transmitter without an antenna connected.

Rotorama, s.r.o. · www.rotorama.com

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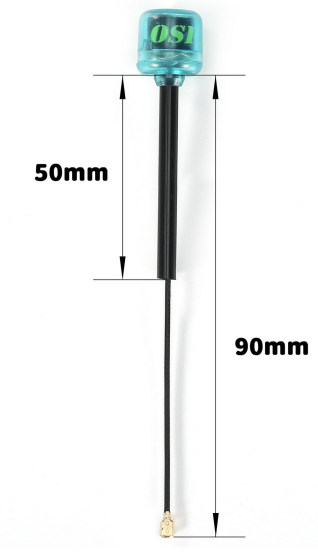
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1. Product description

1.1 What it is for

FlyFishRC Osprey 5.8GHz 90mm u.FL LHCP is a small, lightweight circularly polarised antenna for analogue and digital video transmitters (VTX) in the 5.8 GHz band. Thanks to its u.FL (IPEX 1) connector and a weight of 2.8 g, it is particularly suitable for 3–4" quadcopters and racing drones, where every gram counts.

The radiating element sits in a transparent housing made of impact-resistant polycarbonate, which is hermetically sealed and protects the antenna elements inside. Near the radiating element, the coaxial cable runs inside a protection tube. The antenna has **left-hand circular polarisation (LHCP)** – the receiving side (FPV goggles, monitor) must use an antenna with the same polarisation.



Antenna dimensions – protection tube 50 mm, 90 mm from the base of the radiating element to the connector

1.2 Specifications and package contents

Product designation	FlyFishRC Osprey 5.8GHz 90mm ipex/UFL FPV Antenna – LHCP
Manufacturer code	A000194
Frequency	5.8 GHz
Band covered	5.6–6.0 GHz
Gain	2.82 dBi
VSWR	≤ 1.2:1
Radiation efficiency	99 %
Polarisation	LHCP (left-hand circular)
Connector	u.FL (IPEX 1)
Radiating element size	diameter 14.1 mm × height 14 mm
Length	90 mm from the radiating element to the connector, overall length 104 mm
Cable	RG1.13 coaxial cable in a protection tube (50 mm)
Radiating element housing	impact-resistant polycarbonate, hermetically sealed
Weight	2.8 g
Package contents	1× FlyFishRC Osprey 90mm u.FL LHCP antenna

Not included: video transmitter, antenna mount, fastening material (cable ties, heat-shrink tubing) and a u.FL connector removal tool.

2. Use

2.1 Before you start

Never power on a video transmitter without an antenna connected. A video transmitter without an antenna can be irreversibly damaged within moments.

- The antenna is a passive part – it does not transmit anything by itself and needs no power. The frequency and transmit power are determined by the video transmitter you connect it to.
- Check that your video transmitter has a **u.FL (IPEX 1)** antenna connector. For video transmitters with an SMA, RP-SMA or MMCX connector, a different antenna version or a suitable adapter (pigtail) is required.
- Check the polarisation of the antennas on the receiving side. For the best signal, the antenna on the drone and the antennas on the goggles or monitor must have **the same polarisation** – here LHCP. Combining LHCP and RHCP significantly reduces range.

2.2 Connecting the u.FL connector

① Disconnect the battery from the drone.

② Place the connector perpendicularly above the mating connector on the video transmitter so that it is exactly aligned.

③ Press the connector straight down, ideally with a fingernail or a flat tool, until it audibly or noticeably clicks into place.

④ Check with a gentle movement that the connector holds and is not seated at an angle.

When disconnecting, **never pull the connector by the cable**. Lift it with a u.FL tool or a fingernail and pull it straight up. u.FL connectors are small and not designed for frequent disconnection – do not connect and disconnect them unnecessarily.

2.3 Positioning and mounting on the drone

- Position the radiating element so that it **protrudes beyond the frame**, usually at the rear of the drone, pointing upwards or backwards at an angle. A carbon frame, the battery and metal parts shield the signal.
- The radiating element must not reach into the propeller area or into the camera's field of view.
- Route the cable as far as possible from power leads and electronic speed controllers (ESC) and do not bend it sharply – especially right next to the connector and where the cable exits the protection tube.
- Fasten the protection tube to the frame or into an antenna mount (with a cable tie, heat-shrink tubing or a printed mount) so that the u.FL connector does not

carry the weight of the antenna and is not torn off in a crash.

- Secure the cable near the connector against pulling, for example with a drop of glue or tape on the video transmitter – but do not cover the connector itself in a way that prevents it from being disconnected.

2.4 Frequencies and legal conditions of use

The antenna covers the 5.6–6.0 GHz band. Which channels and what transmit power you may use is not determined by the antenna but by the settings of the video transmitter and by regulations. **The law of the country in which you operate the product is decisive** – permitted frequency bands and maximum transmit power differ between EU member states. In the Czech Republic, follow the general authorisations of the Czech Telecommunication Office (ČTÚ); in another country, follow the regulations of that country.

3. Maintenance and troubleshooting

3.1 Inspection and maintenance

- After every crash, inspect the radiating element housing, the protection tube and the cable. A cracked housing, a cut or pinched cable and a loose connector degrade the signal.
- Replace a damaged antenna. Do not repair the cable or the radiating element – any intervention changes the electrical properties of the antenna.
- Clean the housing with a dry or slightly damp cloth, without solvents.

3.2 Troubleshooting

Problem	Possible cause and solution
Short range, video interference	Different polarisation on the drone and the receiver – use LHCP on both sides. The radiating element is covered by the frame or battery – move it outside the frame.
Video drops out as the drone moves	Loose u.FL connector – check that it is clicked in. Damaged cable – replace the antenna.
Signal got worse after a crash	Cracked radiating element housing or broken cable – replace the antenna.
Connector does not hold	Worn connector on the antenna or on the video transmitter – replace the antenna; for a damaged connector on the video transmitter, refer to the video transmitter's manual.

4. Information for the EU and Czech Market

4.1 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

4.2 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.

5. 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 4.1.
- 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.