Core 125 mm LHCP

TrueRC — 5.8 GHz LHCP antenna
SMA or RP-SMA connector, 125 mm length



Read this manual before use and keep it for future reference.

Rotorama, s.r.o. · www.rotorama.com

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1. Product description

1.1 Intended use

TrueRC Core is an omnidirectional, circularly polarized antenna for the 5.8 GHz band made by the Canadian manufacturer TrueRC. This version has **left-hand circular polarization (LHCP)**, a length of 125 mm and an SMA or RP-SMA connector. It is intended mainly for drones with digital video transmission – freestyle and long-range drones as well as cinelifters.

The antenna screws onto the antenna connector of a video transmitter (VTX) or another device operating in the 5.8 GHz band. The radiating element is protected by a durable polycarbonate housing, injection moulded and ultrasonically welded. The stiff coaxial cable holds its shape after bending. The antenna is passive – it does not transmit on its own and needs no power supply.



① antenna head (radiating element in polycarbonate housing) · ② coaxial cable · ③ knurled SMA / RP-SMA connector (detail bottom right: SMA version)

1.2 Specifications and package contents

Product designation	TrueRC CORE 5.8, 125 mm, LHCP, SMA or RP-SMA connector
Manufacturer	TrueRC (Canada), www.truerc.ca
Frequency band	5.8 GHz; bandwidth 5.5–6.1 GHz
Gain	1.9 dBic
Polarization	circular, LHCP (left-hand)
Cross-polar rejection	−10 to −20 dB
Radiation efficiency	98 %
SWR	≤ 1.2 : 1
Head dimensions	diameter 16.9 mm × height 13.1 mm
Length	125 mm
Connector	knurled True-SMA for hand tightening; SMA or RP-SMA depending on version
Housing material	polycarbonate
Colour	grey or red (depending on version)
Package contents	1× antenna
Not included	video transmitter, adapters and extension cables, antenna mount, cable ties

※ The manufacturer does not state the weight of the individual versions. The polarization direction is marked on the antenna housing.

2. Use

Never power up the video transmitter (VTX) without an antenna connected. The transmitter may be permanently damaged.

2.1 SMA or RP-SMA?

The antenna is sold with two connector types that are **not interchangeable**. Choose the version that matches the connector on your video transmitter:

- **SMA** – the antenna connector has a **pin** in the centre. It fits a transmitter whose connector has a socket in the centre.
- **RP-SMA** – the antenna connector has a **socket** in the centre. It fits a transmitter whose connector has a pin in the centre.



left: SMA connector (centre pin) · right: RP-SMA connector (centre socket)

The wrong combination can still be screwed together, but the centre conductor makes no contact – the transmitter then works as if no antenna were connected. Use an adapter only as an exception; every transition increases losses and puts mechanical stress on the transmitter connector.

2.2 Connecting to the video transmitter

① Before connecting, disconnect power from the video transmitter (unplug the battery).

② Check that the antenna and transmitter connectors are clean and undamaged and that the centre pin is not bent.

③ Fit the connector straight, without forcing it at an angle, and screw the coupling nut on by hand. The knurled nut allows firm tightening without tools.

④ Tighten by hand only. Do not use pliers or a wrench – excessive force may damage the thread or break the connector off the transmitter board.

⑤ When screwing on, do not rotate the whole antenna against the transmitter and do not twist the cable; turn the coupling nut only.

2.3 Placement on the drone

- Position the antenna head so that it protrudes above the frame and is not covered by carbon or metal parts – they block the signal.
- Fix the antenna in a suitable mount (e.g. 3D-printed from TPU) so that it cannot get into the propellers and so that leverage in a crash does not act directly on the transmitter connector.
- The stiff cable holds its shape after bending; bend it smoothly, without sharp kinks, and not repeatedly at the same spot.
- Keep the head as far as possible from wiring, motors, electronic speed controllers (ESC) and other sources of interference.

2.4 Polarization

This antenna has **left-hand circular polarization (LHCP)**. The antenna on the receiving side (FPV goggles, video receiver) must have the same polarization. Combining LHCP and RHCP antennas significantly reduces range and degrades image quality.

2.5 Radio regulations

The antenna does not transmit on its own, but it affects the radiated power of the whole setup: the effective isotropic radiated power (e.i.r.p.) is determined by the video transmitter output power and the antenna gain. The user is responsible for setting the output power and choosing the channel.

- The law of the country in which you operate the equipment is decisive. Permitted frequency bands and maximum transmit powers differ from country to country.
- In the Czech Republic, general authorisation of the Czech Telecommunication Office (ČTÚ) No. VO-R/10 permits operation in the 5725–5875 MHz band at a maximum of 25 mW e.i.r.p. Check the current wording at www.ctu.cz.
- Operation outside these bands and limits may require an individual authorisation, e.g. an amateur radio licence.

2.6 Care and inspection

- Before every flight, check that the connector is tight and that the cable is not cut, pinched or broken at the connector or at the antenna head.
- Do not use a damaged antenna – it degrades video transmission and may damage the transmitter.
- Do not paint the antenna housing with metallic paints or cover it with metal foils.
- Clean the antenna with a soft dry cloth; do not use solvents.
- This product is not a toy. Keep it out of the reach of children.

3. Information for the EU and Czech Market

3.1 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

3.2 Disposal



- 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.

4. 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 3.1.
- 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.