Singularity 5.8 MMCX90

TrueRC – 5.8 GHz circularly polarized antenna, RHCP
Angled MMCX 90° connector, 90 mm length



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

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1. Product description

1.1 Intended use

TrueRC Singularity 5.8 is a very small and lightweight omnidirectional antenna for the 5.8 GHz band with circular polarization. It is used on the drone side – it connects to the video transmitter (VTX) and radiates the video signal to the receiver in the FPV goggles. The manufacturer, the Canadian company TrueRC, describes it as its most advanced antenna.

This version has an **angled MMCX 90° connector** and a length of 90 mm. It is suitable for freestyle drones, smaller 3–4" drones and cinewhoops. The angled connector allows the cable to be routed along the frame and does not stress the connector on the video transmitter board.



① antenna head (radiator) · ② coaxial cable · ③ angled MMCX 90° connector

1.2 Specifications and package contents

Manufacturer	TrueRC (Canada)
Product designation	Singularity 5.8 – MMCX90, regular 90 mm version, RHCP
Frequency band	5.6–6.0 GHz
Gain	1.9 dBic
Polarization	circular, right-hand (RHCP)
Cross-polar rejection	−15 to −30 dB (1.9 %)
Radiation efficiency	99 %
SWR	≤ 1.5 : 1
Head dimensions	diameter 11.8 mm × height 8.2 mm
Length	90 mm
Connector	MMCX, angled 90° (MMCX90)
Weight	the manufacturer states 1.03–3.55 g for the Singularity 5.8 MMCX series, depending on version
Package contents	1× antenna
Not included	video transmitter, antenna mount, adapters to other connectors, mounting material

2. Use

2.1 Compatibility and polarization

- The antenna is intended for **5.8 GHz** video transmitters with an **MMCX** connector (socket on the transmitter board). It cannot be connected to transmitters with u.FL, SMA or RP-SMA connectors without an adapter.
- The operating band of the antenna is 5.6–6.0 GHz. Use channels that lie within this band and are also permitted in the country of operation (see Chapter 2.5).
- The antenna has **right-hand circular polarization (RHCP)**. The antenna on the drone and the antennas on the receiver (FPV goggles) must have the **same polarization**. Neither polarization is better than the other – only matching matters.
- When RHCP and LHCP are combined, according to the manufacturer only about 3 % of the signal gets through – you will still have video, but noticeably worse and with shorter range.

2.2 Mounting on a drone

① Disconnect the battery from the drone. Always connect and disconnect the antenna with the power off.

② Place the MMCX connector squarely onto the video transmitter socket and press until it clearly snaps in. Turn the angled connector so that the cable points towards the place where the antenna will be mounted.

③ Route the cable along the frame and secure it (antenna mount, cable tie, heat-shrink tubing) so that the connector is not stressed by pulling or vibration.

④ Place the antenna head out of reach of the propellers, usually at the rear of the drone above the frame. There should be no carbon or metal parts around the head that would shield the signal.

⑤ Do not bend the cable sharply, especially next to the connector and next to the antenna head.

⑥ Before flying, check that the image in the goggles is clean and that the antenna cannot touch the blades when the propellers are turned.

※ Never power up the video transmitter without an antenna connected. When disconnecting, pull by the connector body, never by the cable.

2.3 Handling and maintenance

- After every crash, check the head, cable and connector. Do not use a cracked head, a cut or crushed cable or a loose connector – a damaged antenna significantly reduces range and may damage the video transmitter.
- Keep the MMCX connector clean and dry; remove dirt with a dry brush or compressed air.

- Protect the antenna from sharp edges of the frame and from contact with the propellers.
- Modify the cable or connector (shortening, re-soldering) only if you have the necessary experience. Defects caused by such modifications are not product defects.

2.4 Troubleshooting

Problem	Possible cause and solution
Video only within a few metres	The antenna is not connected properly, or the transmitter and receiver are not on the same channel. Check that the connector has snapped in and check the channel setting.
Grainy, weak video	Different polarization of the antennas on the drone and on the goggles (RHCP × LHCP). Use antennas with the same polarization.
Video dropouts in certain positions	The head is shielded by the frame, the battery or other parts. Place it higher and further from carbon and metal parts.
Worse video after a crash	Damaged head, cable or connector. Inspect the antenna and replace it if damaged.

2.5 Frequencies and transmit power

The antenna is a passive part and does not transmit anything by itself. The operator is responsible for the choice of channel and the power setting of the video transmitter. **The law of the country in which the product is operated is decisive.** In the Czech Republic, a limit of 25 mW e.i.r.p. applies to the 5725–5875 MHz band (ČTÚ general authorization VO-R/10). The antenna gain is added to the transmitter power when calculating e.i.r.p. In other countries, follow the local regulations.

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.