Singularity SMA 120mm

Omnidirectional circularly polarized 5.8 GHz antenna
TrueRC · SMA connector · length 120 mm · RHCP polarization



Never power on the video transmitter (VTX) without an antenna connected – it may be damaged.

www.rotorama.com

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1. Product description

1.1 What it is for

The **TrueRC Singularity 5.8 SMA** is an omnidirectional, circularly polarized antenna for the 5.8 GHz band made by the Canadian manufacturer TrueRC. It is used for video transmission on FPV drones and models – it is fitted to the video transmitter (VTX) on the model or to the video receiver in goggles or a monitor.

This variant has an **SMA** connector and a length of **120 mm**, making it suitable for freestyle and long-range drones as well as cinewhoops, where the antenna needs to reach further away from the frame. The cable is stiff but flexible and holds the shape you bend it into. The connector nut is knurled for easy hand tightening.



Singularity 5.8 antenna head and SMA connector

1.2 Specifications and package contents

Parameter	Value
Manufacturer	TrueRC (Canada)
Product designation	Singularity 5.8 – SMA, variant SMA 120 mm
Frequency band	5.6–6.0 GHz
Gain	1.9 dBic
Polarization	circular, RHCP (right-hand)
Cross-polar rejection	−15 to −30 dB
Radiation efficiency	99 %
SWR	≤ 1.5 : 1
Head dimensions	diameter 11.8 mm × height 8.2 mm
Cable and connector	RG405, length 120 mm, SMA connector
Package contents	1× antenna

Not included: video transmitter, receiver or goggles, adapters to other connector types (RP-SMA, MMCX, u.FL), antenna mount or mounting hardware.

2. Use

2.1 Compatibility and polarization

- The antenna is designed for video transmission in the **5.8 GHz** band. Do not use it for other bands (e.g. 2.4 GHz or 1.2 GHz).
- The device must have a mating **SMA** connector. SMA and RP-SMA connectors look similar but are **not compatible with each other** – with the wrong combination the centre conductors do not connect and no signal passes. For a different connector, use a suitable adapter (not included).
- The transmitting and receiving sides must have the **same polarization**. This antenna is RHCP – so use RHCP antennas on your goggles or receiver as well. According to the manufacturer, combining RHCP with LHCP lets only a small part of the signal through and the image will be noticeably worse.
- Neither polarization is better than the other; what matters is that both sides match. Pilots flying together can use different polarizations to reduce mutual interference.

2.2 Installation

① Before installation, disconnect the battery from the model so that the video transmitter cannot power on.

② Fit the connector straight onto its counterpart and **tighten the nut by hand**. Do not use pliers or a wrench – overtightening will damage the thread or the connector on the VTX board.

③ Secure the cable to the frame (with an antenna mount, cable tie or heat-shrink tubing) so that no force is transferred to the connector. On its product page the manufacturer offers 3D-printable mount models for selected frames.

④ Place the antenna head as far as possible from carbon frame parts, cables and the battery, and out of reach of the propellers. Carbon and metal parts shield the signal.

⑤ The cable can be shaped. However, do not bend it sharply right next to the connector or the antenna head, and do not bend it repeatedly in the same place.

⑥ Only then connect the battery and check the image in your goggles.

※ Never power on the video transmitter without an antenna connected. The transmitted power has nowhere to radiate and the transmitter may be permanently damaged.

2.3 Frequencies and transmit power

The antenna is a passive component and does not transmit by itself. However, the resulting radiated power (e.i.r.p.) is determined by the video transmitter power and the antenna gain – the user is responsible for setting the channel and transmitter power correctly.

- **The law of the country in which you operate the model applies.** Permitted bands and maximum transmit powers differ from country to country. The information below describes the situation in the Czech Republic.
- In the Czech Republic, under the general authorization of the Czech Telecommunication Office (ČTÚ) No. VO-R/10, a maximum radiated power of **25 mW e.i.r.p.** is permitted in the **5725–5875 MHz** band.
- The antenna covers the 5.6–6.0 GHz band, i.e. also frequencies outside the permitted range. Do not use channels outside the 5725–5875 MHz band in the Czech Republic.

3. Care and troubleshooting

3.1 Care and storage

- After a crash, check the antenna head, cable and connector. A cracked head, cut or kinked cable or a loose connector will reduce range and image quality.
- Keep the connector clean and dry; protect it from impacts and dirt during storage and transport.
- Do not carry the model by the antenna and do not use the antenna as a handle.
- Store the antenna in a dry place, away from direct sunlight and heat sources.

3.2 Troubleshooting

Problem	Possible cause and solution
Short range, grainy image	Check that the connector is tightened and that the goggles use antennas of the same polarization (RHCP). Verify the channel set on the transmitter and the receiver.
Connector will not screw on	Most likely an SMA / RP-SMA mismatch or a damaged thread. Do not use force; use the correct adapter.
Image drops out in certain orientations	The antenna head is shielded by the frame, battery or cables. Change the antenna position.
Image worse after a crash	Check the antenna head, cable and connector. Replace a damaged antenna.

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



- 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.