Triumph Pro SMA LR

5.8 GHz RHCP antenna, SMA connector
User Manual



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

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

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1. Product description

1.1 Intended use

TBS Triumph Pro (SMA) Long Range is an omnidirectional antenna with RHCP circular polarization for 5.8 GHz video transmission. It is mounted on a video transmitter (VTX) with an SMA connector. The *Long Range* version has an extended cable, which allows the antenna head to be placed in an exposed position away from the frame where the signal propagates better.

The antenna was designed by IBCrazy and is manufactured by Team BlackSheep (TBS). Multi-phase microstrip elements create a precise circular pattern which, according to the manufacturer, is not distorted by proximity to the aircraft or other objects. The elements are enclosed in an ultrasonically welded, foam-filled cover, and the cable is semi-rigid with a double jacket.



① head ② cable ③ SMA connector

1.2 Specifications and package contents

Product designation	TBS Triumph Pro (SMA) Long Range
Frequency range	5500–6000 MHz
Polarization	RHCP (right-hand circular)
Gain	1.6 dBi
Weight	6.6 g
Cable length	130 mm
Connector	SMA
Manufacturer	TBS Avionics Limited (Team BlackSheep), Room 1302 13/F CRE Building, 303 Hennessy Road, Wanchai, Hong Kong
Package contents	1× TBS Triumph Pro (SMA) Long Range antenna
Not included	video transmitter, antenna mount, connector adapters (RP-SMA, U.FL, MMCX), mounting material

2. Use

2.1 Before installation

- **Connector:** the antenna has an SMA connector and fits a video transmitter with a mating SMA connector. SMA and RP-SMA connectors look similar but are not compatible with each other – do not force them together without a suitable adapter.
- **Polarization:** the antennas on the drone and on the receiver (goggles) must have the same polarization, i.e. RHCP. Combining RHCP with LHCP causes significant signal loss and reduced range.
- **Frequency:** use only video transmitter channels within the 5500–6000 MHz range. Outside this range the antenna does not work correctly.

※ Never power on the video transmitter without an antenna connected. Transmitting without an antenna can permanently damage the video transmitter.

2.2 Mounting on the drone

① Disconnect the drone battery so that the video transmitter is not powered.

② Fit the SMA connector straight onto the mating connector of the video transmitter and tighten the nut by hand. Do not use excessive force – overtightening can damage the transmitter connector.

③ Route the cable so that it cannot get into the propellers and fasten it to the frame or into an antenna mount. Do not bend the cable sharply, especially right next to the connector and the head.

④ Place the head in an exposed position where it is not covered by the frame, battery, camera or other parts. A carbon frame and metal parts shield the signal.

⑤ Before take-off, check that neither the head nor the cable touches the propellers in any position.

2.3 Operation and regulations

The antenna is a passive part and does not transmit anything by itself. The transmit power and frequency used are determined by the video transmitter. The radiated power (e.i.r.p.) is the video transmitter power increased by the antenna gain. The operator is responsible for ensuring that the combination of video transmitter and antenna complies with the permitted frequency bands and power limits.

The law of the country in which the product is operated applies. Permitted frequency bands and maximum transmit powers differ between countries; in the Czech Republic they are set by the Czech Telecommunication Office (www.ctu.cz).

2.4 Maintenance and storage

- After every crash, check the head cover, cable and connector. A cracked cover, kinked cable or loose connector degrades reception.
- Keep the connector clean and dry. Remove dirt with a dry brush.
- Store the antenna in a dry place, away from direct sunlight and heat sources; protect the head, connector and cable during transport.

2.5 Troubleshooting

Problem	Possible cause and solution
Short range, noisy image	Mismatched antenna polarization (RHCP / LHCP) – use RHCP on both sides. The head is covered by the frame or battery – reposition it.
Image drops out after a crash	Damaged cable, cover or connector – inspect the antenna and replace it if damaged.
Weak signal on some channels	The channel is outside the 5500–6000 MHz range – select a channel within the antenna range.
Antenna cannot be screwed on	The video transmitter has a different connector type (RP-SMA, U.FL, MMCX) – use a suitable adapter or an antenna version with the matching connector.

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 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.

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.