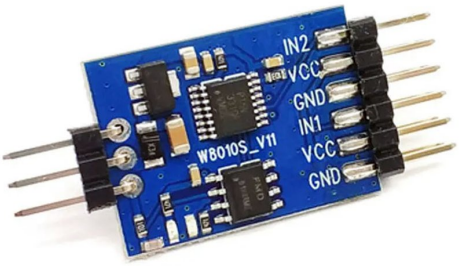
Video switcher

3 channels – W8010S_V11
User manual



Read this manual before connecting. Do all wiring with the power disconnected.

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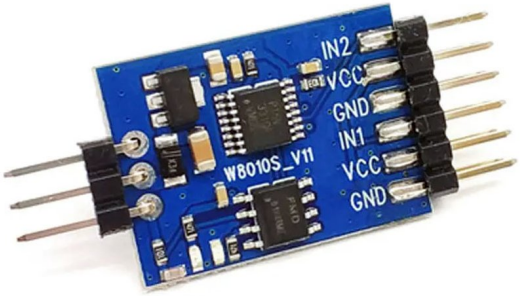
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1. Product description

1.1 What it is for

The video switcher is a small board that lets you switch between **three analog video signals**. You connect up to three cameras, a video transmitter (VTX) and one PWM control channel to the board; the control channel selects which of the images is sent to the video transmitter. The PWM control signal can come either directly from the RC receiver or from the flight controller (FC).

Switching is particularly useful on drones with a drop mechanism or on FPV airplanes, where you can mount additional cameras facing the wings or the tail. You then switch cameras in flight with a switch on your radio.



Video switcher – side with inputs IN1 and IN2

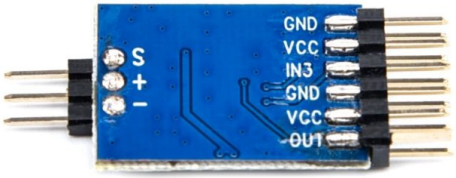
1.2 Technical data and package contents

Board marking	W8010S_V11
Video inputs	3 (IN1, IN2, IN3), analog video signal
Video output	1 (OUT) – to the video transmitter
Control	PWM signal from the RC receiver or flight controller (pin S)
Supply voltage	4.8–6 V
Dimensions	40 × 18 × 5 mm (including pin headers)
Weight	3 g
Package contents	1× video switcher
Not included	cameras, video transmitter, connecting cables and connectors

1.3 Connector description

On one side of the board there is a three-pin header for the control signal; on the opposite side there is a double-row 2 × 6 pin header for the cameras and the video transmitter. Each video connector has a group of three pins signal – VCC – GND, just like the usual camera and video transmitter cables.

Pin	Board side	Function
S, +, −	control header	PWM control signal (S) and ground (−) from the receiver or FC
IN1, VCC, GND	front	camera 1 – video, power, ground
IN2, VCC, GND	front	camera 2 – video, power, ground
IN3, VCC, GND	back	camera 3 – video, power, ground
OUT, VCC, GND	back	video transmitter – video output, power, ground



Back side – control pins S, +, − and connectors IN3 and OUT

※ All VCC pins on the board are connected together, and so are all GND pins. The voltage applied to VCC (typically from the camera power output of the video transmitter) is therefore supplied to all three cameras at the same time.

2. Connection and use

2.1 Before you start

- Do all wiring **with the battery disconnected** and with no power applied.
- The supply voltage on the VCC pins must be within **4.8–6 V** and must also match the supply voltage of all connected cameras. Power cameras with a different supply voltage separately and connect only their video signal and GND to the switcher.
- Observe correct polarity – reversing VCC and GND can destroy the switcher, the cameras and the video transmitter.
- After installation, insulate the board (e.g. with heat-shrink tubing) and mount it so that it cannot touch the carbon frame or other conductive parts.
- Never power the video transmitter without an antenna connected.

2.2 Wiring

① Connect the cameras to connectors **IN1**, **IN2** and **IN3** – the camera video signal to the IN pin, power to VCC and ground to GND. If you do not need all three inputs, leave one unused.

② Connect the video transmitter to connector **OUT** – the transmitter video input to the OUT pin, the transmitter's camera power output to VCC and ground to GND.

③ Connect the control connector **S / + / −** with a servo cable to a channel output of the RC receiver or to a PWM output of the flight controller (FC). The signal goes to S, ground to −.

④ Check the entire wiring and only then connect power.

2.3 Radio setup and camera switching

The camera is selected according to the value of the PWM signal on pin S. It is best to assign the control channel to a **three-position switch** on the radio – each position then corresponds to one camera. A two-position switch only allows switching between two cameras.

- When controlling directly from the receiver, assign a free channel (AUX) to a three-position switch on the radio and connect the output of this channel on the receiver to the video switcher.
- When controlling from the flight controller (FC), the FC must have an output configured that generates a PWM signal controlled from the radio. The procedure depends on the firmware and the specific flight controller – follow their documentation.
- Use the full range of the channel (the end positions of the switch correspond to the channel minimum and maximum) so that the switcher reliably distinguishes the positions.

2.4 Function check

Before the first flight, go through all switch positions on the ground while wearing FPV goggles or watching a monitor, and verify which position corresponds to which camera. Check that the image switches reliably and without dropouts, even when the cables move.

2.5 Troubleshooting

Problem	Possible cause and solution
No image	Check the power on VCC and GND, the polarity and the connection of the video transmitter to connector OUT.
Image does not switch	Check the connection of pins S and −, the channel assignment on the radio and that the channel value actually changes when switching (e.g. in the radio's channel monitor).
Switches between two cameras only	The channel is assigned to a two-position switch or does not use the full range – use a three-position switch and check the channel end values.
One camera has no image	Check the cable and power of that camera and whether the camera tolerates the voltage applied to VCC.

3. EU and Czech Republic market information

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.

The information in Chapters 3 and 4 describes the situation under EU and Czech law. If you use the product in another country, the law of the country in which the product is operated is decisive.