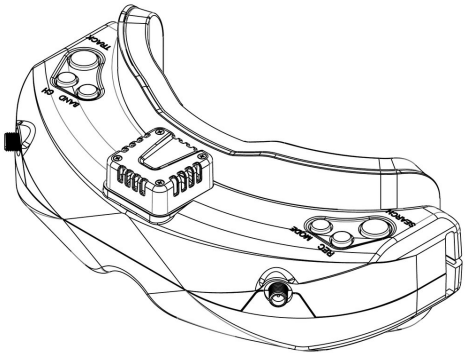
SKY02O

Skyzone – analog FPV goggles with OLED displays
User manual



Read the entire manual carefully before first use. Never expose the goggle lenses to direct sunlight – the displays may burn in permanently.

www.rotorama.com

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1. Safety instructions

1.1 General rules

- The goggles are intended for receiving and displaying video from FPV models. They are not protective eyewear and must not be used while driving or walking.
- With the goggles on you cannot see your surroundings. When flying with the goggles, always stand or sit in a safe place and have an observer next to you (see chapter 3.3).
- Do not use the goggles if they are mechanically damaged, if the power cable is damaged, or if they emit an odour or smoke.
- Protect the goggles from water, moisture, dust, drops and extreme temperatures. Do not use them in the rain.
- Do not open or modify the goggles. Tampering with the device is not covered by the rights arising from defective performance.
- If you feel nauseous, have a headache or tired eyes, remove the goggles and take a break.
- The goggles contain small parts and cables – keep them out of reach of small children.

1.2 Powering from a Li-Po battery

The goggles have no built-in battery. They are powered from an external 2S–6S Li-Po battery (input voltage DC 6.5–25.2 V) via the supplied power cable.

- Always connect the battery with the correct polarity and only with the supplied or an equivalent cable.
- Never discharge the battery below 3.5 V per cell (2S: 7.0 V; 6S: 21.0 V). For storage, charge or discharge it to 3.8 V per cell (2S: 7.6 V; 6S: 22.8 V). A fully charged Li-Po cell has 4.20 V.
- Charge Li-Po batteries under supervision, on a non-flammable surface and with a charger designed for Li-Po.
- Do not use a damaged, swollen or overheated battery and dispose of it safely.

1.3 Protecting the OLED displays

DO NOT EXPOSE THE LENSES DIRECTLY TO SUNLIGHT, OTHERWISE THE SCREEN WILL BURN IN.

- When not in use, store the goggles in the supplied case or with the lenses facing down.
- Do not set the OLED brightness unnecessarily high (see chapter 5.7). Due to the OLED's characteristics, excessive brightness may cause a slight brightness drop of the screen.

2. Product description

2.1 Introduction

The SKY02O is an upgraded version of the classic SKY02 series. Its 640 × 400 OLED screens have vivid colours and a high contrast ratio, so the pilot can see more details when racing.

With the SteadyView receiver, the receiver merges two signals into one, avoiding image tearing and rolling, and making the image more stable and clear in challenging conditions. The new user interface has better logic and is easy to navigate.

2.2 Specifications

Parameter	SKY02O
Screen	OLED
Resolution	640 × 400
FOV (diagonal)	29°
Aspect ratio	16:9 / 4:3, switchable ※
Interpupillary distance (IPD)	59–69 mm
Receiver	built-in SteadyView, 5.8 GHz, 48 channels
Sensitivity	−98 dBm ±1 dBm
Antenna ports	2× SMA-K, 50 Ω
Menu language	Chinese / English
Power supply	DC 6.5–25.2 V (Li-Po 2S–6S)
Power consumption	500 mA at 12 V
DVR	MJPEG, 30 fps, AVI; SD card up to 64 GB
Head tracker	3-axis accelerometer, 3-axis gyroscope
Fan	built-in, anti-fog ※
Dimensions	167 × 70 × 79 mm
Weight	210 g

※ Stated on the manufacturer's product page, not in the manufacturer's manual.

2.3 Band / channel table

Channel frequencies in MHz:

Band	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865	5845	5825	5805	5785	5765	5745	5725
B	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
R	5658	5695	5732	5769	5806	5843	5880	5917
L	5362	5399	5436	5473	5510	5547	5584	5621

Band R is RaceBand. For operation in the Czech Republic, read chapter 3.2.

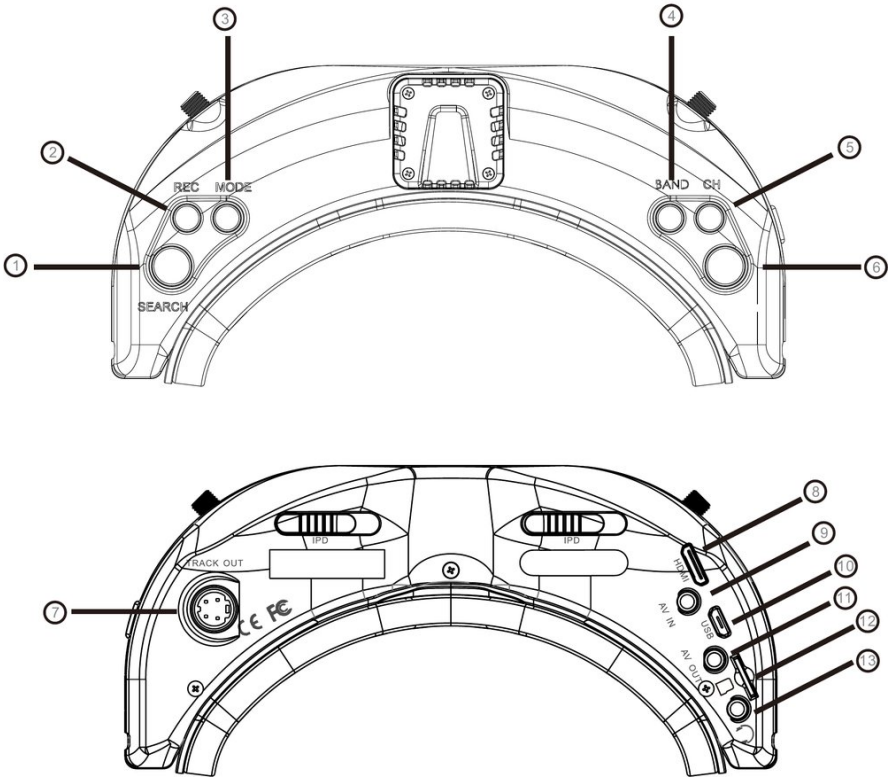
2.4 Package contents

- SKY02O goggles – 1 pc
- Zipper case – 1 pc
- 5.8 GHz antennas – 2 pcs (patch and omni)
- Sponge with velcro – 1 pc
- Power cable (DC – XT60) – 1 pc
- Head tracker cables – 2 pcs (JR and Futaba)
- Video/audio cable – 1 pc
- Manufacturer's user manual – 1 pc

Not included: power battery, charger, SD card, earphones, HDMI cable or diopter lenses.

※ The list follows the manufacturer's manual. The cable names on the manufacturer's product page may differ between production batches.

2.5 Diagram



Top view (above) and rear view (below)

1 Search / Diversity and Mix switch	**2** Record / OK
3 Mode / Back	**4** BAND / Up
5 CHANNEL / Down	**6** Menu / Head tracker / Delete
7 Head tracker port (TRACK OUT)	**8** HDMI input
9 AV input (AV IN)	**10** USB port
11 AV output (AV OUT)	**12** SD card slot
13 Earphone jack	

3. Radio frequencies and operation in the CZ and the EU

3.1 The law of the country of operation applies

Regulations (EU) 2019/947 and 2019/945 apply in all member states of the European Union, but national implementing rules differ from state to state – registration portals, minimum pilot age, geographical zones, compulsory insurance, permitted frequency bands and maximum transmitting power. The information in this chapter describes the situation in the Czech Republic. If you fly an FPV model in another country, you must follow the regulations of the state in which you fly.

3.2 Receiver and video transmitter frequencies

The SKY02O goggles contain **only a 5.8 GHz video receiver** – they do not transmit radio signals themselves. The receiver can tune all 48 channels from the table in chapter 2.3, including frequencies on which transmitting is not permitted in the Czech Republic.

Band	Limit in the CZ	Source
5725–5875 MHz	25 mW e.i.r.p.	ČTÚ, VO-R/10, Art. 3(k)

- In the Czech Republic, the video transmitter (VTX) on the model may only transmit in the 5725–5875 MHz band with a power of no more than 25 mW e.i.r.p.
- The whole of band E, the whole of band L and channels F8, R1, R2, R7 and R8 lie outside this band. Do not use these channels on the video transmitter in the Czech Republic.
- The user is responsible for the channel and power settings of the video transmitter. Outside the Czech Republic, the limits of the respective country apply.

3.3 Flying with FPV goggles

When flying with FPV goggles, the pilot does not see the model directly. In the open category under Regulation (EU) 2019/947, the pilot must have an **unmanned aircraft observer** next to him who watches the model with the naked eye, without optical aids, and warns the pilot of hazards. Observe the operating limits, registration obligations and geographical zones under the regulations of the country in which you fly.

4. Quick start guide

4.1 Getting started

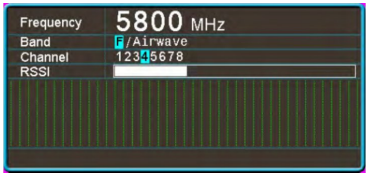
① Install the antennas and the faceplate.

② Use the power cable to connect the battery and the goggles. The goggles can be powered by a 2S to 6S Li-Po battery. Hold the power button to turn them on.

③ Insert diopter lenses if needed.

④ IPD adjustment: move the IPD sliders until there is no double vision of the image.

4.2 Band and channel setting



OSD bar with frequency, band, channel and signal strength (RSSI)

① Press the **Band** button to change the band. The OSD bar will show the band and channel.

② Then press the **CH** button to change the channel.

③ Hold the **Search** button to pop up the search menu; press **Search** again to start the search. After searching all frequencies, the receiver will work on the strongest signal. Use the **Rec** and **Mode** buttons to select the channel manually. Hold **Search** to quit the search.

Sometimes the automatic channel search is not accurate – you may need to select the channel manually.

4.3 Diversity and Mix switch

Some cameras do not follow the PAL or NTSC standard exactly, which confuses the receiver in Mix (SteadyView) mode and causes a rolling image. Short press the **Search** button to switch to Diversity mode to solve the rolling image issue.

4.4 Volume setting

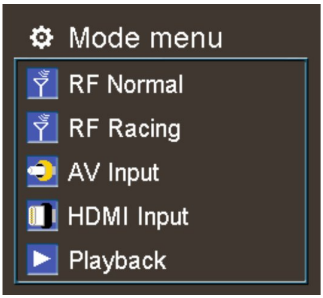
- In the preview of all modes, hold the **Band** or **CH** button to adjust the volume.
- The volume setting is only effective on the earphones, not on the AV OUT volume.
- The system does not save the volume setting, in case the volume is too high in AV IN or RF mode.

5. Goggle menus

The goggle menu is in English or Chinese. Menu items are given in italics as they appear in the English menu.

5.1 Mode menu

- Press **Mode** to pop up the mode menu, press it again to quit the menu.
- Use the **CH** and **Band** buttons to navigate and the **Rec** button to select.
- *RF Normal* – the normal 48-channel receiver mode.
- *RF Racing* – the receiver works only on RaceBand.
- *AV Input* – video from the AV IN input. NTSC and PAL are switched automatically. The receiver module is turned off automatically to save power.
- *HDMI Input* – video from the HDMI input. The receiver module and the video recording module are turned off automatically to save power.
- *Playback* – review of DVR files.



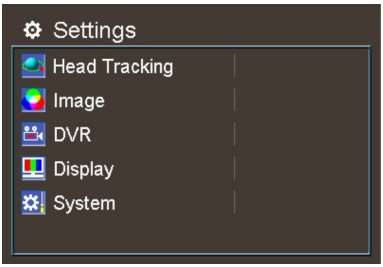
Mode menu

5.2 Playback

- In playback mode, use the **Band** and **CH** buttons to choose files; press **Rec** to play and pause.
- While playing a DVR file, press **Band** and **CH** to fast forward or fast backward.
- Press the **Mode** button to quit playback mode.
- Press the **Menu** button to delete a DVR file; confirm with **Rec**.

5.3 Settings

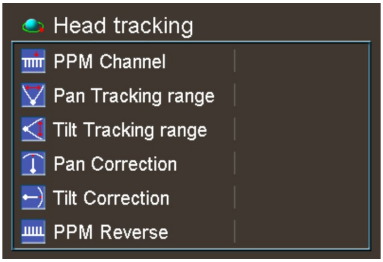
- Short press the **Menu** button to pop up the system menu, press **Mode** to quit the menu.
- Use **CH** and **Band** to navigate, press **Rec** to confirm and **Mode** to go back.



Settings menu

5.4 Head Tracking

- The head tracking reset button is the **Menu** button: hold **Menu** to reset the gyro and the PPM signal to the centre. The goggles beep when the button is pressed.
- The gyro requires an initialization time. After power-on, keep the goggles horizontal and stable as long as possible. When you hear a beep, the initialization is done.



Head Tracking menu

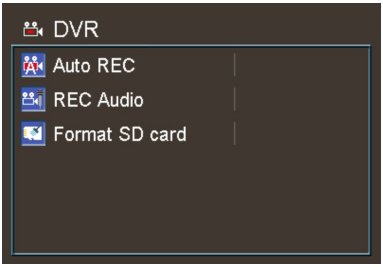
- *PPM Channel* – setting of the PPM channels.
- *Pan Tracking range* – 180° (±90°), 120° (±60°) or 90° (±45°); default 90°.
- *Tilt Tracking range* – ±60°, 90° (±45°) or 60° (±30°); default 90°.
- *Pan Correction* – separate compensation of the central deviation of Pan, levels 0–10. The actual compensation angle is related to the turning angle of the camera gimbal.
- *Tilt Correction* – separate compensation of the central deviation of Tilt, levels 0–10. The actual compensation angle is related to the turning angle of the camera gimbal.
- *PPM Reverse* – *Normal* (default), *Pan* (Pan channel reversed), *Tilt* (Tilt channel reversed), *Pan & Tilt* (both directions reversed).

5.5 Image

In the image settings menu you can select the presets *standard*, *bright*, *vivid*, *soft* and three user profiles. Brightness, Contrast, Saturation, Hue and Sharpness can be adjusted to suit different environments only in the user profiles *User 1/2/3*; the image settings cannot be changed in the four presets.

5.6 DVR

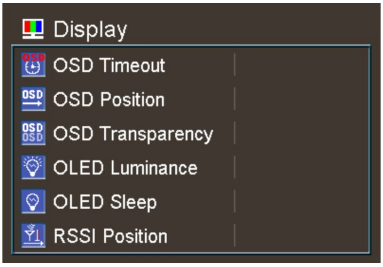
- *Auto REC* – the DVR records automatically when the goggles receive an image signal.
- *REC Audio* – some VTXs have a microphone; enable this function to record the audio.
- *Format SD card* – the SD card must be formatted to FAT32 for recording. Make sure to back up your DVR files first.
- If the free space on the card is less than 0.5 GB, the DVR stops recording.



DVR menu

5.7 Display

- In the Display menu you can set the time the top OSD bar is shown (*OSD Timeout*). If the time is turned off, the OSD is always on.
- *OLED Luminance* – OLED brightness in 8 stages, default 5. Do not set the brightness too high unless the image is dim; due to the OLED's characteristics, excessive brightness may cause a slight brightness drop of the screen.



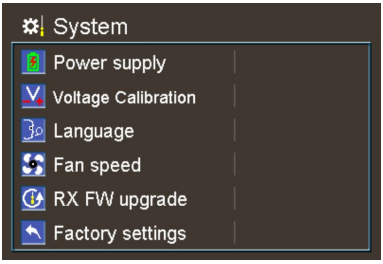
Display menu

- *OLED Sleep* – sleep mode prevents OLED burn-in. It can be set to 1, 3 or 5 minutes (default 3 minutes). When enabled, the goggles detect their movement via the head tracker gyro; when they stay still for the preset time, the buzzer beeps and after 10 seconds the display turns off. Move the goggles to quit sleep mode.
- In OLED sleep mode, the other functions of the goggles keep working (receiver, DVR etc.).
- OLED screensaver: the image moves 1 pixel per 10 s in the order middle → right → middle → left → middle, circulating. This function cannot be turned off.

To quit OLED Sleep mode: move the goggles when you hear the beep.

5.8 System

- *Power supply* – choice of the battery type (2S–6S) so that the goggles show the real state of the battery.
- *Voltage Calibration* – calibration of the displayed voltage within ±0.9 V. Measure the loaded voltage of the battery with a multimeter and adjust the value accordingly.
- *Language* – system language: English or Chinese.
- *Fan speed* – fan speed. Press the power button to start or stop the fan.
- *RX FW upgrade* – receiver firmware update (see chapter 6.2).
- *Factory settings* – reset of all functions and settings.



System menu

6. Firmware update

The latest firmware and manufacturer's manual are available on the manufacturer's website www.skyzonefpv.com in the *Download* section. Only use firmware intended for the SKY02O.

6.1 Goggle firmware

① Connect the goggles to the computer with a USB cable and connect the battery to the goggles.

② Hold the **Mode** button, turn on the goggles, then release the **Mode** button. The computer automatically installs the driver and shows a new removable storage.

③ Copy the goggle firmware file to this storage. The goggles install the update while copying. When the copying is done, the firmware update is done.

6.2 Receiver firmware

① Power on the goggles and connect them to the computer with a USB cable.

② In the *System* menu, select *RX FW upgrade*.

③ The computer shows a new removable storage. Copy the receiver firmware file to it. The goggles install the update while copying. When the copying is done, the firmware update is done.

Do not disconnect the goggles from power or from the computer during the update.

7. Maintenance and troubleshooting

7.1 Maintenance and storage

- Clean the lenses only with a dry microfibre cloth. Do not use solvents or alcohol.
- The foam padding can be removed and cleaned; let it dry completely before refitting.
- Store the goggles in the case in a dry place, out of direct sunlight, with the battery disconnected.
- Protect the antenna connectors from bending; unscrew the antennas for transport.

7.2 Troubleshooting

Problem	Cause and solution
Rolling image	The camera does not follow PAL/NTSC exactly. Short press **Search** to switch to Diversity mode (chapter 4.3).
Auto search finds the wrong channel	The search is not always accurate. Select the channel manually (chapter 4.2).
No image in RF mode	Check that *RF Normal* or *RF Racing* mode is selected, that the antennas are connected and that band and channel match the video transmitter. In *RF Racing* mode the receiver works on RaceBand only.
DVR does not record	Format the SD card to FAT32 (*Format SD card*). Make sure there is more than 0.5 GB of free space on the card.
Display turned off, goggles beep	OLED sleep mode was triggered. Move the goggles (chapter 5.7).
Displayed voltage is incorrect	Set the battery type in *Power supply* and, if necessary, perform *Voltage Calibration* (chapter 5.8).
Volume returns to the original level after power-on	The system does not save the volume on purpose (chapter 4.4).
Head tracker is not centred	Hold the **Menu** button to reset the gyro; after power-on keep the goggles still until the beep (chapter 5.4).

8. Information for the EU and Czech Market

8.1 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

8.2 Product conformity

CE

- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorama.cz.
- **Product identification:** type designation (SKY02O); the serial or batch number, where provided by the manufacturer, can be found on the product or its packaging.

8.3 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.

9. 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 8.1.
- 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.