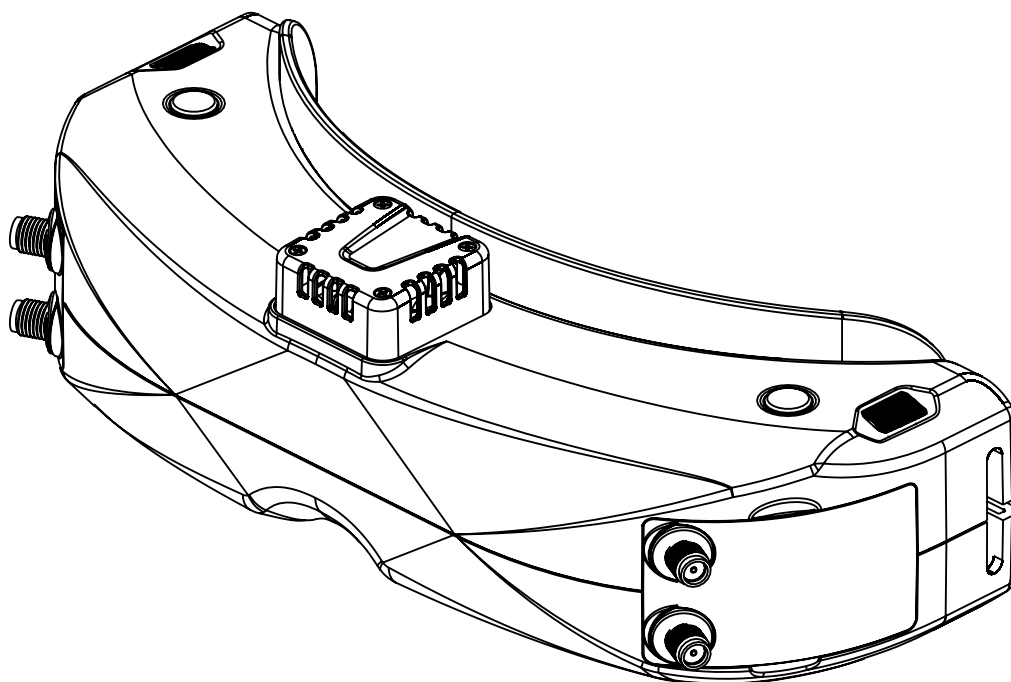




# SKY04O/04X/04X PRO

## FPV Goggle USER MANUAL



# Specifications

Specifications			
	SKY040	SKY04X V2	SKY04X PRO
Screen	OLED	OLED	OLED
Resolution	1024*768	1280*960	1920*1080
Field of View	38	46	52
Aspect Ratio	4:3/16:9		
Focus Range	-2~+6		
IPD Range	58~71mm		
Receiver	5.8Ghz 48CH Steadyview Receiver		
DVR	60FPS H264		
Voltage Input	2~6S LiPo		
HDMI IN	60FPS	720P 100FPS	
Language	10 Languages		
Head Tracker	3-axis Accelerometer, 3-axis gyroscope		

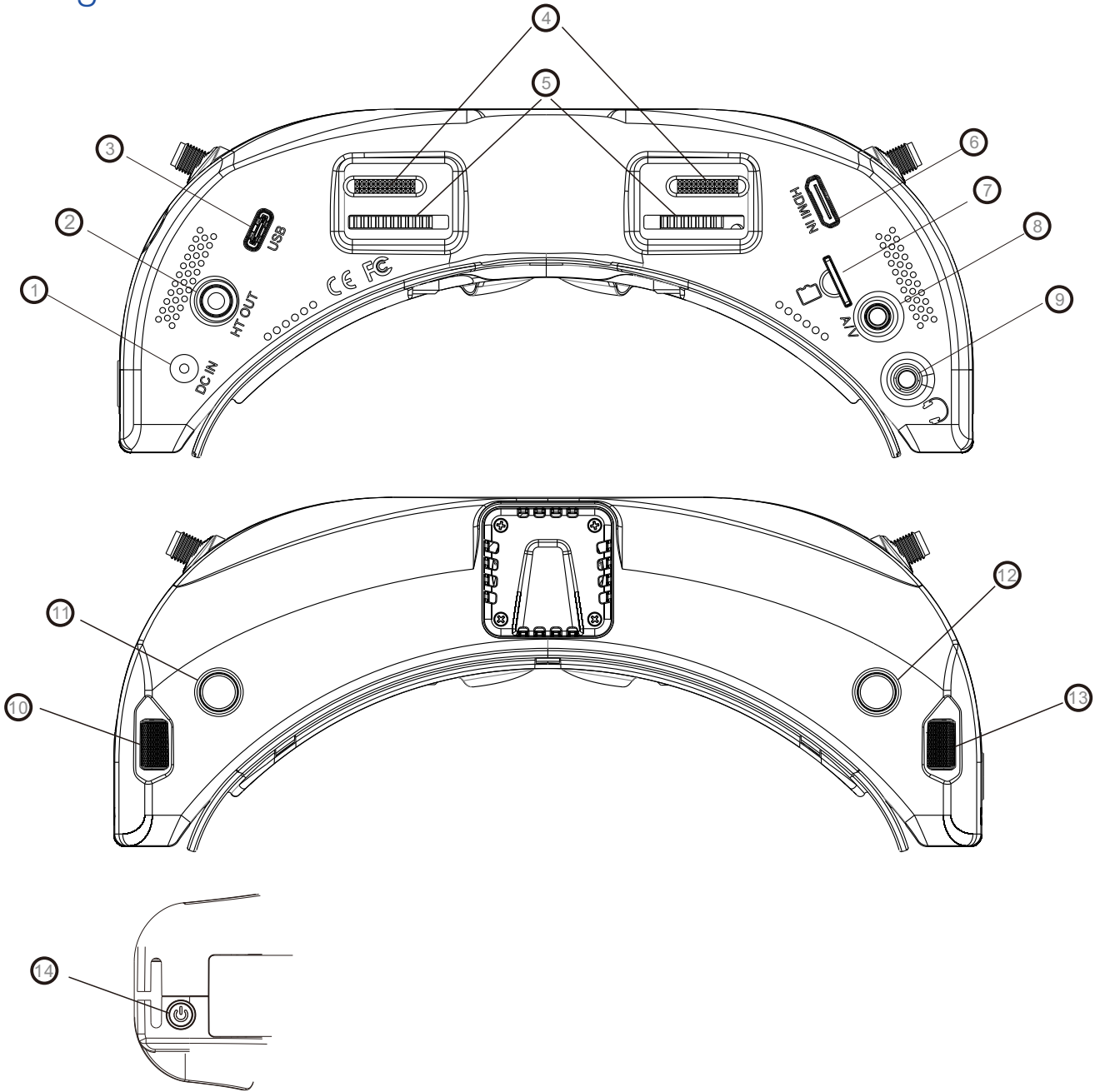
## BAND/CHANNEL table

BAND/CH table								
BAND/CH	CH 1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865M	5845M	5825M	5805M	5785M	5765M	5745M	5725M
B	5733M	5752M	5771M	5790M	5809M	5828M	5847M	5866M
E	5705M	5685M	5665M	5645M	5885M	5905M	5925M	5945M
F	5740M	5760M	5780M	5800M	5820M	5840M	5860M	5880M
R	5658M	5695M	5732M	5769M	5806M	5843M	5880M	5917M
L	5362M	5399M	5436M	5473M	5510M	5547M	5584M	5621M
Sensitivity	-98dBm±1dBm							
Antenna port	2 X SMA-K,50ohm							

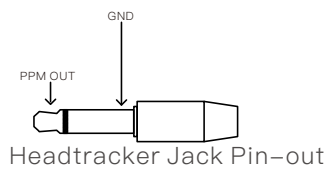
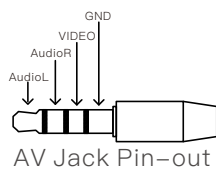
## Package Included

1. Goggles\*1
2. Receiver Module\*1
3. Faceplate\*2(wide and narrow)
4. Sponge with velcro\*1
5. Zipper case\*1
6. Power cable\*1
7. Headtracker cable\*1
8. 5.8GHz 2dB antennas\*2
9. Video/Audio Cable\*1
10. USB-C Cable\*1
11. User Manual\*1

# Diagram



- |                          |                            |
|--------------------------|----------------------------|
| 1.DC PORT(5.5*2.1mm)     | 2.Head tracker port        |
| 3.USB C port             | 4.IPD Slider               |
| 5.Focus adjustment wheel | 6.HDMI input               |
| 7.SD card slot           | 8.AV IN/OUTPUT             |
| 9.Earphone jack          | 10.Volume/ Mode            |
| 11.Record/Delete         | 12.System Menu/Headtracker |
| 13.CH/BAND/Search        | 14.Power/Fan               |



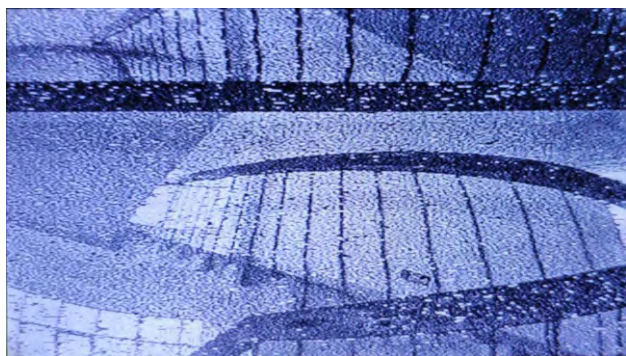
# Introduction

The SKY04 Series is First skyzone goggle with focus adjustment, the high resolution screen have vivid color and high contrast ration, pilot can see more details in the racing .

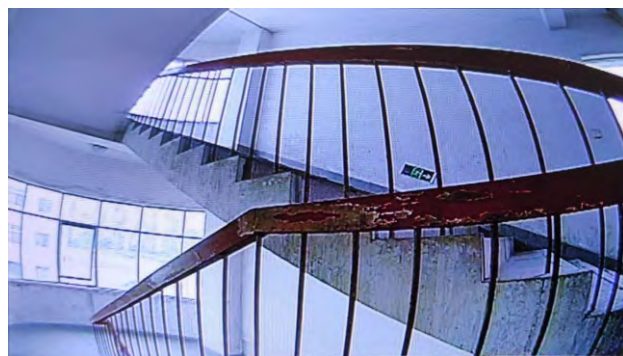
With steadyview receiver , the receiver merge two signals to one, avoid image tearing and rolling, make image more stable and clear in challenging condition.

The new designed optics have focus adjustment feature and huge degree Field of view, give pilots more immersive FPV experience.

The new OS with 10 languages to set select, pilot have no trouble with the menu system, with shuttle wheel and new user interface, pilot can set all the settings just by rolling the wheel without taking off the goggle.



Diversity



SteadyView



DO NOT EXPOSE THE LENS DIRECT TO SUNLIGHT, OTHERWISE THE SCREEN WILL BURN IN.

## Quick Start Guide

1. Install the antenna and faceplate.
2. Use power cables to connect battery to the goggles, goggles can power by 2~6cell lipo battery, hold the power button to turn on.
3. Focus adjustment: move the focus adjustment wheel to focus, close one eye to adjust the focus, you can pop up the OSD menu as the template, when the image is clear, repeat the process with the other eye.
4. IPD adjustment: move the IPD slider until there is no double vision of the image.

## Band / Channel / Receiver mode setting

1. Press the right wheel, then roll right wheel to change channel, press the wheel again switch to Band setting mode, then roll the wheel to change the Band. Press wheel again to select diversity or Mix mode.
2. No wheel operation for 3 seconds, RF setting will quit the channel setting mode.
3. Hold the right wheel to pop up search menu, press the right wheel to start auto search, after searching all the frequency, receiver will work on the strongest signal. Roll the right wheel to manually select the channels, hold the right wheel to quit searching.

### Receiver Mode

MIX1: Mix1 mode provides basic fusion processing to reduce excessive intervention of the circuit on the picture

MIX2: Mix2 mode improves synchronization stability, especially under weak signal to maximize synchronization and lock video

MIX3: Mix3 mode enhances the synchronization signal on the basis of Mix2, maximizes the stability of the video image, and maximizes compatibility with other display devices. In this mode, the brightness of the video signal will be reduced

DIV: Div mode, the fusion processing will be turned off, and the receiver will work in the traditional diversity receiving mode, and the audio and video signal output corresponding to the channel with the highest RSSI intensity will be selected.



Sometime the auto search channel is not accurate, user may need manually select the channel.

## Volume Setting

- In all mode preview mode, roll the left wheel to adjust the volume.
- Volume setting is only effective on earbud. Not effective on AV OUT volume.
- System didn't save the volume setting, in case of the volume is too high in AVIN or RF mode.

## Drone Finder Mode

Install a patch antenna on RX, long press the left wheel to enable drone finder function (long press again to disable), the buzzer frequency will synchronize with RSSI, the stronger the RSSI is, the rapider of sound the buzzer.

## MODE MENU

- Short press the left wheel to pop up mode menu.
- RF normal: this mode is normal 48 CH receive mode.
- RF Racing: this mode will make receiver only work on RaceBand.
- RF Third-Party: in this mode, the goggles button cant control the external receiver, also the OSD of the goggles cant read the band/channel of the receiver.
- AVIN: When enable the AV IN mode . The NTSC and PAL system format can be supported to be automatically switched. The receiver module will be automatically turned off to save the power.
- HDMI IN: the receiver module and the video recording module will be automatically turned off to save the power.
- Playback: in this mode, customer can review the DVR files.

## PLAYBACK

- In playback mode, roll right wheel to choose the DVR, short press right wheel to play and pause.
- Left wheel to adjust the volume.
- When playing the DVR, roll the right wheel to fast forward or fast backward.
- Press the Right button to quit DVR .
- Press the Left button to delete DVR.

## Setting

### Head Tracking

- The head tracking button is on the right side of the goggles.
- The gyro required for an initialization time. When it is powered on, goggles must be kept horizontal and stable as long as possible. When hearing the sound of a "beep", the initialization is done.
- Hold HT button to reset the PPM signal to the center, goggles will beep when press the button.

Disable the Headtracker can save the gyro initialization time to speed up goggles boot time.

### Image

In image setting menu, customer have standard, bright, vivid, soft and 3 customized files to select. Customer can adjust Brightness, Contrast, Saturation, Hue and Sharpness to suit different environment . in 3 user 1/2/3, the image setting can not change in 4 pre-set files.

### DVR

- Left button is record button and stop button.
- Build in DVR H264 encoding, SD card recommend Class10, SD card can support up to 128GB.
- SD card must be formatted into FAT32 , user can get into system menu to select the Format SD .
- The video recording function can be used in both the RF Mode and the AV IN Mode.
- By default, when recording the video (including: Recording the sound), the "sound recording" function can be turned off in the system menu, then the video signal can be recorded only.
- Automatic recording: enable this function , if the video signal has been detected, the recording will be activated automatically. The recording function can also manually be stopped by press the REC button.

<Auto&Follow> on, the DVR will auto start recording when video signal is on, and stop recording after 30s when signal is cut, if signal is on again, DVR will start recording again.

<Follow> Press the REC button to manually start recording, DVR will stop recording after 30s when signal is cut, but it will auto start recording when signal is on. press REC button again can manually stop rec to save SD card space.

- Cyclic recording: Overwriting of older recordings on or off (in case of storage space is wasted).
- The video recording File will be automatically divided into the multiple Files. In the menu system, the video length can be set as: 5 minutes, 10 minutes, 20 minutes and 30 minutes. The default video length can be set as 30 minutes / each File. •If the power has been suddenly disconnected in the video recording process, the DVR will be damaged.

The goggles have repairing function. After entering into the Playback mode, the last DVR file will be automatically checked. If it has been damaged, the DVR file will be automatically repaired.


## Display

- In Display setting menu, customer can set the topbar OSD time, disable OSD time out, the OSD always on.
- In Display menu, customer can set the RSSI icon: Icon + percentage, Icon, Percentage, Disable, also adjust the vertical position of the RSSI.
- The Luminance of the LCOS screen and be adjust in the menu (8 stage, default is 5).Normally do not set the brightness too high unless the image is dim.
- Sleep MODE: To prevent screen burn out, the goggles have sleep mode. The sleep mode can be set in the menu( 1minute 3minutes 5 minutes, default 3 minutes.) When sleep mode is enabled the goggles will detect the movement of the goggles (via headtracker gyro), when the goggles stay still to the preset time , the buzzer will beep , after 10 seconds, the goggles will switch to sleep mode , the screen will turn off, move the goggles to quit sleep mode.
- In Display setting menu, customer can change the aspect ratio(4:3 or 16:9), default is 4:3. also user can switch to small fov mode, image will cut at the edge on screen.
- When sleep mode is triggered, the rest functions of goggle is still working (receiver ,DVR etc).

 To quit Sleep mode: Move the goggles when hearing beep.

## SYSTEM MENU

- Power supply menu, user can choose battery type(2S~6S) to make sure goggles show real capacity of the battery
- Voltage calibration gives user  $\pm 0.9V$  range to adjust the voltage, when calibrate the voltage, use multimeter to measure the loaded voltage of the battery, then use shuttle wheel to adjust voltage.
- RSSI Calibration: use can calibrate the RSSI in this menu, to calibrate the RSSI, user need remove the antenna, and turn off the VTX, then select yes, when calibration is done, the goggle will beep.
- System Language can select in to: English,French, German, Russian, Italian, Portuguese, Spanish, Chinese, Japanese, Korean.
- ↳ The built-in fan can not only be mainly used for defogging, but also can be used to dissipate the heat . the speed of fan can be set in the system menu, press the POWER button to start up/stop the fan.
- Factory Reset : User can reset all the functions and settings in this menu.
- DVR FW upgrade:User can upgrade DVR Firmware from SD card in this menu.
- Firmware version :Goggles Firmware , DVR Firmware version and Serial Number will show in this menu.

 The function of the wheel and buttons can be swapped from left side to the right side , make to adapt left handed user. when rotary switch is enabled, all the functions in manual are changed from left to right.

# Firmware Update

## Goggles

**the goggles have 3 different hardware due to global chip shortage, before flashing the firmware, user must check their hardware version of the goggles in the system menu.**

V1 orignail

V2 60FPS DVR, if user bought the 60FPS DVR kit, the V1 goggles will upgrade to V2, and firmware also need flash to V2.

V3 new MCU due to chip shortage. due to the performance is same, we didnt name the goggles V3, only hardware is named V3.



if FW1: Start with V1.3.9, means V1 hardware  
If FW1: Start with V2.3.9, means V2 hardware,  
If FW1: Start with V3.3.9, means V3 hardware

1,Connect goggles to the computer.

2,Hold the left wheel then turn on the goggles, the usb cable will power the goggles, release the left wheel, computer will automatically install the driver , computer will show a new removable storage .

3, copy the Firmware(A/B) File to storatage. goggles will installing the update at the same time.

## DVR

1,Take a SD card and format the card to FAT32.

2,Copy the DVR Firmware to the SD card , insert it in the goggles and turn it on.

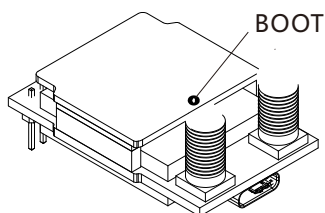
3,Go to the system menu and choose DVR FM upgrade.

## Receiver Firmware

1, Take the receiver out, hold the boot button when connect the receiver to the computer.

2,Computer will automatically install the driver , computer will show a new removable storage .

3, Copy the Firmware File to the folder(Not the SD card). goggles will installing the update at the same time. when the copying is done, the firmware upgrade is done.



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