BETAFPV

高清图传 | HD VTX

VR04

FPV眼镜 | FPV goggles

使用说明书 | USER MANUAL

第 I 版　2025-12-12

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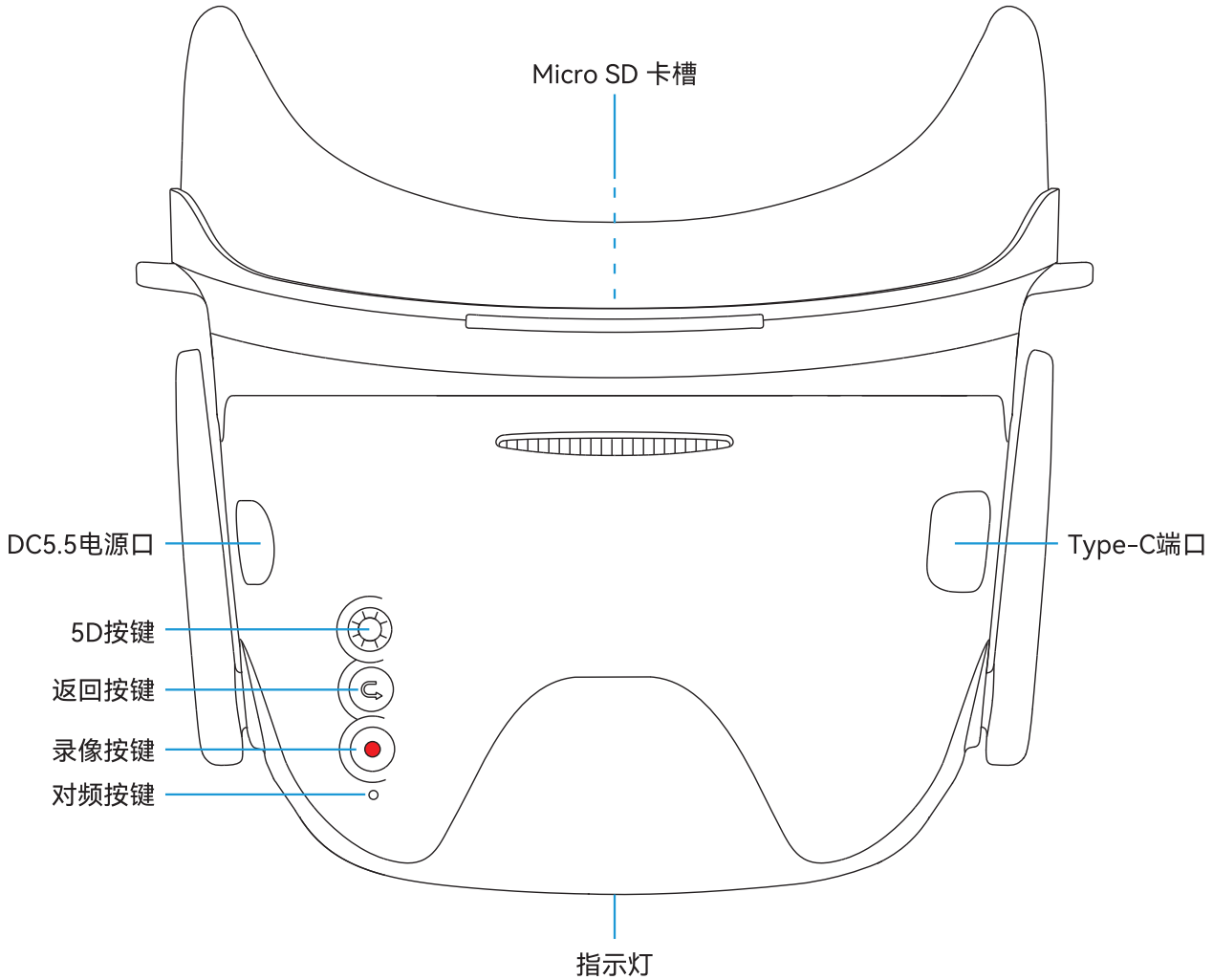
VR04 HD FPV眼镜是BETAFPV开发的无线图像传输头戴显示器，可实现远距离低延时高清无线图像传输，保持了BETAFPV一贯的极简操作和外观设计，轻盈舒适的人体学造型，将给模型爱好者们带来不一样的使用体验。

1. 产品参数

名称	VR04 P1 HD
尺寸	168.8x182.1x98.5mm
重量	400g±10g
屏幕尺寸	4.5英寸
屏幕分辨率	1920*1080@60Hz
屏幕材质	LCD
SD卡槽	最大支持1T
通信频率	5.725-5.850GHz
发射功率（Elrp）	FCC:<23dBm；CE:<14dBm
接口	USB-C；Micro SD 卡插槽；DC5.5x2.1mm
传输分辨率	1080p@60fps
图传码率	最大25Mbps
传输距离	＞200米
输入电压	5.5-26.4V
工作功率	最高5W
充电功率	最高15W

2. 基本功能

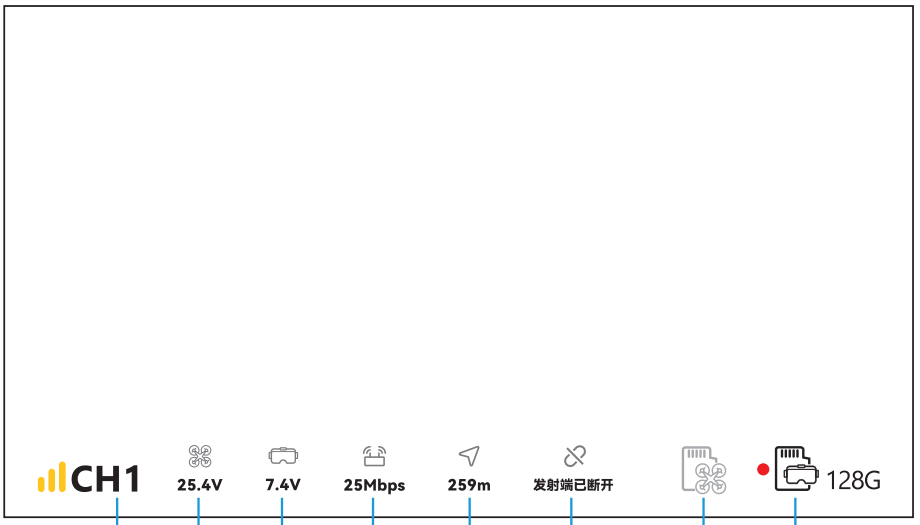


- 电源接口：电压范围5.5-26.4V，DC5.5接口。
- 对频按键：按下进入对频状态，对频时间为30秒。
- 录像按键：在已连接画面下，按下录像键开启/停止录像。
- 返回按键：按下返回上一级菜单。
- 5D按键：按下进入菜单界面，上下左右控制菜单选择方向，按下为确认选择。
- Type-C接口：插入Micro SD卡连接电脑后，可对SD卡磁盘操作。
- Micro SD卡槽：最大支持1T内存卡。

注意：建议选择V30/U3或以上的SDXC卡，以避免录像丢失、报错。

2.1 频点选择

上电开机完成之后，进入的界面为主界面。在主界面的底部有部分重要的参数标识。



当前频道
显示当前设置频道

飞机电压
显示飞机实时供电电压

眼镜电压
显示眼镜实时供电电压

实时码率
显示实时传输码率

眼镜SD卡状态
显示眼镜SD卡状态及剩余容量

飞机SD卡状态
显示飞机SD卡状态及剩余容量

连接状态
显示当前连接状态

距离
显示飞机与眼镜距离

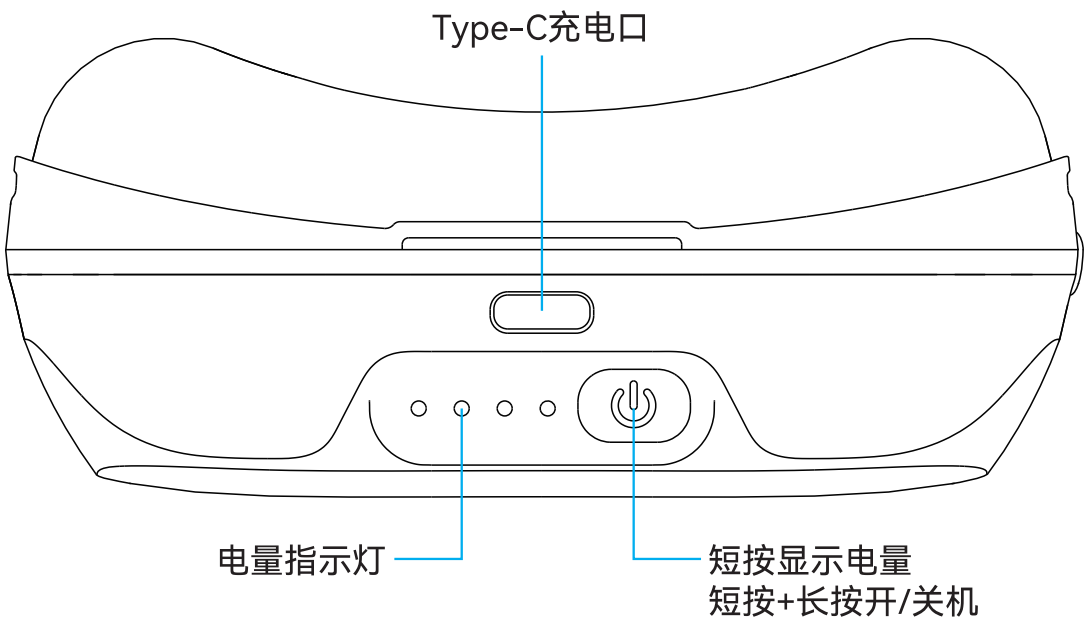
注意：SD卡状态，未插入SD卡时显示灰色，插入SD卡时显示亮色，录像时红点闪烁提示，不在录像状态不显示红点，卡满显示Full。

2.2 FPV眼镜供电

FPV眼镜采用外置电池供电，接口为DC5.5接口，支持2-6S，供电范围5.5-26.4V，2S供电时电压低于5.5V时眼镜前方LED灯显示快闪，3S、4S、6S单颗电芯低于3.5V时LED灯显示快闪。

LED灯	眼镜状态
LED熄灭	关机
LED常亮	开机
LED快闪	电量不足

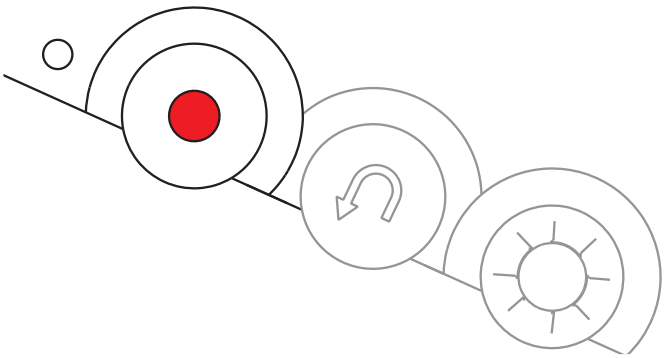
头带电池盖处拆开后可装入两颗18650电池，装入后短按电源键可查看电池电量，短按+长按开机后将DC5.5电源线插入眼镜电源输入口即可将眼镜开机。



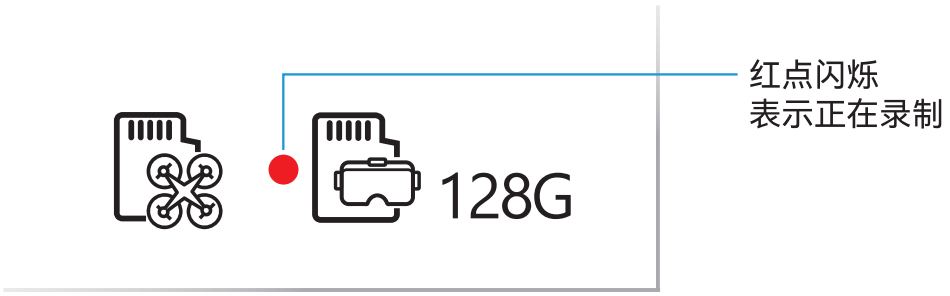
注意：电量指示灯为一颗并闪烁时，请及时给电池充电，避免电量不足引起眼镜屏幕熄灭。

2.3 录像和回放

录像：FPV眼镜支持安装Micro SD储存卡。安装后，SD卡图标由灰色显示亮色，即代表读取SD成功，连接飞机显示画面后，按下录像按键SD卡图标旁有红点闪烁，即代表开始录制画面，飞行结束后需再次按下录像键结束录像，否则可能导致录像失败。



短按开启录像，再短按关闭录像并保存



回放：进入回放界面，当选择框停留在视频列表中，短按即可查看录像视频，长按5D键可选择删除视频文件。播放界面单击确认键暂停/播放，左右方向键调整快退/快进。

注意：第一次在本设备上使用存储卡时，为确保存储卡的性能更加稳定，建议格式化存储卡。格式化会永久性地删除存储卡上的全部数据，并且无法恢复，请小心操作。

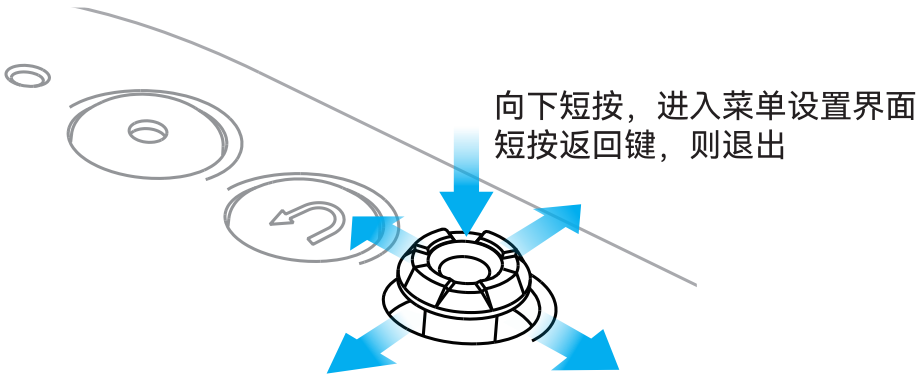
2.4 对频说明

对频前准备：
1. 开启飞机、眼镜设备，保持所有设备在2米内，并确保所有设备固件升级至最新固件。
按键对频：
1. 分别按下眼镜和飞机对频按钮，当进入对频状态时，飞机图传指示灯变为红色快闪，眼镜发出“滴.... 滴.... 滴.... 滴....”蜂鸣器提示音。
2. 对频成功后，飞机图传指示灯变为绿色常亮，眼镜蜂鸣器发出长响“滴”停止后显示图传画面。

注意：使用前应确认电量充足，将头带正确安装，并调整到个人舒适的尺寸。

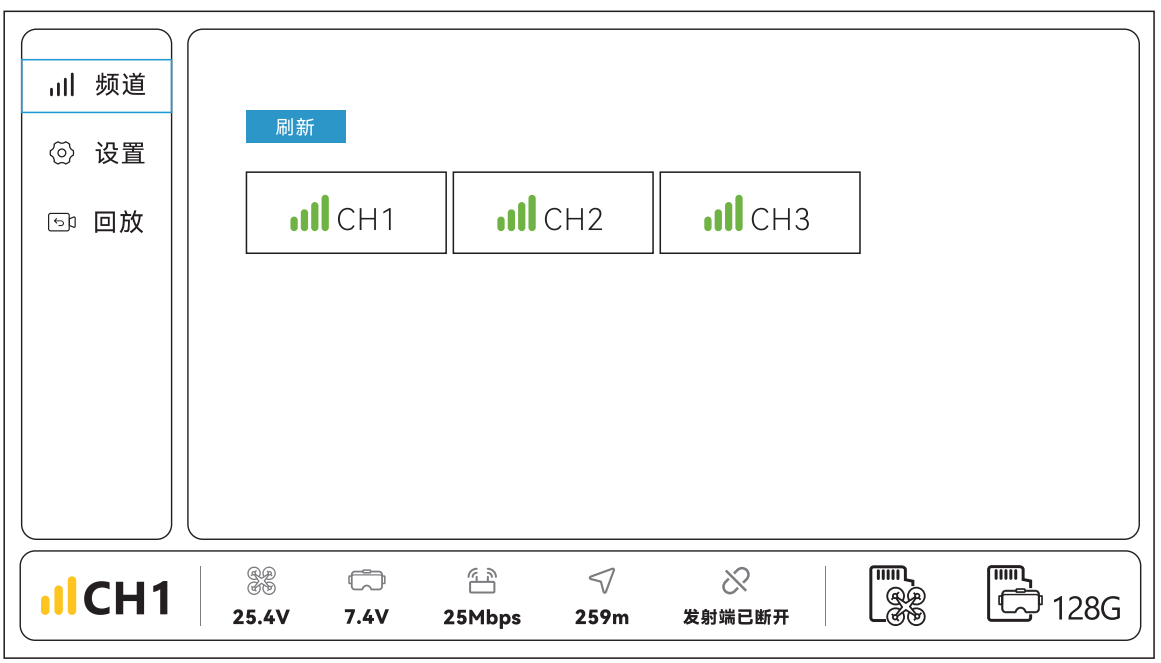
3. 菜单设置说明

按下5D按键，进入FPV眼镜的菜单设置界面，在该菜单下可以对FPV眼镜部分参数进行查看和设置。



在主界面向下短按五维按键可打开飞行眼镜菜单，五维按键上下左右可进行菜单选择，按下返回键可返回上一级菜单。

3.1 频道界面



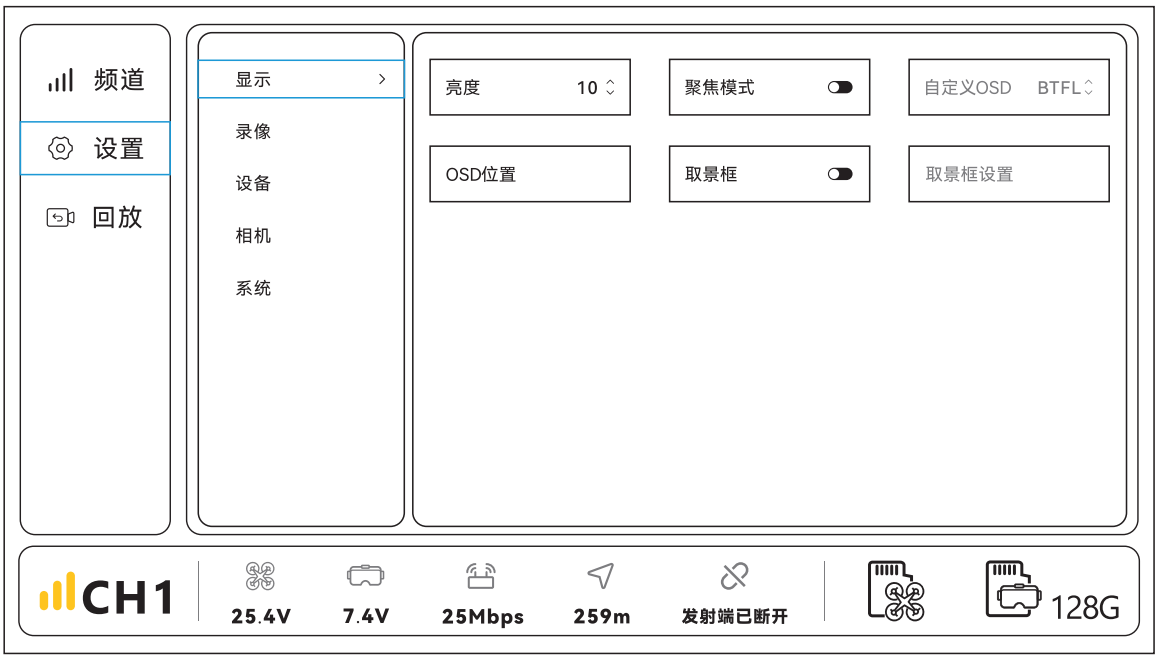
普通模式下，显示3个频道。竞速模式下，显示16个频道。每当进入在当前界面时，点击“刷新”会刷新一次全部频段强度。
普通模式下，3个频道分别为：
Channel1：5758MHz（5753-5763MHz）；
Channel2：5788MHz（5783-5793MHz）；
Channel3：5828MHz（5823-5833MHz）。

竞速模式下，16个频道分别为：
Channel1：5658MHz（5653-5663MHz）；
Channel2：5695MHz（5690-5700MHz）；
Channel3：5732MHz（5727-5737MHz）；
Channel4：5769MHz（5764-5774MHz）；
Channel5：5806MHz（5801-5811MHz）；
Channel6：5843MHz（5838-5848MHz）；
Channel7：5880MHz（5875-5885MHz）；
Channel8：5917MHz（5912-5922MHz）；
Channel9：5620MHz（5615-5625MHz）；
Channel10：5580MHz（5615-5625MHz）；
Channel11：5540MHz（5535-5545MHz）；
Channel12：5500MHz（5495-5505MHz）；
Channel13：5460MHz（5455-5465MHz）；
Channel14：5420MHz（5415-5425MHz）；
Channel15：5380MHz（5375-5385MHz）；
Channel16：5340MHz（5335-5345MHz）。

注：两种模式的主要区别是竞速模式有更多的频点可供选择。
如在室内WIFI环境下（一般是5.8GHz），图像传输可能距离短，容易收到干扰。可以手动切换到竞速模式，选择Channel16频点（即5335-5345MHz频段），避开干扰频段，获得更好的传输距离和图像质量。

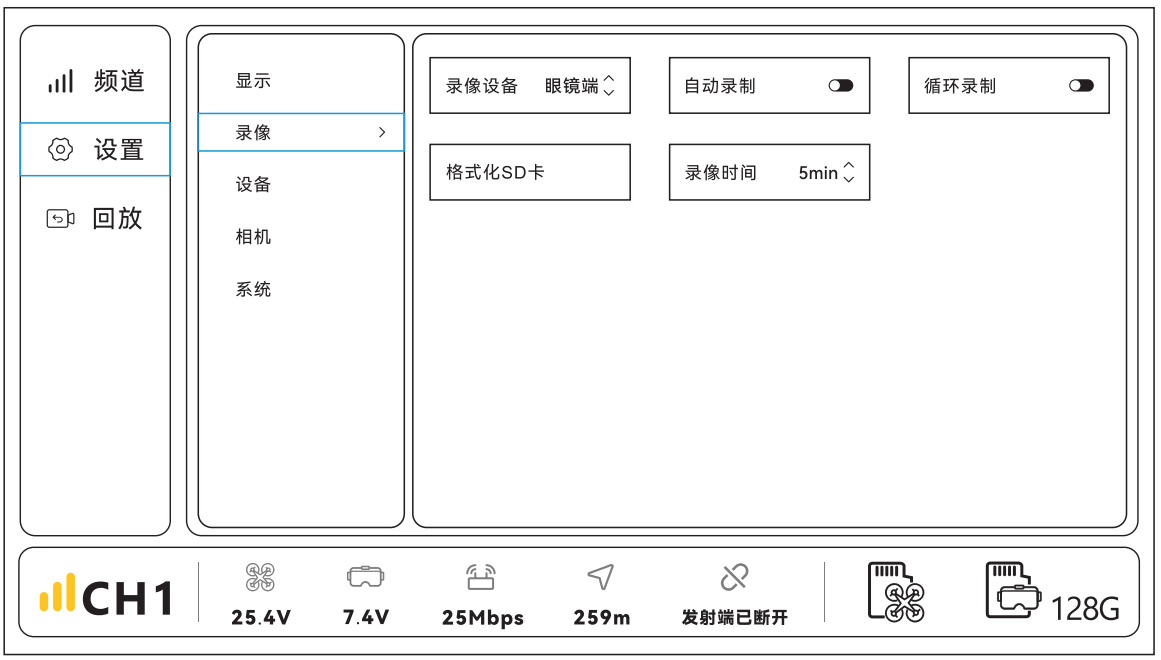
3.2 设置界面

显示界面



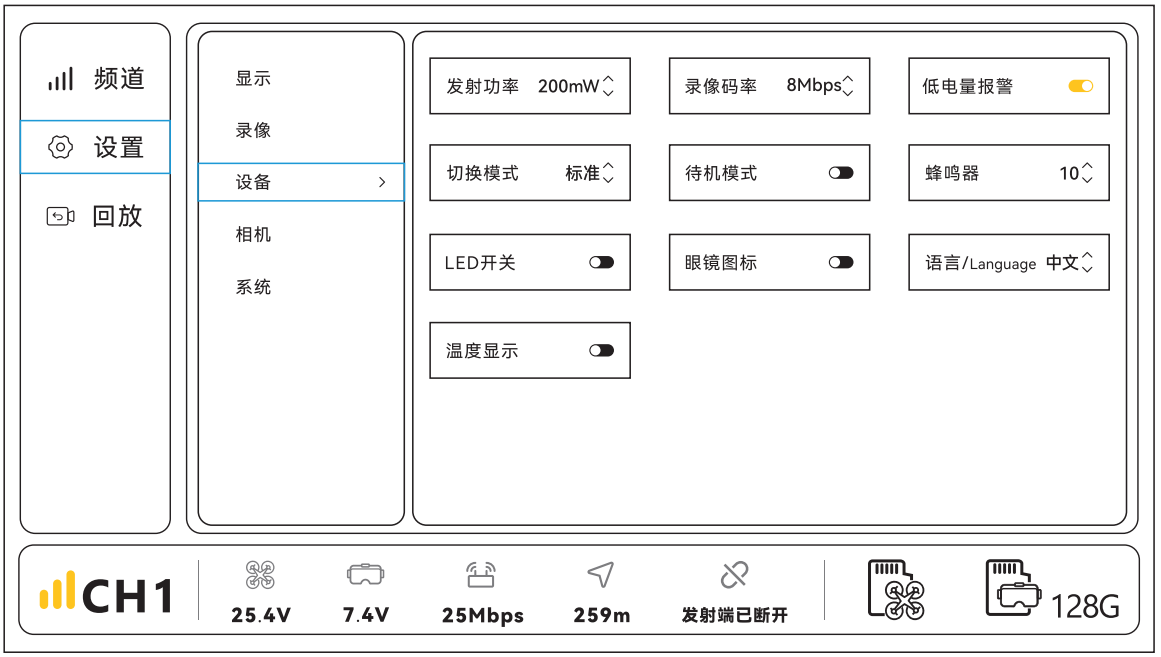
在显示界面，可对屏幕亮度、聚焦模式、飞控OSD位置、取景框进行设置。

录像界面



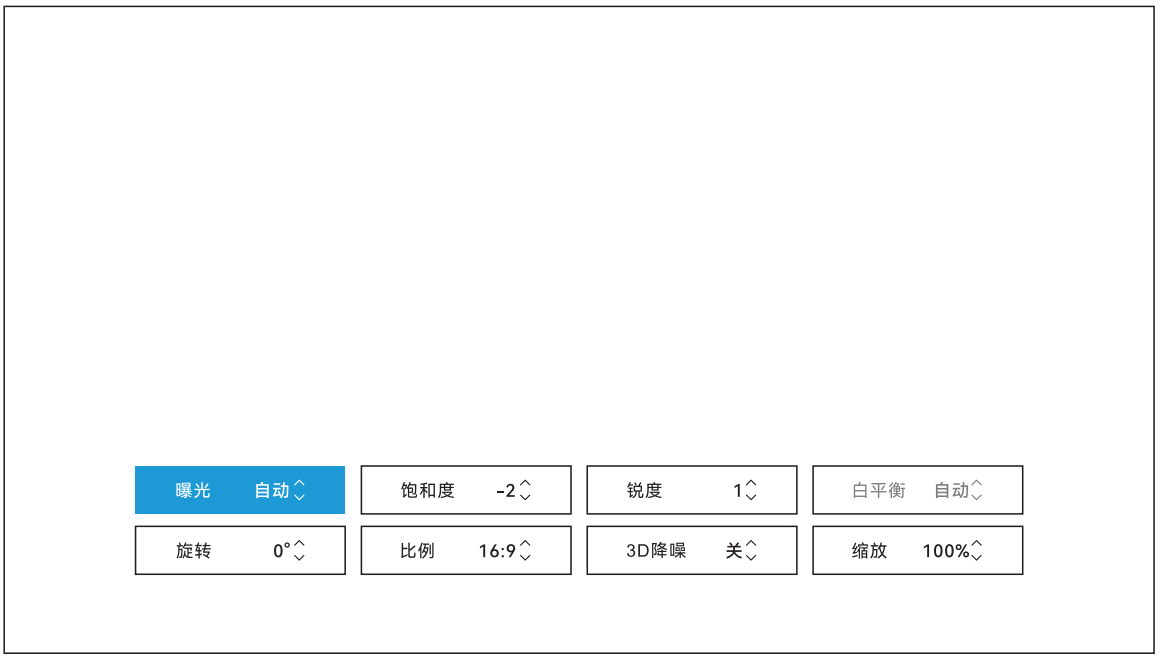
在录像界面，可对录像与SD卡进行设置。

设备界面



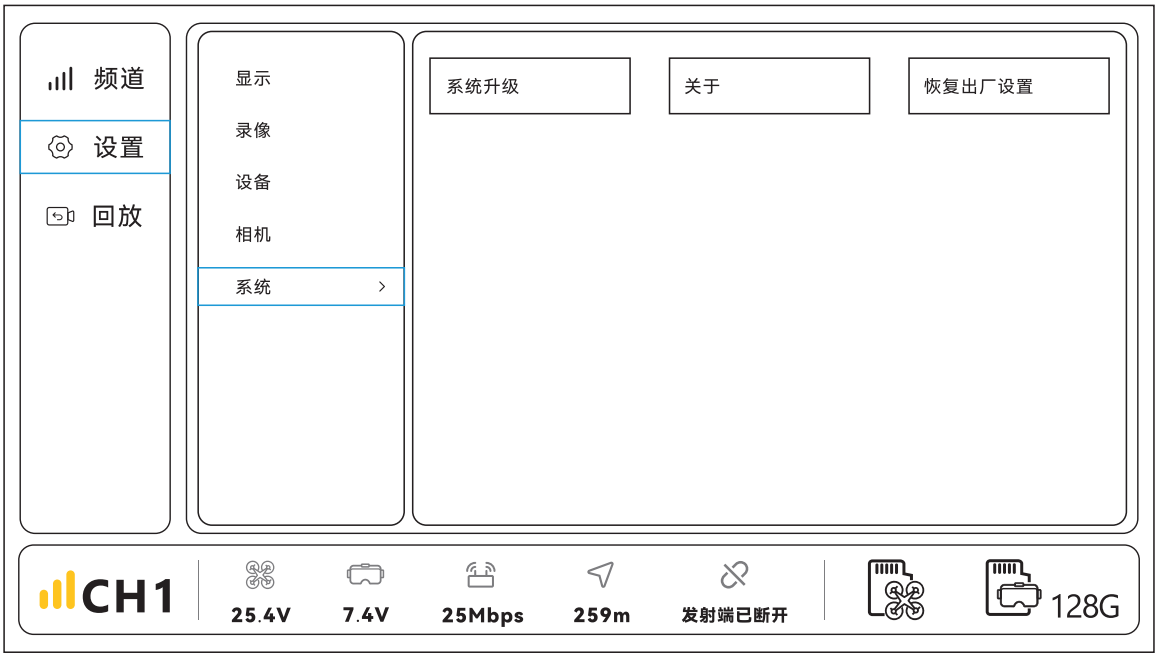
在设备界面，可对眼镜设备进行参数设置。

相机参数界面



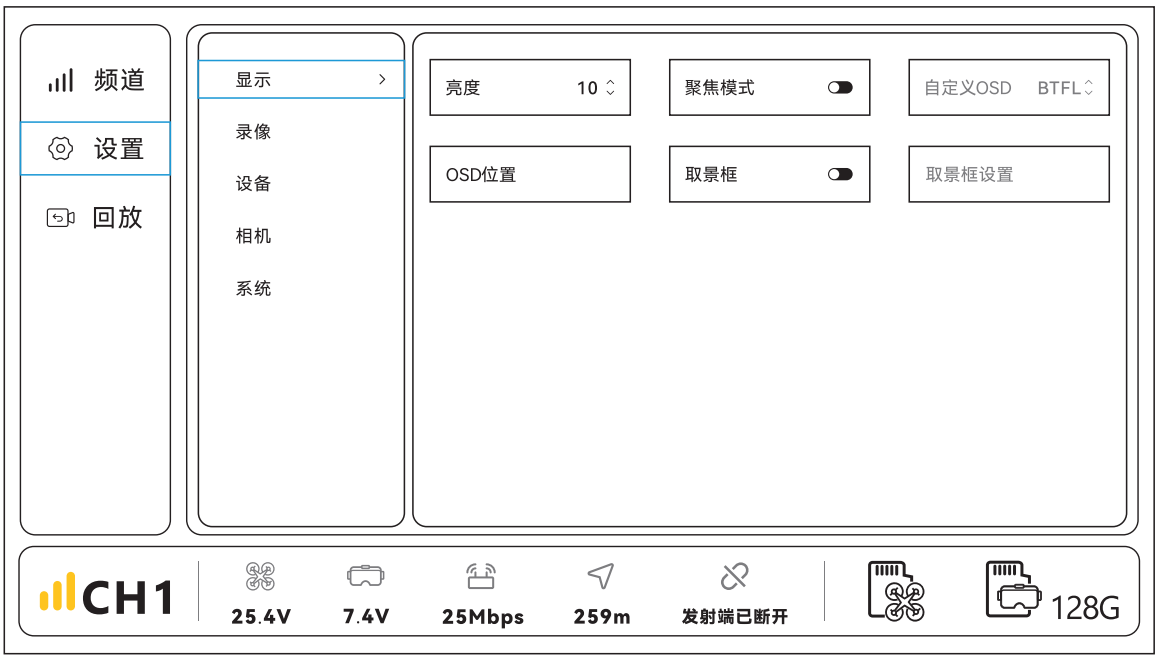
按下“相机”可进入相机参数界面，在参数界面里，可拨动查看和设置更多参数。

系统界面



在设备界面，可查看设备信息，还对设备进行系统升级或恢复出厂设置。

3.3 回放界面



在回放界面，可对录制视频进行回放查看，OSD开关可对录制视频飞机信息进行开启或隐藏。

4. 固件升级

1. 将飞机与眼镜固件拷入SD卡内，SD卡插入眼镜内。
2. 开启飞机与眼镜并联通成功。
3. 点击“设置→系统→系统升级→开始升级”即可同时升级飞机与眼镜。
4. 升级成功后重启飞机与眼镜。

注意：
1. 确保按步骤升级固件，否则可能导致升级失败。
2. 整个升级过程将持续一段时间，请耐心等待固件升级完成。
3. 升级固件前请确保设备电量充足。
4. 升级过程中请勿断电。
5. 固件升级后，设置参数将被重置，请在升级完成后重新设置。
6. 若想单一升级飞机或眼镜设备，则单一拷入对应固件即可。

访问以下链接，参考发布记录了解所有版本的固件升级信息。
https://flowus.cn/betafpv/share/260b31cf-2de7-40a9-8569-181223dd4cec?code=4SMLTG

5. 注意事项

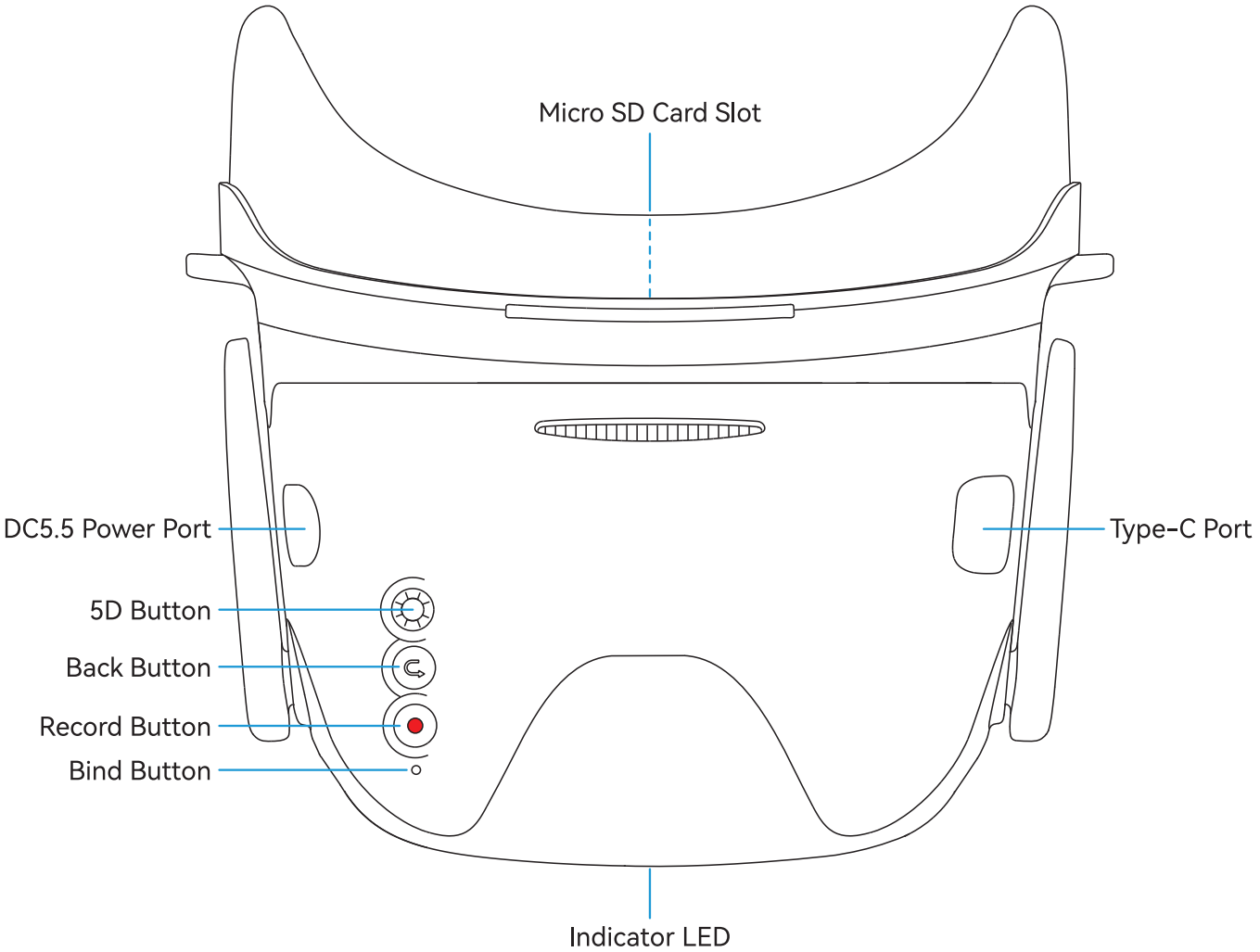
使用后请关闭电源保存，如果长时间不使用，请每三个月充电一次，否则会损坏电池。
低电量报警后请尽快停止使用并重新充电，否则可能出现直接关机或者电池损坏的风险。
避免阳光直接照射眼镜镜片，否则会造成屏幕灼伤。

VR04 HD FPV goggles is a wireless image transmission headset display developed by BETAFPV, enabling long-range, low-latency, high-definition wireless image transmission. It has maintained the BETAFPV design philosophy for having a minimalist appearance, straightforward operations, and ergonomic design. The goggles aim to deliver a enjoyable user experience for all FPV enthusiasts.

1. Specification

Name	VR04 P1 HD
Size	168.8x182.1x98.5mm
Weight	400g±10g
Screen Size	4.5 inch
Resolution	1920*1080@60Hz
Screen Material	LCD
SD Card Slot	Maximum of 1T Storage
Communication Frequency	5.725-5.850GHz
Effective Isotropic Radiated Power(EIRP)	FCC:<23dBm; CE:<14dBm
Port	USB-C; Micro SD Card slot; DC5.5x2.1mm
Transmission Resolution	1080p@60fps
Video Transmission Bitrate	Up to 25Mbps
Transmission Range	> 200m
Input Voltage	5.5-26.4V
Operating Power	Up to 5W
Charging Power	Up to 15W

2. Basic Function

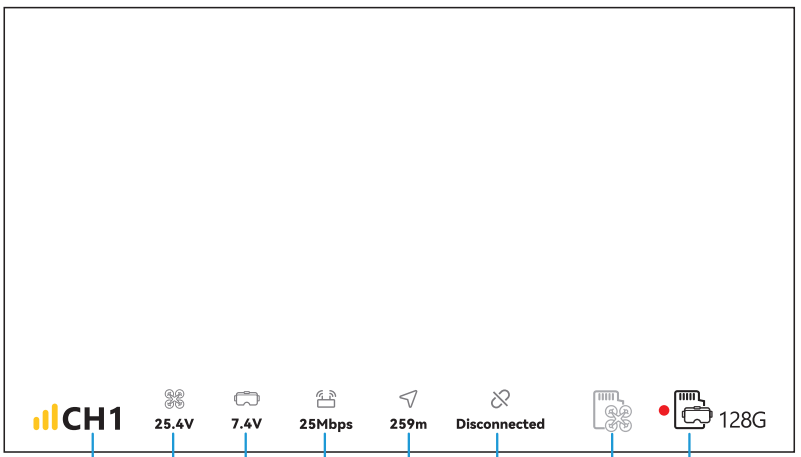


- DC5.5 Power Port: Voltage range 5.5-26.4V, DC 5.5 port.
- Bind Button: Press to enter binding mode. The binding process lasts for 30 seconds.
- Record Button: Press to start or stop recording when the video feed is connected.
- Back Button: Press to return to the previous menu.
- 5D Button: Press to enter main menu. Tilt up/down/left/right for navigation. Press to confirm selection.
- Type-C Port: After inserting the Micro SD card and connecting it to the computer, you can operate the SD card disk.
- Micro SD Card Slot: Support maximum 1T storage.

Note: It is recommended to use an SDXC card with a speed class of V30/U3 or higher to prevent recording loss or errors.

2.1 Home Screen Description

After powering on and completing startup, the default interface is the Home Screen. The bottom of the Home Screen displays several key parameter indicators.



Current Channel
Display currently set channel

Quadcopter Voltage
Display quadcopter's real-time battery voltage

FPV Goggles Voltage
Display FPV goggles' real-time battery voltage

Real-Time Bitrate
Display real-time transmission bitrate

FPV Goggle SD Card Status
Display status and remaining capacity of FPV goggles' SD card

Quadcopter SD Card Status
Display status and remaining capacity of quadcopter's SD card

Connection Status
Display current connection status

Distance
Display the distance between quadcopter and FPV goggles

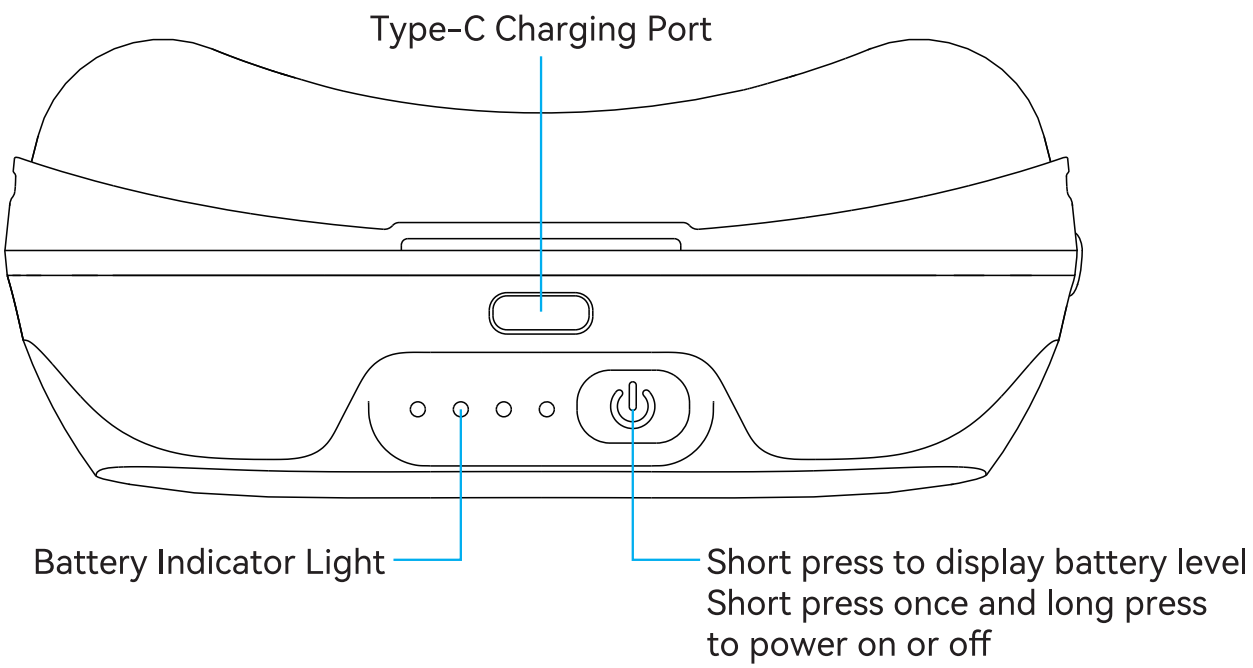
Note: SD card status: gray light is displayed when no SD card is inserted, bright color is displayed when an SD card is inserted, a red dot flashes when recording, no red dot is displayed when not recording, and Full is displayed when the card is full.

2.2 Power Supply for FPV Goggles

FPV goggles is powered by an external battery through DC5.5 power port, supporting 2-6S and a voltage range of 5.5-26.4V. When voltage is lower than 5.5V during 2S power supply, the LED light on the front of FPV goggles will flash quickly. When voltage of a single battery cell of 3S, 4S, or 6S is lower than 3.5V, the LED light will flash quickly.

LED Light Status	Goggles Status
LED Off	Powered Off
LED Stays On	Powered On
LED Flashing Fast	Low Battery

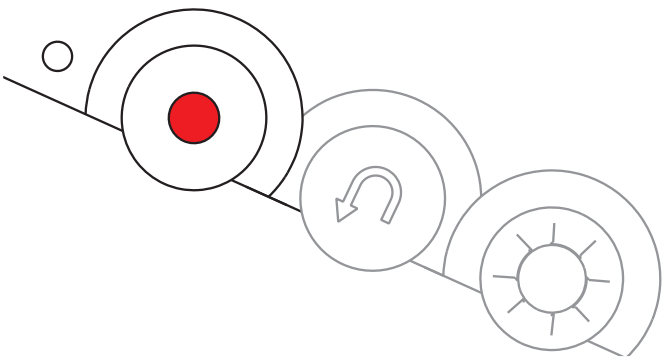
Two 18650 batteries can be inserted after removing the battery cover on the headband. Once inserted, short press the power button enables battery level checking. After short pressing once and long pressing the power button, plug DC5.5 power cable into goggles's power input port to turn on.



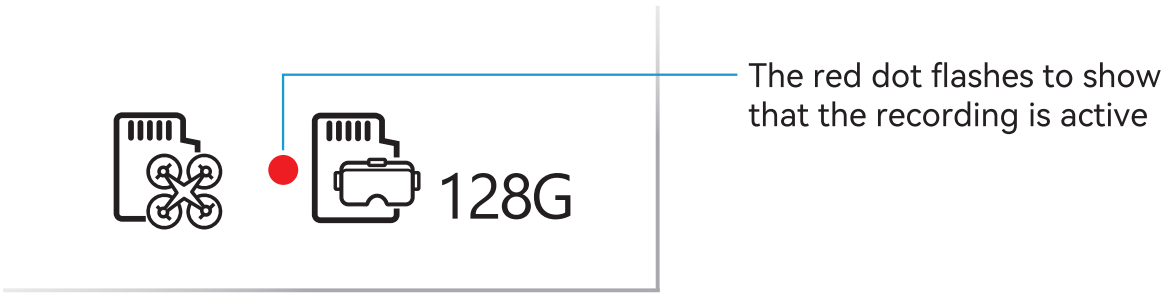
Note: When only left one battery indicator light flashes, recharge the battery timely to prevent the goggles screen from turning off due to low power.

2.3 Recording and Playback

Recording: VR04 HD FPV goggles support Micro SD card installation. After installation, the SD card icon changes from gray to bright, indicating that the SD card is read successfully. After connecting to the quadcopter display, press the record button. A red dot next to the SD card icon will flash, indicating that the recording has started. After the flight, you need to press the record button again to end the recording, otherwise the recording may fail.



Short press to start recording, short press again to stop recording and save



Playback: Enter the playback interface and select the video list. A short press allows you to view the recorded video, while a long press on the 5D button allows you to delete the video file. On the video playback screen, click the 5D button to pause/play, and use the left and right arrow keys to rewind/fast forward.

Note: When using a Micro SD card on this device for the first time, we recommend formatting the card to ensure more stable performance. Formatting permanently deletes all data on the card and makes it irrecoverable. Please proceed with caution.

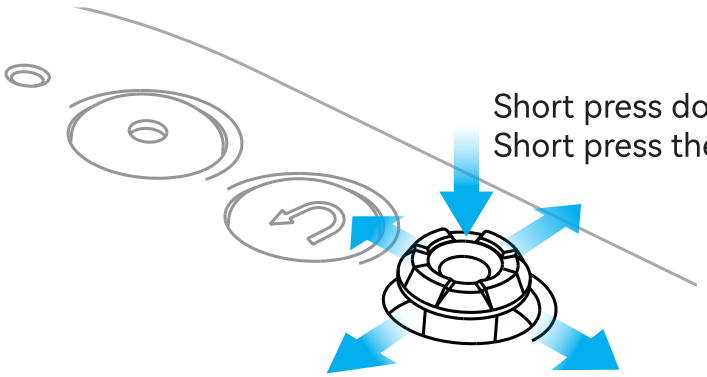
2.4 How to Bind

Pre-binding Preparation:
1. Turn on the quadcopter and the FPV goggles. Keep all devices within 2 meters of each other and ensure all devices are updated to the latest firmware.
Button Operation:
1. Press the bind button on both the goggles and the quadcopter respectively. Once linked, the quadcopter's VTX indicator LED will flash red quickly, and the goggles will emit a "beep-beep" buzzer sound.
2. Upon successful binding, the quadcopter's VTX indicator LED will be solid green, and the goggles will emit a long "beep". The video feed will appear once the beep ends.

Note: Before use, please make sure that the battery is fully charged, the headband is correctly installed, and adjusted to a comfortable size.

3. Menu Settings Guide

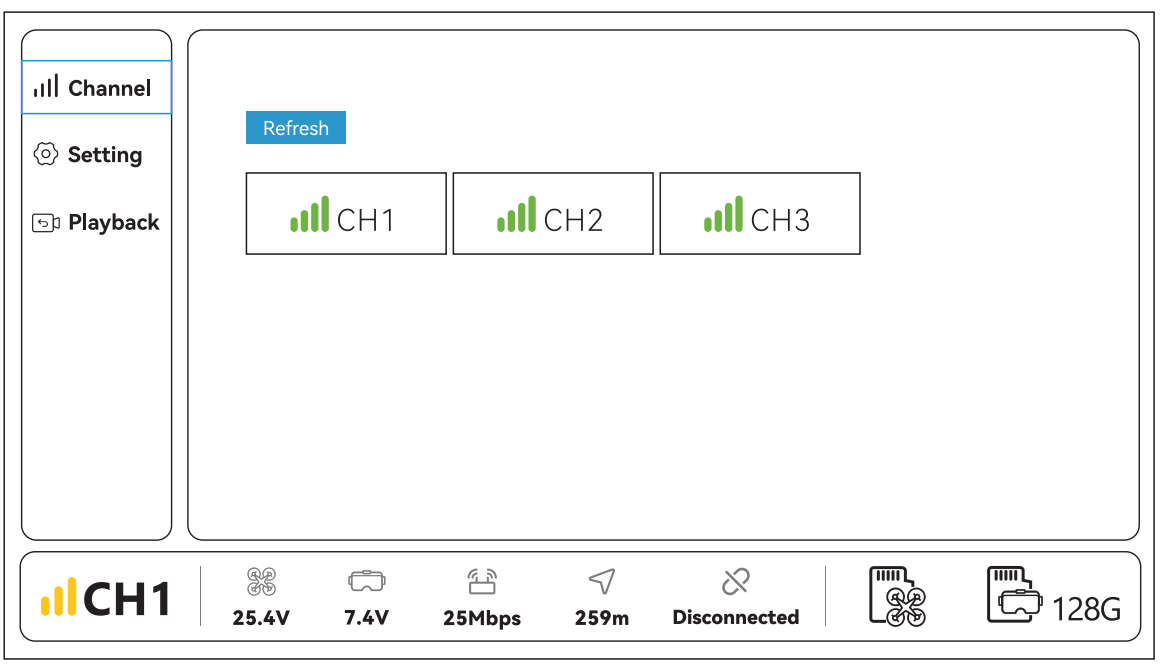
Press the 5D button to enter the menu setting interface of the FPV goggles. In this menu, you can view and set some parameters of the FPV goggles.



Short press downward to enter the setting menu.
Short press the back button to exit

On the main interface, short press the 5D button will open the menu. The 5D button can be used to select menu items by going up, down, left, and right. Pressing the back button will return to the previous menu.

3.1 Channel Interface



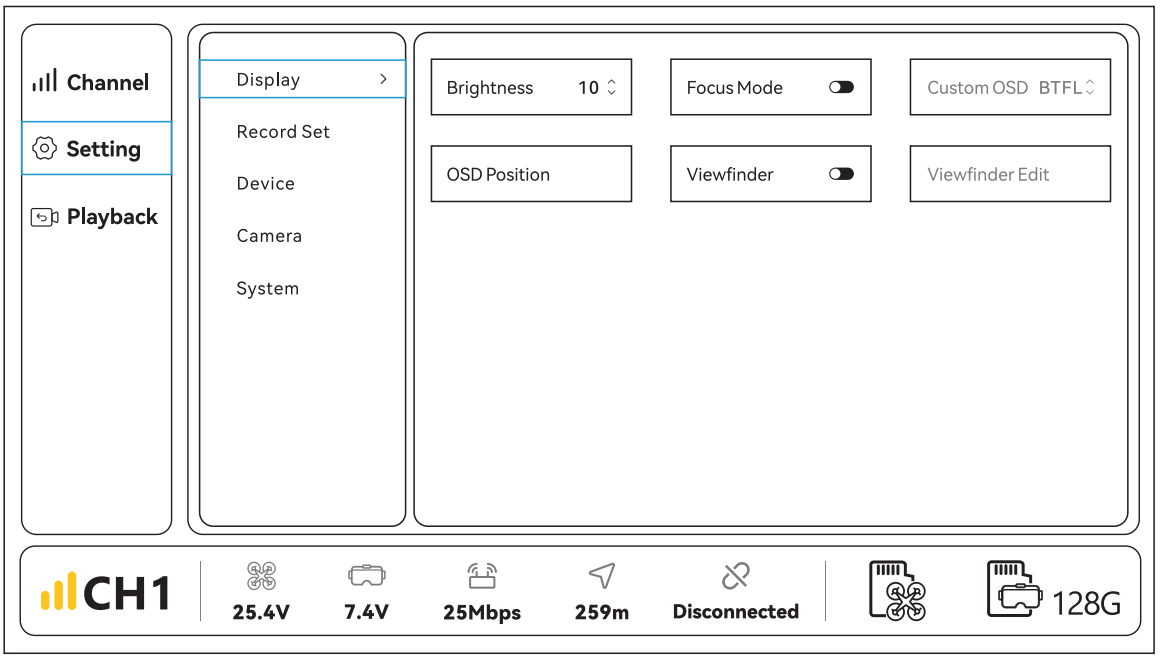
In normal mode, 3 channels are displayed. In racing mode, 16 channels are displayed. When you enter the current interface, click "Refresh" to refresh the intensity of all frequency bands.
In normal mode, the three channels are:
Channel1: 5758MHz (5753-5763MHz)
Channel2: 5788MHz (5783-5793MHz)
Channel3: 5828MHz (5823-5833MHz)

In racing mode, the 16 channels are:
Channel1: 5658MHz (5653-5663MHz)
Channel2: 5695MHz (5690-5700MHz)
Channel3: 5732MHz (5727-5737MHz)
Channel4: 5769MHz (5764-5774MHz)
Channel5: 5806MHz (5801-5811MHz)
Channel6: 5843MHz (5838-5848MHz)
Channel7: 5880MHz (5875-5885MHz)
Channel8: 5917MHz (5912-5922MHz)
Channel9: 5620MHz (5615-5625MHz)
Channel10: 5580MHz (5615-5625MHz)
Channel11: 5540MHz (5535-5545MHz)
Channel12: 5500MHz (5495-5505MHz)
Channel13: 5460MHz (5455-5465MHz)
Channel14: 5420MHz (5415-5425MHz)
Channel15: 5380MHz (5375-5385MHz)
Channel16: 5340MHz (5335-5345MHz)

Note: The main difference between the two modes is that the racing mode has more frequency points to choose from. For example, in an indoor Wi-Fi condition (usually 5.8 GHz), image transmission distance is short and susceptible to interference. You can manually switch to racing mode and select Channel 16 (5330-5350MHz) to avoid interference bands and achieve better transmission distance and image quality.

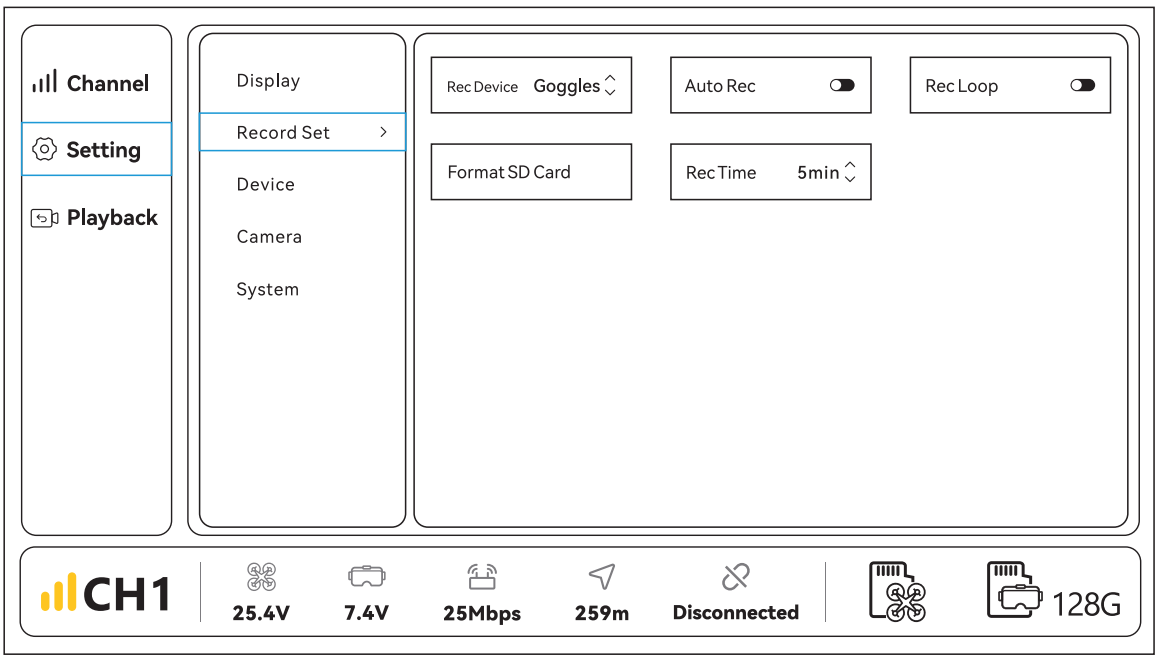
3.2 Settings Interface

Display Interface



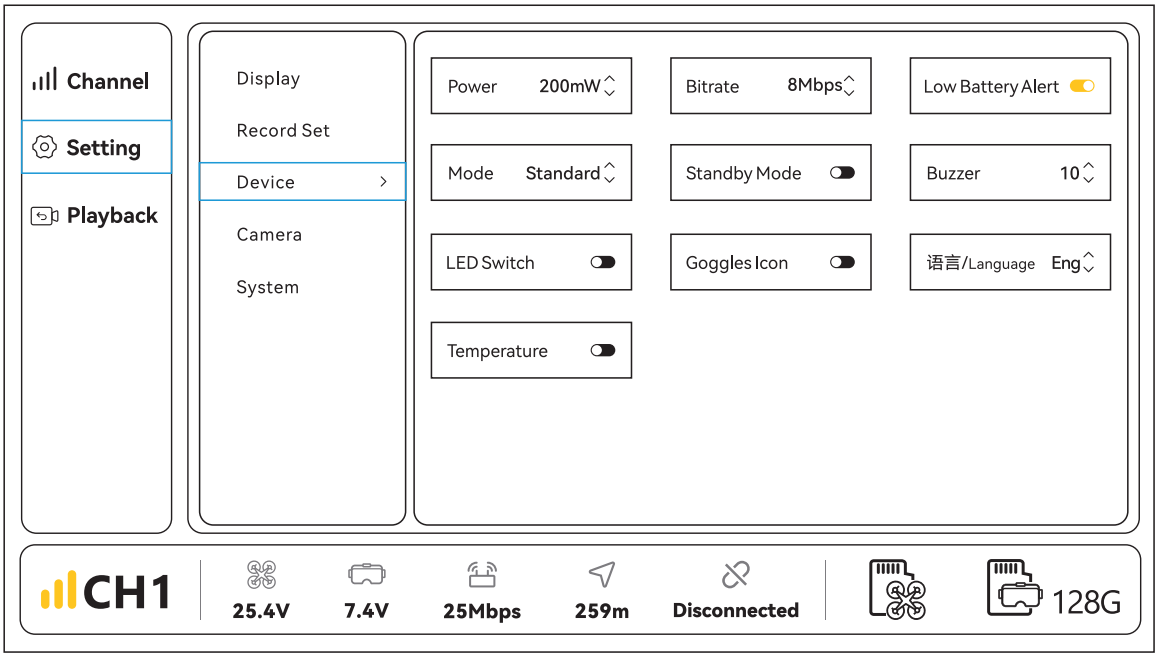
On the Display interface, you can configure the screen brightness, focus mode, OSD position, and viewfinder.

Recording Interface



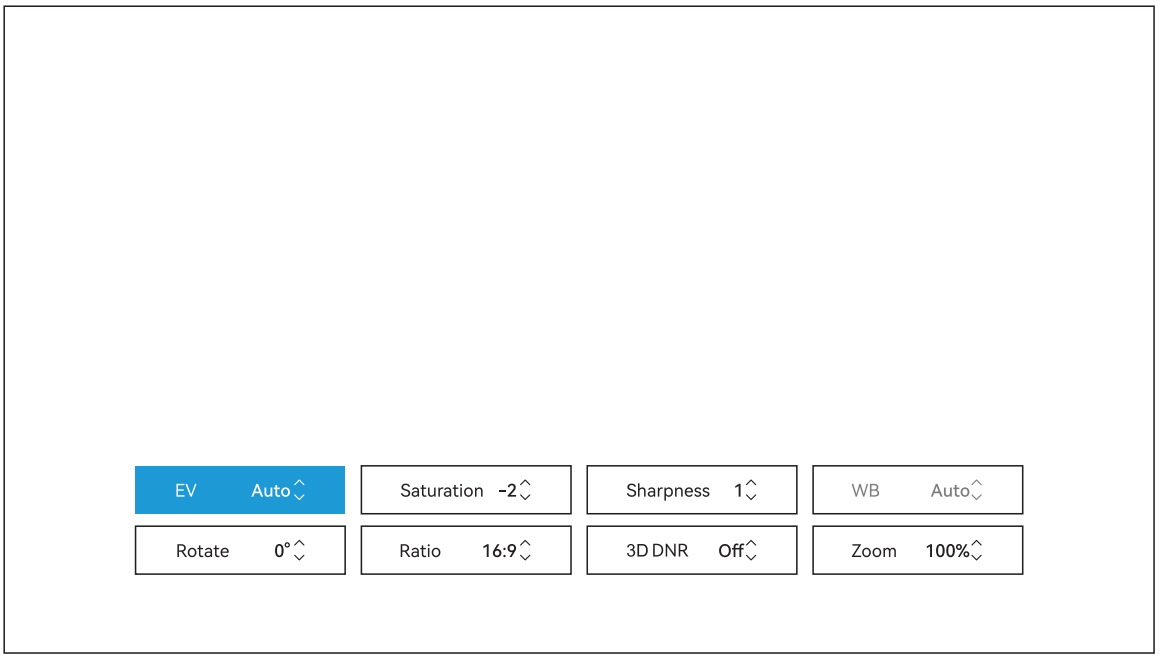
On the Recording interface, you can configure recording and SD card settings.

Device Interface



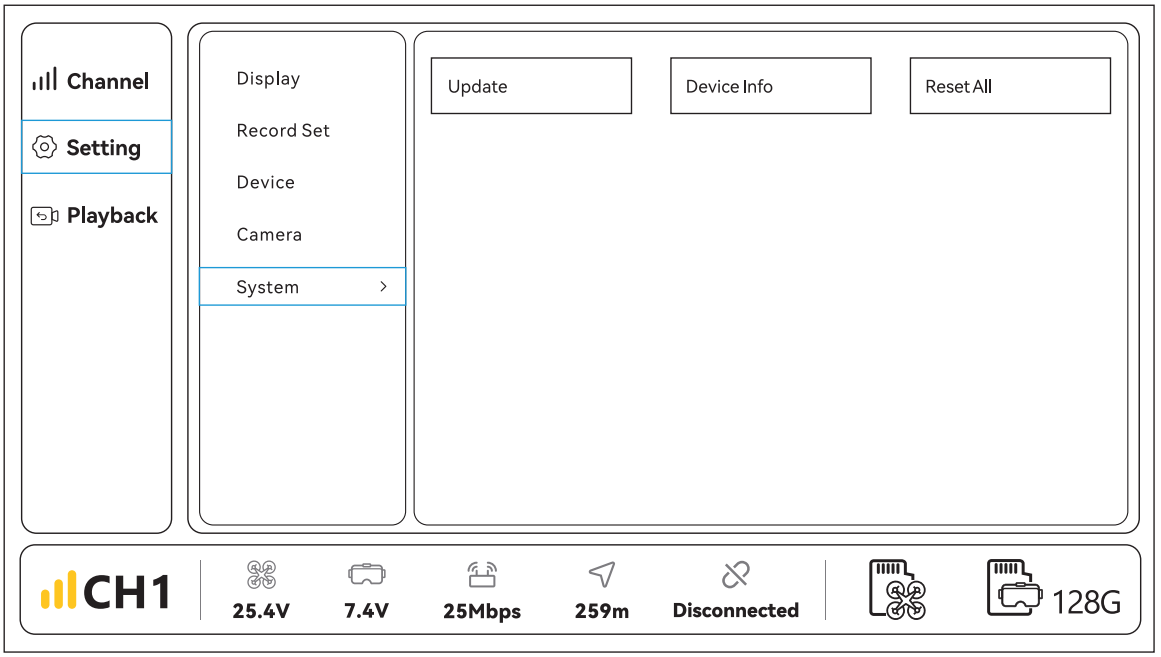
On the Device interface, you can configure parameters for the goggles.

Camera Parameter Interface



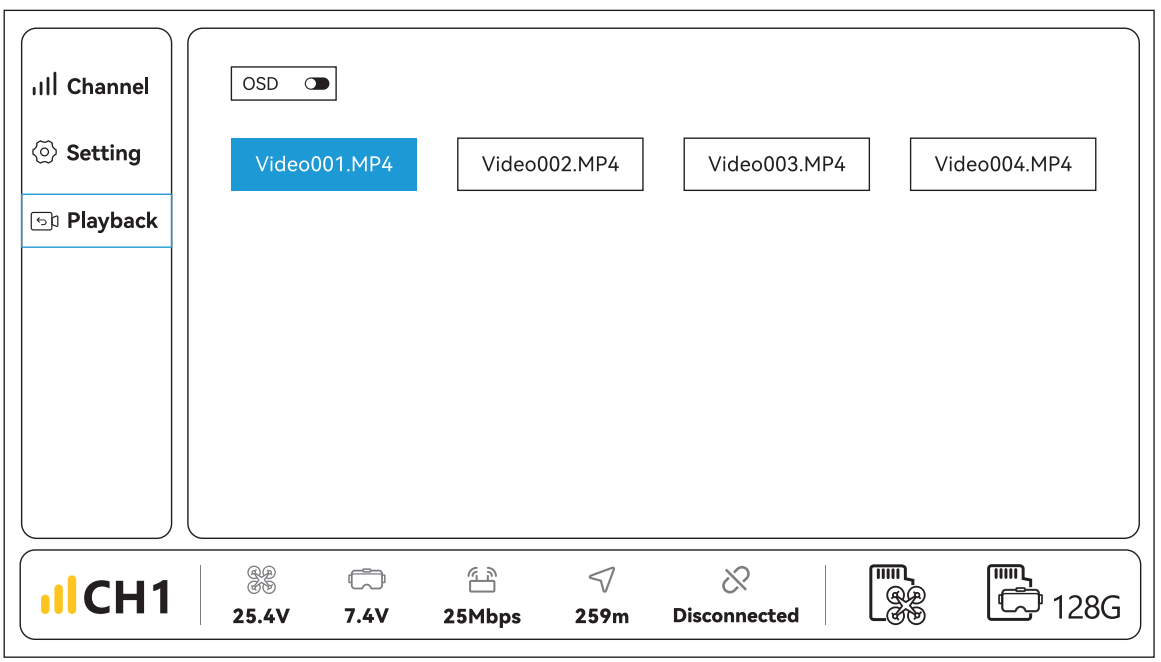
Press the "Camera" button to enter the camera parameters menu. On this interface, you can navigate to view and configure additional settings.

System Interface



On the System interface, you can view system information, update the system, or reset to factory settings.

3.3 Playback Interface



On the Playback interface, you can review recorded videos. The OSD switch enables showing or hiding the quadcopter's flight data on recording videos.

4. Firmware Update

1. Copy the firmware for the quadcopter and goggles to an SD card and insert the SD card into the goggles.
2. Power on the quadcopter and goggles, and ensure they are successfully connected.
3. Click "Setting → System → Upgrade → Start" to upgrade both the quadcopter and goggles simultaneously.
4. After the upgrade is successful, restart the quadcopter and goggles.

Note:
1. Make sure to follow the steps to upgrade the firmware, otherwise the upgrade may fail.
2. The entire upgrade process will take some time. Please wait patiently for the firmware upgrade to complete.
3. Make sure the device is fully charged before upgrading the firmware.
4. Do not turn off the power during the upgrade process.
5. After the firmware upgrade, the setting parameters will be reset. Please reset them after the upgrade is complete.
6. If you want to upgrade only the quadcopter or the FPV goggles, simply copy the corresponding firmware.

Visit the following link to refer to the release notes for information on all versions of firmware upgrades.
https://flowus.cn/betafpv/share/260b31cf-2de7-40a9-8569-181223dd4cec?code=4SMLTG

5. Attention

Please turn off the power and store it in a safe place after use. If the device is not used for a long time, please charge it every three months, otherwise the battery will be damaged.
Please stop using and recharge it as soon as possible after the low battery alarm. Otherwise, the device may shut down or the battery may be damaged.
Avoid direct sunlight on the goggles's lense, otherwise it may cause screen burns.

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