BETAFPV

(Nano Version | Nano版)

P1 HD VRX

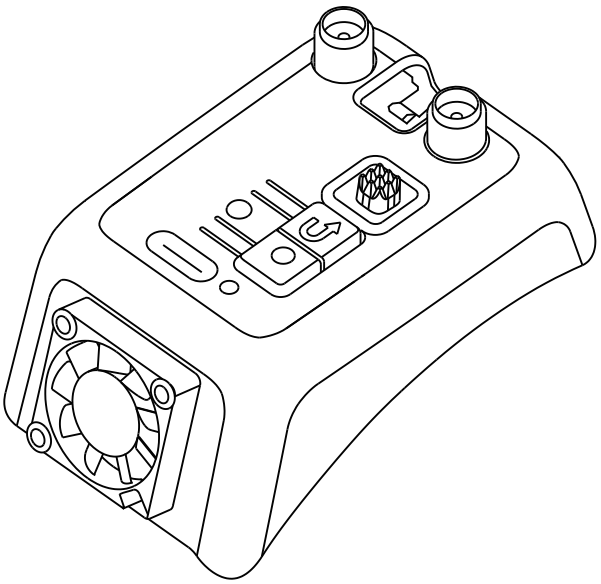
P1数字图传接收机

使用说明书 | USER MANUAL

第 I 版　2026-07-22

1. 产品概述

P1数字图传接收机（Nano版）是BETAFPV开发的无线图像传输接收机，适配ArtLynk数字图传系统，可实现远距离低延时高清无线图像传输，显示部分通过miniHDMI接口外接输出。本机型在保留BETAFPV一贯的极简操作和外观设计的基础上，采用更小体积的轻量化形态，同时提供两种规格外壳可供选配装配，分别适配Fat Shark、SKYZONE两大品牌的多款双目FPV眼镜产品，将给模型爱好者们带来多样化、高适配的全新使用体验。

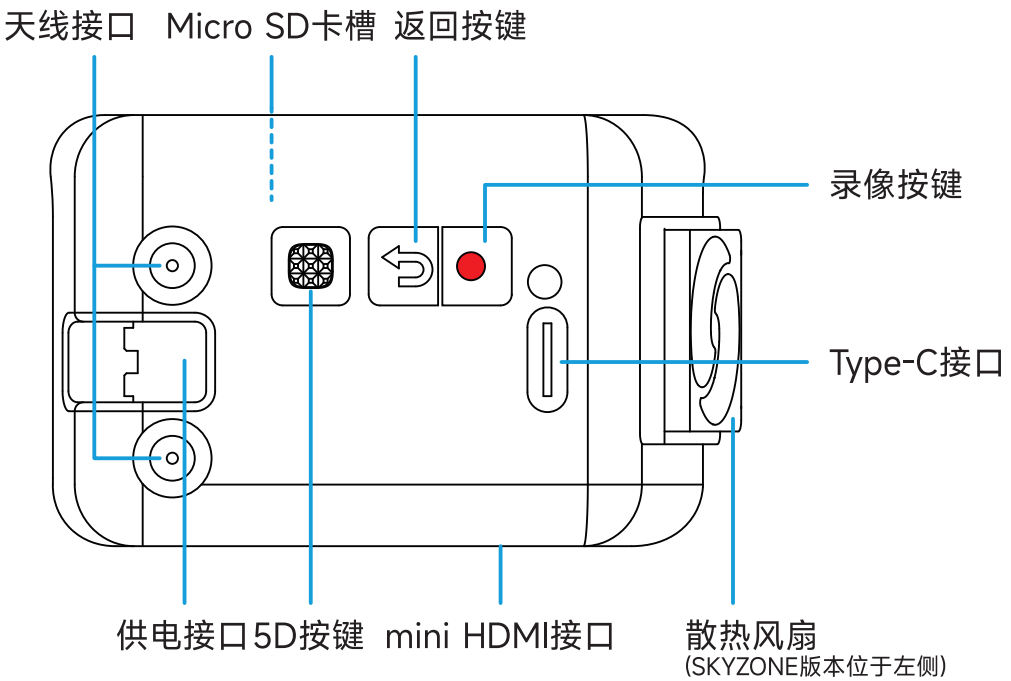


2. 产品参数

名称	P1数字图传接收机（Nano版）
尺寸	适配Fat Shark版：39*62*36mm（不含天线） 适配SKYZONE版：32*64*36mm（不含天线）
重量	适配Fat Shark版：36g（不含天线） 适配SKYZONE版：33g（不含天线）
SD卡槽	最大支持1T
通信频率	5.3-5.8GHz
发射功率(ElRP)	FCC:<23dBm；CE:<14dBm
接口	Type-C；mini HDMI；Micro SD卡插槽； 2Pin PH2.0连接器
天线接口	SMA外螺内孔
传输分辨率	1080p@60fps

传输距离	> 400m
输入电压	5.5-26.4V
结构适配说明	适配Fat Shark版： 结构专属适配Fat Shark主流双目FPV眼镜 适配SKYZONE版： 结构专属适配SKYZONE主流双目FPV眼镜

3. 基本功能



适配Fat Shark版

- 供电接口：2Pin PH2.0连接器，电压范围5.5-26.4V。
- 录像按键：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。
- mini HDMI接口：支持视频信号输出，可外接显示设备实现图像画面实时显示。
- 天线接口：外螺内孔。

注意：建议选择V30/U3或以上的SDXC卡，以避免录像丢失、报错。

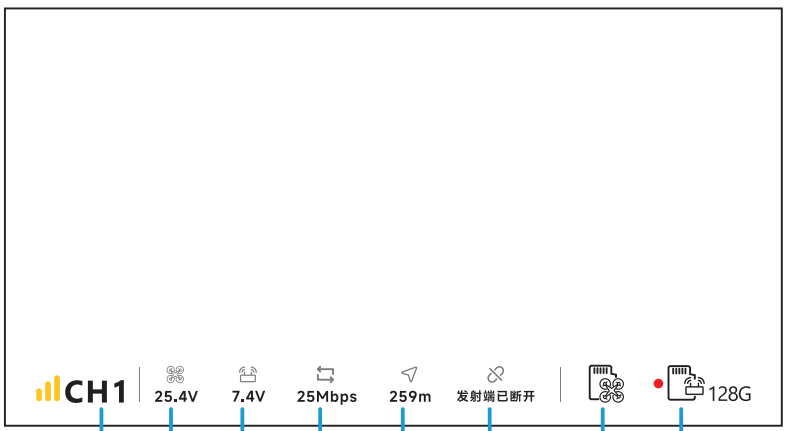
3.1 供电说明

P1数字图传接收机（Nano版）采用外置电池供电，接口为2Pin PH2.0，支持2-6S，供电范围5.5-26.4V。开启低压报警时，2S供电时电压低于5.5V，3S、4S、6S单颗电芯低于3.5V时蜂鸣器会发出“滴.. 滴.. 滴.. 滴."报警声。

注意：2S航模电池供电时务必注意外接电池电压，防止外接电池电压过放。低压报警时请及时给电池充电，避免电量不足引起屏幕熄灭。

3.2 主界面说明

通过图传接收机上的mini HDMI接口外接显示设备，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

天空端电压
显示天空端实时供电电压

地面端电压
显示地面端实时供电电压

实时码率
显示实时传输码率

地面端SD卡状态
显示地面端SD卡状态及剩余容量

天空端SD卡状态
显示天空端SD卡状态及剩余容量

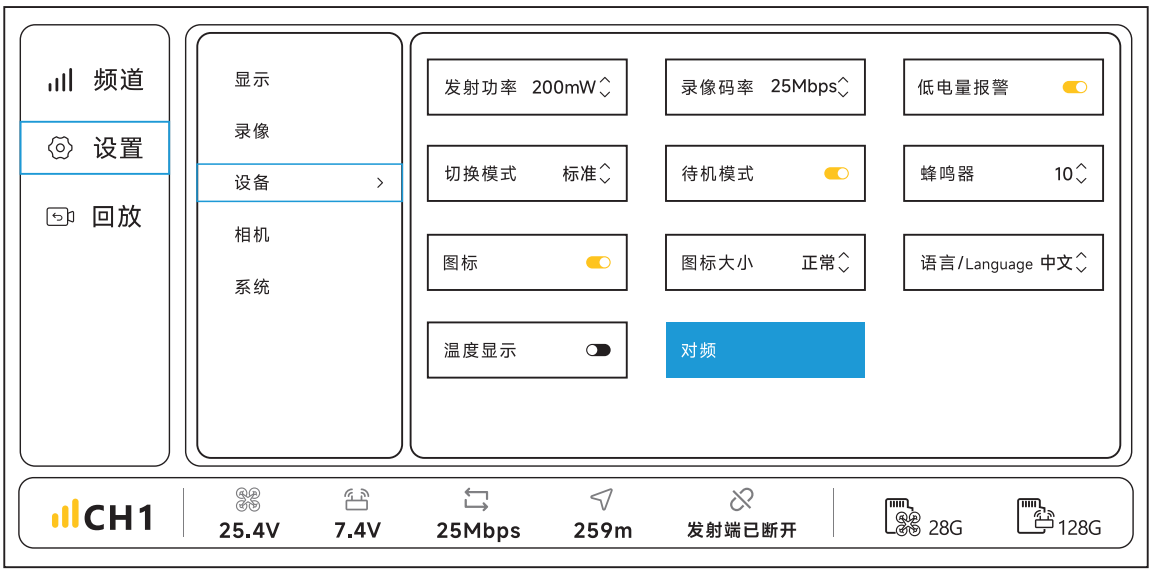
连接状态
显示当前连接状态

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。

3.3 对频说明

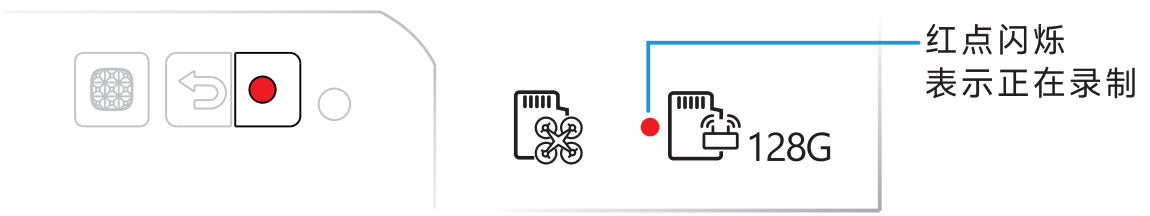
对频前准备：
开启天空端、地面端设备，保持所有设备在2米内，并确保所有设备固件升级至最新固件。
对频：
1. 分别按下显示器对频菜单和天空端对频按钮，当进入对频状态时，飞机与图传接收机指示灯变为绿色快闪，图传接收机发出“滴.... 滴.... 滴.... 滴....”蜂鸣器提示音。



2. 对频成功后，飞机与图传接收机指示灯变为绿色常亮，显示器蜂鸣器发出长响“滴”停止后显示图传画面。

3.4 录像和回放

录像：P1数字图传接收机（Nano版）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。**

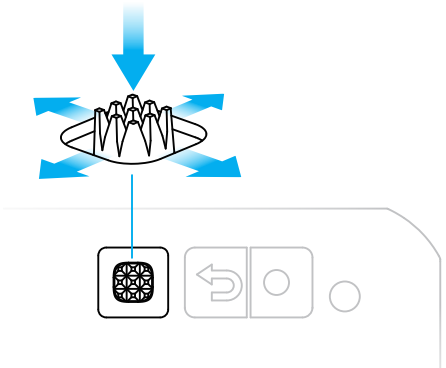


回放：进入回放界面，当选择框停留在视频列表中，短按即可查看录像视频，长按5D键可选择删除视频文件。播放界面单击确认键暂停/播放，左右方向键调整快退/快进。

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。

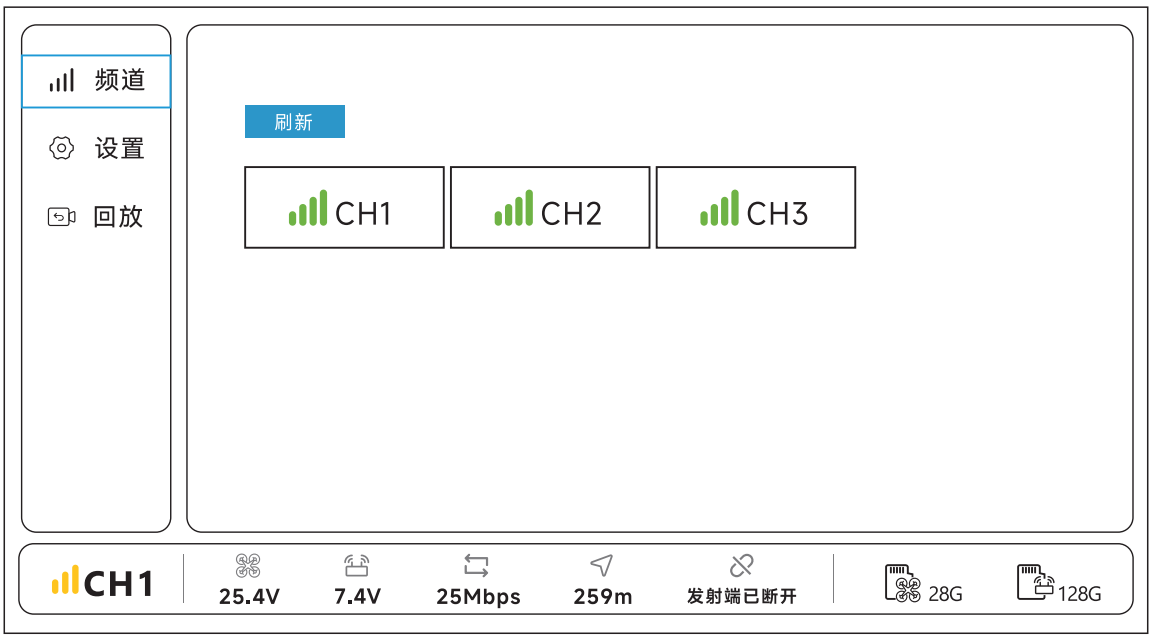
4. 菜单设置说明

按下5D按键，进入菜单设置界面，在该菜单下可以对图传接收机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。

4.1 频道界面



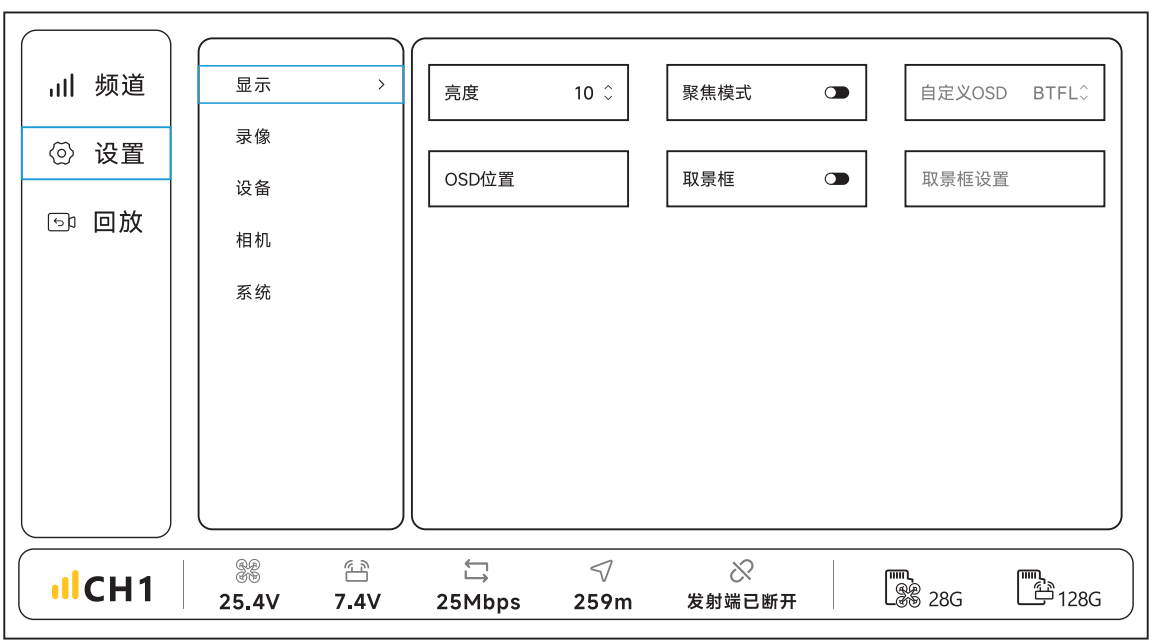
标准模式下，显示3个频道；竞速模式下，显示16个频道。在当前界面时，点击“刷新”会刷新一次全部频段强度。
标准模式下，3个频道分别为：
Channel1：5758MHz（5753-5763MHz）；
Channel2：5788MHz（5783-5793MHz）；
Channel3：5828MHz（5823-5833MHz）。
竞速模式下，16个频道分别为：
Channel1：5658MHz（5653-5663MHz）；
Channel2：5695MHz（5690-5700MHz）；

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道可供选择。如在室内WIFI环境下（一般是5.725-5.850GHz），图像传输可能距离短，容易受到干扰。在设备界面可以手动切换飞行模式为竞速模式，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。

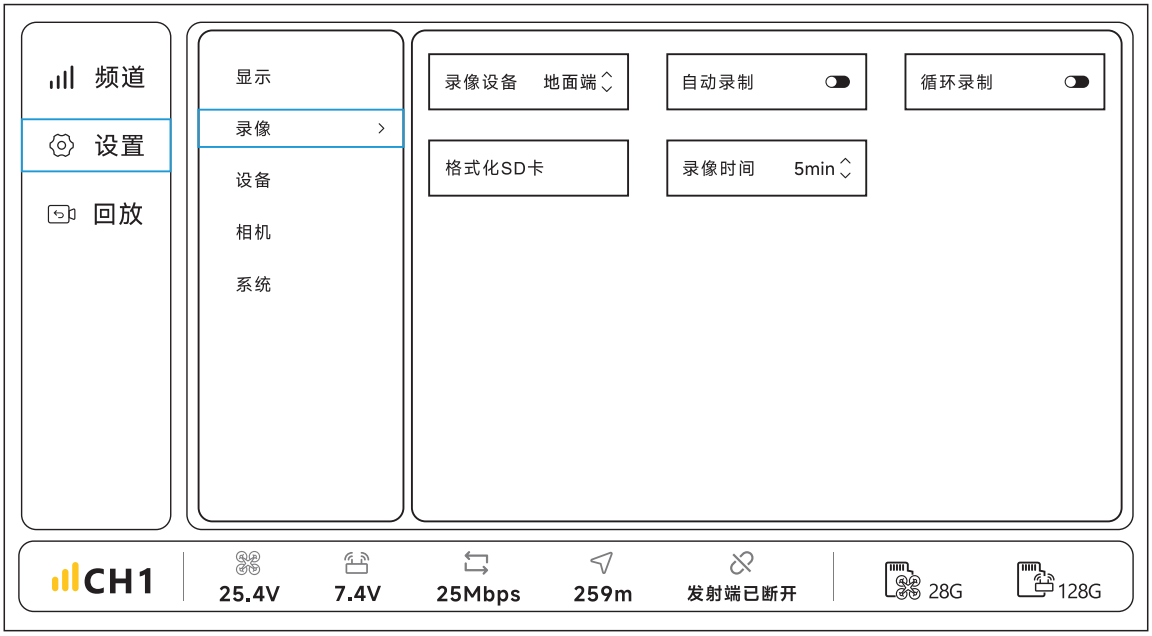
4.2 设置界面

显示界面



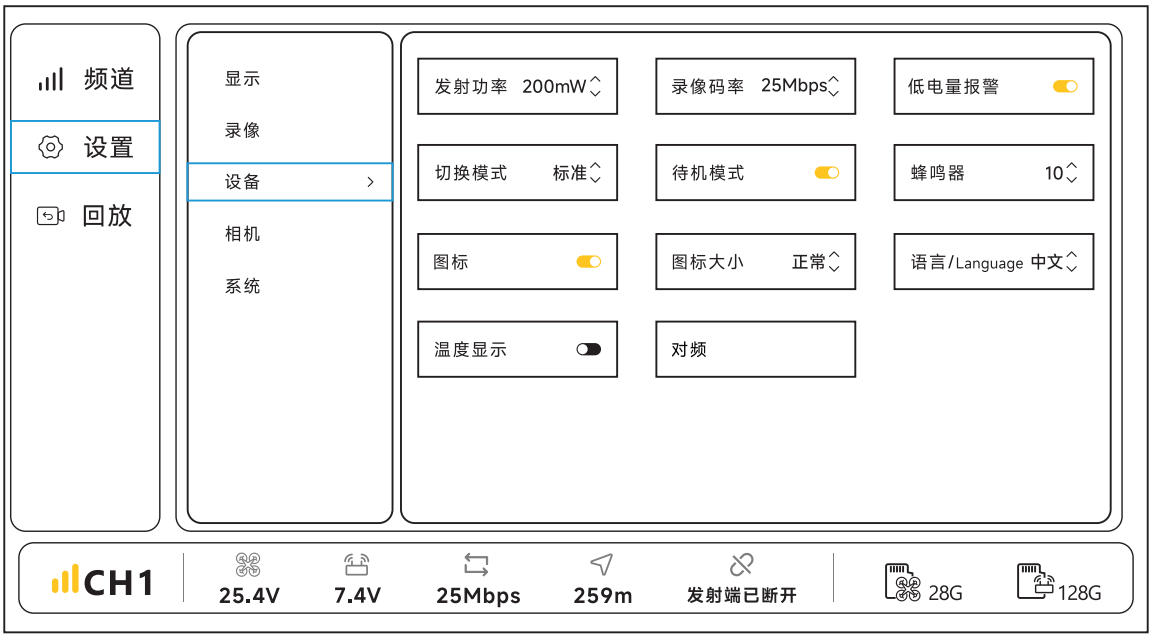
在显示界面，可对屏幕亮度、聚焦模式、飞控OSD位置、取景框进行设置。

录像界面



在录像界面，可对录像与SD卡进行设置。

设备界面

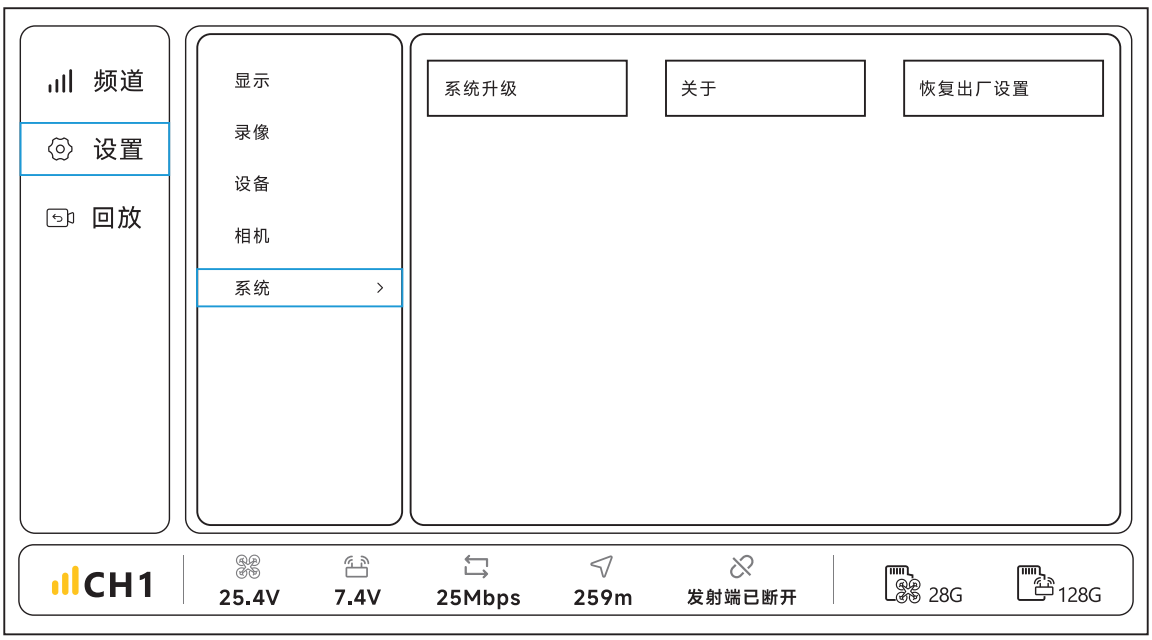


在设备界面，可对设备进行参数设置。

相机参数界面

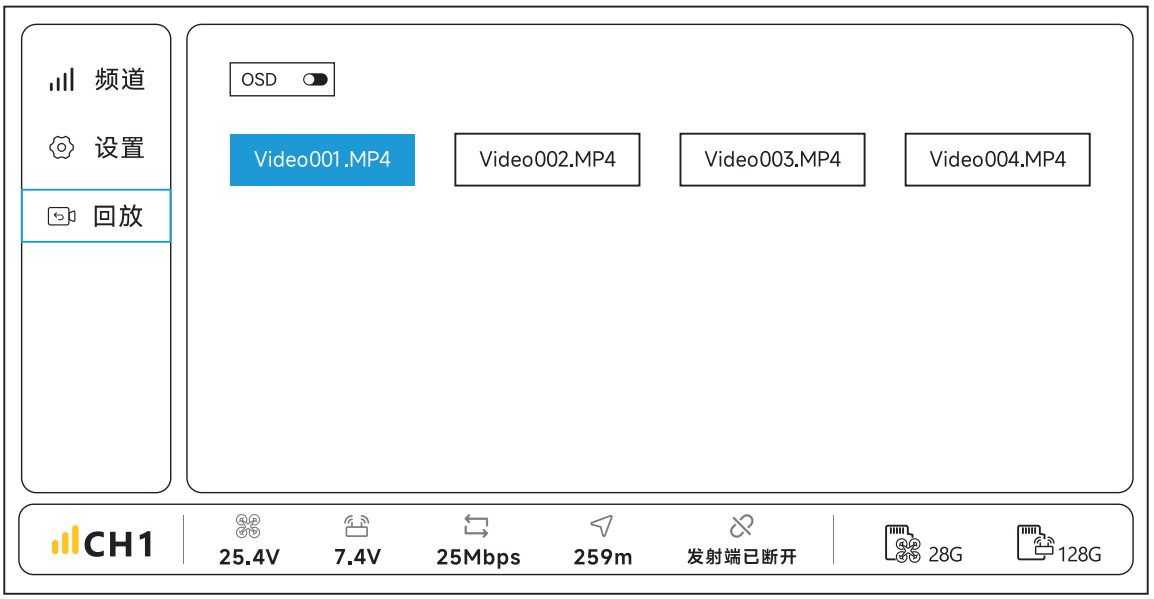
按下“相机”可进入相机参数界面，在参数界面里，可对图像参数进行参数设置。

系统界面



在设备界面，可查看设备信息，对设备可进行系统升级或恢复出厂设置。

4.3 回放界面



在回放界面，可对录制视频进行回放查看，OSD开关可对录制视频天空端信息进行开启或隐藏。

5. 固件升级

1. 将天空端与地面端固件拷入SD卡内，SD卡插入地面端设备内。
2. 开启天空端与地面端并联通成功。
3. 点击“设置→系统→系统升级→开始升级”即可同时升级天空端与地面端。
4. 升级成功后重启天空端与地面端。

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. 若想单一升级天空端或地面端设备，则单一拷入对应固件即可。

扫描下方二维码或访问以下链接，参考发布记录了解所有版本的固件升级信息。

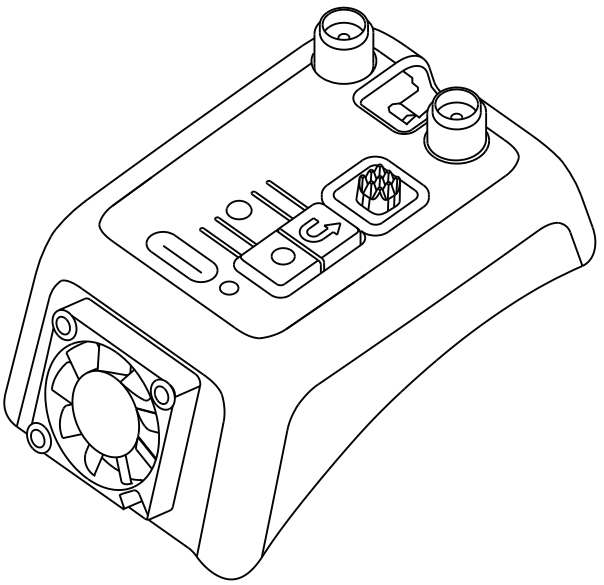
https://flowus.cn/betafpv/share/b776abe3-fa12-43c1-8029-407de85470f2?code=4SMLTG

6. 注意事项

1. 低电量报警后请尽快停止使用，否则可能出现直接关机或者电池损坏的风险。
2. 建议使用柔软、干燥的布轻擦外壳，纸巾、粗布等粗糙材料会造成划痕。
3. 不要与钥匙、工具、砂石等硬物混放，避免挤压、摔落、尖锐物划伤。

1. Product Profile

The P1 HD VRX (Nano Version) is a digital high-definition video receiver engineered by BETAFPV. Built for the ArtLynk digital ecosystem, it delivers an exceptional long-range, low-latency, and crisp HD transmission experience. The video feed is routed via an external mini-HDMI output port. While inheriting BETAFPV's design philosophy , this model adopts an ultra-compact, lightweight form factor. It comes with two optional housing shells tailored to fit multiple binocular FPV goggle models from Fat Shark and SKYZONE, bringing pilots an unmatched level of versatility and cross-brand compatibility.

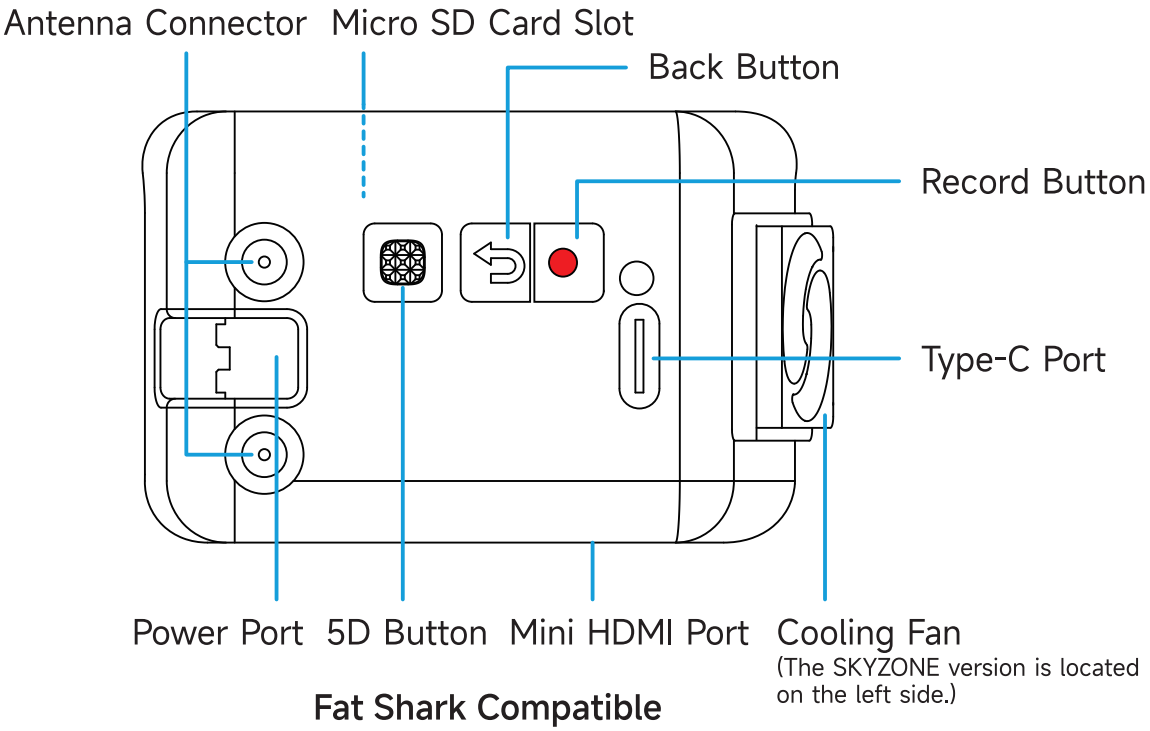


2. Specification

Product	**P1 HD VRX (Nano Version)**
Dimensions	For Fat Shark: 39*62*36mm (Excluding Antenna) For SKYZONE: 32*64*36mm (Excluding Antenna)
Weight	For Fat Shark: 36g (Excluding Antenna) For SKYZONE: 33g (Excluding Antenna)
SD Card Slot	Max 1TB
Frequency	5.3-5.8GHz
Effective Isotropic Radiated Power (EIRP)	FCC:<23dBm； CE:<14dBm
Ports	Type-C; mini HDMI; Micro SD Card slot; 2Pin PH2.0 connector
Antenna Connector	SMA Female (External thread, inner pin)

Transmission Resolution	1080p@60fps
Transmission Range	> 400m
Input Voltage	5.5-26.4V
Structure Adaptation	Fat Shark Compatible: multiple FPV goggles of Fat Shark SKYZONE Compatible: multiple FPV goggles of SKYZONE

3. Basic Function



Fat Shark Compatible

- Power Port: 2-pin PH2.0 / Voltage: 5.5–26.4V
- Record Button: Press to start or stop DVR recording.
- Back Button: Press to return to the last setting.
- 5D Button : Press to enter the menu interface. Toggle up/down/left/right to navigate through menu options, and press again to confirm your selection.
- Type-C Port: Insert the Micro SD card and connect to a computer to access and manage the SD card storage.
- Micro SD Card Slot: Supports Micro SD cards with a maximum capacity of 1TB.
- Mini HDMI Port: Supports video output to external displays for real-time video monitoring.
- Antenna Connector: SMA Female.

Note: A V30/U3 or higher SDXC card is recommended to prevent video loss or recording errors.

3.1 Power Supply

The P1 HD VRX (Nano Version) is powered by an external battery through 2-Pin PH2.0 power port, supporting 2-6S LiPo within an operating voltage range of 5.5-26.4V.

Low voltage alarm

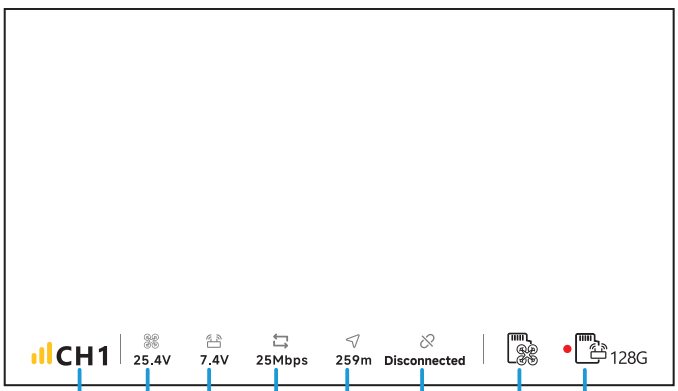
The built-in buzzer will emit a "beep-beep" warning under the following conditions:

- 2S Power Input: Overall voltage falls below 5.5V.
- 3S, 4S, or 6S Power Input: Any individual cell drops below 3.5V.

Note: When powering the receiver with a 2S LiPo battery, closely monitor the voltage to prevent over-discharge. If the low-voltage alarm is triggered, charge the battery promptly to prevent sudden screen shutdown due to insufficient power.

3.2 Home Screen Description

Connect an external display to the receiver using the mini HDMI port. Upon power-up and boot completion, the main interface will be shown on the display. Important parameter indicators are located at the bottom of the main screen for easy reference.



Current Channel
Display currently set channel

Air Unit Voltage
Real-time voltage of the Air unit

Ground Control Voltage
Real-time voltage of the Monitor

Real-Time Bitrate
Display real-time transmission bitrate

Ground Control SD Card Status
Display status and remaining capacity of ground station's SD card

Air Unit SD Card Status
Display status and remaining capacity of air unit's SD card

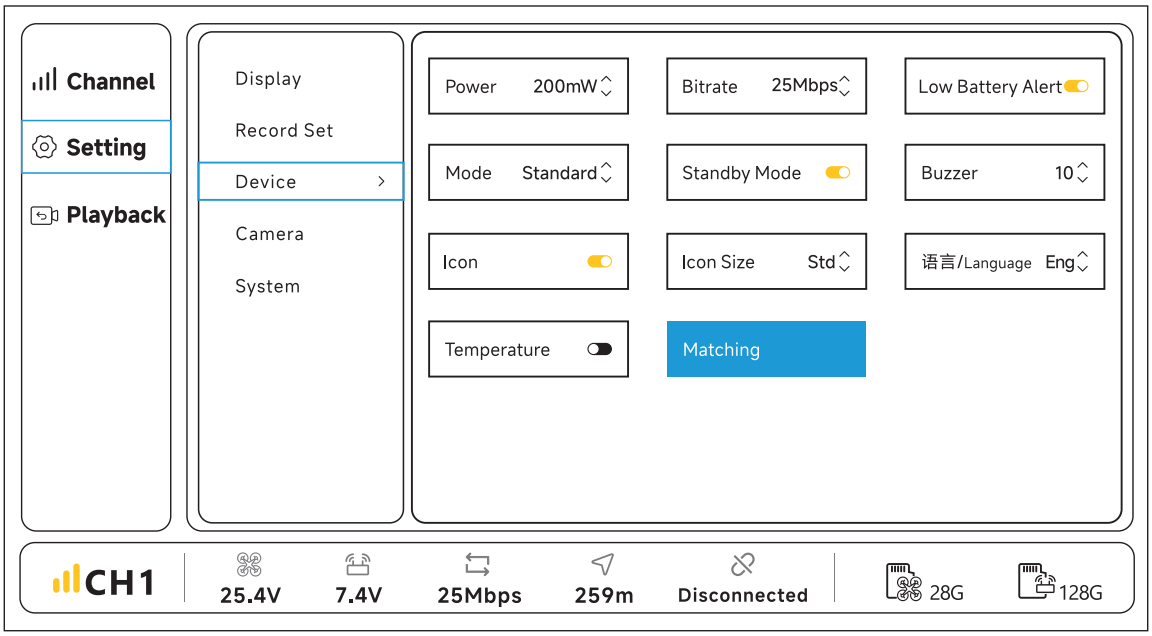
Connection Status
Display current connection status

Distance
Display the distance between quadcopter and FPV goggles

Note: The SD Card Status Reading:
Grey (No SD Card), Solid and Bright White (SD Card Detected), Flashing Red (Recoding), No red dot (Standby and not recording) and Full (SD card Storage Full).

3.3 How to Bind

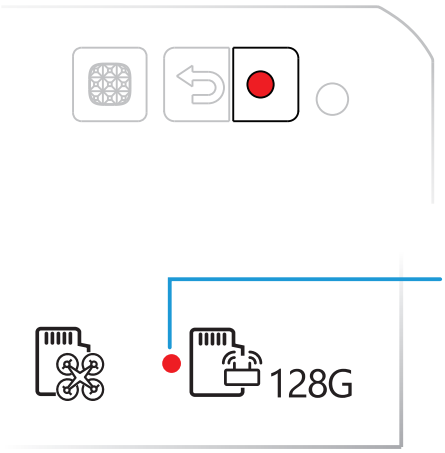
Pre-binding Preparation:
Power on both the air unit and the ground station equipment. Keep all devices within 2 meters of each other, and ensure that all devices have been updated to the latest firmware version.
Binding:
1. Select "Bind" in the display menu and press the Bind button on the quadcopter. The LED indicator on the quadcopter's VTX module will flash green, while the VRX Nano receiver's built-in buzzer emits a repeating "beep... beep... beep..." alert, indicating a successful bind.



2. Once binding is successful, the LED indicators on both the quadcopter and the VRX will turn solid green, the buzzer will stop sounding after a long "beep," and the video feed will appear on the display.

3.4 Recording and Playback

Recording: The P1 HD VRX (Nano Version) supports Micro SD card storage. Once a card is inserted, the SD card icon changes from gray to solid white, indicating that the SD card has been successfully detected. After connecting the video feed, press the Record Button; A flashing red dot will appear, indicating that the recording is activated.
After the flight, press the record button again to stop recording; failure to do so may result in lost footage.

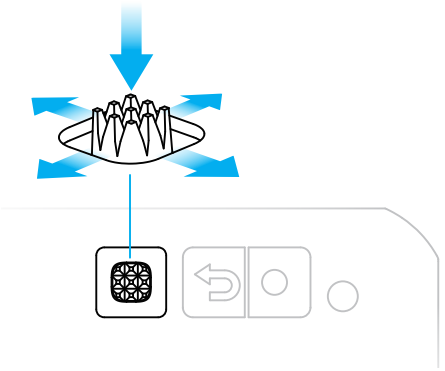


Playback: Enter the playback interface. When the selection box is on the video list, a short press allows you to view the selected recording. Long-press the 5D button to delete a video file. In the playback screen, press the confirm button once to pause or resume playback, and toggle the left/right directional button to rewind or 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 will permanently delete all data on the card and cannot be recovered. Please proceed with caution.

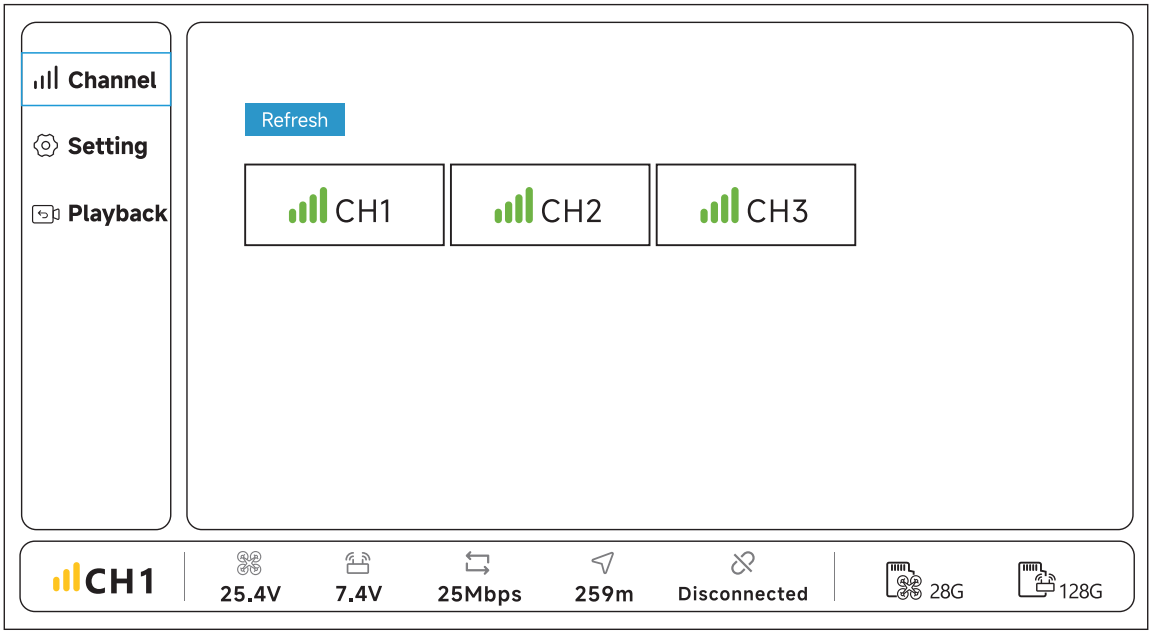
4. Menu Settings

Press the 5D button to access the menu setting of the VRX. In this menu, you can view and configure various parameters of the VRX.



On the main interface, short press the 5D button will open the menu. Use the 5D button to navigate through the menu items by moving up, down, left, or right. Press the Back button will return to the previous menu.

4.1 Channel Interface



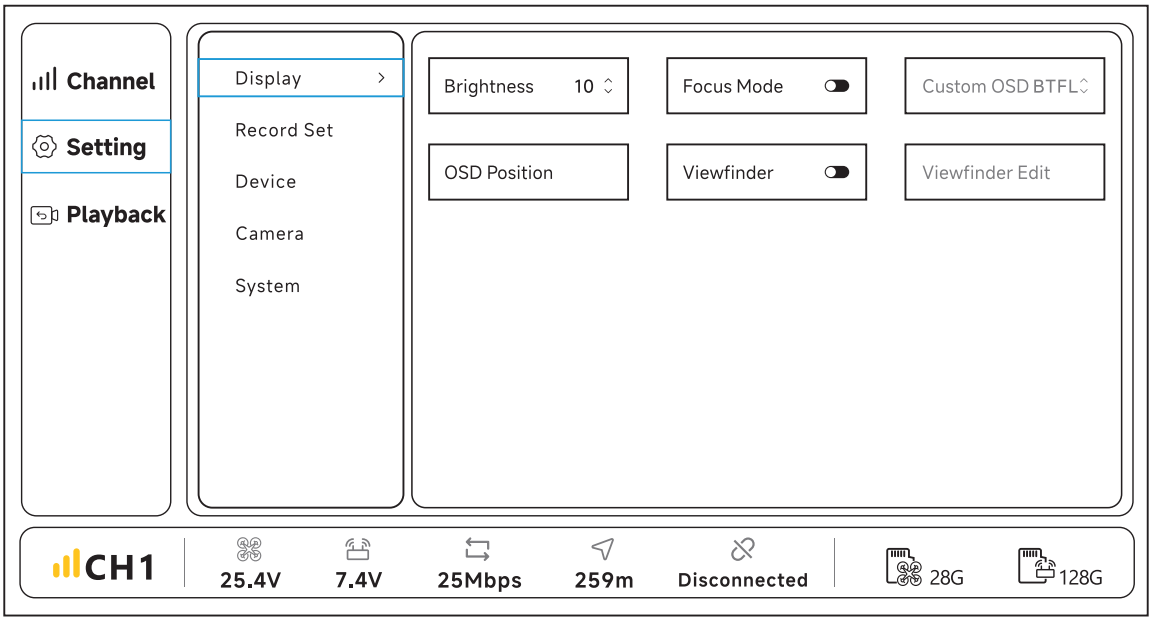
In Standard Mode, 3 channels are available. In Racing Mode,16 channels are available. When entering the Channel interface, click "Refresh" to refresh the signal strength of all frequency bands.
In Standard Mode, the three channels are:
Channel1: 5758MHz (5753-5763MHz);
Channel2: 5788MHz (5783-5793MHz);
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 primary difference between the two modes is that Racing Mode offers a wider selection of available channels. In indoor Wi-Fi environments (typically operating in the 5.725–5.850 GHz band), video transmission may

suffer from reduced range and increased interference. To address this, you can manually switch to Racing Mode in the device interface and select Channel 16 (covering the 5.335–5.345 GHz band), which avoids congested frequencies and delivers improved transmission distance and image quality.

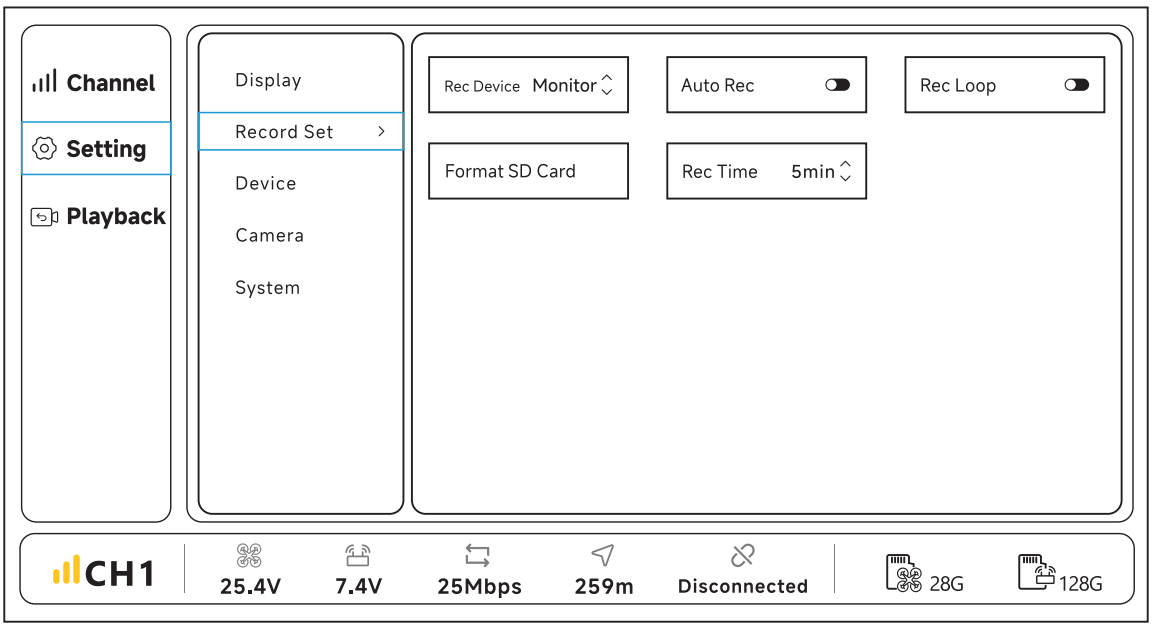
4.2 Settings

On-Screen Display



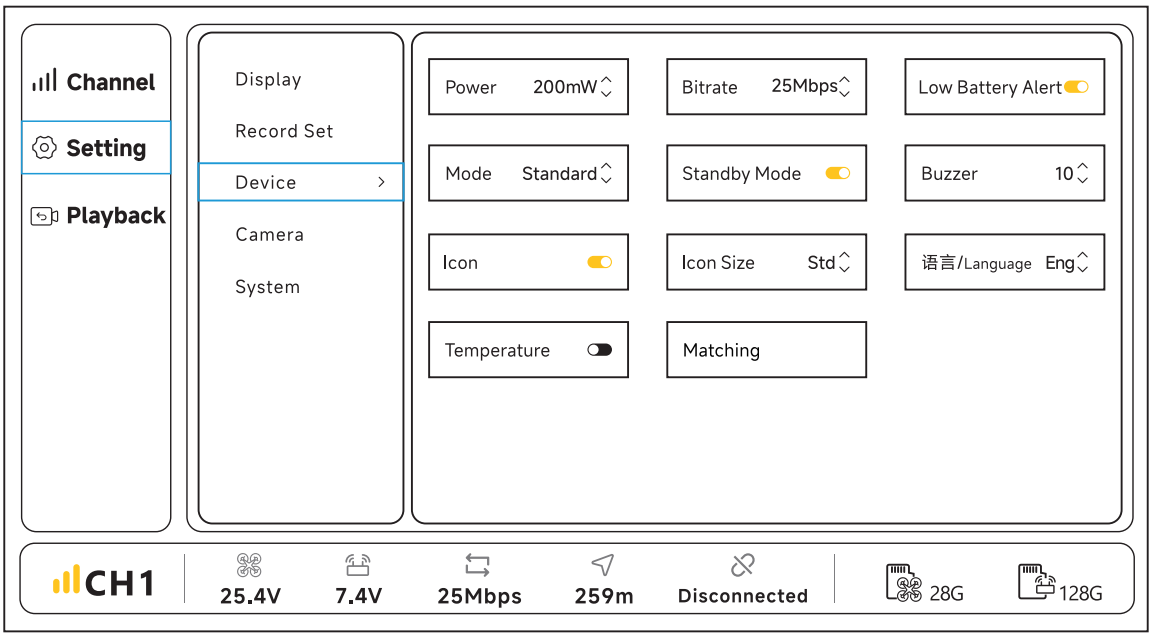
The Display Interface allows you to adjust screen brightness, enable Focus Mode, reposition the flight controller OSD, and customize the framing box settings.

Recording Interface



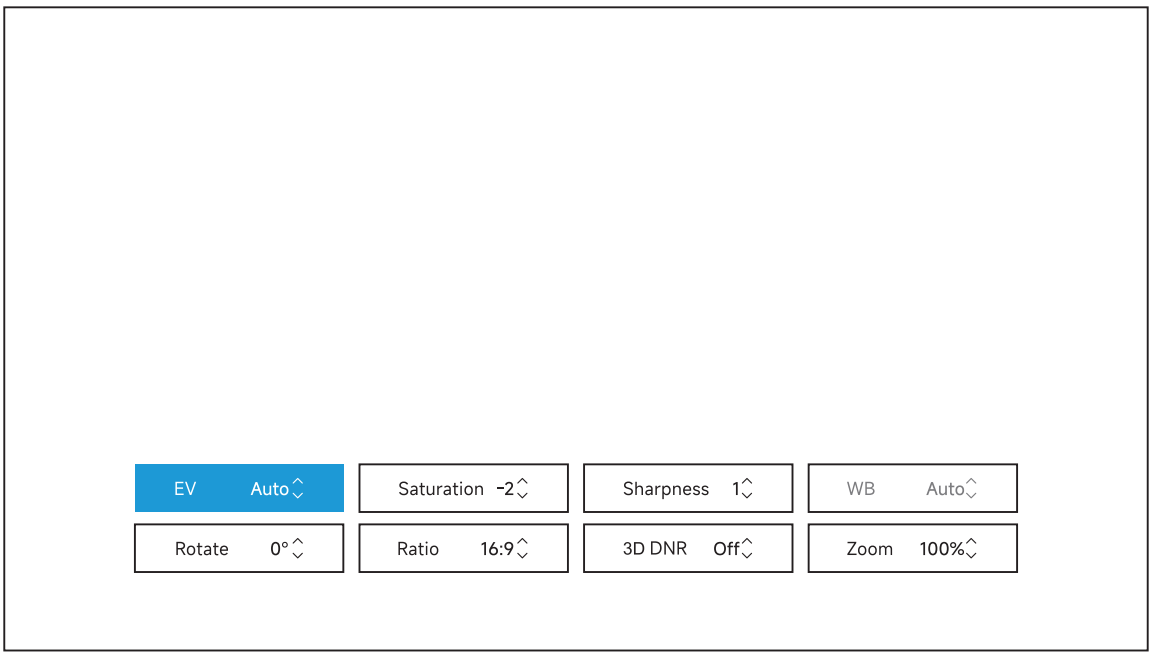
The Recording Interface allows you to adjust both video recording settings and SD card settings.

Device Interface



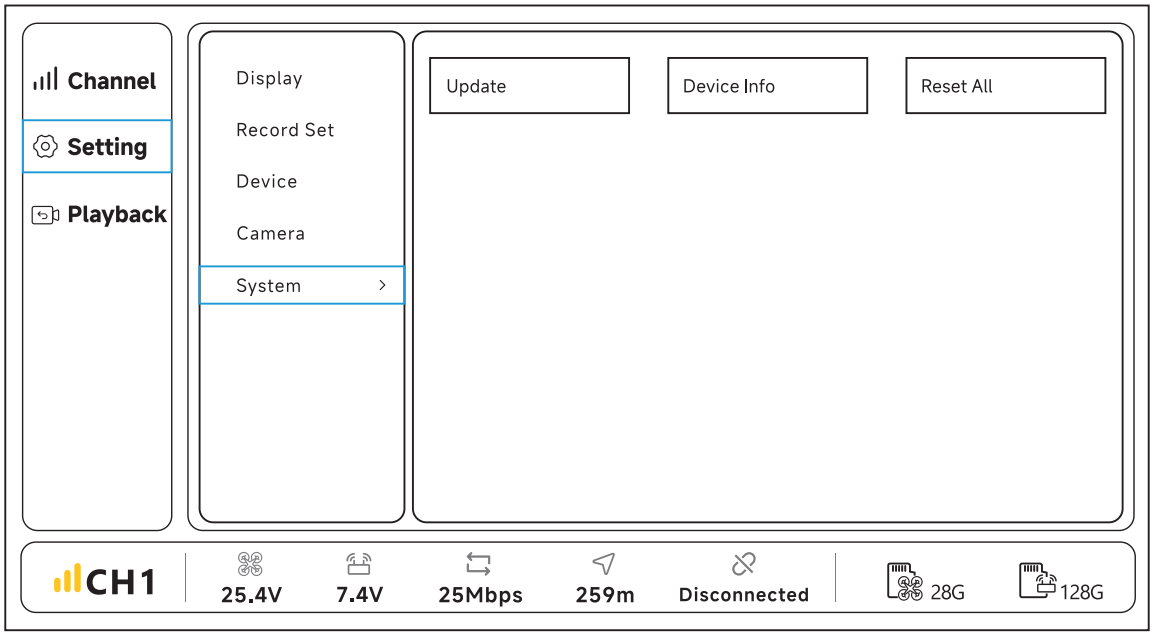
The Device Interface provides access to all configurable device parameters.

Camera Settings Interface



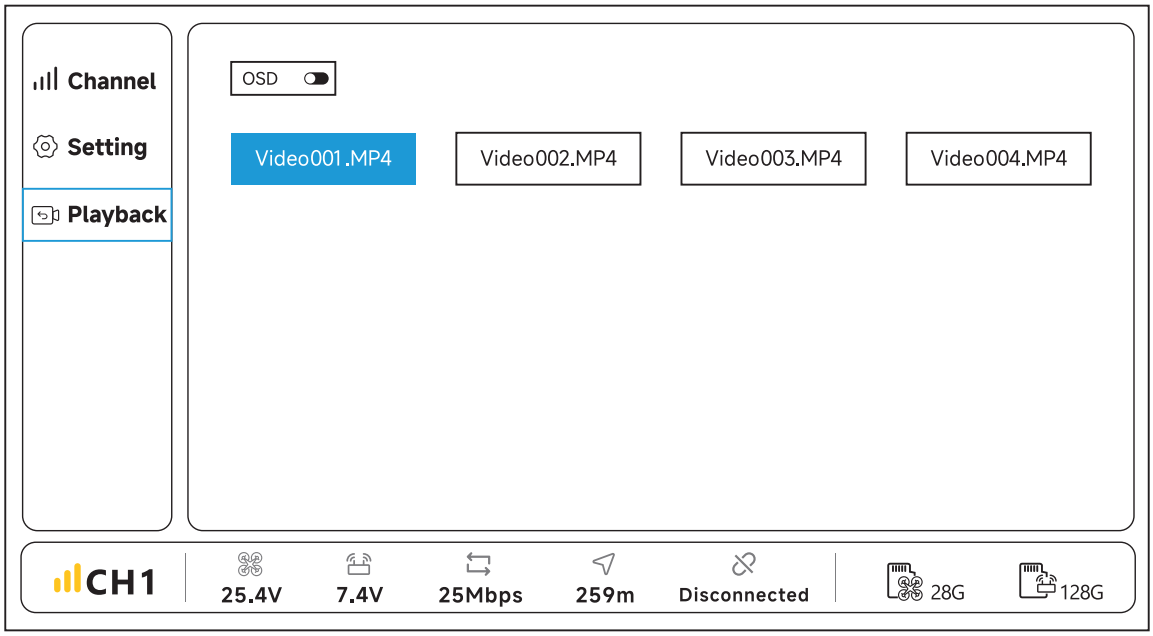
Press "Camera" to access the Camera Settings Interface. From this interface, you can adjust all image-related parameters.

System Interface



The Device Interface provides access to device information, as well as options for system updates and factory reset.

4.3 Playback Interface



On the Playback interface, you can review recorded videos. The OSD toggle allows you to show or hide the air unit information overlaid on the playback footage.

5. Firmware Update

1. Copy the air unit and ground unit firmware files to the SD card, then insert the SD card into the ground station device.
2. Power on the air unit and ground station device, and ensure they are successfully connected.
3. Click "Setting-System-Upgrade-Start" to upgrade both the air unit and ground station.
4. After the upgrade is successful, restart the air unit and ground station.

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 is 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 reconfigure your preferences afterward.
6. If you want to upgrade only the air unit or the ground control, simply copy the corresponding firmware.

Scan the QR code below or visit the following link to refer to the release notes for information on all versions of firmware upgrades.

https://flowus.cn/betafpv/share/b776abe3-fa12-43c1-8029-407de85470f2?code=4SMLTG

6. Attention

1. Upon receiving the low battery warning, cease operation immediately. Continued use may lead to unexpected shutdown or permanent battery damage.
2. It is recommended to gently wipe the housing with a soft, dry cloth. Rough materials such as paper towels or coarse cloth may cause scratches.
3. Do not store the device together with hard objects such as keys, tools, or gravel. Avoid crushing, dropping, or scratching by sharp objects.

深圳市哈鸣科技有限公司

地址：广东省深圳市龙岗区坂田街道岗头社区天安云谷产业园二期(02-07地块)6栋2006-2008
网址：betafpv.com 邮箱：support@betafpv.com

Shenzhen Baida Moxing Co., Ltd.

Address: Room 2005-2, Building 6, Phase II (Lot 02-07), Tian'an Cloud Park,Gangtou Community, Bantian Street, Longgang District, Shenzhen, Guangdong, China
Web：betafpv.com E-mail：support@betafpv.com

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