

SKYDROID 云卓

云卓科技（福建）有限公司



云卓 G12

用户手册

V2.1

注意

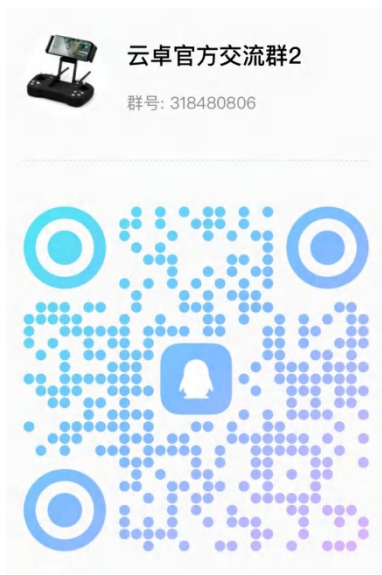
本产品使用以下词条因操作不当可能带来的潜在危险加以分级说明。

注意：如果不遵循说明进行操作，可能会导致财产损失和轻微伤害。

注意：如果不遵循说明进行操作，可能会导致财产损失、重大事故和严重伤害。

警告：通过阅读整个用户手册，熟悉产品的功能之后再进行操作。如果没有正确操作本产品可能会对自身或他人造成严重伤害，或者导致产品损坏和财产损失。本产品较为复杂，需要经过一段时间熟悉后才能安全使用，并且需要具备一些基本常识后才能进行操作，如果没有强烈的安全意识，不恰当的操作可能会导致产品损坏和财产损失，甚至对自身或他人造成严重伤害。本产品不适合儿童使用。切勿使用非云卓提供或建议的部件，必须严格遵守云卓的指引来使用产品。

云卓官方 QQ 群



云卓官方微信群



售后服务条款

1.本条款仅适用于云卓科技（福建）有限公司所生产的产品，云卓授权经销商销售的产品亦适用本条款。

2.本公司产品自购买之日起，一周内经我司核实为非人为造成的质量问题，由云卓承担返修产品的往返快递费，购买云卓产品一周以上一年以内经我司核实为质量问题，用户和云卓各自承担寄出返修产品的快递费。

3.返修时需提供购买凭证和保修卡或网络平台交易记录。

4.云卓产品自购买之日起七天内，在正常使用情况下出现非人为造成的质量问题，外观无损坏，凭保修卡及购机凭证在经销商处协商可以免费更换同型号产品；经销商在收到更换产品时烦请第一时间通知云卓公司予以备案更换。

5.云卓产品将由云卓科技（福建）有限公司提供终身售后服务，属于非人为造成的质量问题，一年内免费保修；对于自购买之日起人为的损坏、改装、拆机及超过一年免费保修期的，用户须支付往返邮费及维修费用。

6.为确保您的权益受到保护，并能及时有效地为您服务，请在购买云卓产品时完整填写好保修卡及索要购机凭证。用户享受本售后服务条款必须提供保修卡及购机凭证。

7.返修产品将于云卓公司收到后的 15 个工作日内寄回给顾客，并附上维修报告。

8.以上售后服务条款仅限于中国大陆销售的云卓产品。

港澳台及海外客户的售后问题发至邮箱 sales01@skydroid.xin，具体售后细则视情况而定。

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一、概述

1. 产品特性

(1) G12 系列采用高通 6nm 处理器，搭载安卓 13 (64 位) 嵌入式系统，操作流畅，生态开放，可安装市面上绝大多数 APP。采用全新高功率、高带宽的 2.4/5.8G 双频无线模块，支持自动跳频和 MCS 自主动态调整，图数传距离可达 9KM。

(2) G12 支持 SIM 卡网口、USB 接口、type-c 接口、ppm 口等丰富接口提供 SDK 开发包，支持视频悬浮，支持主流飞控的地面站。

(3) 1920*1080 分辨率、5.5 寸高亮显示屏，超大的屏占比，在阳光环境下依然可以清晰地查看实时显示信息。

(4) 采用高能量密度的锂离子电池，满电可工作 4~8 个小时，一贯的荒野求生思维让您对设备的可靠性毫无牵挂。

2. 主要用途及适用范围

G12 适用于对直升机、固定翼、多旋翼、车、船等无人设备的视频图像传输（需选配摄像头）、数据传输和操控。

3. 使用环境条件

注意：

- a) 环境温度：-10°C~55°C。
- b) 贮存温度：-20°C ~60°C。
- c) 相对湿度：Not exceed 85%。
- d) 大气压力：86kPa ~ 106kPa。
- e) 使用地点不允许有爆炸危险的介质，周围介质中不应含有腐蚀金属和破坏绝缘的气

体及导电介质，不允许充满水蒸气及有严重的霉菌存在。

f) 使用地点应具有防御雨、雪、风、沙、灰的设施。

4. 工作条件

供电方式和注意事项

G12 系列地面端内置一体式可充电锂电池，兼容市场标准 TYPE-C 接口，请使用原装充电器充电。

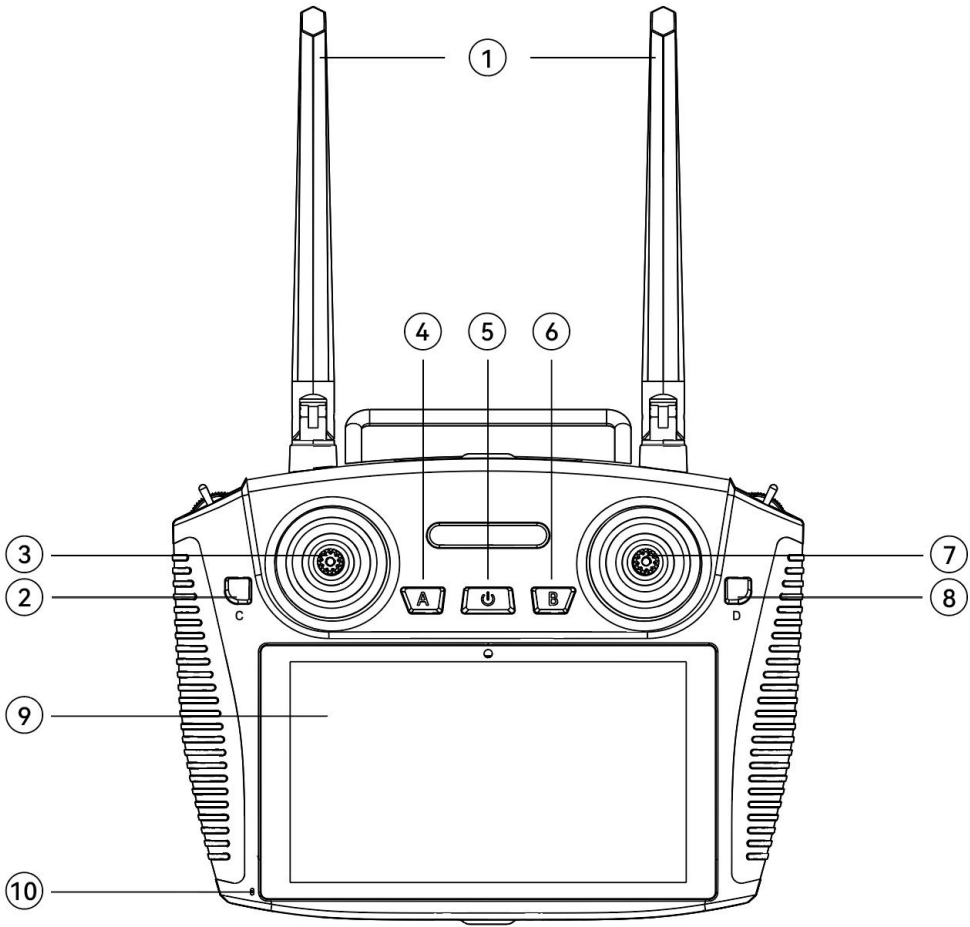
如在地面端充电时遇到冒烟、有异味、漏液的情况时，请勿继续给地面端充电，请移送至本公司进行维修。

请勿在婴儿触碰区域给本产品进行充电，以免发生触电危险。

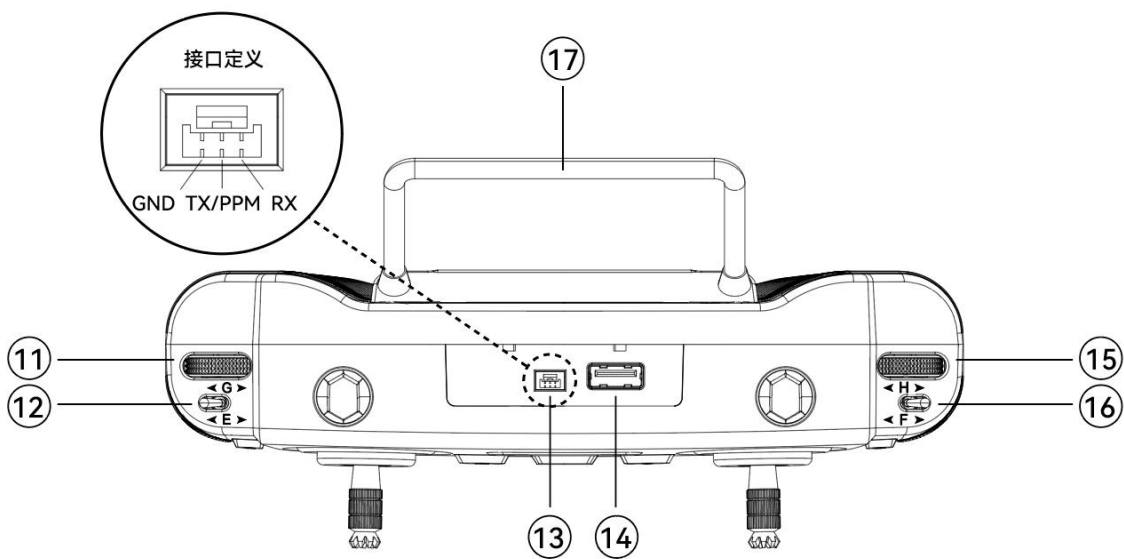
请勿在超过 60°C 的环境下对本产品进行充电。

二、部件名称

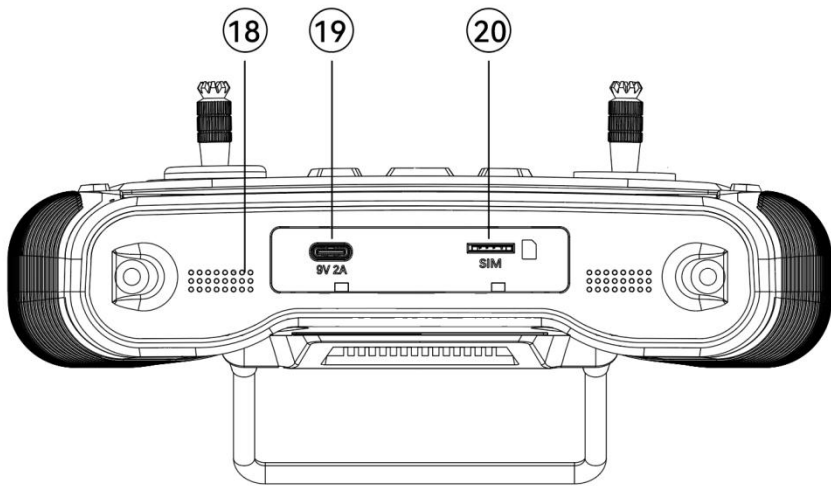
1. 遥控器



序号	注解	序号	注解
1	2.4G/5.8G 4dBm 天线	6	按键 B（暂无功能）
2	按键 C（云台回中）	7	右摇杆 X2、Y2
3	左摇杆 X1、Y1	8	按键 D（暂无功能）
4	按键 A（暂无功能）	9	显示屏
5	开关机按键	10	喊话 MIC

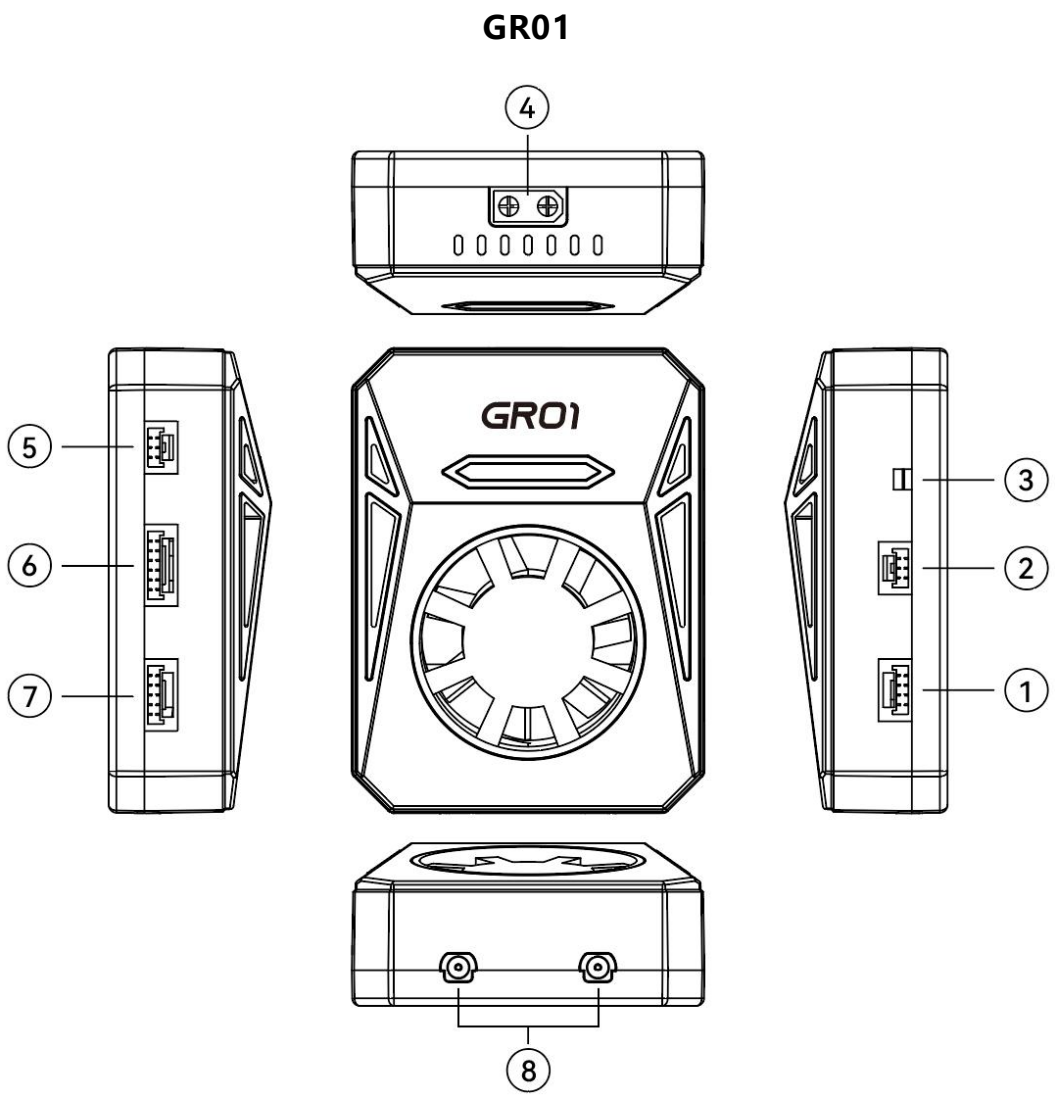


序号	注解	序号	注解
11	波轮 G（云台偏航）	15	波轮 H（云台俯仰）
12	三段开关 E（飞行模式）	16	三段开关 F（暂无功能）
13	PPM 输出	17	遥控器提手
14	升级接口		



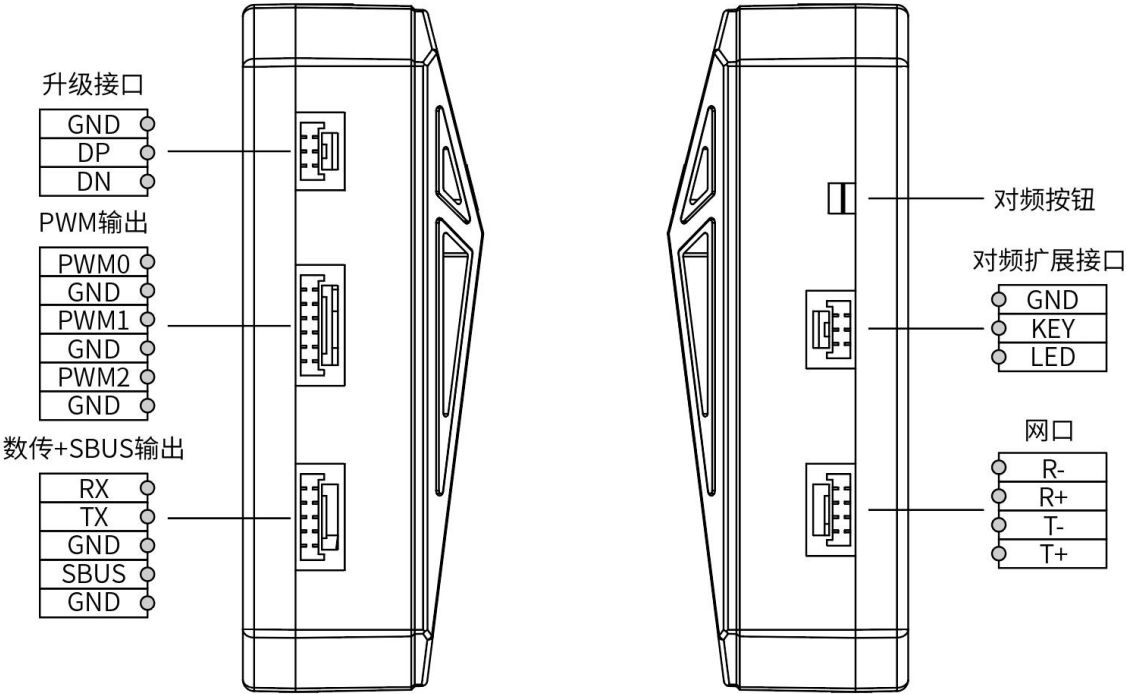
序号	注解	序号	注解
18	扬声器	20	SIM 卡槽
19	TYPE-C（充电口）		

2. 接收机



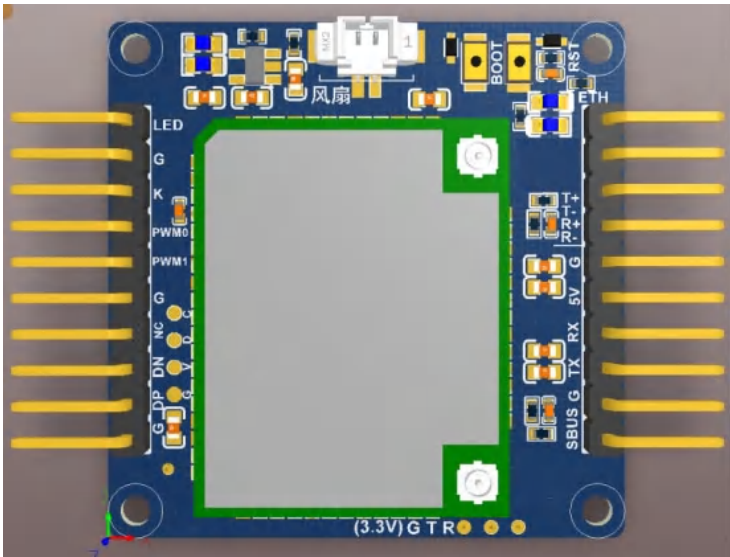
序号	注解	序号	注解
1	网口	5	升级接口
2	对频扩展接口	6	PWM 输出
3	对频按钮	7	数传接口+SBUS 输出
4	电源输入口（7.2V ~ 72V）	8	天线接口

接收机接口定义：



注：GR01 的 PWM0~2 对应遥控器通道 9~11

G12 RX

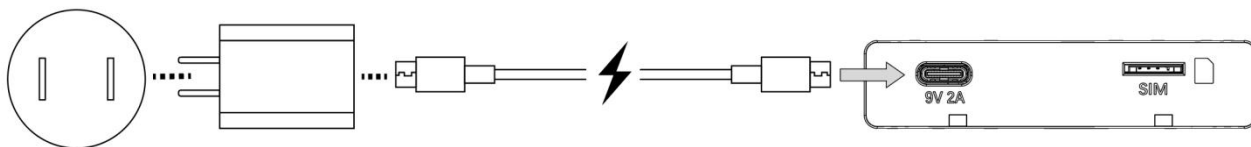


名称	注解	名称	注解
		ANT	天线
LED	对频指示灯	ETH0_TX+	网口 0
GND	地线	ETH0_TX-	
KEY	对频按钮	ETH0_RX+	
PWM0	PWM9 口（9 通道）	ETH0_RX-	
PWM1	PWM10 口（10 通道）	GND	供电+数传口
GND	地线	5V_IN	
NC	空引脚	UART_RX	
DN	升级口	UART_TX	
DP		GND	SBUS 接口
GND		SBUS	
		ANT	天线

三、准备遥控器

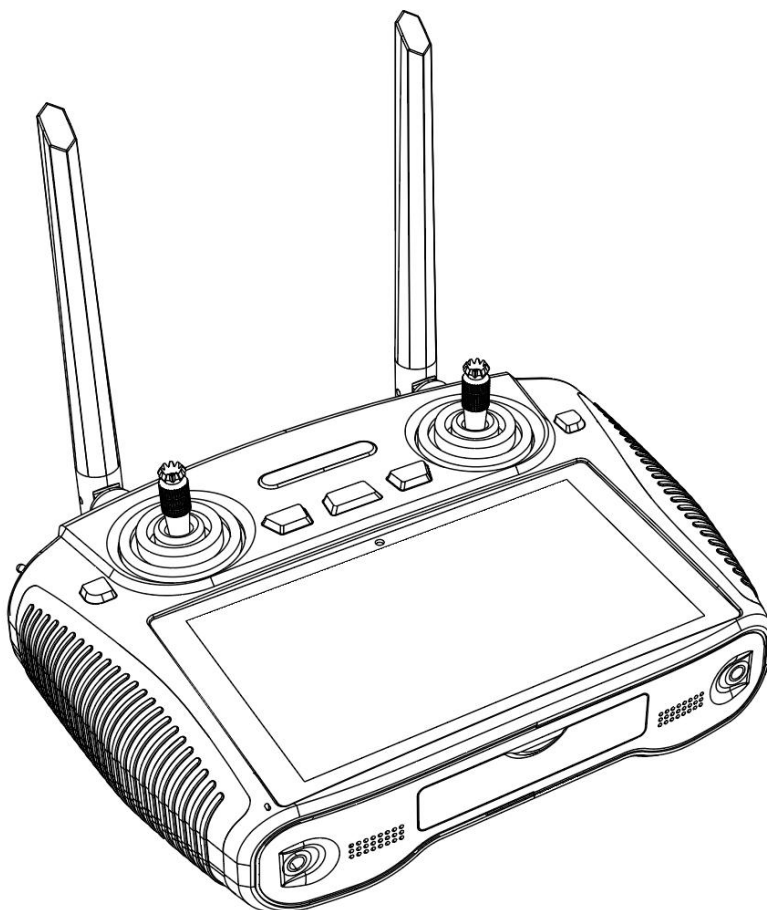
1. 遥控器充电

使用原装充电器充满约 3 ~ 4 小时



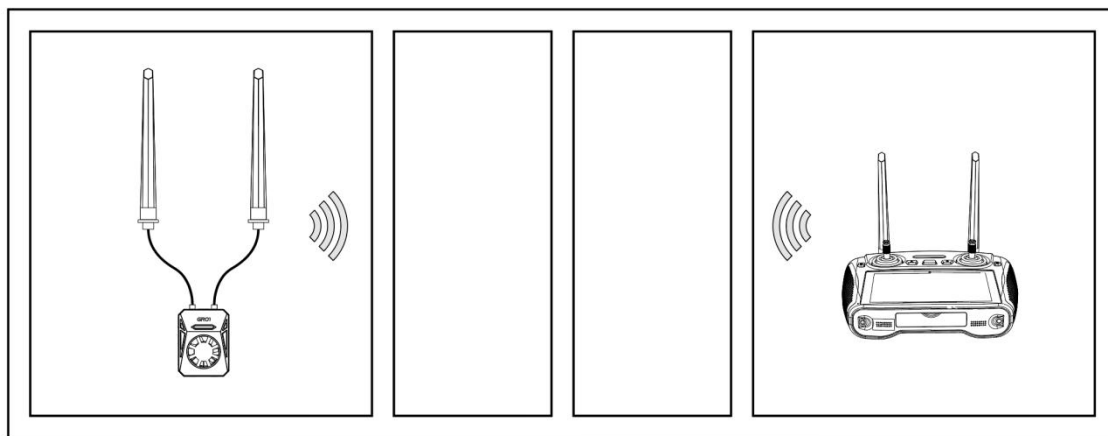
请使用原装充电器充电，为保持遥控器电池最佳状态，请确保每一个月对电池进行一次完全充电。

2. 天线正确打开



3. 室内拉距测试

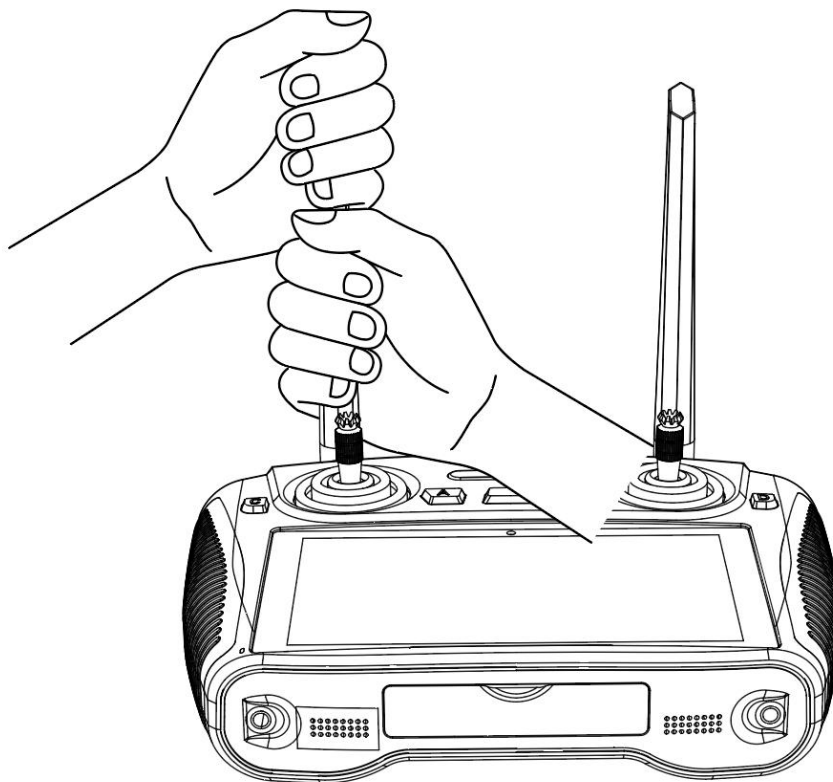
(1) 测试场景：遥控器与接收机隔着 3-4 堵墙。



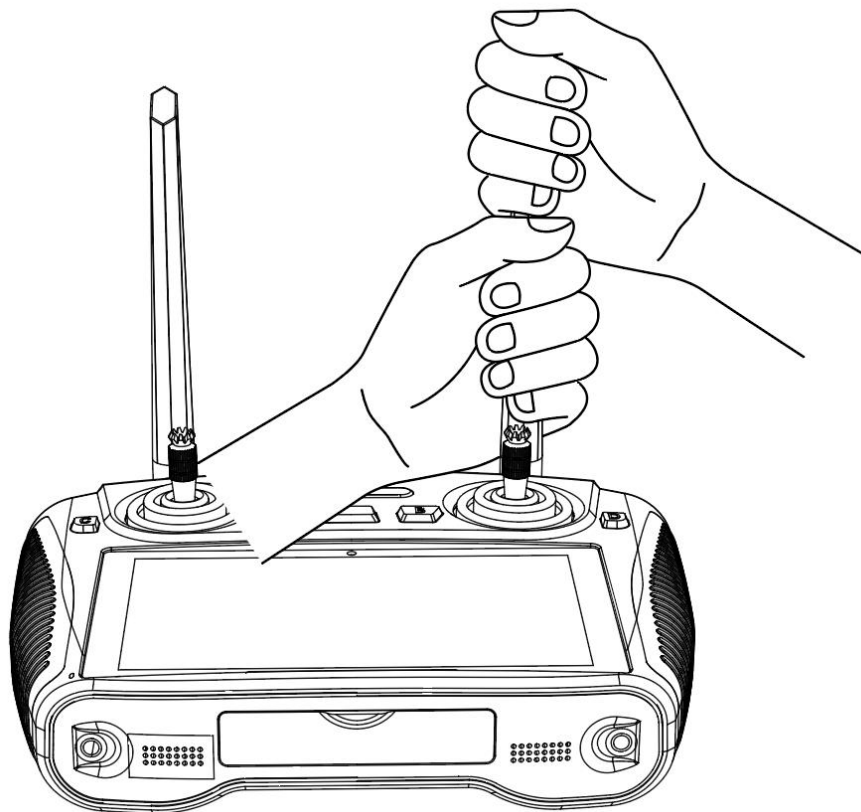
(2) 没有对天线进行遮挡的情况下，信号强度如下图所示。



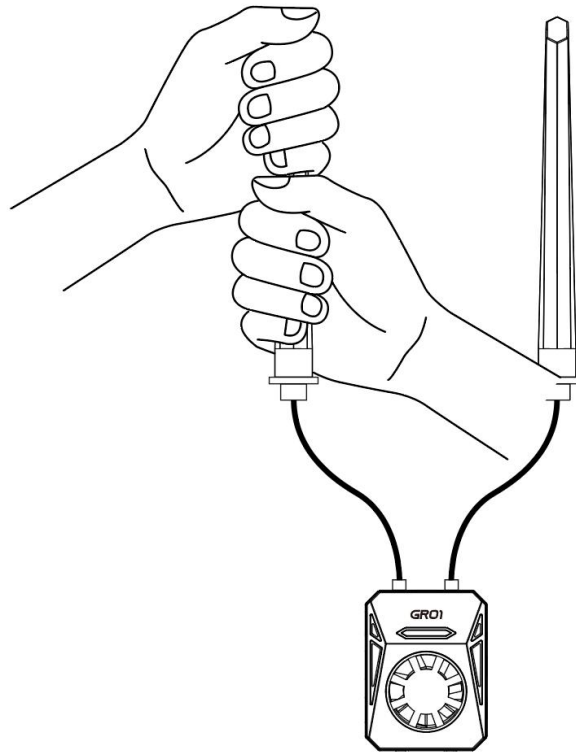
(3) 当紧握住遥控器左侧天线时，信号强度如下图所示。



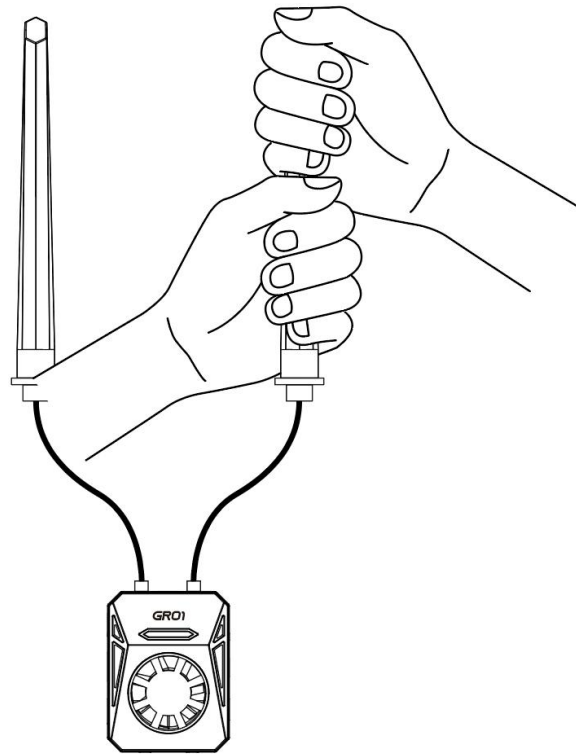
(4) 当紧握住遥控器右侧天线时，信号强度如下图所示。



(5) 当紧握住接收机左侧天线时，信号强度如下图所示。



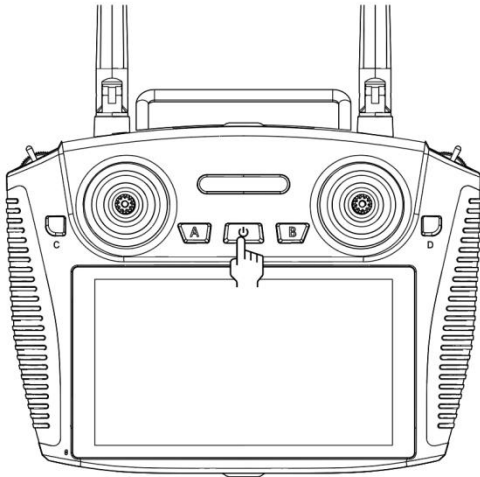
(6) 当紧握住接收机右侧天线时，信号强度如下图所示。



四、使用、操作

1. 遥控器开机与关机

长按电源键 2 秒可以开启遥控器，长按电源键 2 秒，再点击屏幕关机可以关闭遥控器。

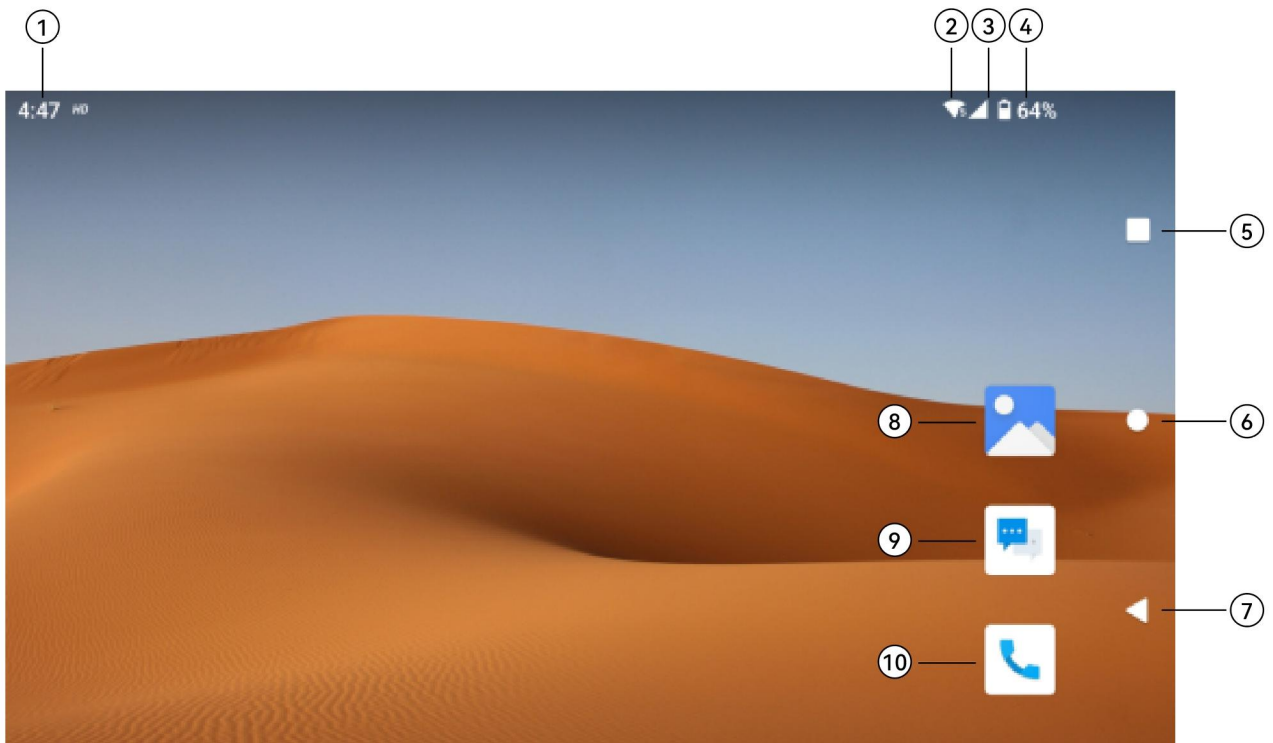


开机



关机

2. 系统桌面



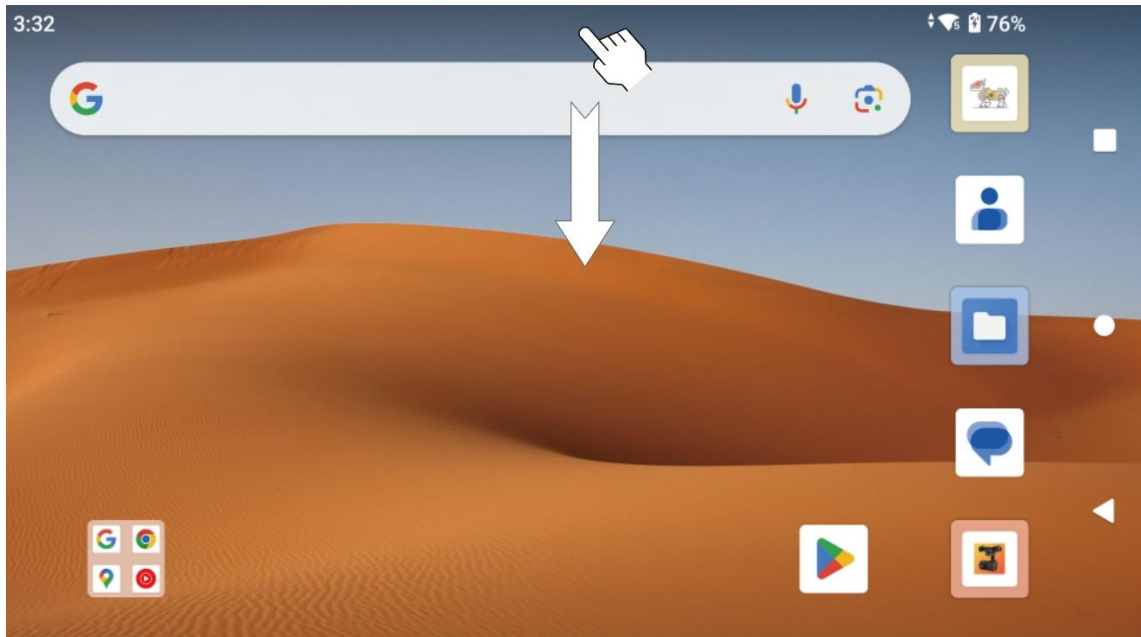
序号	注解	序号	注解
1	时间	6	回到桌面
2	WIFI 信号状态显示	7	返回操作
3	SIM 卡状态显示	8	图库
4	电量显示	9	短信
5	任务中心	10	电话

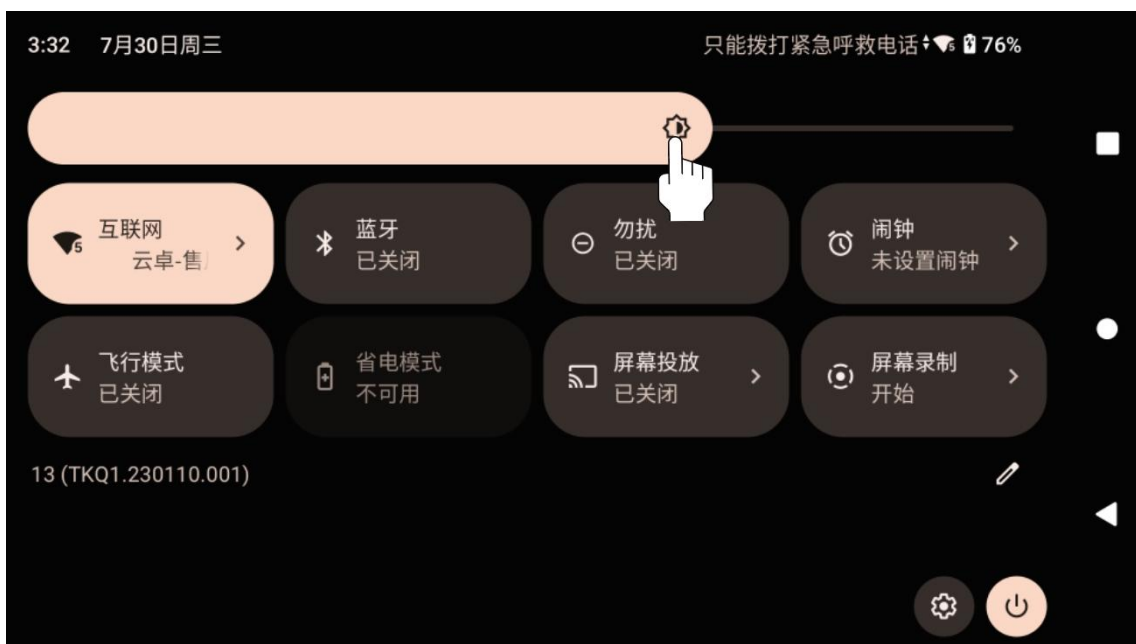
从屏幕底部边缘向上滑动可进入应用界面

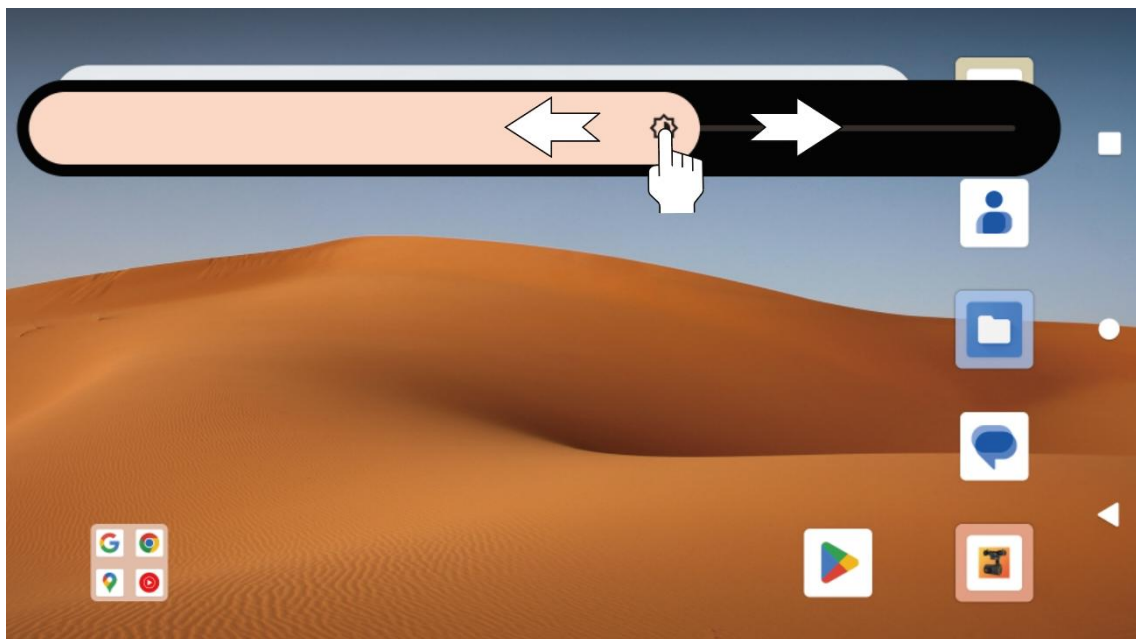


3. 调节亮度

从屏幕顶部向下滑动可进入控制中心，拖动滑动条可调节屏幕亮度。

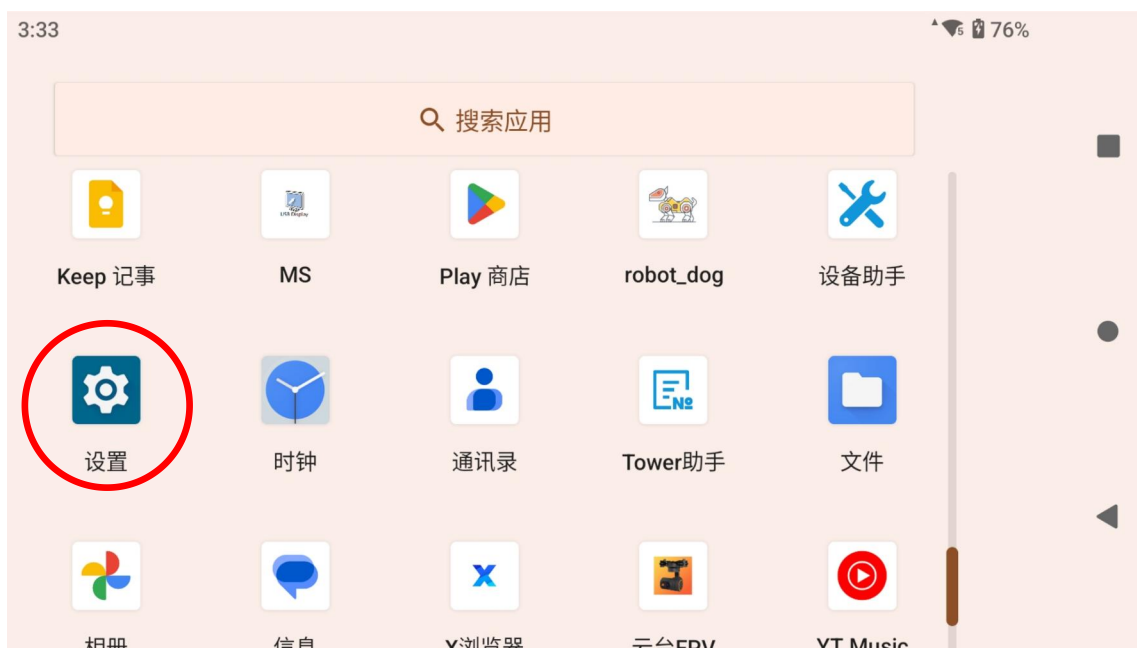


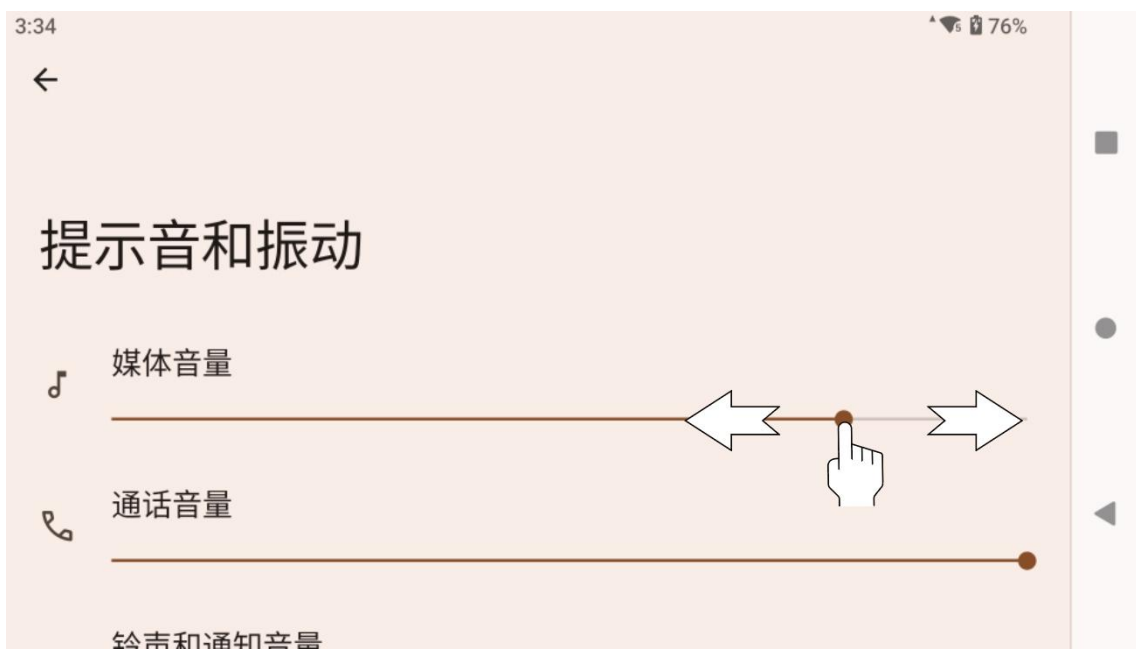




4. 调节音量

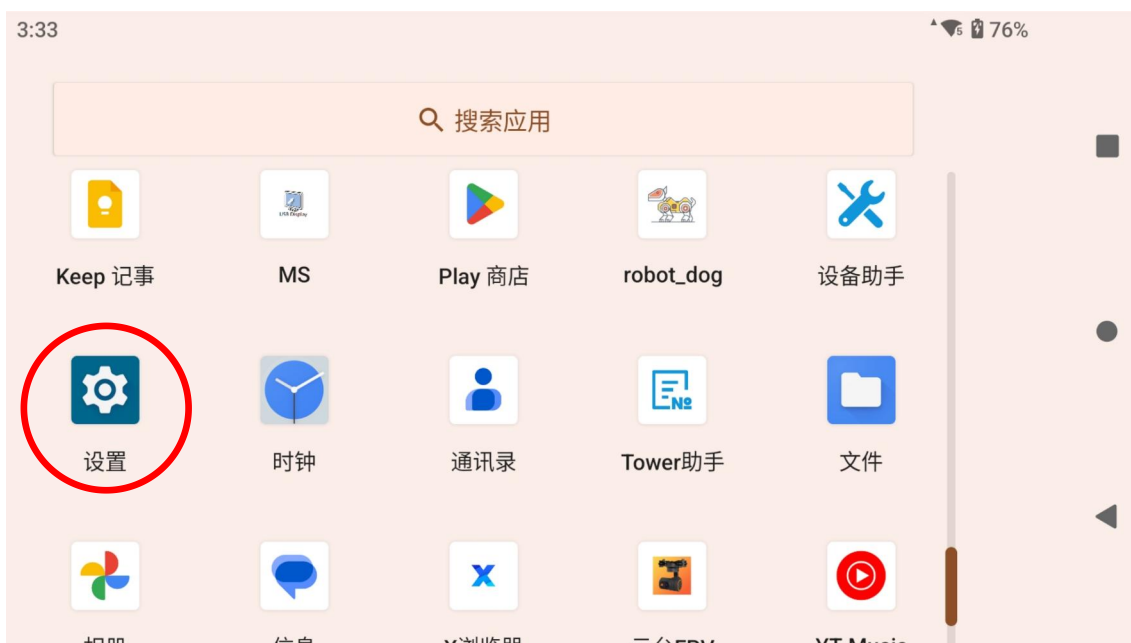
进入应用界面，点击设置，找到声音选项，拖动滑动条可调节音量大小。





5. 语言设置

点击设置，选择系统，选择语言输入法，点击语言，选择添加语言，添加好语言后，将想要设置的语言拖 动到第一位即可修改系统语言。

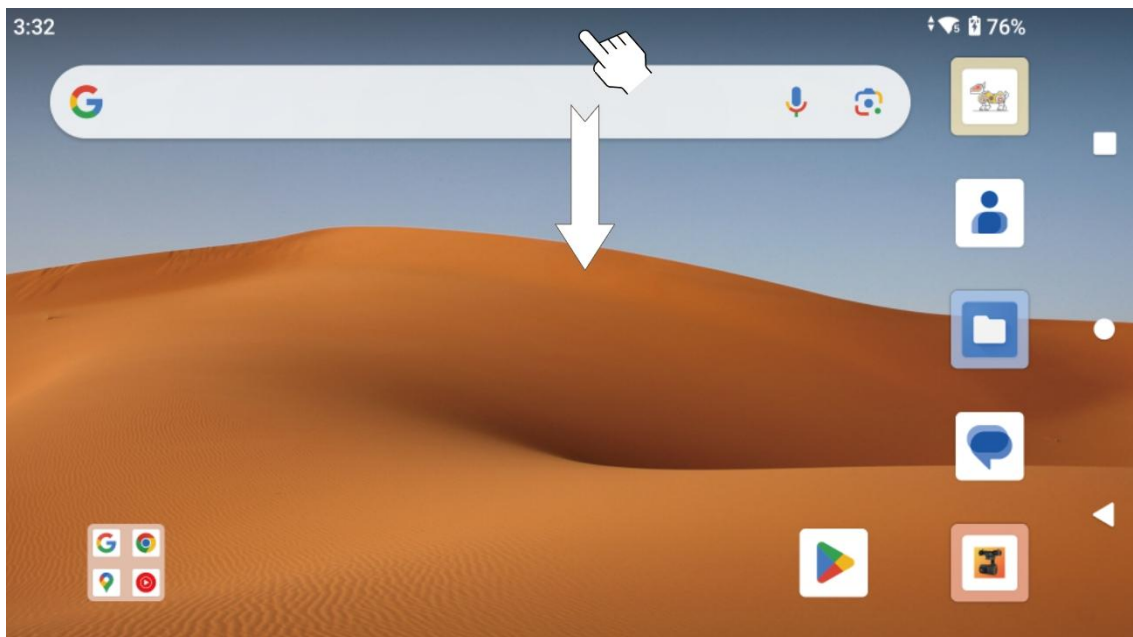






6. 与电脑传输文件

遥控器使用 type-c 口连接电脑，进入控制中心点击查看更多，选择传输文件。

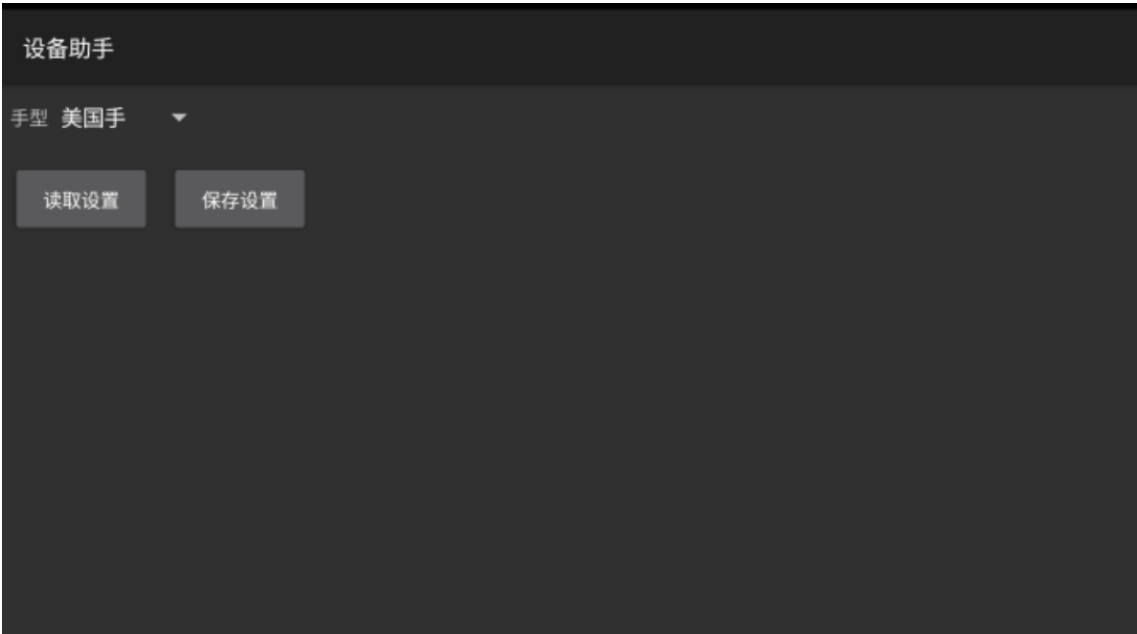




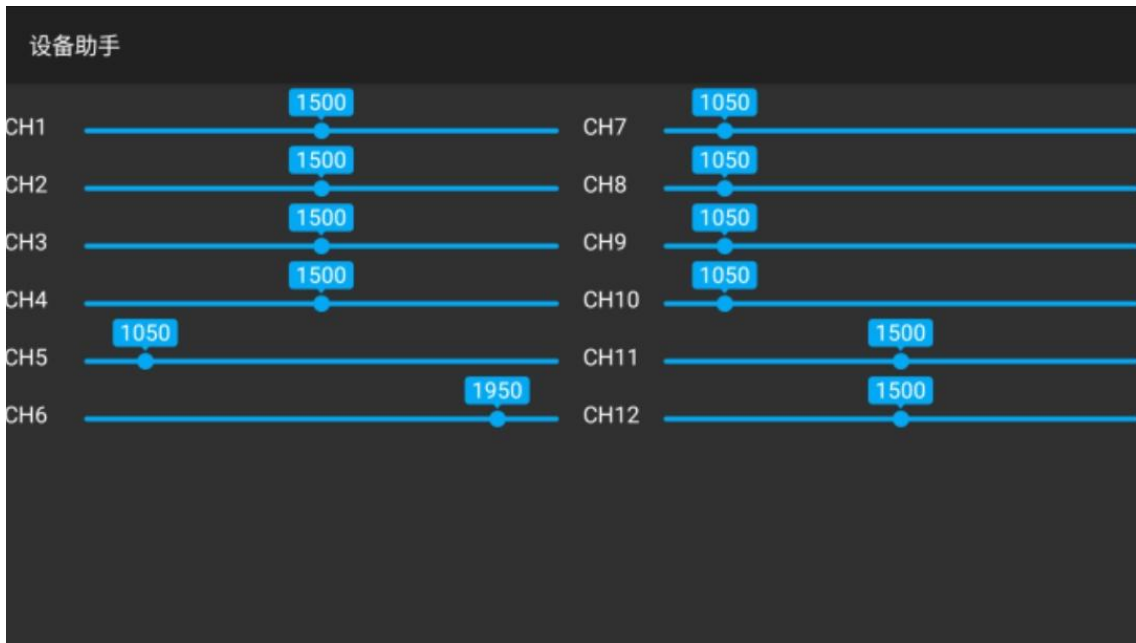
7. 设备助手介绍



①手型设置：可设置遥控器手型，默认美国手。



②舵量查看：可查看遥控器各个通道的实时舵量值。



③对频：可查看对频状态和对频信息。

设备助手

开始对频 停止对频

☐ 显示连接信息悬浮框

连接状态:未连接

信号质量:0

地面端信噪比:0

地面端天线A:0

地面端天线B:0

地面端MCS:0

地面端功率:29

天空端信噪比:0

天空端天线A:0

天空端天线B:0

天空端MCS:23

天空端功率:0

④视频查看：可查看相机回传视频。

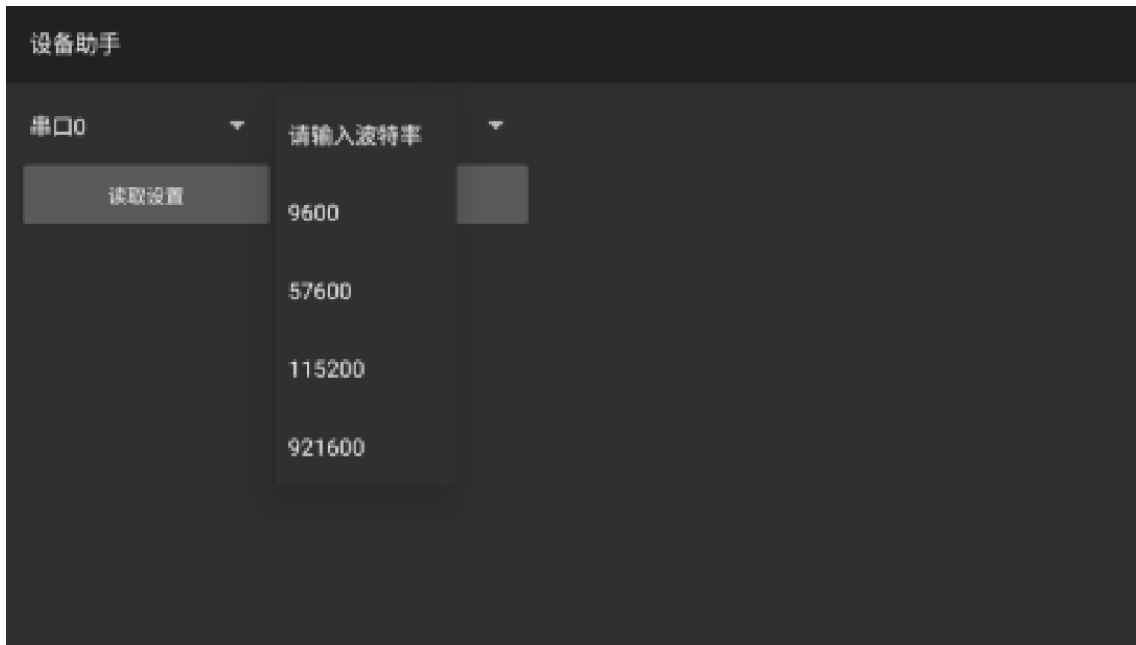
8. 设备助手介绍 - 高级选项（密码 999）



①遥控调参：可自定义按键通道、设置反向和修改舵量最大最小值。



②波特率设置：修改接收机串口波特率。



③升级设备：升级 MCU 固件和无线模块固件。



④SN：遥控器查看 SN。



9. 遥控器对频

接收机 1：GR01

方式一：

- ①遥控器开机、接收机通电，通电后绿灯常亮，蓝灯间歇闪烁，风扇间歇转动。
- ②长按接收机对频按钮，直到蓝灯快速闪烁后松开。
- ③打开遥控器上的设备助手，点击对频-->开始对频，确认对频，等待显示对频成功。
- ④对频成功接收机指示灯将会蓝灯常亮。

方式二：

- ①给接收机快速上电 4 次，第 4 次将自动进入对频模式，蓝灯快速闪烁。
- ②打开遥控器上的设备助手，点击对频-->开始对频，确认对频，等待显示对频成功。
- ③对频成功接收机指示灯将会蓝灯常亮。

注：对频时请保持遥控器和接收机在 50CM 以内。

接收机 2：G12 RX

方式一：

- ①遥控器开机、接收机通电，通电后红灯常亮，绿灯间歇闪烁。
- ②短接接收机的 GND 和 KEY 引脚，直到绿灯快速闪烁后松开。
- ③打开遥控器上的设备助手，点击对频-->开始对频，确认对频，等待显示对频成功。
- ④对频成功接收机指示灯将会绿灯常亮。

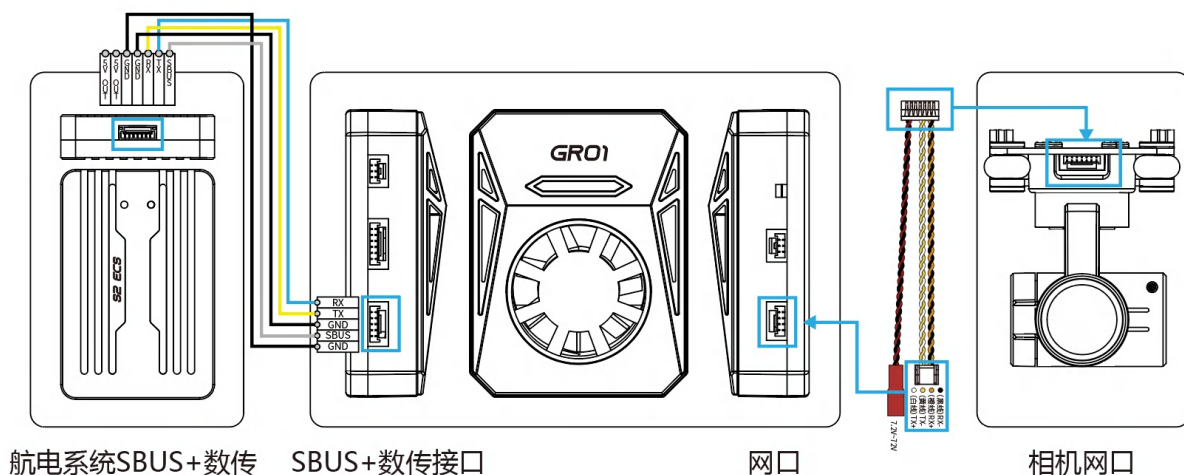
方式二：

- ①给接收机快速上电 4 次，第 4 次将自动进入对频模式，蓝灯快速闪烁。
- ②打开遥控器上的设备助手，点击对频-->开始对频，确认对频，等待显示对频成功。
- ③对频成功接收机指示灯将会蓝灯常亮。

注：对频时请保持遥控器和接收机距离在 50CM 以内。

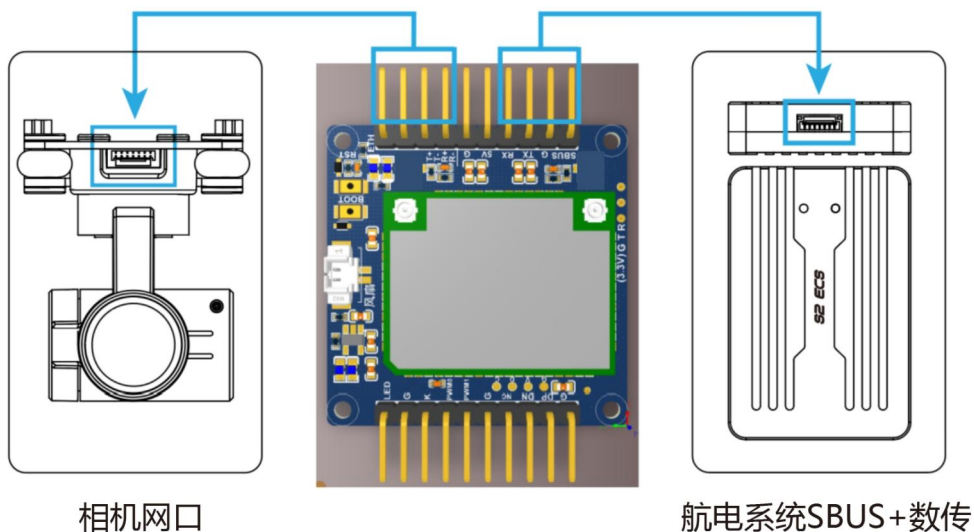
10. 图数传连接

接收机 1：GR01



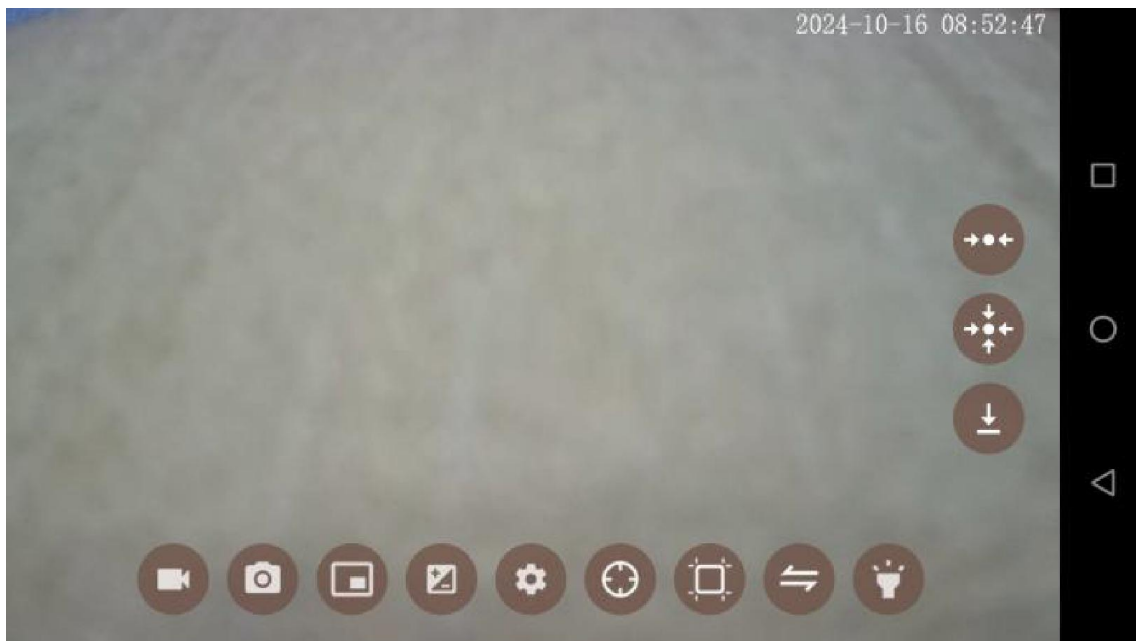
按照上图接线，接收机的 SBUS+数传接口连接航电系统 SBUS+数传接口，接收机的网口连接相机网口（**注意：**设备供电和其他接线请参考对应说明书）。

接收机 2：G12 RX



按照上图接线，接收机的 SBUS+数传接口连接航电系统 SBUS+数传接口，接收机的网口连接相机网口。

(1) 图传



以云卓 C10Pro 为例，摄像头供电并且连接至接收机网口，打开云台 FPV 即可看见图传画面；

若使用第三方摄像头，摄像头网段需要设置为 144 网段（192.168.144.XXX），打开设备助手--视频查看--点击下方设置按钮--视频流地址--自定义，输入摄像头的 RTSP 拉流地址。

注：第三方摄像头 RTSP 地址需要找厂家要。

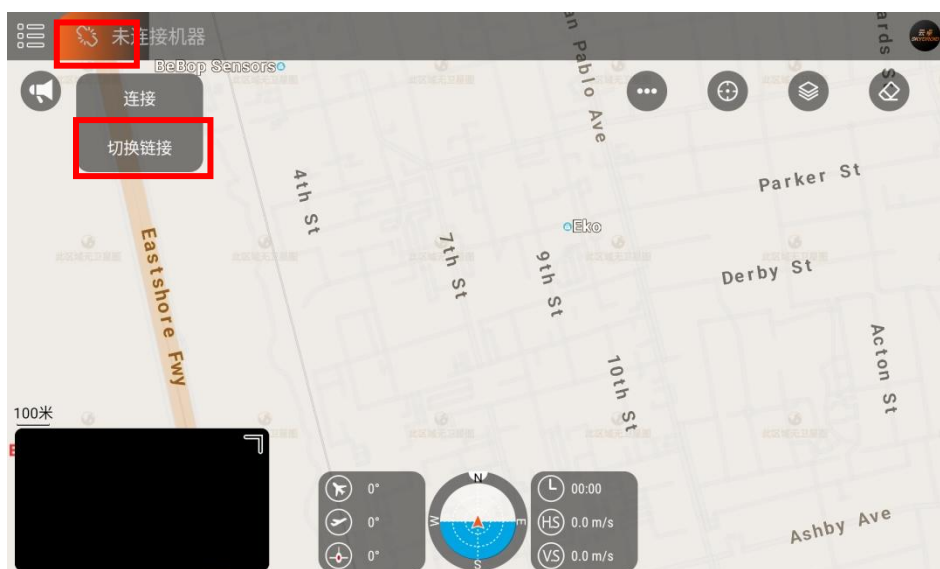
若使用 FLY GCS 则在常用设置--其他设置--用户界面-- 视频窗口--C10



遥控器热点共享图传（要求 meig version 版本 20241130 及以上）。

（2）数传

以云卓 FLY GCS 为例，进入地面站，点击左上角，进入切换连接界面。



选择 S2+G12 组合点击进入，点击连接。



注：若连接不成功，请检查

- ①接收机串口波特率是不是与航电系统数传口波特率一致；（S2 航电系统的波特率为 921600）
- ②数传接线定义是否正确（RX 接 TX）。

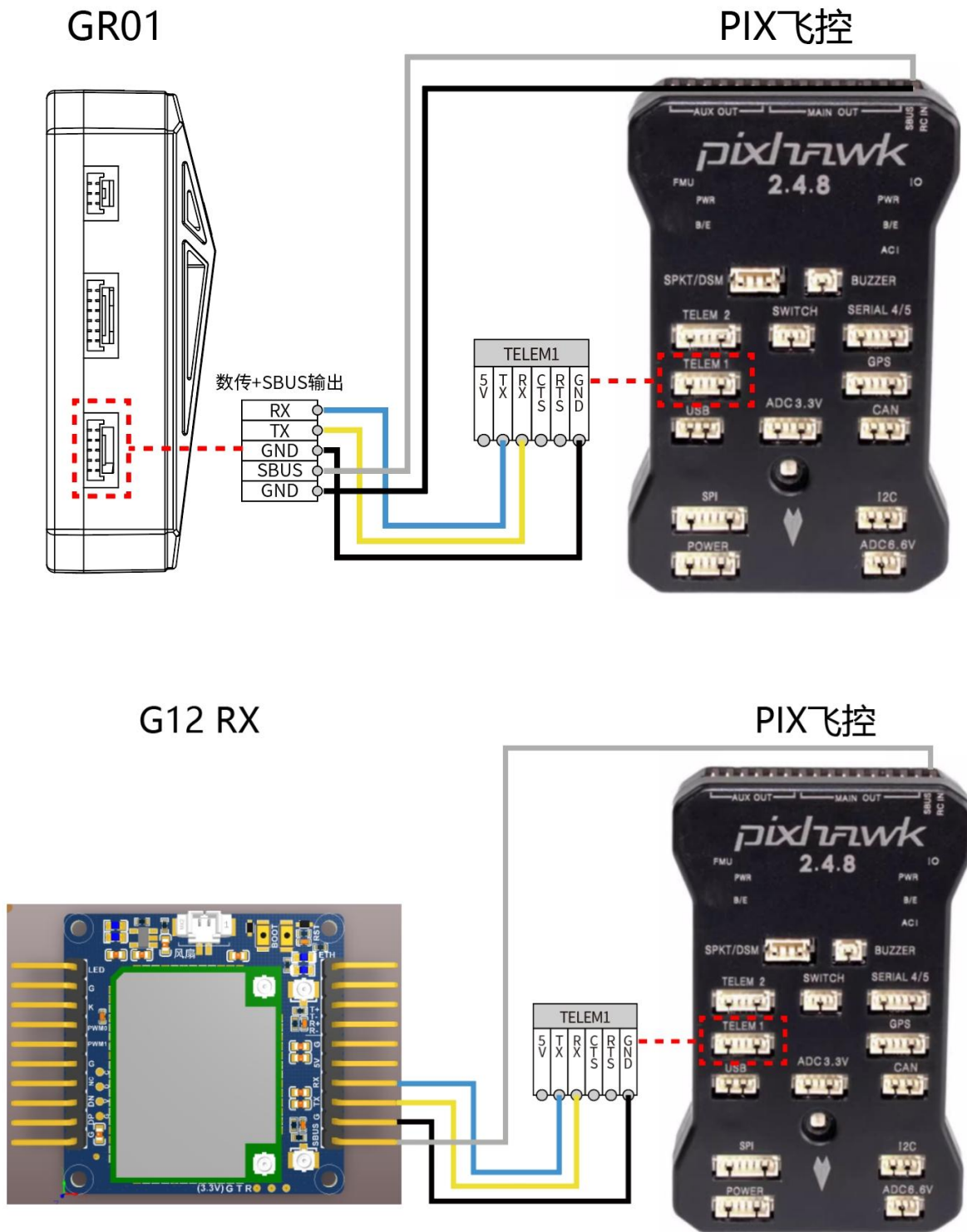
11. 如何在 G12 遥控器 QGroundContro 地面站显示数传图传

开源飞控数传线连接接收机数传口，以 QGroundContro 地面站（以下简称为 QGC 当前版本 V4.4.3 64 位）为例做参考连接数传，QGC 官网下载链接

<http://qgroundcontrol.com>。

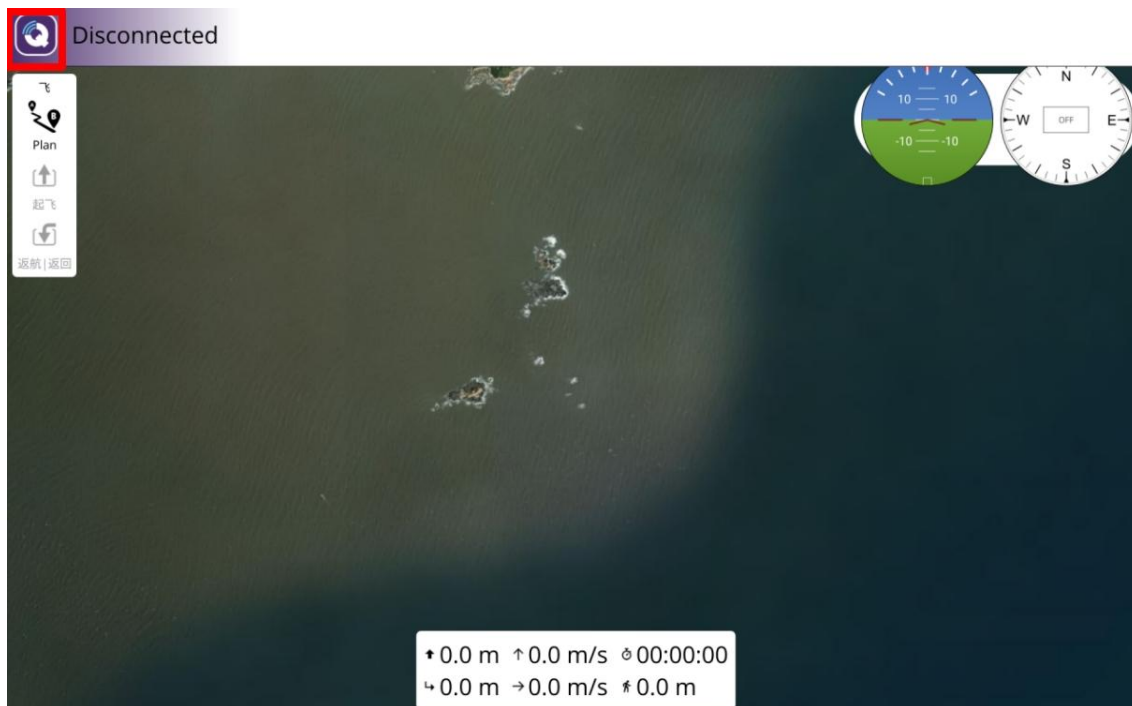
注意：S2 航电系统只能用云卓 FLY 地面站，不要使用 QGC 连接。

开源 PIX 飞控 SBUS+数传连接示意图：

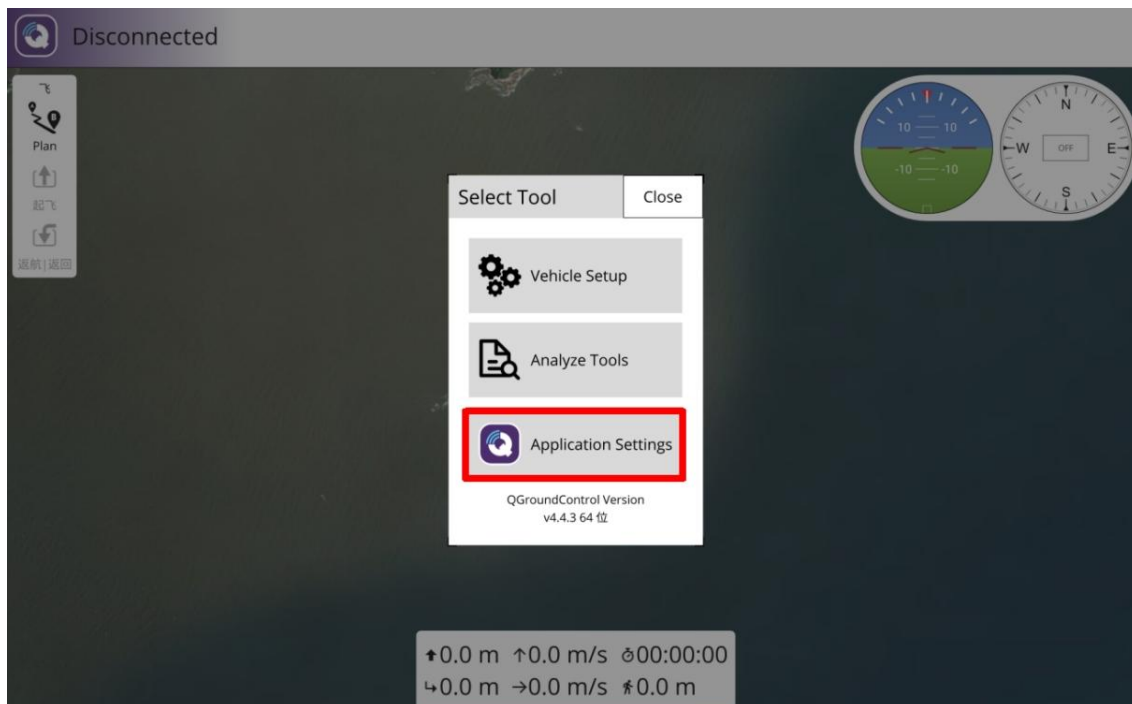


11.1 QGC 数传设置

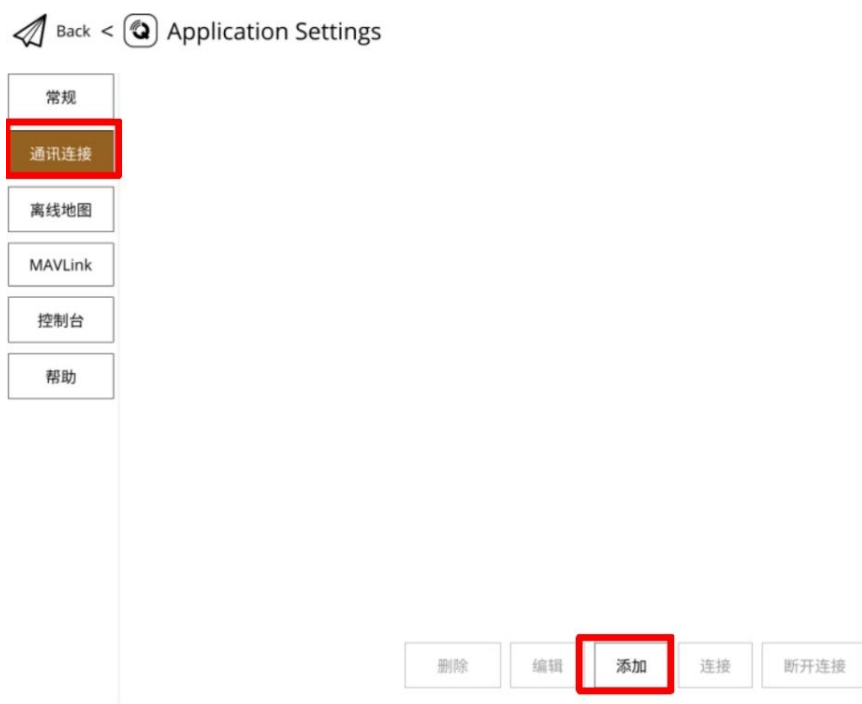
(1) 点击 QGC 左上角的 Q 图标。



(2) 在弹出的弹窗上，选择 Application Settings。



(3) 点击通讯连接，再点击添加。



(4) 数传设置：

- ① NAME 添加名称；
- ② 勾选开始时自动连接；
- ③ Type（连接方式）点开选项设置为 UDP；
- ④ Port（端口）设置为 14551；
- ⑤ Server Addresses 下框内输入数传 IP 地址：127.0.0.1:14552；
- ⑥ 点击 Add Server（添加）；
- ⑦ 点击确认。



Back <



Application Settings

常规

通讯连接

离线地图

MAVLink

控制台

帮助

Name Udp

①



开始时自动连接

②



高延迟

Type UDP

③

Note: For best performance, please disable AutoConnect to UDP devices on the General page.

Port 14551

④

Server Addresses (optional)

127.0.0.1:14552

⑤

Add Server

⑥

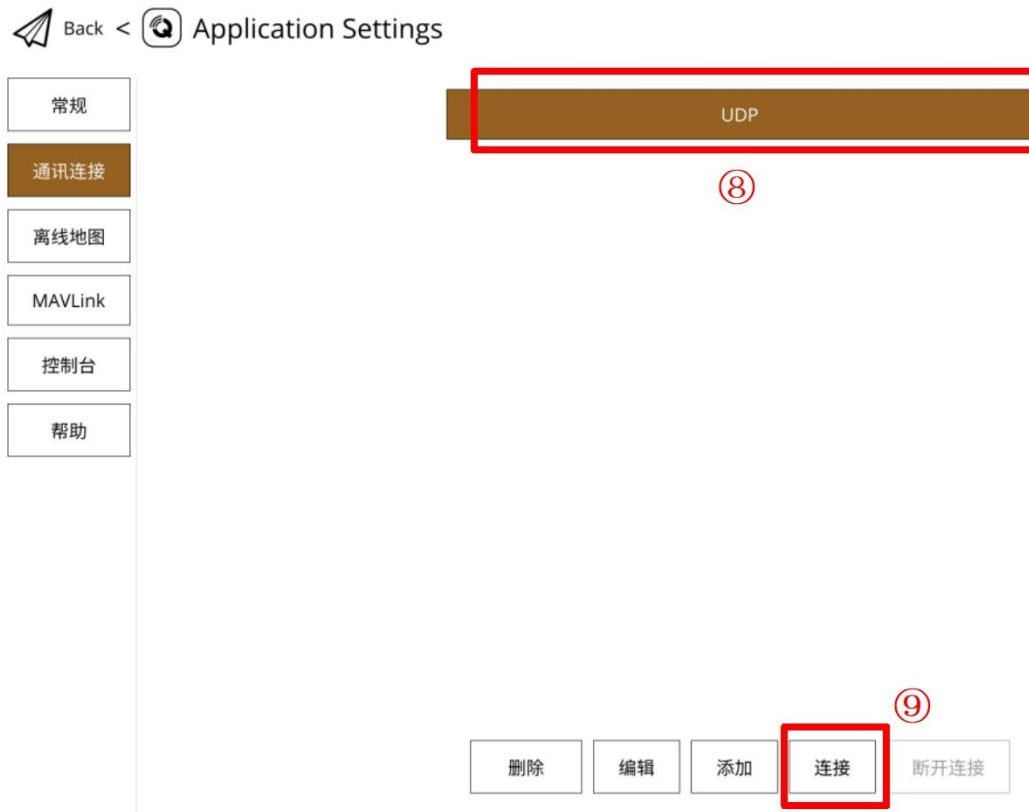
⑦

确认

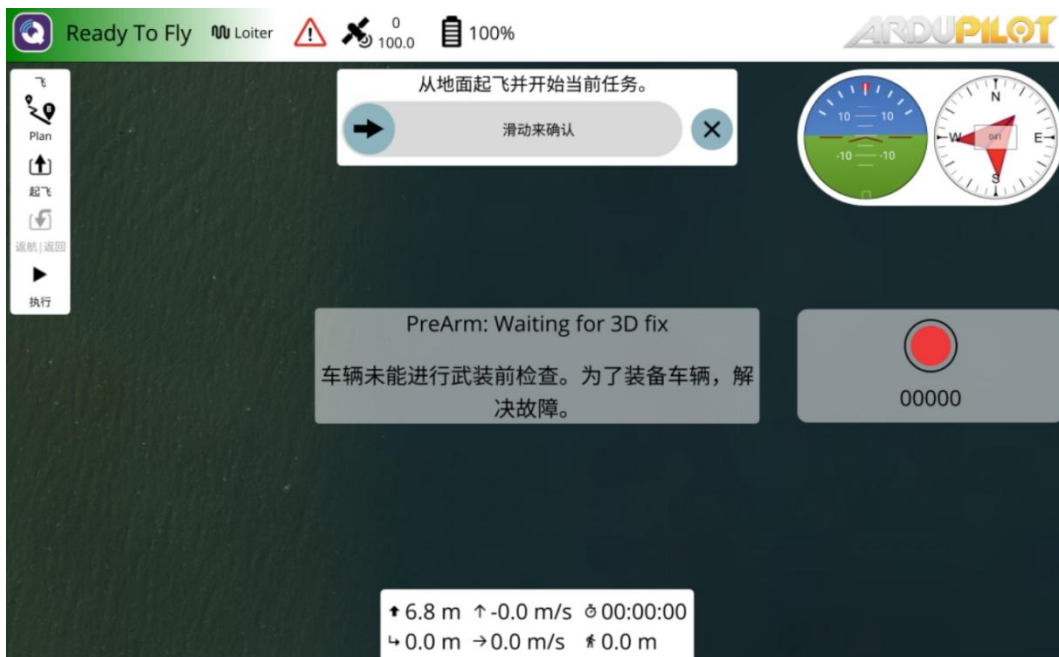
取消

⑧ 点击选择刚才命名的 UDP；

⑨ 再点击连接。

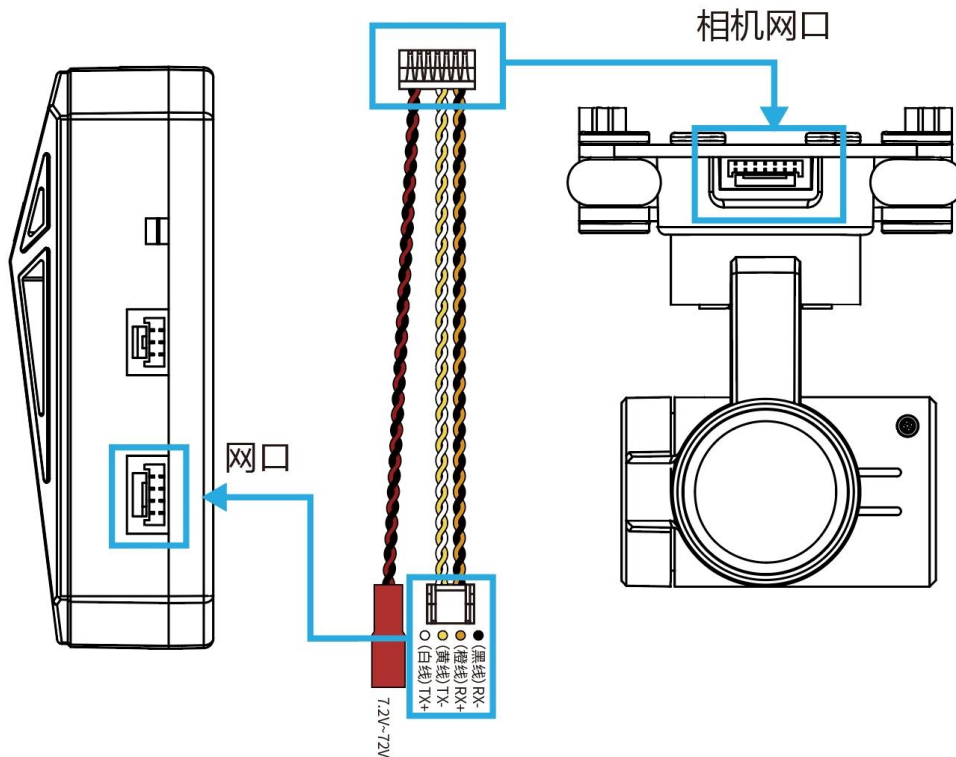


(5) 正常连接上飞控数传。

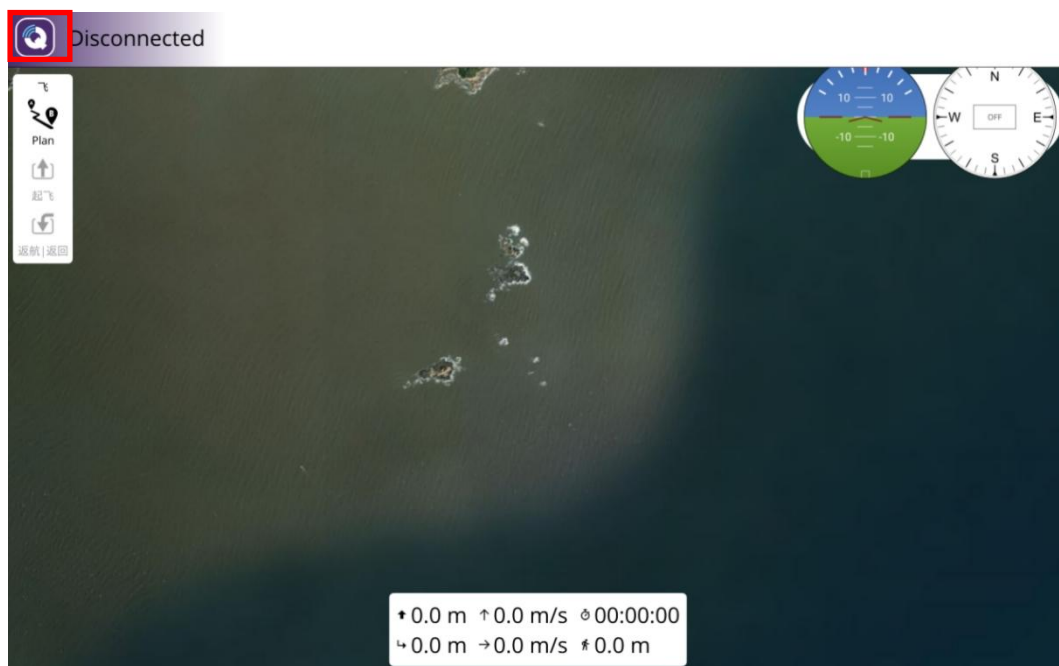


11.2 QGC 图传设置

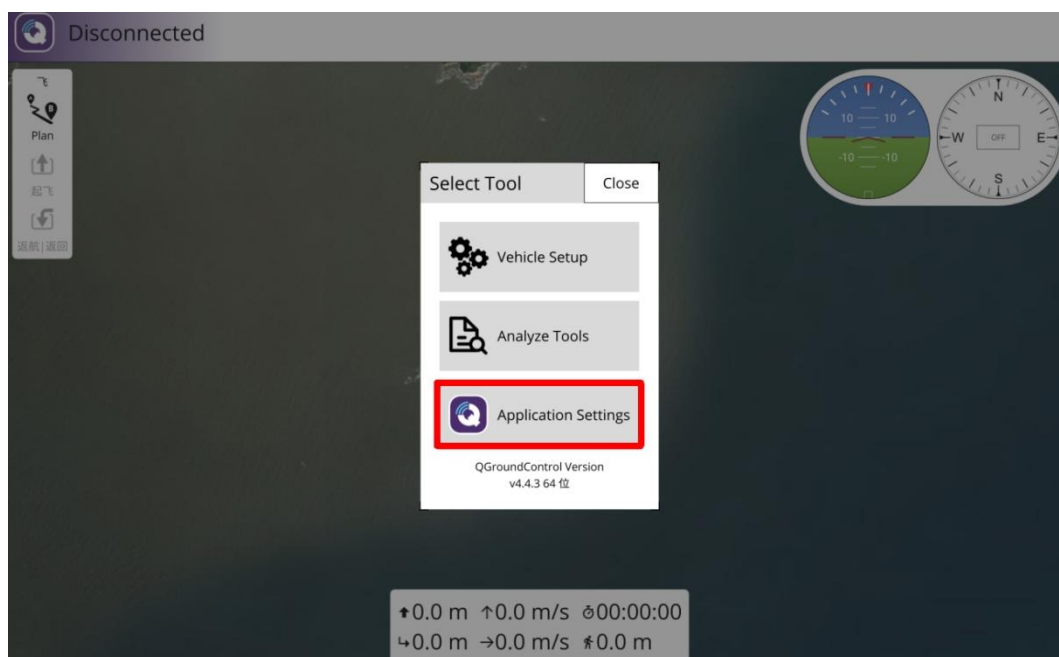
以 G12 遥控器 QGC 地面站为例做参考连接 C10PRO 摄像头图传（设备助手后台需要关闭）。



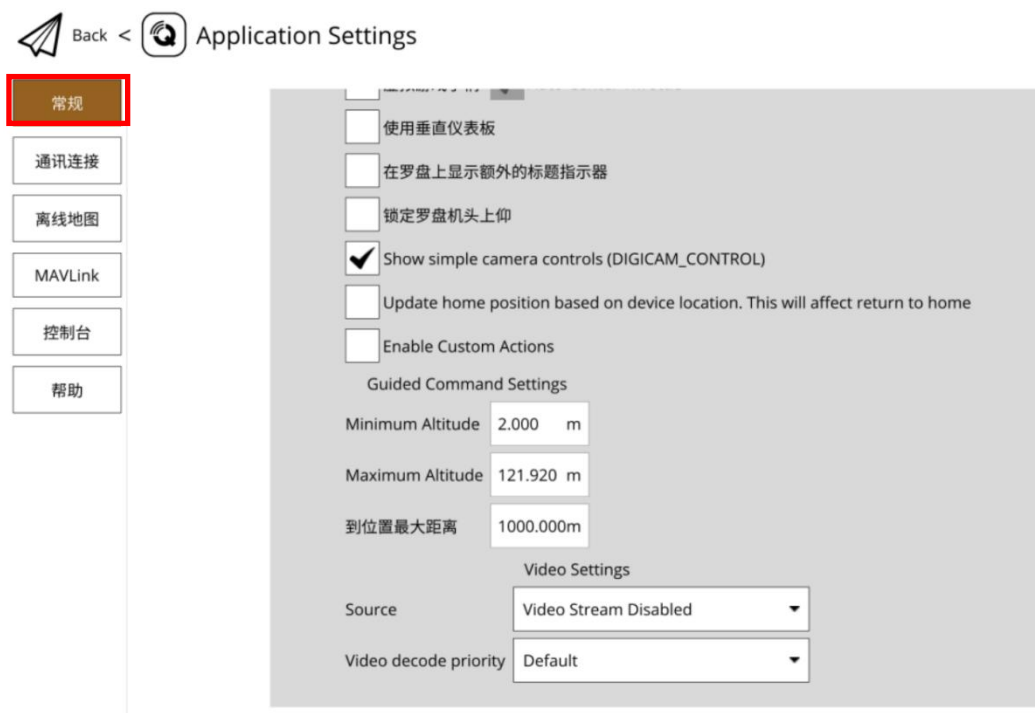
(1) 打开 QGC，点击 QGC 左上角的 Q 图标。



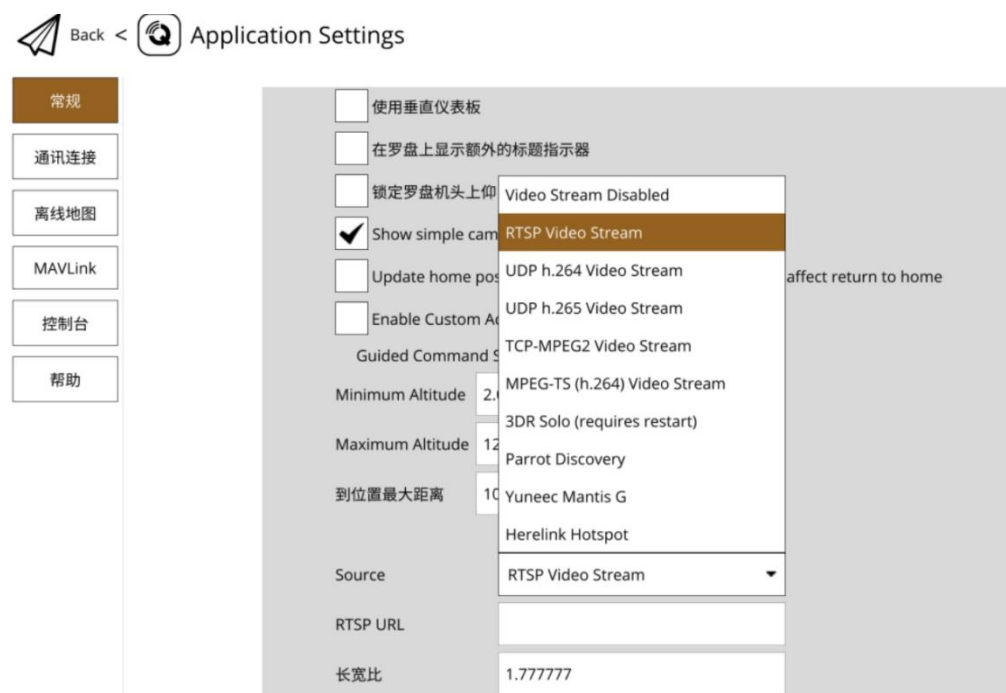
(2) 在弹出的弹窗上，选择 Application Settings。



(3) 点击 General （常规）。



(4) 将 Source（视频来源）更改为 RTSP Video Stream。



(5) 在 RTSP URL 填入网口相机的 RTSP 地址。

C10PRO/网口三体的图像（需要接 C10PRO）RTSP 地址：

rtsp://192.168.144.108:554/stream=0。

C12 双光分别是

rtsp://192.168.144.108:554/stream=1

rtsp://192.168.144.108:555/stream=2

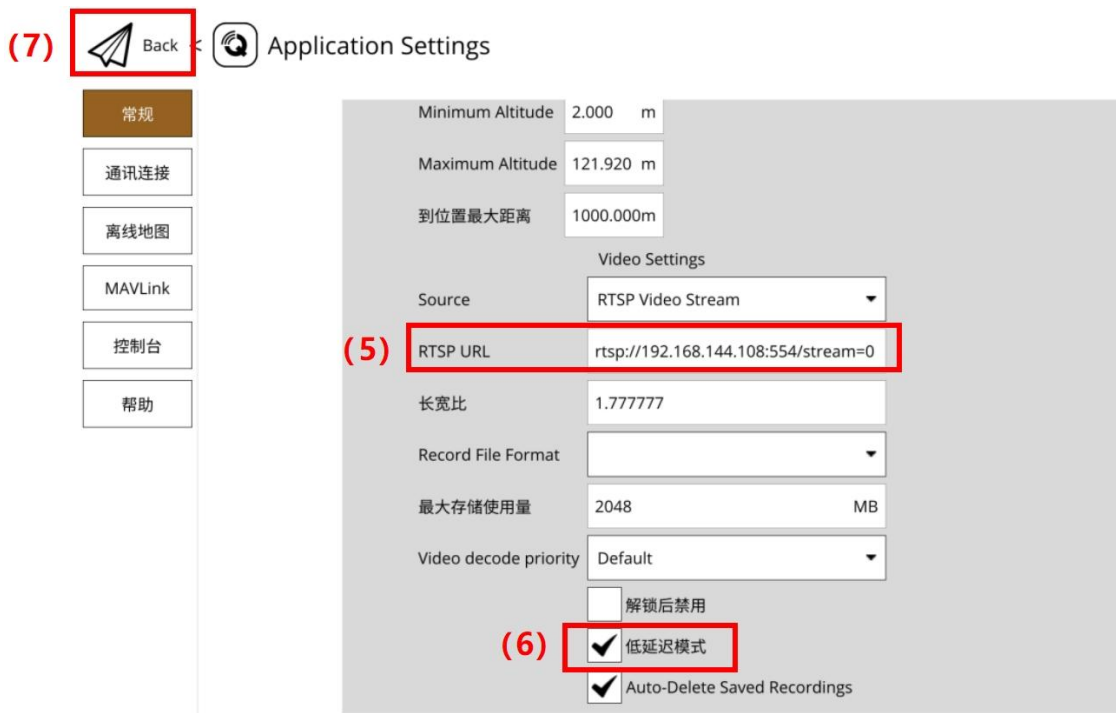
C20 是 rtsp://192.168.144.108:554/main

第三方摄像头仅支持拉流显示可设置自定义后，在下列输入摄像头对应的 RTSP 拉流地址。

注意：摄像头网段需要设置为 144 网段。

(6) 勾选低延迟模式

(7) 点击左上角飞机图标 Back 返回飞行页面。

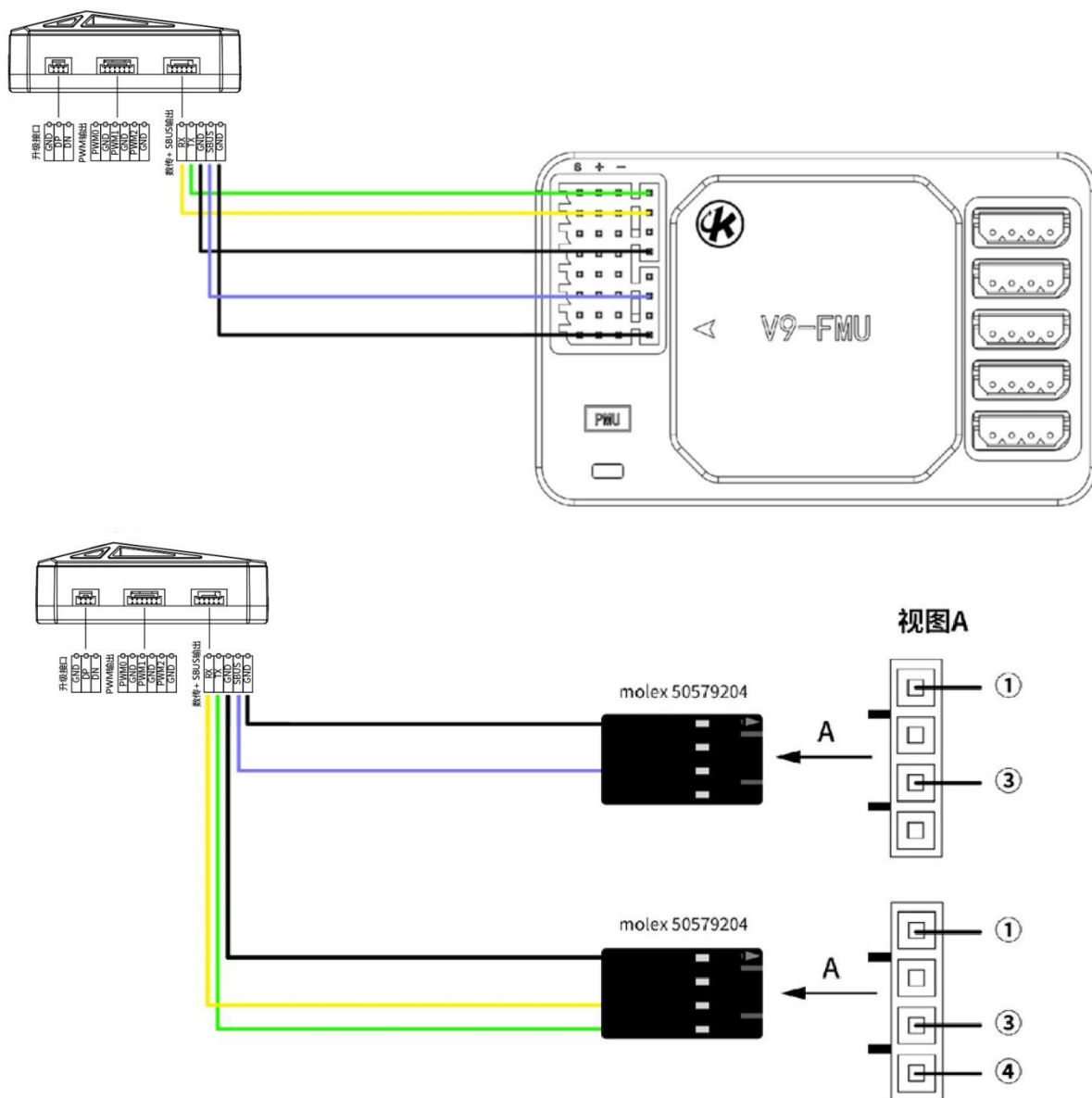


(8) 正常连接上图传。



12. 第三方飞控连接示意图

微克 V9 数传连接 GR01 示意图：



13. 使用热点共享数传图传

注意：此教程以使用开源飞控为例，如使用第三方飞控详询飞控技术是否支持此连接。

遥控器开启热点步骤如下：

(1) 方式一：

打开设置->网络和互联网->热点和网络共享->WLAN 热点->打开“使用 WLAN 热点”，
将电脑连 接到遥控器的热点。



(2) 方式二：

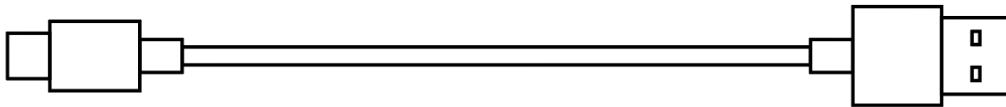
通过网线将电脑网口与遥控器的 TYPE-C 端口连接起来，打开设置->网络和互联网->
热点和网络共享->打开 “以太网网络共享”





(3) 方式三：

通过 A to C 数据线将电脑 TYPE-A 与遥控器的 TYPE-C 端口连接起来，打开设置->网络和互联网->热点和网络共享->打开“USB 网络共享”。

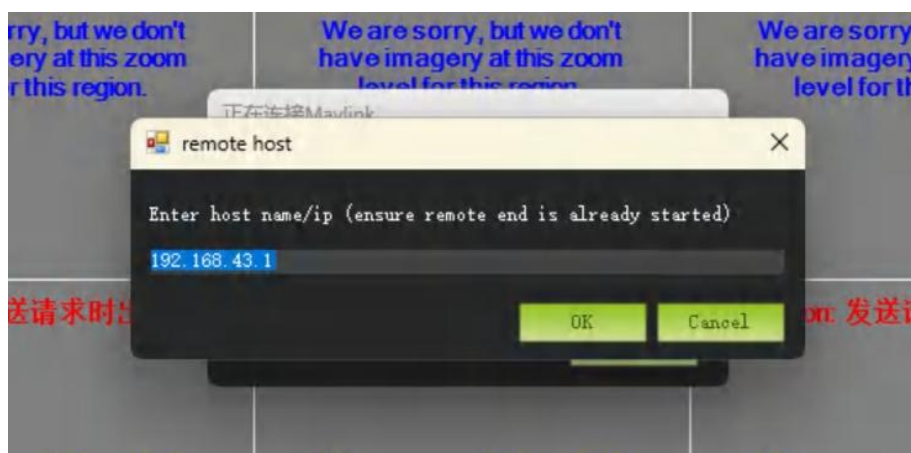


13.1 共享数传（要求安卓系统版本 20250110 及以上）

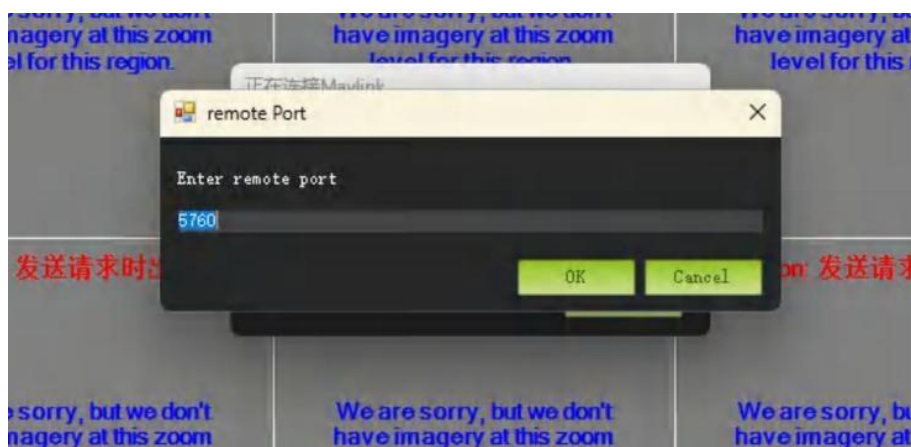
上述三种方式三选一连接成功后，打开 Mission Planner，连接方式选择 TCP。



点击连接后，IP 输入 192.168.43.1 输入完成后点击 OK。



端口号输入 5760 点击 ok，即可连上数传。



13.2 共享图传（要求安卓系统版本 20250110 及以上）

上述三种方式三选一连接成功后，启动电脑上的 VLC 播放器。在媒体菜单中选择“打开网络串流”，然后输入相机的码流地址，如下图所示，即可实现图传共享。

注意：如果使用第三方摄像头时，需要设置摄像头的网关为 192.168.144.11 才能共享图传。



14. 参数

G12 遥控器参数			
显示屏	5.5 寸高亮屏	分辨率	1920*1080
处理器	高通 6nm 处理器	系统	Android 13
尺寸	194.3×282.2×94.9mm	重量	683g
电池	10000mAh	续航时间	4 ~ 8 小时
运行内存	4G	系统存储内存	64G
工作频段	2.4G/5.8G	通道数	12
动态调频	自动跳频	射频功率	23dBm@CE/FCC
遥控距离	9KM	工作温度	-10℃~55℃
充电接口	TYPE-C	外部接口	串口、USB 口、SIM 卡槽、TYPE-C

GR01 接收机参数			
工作频段	2.4G/5.8G	串口波特率	57600/115200/921600
供电电压	7.2 ~ 72V(XT30)	工作电流	12V/300mA
数传口	1 路	空口速率	出厂默认上行 200kbps (上传模式: ≤17.7Mbps) 下行 15Mbps (下载模式≤ 30Mbps) (注意: 打开手 的上传/下载模式后会影通 讯距离, 建议近距离使用。)
网口	1 路	尺寸	45.5×60×21.5mm
SBUS 输出	1 路	重量	37g
PWM 接口	3 路	工作温度	-10℃~60℃
射频功率	23dBm@CE/FCC	信道带宽	1.25MHz/2.5MHz/5MHz/ 10MHz/20MHz/40MHz

G12 RX 接收机参数			
工作频段	2.4G/5.8G	串口波特率	57600/115200/921600
供电电压	5V	工作电流	5V/720mA
数传口	1 路	空口速率	出厂默认上行 200kbps (上传模式: ≤17.7Mbps) 下行 15Mbps (下载模式≤ 30Mbps) (注意: 打开手 的上传/下载模式后会影通 讯距离, 建议近距离使用。)
网口	1 路	尺寸	51×40.8×23.3mm
SBUS 输出	1 路	重量	45g
PWM 接口	2 路	工作温度	-10℃~60℃
射频功率	23dBm@CE/FCC	信道带宽	1.25MHz/2.5MHz/5MHz/ 10MHz/20MHz/40MHz

15. 相关软件下载

RCSDK（数传通讯，遥控器、云台、相机相关接口）：

适用于 H12、H12Pro、H16、H16Pro、H20、H30、G12、G20、三体相机（串口版）、三体相机（网口版）、串口双轴云台、C10、C20、C10Pro、C12、电子云台 C01。

<https://gitee.com/skydroid/rcsdk-demo>

图传播放器（适用网口图传/串口图传）：

<https://gitee.com/skydroid/fpv-player-demo>

DEMO <https://gitee.com/skydroid/SkydroidDemo>

五、保养保修

长期停放时的维护、保养：

将遥控器存放于干燥通风处，减少阳光直射以防止电池过热。若需存放超过三个月，则推荐的存放温度区间为 22 摄氏度至 28 摄氏度。切勿将电池存在于低于零下 20 摄氏度或高于 45 摄氏度的场所。

六、运输储存

警告

为避免可能的伤害和损失，务必遵守以下各项：

由于线材和小零件可能对儿童造成危险，所以务必让儿童远离遥控器的部件。

注意

- 1) 切勿让遥控器浸入水中，若入水，请及时用柔软干布擦拭，并立即关闭电源。
- 2) 禁止机械撞击、碾压、刺穿电池，禁止将电池跌落。

说明书如有更新，恕不另行通知，请持续关注官网 www.skydroid.xin

SKYDROID 云卓

QUAN ZHOU SKYDROID TECHNOLOGY CO., LTD



Skydroid G12

Use Manual

V2.1

Caution

This product uses the following terms to classify and explain potential hazards that may arise from improper operation.

Caution: Failure to follow the instructions may result in property damage and minor injury.

Caution: Failure to follow the instructions may result in property damage, major accidents, and serious injury.

Warning: Operate the product only after reading the entire user manual and becoming familiar with its functions. Improper operation of this product may cause serious injury to yourself or others, or lead to product damage and property loss. This product is relatively complex and requires a period of time to become familiar with before it can be used safely; additionally, basic knowledge is required to operate it. Without a strong safety awareness, improper operation may cause product damage and property loss, and even serious injury to yourself or others. This product is not suitable for children. Do not use parts that are not provided or recommended by Skydroid. You must strictly follow Skydroid's guidelines when using the product.

After-Sales Service Terms

1. These terms apply only to products manufactured by Skydroid Technology (FUJIAN) Co.,Ltd. They also apply to products sold by authorized Skydroid distributors.
 2. For products of our company, if non-human-caused quality issues are verified by our company within one week from the date of purchase, Skydroid will bear the round-trip courier fees for the returned and repaired products. If quality issues are verified by our company for Skydroid products purchased for more than one week but less than one year, the user and Skydroid shall each bear the courier fee for sending the product for repair.
 3. When returning a product for repair, the purchase certificate, warranty card, or online platform transaction record must be provided.
 4. If a Skydroid product has non-human-caused quality issues under normal use within seven days from the date of purchase, and the appearance is undamaged, the user can negotiate with the distributor for a free replacement of the same-model product with the warranty card and purchase certificate. The distributor is requested to notify Skydroid immediately for filing and replacement when receiving the product to be replaced.
 5. Skydroid Technology (FUJIAN) Co.,Ltd. provides lifelong after-sales service for Skydroid products. For non-human-caused quality issues, free warranty service is provided within one year. For damages caused by human factors, modifications, disassembly, or products beyond the one-year free warranty period from the date of purchase, the user must pay the round-trip shipping fees and repair costs.
 6. To ensure your rights are protected and that you can receive timely and effective service, please fill out the warranty card completely and request a purchase certificate when buying a Skydroid product. Users must provide the warranty card and purchase certificate to enjoy the services under these after-sales terms.
 7. Repaired products will be sent back to the customer within 15 working days after Skydroid receives them, along with a repair report.
 8. The above after-sales service terms apply only to Skydroid products sold in Mainland China.
- For after-sales issues of customers in Hong Kong, Macau, Taiwan, and overseas regions, please send an email to sales01@skydroid.xin. The specific after-sales details will be determined based on the actual situation.
-

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I. Overview

1. Product Features

(1) The G12 series adopts a Qualcomm 6nm processor and is equipped with an Android 13 (64-bit) embedded system, ensuring smooth operation and an open ecosystem that supports the installation of most applications available on the market. It uses an all-new high-power, high-bandwidth 2.4/5.8G dual-band wireless module, supporting automatic frequency hopping and MCS autonomous dynamic adjustment, with an image and data transmission range of up to 9km.

(2) The G12 is equipped with a variety of interfaces including SIM card Ethernet port, USB port, Type-C port, and PPM port. It provides an SDK development kit, supports video floating window, and is compatible with ground stations of mainstream flight controllers.

(3) It features a 5.5-inch high-brightness display with a 1920*1080 resolution and an ultra-large screen-to-body ratio, allowing clear viewing of real-time displayed information even in direct sunlight.

(4) Powered by a high-energy-density lithium-ion battery, it can work for 4 to 8 hours on a full charge. The consistent "wilderness survival" design philosophy ensures you have no worries about the device's reliability.

2. Main Uses and Application Scope

The G12 is suitable for video image transmission (a camera is required as an optional accessory), data transmission, and control of unmanned devices such as helicopters, fixed-wing aircraft, multi-rotor drones, unmanned vehicles, and unmanned boats.

3. Operating Environment Conditions

Caution:

- a) Ambient temperature: $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$.
- b) Storage temperature: $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$.
- c) Relative humidity: Not exceed 85%.
- d) Atmospheric pressure: $86\text{kPa} \sim 106\text{kPa}$.
- e) The location of use must be free from explosive hazardous media. The surrounding media shall not contain gases or conductive media that corrode metals, damage insulation, or be filled with water vapor or severe mold.
- f) The location of use shall be equipped with facilities to protect against rain, snow, wind, sand, and dust.

4. Working Conditions

Power Supply Method and Precautions

The G12 series ground unit is equipped with a built-in integrated rechargeable lithium-ion battery and is compatible with standard Type-C interfaces on the market. Please use the original charger for charging.

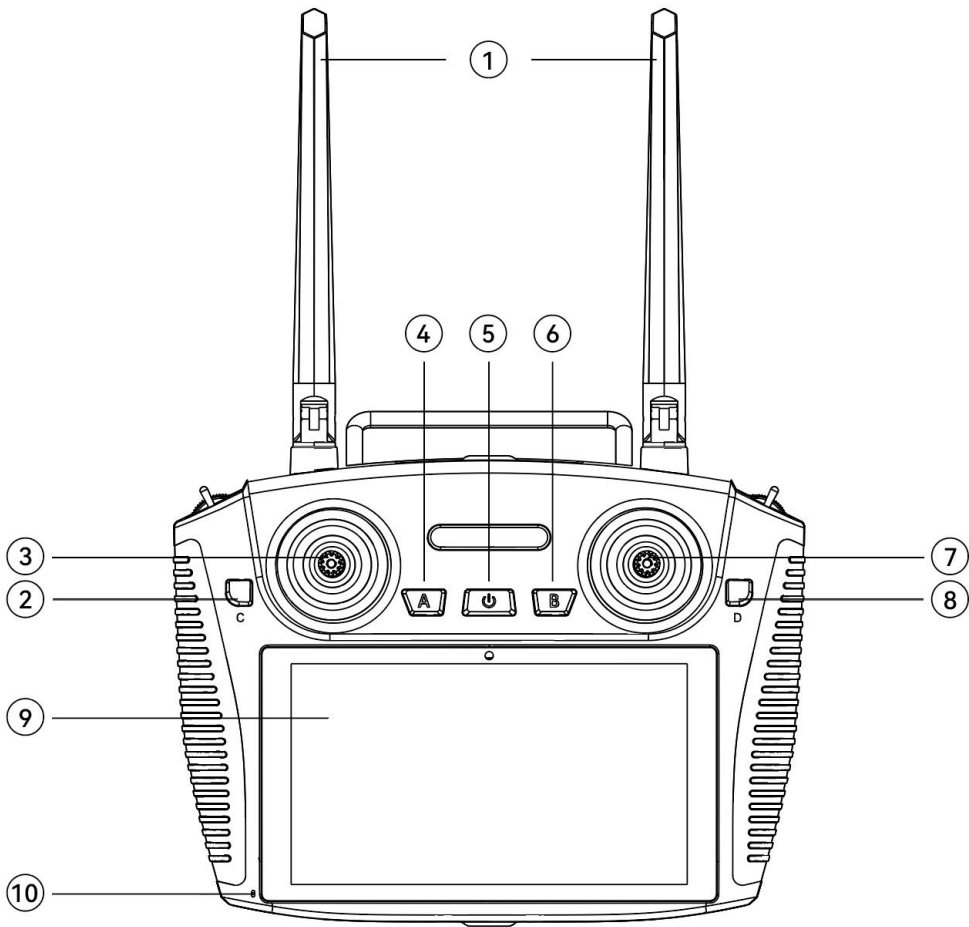
If smoke, abnormal odor, or liquid leakage occurs while charging the ground unit, do not continue charging it. Please send the unit to our company for repair.

Do not charge this product in areas accessible to infants to prevent electric shock hazards.

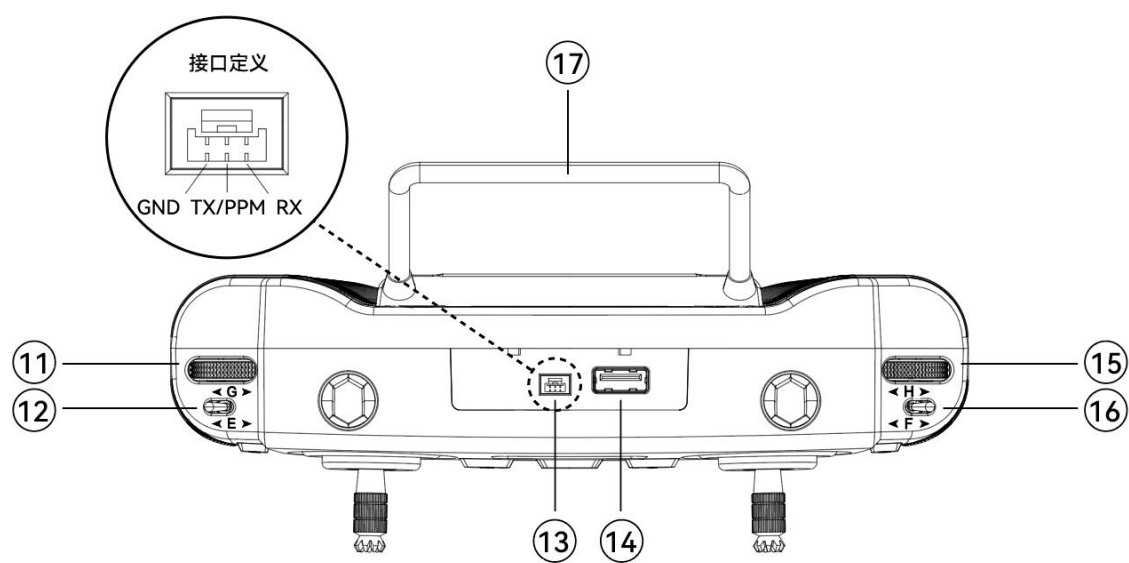
Do not charge this product in an environment where the temperature exceeds 60°C .

II. Component Names

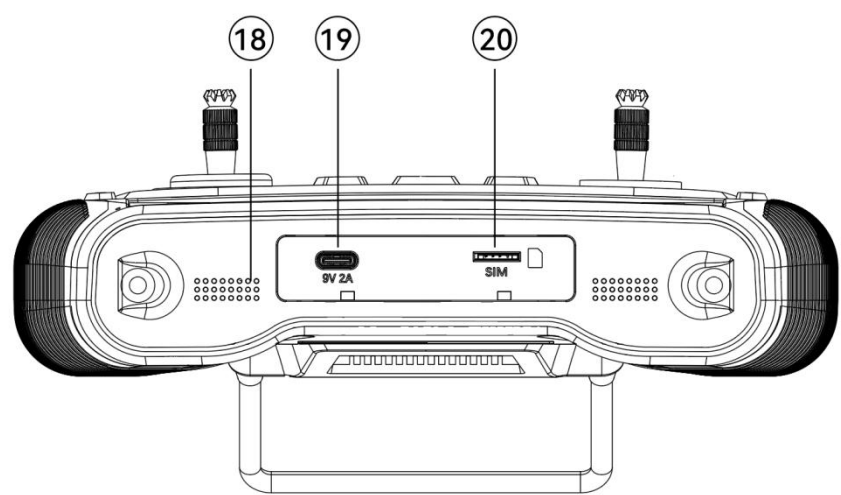
1. Remote Controller



Number	Annotation	Number	Annotation
1	2.4G/5.8G 4dBm Antenna	6	B Button (no function yet)
2	C Button (gimbal back to centre)	7	Right joystick X2, Y2
3	Left joystick X1, Y1	8	D Button(no function yet)
4	A Button (no function yet)	9	Display
5	Switch button	10	Microphone MIC

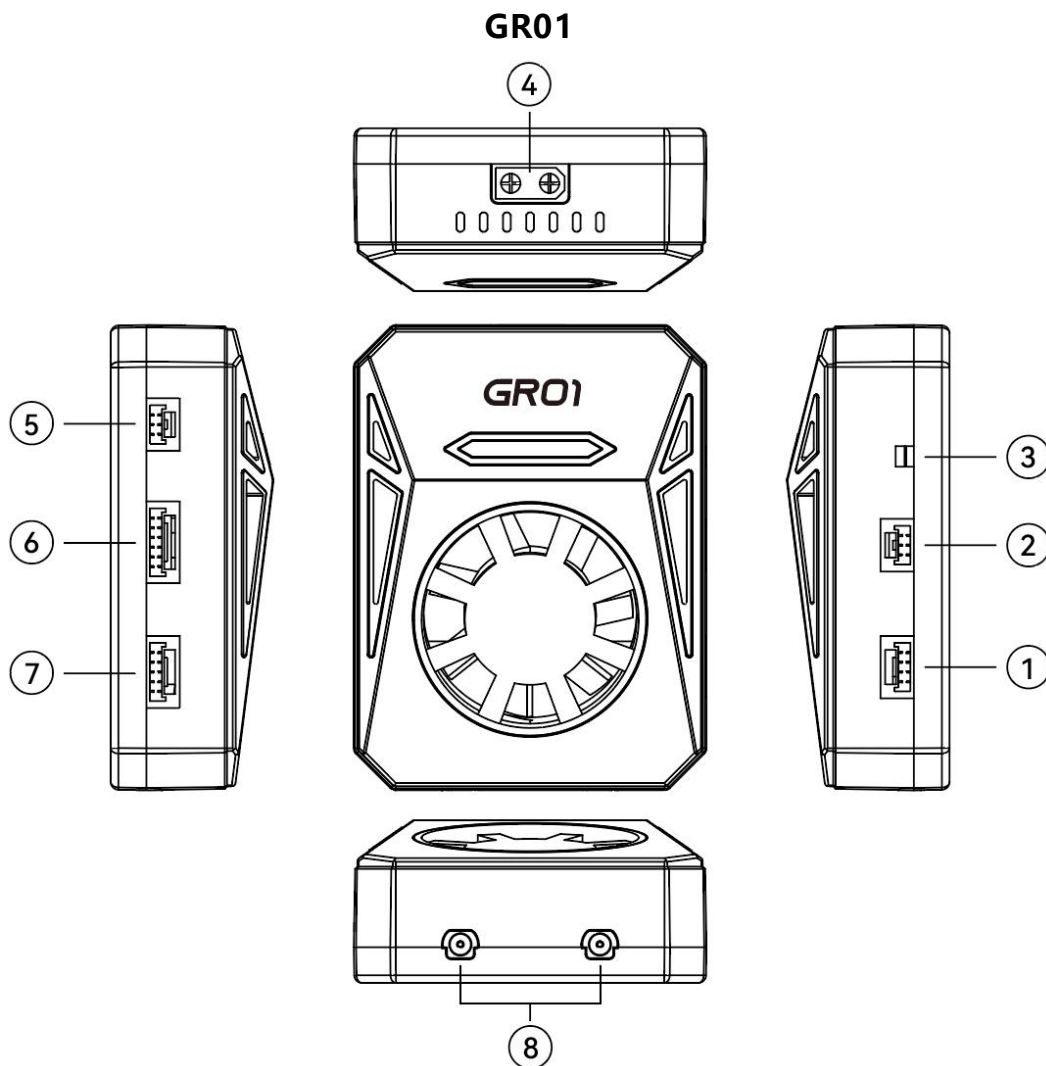


Number	Annotation	Number	Annotation
11	Jog Wheel G (gimbal yaw)	15	Jog wheel H (Gimbal Pitch)
12	Three-position switch E (flight mode)	16	Three-position switch F (no function yet)
13	PPM Output	17	Remote Control Handle
14	Upgrade Interface		



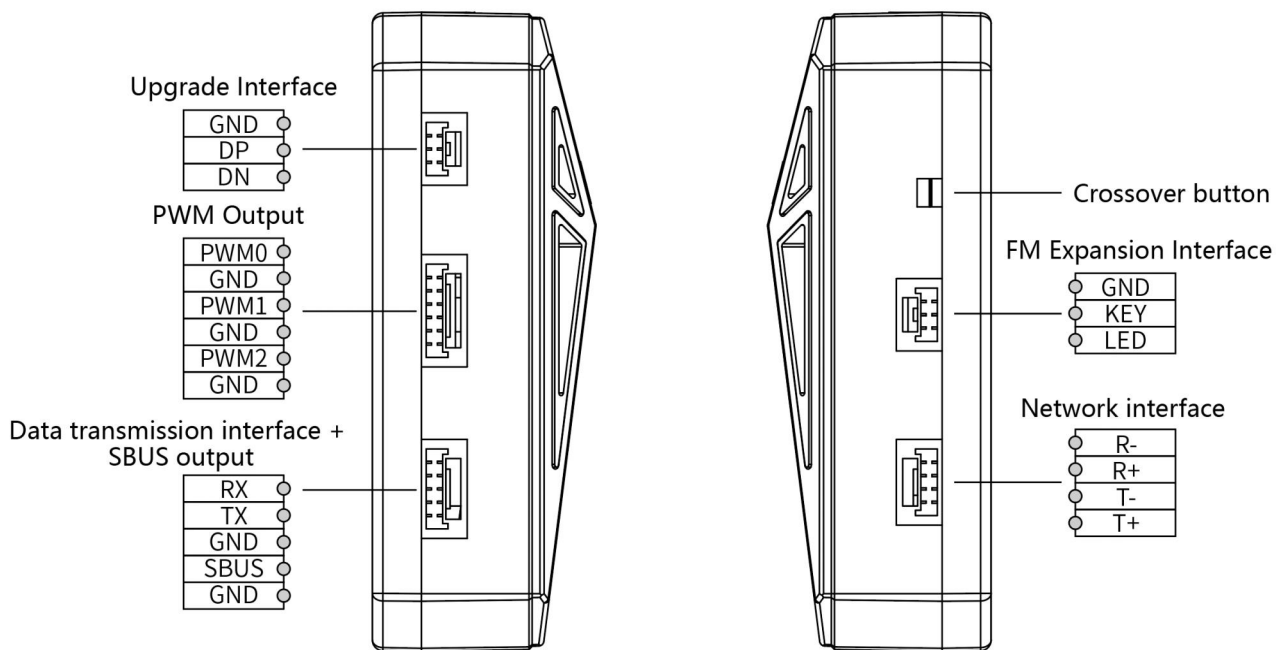
Number	Annotation	Number	Annotation
18	Speaker	20	SIM slot
19	TYPE-C (Charging Port)		

2. Receiver



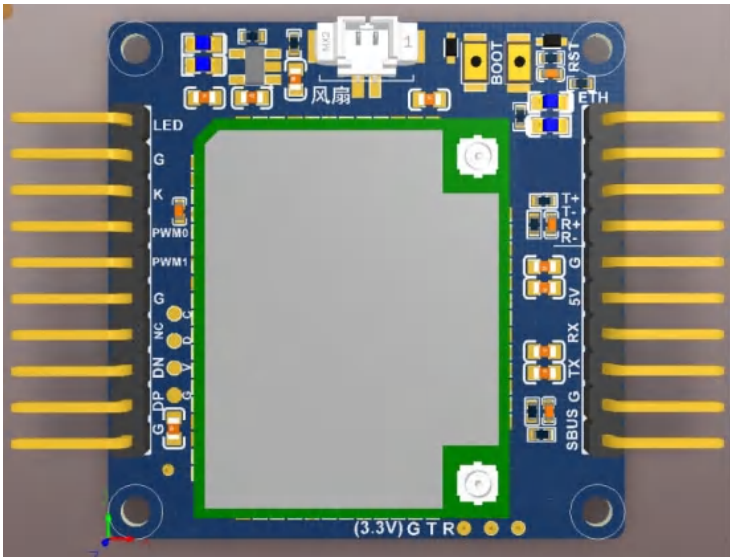
Number	Annotation	Number	Annotation
1	LAN Port	5	Upgrade Interface
2	Frequency Pairing Expansion Interface	6	PWM Output
3	Frequency Pairing Button	7	Data Transmission Interface + SBUS Output
4	Power Input Port (7.2V ~ 72V)	8	Antenna Interface

Definition of Receiver Interface



Note: PWM0~2 of GR01 correspond to Channels 9~11 of the Remote Controller

G12 RX

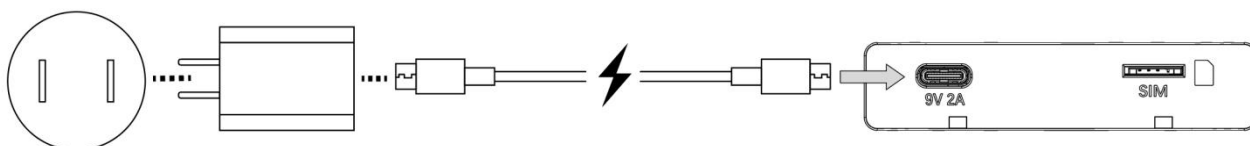


Name	Annotation	Name	Annotation
		ANT	Antenna
LED	Frequency pairing indicator light	ETH0_TX+	Network port 0
GND	Ground wire	ETH0_TX-	
KEY	Frequency pairing button	ETH0_RX+	
PWM0	PWM9 port (9channels)	ETH0_RX-	
PWM1	PWM10 port (10channels)	GND	Power Supply+ Data transmission port
GND	Ground wire	5V_IN	
NC	Unconnected Pin	UART_RX	
DN	Upgrade port	UART_TX	
DP		GND	SBUS interface
GND		SBUS	
		ANT	Antenna

III. Preparing the Remote Controller

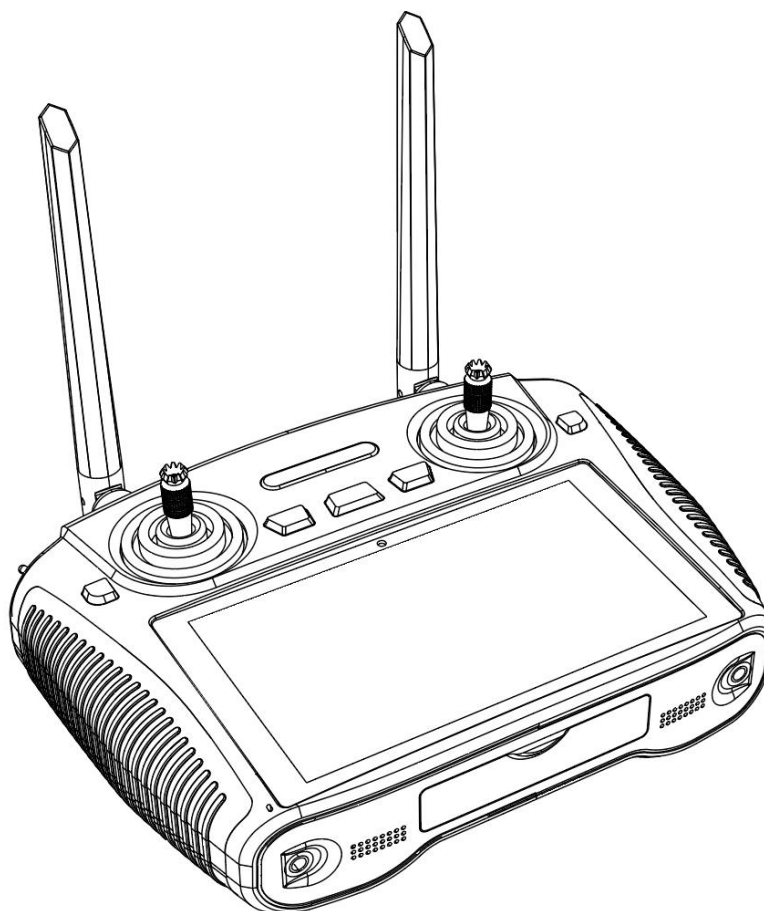
1. Charging the Remote Controller

Use the original charger for charging, and it takes approximately 3–4 hours to fully charge.



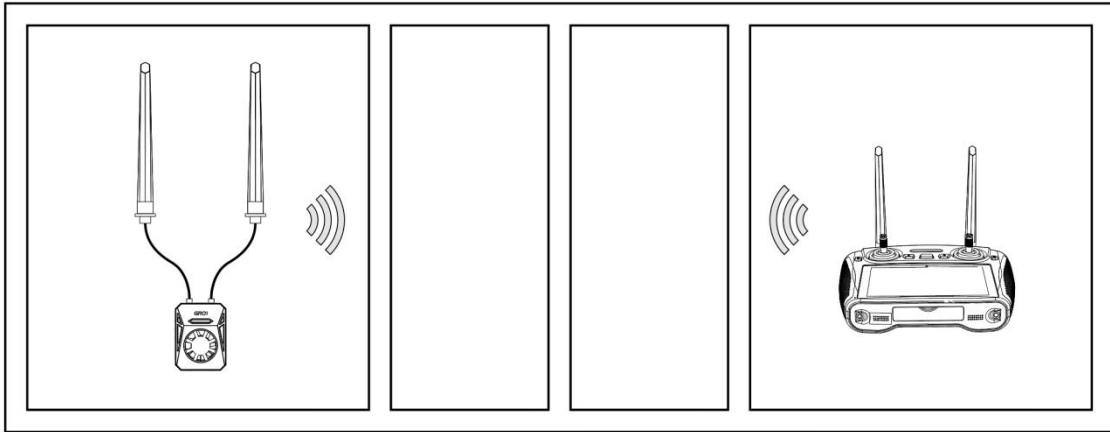
Please charge the remote controller using the original charger. To maintain the remote controller battery in optimal condition, ensure the battery is fully charged once a month.

2. Properly Extending the Antenna



3. Indoor Range Test

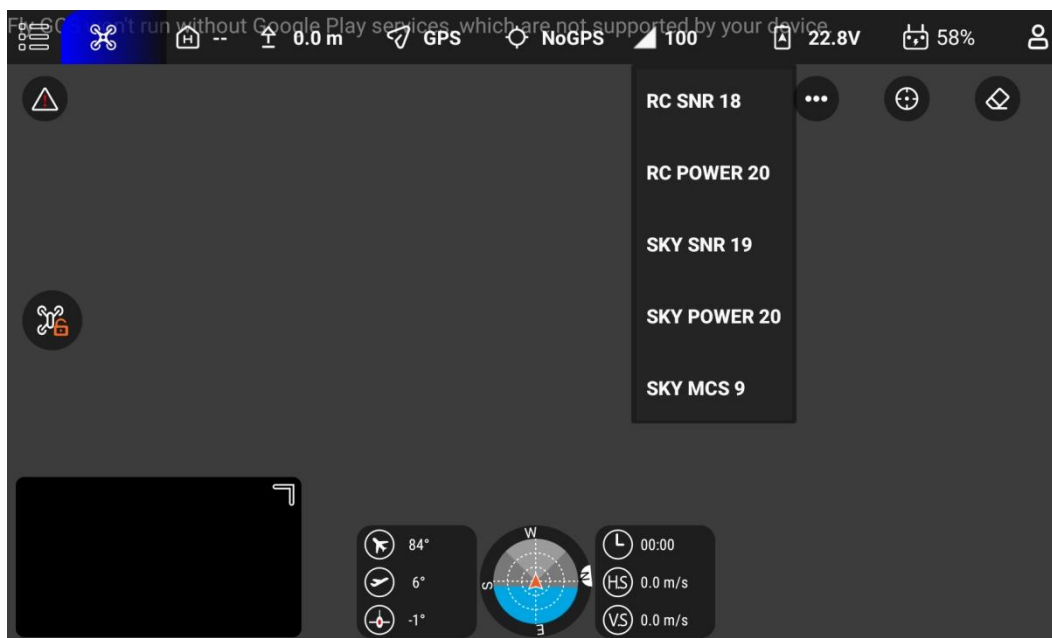
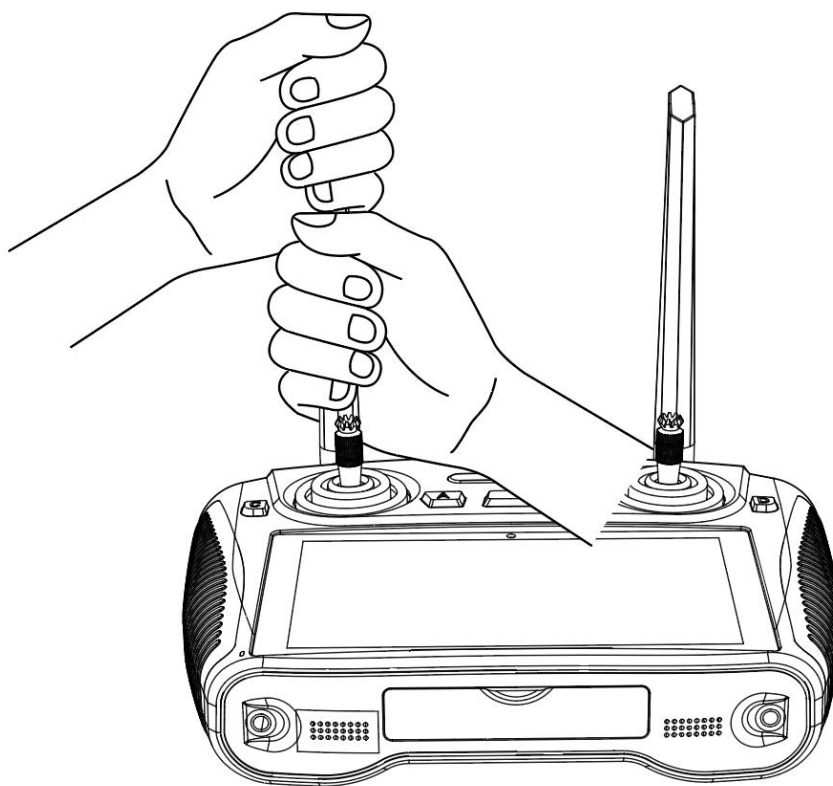
(1) Test Scenario: Place the remote controller and the receiver with 3–4 walls between them.



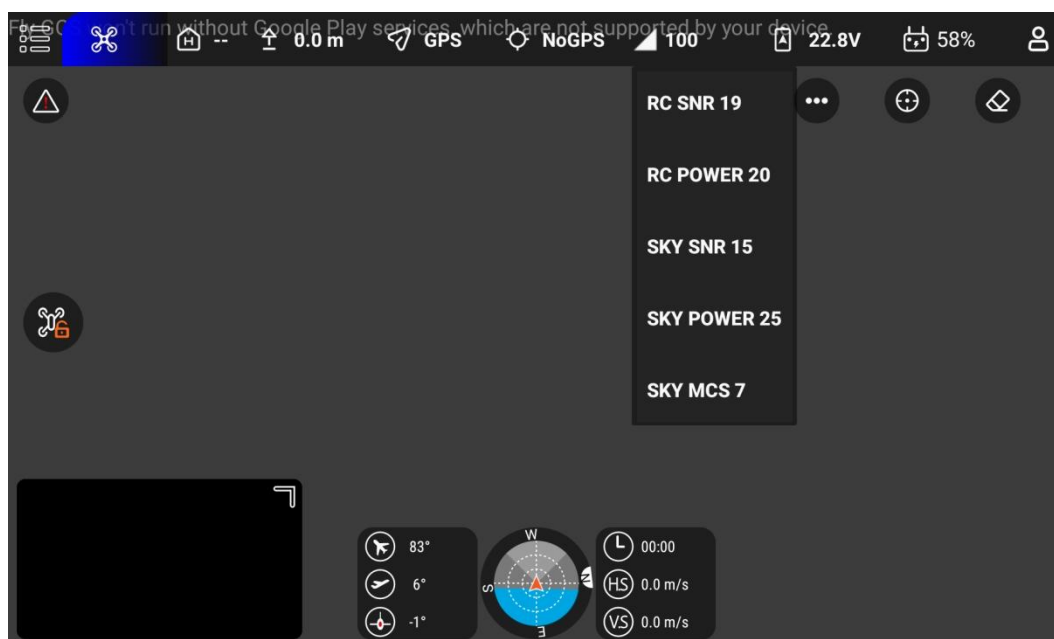
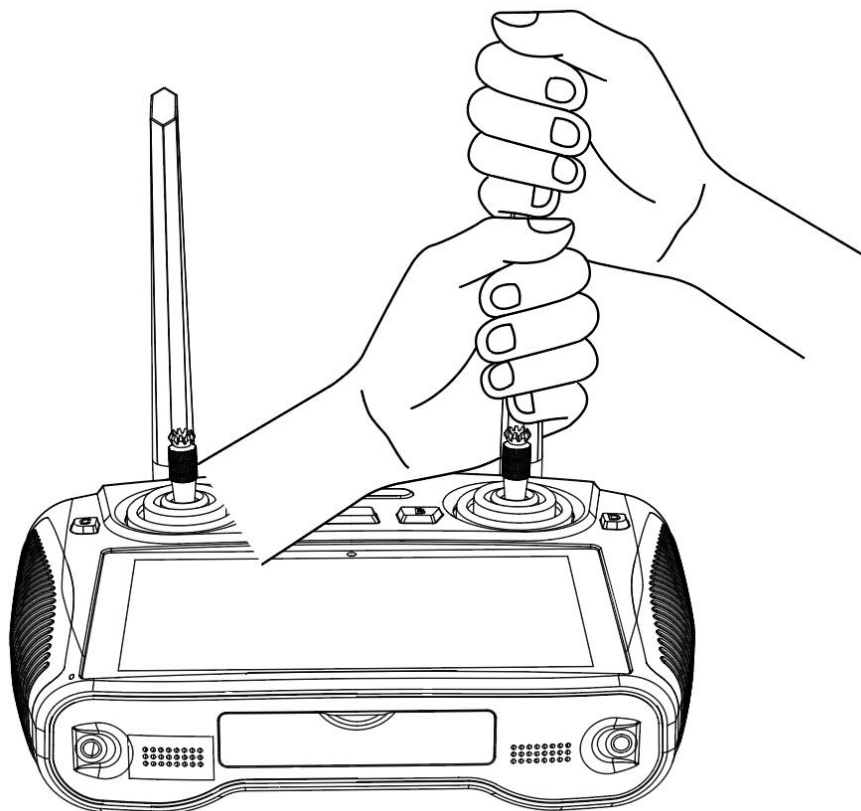
(2) When the antenna is not blocked, the signal strength is as shown in the figure below.



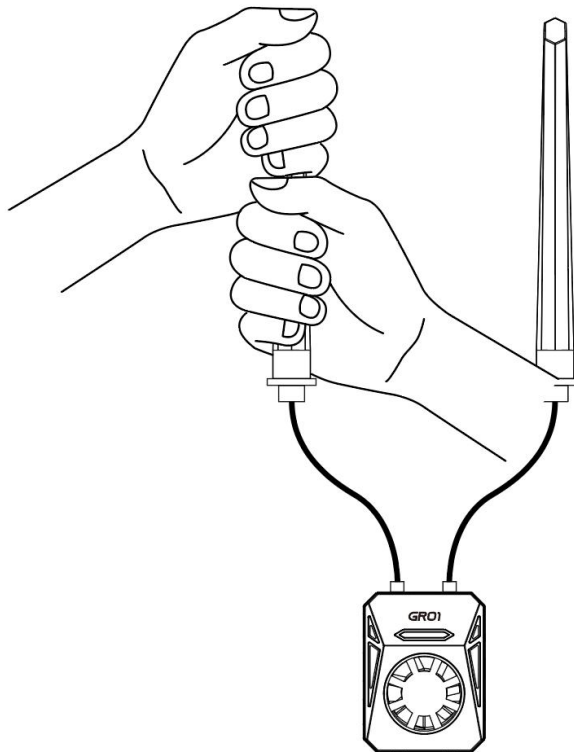
(3) When holding the left antenna of the remote controller tightly, the signal strength is as shown in the figure below.



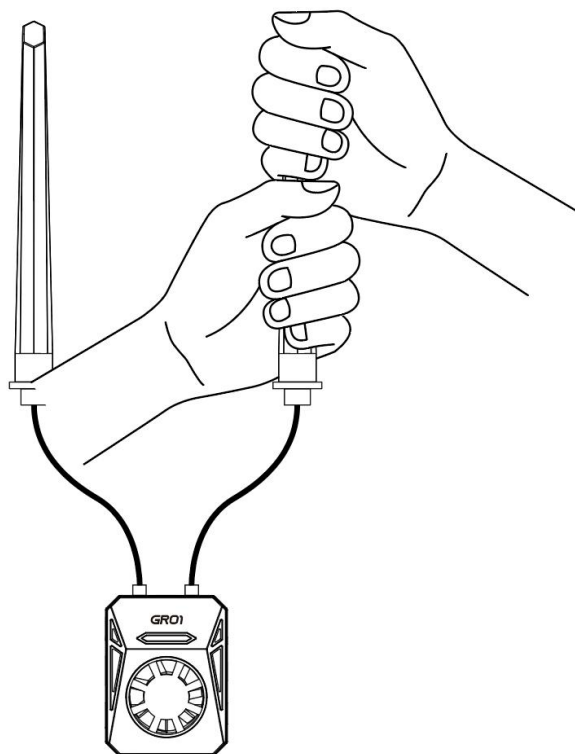
(4) When you firmly hold the right antenna of the remote controller, the signal strength is as shown in the figure below.



(5) When you firmly hold the left antenna of the receiver, the signal strength is as shown in the figure below.



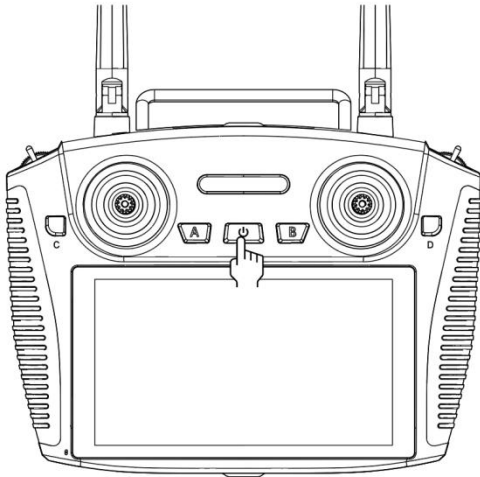
(6) When you firmly hold the right antenna of the receiver, the signal strength is as shown in the figure below.



IV. Usage and Operation

1. Remote Controller Power On and Off

Press and hold the power button for 2 seconds to turn on the remote controller. To turn off the remote controller, press and hold the power button for 2 seconds, then tap the screen to confirm shutdown.

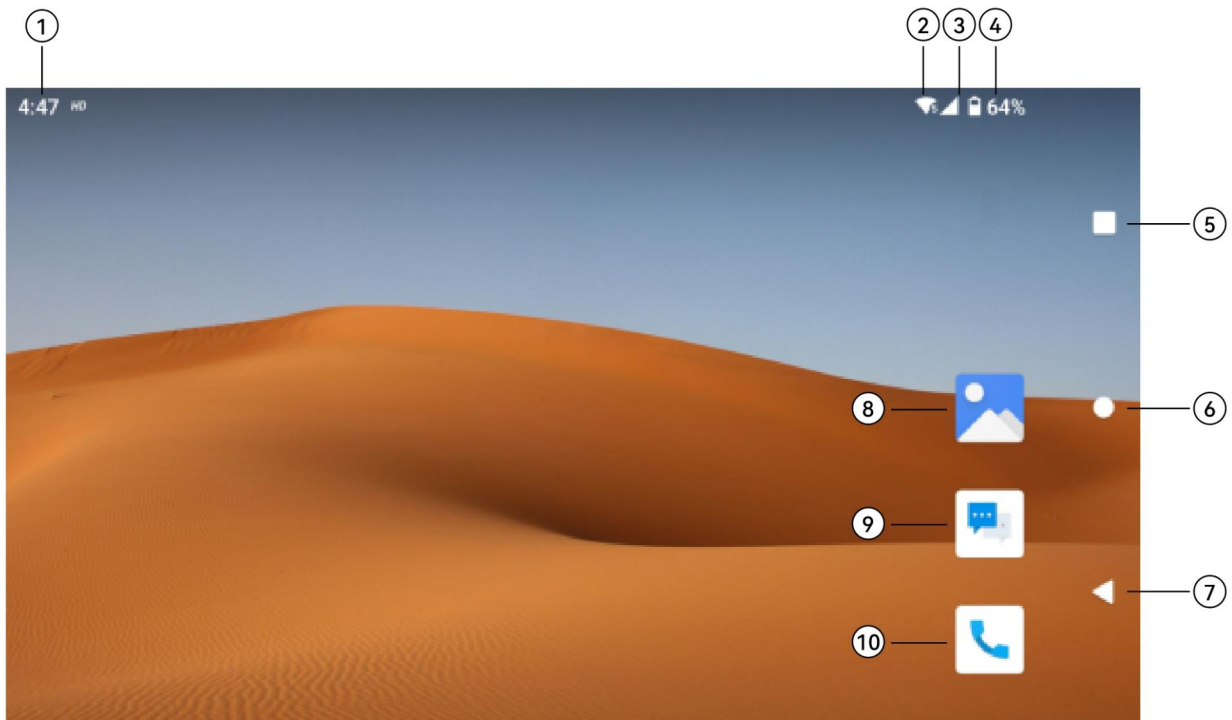


开机



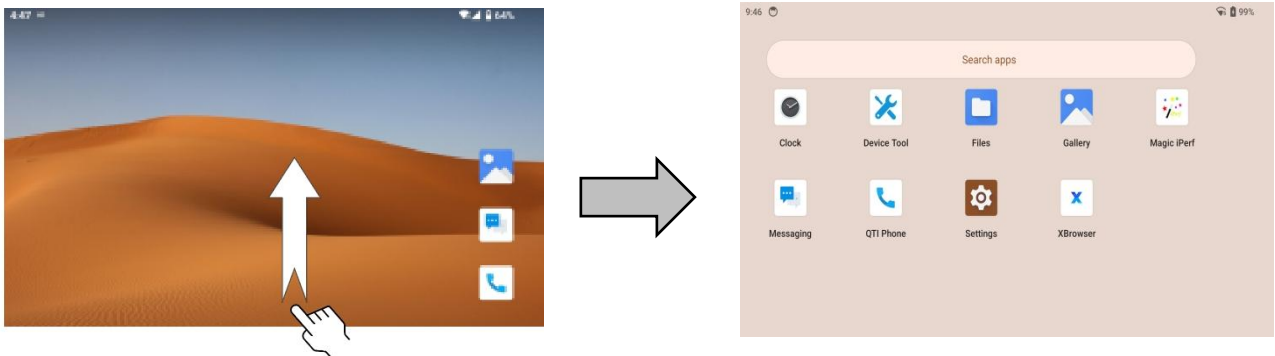
关机

2. System Desktop



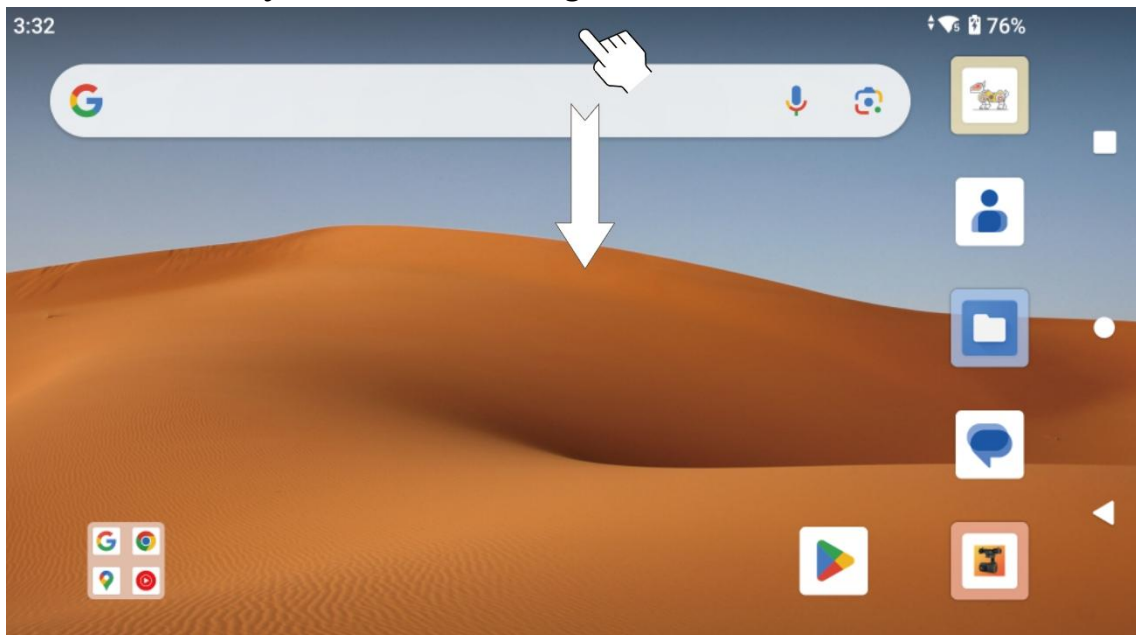
Number	Annotation	Number	Annotation
1	Time	6	Return to Desktop
2	WIFI Signal Status Display	7	Back Operation
3	SIM Card Status Display	8	Gallery
4	Battery Level Display	9	SMS
5	Task Center	10	Phone

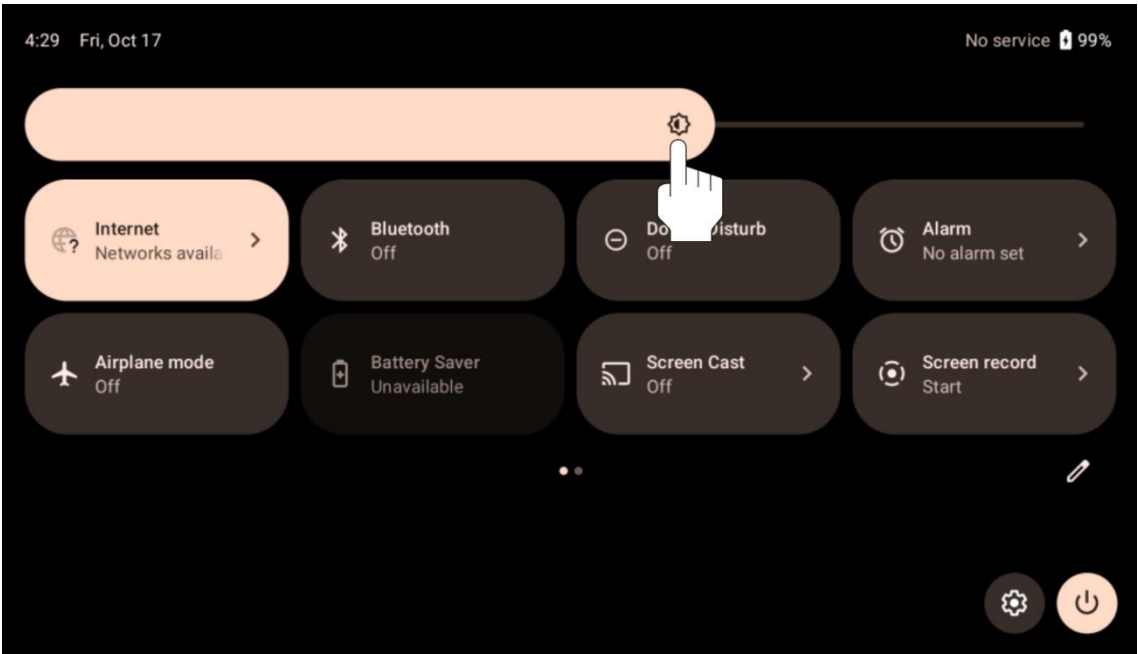
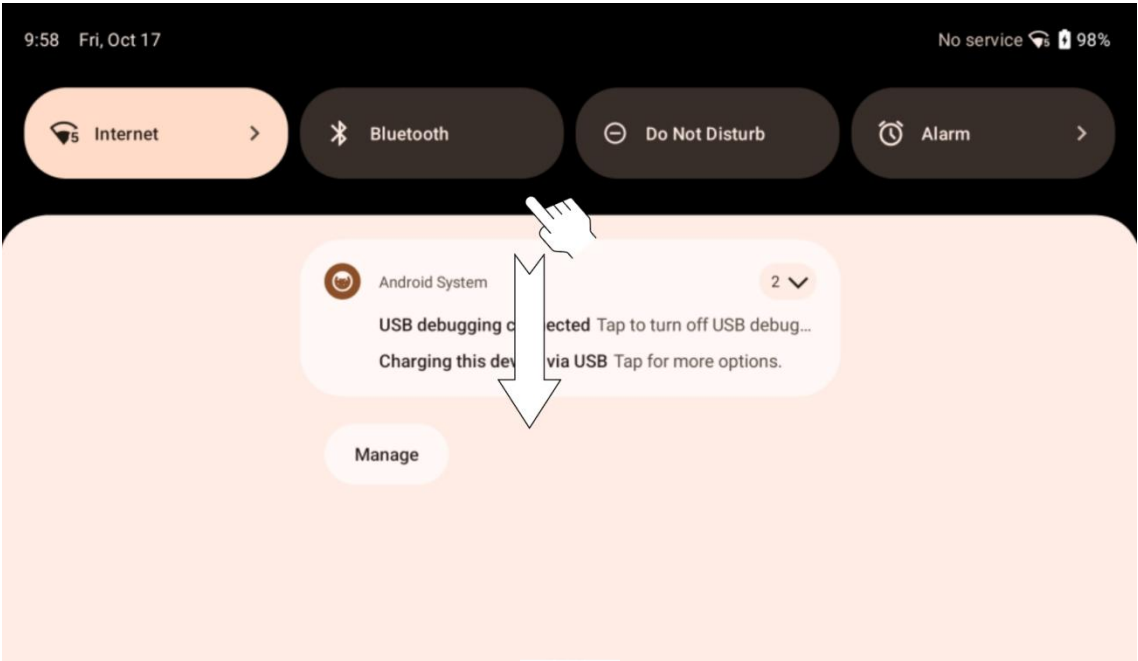
Swipe upward from the bottom edge of the screen to access the app interface.

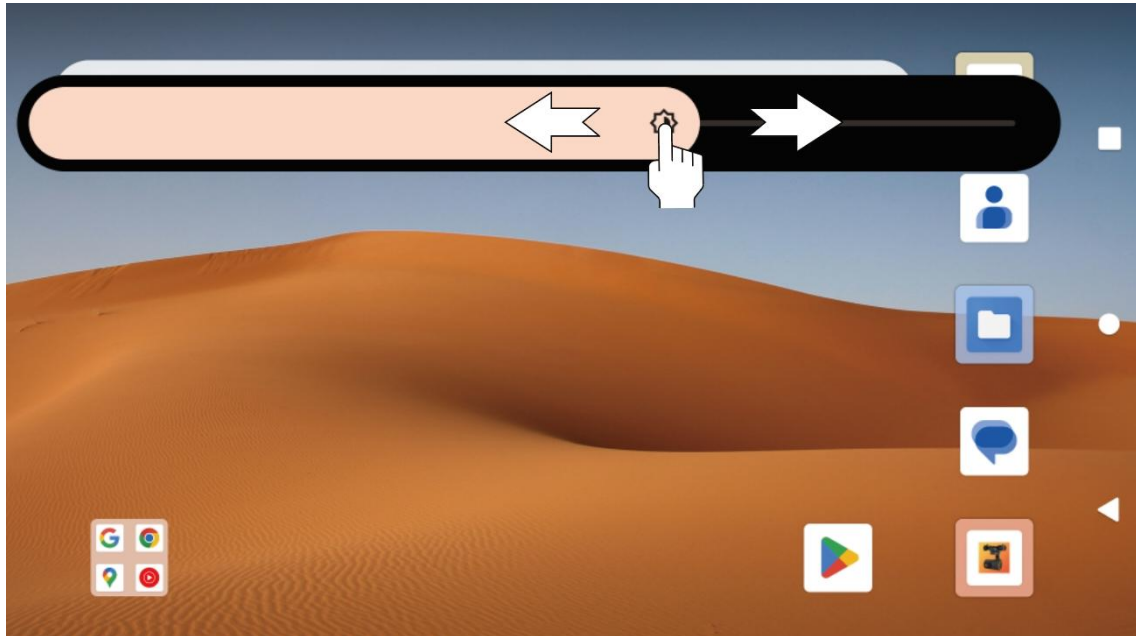


3. Adjusting Brightness

Swipe downward from the top of the screen to access the Control Center, then drag the slider to adjust the screen brightness.

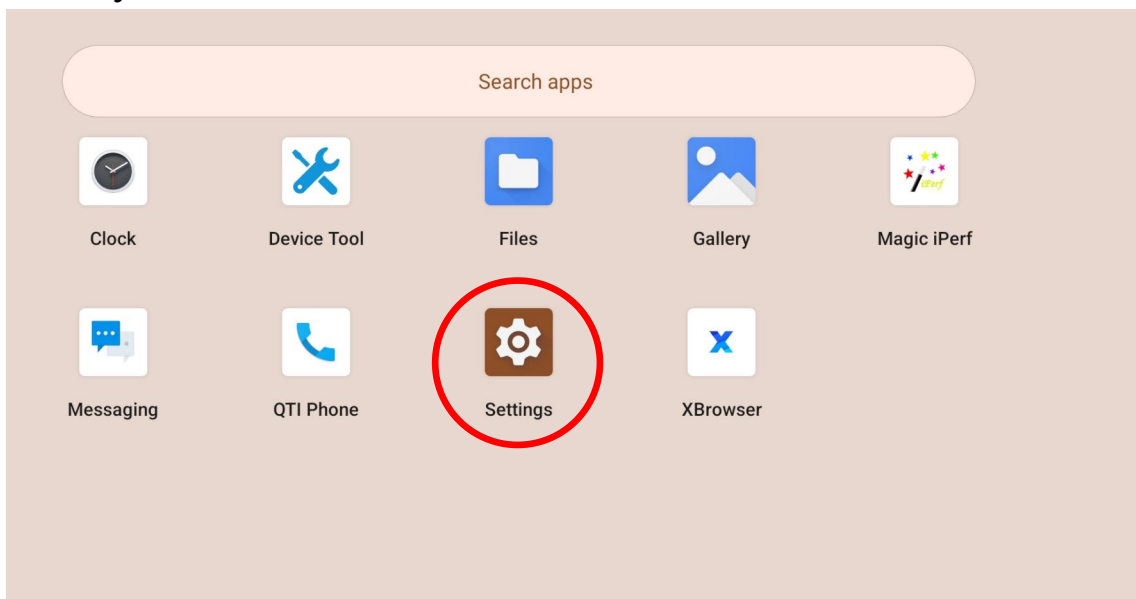


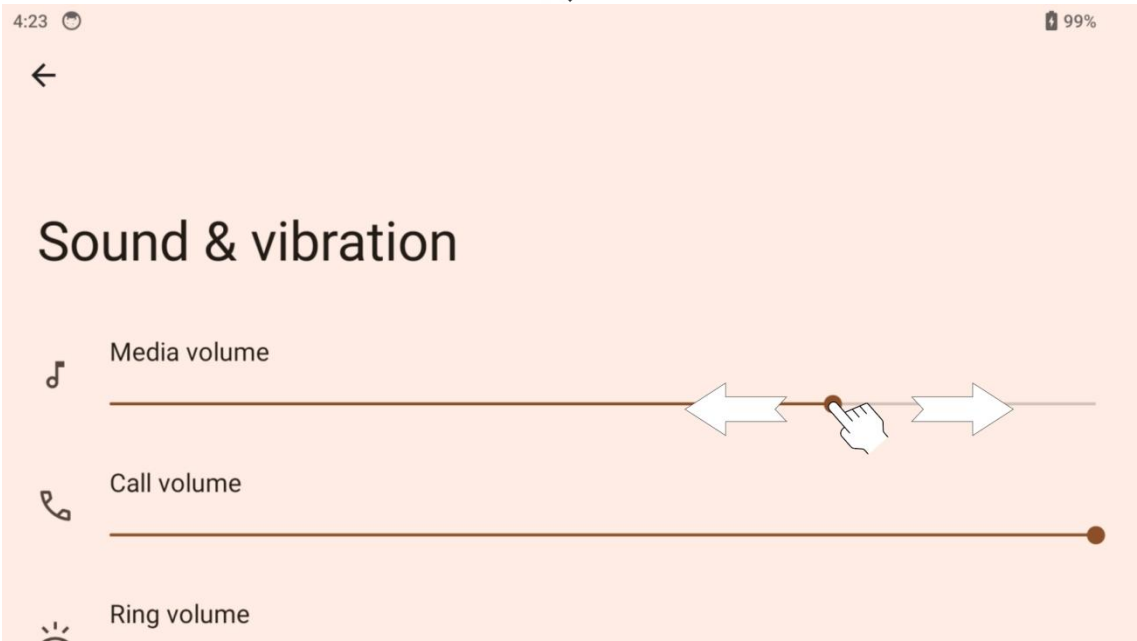
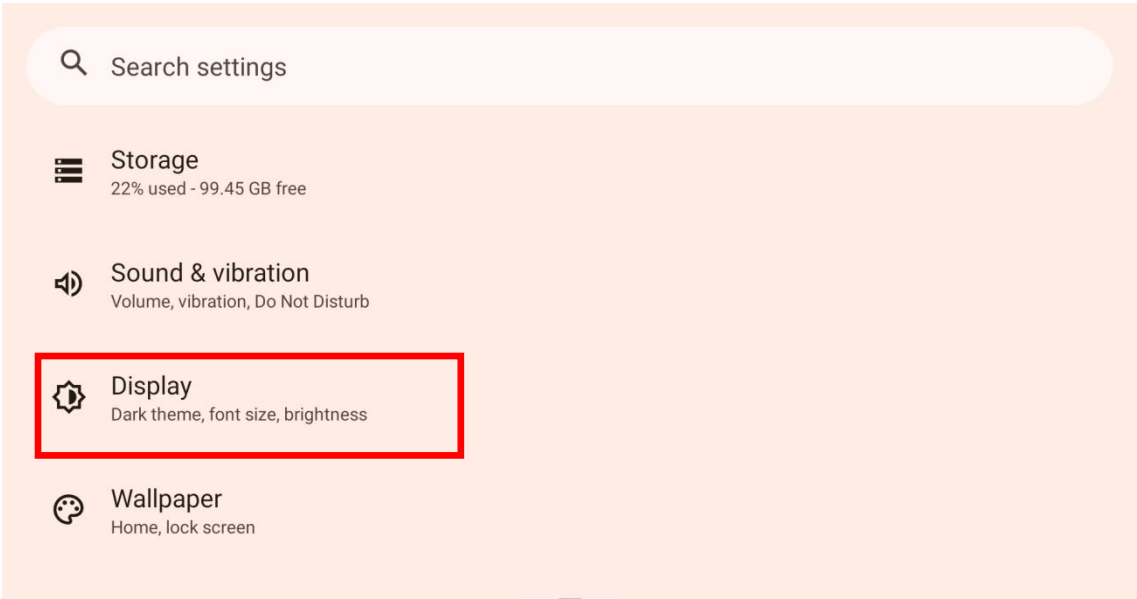




4. Adjusting Volume

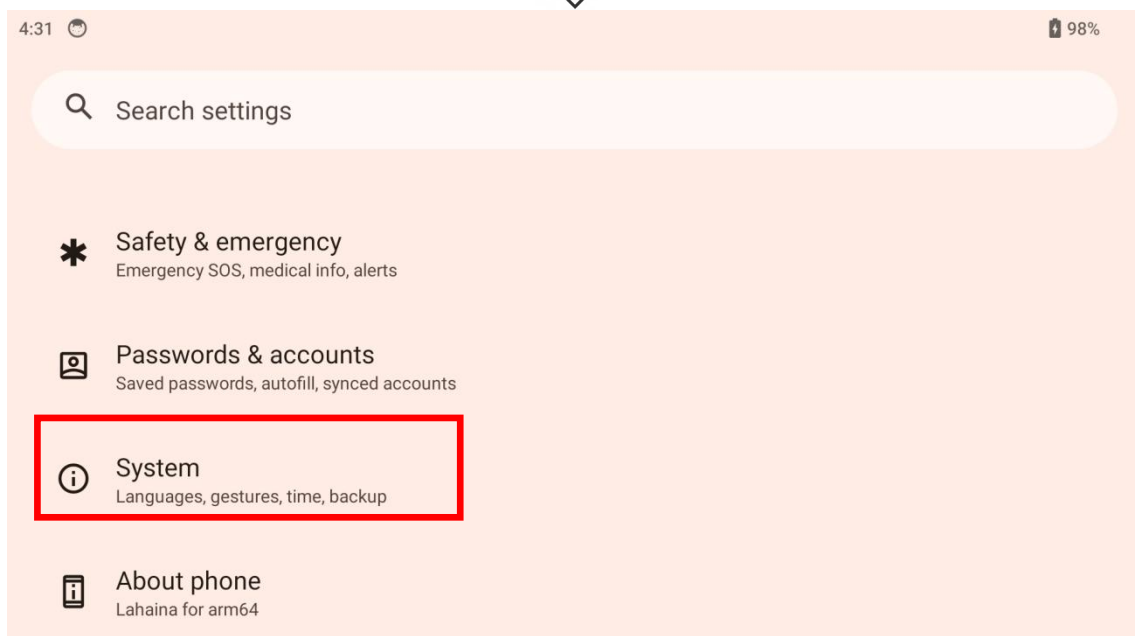
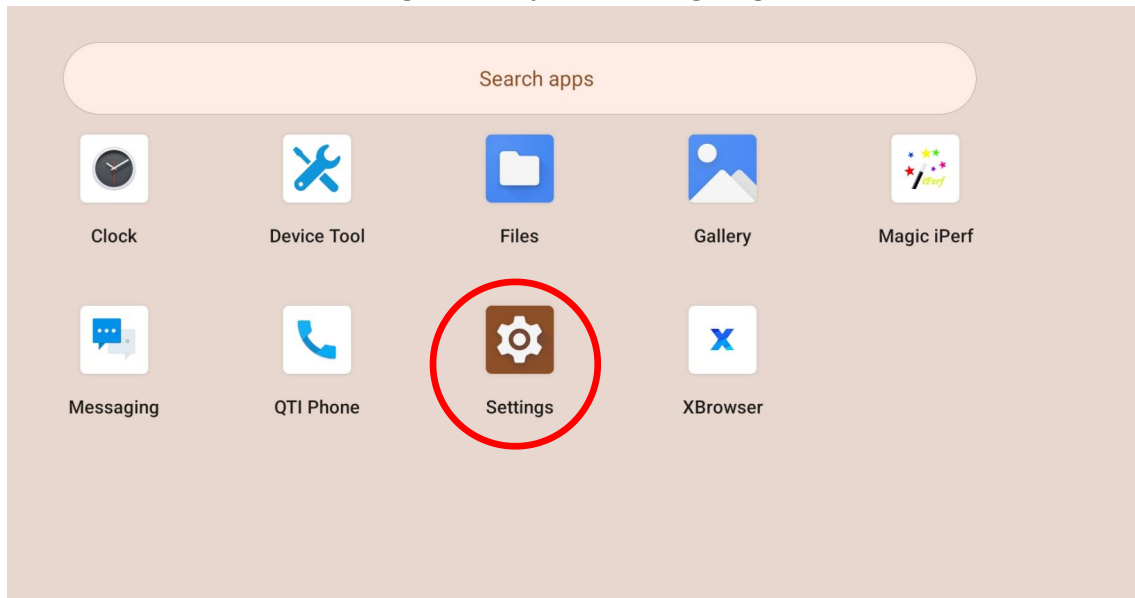
Access the app interface, tap Settings, locate the Sound option, then drag the slider to adjust the volume level.

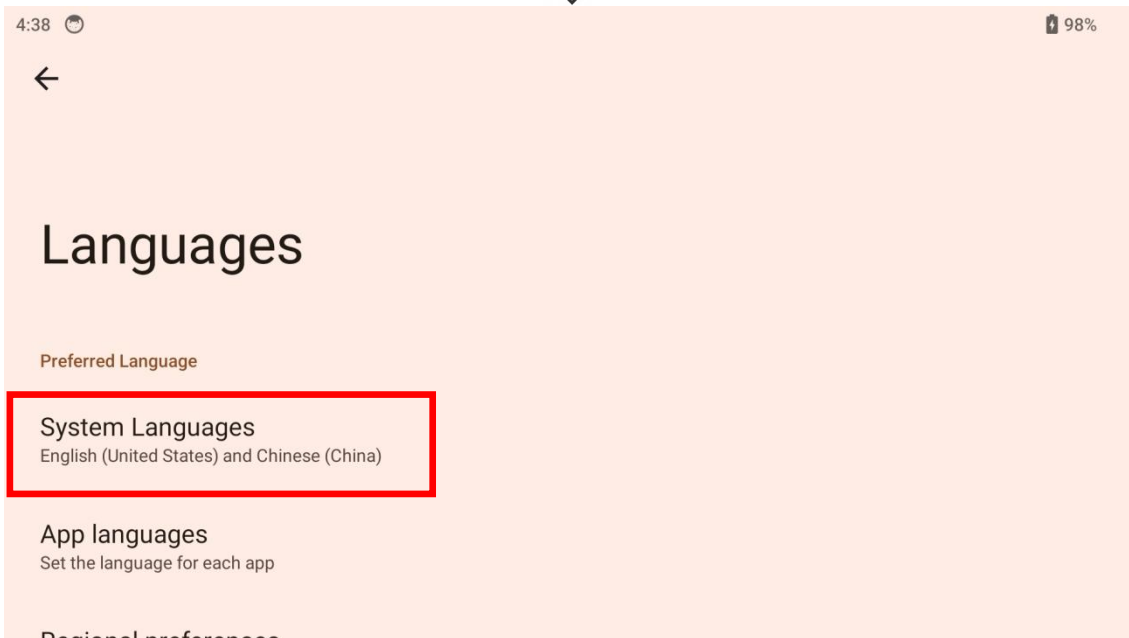
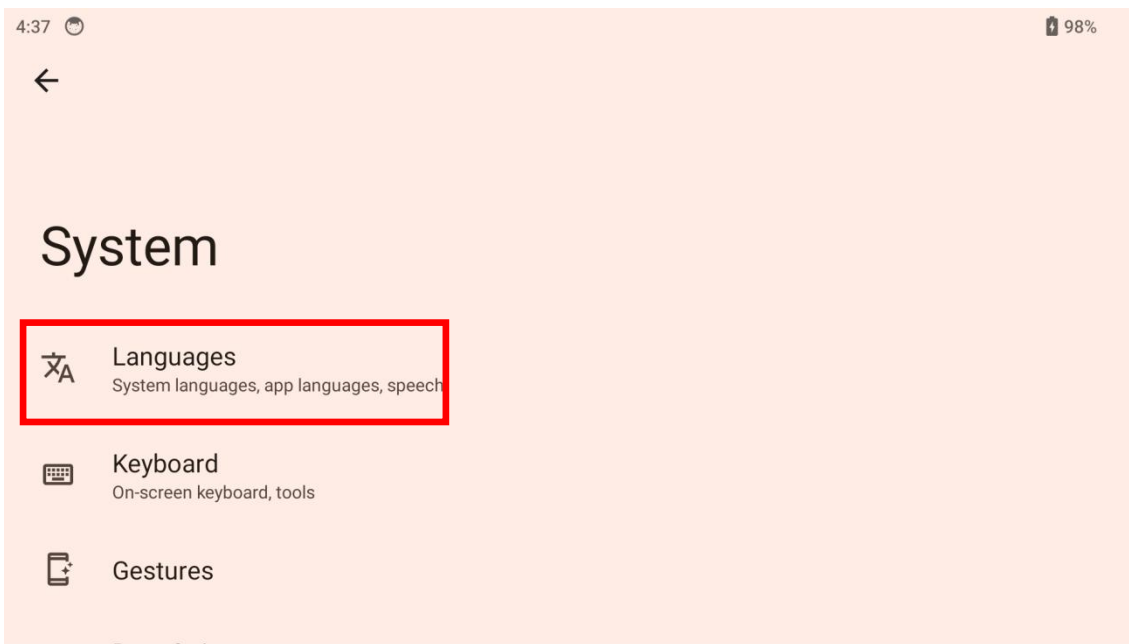


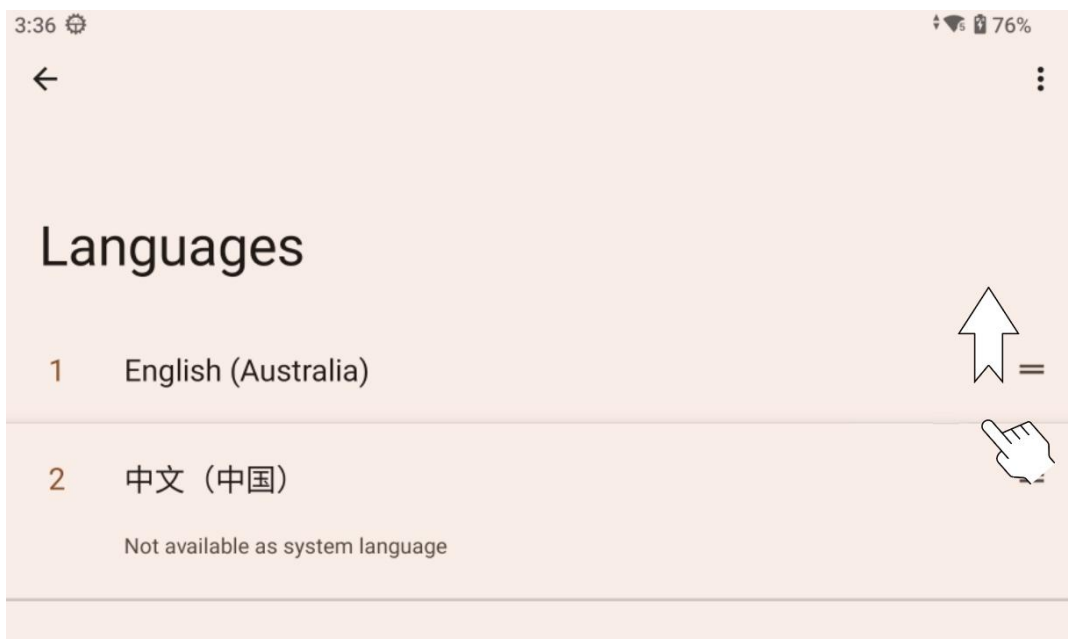
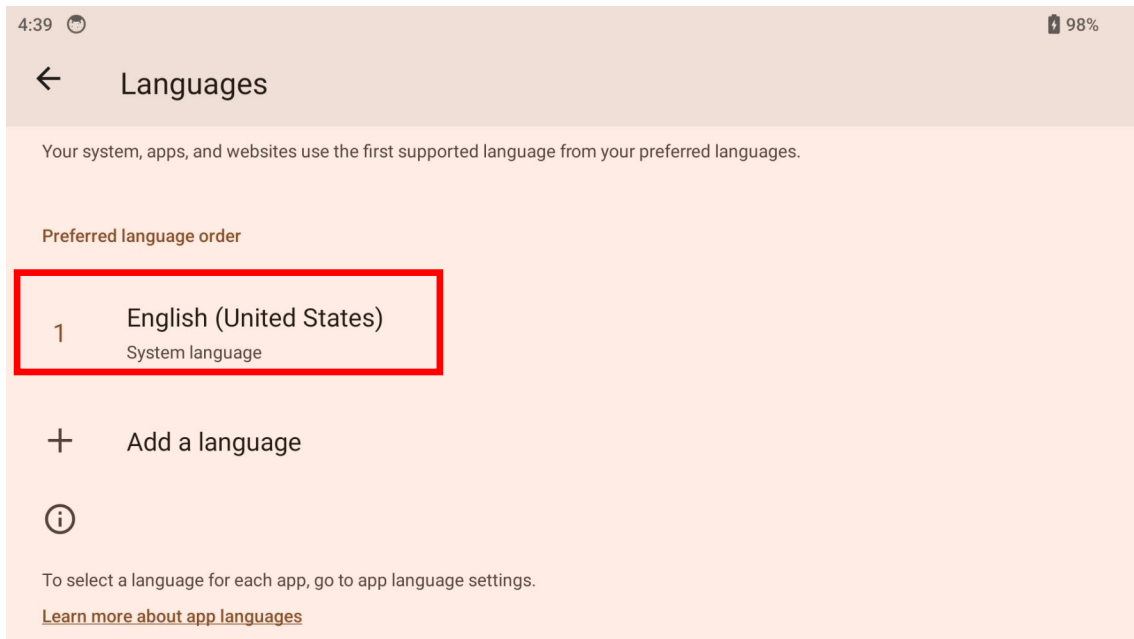


5. Language Settings

Tap Settings, select System, then choose Language & Input Method. Tap Language, select Add Language, and after adding the desired language, drag it to the top of the list to change the system language.

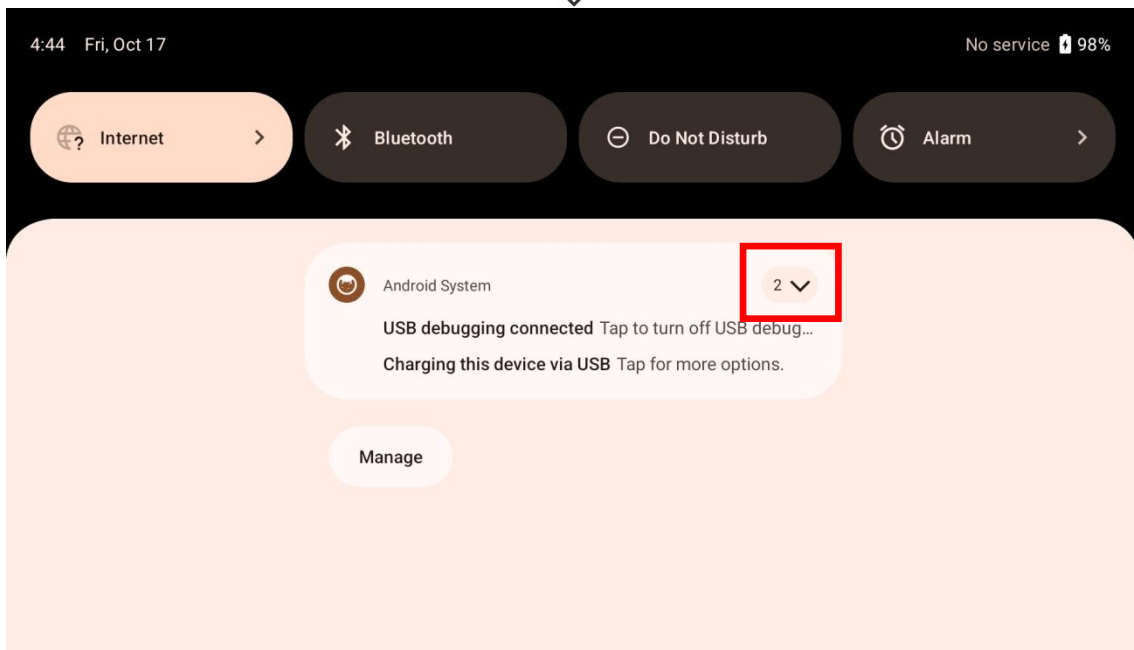
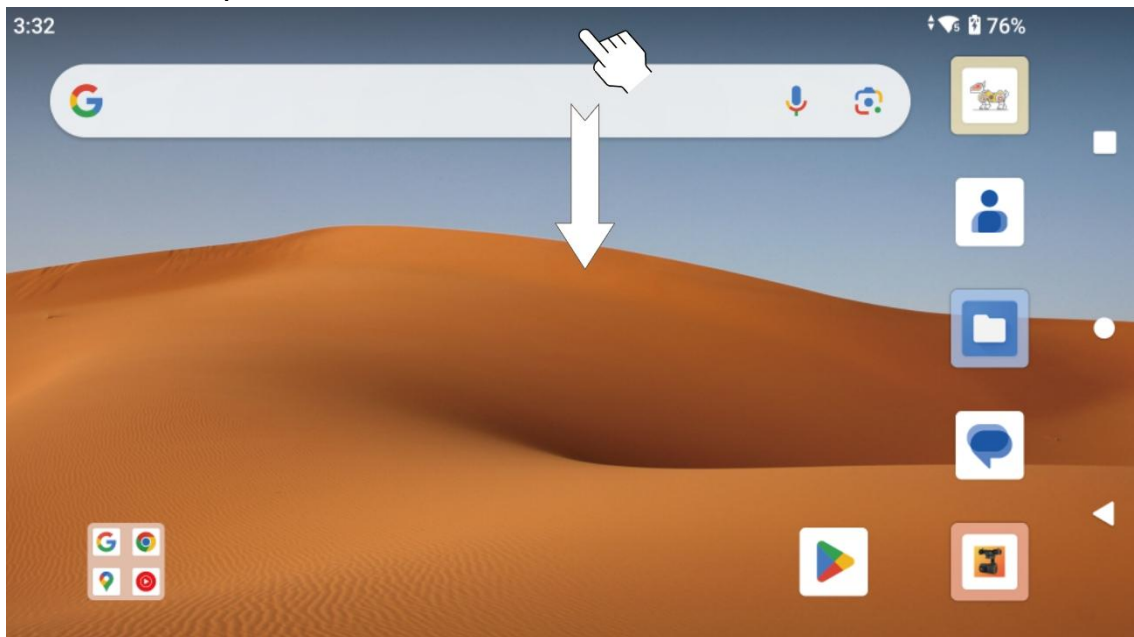


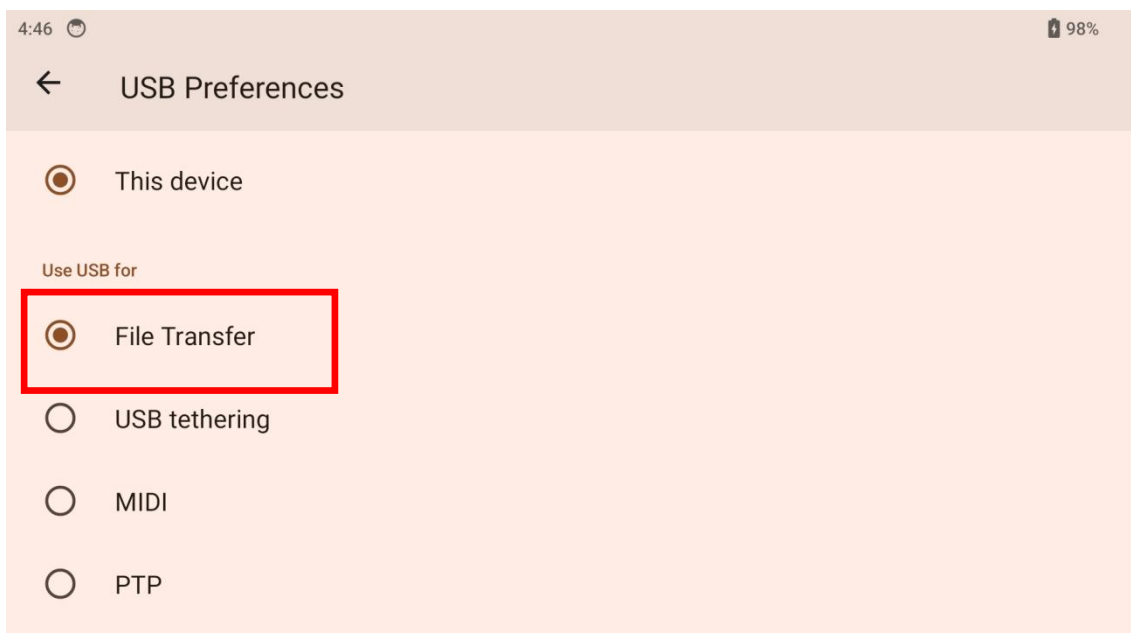
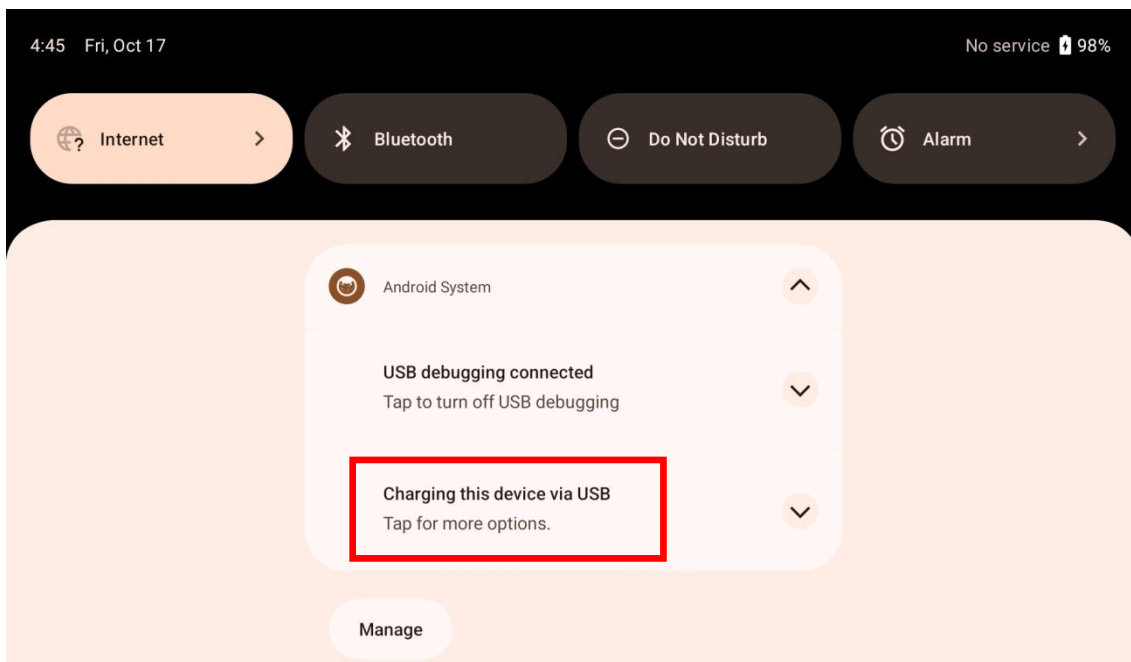




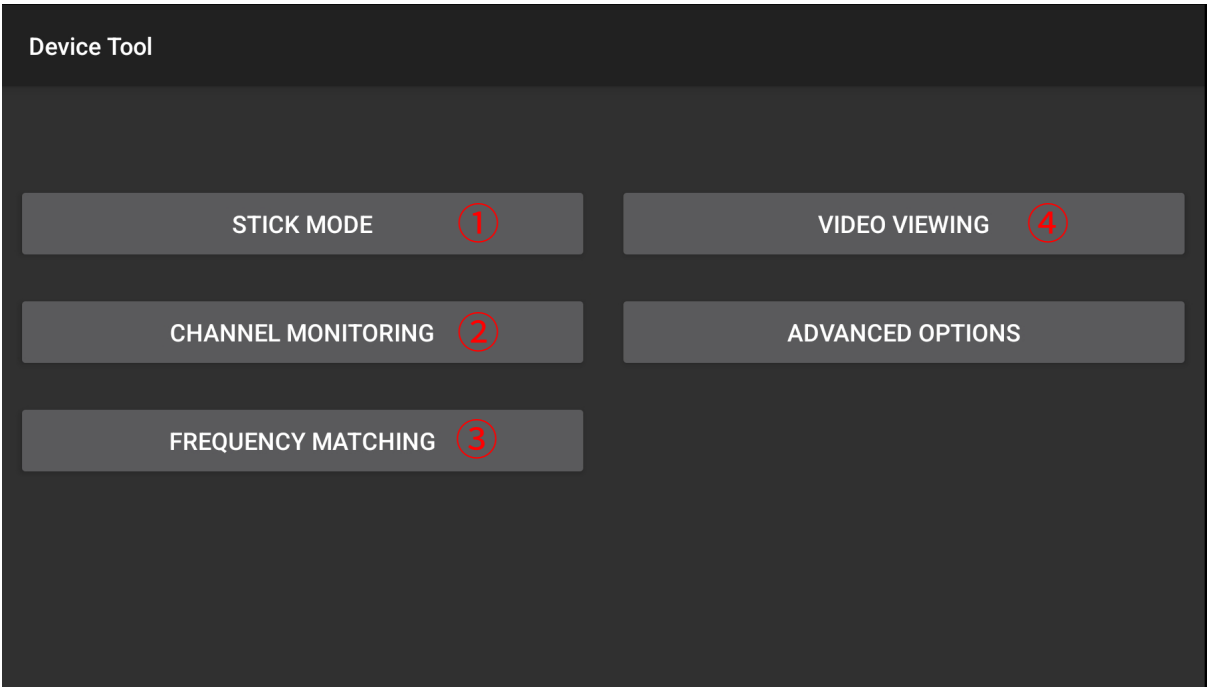
6. File Transfer with a Computer

Connect the remote controller to the computer via its Type-C port, access the Control Center, tap View More, then select Transfer Files.

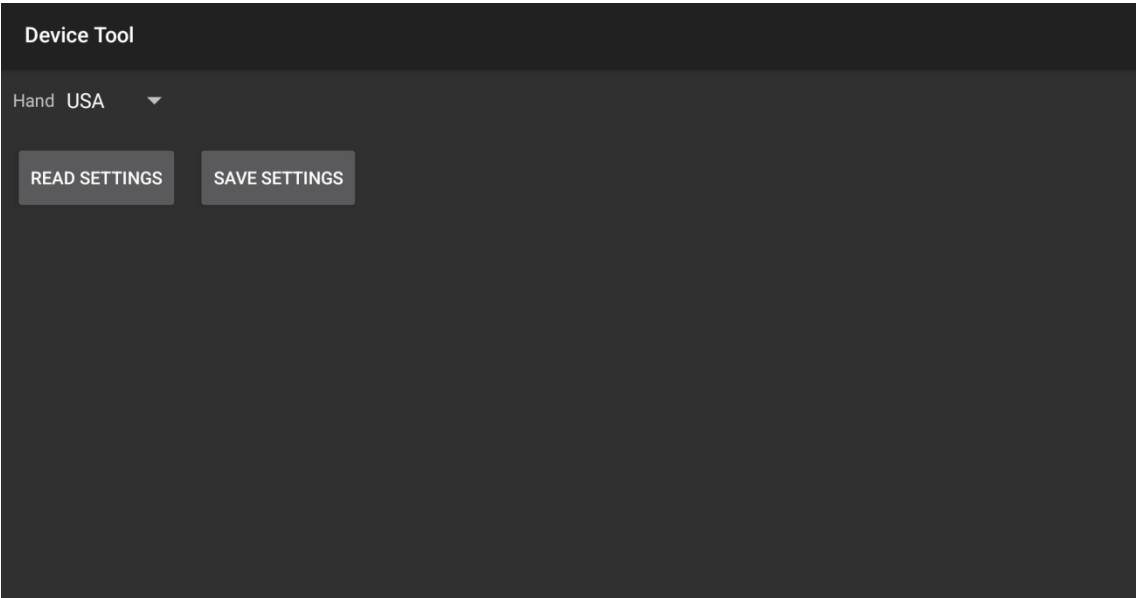




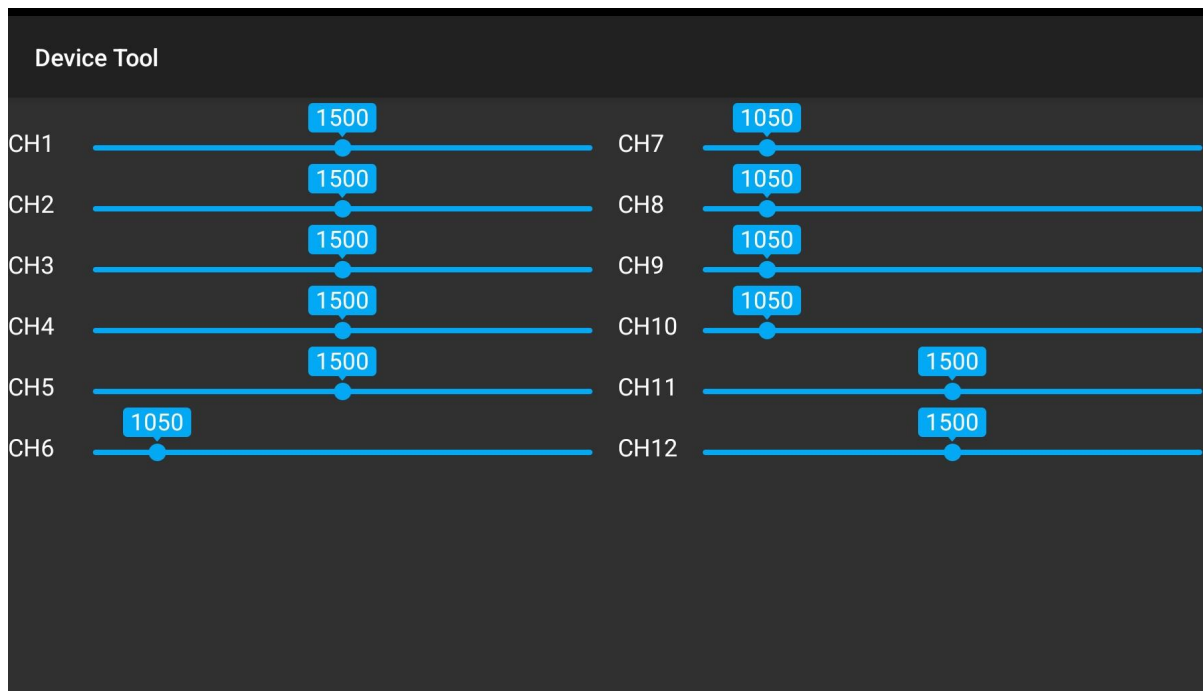
7. Introduction to Device Assistant



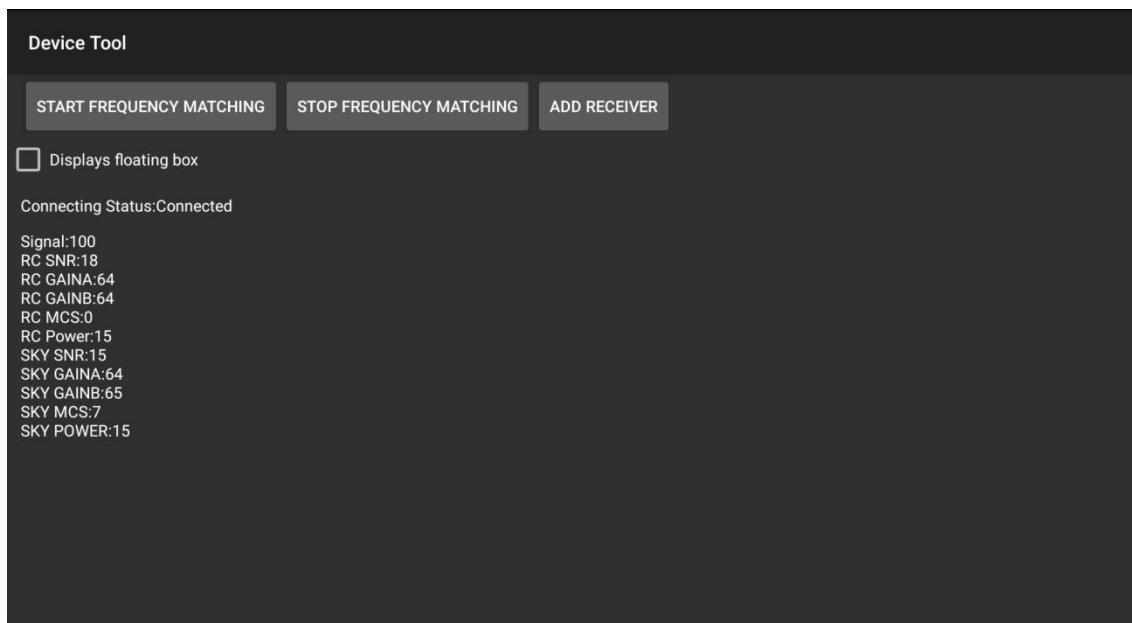
① Hand Mode Setting: The remote controller's hand mode can be set, with American Hand as the default.



② Servo Travel Check: The real-time servo travel values of each channel on the remote controller can be viewed.

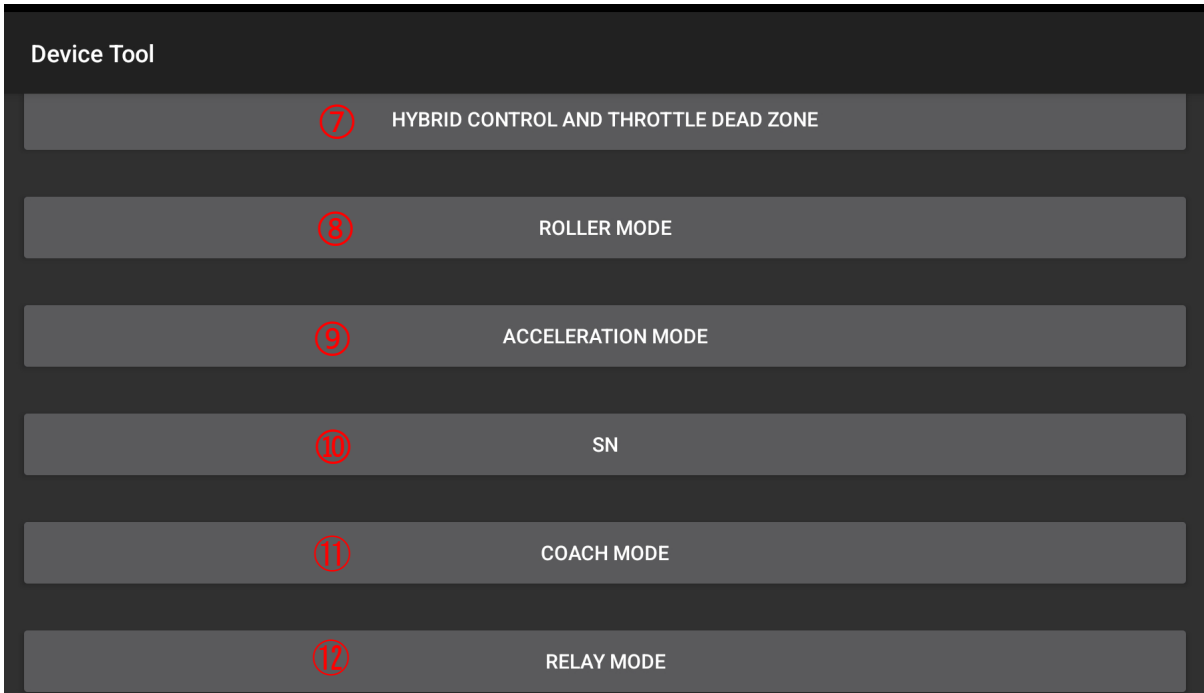
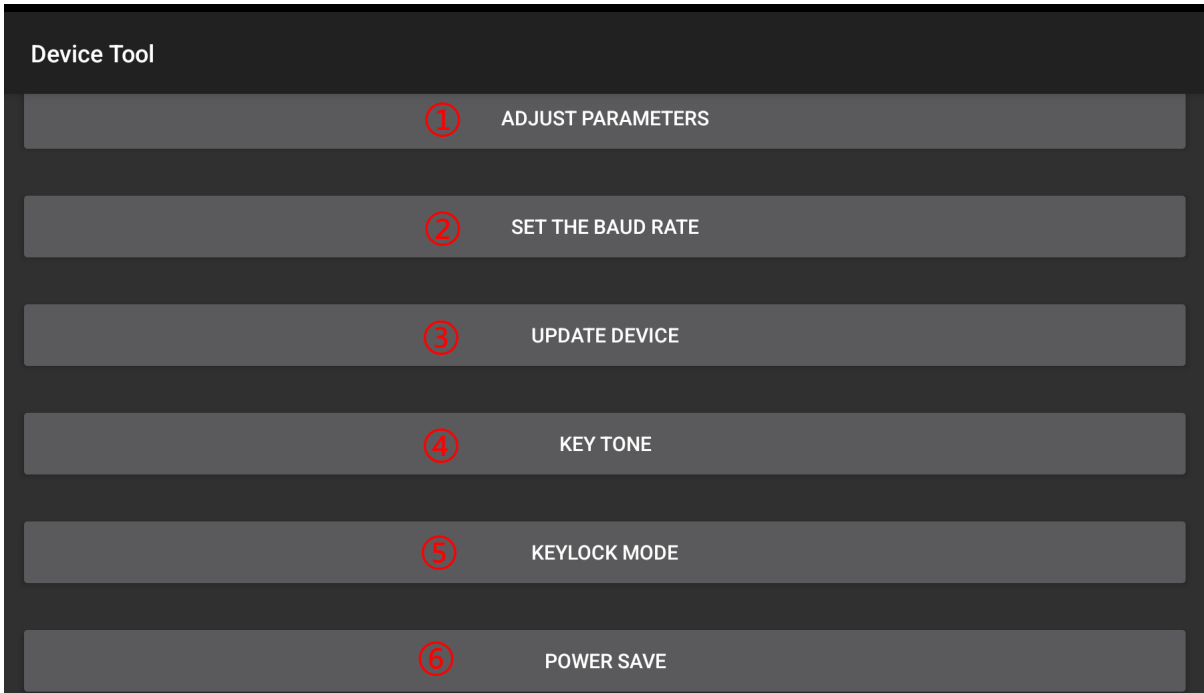


③ Frequency Pairing: The frequency pairing status and frequency pairing information can be viewed.



④ Video Viewing: The video streamed back from the camera can be viewed.

8. Device Assistant Introduction - Advanced Options (Password: 999)



- ① Remote Control Parameter Adjustment: You can customize button channels, set reversal, and modify the maximum and minimum servo travel values.

The screenshot shows the 'Device Tool' interface with four channels listed. Each channel has a button label, a reversal toggle, and minimum/maximum servo travel values.

Channel	Button	Reverse	Min	Max
Channel1	X2	☐ Reverse	1050	1950
Channel2	Y2	☐ Reverse	1050	1950
Channel3	Y1	☐ Reverse	1050	1950
Channel4	X1	☐ Reverse	1050	1950

- ② Baud Rate Setting: Modify the baud rate of the receiver's serial port.

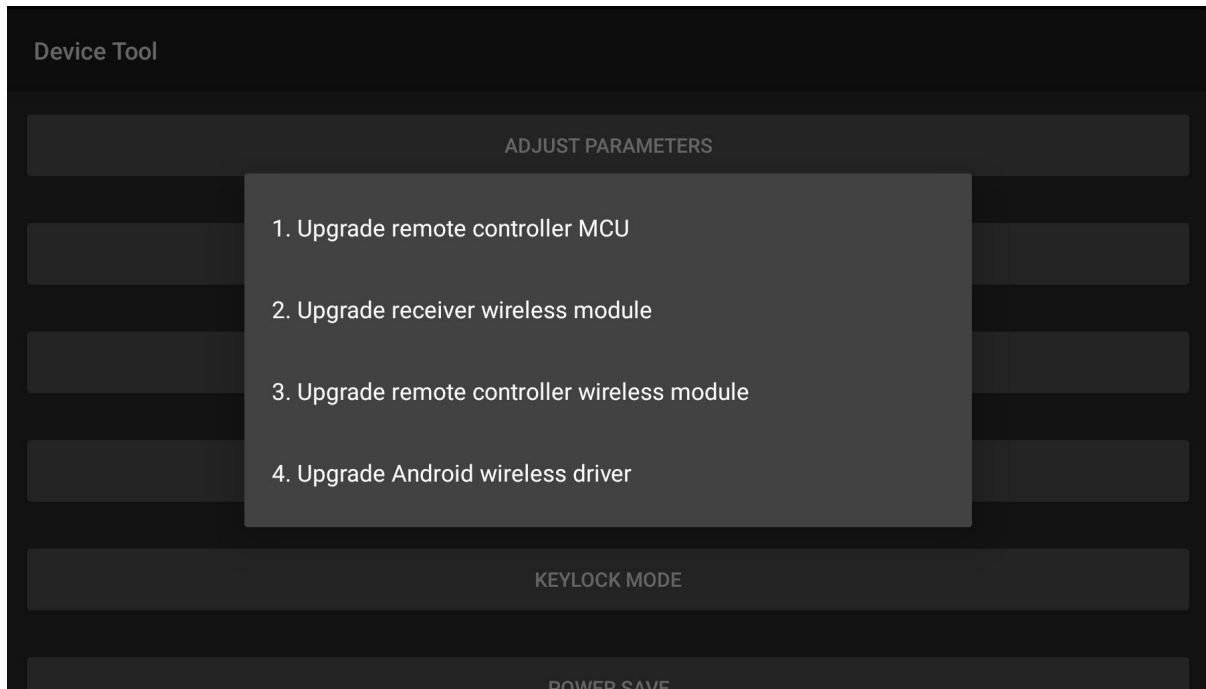
The screenshot shows the 'Device Tool' interface with the 'UART 0' dropdown menu open, displaying a list of baud rates to select from.

UART 0 ▼ Please Input Baud Rate

READ SETTINGS

- 9600
- 57600
- 115200
- 921600

- ③ Device Upgrade: Upgrade the MCU firmware and wireless module firmware.



- ④ SN: View the SN of the remote control.



9. Remote Controller Frequency Pairing

Receiver 1: GR01

Method 1:

- ① Power on the remote controller and power up the receiver. After power-up, the green light stays on, the blue light flashes intermittently, and the fan runs intermittently.
- ② Press and hold the receiver's pairing button until the blue light flashes rapidly, then release it.
- ③ Open the Device Assistant on the remote controller, tap Pairing → Start Pairing, confirm the pairing, and wait for the "Pairing Successful" prompt.
- ④ Upon successful pairing, the receiver's indicator light will stay solid blue.

Method 2:

- ① Power the receiver on and off quickly four times, then power it on a fifth time to activate the pairing mode. The blue light will flash rapidly.
- ② Open the Device Assistant on the remote controller, tap Pairing → Start Pairing, confirm the pairing, and wait for the "Pairing Successful" prompt.
- ③ Upon successful pairing, the receiver's indicator light will stay solid blue.

Note: Keep the remote controller and receiver within 50 cm during pairing.

Receiver 2: G12 RX

Method 1:

- ① Power on the remote controller and power up the receiver. After power-up, the red light stays on and the green light flashes intermittently.
- ② Short-circuit the GND and KEY pins of the receiver until the green light flashes rapidly, then release.
- ③ Open the Device Assistant on the remote controller, tap Pairing → Start Pairing, confirm the pairing, and wait for the "Pairing Successful" prompt.
- ④ Upon successful pairing, the receiver's indicator light will stay solid green.

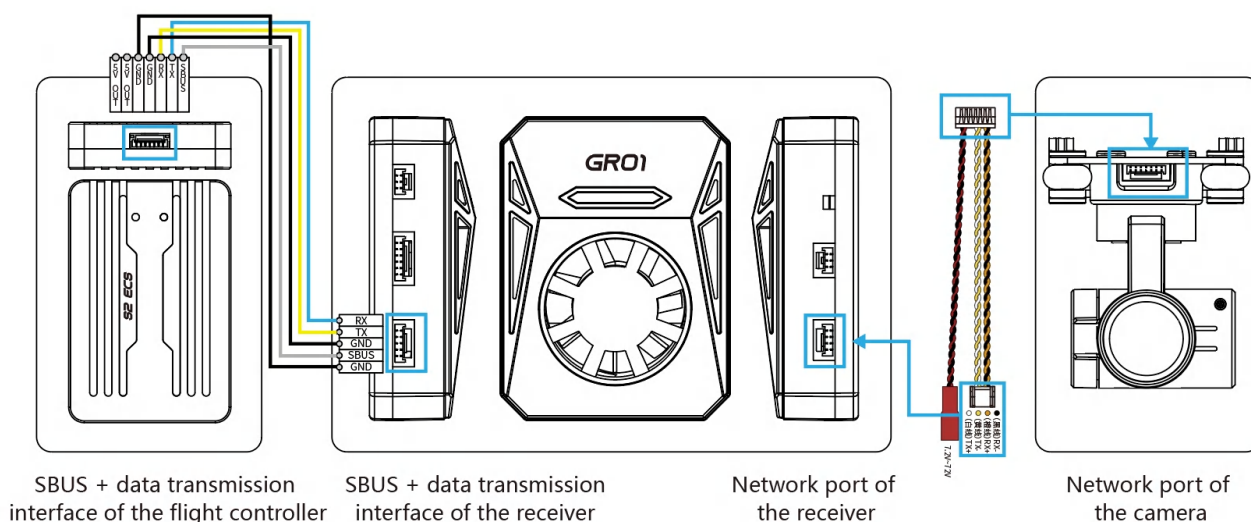
Method 2:

- ① Power the receiver on and off quickly four times, then power it on a fifth time to activate the pairing mode. The blue light will flash rapidly.
- ② Open the Device Assistant on the remote controller, tap Pairing → Start Pairing, confirm the pairing, and wait for the "Pairing Successful" prompt.
- ③ Upon successful pairing, the receiver's indicator light will stay solid blue.

Note: Keep the distance between the remote controller and the receiver within 50 cm during pairing.

Image and Data Transmission Connection

Receiver 1: GR01

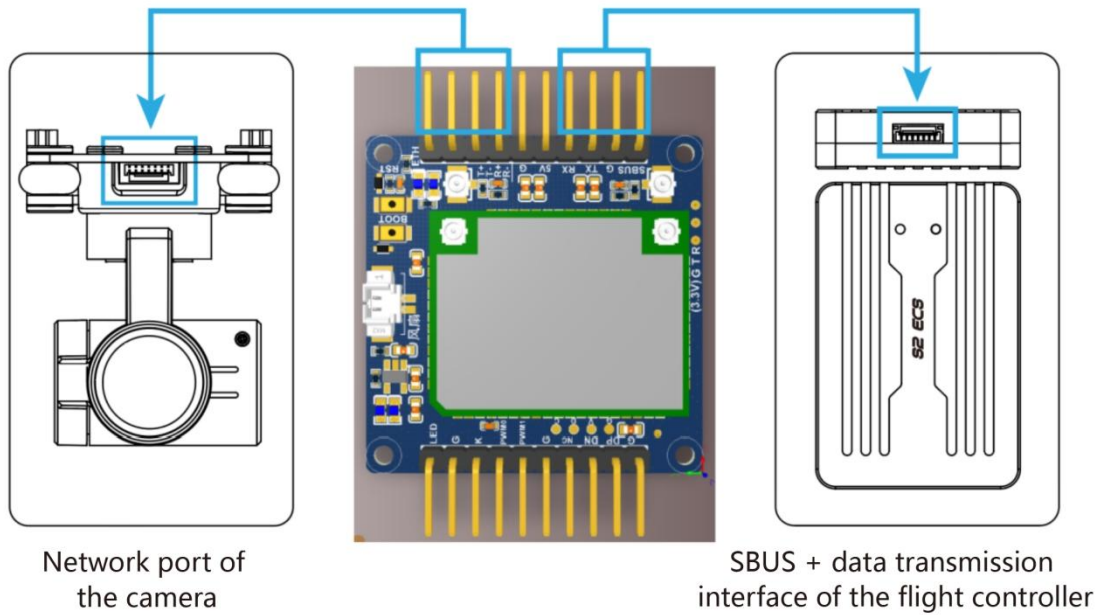


Wiring Instructions:

Connect according to the diagram above: connect the SBUS + data transmission interface of the receiver to the SBUS + data transmission interface of the flight controller, and connect the network port of the receiver to the network port of the camera.

Note: For device power supply and other wiring, please refer to the corresponding instruction manual.

Receiver 2: G12 RX



Wiring Instructions:

Connect according to the diagram above: connect the SBUS + data transmission interface of the receiver to the SBUS + data transmission interface of the flight controller, and connect the network port of the receiver to the network port of the camera.

(1) Image Transmission



Example: Skydroid C10Pro

For the Skydroid C10Pro camera: Power on the camera and connect it to the receiver's network port. Then, open the gimbal's FPV (First-Person View) function to view the image transmission feed.

If using a third-party camera:

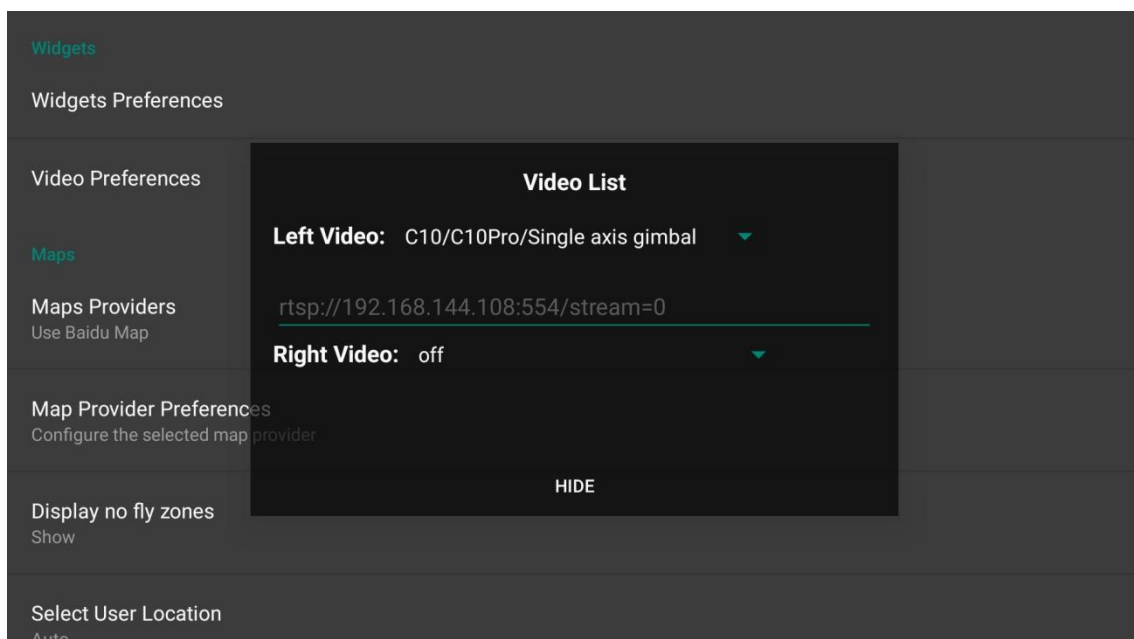
First, set the camera's network segment to the 144 segment (i.e., IP address in the range of 192.168.144.XXX).

Open the Device Assistant on the remote controller, select Video Viewing, tap the Settings button at the bottom, go to Video Stream Address, and choose Customize. Enter the RTSP (Real-Time Streaming Protocol) pull stream address of the camera.

Note: The RTSP address for third-party cameras must be obtained from the camera manufacturer.

If using FLY GCS (Ground Control Station):

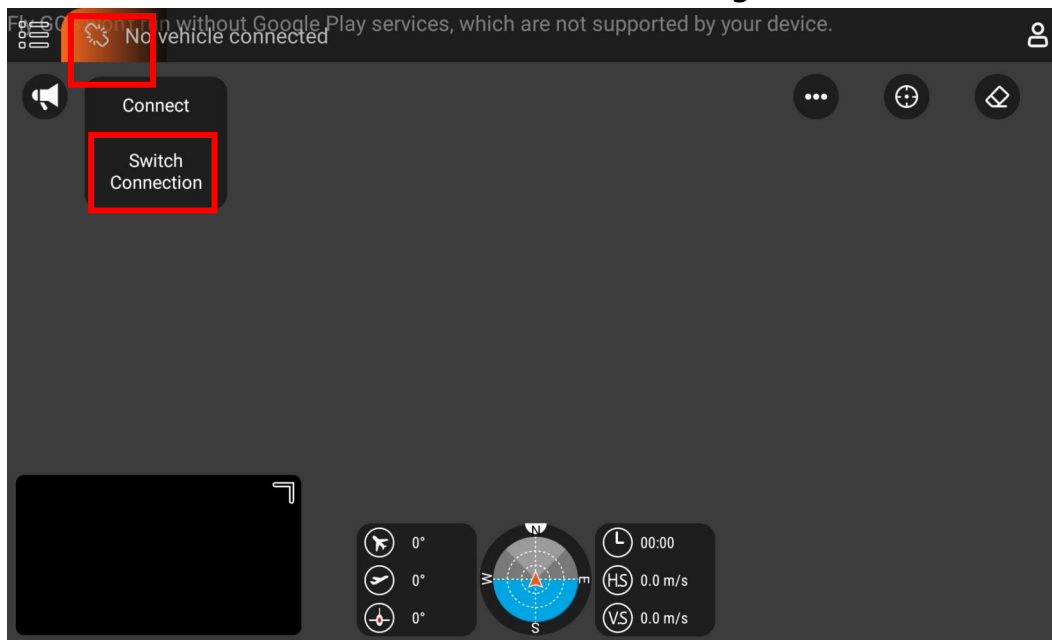
Navigate to Common Settings → Other Settings → User Interface → Video Window, and select C10 to enable the video feed.



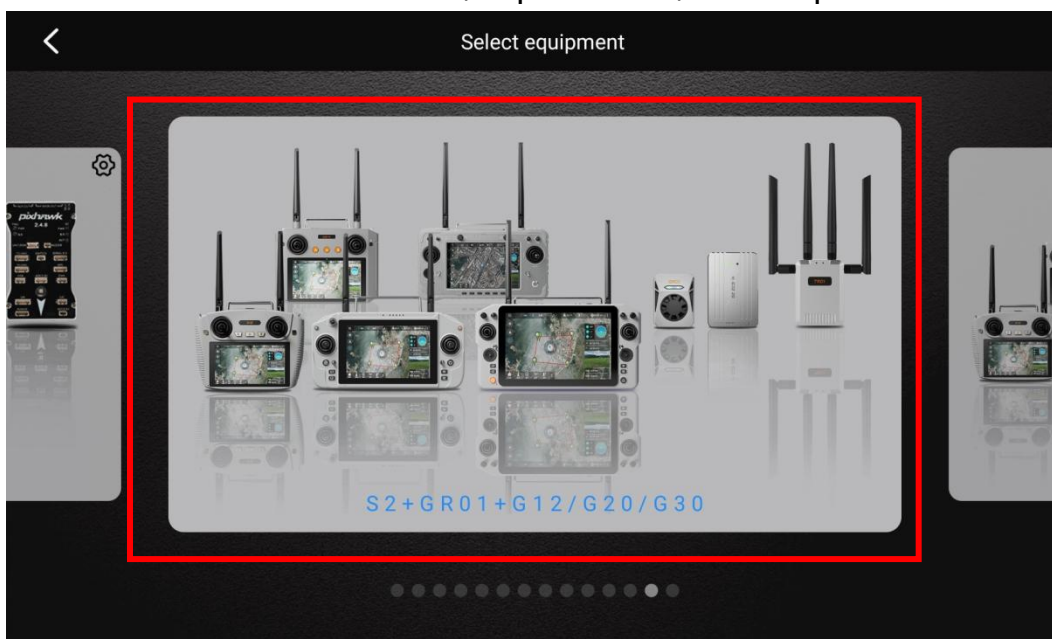
Remote Controller Hotspot Sharing for Image Transmission (Requires meig version 20241130 or later)

(2) Data Transmission

Take Skydroid FLY GCS as an example: Enter the ground control station, tap the top-left corner, and access the connection switching interface.



Select the "S2 + G12" combination, tap to enter, then tap Connect.



Note: If the connection fails, please check the following:

- ① Whether the serial port baud rate of the receiver is consistent with that of the flight controller's data transmission port; (The baud rate of the S2 flight controller is 921600.)
- ② Whether the data transmission wiring definition is correct (connect RX to TX).

10. How to Display Data Transmission and Image Transmission on the G12 Remote Controller's QGroundControl Ground Station

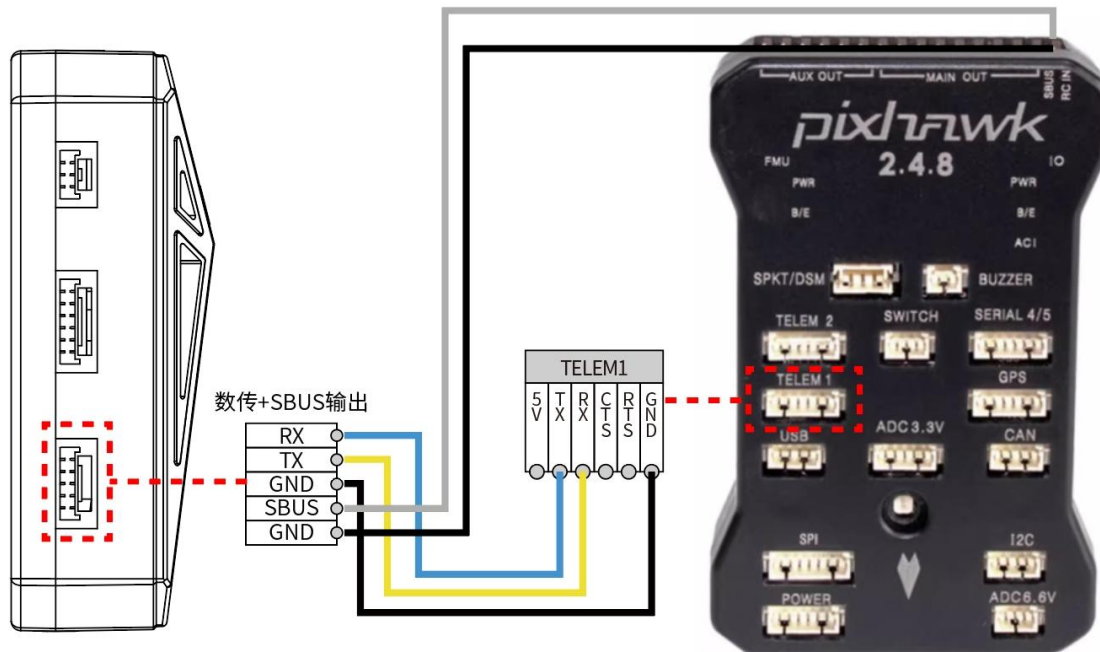
Connect the open-source flight controller's data transmission cable to the receiver's data transmission port. Take the QGroundControl (hereinafter referred to as QGC, current version: V4.4.3 64-bit) ground station as an example to connect the data transmission. The official QGC download link is: <http://qgroundcontrol.com>

Note: The S2 flight controller can only use the Skydroid FLY ground station; do not connect it using QGC.

Schematic Diagram of Open-Source PIX Flight Controller SBUS + Data Transmission Connection:

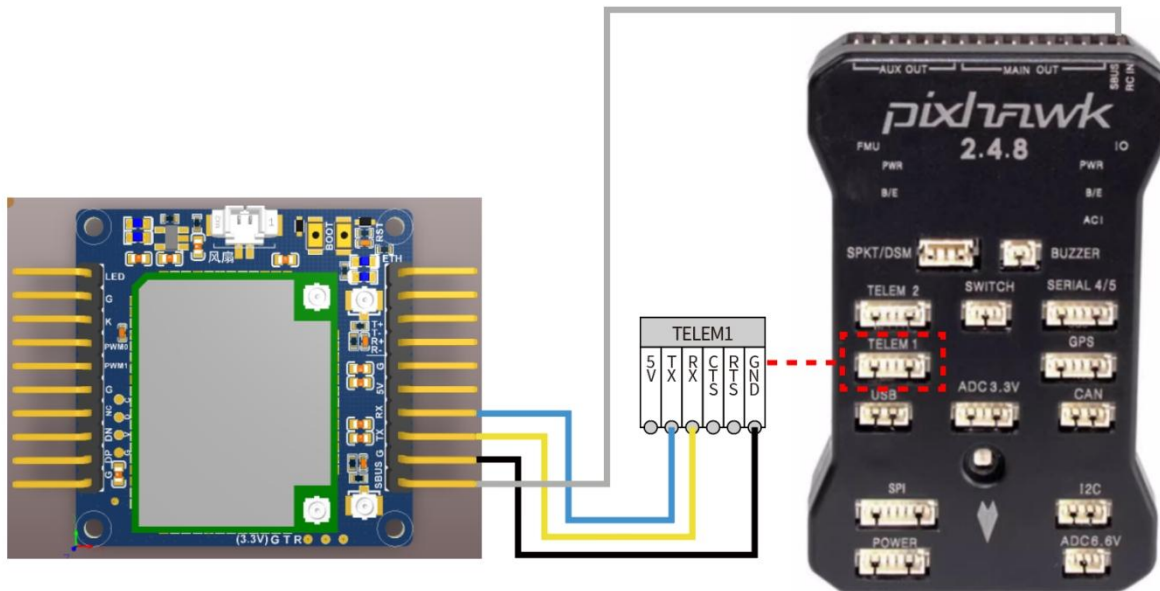
GR01

PIX飞控



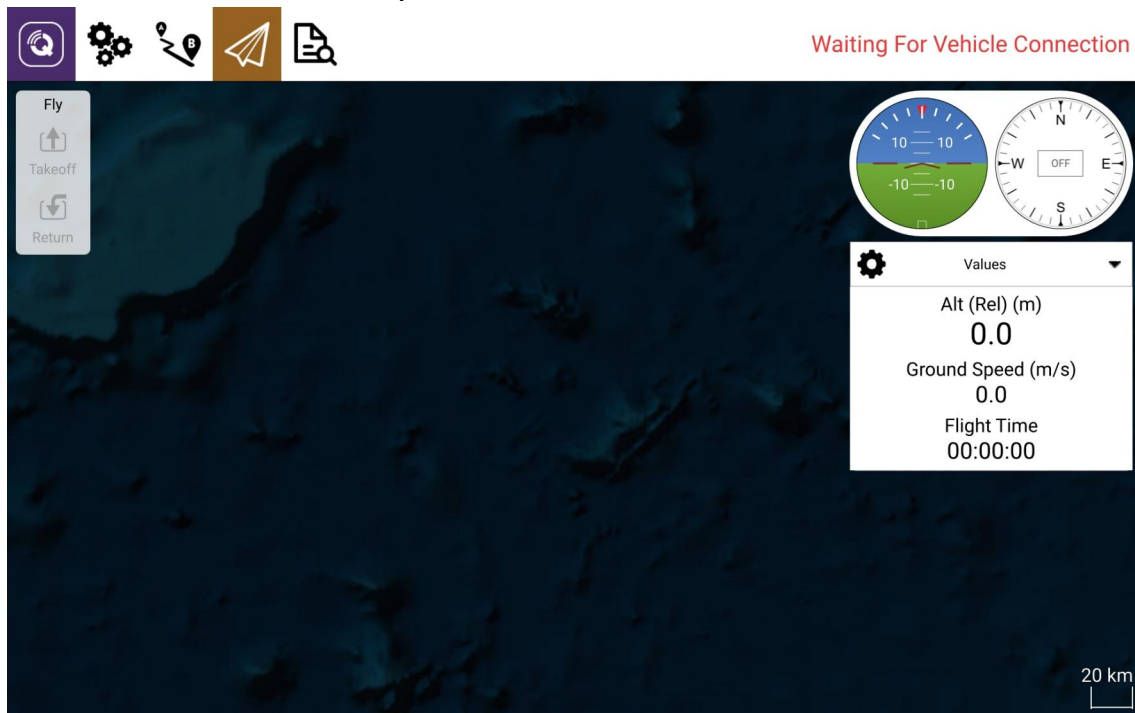
G12 RX

PIX飞控

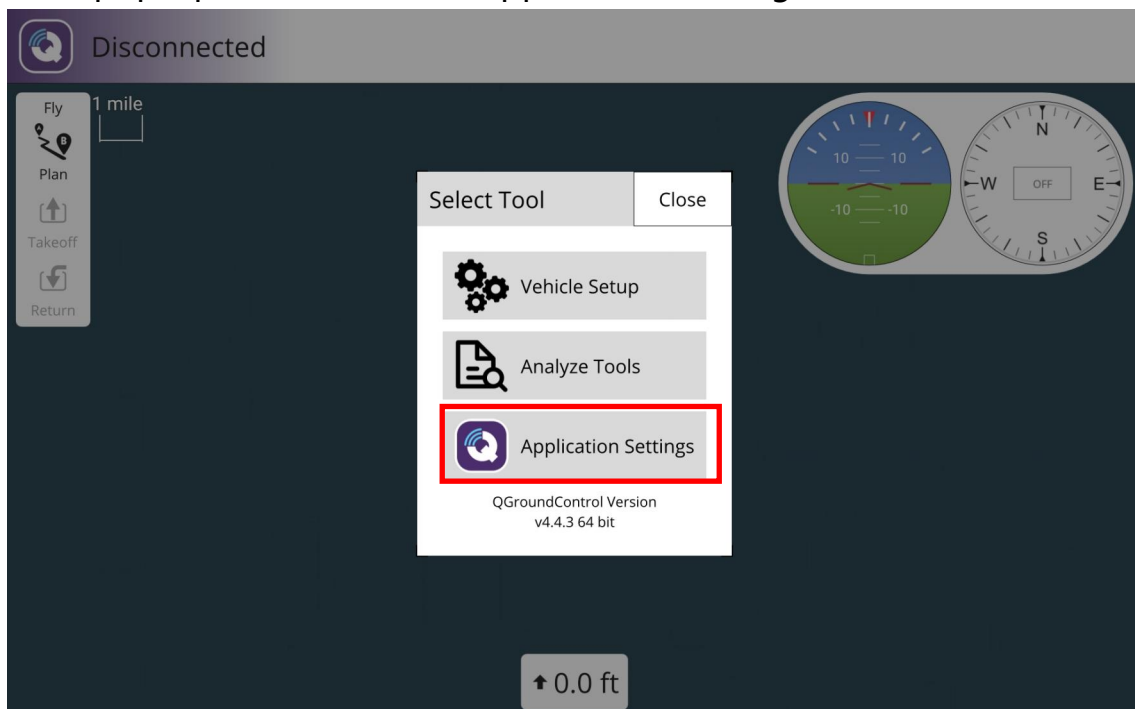


11. QGC Data Transmission Settings

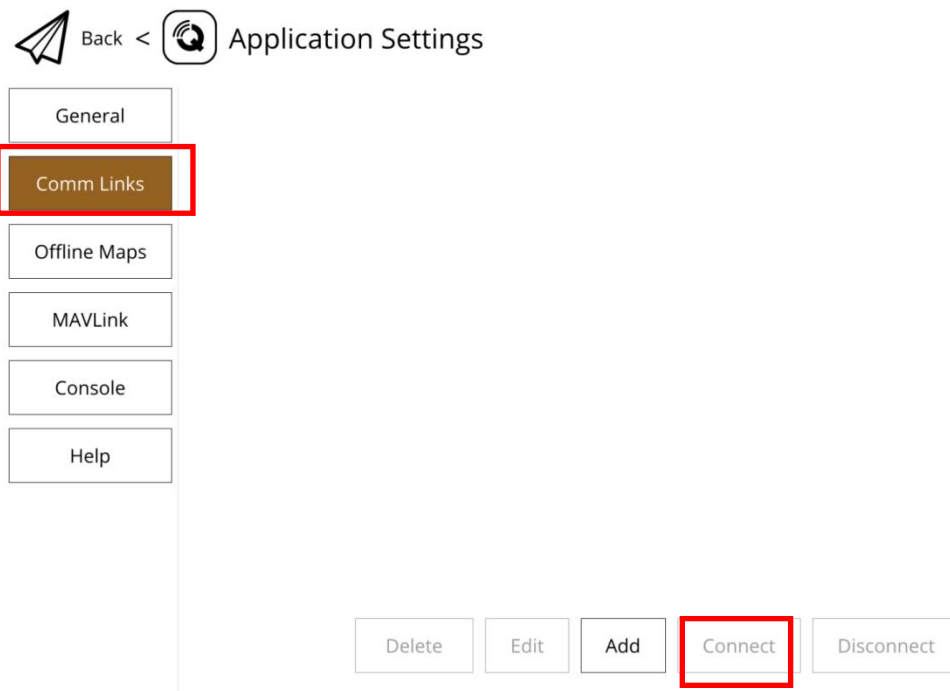
(1) Click the Q icon in the top-left corner of QGC.



(2) In the pop-up window, select Application Settings.



(3) Click Comm Links, then click Add.



(4) Data transmission settings:

- ① Add a name in the NAME field;
- ② Check Auto-connect on start;
- ③ Open the Type (connection method) dropdown and set it to UDP;
- ④ Set Port to 14551;
- ⑤ Enter the data transmission IP address in the box under Server Addresses:
127.0.0.1:14552;
- ⑥ Click Add Server;
- ⑦ Click OK.



Back <



Application Settings

General

Comm Links

Offline Maps

MAVLink

Console

Help

Create New LINK Configuration

Name Udp



Automatically Connect on Start



High Latency

Type UDP

Note: For best performance, please disable AutoConnect to UDP devices on the General page.

Port 14551

Server Addresses (optional)

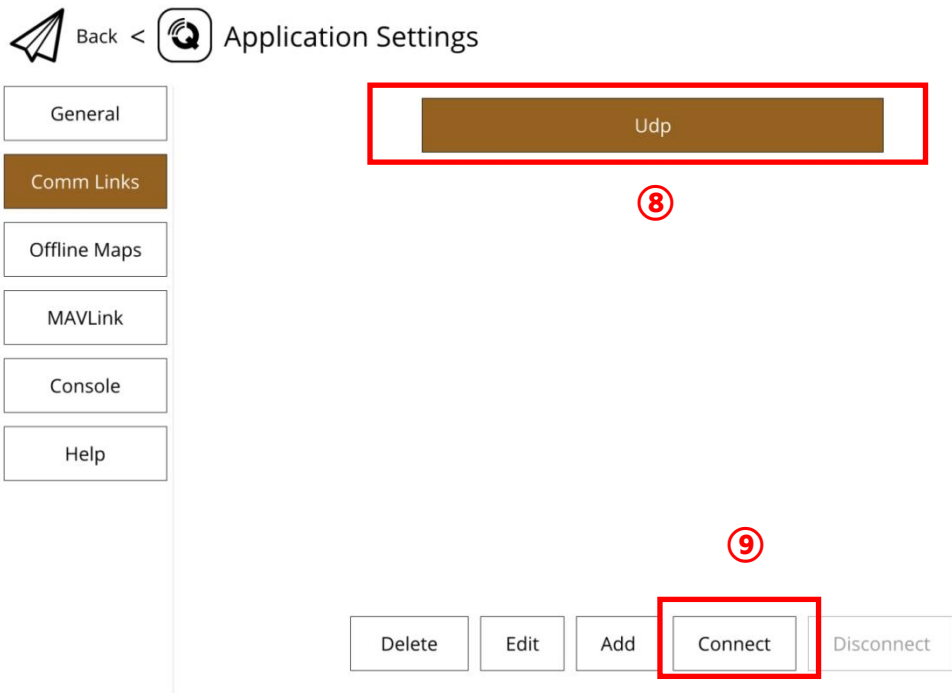
127.0.0.1:14552

Add Server

OK

Cancel

- ⑧ Select the UDP you just named;
- ⑨ Then click Connect.

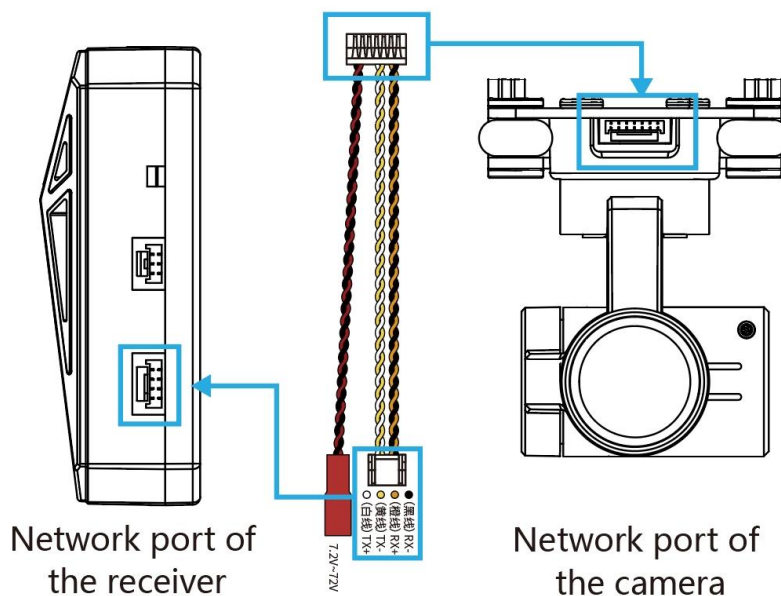


(5) Establish a normal connection with the flight controller's data transmission.

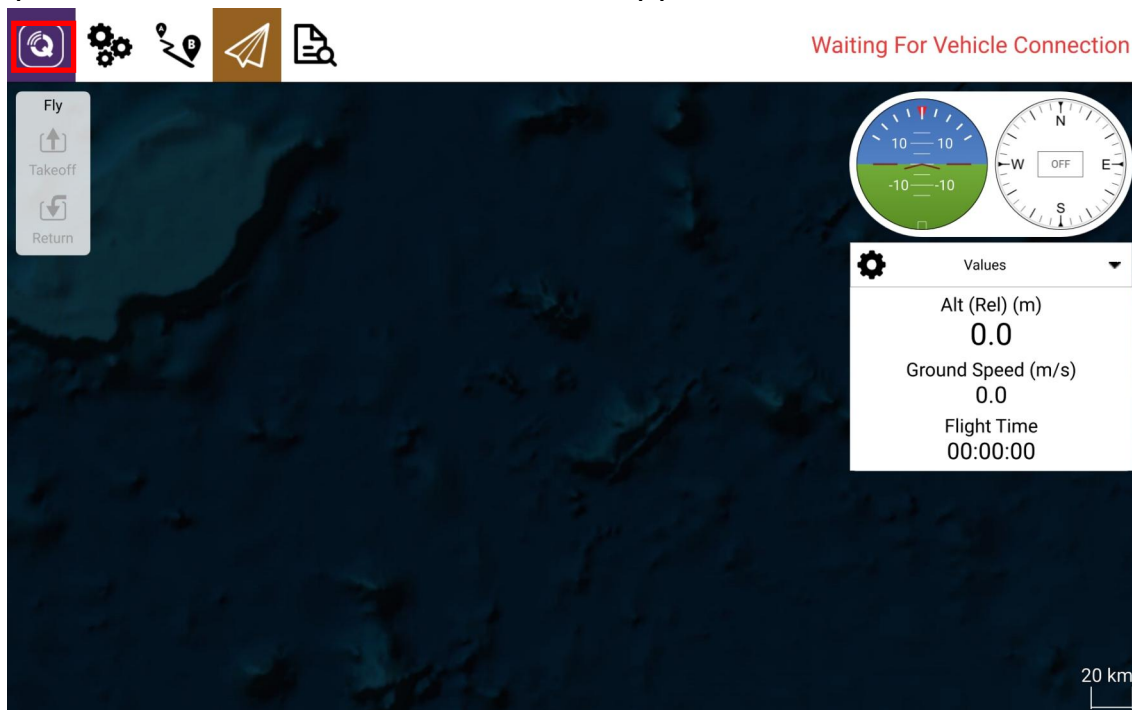


12. QGC Image Transmission Settings

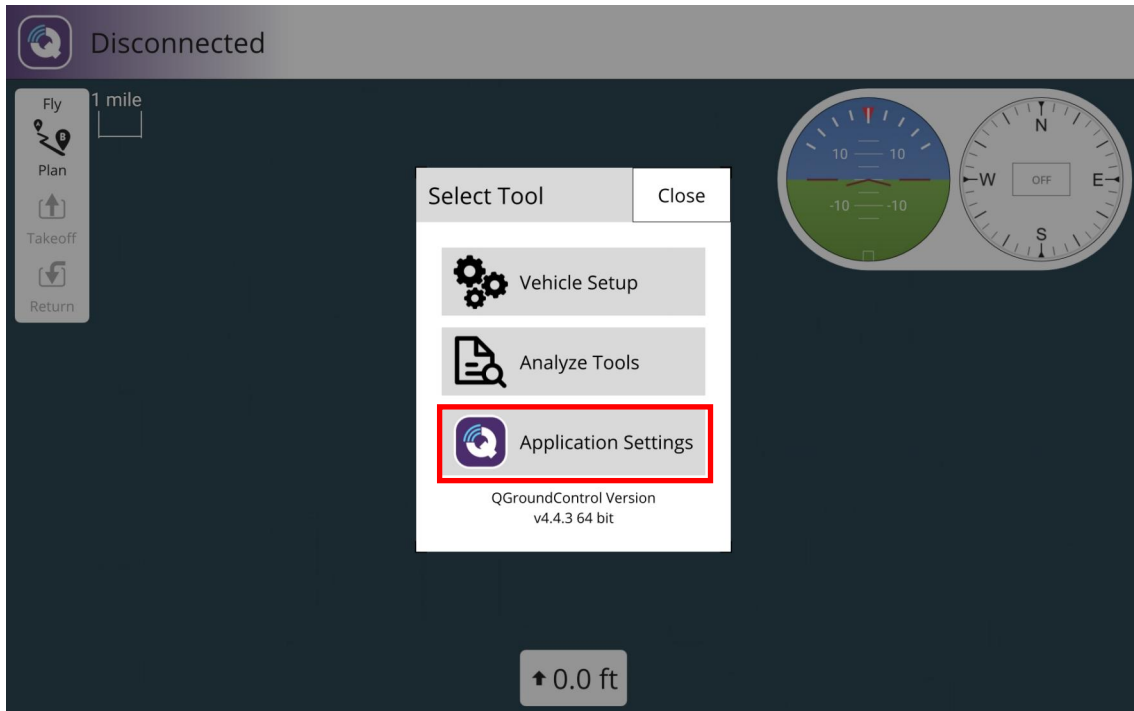
Take the G12 remote controller's QGC ground station as a reference example to connect the C10PRO camera for image transmission (the G12 Assistant background needs to be closed).



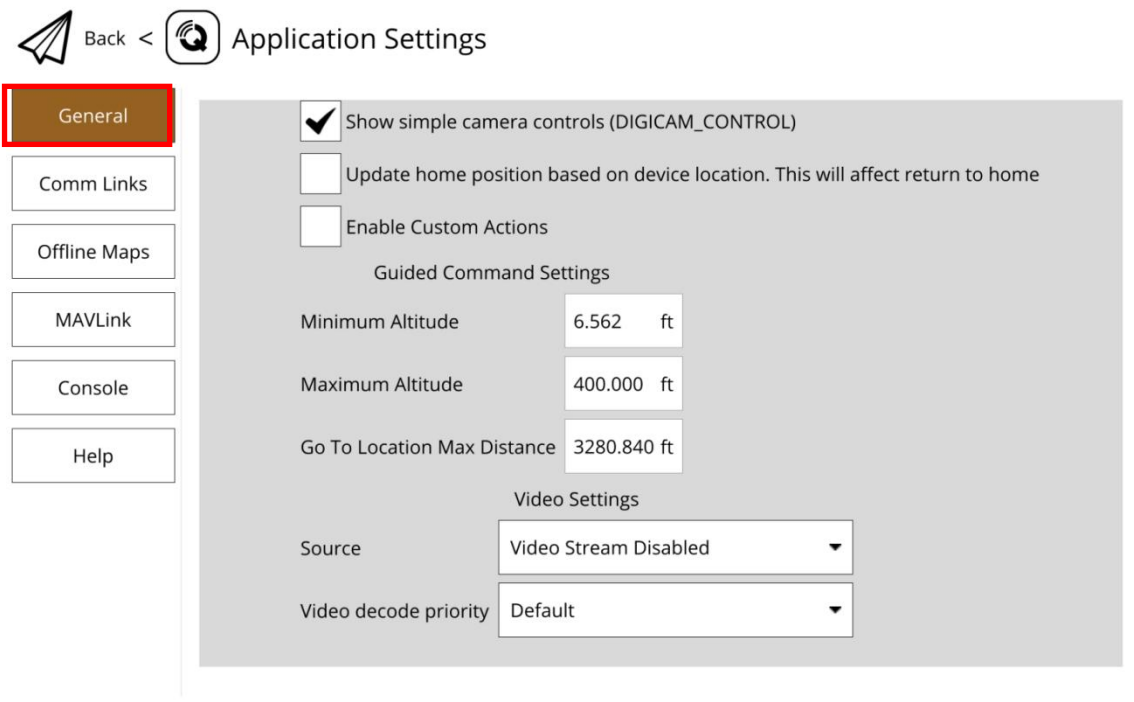
(1) Open QGC and click the Q icon in the upper - left corner of QGC.



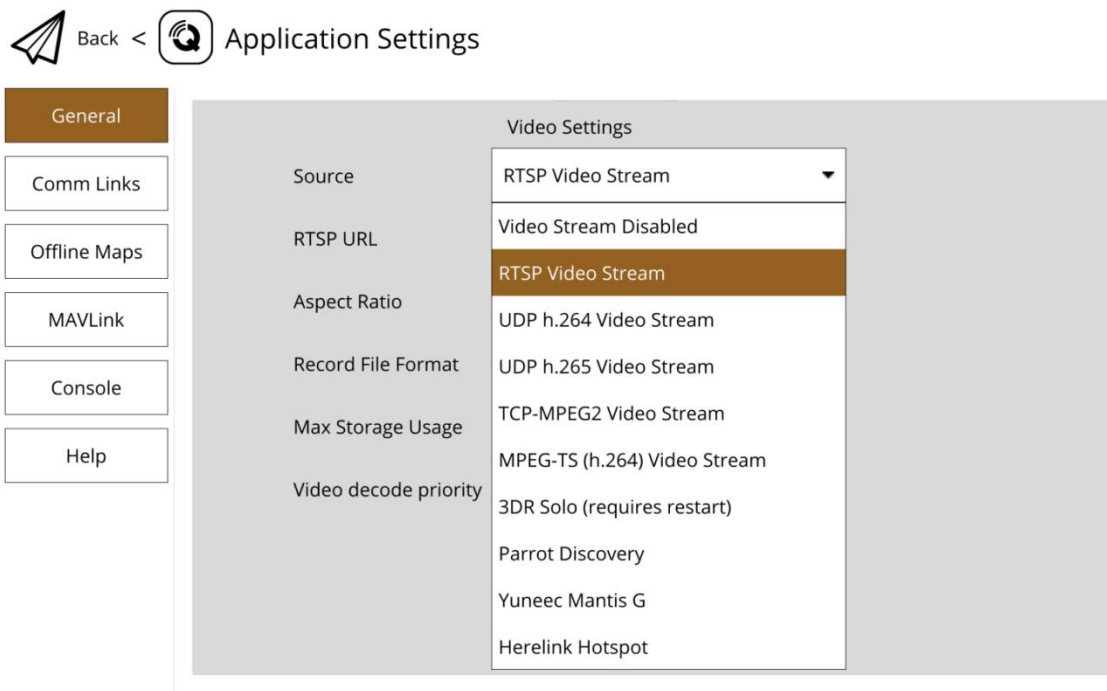
(2) In the pop-up window, select Application Settings.



(3) Click General (General Settings).



(4) Change Source (Video Source) to RTSP Video Stream.



(5) Enter the RTSP address of the network camera in the RTSP URL field.
RTSP address for C10PRO/network three-body image (requires C10PRO connection):

rtsp://192.168.144.108:554/stream=0

C12 dual-optical cameras:

rtsp://192.168.144.108:554/stream=1

rtsp://192.168.144.108:555/stream=2

C20:rtsp://192.168.144.108:554/main

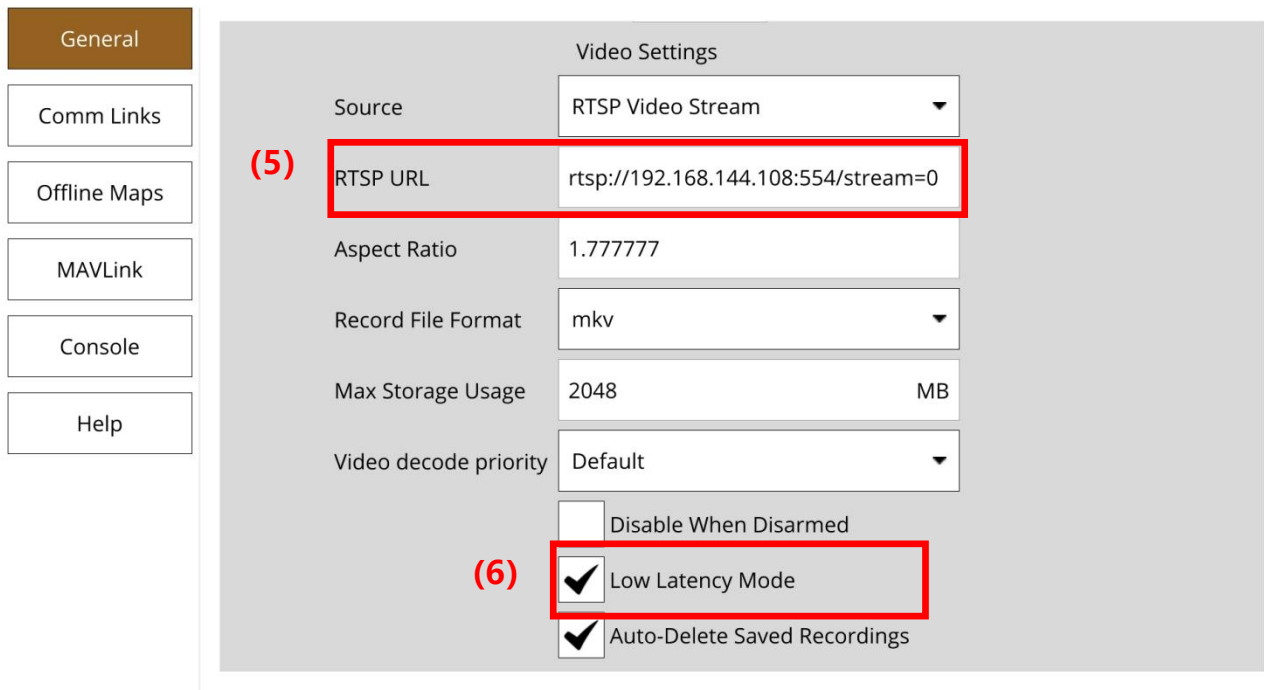
Third-party cameras only support stream pulling for display. After setting a custom configuration, enter the corresponding RTSP stream address of the camera below.

Note: The camera network segment must be set to the 144 segment.

(6) Check the Low Latency Mode option.

(7) Click the airplane icon in the top-left corner to go back to the flight page.

(7)  Back <  Application Settings

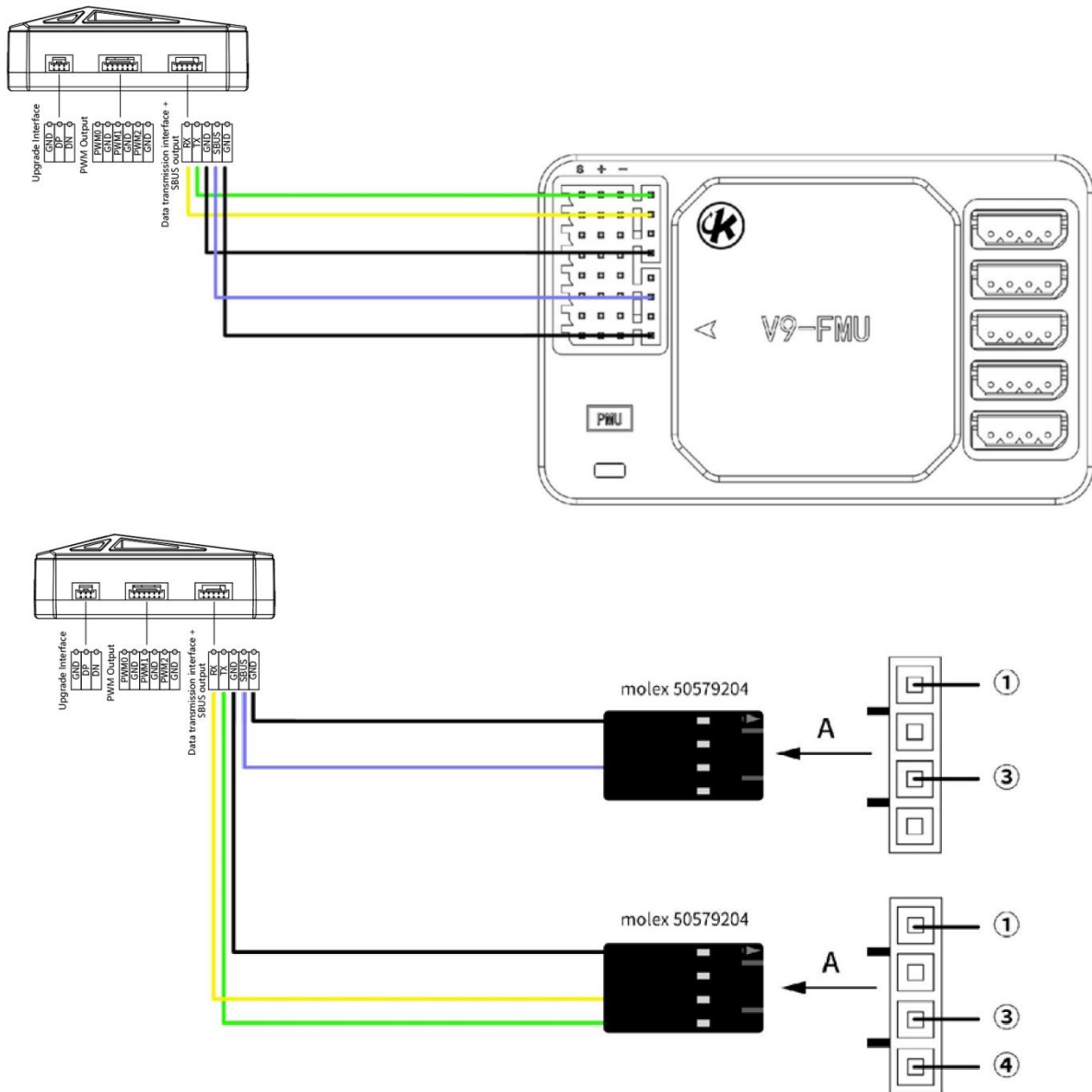


(8) Establish a normal connection with the image transmission.



13. Schematic Diagram of Third-Party Flight Controller Connection

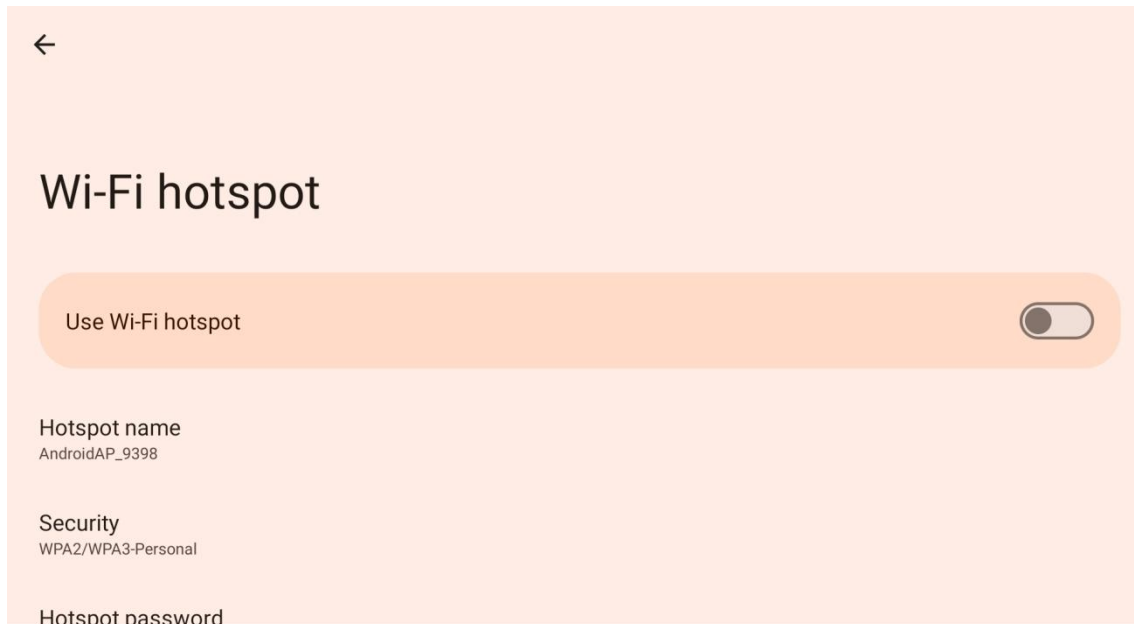
Schematic Diagram of Weike V9 Data Transmission Connecting to GR01:



Note: This tutorial uses an open-source flight controller as an example. If a third-party flight controller is used, please consult the flight controller technical support to confirm whether this connection method is supported.

14. Sharing Data Transmission and Image Transmission via Hotspot

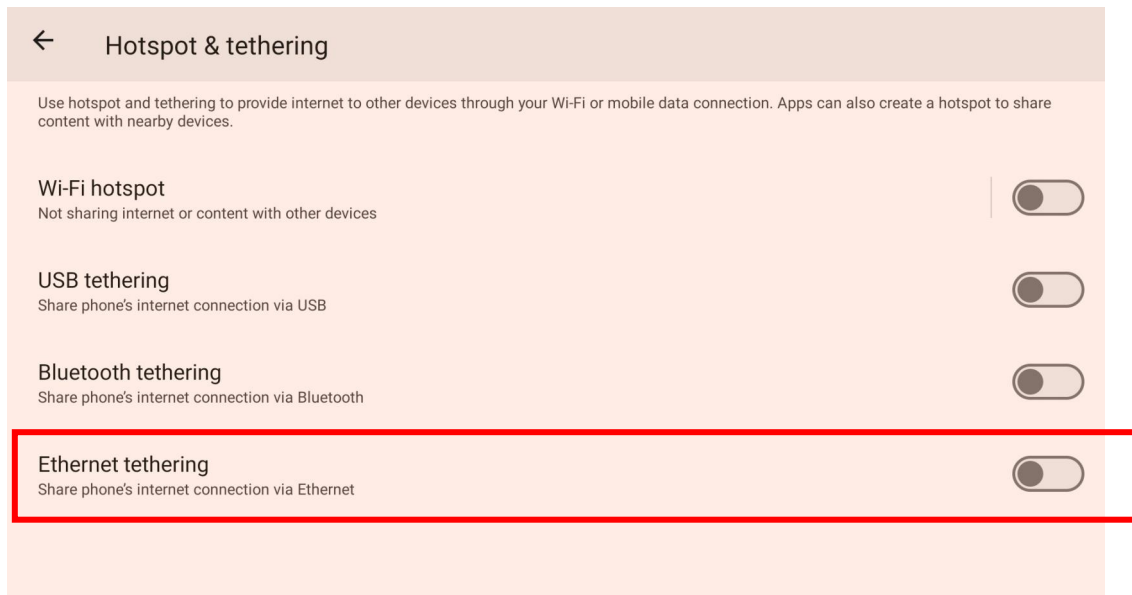
① Method 1: Open Settings -> Network & Internet -> Hotspot & Tethering -> WLAN Hotspot, enable Use WLAN Hotspot, and then connect the computer to the remote controller's hotspot.



② Method 2:

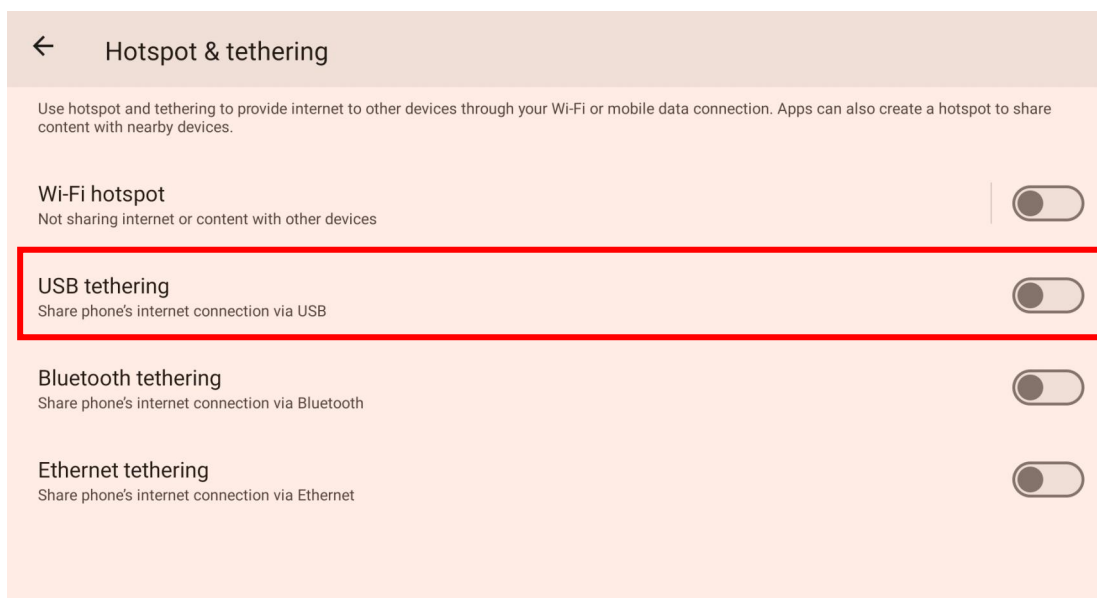
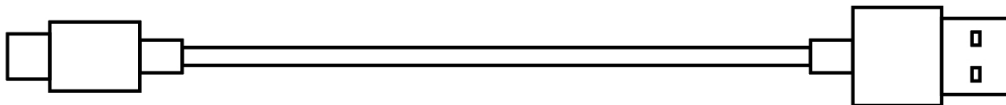
Connect the computer's Ethernet port to the remote controller's TYPE-C port using an Ethernet cable, then open Settings → Network & Internet → Hotspot & Tethering and enable Ethernet Tethering.





③ Method 3:

Connect the computer's TYPE-A port to the remote controller's TYPE-C port using an A-to-C data cable, then open Settings → Network & Internet → Hotspot & Tethering and enable USB Tethering.

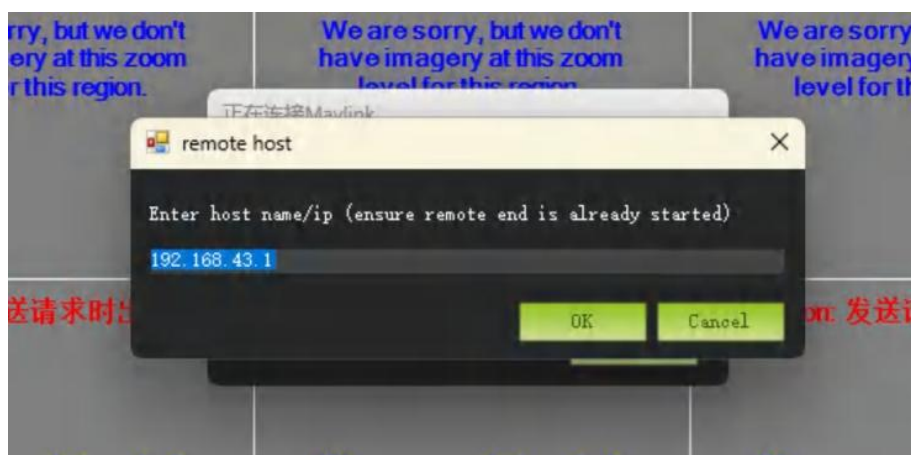


15. Sharing Data Transmission (Requires Android System Version 20250110 or Later)

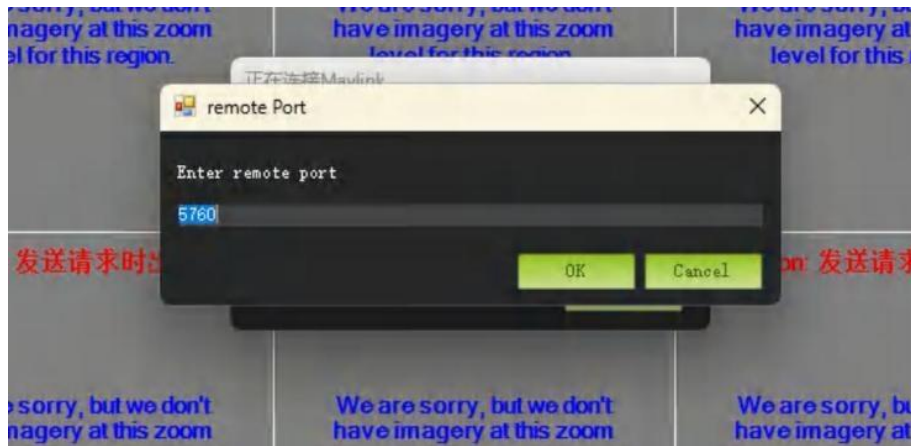
After successfully connecting via one of the three methods mentioned above, open Mission Planner and select TCP as the connection method.



After clicking Connect, enter the IP address 192.168.43.1 and click OK once finished.



Enter the port number 5760 and click OK to connect to the data transmission.



16. Sharing Image Transmission (Requires Android System Version 20250110 or Later)

After successfully connecting via one of the three methods mentioned above, launch the VLC media player on your computer. In the Media menu, select Open Network Stream, then enter the camera's stream address as shown in the figure below to enable image transmission sharing.

Note: When using a third-party camera, you need to set the camera's gateway to 192.168.144.11 to share the image transmission.



①Parameter

G12 Remote Control Parameters			
Display	5.5 inch high brightness screen	Resolution	1920*1080
Processor	Qualcomm 6nm processor	Computer Type	Android 13
Size	194.3(L)*282.2(W)*94.9(H)mm	Weight	683g
Battery	10000mA/H	Endurance	4~8 hours
Operating Memory	4G	System Storage Memory	64G
Operating Frequency Band	2.4G/5.8G	Channels Number	12
Dynamic FM	Automatic frequency hopping	RF Power	23dBm@CE/FCC
Remote Control Distance	9KM	Operating Temperature	-10℃~55℃
Charging Interface	TYPE-C	External Interface	Serial port, USB port, SIM card slot, TYPE-C

GR01 receiver parameters			
Frequency band	2.4G/5.8G	Serial Baud Rate	57600/115200/921600
Supply Voltage	7.2-72V(XT30)	Operating Current	12V/300mA
Data Transmission Port	1 channel	Empty port rate	Default Uplink:200 kbps (Upload mode:≤17.7 Mbps)Downlink:15 Mbps (Download mode:≤30 Mbps)Note:Enabling the upload/download mode of the assistant will affect communication distance .It is recommended for short- range use only.
Network port	1 channel	Dimension	45.5(L)*60(W)*21.5(H)mm
SBUS output	1 channel	Weight	37g
PWM interface	3 channels	Operating Temperature	-10℃~60℃
RF Power	23dBm@CE/FCC	Channel Bandwidth	1.25MHz/2.5MHz/5MHz/ 10MHz/20MHz/40MHz

G12 RX receiver parameters			
Frequency band	2.4G/5.8G	Serial Baud Rate	57600/115200/921600
Supply Voltage	5V	Operating Current	12V/300mA
Data Transmission Port	1 channel	Empty port rate	Default Uplink:200 kbps (Upload mode:≤17.7 Mbps)Downlink:15 Mbps (Download mode:≤30 Mbps)Note:Enabling the upload/download mode of the assistant will affect communication distance .It is recommended for short- range use only.
Network port	1 channel	Dimension	51(L)*40.8(W)*23.3(H)mm
SBUS output	1 channel	Weight	45g
PWM interface	2 channels	Operating Temperature	-10℃~60℃
RF Power	23dBm@CE/FCC	Channel Bandwidth	1.25MHz/2.5MHz/5MHz/10MHz/20MHz/40MHz

17. Related Software Downloads

RCSDK (for data transmission communication, and interfaces related to remote controllers, gimbals, and cameras):

Compatible with H12, H12Pro, H16, H16Pro, H20, H30, G12, G20, Three-body Camera (serial port version), Three-body Camera (Ethernet version), Serial Port 2-Axis Gimbal, C10, C20, C10Pro, C12, and Electronic Gimbal C01.

<https://gitee.com/skydroid/rcsdk-demo>

Image Transmission Player (supports Ethernet/serial port image transmission):

<https://gitee.com/skydroid/fpv-player-demo>

DEMO: <https://gitee.com/skydroid/SkydroidDemo>

V. Maintenance and Warranty

Maintenance During Long-Term Storage:

Store the remote controller in a dry and well-ventilated place, and minimize direct sunlight exposure to prevent battery overheating. If storage is required for more than three months, the recommended storage temperature range is 22°C to 28°C. Do not store the battery in an environment where the temperature is below -20°C or above 45°C.

VI. Transportation and Storage

Warning

To avoid potential injury and damage, please strictly adhere to the following items:

Keep children away from the remote controller's components, as wires and small parts may pose a hazard to children.

Note

Do not immerse the remote controller in water. If it gets wet, wipe it immediately with a soft, dry cloth and turn off the power right away.

Do not subject the battery to mechanical impact, crushing, or puncturing, and do not drop the battery.

For any updates to this manual, no separate notification will be sent. Please continue to follow the official website: <https://skydroidglobal.com>