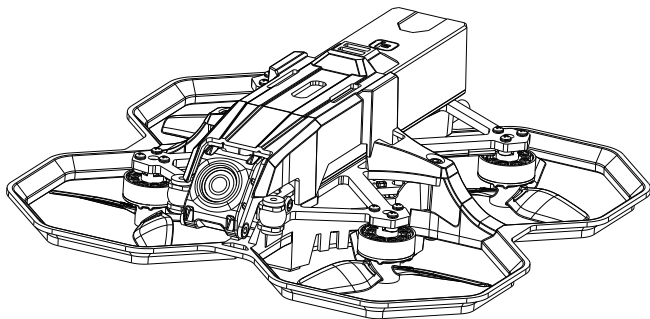


Defender 20 Lite

Quick Start Guide
快速入门指南



目录

Contents

CHS

安全概要与免责声明	1
一. 产品信息	2
1. 飞行器描述	2
2. 外观部件	2
3. 产品清单	2
二. 首次飞行准备	3
1. 飞行眼镜对频指南	3
2. 遥控器对频指南	4
三. 飞行器设置	7
四. 桨叶安装指南	8
五. 飞行前检查	9
六. 飞行操作	9
1. 遥控器基本操作	9
2. 飞行步骤	10
2.1 起飞步骤	10
2.2 降落步骤	10
注意事项	10
七. 电池使用指南	11
八. 保护罩拆卸指南	11
九. 充电转接板充电方式	12
十. 充电适配器充电方式	12
十一. 故障排除指南	13
十二. 保修政策和服务信息	14

Safety Warning & Disclaimer	15
I. Overview	17
1. Introduction	17
2. Appearance Components	17
3. Packing List	17
II. First Flight Preparation	18
1. Goggles Binding Instruction	18
2. Remote Controller Binding Instruction	19
III. Aircraft Setting	22
IV. Propellers Installation	23
V. Pre-Flight Check	24
VI. Flight Operation	24
1. Basic Remote Controller Operation	24
2. Flight Procedures	25
2.1 Takeoff Procedure	25
2.2 Landing Procedure	25
Precautions	25
VII. Battery Usage	26
VIII. Prop Guard Replacement	26
IX. Charging Method for Charging Adapter	27
X. 3-Port Type-C Charging Hub Charging Method	27
XI. Troubleshooting Guide	28
XII. Warranty Policy and Service Information	29

安全概要与免责声明

⚠警告：在使用本产品之前，请您认真阅读此手册以熟悉产品的功能。此手册包含有关安全、操作及维护的说明概要。如未正确遵循手册的操作流程，可能会造成财产损失、产品损坏或造成严重的人身伤害！

安全飞行条款

1. 年龄建议：本产品并非玩具，具有一定的风险性，不适合未满 18 岁的非专业人士使用。
2. 请放置在儿童触碰范围之外，禁止儿童触碰。
3. 禁止在饮酒、疲劳、或其他精神状态不佳的情况下进行任何操作。
4. 禁止使用飞行器搭载任何违法危险物品。
5. 禁止操控飞行器进入法律法规规定的禁飞区和敏感建筑设施附近。可能包括机场、边境线、主要城市、发电站、水电站、监狱、交通要道、政府大楼及军事设施。
6. 在进行遥控器通道校准、固件升级、参数设置前请关闭动力电源或者取下螺旋桨，防止电机高速旋转。
7. 禁止在有限高度的空域上飞行。
8. 禁止使用本产品进行任何未经授权的监视活动，侵犯他人隐私权的行为。
9. 禁止使用本产品侵犯他人物权。
10. 禁止在人口密集地区使用飞行器，这些地区包括但不限于：市区中心、体育比赛场馆、展会、演唱会、车站及临时举行活动区域。如有拍摄需求，请务必在飞行前向相关部门申请许可证。

免责声明

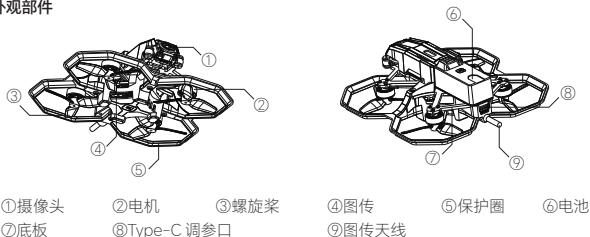
1. 本产品并非玩具，需要有一定的基础知识才能控制，所以要循序渐进，在开始使用前，请特别留意其中的注意与警告，惠州市翼飞智能科技有限公司 (iFlight) 保留更新本《免责声明与概要》的权利。
2. 在使用本产品前，请务必仔细阅读本文档，以充分了解您的合法权益、责任以及安全须知。未遵守文档中的指导可能导致财产损失、安全事故或人身伤害。通过开始使用本产品，您即表明已完全理解、接受并同意本文档的所有条款与内容，并承诺对自身行为及其所产生的一切后果承担责任。此外，您还承诺仅出于正当目的使用本产品，并同意遵守 iFlight 可能制定的任何相关政策和准则。
3. 对于因未按照官方文档指导使用产品所造成的任何损失，iFlight 概不负责。此外，无论是否事先告知可能发生的损害，iFlight 均不对因购买、使用或无法使用本产品而导致的间接、后果性、惩罚性、偶然性、特殊性或惩戒性损害承担责任。在法律允许的最大范围内，不论基于合同还是其他形式，iFlight 对您的总责任上限为您实际支付给 iFlight 的产品购买金额。
4. 在遵守相关法律法规的前提下，iFlight 保留对上述条款的最终解释权。iFlight 有权随时更新、修改或终止本注意事项中的条款内容，且无需事先通知。除非本指南的下载服务被终止，否则本注意事项将长期有效。
5. iFlight 是惠州市翼飞智能科技有限公司及其关联公司的注册商标。本文中提及的所有产品名称、品牌均为其各自所属公司的商标或注册商标。

一、产品信息

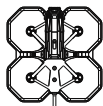
1. 飞行器描述

Defender 20 Lite 是一款 2 英寸桨叶的无人机。口袋收纳, 轻便易携; 飞行噪音低, 室内拍摄不惊扰; 配有高清图传模块, 带来更出色的 4K*1 影像能力。桨护 / 无桨护双重形态快速切换, 随走随飞。

2. 外观部件



3. 产品清单



Defender 20 Lite x1



CW顺时针桨 x2



CCW逆时针桨 x2



600mAh
95C 2S 电池 x1



防滑垫 x1



充电转接板 x1



配件包 x1



贴纸 x1



安全提示卡 x1



免责声明 x1



售后返修卡 x1

二、首次飞行准备

1. 飞行眼镜对频指南

注意：在进行调试之前，请务必保持无桨 / 卸桨状态。在确保对频以及 Betaflight*2 调试无误之后再安装桨叶。如果操作不当导致人身伤害，责任自负。请务必谨慎操作，确保安全。

1.1 天空端及飞行眼镜激活：Defender 20 Lite 飞行器连接电池，通过 USB-C 接口 [图 1-1] 连接对应设备至电脑并运行 DJI Assistant 2 (消费机系列) 调参软件 *3 进行激活与固件升级，详情请参考 DJI-O4-Air-Unit- 用户手册。

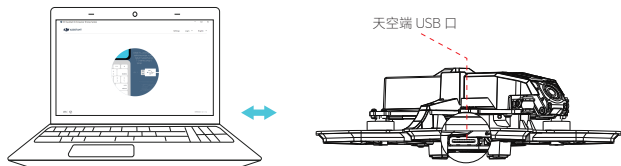


图 1-1

1.2 飞行器和飞行眼镜对频 (对频前，请确保天空端，飞行眼镜固件已激活更新至最新版本。)

- ① 分别给飞行器与飞行眼镜通电。
- ② 通电后，按下天空端的对频键 [图 1-2]，天空端对频状态指示灯红灯闪烁。
- ③ 按下飞行眼镜的对频按键，飞行眼镜响起嘀~嘀~的提示音。
- ④ 确保天空端与飞行眼镜距离在 0.5 M 以内。对频成功后，天空端对频状态指示灯绿灯常亮，飞行眼镜提示音停止并显示图传。完成天空端与眼镜的对频。

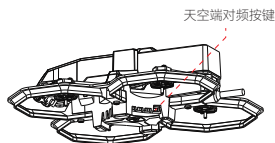


图 1-2

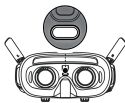


图 1-3

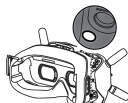


图 1-4

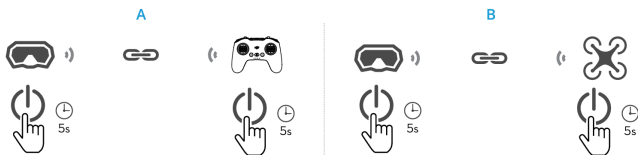
注：此为高清版本专用步骤，若飞行器为模拟版本，请移步第 2.2 部分对应接收机对频步骤

- ◆ 请避免在静置或无外部降温设备的环境下长时间使用天空端，否则产品温度过高，将导致图传中断。
- ◆ 为减少发热，天空端开机后默认处于低功耗状态，此时图传性能未达正常规格。飞行器起桨或开始录像后，天空端将自动退出低功耗状态，图传性能恢复正常。请尽快起飞，或确保天空端通风散热。
- ◆ 切勿短接电源及 GND 线，或在天空端模块上电后插拔线材，否则会导致设备损坏。
- ◆ 使用前需充分了解并遵守当地的法律法规，避免违规使用。
- ◆ 本产品不适合儿童使用。

2. 遥控器对频指南

2.1 DJI 遥控器对频

对频前,确保所有设备均已通过 DJI Assistant2 (消费机系列)*3 调参软件升级至最新固件。



飞行眼镜和遥控器对频 (图A)

- ①分别开启飞行器、飞行眼镜以及遥控器。长按遥控器电源按键直至响起持续的提示音，且电量指示灯循环闪烁。
- ②长按飞行眼镜电源按键直至响起持续的提示音，且电量指示灯循环闪烁。
- ③对频成功后，飞行眼镜和遥控器提示音停止，且电量指示灯均显示电量。

飞行眼镜和飞行器对频 (图B)

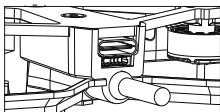
- ①长按飞行眼镜电源按键直至响起持续的提示音，且电量指示灯循环闪烁。
- ②长按飞行器电源按键直至发出提示音，同时电量指示灯循环闪烁。
- ③对频成功后，飞行器的电量指示灯显示电量，飞行眼镜提示音停止并显示图传画面。

-
- 飞行器飞行时只能用一个遥控设备控制，请将已对频但不使用的遥控设备关闭。
 - 对频时，确保所有设备的距离在0.5米以内。
-

2.2 接收机对频方式 + 步骤(ELRS)

ELRS对频方式一：使用传统方式对频(以iFLIGHT Commando8 连接 2.4GHz为例，其他遥控器的具体操作请参考对应遥控器的说明。

F



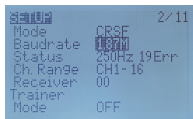
连续插拔USB口三次：连续开机关机三次或者在未开机的状态下，通过USB口给接收机通电，连续插拔USB口三次，接收机绿灯呈持续双闪，此时接收机进入对频状态，下一步再到遥控器对频。



1. 上电后，通过长按 Model setup 按键来到 MODELSEL 界面



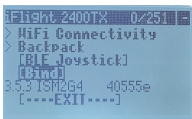
2. 短按 Next Page 来到 SETUP 界面



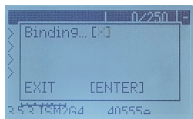
3. 选择并打开 External RF 的 CRSF，并将下方的 400k 更改为 1.87M



4. 长按 System Settings 来到 TOOLS 界面 移动光标至 ExpressLRS 选项长按 Enter 进入下一界面\选项



5. 把光标移动至【Bind】选项，按下 Enter 进入对频模式。



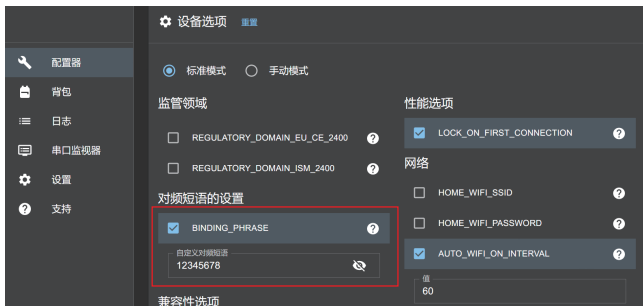
6. 对频完成后，接收机的绿灯双闪会变成绿灯常亮状态，此时已对频成功

[注意]

- 1.由于ELRS对频速度较快，先使接收机进入对频模式，再让遥控器进入对频模式。
- 2.对频完成后，建议给接收机重新上电。
- 3.对频时，接收机与遥控器距离要在1m以上。
- 4.接收机固件版本与高频头固件版本需保持一致，如遇到无法对频的情况可尝试把接收机和高频头固件升级到最新的固件，再尝试对频。
- 5.如遇到无法对频情况，可尝试重启遥控器与接收机。

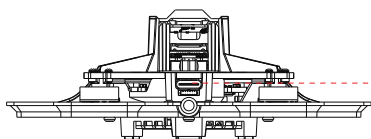
ELRS对频方式二：绑定短语对频与传统方式对频

如果你正在刷写接收机与高频头固件，只需要设置好绑定短语即可直接将接收机与高频头绑定，无需使用传统方式对频。在Custom binding phrase中设置你的绑定短语。注意！绑定短语内容必须具有唯一性，不要设置简单的绑定短语，否则在ELRS信号范围内同样绑定短语的设备将会被绑定。



具体操作流程请参考EXPRESSLRS官网中的快速上手教程，或FLIGHT官方哔哩哔哩账号视频教程。

三、飞行器设置



下载 Betaflight configuration*2 后
连接飞控 USB

a. 接收机端口/协议

ELRS/TBS接收机: CRSF

名称	固件	固件版本	固件	固件版本	固件	固件版本
ELRS-01	ELRS-01	1.0.0	ELRS-02	1.0.0	ELRS-03	1.0.0
ELRS-02	ELRS-02	1.0.0	ELRS-03	1.0.0	ELRS-04	1.0.0
ELRS-03	ELRS-03	1.0.0	ELRS-04	1.0.0	ELRS-05	1.0.0

接收机

串行接收机 (通过 UART) 接收机模式

• 必须将接收机对应的 UART 设置为“数字串行接收机”(在 端口 页面)

• 从下拉列表中选择正确的数据格式, 如下:

CRSF 串行数字接收机协议

遥测

TELEMETRY 遥测输出

b. 通道映射设置

接收机通道映射: “AETR1234” 美国手-左手油门 “TAER1234” 日本手-右手油门

设置

端口

配置

动力 & 电池

预设

PID 调试

接收机

模式

电机

OSD 屏幕叠加显示

固件(VTX)

原子

CLI(命令行)

预览

通道

AUX 1 1.00

AUX 2 1.00

AUX 3 1.00

AUX 4 1.00

AUX 5 1.00

AUX 6 1.00

AUX 7 1.00

AUX 8 1.00

AUX 9 1.00

AUX 10 1.00

AUX 11 1.00

AUX 12 1.00

接收机

串行接收机 (通过 UART) 接收机模式

• 必须将接收机对应的 UART 设置为“数字串行接收机”(在 端口 页面)

• 从下拉列表中选择正确的数据格式, 如下:

CRSF 串行数字接收机协议

遥测

TELEMETRY 遥测输出

RSSI (接收机信号强度)

RSSI_ADC 模拟 RSSI 输入

通道映射

AETR1234 RSSI 通道 已禁用

舵机低位 阈值 舵机中点 舵机高位 阈值

1050 1500 1900

RC 列区域 Yaw 列区域 3D 油门门限

0 0 50

RC 平滑 开启 平滑模式

刷新 保存

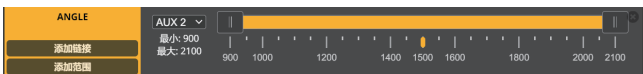
c. 接收机端口/协议

飞行器默认出货为自稳，客户也可自行设置其他模式。

ARM: 解锁/上锁通道开关，用于飞行器的解锁与上锁，默认出厂设置为AUX1,低位为上锁，高位为解锁。图标亮起表示解锁，图标呈现灰色表示上锁。

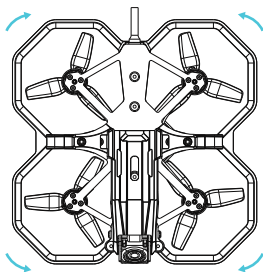


ANGLE: 自稳通道开关，用于飞行器开启自稳飞行模式，默认出厂设置为AUX2该模式全程保持开启状态。图标亮起表示开启自稳模式，图标呈现灰色表示非自稳模式。



四、桨叶安装指南

CW 顺时针桨&CCW 逆时针桨，用户需根据桨叶表面的方向标识，区分桨叶方向，安装至飞行器。



注意 ⚠

- ◆ 拆装桨叶时，请确保飞行器处于断电状态。
- ◆ 由于桨叶较薄，请小心操作以防意外划伤。
- ◆ 螺旋桨为易损耗品，如有需要，请另行购买。
- ◆ 每次飞行前请检查螺旋桨是否安装正确和紧固。每次飞行前请务必检查各螺旋桨是否完好，如有老化、破损或变形，请更换后再飞行。
- ◆ 请勿贴近旋转的螺旋桨和电机，以免割伤。
- ◆ 本产品不适合儿童使用。

五、飞行前检查

警告：在进行任何调试、维护或故障排除之前，请务必保持无桨 / 卸桨状态。在确保对频成功以及调试无误之后再安装桨叶。如果操作不当导致人身伤害，责任自负。请务必谨慎操作，确保安全。

每次飞行前，请对以下内容进行检查。

1. 必须正确安装天线才能上电 (飞机已内置天线)
2. 检查使用的电池电量是否充足且健康, 确保电池无明显破损、变形或泄露现象。
3. 确认电池型号与飞行器兼容, 电压规格正确 (比如对于 2S 电池, 应为 7.4V 左右)。
4. 检查电池插头与飞行器电池插座接触良好, 无松动、污物或损坏情况。
5. 遥控器开启并已与飞行器正确对频, 确认接收机指示灯正常闪烁或显示已连接。
6. 确保电机旋转方向正确, 拆卸桨叶后, 在地面站的电机页面推动油门确认
7. 确认螺旋桨安装方向, 确定螺丝螺母不会松动。
8. 确保起飞地点空旷无障碍物, 远离人群和贵重物品, 以防止意外失控造成的损失。
9. 如果是首次飞行或重大升级后, 建议先进行地面测试, 确认所有功能正常后再进行空中飞行。

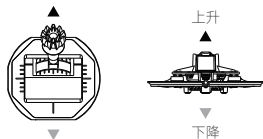
通过以上这些预防性检查, 可以有效降低因疏忽导致的飞行事故, 保证飞行器的安全运行。

六、飞行操作

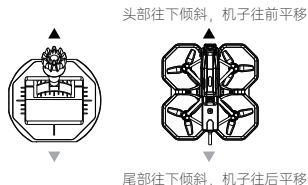
1. 遥控器基本操作

使用遥控器摇杆可控制飞行器飞行, 遥控器摇杆操控方式主要分为日本手、美国手, 下图以美国手 (Mode 2) 为例。更多信息详见遥控器说明书。

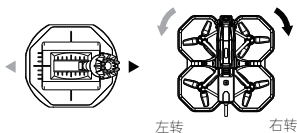
左摇杆



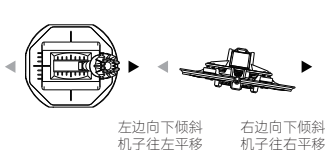
右摇杆



左摇杆



右摇杆



2. 飞行步骤

⚠注意：在操作飞行器前，请查询当地的法律和条款。在某些地区，飞行器的使用可能会受到限制或禁止。飞行时需严格遵守当地法律法规，您将对所有违反当地法律法规的飞行行为负责。

起飞步骤：

需要目视飞行器同时将油门(throttle)推至最低位置，然后慢慢提升油门，使飞行器离地约10-20厘米。观察飞行器的姿态稳定后，收油门遥控器上锁。确认飞行器工作正常后再带上FPV飞行眼镜，或者使用专用监视设备进行飞行，解锁缓慢提高油门，使其平稳升空。

降落步骤：

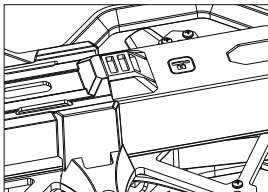
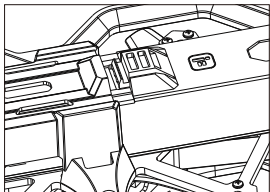
- 1.降低高度，在降落前，先将飞行器逐渐降低至合适高度，保持稳定的飞行速度和姿态。
- 2.靠近降落点，控制飞行器慢慢接近预先选好的降落区域，尽量采用滑翔方式接近，才能更好地控制距离点位。
- 3.减小油门，缓慢减少油门输出，让飞行器缓慢下降。
- 4.接触地面或距离地面5-10cm即可上锁，小心周围环境避免硬着陆损坏。
- 5.降落地面后请立即对无人飞行器进行断电操作。

注意事项

- 电池电量过低，飞行中可通过查看FPV飞行眼镜或监视器中的OSD信息判断电池剩余电量，飞行过程中需自行判断剩余飞行时间并留足冗余作为安全降落电量，当电池单片电芯电压接近3.7V时需要注意返航降落，过度放电会对电池造成不可逆的损坏。
- 观察四周，在降落前再次确认周围环境安全，没有人员或动物进入降落区。
- 降落地后优先将电池插头拔掉使设备断电，避免再次误触遥控器开关，再次解锁极其危险。降落地面后优先将无人飞行器设备断电，避免误触遥控器开关使其再次解锁从而避免发生事故和人身伤害。

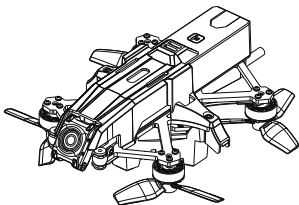
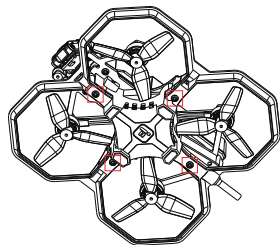
七、电池使用指南

电池使用：将电池带插头一端插入电池仓，电池入仓瞬间完成电路连通。



八、保护罩拆卸指南

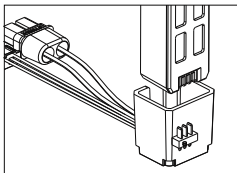
①拆卸 4 颗螺丝即可拆下保护圈,可做到无圈机形态



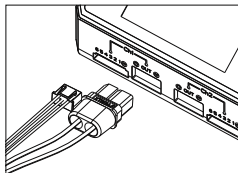
②装上 4 颗螺丝即可固定好保护圈,可做到圈机形态圈机(可做到圈机和无圈机形态来回切换)

九、充电转接板充电方式

① 电池插入转接板里

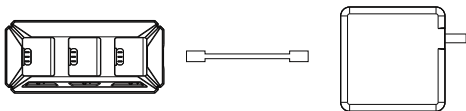


② 插到充电器上即可 (适配市场上所有充电器)



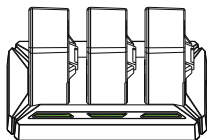
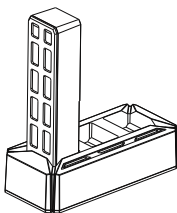
十、充电适配器充电方式 (非标配) *4

1. 连接充电头与数据线



注：充电头功率需要大于 Defender lite 充电适配器的功率，才能发挥充电器全部性能（推荐使用 iFlight 100W 便携充电头）

2. 连接电池



● 绿灯或蓝灯呼吸, 代表充电中

十一、故障排除指南

问题	可能原因	解决方案
遥控器打杆， 飞行器无反应	接收机协议设置与实际不符	检查接收机协议设置是否和接收机所连接的串口一致
	模式设置有冲突导致解锁失败	检查地面站模式设置是否有重复
	接收机通道预设与和遥控器的通道预设不一致	检查并设置使接收机通道映射和遥控器的通道映射一致
	飞行器在倾斜角度下	检查地面站配置页面的最大解锁角度
	油门通道过高	将油门杆拉到最低，或者检查通道序号正不正确
飞行器起飞即翻滚或无法起飞	螺旋桨安装错误	检查螺旋桨的安装是否正确
飞行器起飞后电机存在异响	螺旋桨松动	拧紧螺旋桨的螺母
	螺旋桨轴心损坏	更换螺旋桨

十二、保修政策和服务信息

请浏览 iFlight 官网 <https://www.iflight.cn/warranty-policy-info11> 以了解最新的售后保修信息。

注：

*1：支持多种录制格式，最高分辨率为 4K/60fps。

*2：Betaflight configuration 是飞行器飞控调参软件，请通过以下地址下载。
<https://betaflight.com/download>

*3：DJI Assistant2（消费机系列）软件支持 DJI 消费无人机系列产品激活与调参，请通过以下地址下载：<https://www.dji.com/cn>

*4：充电适配器为选配产品，需另行购买。如需实现 3 路同时充电，需搭配 45W 以上充电器头。

惠州市翼飞智能科技有限公司

电话：+86752-3866-695

邮箱：support@iflight.com

网址：www.iflight.com

地址：惠州仲恺高新区陈江街道仲恺六路333号

星河仲恺人工智能产业园B 2栋厂房第5-6层



📱 📺 📷 📺 📺 📺 📺 📺

关注iFlight官方账号，获取更多技术支持

Safety Warning & Disclaimer

⚠ Warning: Before using the aircraft, thoroughly read this manual for important notes and warnings. This manual contains important safety, operation, and maintenance instructions. Failure to follow proper usage may result in damage, injury, or product malfunction.

Safe Flying Guidelines

- 1.Age Recommendation: This product is not a toy and has certain risks. It is not suitable for non-professionals under the age of 18.
- 2.Please keep out of reach of children. Children are prohibited from touching it.
- 3.DO NOT operate under the influence of alcohol, fatigue, or other impaired mental states.
- 4.DO NOT use the aircraft to carry any illegal or dangerous goods.
- 5.DO NOT operate the aircraft in no-fly zones and near sensitive buildings and facilities stipulated by laws and regulations. These may include airports, borderlines, major cities, power plants, hydroelectric stations, prisons, transportation hubs, government buildings, and military facilities.
- 6.Before performing remote control channel calibration, firmware upgrades, or parameter settings, please turn off the power supply or remove the propellers to prevent the motor from rotating at high speed.
- 7.DO NOT fly in airspace with limited altitude.
- 8.DO NOT use this product for any unauthorized surveillance activities or to infringe on the privacy of others.
- 9.DO NOT use this aircraft to infringe on the property rights of others.
- 10.DO NOT use the aircraft in densely populated areas, including but not limited to: city centers, sports stadiums, exhibition venues, concert halls, stations, and temporary event areas. If there is a filming requirement, be sure to apply for a permit from the relevant authorities before flying.

Disclaimer

- 1.This product is not a toy and requires basic knowledge to control. Therefore, it is important to proceed gradually. Before using the aircraft, thoroughly read this manual and the Disclaimer and Safety Guidelines for important notes and warnings. iFlight reserves the right to update this Disclaimer.
- 2.Before using this aircraft, be sure to read this document carefully to fully understand your legal rights, responsibilities, and safety precautions. Failure to comply with the instructions in the document may result in property damage, safety accidents, or personal injury. By starting to use this product, you indicate that you fully understand, accept, and agree to all

the terms and contents of this document, and you undertake to be responsible for your own actions and all consequences arising therefrom. In addition, you also promise to use this aircraft only for legitimate purposes and agree to comply with any relevant policies and guidelines that iFlight may formulate.

3. iFlight shall not be liable for any loss or damage resulting from improper use of the product that does not follow official documentation. To the fullest extent permitted by law, iFlight disclaims all liability for any indirect, consequential, punitive, incidental, or special damages arising from the purchase or use of this product, whether or not such damages were foreseeable. iFlight's total liability shall in no case exceed the amount actually paid for the product.

4. Subject to applicable laws and regulations, iFlight reserves the right of final interpretation of the above terms. iFlight may update, modify, or terminate any part of this notice at any time without prior notice. Unless the download service for this guide is discontinued, this notice shall remain in effect indefinitely.

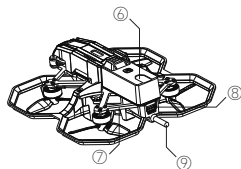
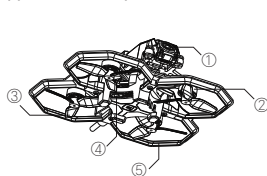
5. iFlight is a registered trademark of iFlight Innovation Technology Ltd. and its affiliates. All product names and brands mentioned herein are trademarks or registered trademarks of their respective companies.

I. Overview

1. Introduction

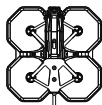
Defender 20 Lite is a 2-inch micro FPV drone, featuring a quick-release prop guard for easier maintenance. Distinctive design improves recognition and flight safety. Equipped with the DJI O4 Air Unit, delivering exceptional 4K*1 recording capability.

2. Appearance Components



- ① Camera ② Motor ③ Propeller ④ Air unit ⑤ Prop Guard ⑥ Battery
⑦ Bottom plate ⑧ Type-C Tuning Port ⑨ Antenna

3. Packing List



Defender 20 Lite x1



CW propeller x2



CCW propeller x2



600mAh
95C 2S battery x1



Battery pad x1



Defender 20 Lite
charging adapter x1



Accessory pack x1



Sticker x1



Safety warning
card x1



Disclaimer x1



After sales
service card x1

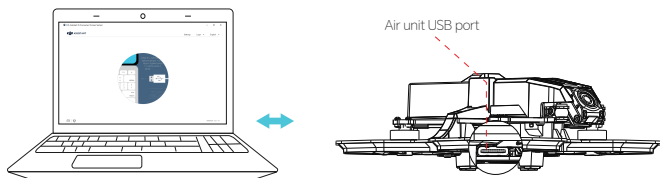
II. First Flight Preparation

1. Goggles Binding Instruction

Note: Before activation, please make sure the propellers are removed. The propellers can only be installed after the aircraft binding and Betaflight^{®2} settings are completed.

If improper operation results in personal injury, you will be solely responsible for it. Please operate with caution to ensure safety.

1.1 Air Unit Activation: Power on the aircraft and DJI Goggles separately, connect the corresponding aircraft to the computer using the USB-C port [Figure 1-1] and then run DJI Assistant 2*3 (Consumer Drones Series) for activation and firmware upgrade. Please refer to the DJI-O4 Air Unit User Manual for details.



[Figure 1-1]

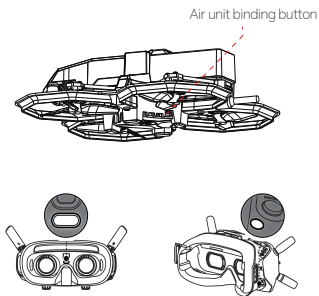
1.2 Aircraft and Goggles Binding (Make sure that all devices have been updated to the latest firmware versions before binding.)

① Power on the aircraft and the goggles separately.

② Press the bind button of the air unit [Figure 1-2], the binding status indicator of the air unit blinks red.

③ Press the bind button of the goggles and the goggles start to beep continually.

④ Make sure the distance between the air unit and the goggles is within 0.5m. Once binding is successful, the binding status indicator of the air unit turns solid green. The goggles stop beeping and image transmission can be displayed normally.



[Figure 1-2]

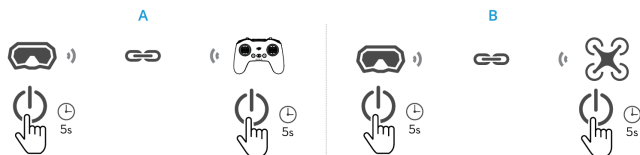
Note: This is the procedure for HD version, if the aircraft is analog version, please refer to Part 2.2 for the corresponding receiver binding procedure.

- ◆ DO NOT use the air unit for extended periods in environments without external cooling. Overheating may occur, causing video transmission to be interrupted.
- ◆ To reduce heat generation, the air unit defaults to low-power mode after powering on, during which video transmission performance is below normal specifications. When the aircraft arms or recording starts, the air unit will automatically exit low-power mode, and video transmission performance will return to normal. Please take off as soon as possible or ensure the air unit is well-ventilated and cooled.
- ◆ DO NOT short-circuit the power and GND wires, or plug/unplug cables after the air unit is powered on, as this may damage the aircraft.
- ◆ Make sure you fully understand and abide by local laws and regulations before using this product.
- ◆ This product is not intended for children.

2. Remote Controller Binding Instruction

2.1 DJI Remote Controller Binding

Make sure that all the DJI devices are updated to the latest firmware using DJI Assistant 2 (Consumer Drones Series) before linking.



1. Linking Goggles and Remote Controller (Figure A)

- ① Power on the aircraft, goggles, and remote controller. Press and hold the power button on the remote controller until it starts to beep continually and the battery level LEDs blink in sequence.
- ② Press and hold the power button on the goggles until it starts to beep continually and the battery level LEDs blink in sequence.
- ③ Once linking is successful, the goggles and the remote controller stop beeping and both the battery level LEDs turn solid and display the battery level.

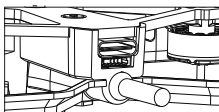
2. Linking Goggles and Aircraft (Figure B)

- ① Press and hold the power button on the goggles until it starts to beep continually and the battery level LEDs blink in sequence.
- ② Press and hold the power button on the aircraft until it beeps once and the battery level LEDs blink in sequence.
- ③ Once linking is completed, the battery level LEDs of the aircraft turn solid and display the battery level, the goggles stop beeping, and the image transmission can be displayed normally.

- The aircraft can be controlled with only one remote control device during flight. If the aircraft has been linked with multiple remote control devices, turn off the other remote control devices before linking.
- Make sure the devices are within 0.5 m of each other during linking.

2.2 Receiver Binding Methods + Steps (ELRS)

ELRS Binding Method 1: Traditional Binding Procedure (Take iFlight Commando 8 binding to 2.4GHz module as an example. For specific operations of other remote controllers, please refer to the corresponding remote controller's manual.)

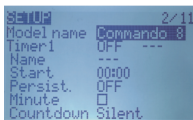


Plug and unplug the USB port for three times:

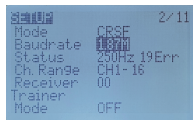
Power on and off the aircraft for three times, or plug and unplug the USB port for 3 times to supply power to the receiver when the aircraft is power off, the green LED will start to double flash continuously. BIND mode active.



1. Once you power on, long press the the Model setup to enter the MODELSEL page.



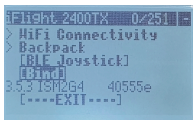
2. Press Next Page to enter the SETUP page.



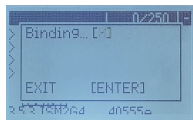
3. Select CRSF in External RF, then change the baudrate below from 400k to 1.87M.



4. Long press System Settings to enter the TOOLS interface, move the cursor to ExpressLRS, and long press Enter to enter the next interface/option.



5. Scroll down to BIND, press Enter to enter the binding mode. Bind mode active.



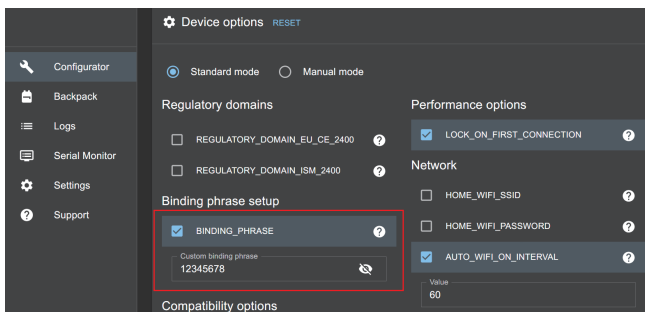
6. After binding, the green LED on the receiver will turn to solid green. Bind was successful.

[Note]

1. Be quick with this process and set the receiver in binding mode first.
 2. After the binding process is completed, it's recommended to re-power receiver.
 3. The distance of receiver and remote controller should be more than 1m during the process.
 4. The receiver firmware version should be consistent with the RF module firmware version.
 5. If you can't bind your hardware, please try to update to the latest firmware.
- If you can't bind your hardware, please try to reboot and several times if necessary.

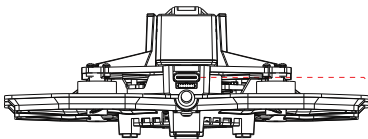
ELRS Binding Method 2: Using Custom Binding Phrase

When flashing the latest ELRS firmware for Receiver and RF module, just set a unique custom binding phrase to automatically bind all your hardware. Do not set a too simple binding phrase, otherwise other pilot's aircraft with the same binding phrase might be bound as well.



For more specific information please refer to the ELRS quick start tutorial on the official website.

III. Aircraft Setting



Download Betaflight Configurator*2
and connect to flight controller USB.

AIO BOOT Button, Tuning Port

a. Receiver Port/Protocol

ELRS/TBS Receiver: CRSF

Identifier	Configurator/MSP	Serial Rx	Telemetry Output	
USB VCP	☒ 115200	☐	Disabled	AUTO
UART1	☒ 115200	☐	Disabled	AUTO
UART2	☐ 115200	☒	Disabled	AUTO
UART3	☐ 115200	☐	Disabled	AUTO
UART4	☐ 115200	☐	Disabled	AUTO
UART5	☐ 115200	☐	Disabled	AUTO
UART6	☐ 115200	☐	Disabled	AUTO

Receiver

Serial (via UART)
Receiver Mode

• The UART for the receiver must be set to 'Serial Rx' (in the Ports tab)
• Select the correct data format from the drop-down, below:

CRSF
Serial Receiver Provider

Telemetry

☒
TELEMETRY
Telemetry output

b. Channel Map Setting

Receiver Channel Map: "AETR1234" Mode 1 Throttle, "TAER1234" Mode 2 Throttle

Setup
Ports
Configuration
Power & Battery
Presets
PID Tuning
Receiver
Modes
Motors
OSD
Video Transmitter
Blackbox
CLI

Preview

Roll [A] 1500
Pitch [E] 1500
Yaw [R] 1500
Throttle [T] 885
AUX 1 1500
AUX 2 1500
AUX 3 1500
AUX 4 1500
AUX 5 1500
AUX 6 1500
AUX 7 1500
AUX 8 1500
AUX 9 1500
AUX 10 1500
AUX 11 1500
AUX 12 1500

Receiver

Serial (via UART)
Receiver Mode

• The UART for the receiver must be set to 'Serial Rx' (in the Ports tab)
• Select the correct data format from the drop-down, below:

CRSF
Serial Receiver Provider

Telemetry

☒
TELEMETRY
Telemetry output

RSSI (Signal Strength)

☐
RSSI_ADC
Analog RSSI input

Channel Map

AETR1234
RSSI Channel

'Stick Low' Threshold

1050
1500
1900

RC Deadband

0
0
50

RC Smoothing

On
Smoothing Mode

Refresh Save

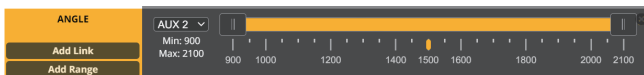
C. Mode Switch (Default Angle)

The default mode is Angle, and customers can also switch to other modes.

ARM: The ARM/DISARM channel switch for arming and disarming the aircraft. Default factory setting is AUX1, low position for disarm, high position for arm. The icon is lit to indicate arm, the icon is gray to indicate disarm.

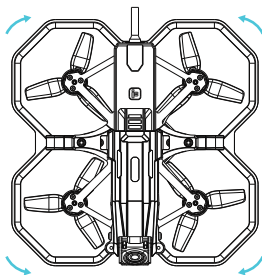


ANGLE: The Angle channel switch is used to enable the aircraft's self-leveling flight mode, the default factory setting is AUX2, this mode remains on throughout the flight. The icon is lit to indicate Angle mode is on, the icon is gray to indicate Angle mode is off.



IV. Propellers Installation

Identify CW & CCW propellers and install them correctly on the aircraft.



Note ⚠

- ◆ Before removing or installing the propellers, please make sure the aircraft is powered off.
- ◆ Handle propellers carefully to avoid accidental cuts.
- ◆ Propellers are consumables; inspect and replace them if worn, damaged, or deformed.
- ◆ Ensure propellers are installed correctly and securely before each flight.
- ◆ Avoid close contact with rotating propellers and motors.
- ◆ This product is not intended for children.

V. Pre-Flight Check

Warning: Before tuning, maintenance, or troubleshooting, always ensure that the propellers are removed or not installed. Only install the propellers after successful binding and proper setup verification. Improper operation may result in personal injury, for which the user assumes full responsibility. Please operate with extreme caution and prioritize safety at all times.

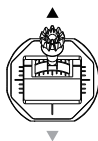
1. Make sure the antenna is installed correctly before powering on the aircraft. (Aircraft is equipped with internal antenna)
2. Make sure the aircraft batteries are fully charged and there is no obvious damage, deformation or leakage in the battery.
3. Make sure the battery model is compatible with the aircraft and the voltage specification is correct (e.g. for 2S battery, it should be about 7.4V).
4. Make sure the aircraft battery is properly connected and secure, there is no looseness, dirt or damage.
5. Make sure the remote controller is powered on and bind to the aircraft, and verify the receiver indicator light flashes normally or indicates a connection.
6. Make sure the motor rotates in the right direction, take off the propellers and connect the aircraft to Betaflight Configurator, then push the throttle to confirm the rotation on the motor page.
7. Make sure propellers are in good condition and mounted onto the motors correctly and securely.
8. Ensure the takeoff area is open and free of obstacles. Keep a safe distance from people and valuable objects to prevent potential damage in case of loss of control.
9. If it is the first flight or after a major upgrade, it is recommended to conduct a ground test first to make sure all functions are normal before flying in the air. These preventive inspections can effectively reduce flight accidents caused by negligence and ensure the safe operation of FPV drones.

VI. Flight Operation

1. Basic Remote Controller Operation

The aircraft is controlled via the remote controller sticks. There are two main stick configurations: Mode 1 and Mode 2. The following diagram uses Mode 2 as an example. See the remote controller manual for more information.

Left

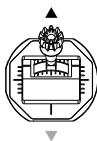


Up

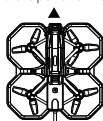


Down

Right

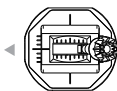


Head tilts down,
aircraft pans forward

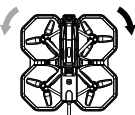


Rear tilts down,
aircraft pans back

Left

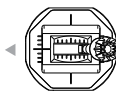


Turn left



Turn right

Right



Left side tilted
down Aircraft
pans to the left



Right side tilted
down Aircraft
pans to the right

2. Flight Procedures

Note: Before operating the aircraft, please check local laws and regulations. In some areas, the use of aircraft may be restricted or prohibited. Users are solely responsible for complying with all applicable laws and regulations during flight operations, and any violations will be at your own risk.

Takeoff Procedure:

Start by pushing the throttle to the lowest position, then gradually increase it to lift the aircraft approximately 10-20cm off the ground. Once the aircraft's attitude is stable, throttle down and disarm the remote controller. Put on FPV goggles or face the monitor (such as a handheld monitor), arm the remote controller and slowly increase the throttle to smoothly ascend.

Landing Procedure:

1. Decrease altitude, before landing, gradually lower the aircraft to an appropriate altitude, maintaining a stable flight speed and attitude.
2. Approach landing spot, control the aircraft to slowly approach the pre-selected landing area, preferably using a gliding approach to better control the distance.
3. Reduce throttle, slowly decrease throttle output to allow the aircraft to land slowly.
4. Disarm the aircraft when it touches the ground or is 5-10cm away from the ground, be careful to avoid hard landings that could cause damage.
5. After landing, immediately unplug the battery to power off the device to avoid injury.

Precautions:

- Monitor battery level: You can check the remaining battery power by checking the OSD

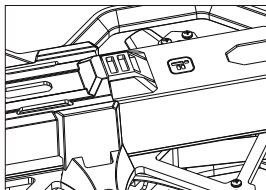
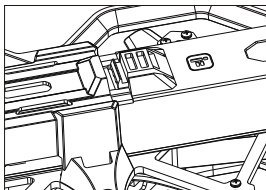
information in the FPV goggles or the monitor during flight. You need to judge the remaining flight time and leave enough redundancy for safe landing. When the voltage of a single battery cell approaches 3.7, you need to pay attention to return and land. Over-discharge will cause irreversible damage to the battery.

- Observe surroundings: Before landing, double-check the surrounding environment for safety, ensuring no people or animals are in the landing area.

- Disconnect battery: After landing, it is important to first power off the aircraft to avoid accidentally triggering the remote controller switch to arm it again, preventing potential accidents and injury.

VII. Battery Usage

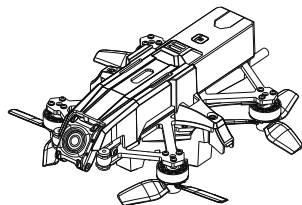
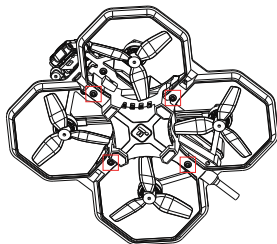
Battery Usage: Insert the end of the battery with the plug into the battery compartment. The circuit is connected the moment the battery enters the compartment.



VIII. Prop Guard Replacement

1. Prop Guard Installation and Disassembly

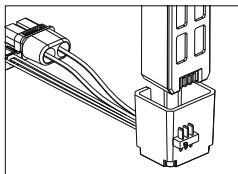
① The prop guard can be quickly removed with just 4 screws, allowing seamless switching to non-guarded form.



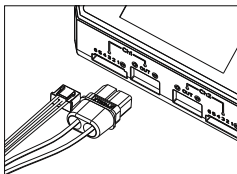
② Install 4 screws to secure prop guard, easily switch between prop guarded and non-guarded forms as needed.

IX. Charging Method for Charging Adapter

① Insert the battery into the charging adapter.

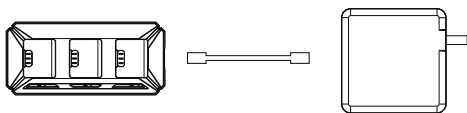


② Plug it into the charger. (Compatible with all chargers on the market.)



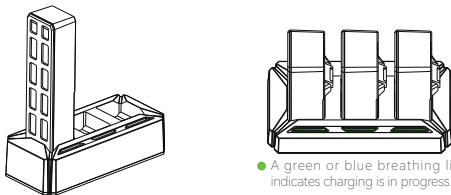
X. 3-Port Type-C Charging Hub Charging Method (Optional)*4

1. Connect the Charger and Data Cable



Note: Ensure the power output of the charger is higher than the power of the Defender 20 Lite charging hub to fully activate the charger's performance. (It is recommended to use the iFlight 100W portable charger.)

2. Connect the Battery



● A green or blue breathing light indicates charging is in progress.

XI. Troubleshooting Guide

Issue	Possible Reason	Solution
The aircraft does not respond to the remote control stick input.	Receiver protocol settings do not match the actual configuration.	Check if the receiver protocol settings are consistent with the serial port to which the receiver is connected.
	Mode settings conflict causing failure to arm.	Check if there are any conflicts or duplicates in the Betaflight Configurator mode settings.
	Receiver channel presets do not match the transmitter channel presets.	Verify and configure receiver channel map setting to match the transmitter channel map setting.
	Aircraft is at a tilted angle.	Check the maximum arming angle setting on the Betaflight Configurator page.
	Throttle channel is too high.	Move the throttle stick to the lowest position or verify if the channel number is correct.
Aircraft Rolls Over Immediately on Takeoff or Cannot Take Off	Propellers installed incorrectly.	Ensure that the propeller direction matches the motor direction.
Unusual Noise from Motors After Takeoff	Propellers are loose.	Tighten the propellers.
	Propeller shaft is damaged.	Replace the propeller.

XII.Disclaimer

This product is not a toy and requires basic knowledge for control. Progress gradually. Before using the aircraft, thoroughly read this manual and the Disclaimer and Safety Guidelines for important notes and warnings.

Note:

* 1: Supports multiple recording formats, with a maximum resolution of 4K/60fps.

* 2: Betaflight is the flight controller software (firmware) used to configure your aircraft.

Please download at this link: <https://betaflight.com/download>

* 3: DJI Assistant 2 (Consumer Drones Series) supports the consumer drones series products activation and firmware upgrade. Please download at this link: <https://www.dji.com/downloads>

* 4: The 3-Port Type-C Charging Hub is an optional product and must be purchased separately. To achieve simultaneous 3-port charging, a charger with 45W or more is required.

IFLIGHT INNOVATION TECHNOLOGY LIMITED

TEL: +86752-3866-695

Email: support@iflight.com

Website: www.iflight.com

ADD: 6th Floor, Building B2, Galaxy IMC, Beixin Road,
Zhongkai Avenue, Huizhou 516006, Guangdong, CHINA



Follow us for more information and support