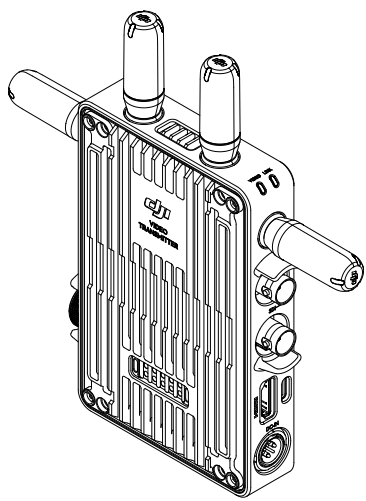
# DJI Video Transmitter

User Guide
使用说明

v1.0 2022.09



# Contents

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# Disclaimer

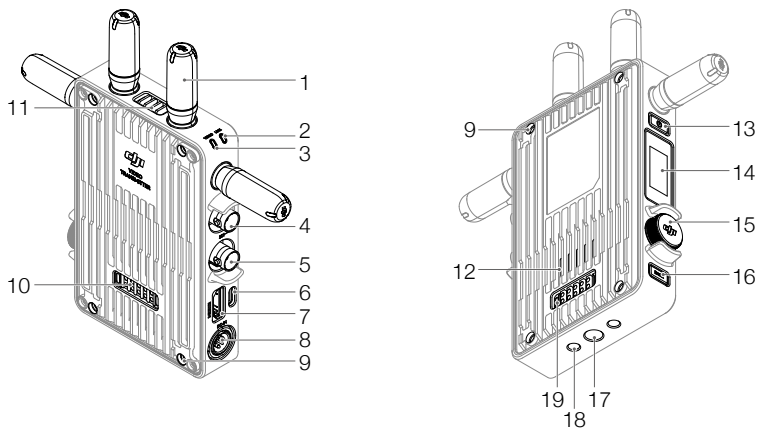
Carefully read this entire document and all safety and compliance guidelines provided before use.

# Introduction

The DJI™ Video Transmitter uses DJI's O3 Pro Video Transmission technology, which offers a transmission range up to 6 km*, HD video transmission with a bitrate of 40 Mbps, and an end-to-end latency as low as 100 ms. It supports multiple frequency bands in both Control mode and Broadcast mode, as well as one transmitter with multiple receivers, when using with the DJI High-Bright Remote Monitor, meeting the filming requirements of mediums such as movies, TV series, advertisements, and documentaries.

* Measured with the video transmission system in Control mode in an unobstructed environment free of interference that is FCC compliant.

# Overview




1. Detachable Antennas
   Transmit wireless signal.
2. Linking Status Indicator
   Shows the linking status between the receiver and transmitter. Refer to the Linking section for more information on blinking patterns.
3. Video Status Indicator
   Indicates if there is a video source signal input or not. Solid green indicates input while solid red indicates no input.
4. SDI Output Port
   Outputs the video source signal from the transmitter.
5. SDI Input Port
   Inputs the signal from the video source to the transmitter.

6. USB-C Port
   For device activation and firmware updates.
7. HDMI Port (Type A)
   Receives the video source input signal.
8. DC-in Port
   Supplies power to the video transmitter using the provided power cable. Voltage 6-18 V and max current 2 A.
9. M4 Screw Holes
   To mount the battery adapter or other adapters for expansion.
10. Power Output Port
    Supplies power to an external device.
11. Air Vent
12. Air Intake

    ⚠ DO NOT cover the air vent, air intake, or both sides of the battery adapter if mounted. Otherwise, the performance of the device may be affected due to overheating.

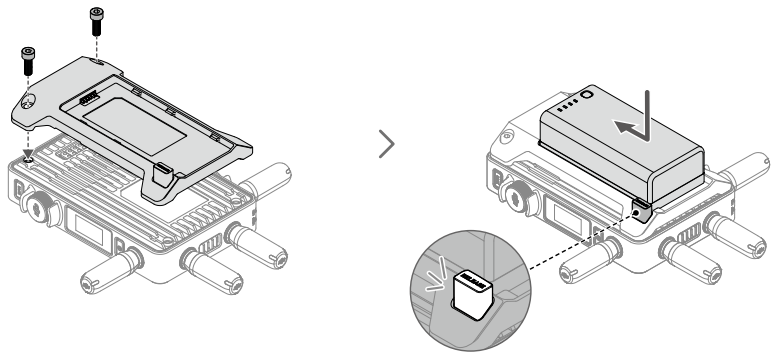
13. Power Button
    Press once to power on. Press and hold to power off.
14. Display Screen
    Displays the device status and menu.
15. Menu Dial
    Turn or press the dial to select or confirm settings in the menu.
16. Back Button
    Press to return to the previous screen of the menu.
17. 3/8″-16 Screw Hole
18. 1/4″-20 Screw Holes
19. External Power Input Port
    Mount the battery adapter and compatible battery to supply power to the video transmitter.

# Installation and Connection



## Mounting the WB37 Intelligent Battery



Before first use, activate the WB37 battery by charging with the WB37 Battery Charging Hub (USB-C). Refer to the WB37 Battery Charging Hub (USB-C) User Guide for more information.

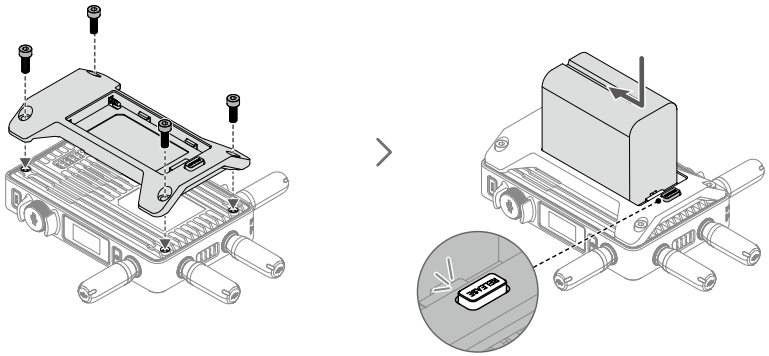
1. Mount the WB37 battery adapter (TX) to the back of the video transmitter and tighten the two M4×12 screws.
2. Insert the WB37 battery into the battery slot and push it to the end. Make sure that the battery release button pops up, indicating the battery is firmly in place.

⚠ Make sure to use the WB37 battery within the operating temperature range. DO NOT disassemble or pierce the battery in any way. Otherwise, the battery may leak, catch fire, or explode. Refer to the WB37 Intelligent Battery Safety Guidelines for more information.

Press and hold the release button and push the battery in the opposite direction to remove it.

## Mounting the NP-F Series Battery

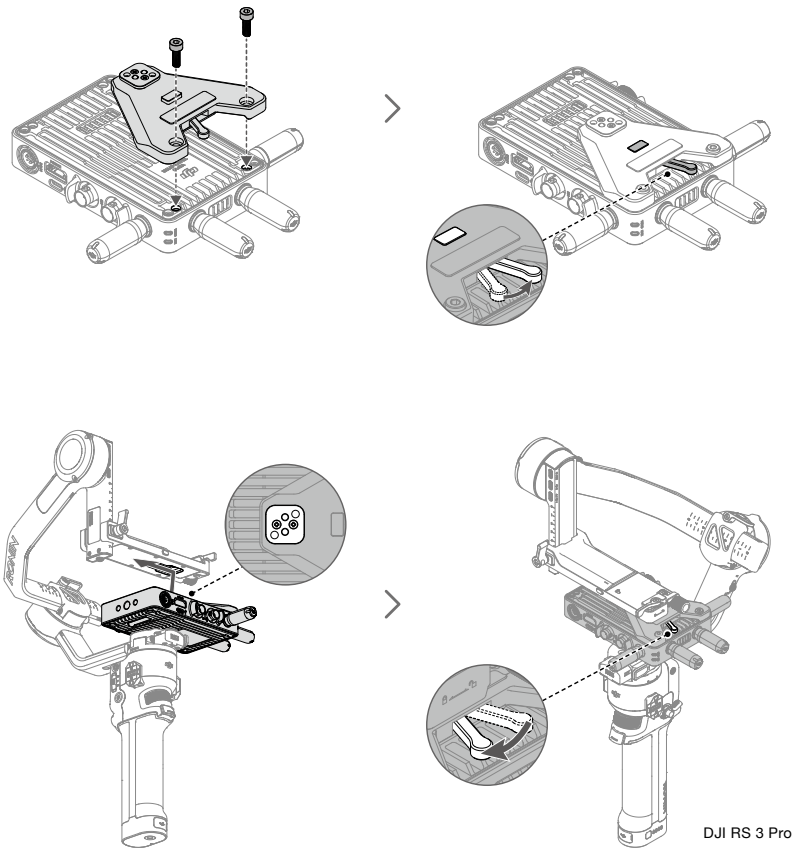


1. Mount the NP-F battery adapter (TX) to the back of the video transmitter and tighten the four M4×12 screws.
2. Insert the NP-F series battery into the battery slot and push it to the end. Make sure that the battery release button pops up, indicating the battery is firmly in place.

Press and hold the release button and push the battery in the opposite direction to remove it.

## Mounting the RS Gimbal Mounting Plate




The RS gimbal mounting plate is required when using the video transmitter with the DJI RS series gimbal or other devices compatible with the cold shoe. The following description uses DJI RS 3 Pro as an example.

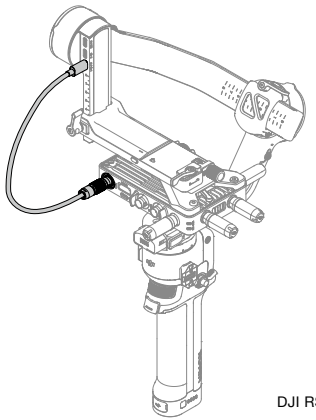
1. Mount the gimbal mounting plate to the front of the video transmitter and tighten the two M4×12 screws.
2. Toggle the lever on the gimbal mounting plate in counterclockwise to lower the positioning block.
3. Connect the cold shoe on the gimbal mounting plate to DJI RS 3 Pro.
4. Toggle the lever on the gimbal mounting plate in clockwise to lock the video transmitter.

## Connection

### USB-C to LEMO Power Cable

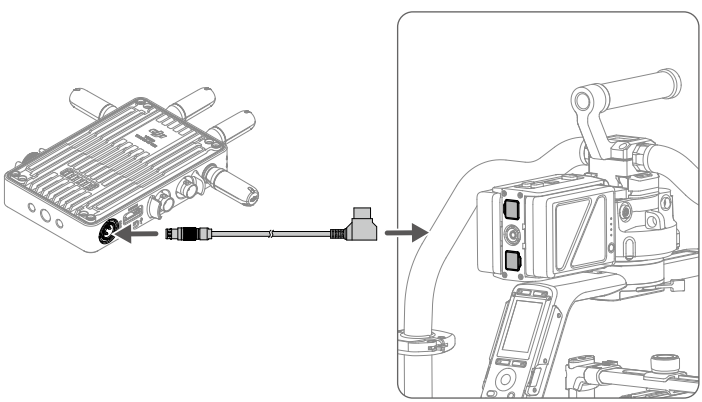
Connect the image transmission/LiDAR Range Finder port (USB-C) on DJI RS 3 Pro to the DC-in port on the video transmitter for power supply from DJI RS 3 Pro.



DJI RS 3 Pro

### DC to P-Tap Power Cable

Connect the 14.4V P-Tap port on Ronin 2 to the DC-in port on the video transmitter for power supply from Ronin 2.



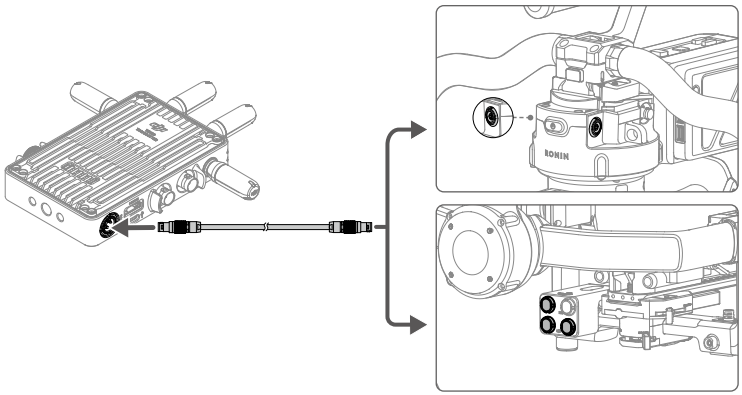
Ronin 2

### DJI DC Power Cable

Connect the 14.4V accessory power port on the power hub or the port above the pan motor of Ronin 2 to the DC-in port on the video transmitter for power supply from Ronin 2.

When connecting to the port above the pan motor of Ronin 2, the Control mode of the video transmission system is not available.




Ronin 2

## Activation

Activation is required when using the video transmitter for the first time. Power on the video transmitter and connect it to the computer using a USB-C cable. Open DJI Assistant 2 (Ronin Series), log in with a DJI account, click the corresponding device icon, and follow the instructions onscreen to activate the device.

Download DJI Assistant 2 from: https://www.dji.com/transmission/downloads

# Linking

The video transmitter must be linked to the receiver device before use. The video transmission system of the video transmitter offers Control mode and Broadcast mode, which use different linking methods. Refer to the following section for instructions and linking status indicator descriptions.

## Control Mode

1. Power on the video transmitter. Press and hold the menu dial on the video transmitter until the linking status indicator blinks red and green alternately, indicating that it is ready to link.
2. Power on the remote monitor. Tap ••• to enter System Menu and then Connection Settings. Select Control Mode, set the monitor as Control Monitor A or Control Monitor B, and tap Link to Control Monitor A/B to enter linking status.
3. When linking is complete, the linking status indicator turns solid green and the remote monitor will have a connected status.

## Broadcast Mode

1. Power on the video transmitter. Press the menu dial on the video transmitter, turn the dial to select Broadcast in the menu, enable Broadcast mode, and select channel.
2. Power on the remote monitor. Tap ••• to enter System Menu and then Connection Settings. Select Broadcast Mode and the monitor will automatically search for nearby devices with Broadcast mode enabled. Tap a device to monitor and the live view from the corresponding device will display on the remote monitor. Tap the camera number on the right side of the screen to refresh the live view or switch between the monitored devices.

Refer to the Broadcast Mode Settings section for more information about the usage.

## Linking Status Indicator

| Linking Status Indicator | Description |
|---|---|
| Solid red | Device started, not connected. |
| Blinks red and green alternately | Linking. |
| Solid green | Successfully linked in Control mode. Wireless video transmission is normal.<br>Broadcast mode enabled. |
| Blinks red | Device malfunction. Contact DJI Support. |

# Display Screen Operations

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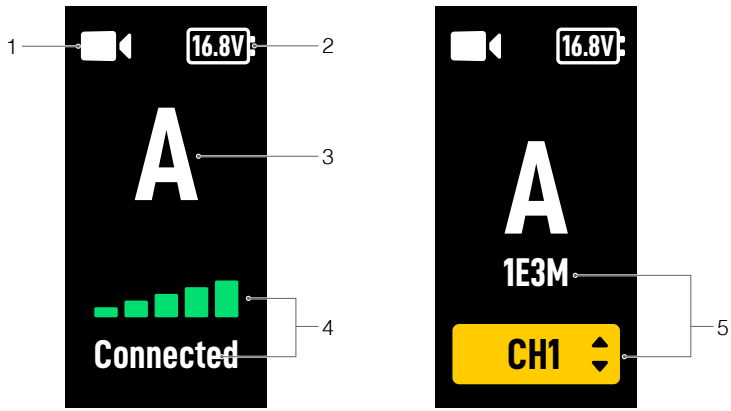
## Home Screen




1. Video Signal Input Status

   / : indicates if there is a video source signal input or not.

2. Power Supply Voltage

   16.8V : displays the voltage of the battery or the DC-in power input.

3. Device Number

   A : displays the device number of the video transmitter. Users can set the number in the menu as the letter A to P.

4. Video Transmission Signal Quality and Connection Status

   Connected : when Broadcast mode is disabled, it displays the connection status between the receiver and transmitter and the signal quality. There are four statuses, including connected (green), weak signal (orange), strong interference (red), and disconnected (gray).

5. Broadcast Code and Channel

   1E3M : displays the universally unique identifier of the device when Broadcast mode is enabled for the video transmitter.

   CH1 : when the channel mode is set to manual, it displays the channel in use. Press the menu dial twice for quick channel adjustment.

   AUTO : when the channel mode is set to auto, this icon will appear. Users cannot adjust the channel manually. When the video transmitter is linked to the remote monitor in Control mode and Broadcast mode is enabled, the channel mode can be set to auto in the remote monitor if Control mode is selected as the prioritized mode.

### Menu

In the home screen, press the menu dial on the video transmitter to enter the menu. Users can set the device number, enable Broadcast mode, select Broadcast image quality, select language, and view the video transmission channel status and device information. Turn or press the dial to select or confirm settings in the menu. Press the back button to return to the previous screen.

## Broadcast Mode Settings

### Broadcast Image Quality

When Broadcast mode is enabled, the Broadcast Quality setting will appear in the menu. Select between HD and Smooth. These two kinds of image quality correspond to 40M (HD) and 20M (Smooth) for the Downlink Bandwidth setting on the remote monitor. The image quality of HD has fewer channels while Smooth has double.

### Mode Priority

When the video transmitter is linked to the remote monitor in Control mode and Broadcast mode is enabled, users can select the prioritized mode in the video transmission channel settings on the remote monitor to ensure transmission signal quality for specific devices.

#### Broadcast Mode Prioritized

When Broadcast mode is the prioritized mode, the transmission signal quality of the devices in Broadcast mode will have a priority. Users can select the channel manually on the remote monitor and then select the broadcast channel and image quality on the video transmitter.

#### Control Mode Prioritized

When Control mode is the prioritized mode, the transmission signal quality of the devices in Control mode will have a priority. Users can select the channel mode on the remote monitor and then select the broadcast channel and image quality on the video transmitter. In this mode, devices in Broadcast mode near the remote monitor may have a weak transmission signal.

## Firmware Update

Update the video transmitter using the DJI Assistant 2 (Ronin Series) software.

1. Power on the device and connect it to a computer with a USB-C cable.
2. Launch DJI Assistant 2 (Ronin Series) and log in with a DJI account.
3. Select the device and click Firmware Update on the left side of the screen.
4. Select the firmware version.
5. The firmware will be downloaded and updated automatically.
6. The device will restart automatically after the firmware update is complete.

# Specifications

| | |
|---|---|
| Weight | Approx. 350 g (transmitter only, excl. antennas) |
| Dimensions | 127×97×26 mm (excl. antennas) |
| Operating Frequency[1] | 2.4000-2.4835 GHz, 5.150-5.250 GHz, 5.250-5.350 GHz,<br>5.470-5.725 GHz, 5.725-5.850 GHz |
| Transmitter Power (EIRP) | 2.4 GHz: <33 dBm (FCC), <20 dBm (CE/SRRC/MIC)<br>5.8 GHz: <33 dBm (FCC/SRRC), <14 dBm (CE)<br>5.1 GHz: <23 dBm (FCC/SRRC/CE/MIC)<br>5.2 GHz: <30 dBm (FCC), <23 dBm (SRRC/CE/MIC)<br>5.5 GHz: <30 dBm (FCC), <23 dBm (CE/MIC) |
| Power Consumption | 11 W |
| Power Supply Voltage | External Power Input Port: 6-18 V<br>DC-In Port: 6-18 V |
| Output Voltage | Power Output Port: 6-18 V |
| Working Time[2] | 3 hours 40 min |
| Input Video Format | 3G SDI: YCbCr 4:2:2 10bit<br>HDMI: RGB 4:4:4<br>1080p23.98/24/25/29.97/30/50/59.94/60;<br>1080i50/59.94/60;<br>720p50/59.94/60 |
| Output Video Format | 3G SDI: YCbCr 4:2:2 10bit<br>1080p23.98/24/25/29.97/30/50/59.94/60;<br>1080i50/59.94/60;<br>720p50/59.94/60 |
| Input Audio Format | HDMI embedded |
| Output Audio Format | PCM |
| Video Transmission System | O3 Pro |
| Max Bitrate | 40 Mbps |
| Latency | 68 ms (1080p 60fps), 100 ms (1080p 24fps) |
| Video Coding Format | H.264 |
| Max Transmission Distance | 6 km (FCC), 4 km (CE/SRRC/MIC)<br>(unobstructed, free of interference) |
| Max Communication Bandwidth | 40 MHz |
| Operating Temperature | -10° to 45° C (14° to 113° F) |

[1] Due to local regulations, the 5.1/5.2/5.8GHz frequencies are prohibited in some countries and the 5.1/5.2GHz frequencies are only allowed for use indoors in some countries. 5.600-5.650 GHz is not used.

[2] Tested in a room temperature of 25° C (77° F) when powered by a fully charged WB37 Intelligent Battery and used with the DJI High-Bright Remote Monitor.

# 免责声明和警告

使用本产品之前，请仔细阅读并遵循本文及与本产品相关的所有安全与合规操作指引。

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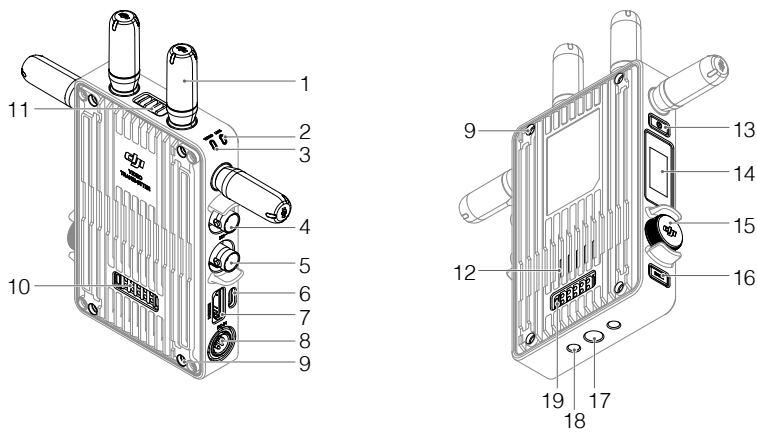
# 简介

DJI™ 图传发射器采用 DJI O3 Pro 图传技术，在无干扰和无遮挡环境下，可达到最大 6 千米 * 地面端通信距离与 40 Mbps 码流高清图传，端到端延时低至 100 ms 以内。支持多种频段，具备控制模式和广播模式，配合 DJI 图传高亮监视器使用，可实现一发多收，满足广电、影视剧、广告、纪录片等各类题材的拍摄需求。

* 无线图传控制系统切换至控制模式，在 FCC 标准无干扰环境下测得。

# 部件名称




1. 可拆卸天线
   传输无线信号。
2. 对频状态指示灯
   指示接收端和发射端的对频状态。指示灯描述见对频章节。
3. 视频状态指示灯
   显示是否有视频源信号输入。绿灯常亮表示有输入，红灯常亮表示无输入。
4. SDI 输出接口
   发射端环出视频源信号。
5. SDI 输入接口
   视频源向发射端输入信号。
6. USB-C 接口
   用于产品激活及固件更新。

7. HDMI 接口（A 口）
   用于接收视频源输入信号。
8. DC-IN 电源输入接口
   可通过标配的供电线实现对图传发射器的供电。供电电压 6-18 V，电流最大 2 A。
9. M4 螺纹接口
   用于安装电池转接板以及各类转接件的扩展。
10. 对外供电接口
    对外部设备进行供电。
11. 出风口
12. 进风口

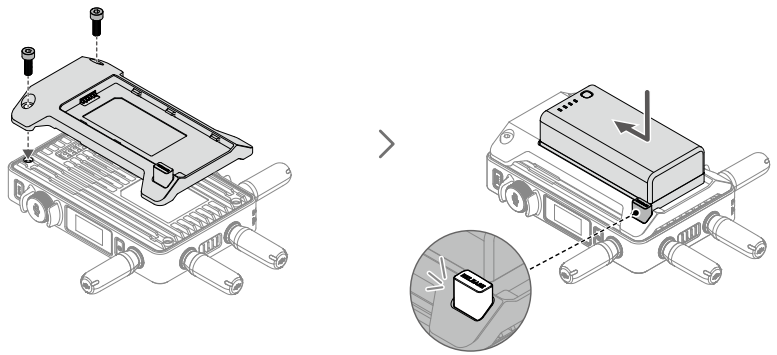
⚠ 使用时请勿遮挡出风口及进风口或电池转接板的两侧（若已安装），以免设备温度过高影响性能。

13. 电源按键
    短按开机、长按关机。
14. 显示屏幕
    显示设备状态及菜单。
15. 菜单拨轮
    可通过转动和按压拨轮进行选择及确认以操作屏幕菜单。
16. 返回按键
    控制屏幕菜单返回上一级。
17. 3/8″-16 螺纹接口
18. 1/4″-20 螺纹接口
19. 外部电源输入接口
    通过连接不同的电池转接板以安装电池，用于为发射器供电。

# 安装连线

## 安装 WB37 智能电池



首次使用需通过 WB37 充电管家（USB-C）为 WB37 电池充电以激活电池。详情参阅《WB37 充电管家（USB-C）使用说明》。

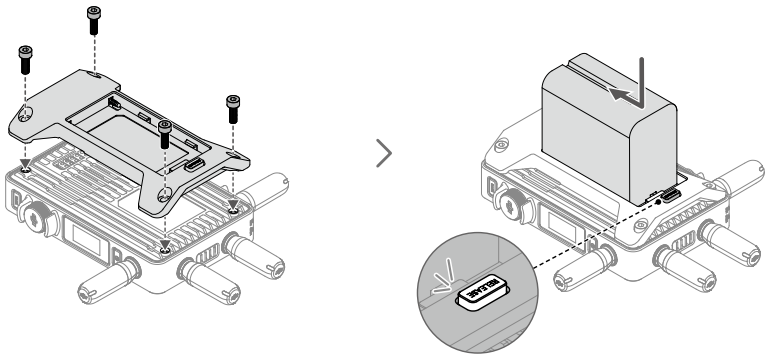
1. 将 WB37 电池转接板（TX）安装至图传发射器背面并旋紧 2 颗 M4 × 12 螺丝。
2. 将 WB37 智能电池置入电池插槽，按下电池并将其推至底部，直到 RELEASE 按键弹起并发出“咔”的一声，确保安装稳固。

⚠ 务必在工作环境温度范围内使用 WB37 电池。禁止以任何方式拆解或用尖利物体刺破电池。否则将会引起电池着火甚至爆炸。详情参阅《WB37 智能电池安全使用指引》。

按住 RELEASE 按键沿安装反方向用力即可取出电池。

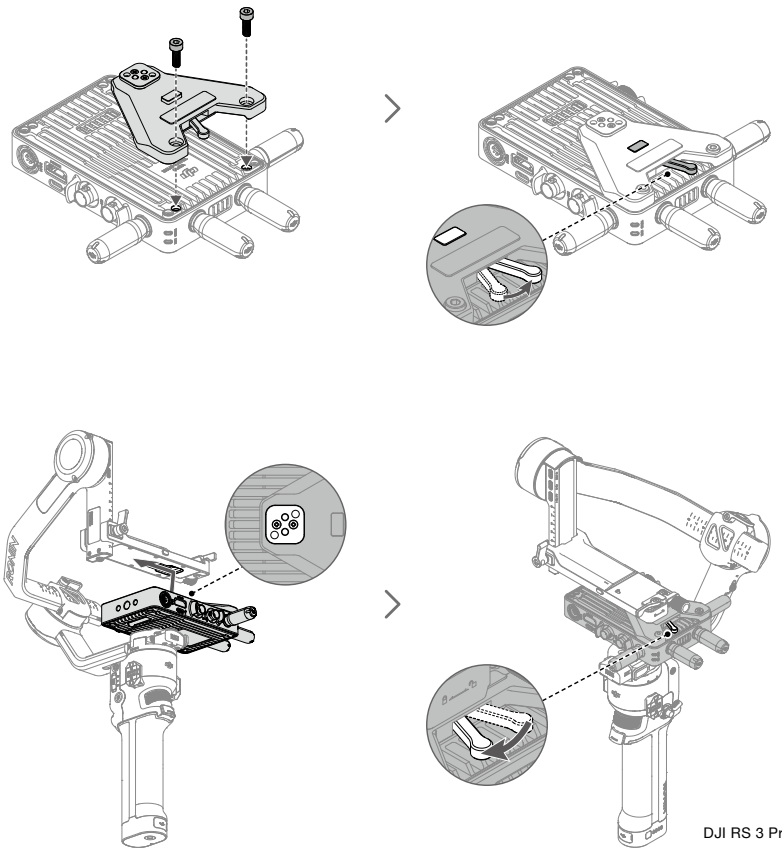
## 安装 NP-F 系列电池



1. 将 NP-F 电池转接板（TX）安装至图传发射器背面并旋紧 4 颗 M4 × 12 螺丝。
2. 将 NP-F 系列电池置入电池插槽，按下电池并将其推至底部，直到 RELEASE 按键弹起并发出“咔”的一声，确保安装稳固。

按住 RELEASE 按键沿安装反方向用力即可取出电池。

## 安装 RS 云台安装板




搭配 DJI RS 系列云台或其他可兼容冷靴接口的设备使用时，需安装 RS 云台安装板。以下描述以 DJI RS 3 Pro 云台为例。

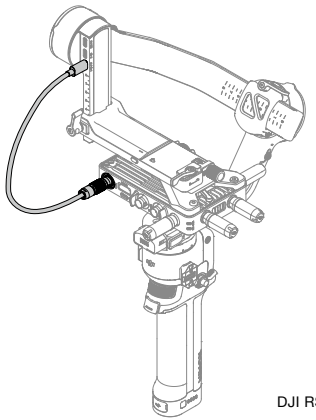
1. 将云台安装板安装至图传发射器正面并旋紧 2 颗 M4 × 12 螺丝。
2. 逆时针拨动云台安装板拨杆，使云台安装板上的定位凸台下降。
3. 通过云台安装板的冷靴接口将图传发射器安装至 DJI RS 3 Pro 云台。
4. 顺时针拨动云台安装板拨杆以完成安装。

## 连线

### USB-C 转 LEMO 供电线

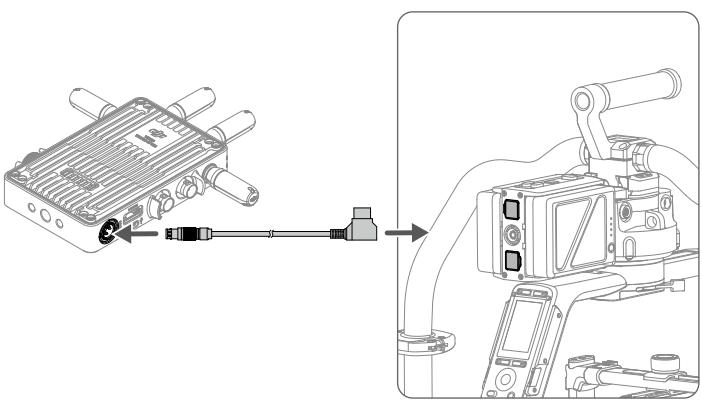
连接 DJI RS 3 Pro 云台的图传 /LiDAR 焦点测距器接口（USB-C）及图传发射器的 DC-IN 电源输入接口，DJI RS 3 Pro 云台可为图传发射器供电。



DJI RS 3 Pro

### DC 转 P-Tap 供电线

连接 Ronin 2 云台的 14.4V P-Tap 接口及图传发射器的 DC-IN 电源输入接口，Ronin 2 云台可为图传发射器供电。

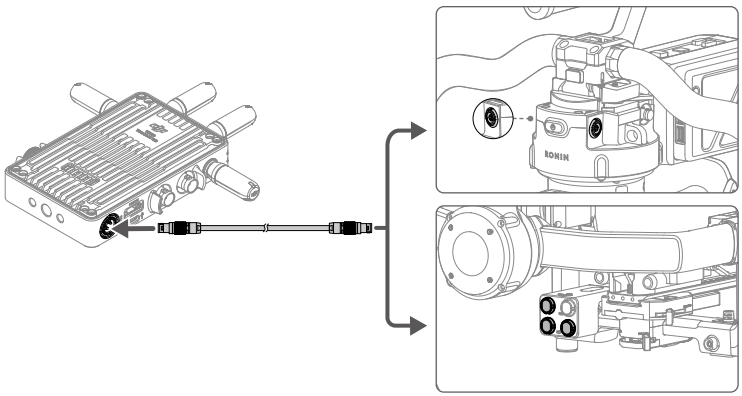


Ronin 2

### DJI DC 供电线

连接 Ronin 2 云台上部或电源分配模块上的 14.4V 电源 / 配件输出接口及图传发射器的 DC-IN 电源输入接口，Ronin 2 云台可为图传发射器供电。

连接至 Ronin 2 云台上部的接口时，无法使用无线图传控制系统的控制模式。




Ronin 2

## 激活

全新的图传发射器需要激活方可使用。开启图传发射器，使用 USB-C 线将其连接至计算机并运行 DJI Assistant 2 (Ronin 系列 ) 调参软件，登录 DJI 账号，点击设备图标按照提示进行激活。

调参软件下载地址：https://www.dji.com/transmission/downloads

# 对频



图传发射器需与接收端设备对频后方可使用。发射器图传分为控制模式和广播模式，其对频方式略有不同。详见以下操作说明及对频状态指示灯描述。

## 控制模式

1. 图传发射器开机状态下，长按图传发射器上的菜单拨轮，直至对频状态指示灯红绿灯交替闪烁，表示已进入对频状态。
2. 开启图传高亮监视器，点击 ••• 进入系统菜单 > 连接设置。在控制模式下选择当前监视器为控制屏 A 或控制屏 B，然后点击对频控制屏 A/B，进入对频状态。
3. 对频成功后，图传发射器对频状态指示灯显示绿灯常亮，图传高亮监视器显示已连接。

## 广播模式

1. 图传发射器开机状态下，按压图传发射器的菜单拨轮，转动拨轮在屏幕菜单中选择广播模式，然后开启广播模式并选择信道。
2. 开启图传高亮监视器，点击 ••• 进入系统菜单 > 连接设置。点击广播模式，监视器将自动搜索附近已开启广播模式的设备。点击需要监看的设备，将显示对应设备的图传画面。通过图传画面右侧的摄像机编号按键可刷新图传显示或切换监看的设备。

广播模式的详细使用，参见广播模式设置章节。

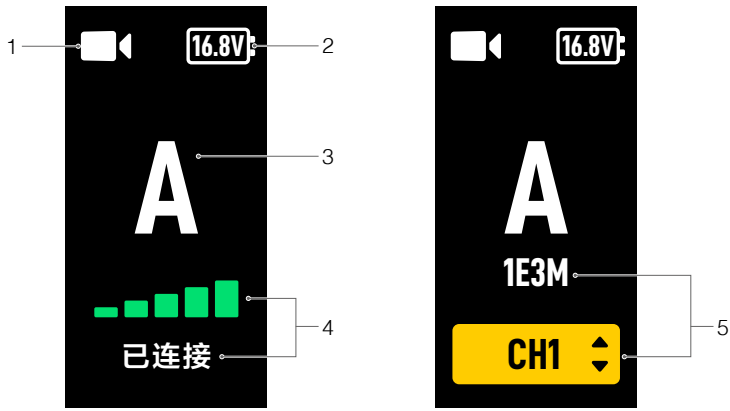
## 对频状态指示灯

| 对频状态指示灯 | 描述 |
| --- | --- |
| 红灯常亮 | 设备已启动，未连接 |
| 红绿灯交替闪烁 | 正在对频 |
| 绿灯常亮 | 控制模式对频成功，无线图传正常连接<br>广播模式已开启 |
| 红灯闪烁 | 设备内部故障，请联系 DJI 技术支持 |

# 屏幕操作

CHS

## 主界面




1. 视频信号输入状态

   / ：显示是否有视频源信号输入。

2. 供电电压

   16.8V：显示为图传发射器供电的电池电压或 DC-IN 电源输入的电压。

3. 设备编号

   A：显示图传设备的编号。可在菜单中设置编号，共 16 个编号可供选择（A~P）。

4. 图传信号质量及连接状态

   已连接：当广播模式关闭时，显示图传发射器与图传接收端的连接状态以及当前图传信号的质量。包括已连接（绿色）、信号弱（橙色）、强干扰（红色）以及未连接（灰色）四种状态。

5. 图传设备广播码及信道

   1E3M：开启广播模式后，显示图传设备的通用唯一识别码。

   CH1：信道模式为手动时，主界面将显示所使用的信道。双击菜单拨轮可快速调整信道。

   AUTO：信道模式为自动时，主界面将显示此图标。此时无法手动调整信道。当以控制模式连接至图传高亮监视器，且开启广播模式时，在图传高亮监视器中选择控制优先，可将信道模式设置为自动。

### 菜单栏

主界面下短按图传发射器上的菜单拨轮进入菜单栏，可设置设备编号、开启广播模式、选择广播画质、选择屏幕界面语言、查看图传信道状态及设备信息。通过转动和按压拨轮进行选择及确认以操作屏幕菜单，短按返回按键返回上一层菜单。

## 广播模式设置

### 广播画质

开启广播模式后，菜单栏将出现广播画质设置，可选择高清或流畅。两种画质分别对应图传高亮监视器中下行带宽设置的 40M（高清）和 20M（流畅）。高清画质拥有较少信道，流畅画质则拥有双倍信道。

### 连接模式优先

当以控制模式连接至图传高亮监视器，且同时开启广播模式时，可在图传高亮监视器的图传信道设置菜单中选择连接模式的优先级，以保证特定设备的信号传输质量。

#### 广播优先

广播优先时，传输会优先保证广播模式的设备信号质量。用户可在图传高亮监视器中手动选择信道，在图传发射器中选择广播信道及画质。

#### 控制优先

控制优先时，传输会优先保证控制模式的设备信号质量。用户可在图传高亮监视器中选择信道模式，在图传发射器中选择广播信道及画质。此时可能出现距离监视器较近的广播模式设备图传信号较差的情况。

## 固件升级

使用 DJI Assistant 2 (Ronin 系列 ) 调参软件可对图传发射器进行升级。

1. 开启设备。使用 USB-C 连接线连接设备至计算机。
2. 启动 DJI Assistant 2 (Ronin 系列 ) 调参软件，使用 DJI 账号登陆并进入主界面。
3. 点击设备图标，然后点击左边的固件升级选项。
4. 选择并确认需要升级的固件版本。
5. 调参软件将自行下载并升级固件。
6. 升级完成后，设备将自动重启。

# 规格参数

| | |
|---|---|
| 重量 | 约 350 g（裸机，不含天线） |
| 尺寸 | 127 × 97 × 26 mm（不含天线） |
| 工作频率 [1] | 2.4000-2.4835 GHz, 5.150-5.250 GHz,<br>5.250-5.350 GHz, 5.470-5.725 GHz,<br>5.725-5.850 GHz |
| 发射功率（EIRP） | 2.4 GHz: <33 dBm (FCC), <20 dBm (CE/SRRC/MIC)<br>5.8 GHz: <33 dBm (FCC/SRRC), <14 dBm (CE)<br>5.1 GHz: <23 dBm (FCC/SRRC/CE/MIC)<br>5.2 GHz: <30 dBm (FCC), <23 dBm (SRRC/CE/MIC)<br>5.5 GHz: <30 dBm (FCC), <23 dBm (CE/MIC) |
| 功耗 | 11 W |
| 供电电压 | 外部电源输入接口：6-18 V<br>DC-IN 电源输入接口：6-18 V |
| 输出电压 | 对外供电接口：6-18 V |
| 续航时间 [2] | 3 小时 40 分 |
| 输入视频格式 | 3G SDI: YCbCr 4:2:2 10bit<br>HDMI: RGB 4:4:4<br>1080p23.98/24/25/29.97/30/50/59.94/60；<br>1080i50/59.94/60；720p50/59.94/60 |
| 输出视频格式 | 3G SDI: YCbCr 4:2:2 10bit<br>1080p23.98/24/25/29.97/30/50/59.94/60；<br>1080i50/59.94/60；720p50/59.94/60 |
| 输入音频格式 | HDMI 内嵌 |
| 输出音频格式 | PCM |
| 图传方案 | O3 Pro |
| 最大编码码率 | 40 Mbps |
| 图传延时 | 68 ms (1080p 60fps), 100 ms (1080p 24fps) |
| 视频编码格式 | H.264 |
| 最大图传距离 | 6 km (FCC)，4 km (CE/SRRC/MIC)（无干扰、无遮挡） |
| 最大通信带宽 | 40 MHz |
| 工作环境温度 | -10℃至 45℃ |

[1] 部分地区不支持 5.1/5.2/5.8 GHz 频段，部分地区 5.1/5.2 GHz 频段仅限室内使用，详情请参考当地法律法规。5.600-5.650 GHz 频段未使用。

[2] 通过满电的 WB37 智能电池供电并且配合图传高亮监视器使用，在室温 25℃环境下测得。

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