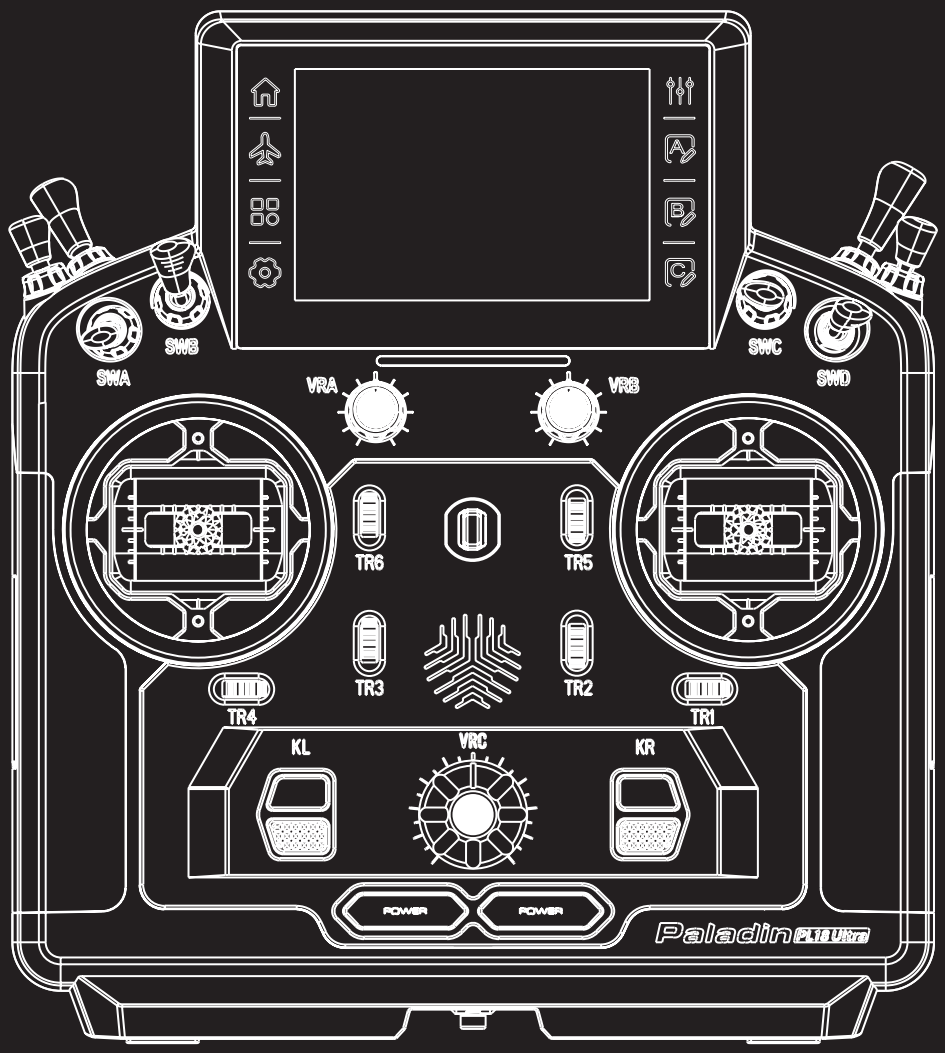
FLYSKY

Paladin PL18 Ultra

2.4GHz AFHDS 3



Quick Start Guide

Precautions!

For your own safety: Make sure to download and read the Disclaimer & Warning documentation from the Flysky website before using this product.

Flysky Website：www.flysky-cn.com

1. The ce warns that the installation of the antenna used in this transmitter must be kept in distance from all the personnel and shall not be used or used with any other transmitter. The end user and the installer must provide antenna installation instructions and transmitter operating conditions to meet the requirements for rf exposure compliance.
2. Hereby, [ShenZhen FLYSKY Technology Co., Ltd.] declares that the radio equipment type [Paladin PL18 Ultra] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:

   www.flyskytech.com/info_detail/10.html

Environmentally friendly disposal

Old electrical appliances must not be disposed of together with the residual waste, but have to be disposed of separately. The disposal at the communal collecting point via private persons is for free. The owner of old appliances is responsible to bring the appliances to these collecting points or to similar collection points. With this little personal effort, you contribute to recycle valuable raw materials and the treatment of toxic substances.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

CE

FCC Compliance Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

FCC SAR statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use when properly worn on the body.

For body worn operation, this model has been tested and meets the FCC RF exposure, Guidelines when used with an accessory desionated fo this product or when used with an accessory that Contains no metal and that

positions the handset a minimum of 25mm from the body. The maximum SAR value is 0.033W/kg when the model used 25mm close to user.

CE SAR statement

This equipment complies with Directive 2014/53/EU radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance.

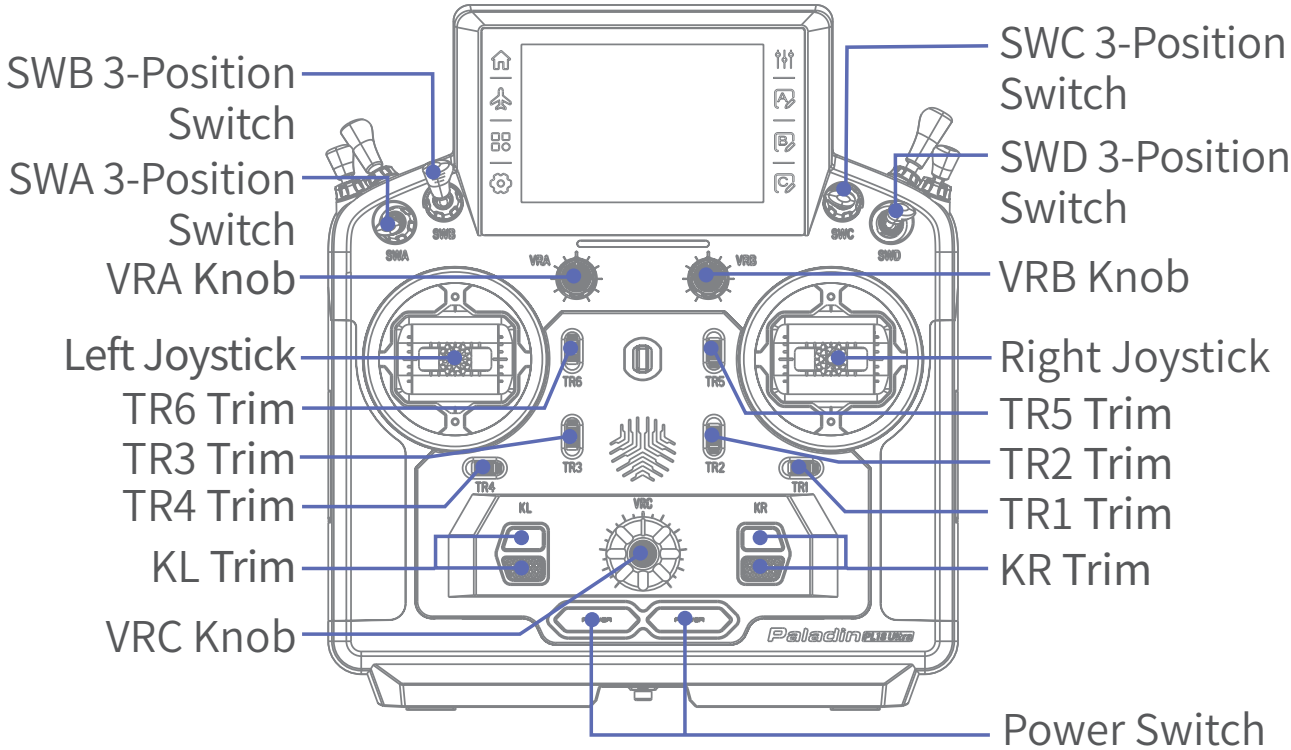
This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter.
The portable device is designed to meet the requirements for exposure to radio waves established by European Union market(France). These requirements set a SAR limit of 2W/kg averaged over ten gram of tissue.

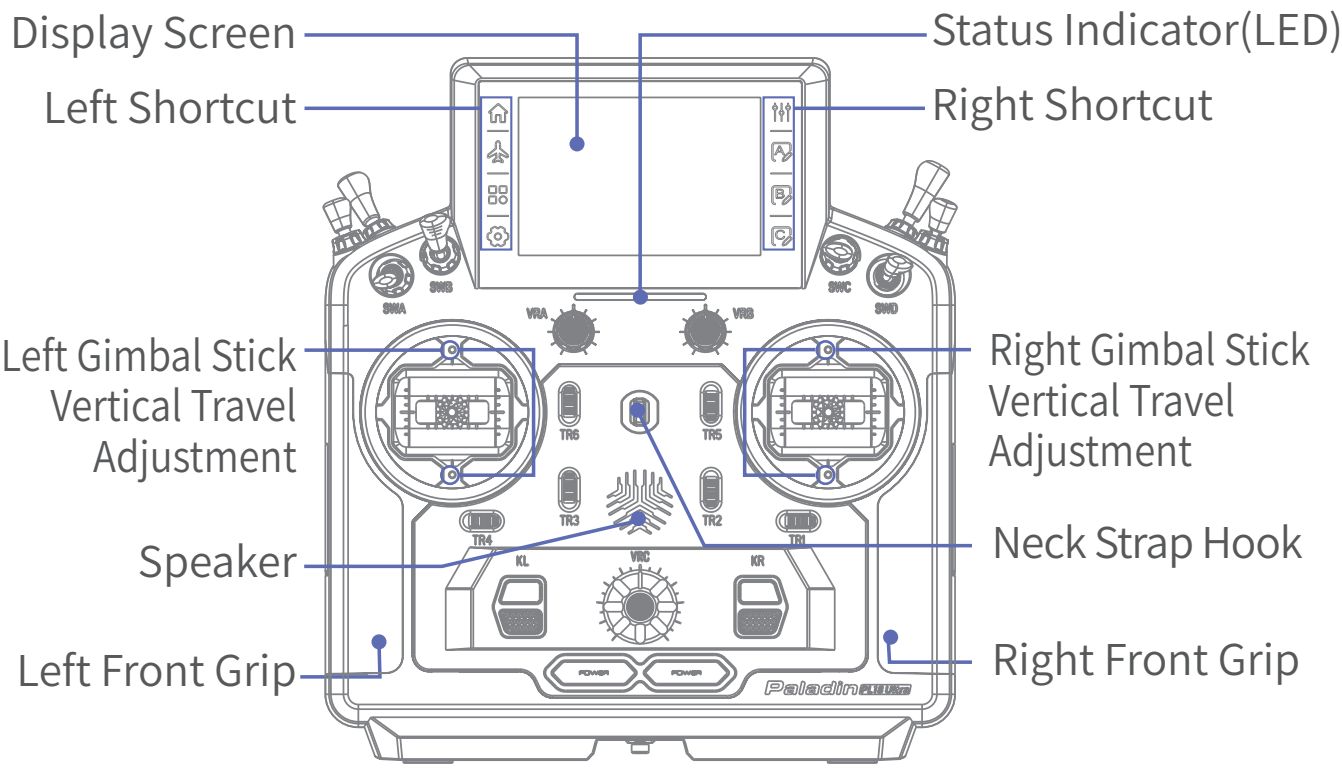
The highest SAR value 0.021W/kg reported under this standard during product certification for use when properly worn on the body.

CAUTION

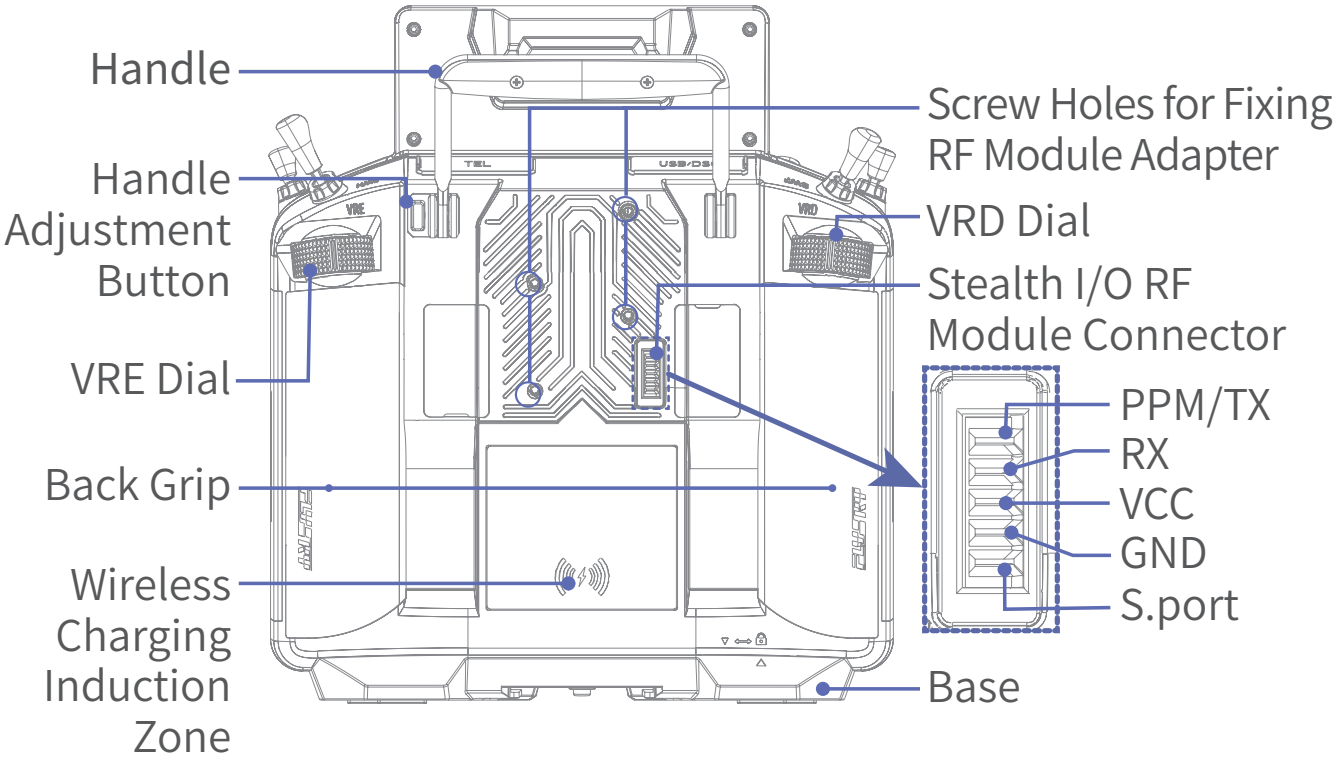
- replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types);
- disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas; and
- a battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

Front View

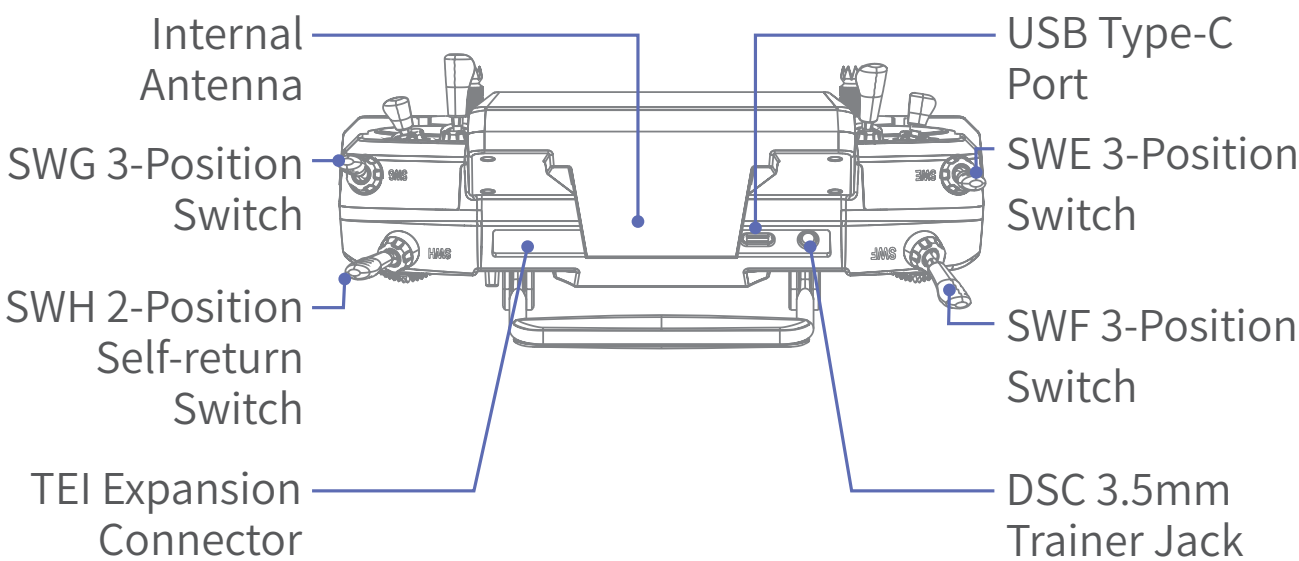

SWB 3-Position Switch
SWA 3-Position Switch
VRA Knob
Left Joystick
TR6 Trim
TR3 Trim
TR4 Trim
KL Trim
VRC Knob
SWC 3-Position Switch
SWD 3-Position Switch
VRB Knob
Right Joystick
TR5 Trim
TR2 Trim
TR1 Trim
KR Trim
Power Switch


Display Screen
Left Shortcut
Left Gimbal Stick Vertical Travel Adjustment
Speaker
Left Front Grip
Status Indicator(LED)
Right Shortcut
Right Gimbal Stick Vertical Travel Adjustment
Neck Strap Hook
Right Front Grip

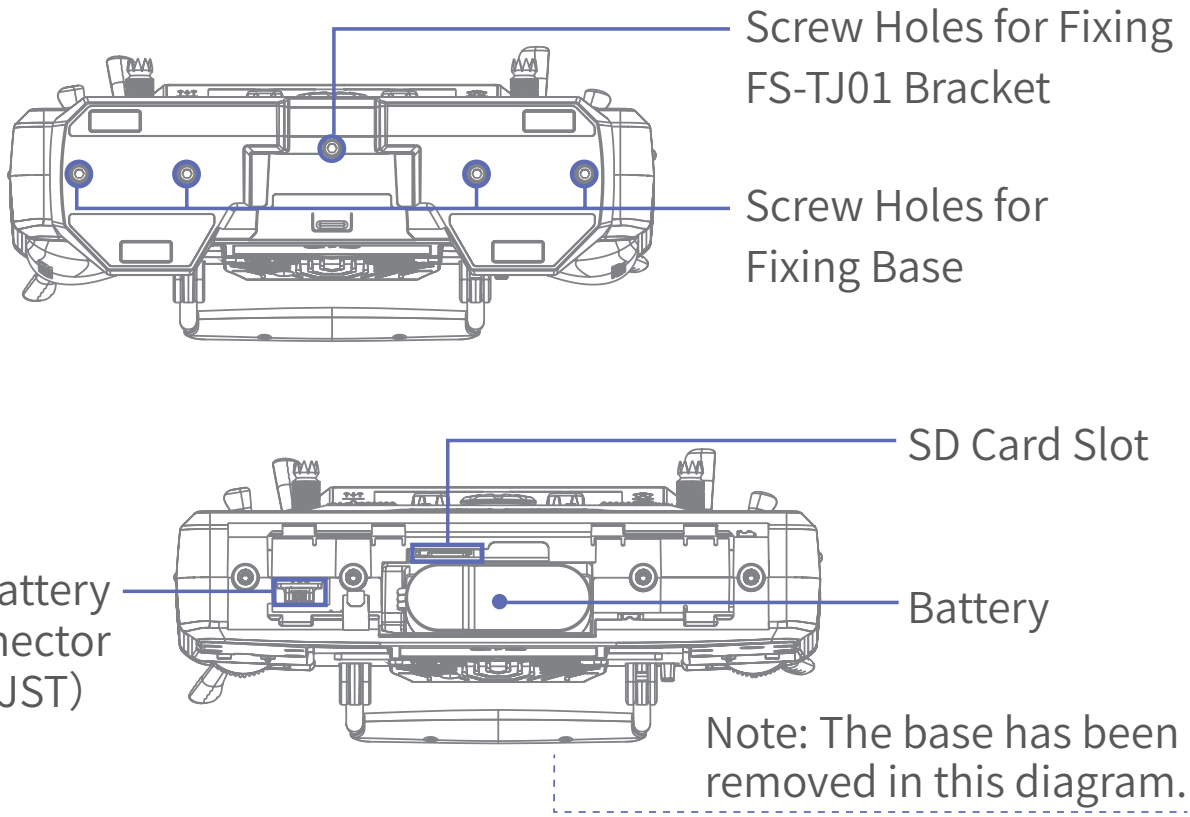
Back View



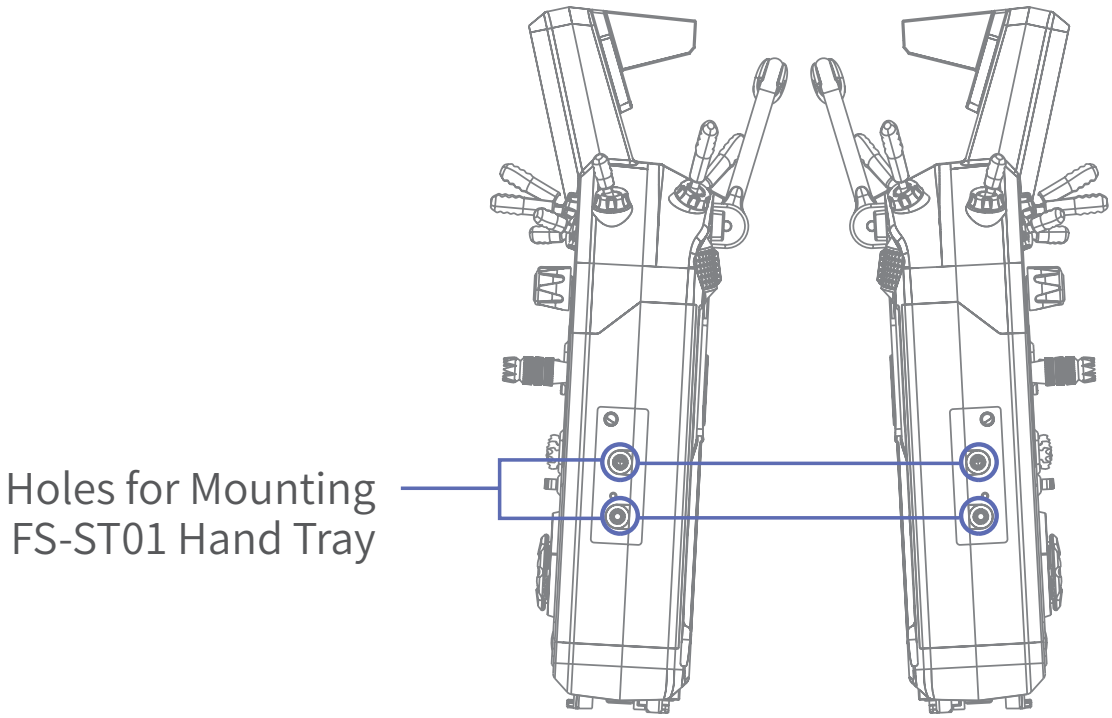
Top View



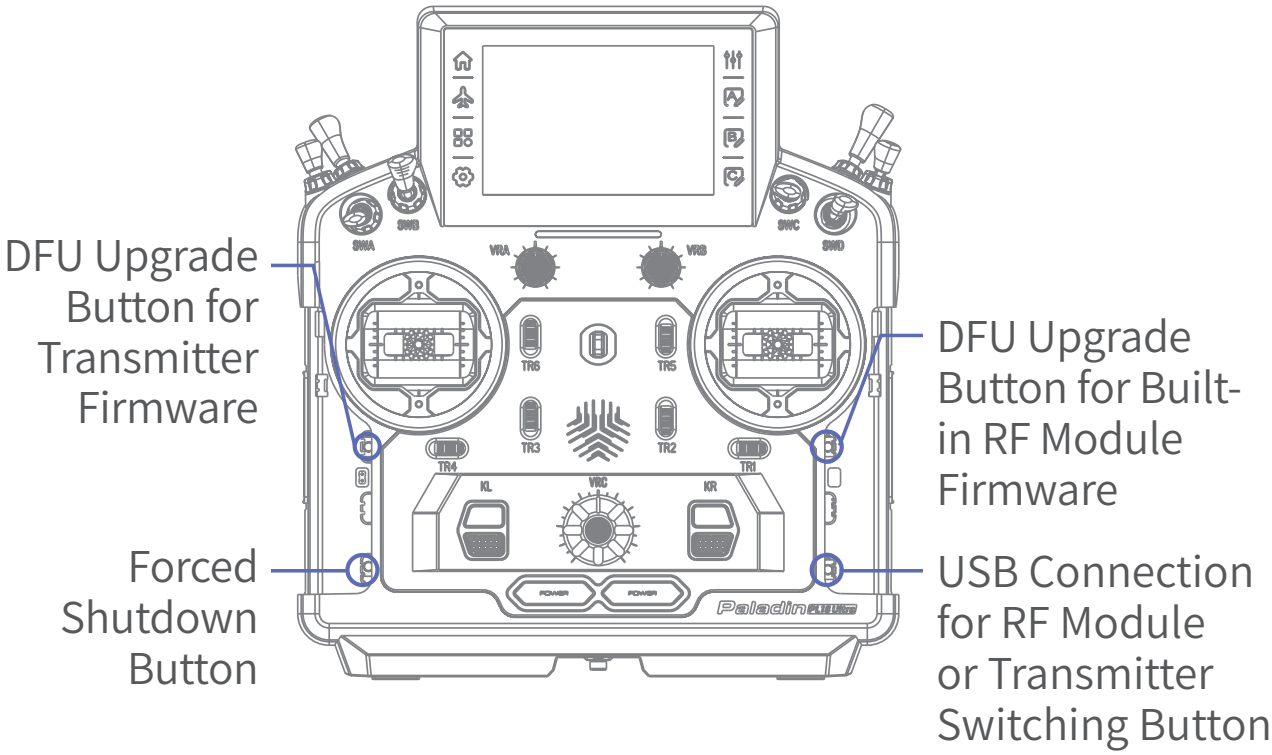
Bottom View



Side View



Buttons Under Left Grip and Right Grip

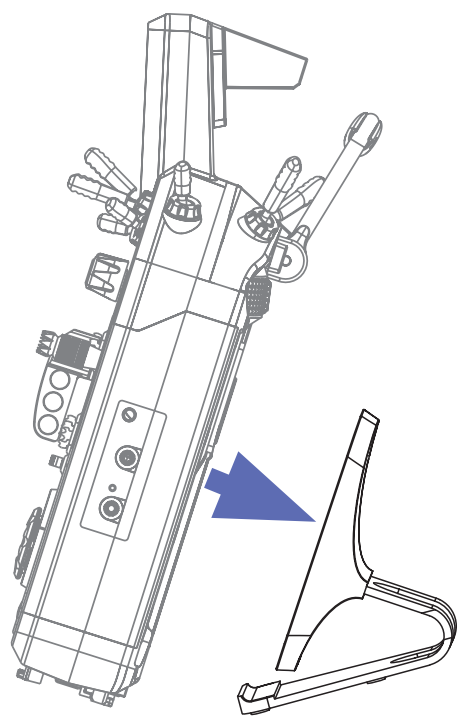


Charging

The transmitter can be charged in two ways: Wired charging (USB charging) and wireless charging.

- Wired charging: The USB Type-C cable is connected to the power supply at one end and to the USB Type-C port of the transmitter at the other end.
- Wireless charging: Use the wireless charging dock to charge it (as shown in the figure).

Wired charging supports fast charging up to 18W, and wireless charging supports fast charging up to 12W, both of which will be shown as fast charging mode.



If you use a fast charging charger that cannot recognize by the transmitter, it will be shown as normal charging.

Please use the standard charging cable of this transimitter to charge it. Improper use may cause damage to the battery and affect its cycle life.

Notes:

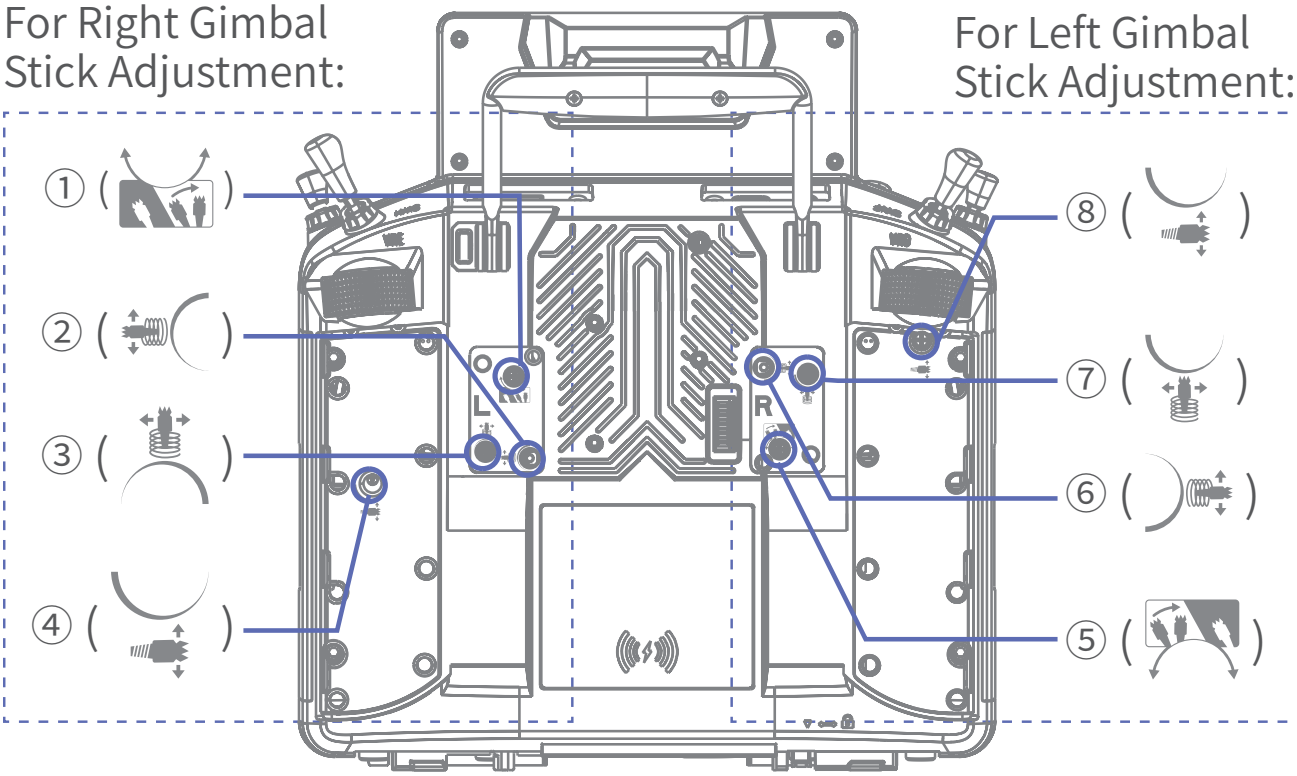
1. Before the transmitter is turned on, and the transmitter with the computer is connected via the USB Type-C cable. After the transmitter is turned on, a pop-up window will appear, indicating to select the USB function: "Charge" or "Online ". If you choose "Charge", the transmitter does not communicate with the computer. If you choose "Online", the transmitter communicates with the computer, that is, FlySky Assistant or simulator software can be accessed.
2. By default, wired charging is prior to wireless charging, namely, if the transmitter is connected to both wireless charging and wired charging, wired charging is enabled and wireless charging is disabled.
3. Charging in a low temperature, battery capacity and cycle life will reduce.
4. Do not storage exceed half year. Must charge at least once when storage half year, and must charge the battery when storage for three months.
5. If the transmitter has removed the battery or the battery is in over-discharge protection, the transmitter cannot be turned on by connecting the power supply via the USB Type-C cable, it can be powered on by re-installing the battery or when the battery is charged to a usable state.

Gimbal Assembly Adjustment Instructions

Gimbal Assembly Non-Self-Centering(Self-Centering)/ Friction/ Tension Adjustment

For Right Gimbal Stick Adjustment:

For Left Gimbal Stick Adjustment:



As shown above, by adjusting the screws which are located in the screw holes in the back of the transmitter, the gimbal stick can be set to either self-centering or non-self-centering and the friction in case of non-self-centering, as well as changing stick tension in case of self-centering (Remove the grips to find the relevant screw holes and screws). Screw description is as following:

①.⑤	Gimbal stick self-centering/non-self-centering adjustment	②.⑥	Gimbal stick vertical tension adjustment
③.⑦	Gimbal stick horizontal tension adjustment	④.⑧	Gimbal stick vertical friction adjustment

Always perform a stick tension test while turning the screws to ensure stick tension is not too loose or too tight.

Overtightening a screw can damage the spring. Loosening a screw too far can cause a spring to fall out in the transmitter and possibly damage the circuitry within. Pay attention to the force when adjusting.

Take right gimbal stick as example.

Non-Self-Centering to Self-Centering

1. Use the screwdriver to adjust the screw ① (shown on previous diagram) counterclockwise until the gimbal stick changes to self-centering.
2. Adjust the screw ④ counterclockwise to adjust the frictional force.
3. If you need to adjust the vertical centering force or horizontal centering force, adjust the corresponding screw ③ or ② accordingly. The force increases clockwise, and decreases counterclockwise.

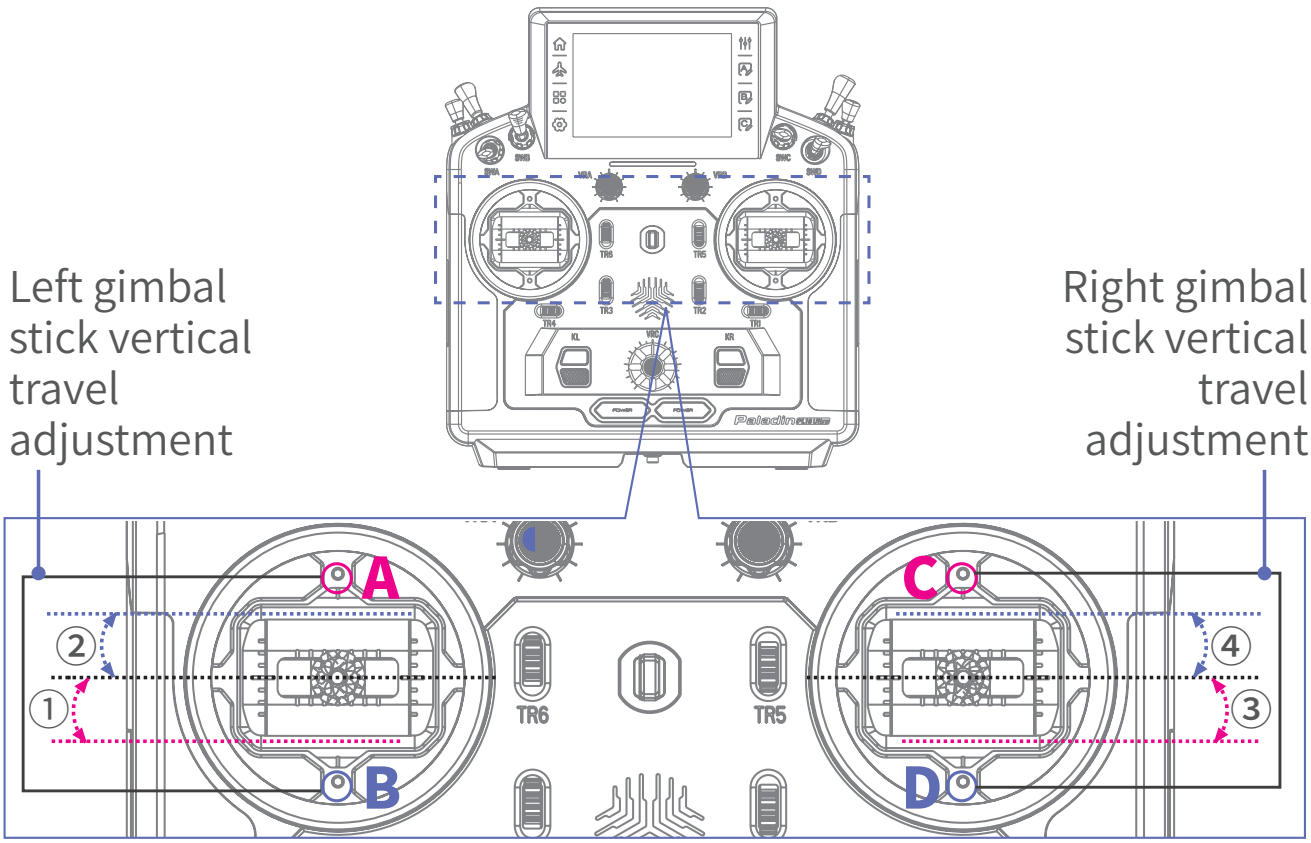
Self-Centering to Non-Self-Centering

1. Use the screwdriver to adjust the screw ① clockwise until it is tightened so that the gimbal stick changes to non-self-centering.
2. Adjust the screw ④ clockwise to strengthen the frictional force.
3. If you need to adjust the horizontal centering force, adjust the screw ③ accordingly. The force increases clockwise, and decreases counterclockwise.

Gimbal Assembly Vertical Travel Adjustment

For the gimbal assembly of the transmitter, the adjustable range of mechanical travel is from 38° to 54° . Travel can be adjusted as your desired.

After the adjustment is finished, the stick must be recalibrated.



The screw **A** is used to adjust ① half travel, and the screw **B** is used to adjust ② half travel. The screw **C** is used to adjust ③ half travel, and the Screw **D** is used to adjust ④ half travel.

Note: Pay attention to the force when adjusting.

The steps are as follows:

1. Use a metric 1.5mm Allen wrench to adjust the corresponding screw in a clockwise direction to increase the travel.
2. Adjust the corresponding screw in the counterclockwise direction to decrease the travel.

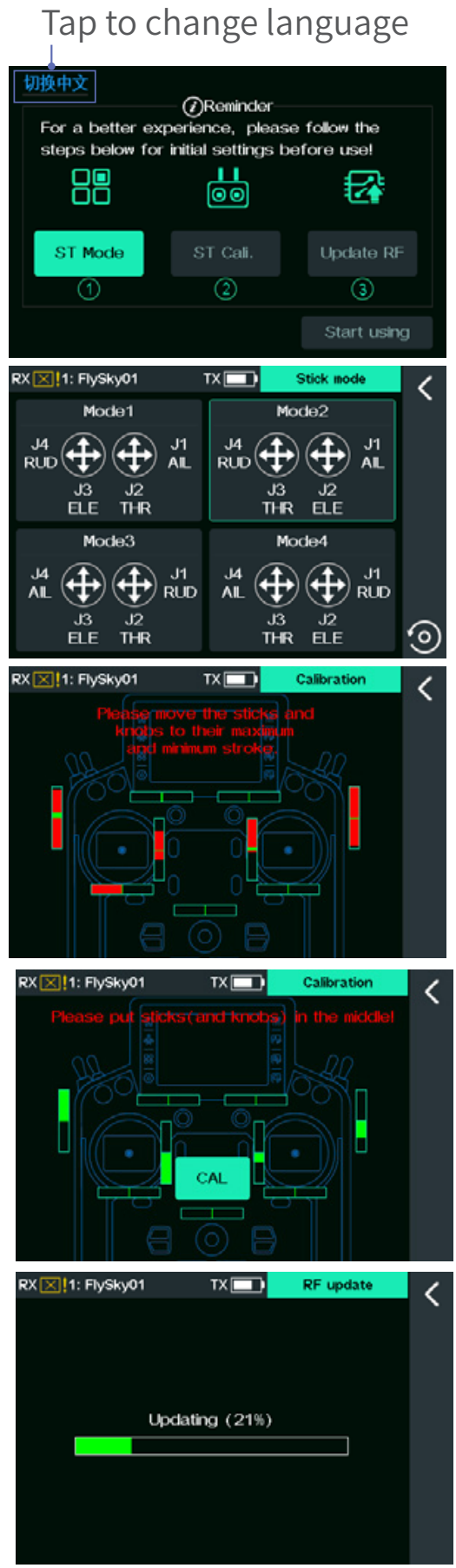
Powering ON

When the transmitter is powered on for the first time, the power-on wizard interface will appear. Finish the settings on Stick Mode (ST Mode), Stick Calibration(ST Cali.) and Update RF according to the interface prompts, and then click Start using.

The transmitter will also enter the power-on wizard function after upgrading the firmware via TX firmware update function or do resetting via the Factory reset function.

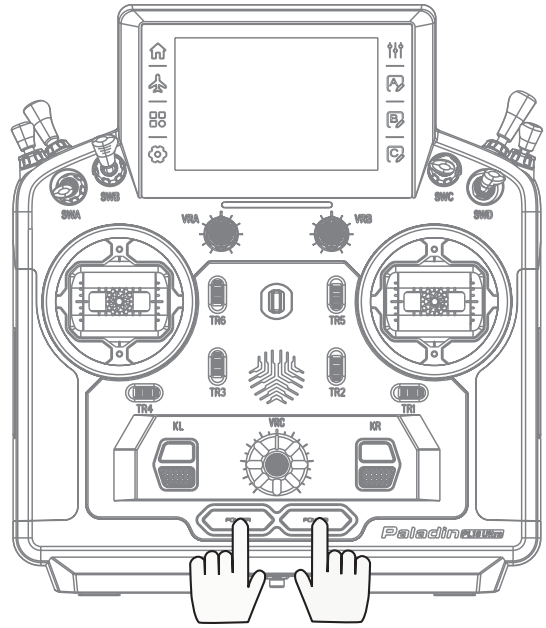
In addition to this, please follow the steps below to power on the transmitter:

1. Check to make sure that the battery is fully charged;
2. Press and hold the two Power Switches at the same time until the screen turns on;
3. Follow the pop-up prompts accordingly to power on the transmitter.
    - Whether to turn on the transmit function. If RF is not required for this power-up, the transmit function can be switched off.
    - Whether the switch in a safe position. (A red background on a control indicates that the position needs to be adjusted.) Check the position of the control



according to the prompts and move it to the correct position.

- Whether the current model is set failsafe. To turn off the failsafe setting reminder when powering on the device, click Ignore or turn off "Startup reminder failsafe is not set" in General.



Powering OFF

Follow the steps below to turn off the transmitter:

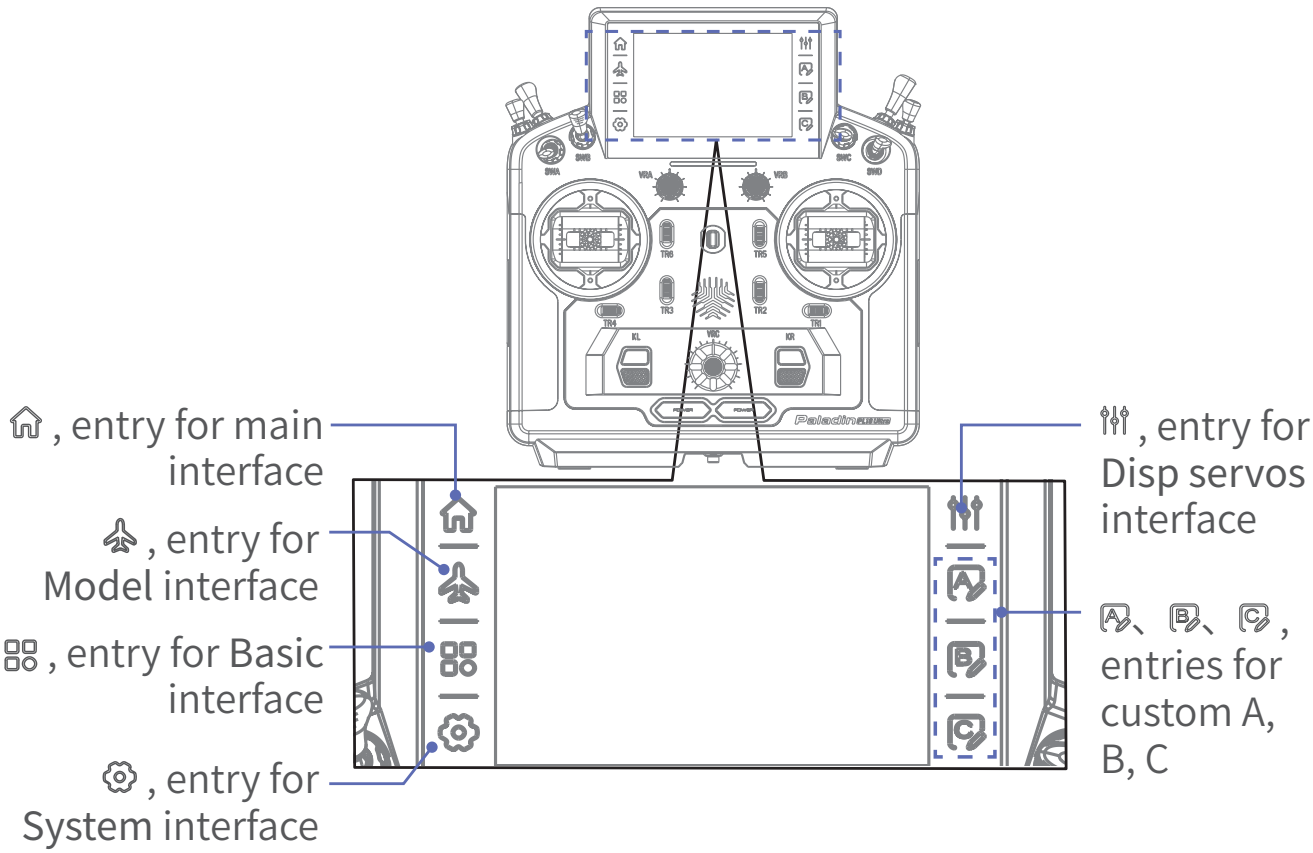
1. Power off the receiver first.
2. To shut it down, press the two power switches of the transmitter at the same time for three seconds until the screen displays "Shut down ⋯ Please waiting for!" After the system saves the data, it will shut down automatically.

Note: When you press the power switches at the same time, the screen will display a prompt of shutdown time and dormancy mode icon. Refer to the Auto sleep section of the user manual for dormancy function.

Always power off the receiver before the transmitter, failure to do so can result out-of-control. Unreasonable setting of the Failsafe may cause accidents.

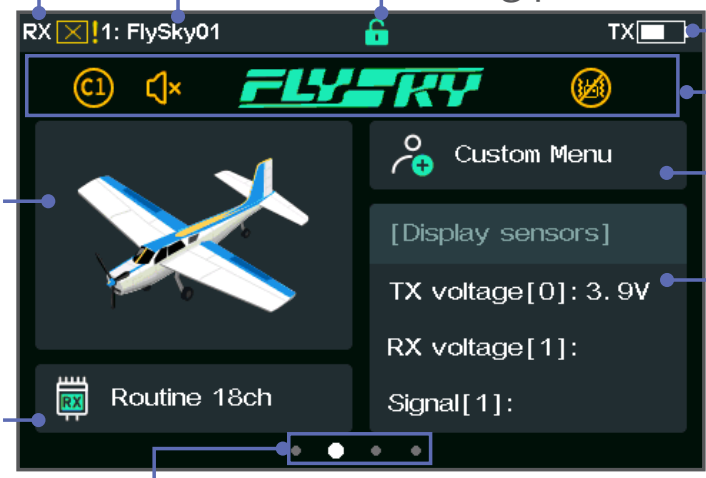
Main Screen Introduction

Left and Right Shortcuts



Note: Custom A, Custom B and Custom C of the Right Shortcut are not assigned by default and do not respond when touching. Then after setting the specific functions, you can use the shortcut here to access the corresponding function quickly.

Main Interface



Model Name

Display signal strength /RX is not connected /RF is disabled

Current Model image; and entry for Model Select

RF System, and entry to Bind setting

Note: This area is not displayed when the RF is set to PPM, CRSF, or CRSF2.

Lock Icon,tap lock the screen; long press the icon to unlock.

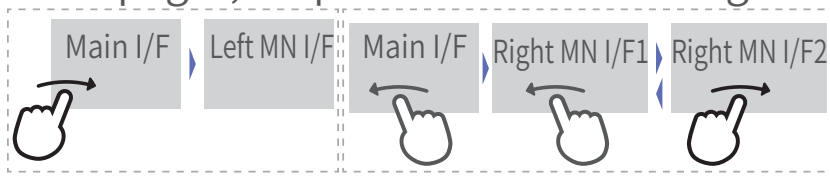
Transmitter Power

Status Column

Entry for Custom Menu

Dispaly TX voltage, RX voltage, Signal; and entry for Sensor

Four dots indicates four pages: The white dot indicates the current page, and the gray dots represent the other pages. To enter the other pages, swipe the screen left or right.



Note: The function icon shown on the Status Column indicate that the corresponding function has been activated.

Right Main Interface 1

Display real-time information of record object 1; entry for Data Record

Display real-time information of record object 3; entry for Data Record

Display real-time information of record object 2; entry for Data Record

Display real-time information of record object 4; entry for Data Record

Note: The record object can be set to Sensor Data, Output Channel or Stick or Knob.

Right Main Interface 2

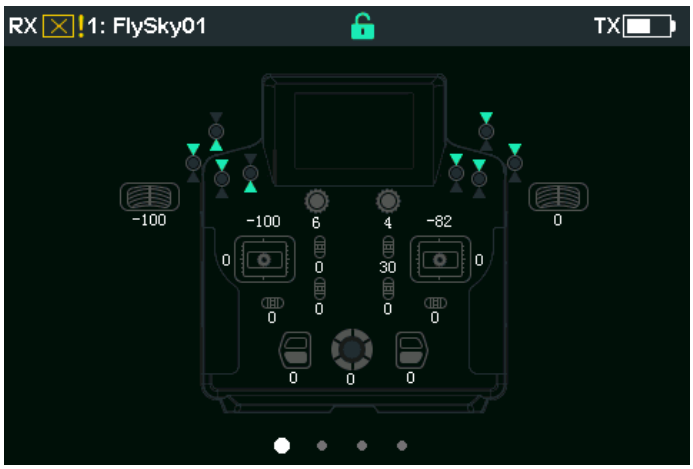
Timer Display: 1; and entry for Timer Display: 1

Timer 1; and entry for Timer1

Timer Display: 2 ; and entry for Timer Display: 2

Timer 2; and entry for Timer2

Left Main Interface 2



For Switches: Display the current physical position of the switch.

For Knobs/Dials: Display the current value of the knob.

For Sticks: Display the current value of the stick.

For Trims: Display the current value of the trim.

The Introduction about the Icons of the Function Interface

	The screen is locked, and doesn't work.		The screen is unlocked, and can be tapped.
	Function is disabled.		Function is enabled.
	Restore to default settings.		For all conditions
	To assign controls.		For the current condition
	To increase the value, long press to increase rapidly.		To decrease the value, long press to decrease rapidly.

Note: The icon (/) in the Digital Trims is used to lock or unlock the trim; after clicking (unlock), it changes to (lock). At this time, when operating the control corresponding to the trim, the trim value will not change.

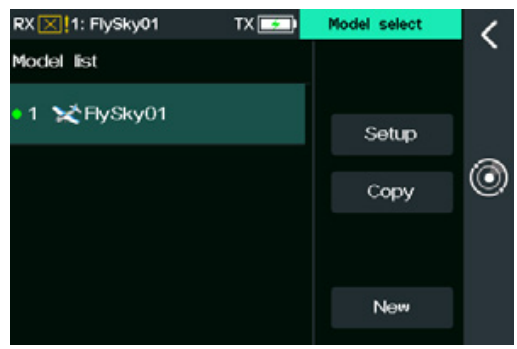
Model Select

This function is used to create a new model by Copy or New function, and delete all models except the current model, or search the receiver corresponding to the model. The settings of the models vary for the different models. This function provides opportunities that one transmitter can adapt varieties of real models. PL18 ultra transmitter can store up to 50 different models.

Take creating a new model by Copy as an example. Refer to the Copy section for the New/Delete Model function settings.

Setup:

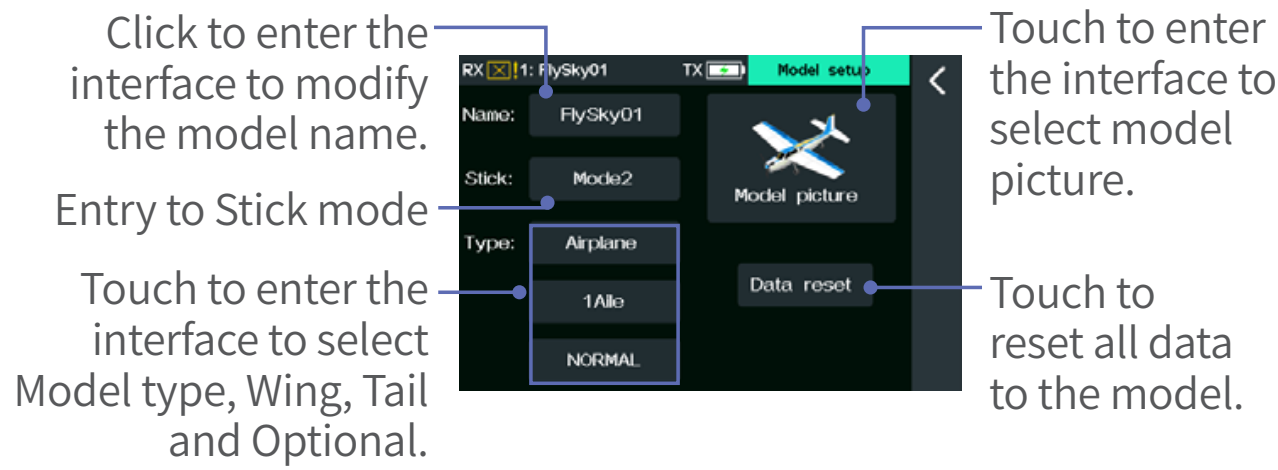
1. Tap (Basic)>Model Select to enter.
2. Touch the model you want to copy.
3. Click Copy, then click Yes on the popup screen to finish copying.



Models

The PL18 Ultra transmitter supports seven models, including airplanes, helicopters, gliders, multicopters, cars, boats and robots. You can set the related settings of models, such as parameters, functions.

Take the airplane as an example, for other model settings, refer to the setup section of the airplane.



Setup:

1. Tap (Basic) > **Models** to enter, and then click **Airplane**.
2. Click the wing structure according to actual model.
3. Click the tail structure according to actual model.
4. Click the functions according to actual model.

Updating Transmitter Firmware

Put the transmitter to enter updating mode. In case of updating the firmware of the transmitter, use this function to put the transmitter to enter updating mode first, then upgrade the transmitter's firmware.

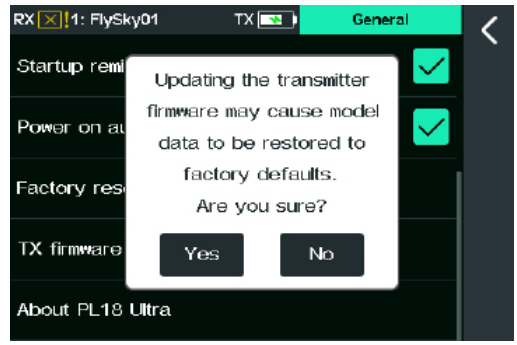
WARNING	• Do not unplug the USB Type-C cable while the firmware is updating.

Setup:

1. Download the latest firmware, then open it.
2. Connect the PC and PL18 Ultra transmitter via USB Type-C cable.
3. Access (System) > **General**, then

Tap TX firmware update, a pop-up screen appears. Click Yes to put the transmitter into updating mode.

4. At the PC side, click Update to start.
5. The tranmitter will power on again when the updating process is finished. Then remove the USB Type-C cable and close the firmware.



Note: The firmware of the transmitter can also be updated by FlyskyAssistant. In such case, only make sure the transmitter is connected to the PC via USB Type-C cable.

Updating Receiver Firmware

Update receiver firmware. The PL18 Ultra includes firmwares for receivers such as FTr8B and FTr12B.

It can also be updated via FlyskyAssistant. Please note that this function is applicable for the FlyskyAssistant firmware version 3.0 or later.

Setup:

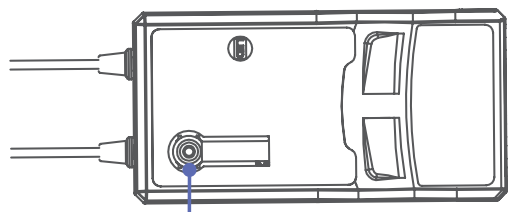
1. The transmitter and the receiver has bound normally.
2. Tap (Basic) > RX setting > Receiver Update to enter and select the receiver you want to update.
3. Click Update, then click OK in the pop-up screen to enter the updating status.
4. After the updating is finished, it is will automatically return to the previous interface.

Note: If the receiver's firmware is the latest version, a pop-up prompt will appear and prompt no update required.

After the transmitter has updated a firmware, it is unable to bind to the receiver, the receiver firmware should be updated forcedly.

Taking the FTr8B receiver as an example, the firmware of the receiver can be forced update in two ways as following:

- Power on the receiver while pressing the BIND button for over ten seconds until the LED operates in a three-flash-one-off mode repeatedly; then release the BIND button.
- Power on the receiver first, then long press the BIND button for more than 10 seconds until the LED operates in a three-flash-one-off mode repeatedly, then release the BIND button.

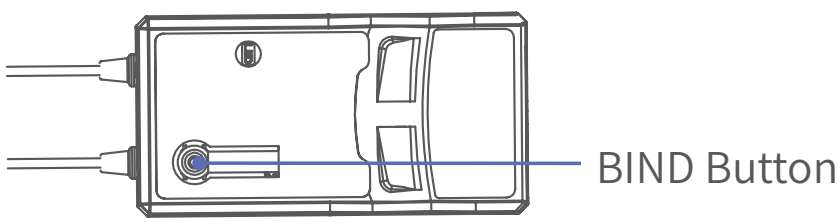


Note: Different receivers may enter the forced update state in different ways, go to the FLYSKY website to query the instructions of the relevant receiver.

Binding

The transmitter and the receiver have been pre-bound at the factory, however, if you need to bind a new receiver or rebind the original receiver, follow the steps below.

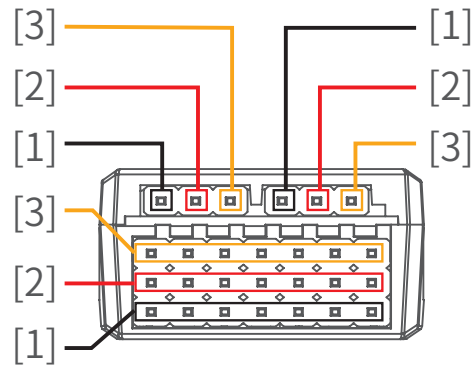
Take FTr8B receiver as example, the overview of FTr8B receiver is the following.



[1] - (Power Cathode)

[2] + (Power Anode)

[3] S (Siginal Pin)



Notes:

1. Flysky AFHDS 3 classic edition receivers include FTr10, FGr4, FGr4S, FGr4P, FTr4 and FTr16S. Other Flysky AFHDS 3 receivers are enhanced edition receivers.
2. These RF system options: Routine 18ch, Lora 12ch and Fast 8ch are compatible with AFHDS 3 enhanced edition receivers. Routine 18ch: Provide 18 channels with moderate communication distance; Lora 12ch: Provide 12 channels with super anti-interference and moderate communication distance; Fast 8ch: Provide 8 channels, fast communication within short distance. While Classic 18ch and C-Fast 10ch are are compatible with AFHDS 3 Classic edition receivers. Classic 18ch: Provide 18 channels. C-Fast 10ch: Provide 10 channels, and the delayed effect is better than Classic 18ch. After clicking Bind, a prompt of supported receivers will be popped up. Select the appropriate RF system option according to the actual application scenarios and the actual receiver models.
3. When you select Routine 18ch, with choosing Two way connection, the transmitter will support Double RX mode, one RX mode is the default mode. In this mode, set the Starting channel of the primary and secondary receivers first, and then bind the primary receiver and secondary receiver with the transmitter, respectively. Click Bind, the transmitter will enter the binding state.
4. If External RF type(in RF setting function) is set to other than PPM, CRSF or CRSF2, the Bind setting can also be accessed through the RF setting interface.

Setup:

1. Tap ⊞ (Basic) > RX setting > Bind setting to enter the bind setting

interface.

2. Click the appropriate RF system and select whether two-way communication is enabled, then set the starting channel for the enhanced edition receiver. After that, tap **Bind**, and the transmitter will enter the binding state.
3. Press and hold the BIND button on the receiver while powering it on; the LED of the receiver will flash rapidly to indicate that it has entered the binding state.
4. The binding process is finished when the LED of the receiver stops flashing and is solid on.
    - When the transmitter enters binding state in one-way mode, after the receiver LED becomes slow flashing, then put the transmitter to exit the binding state by taping . At this time, the receiver LED is solid on indicating the binding is successful.
5. Check to make sure the transmitter and the receiver are working normally, repeat steps above if any problems arise.

⚠ Failsafe

The failsafe function is used when the receiver loses signal and is out-of-control. The receiver performs channel output according to the set failsafe value to protect the safety of the model and personnel.

The system provides the following several settings:

- To set failsafe judgment time. The system supports setting the failsafe judgment time, and the default judgment time vary with different RC model.
- You can enable/disable the function of Startup reminder model failsafe is not set.
- Set to disable the signal output of i-BUS-out and PPM protocol connectors in case of out-of-control; you can set failsafe values channel by channel, there are four modes that can be set, including Not set (No output), No output (the settings are only

for some special models or some flight control board detection ports), Hold, and Fixed value; To set all channels. With this function, you can set the output value of all channels that have been set to a fixed value after out-of-control.

- This function interface is also equipped with a test failsafe function, which can simulate that after the model is out-of-control, the transmitter will turn off the RF output, and the model will enter the failsafe status, and all channels will be output according to the failsafe settings.

Setting Recommendations:

1. Considering that the aircraft/glider can glide down without power, users can set the throttle to the lowest value or low idle speed, and the rest of the channels to smooth flight (or hovering).
2. The helicopter throttle is set to the lowest value, and the rest of the channels is set to smooth flight.
3. For multicopter settings, please refer to the relevant manual.
4. If the device connected to the receiver has requirements on the failsafe state setting, it can be set as required.

Note: The above suggestions are for reference only. The specific settings are subject to the actual flight conditions.

Failsafe Judgment Time

Used to set the failsafe judgment time, the setting range is from 250ms to 1000ms.
The default judgment time vary with different RC model. For Airplane, Glider, Helicopter and Multicopter, the failsafe judgment time is 700ms by default, and 300ms for Car, Ship, and Robot.

Setup:

1. Tap ⊞ (Basic) > RX setting > Failsafe

to enter.

2. Tap **Failsafe judgment time** to enter.
3. Click +/- to set the appropriate value, then click ◀ to return.

Startup Reminder Model Failsafe Is Not Set

Used to set to check or uncheck the **Startup reminder model failsafe is not set**. Note: If the " Startup reminder failsafe is not set" (⚙ System> General) function is checked and all channels are in Not Set (No Output) status, a pop-up window will prompt that failsafe has not been set when the transmitter is turned on.

Setup:

Tap the box next to right of the function, when it is not ticked (■), it indicates that the function is disabled.

Failsafe Test Function

Setup:

1. Tap , a popup window comes along with it as shown. Press and hold for over 1 second, then the system turns off RF. And the receiver output channel value according to failsafe settings.
2. Release , the RF will be enabled, and the connection will be restored.

Setting i-BUS-out & PPM to no output

After Set i-BUS-out &PPM to no output is selected, regardless of

failsafe setting, these two types of failsafe signals are always no output. By default, it is enabled.

Setup:

If the checkbox next to right of the option is not ticked(■) indicating that the function is disabled. After losing control, output the failsafe value by channel: either a fixed value or maintaining the last output value.

Setting A Channel

Can be used to set the output signal states of channels 1~18 respectively: Not set (No output): This indicates that the failsafe of this channel has not been set; No output: This means that there is no output(only for some special models or some flight control board detection ports); Hold:This means the last channel value is kept in case of out-of-control; Fixed value: This means that you can set the failsafe output value by moving the control, then the value set will output.

Setup:

1. Tap a desired channel to enter.
2. Tap the desired function options. If the fixed value is selected, turn the Stick(Switch, Knob or LSW) to the desired position and hold it, and click ◣ to finish.

Setting All Fixed Value Channels

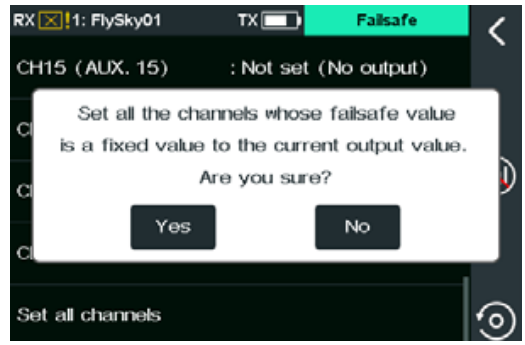
Used to set the output value of all channels that have been set to a fixed value after out-of-control.

Setup

1. Tap Set all channels, a prompt

menu will pop up.

2. Move all controls corresponding to channels with fixed values and hold if needed.
3. Tap Yes to finish.



PWM Frequency

The receiver's output frequency of PWM signals can be regulated. Theoretically, the higher the frequency, the faster the signal is refreshed, and the faster the servo responds to the signal change. However, some servos may not support PWM signals with excessively fast frequency. You may need to take into account the servo's performance when doing such settings.

The interface of this function may vary with binding modes. For enhanced edition receivers, the PWM frequency of each channel can be set separately, and the options include analog servo (50Hz), Digital servo (333Hz), SR (833Hz), SFR (1000Hz) and Custom.

If a classic edition receiver is bound, all channels are set together, and cannot be set to SR (833Hz) and SFR (1000Hz)

When SR (PWM frequency: 833 Hz) and SFR (PWM frequency: 1000 Hz) are selected, the overall system delay will be decreased, but the pulse range of PWM signals is changed. Please make sure the servo supported the corresponding frequency is a digital servo and the setting is correct. Otherwise the servo may not work properly, or even get damaged.

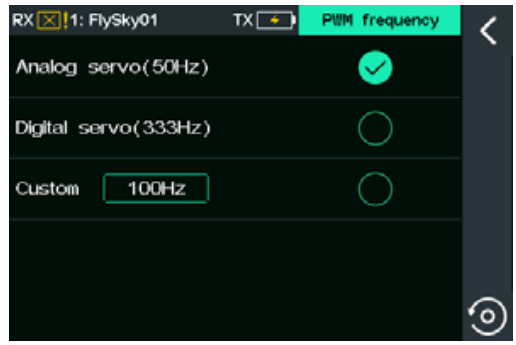
Take the single-channel setting of the enhanced version receiver as an example.

Setup:

1. Tap ⊞ (Basic)> RX setting > PWM Frequency to enter the setting interface.
2. Click the function item you want to set to enter, then tap the corresponding option as your desired, and click ◧ to return.
3. If you choose Custom, click +/- to adjust the frequency.
4. If you choose Synchronized with RF, click the check box at the right. " √ " means the function is activated. The PWM output is synchronized with the timing of the (RF) radio signal reception.

Enhanced Edition Receiver

Classic Edition Receiver



- For more information, please read the full user manual.

Figures and illustrations in this quick start guide are provided for reference only and may differ from actual product appearance. Product design and specificatiions may be changed without notice.

Specifications

Product Model	PL18 Ultra
Compatible Receiver	AFHDS 3 protocol receivers, such as FTr12B, FTr8B, Tr8B, FTr10, FTr16S, FTr4, INr6-HS and TMr for RC air models, FGr8B, FGr4B, FGr12B, FGr4P, FGr4S, FGr4 and GMr for RC cars, FBr12 for RC boats, etc.
Compatible RC Model	Fixing-wing airplanes, helicopters, gliders, multicopters, cars, boats or robots
Number of Channels	18
Number of Bands	171
RF	2402.15MHz-2479.85MHz
RF Protocol	AFHDS 3
Maximum Power	<20dBm (e.i.r.p.) （EU）
Antenna	Two built-in antennas (FPC antenna)
Input Power	1S (3.6V)*8700mAh
Charging Jack	USB Type-C/ Wireless charging
Low Voltage Alarm	Yes
Data Connector	USB Type-C, TEI expansion connector, DSC 3.5mm Trainer Jack(PPM), SD card slot
Resolution	4096
Display	IPS colour Touchscreen with 320*480 resolution
Distance	More than 3500m (Air distance without interference)
Online Update	Yes
Color	Black
Operating Temperature	-10°C ~ +60°C
Charging Temperature	0~45°C
Humidity Range	20%~95%
Weight	1005g
Language	Chinese or English
Dimensions	212.5*86.7*191mm
Certifications	SRRC, CE, FCC ID: 2A2UNPL18ULTRA

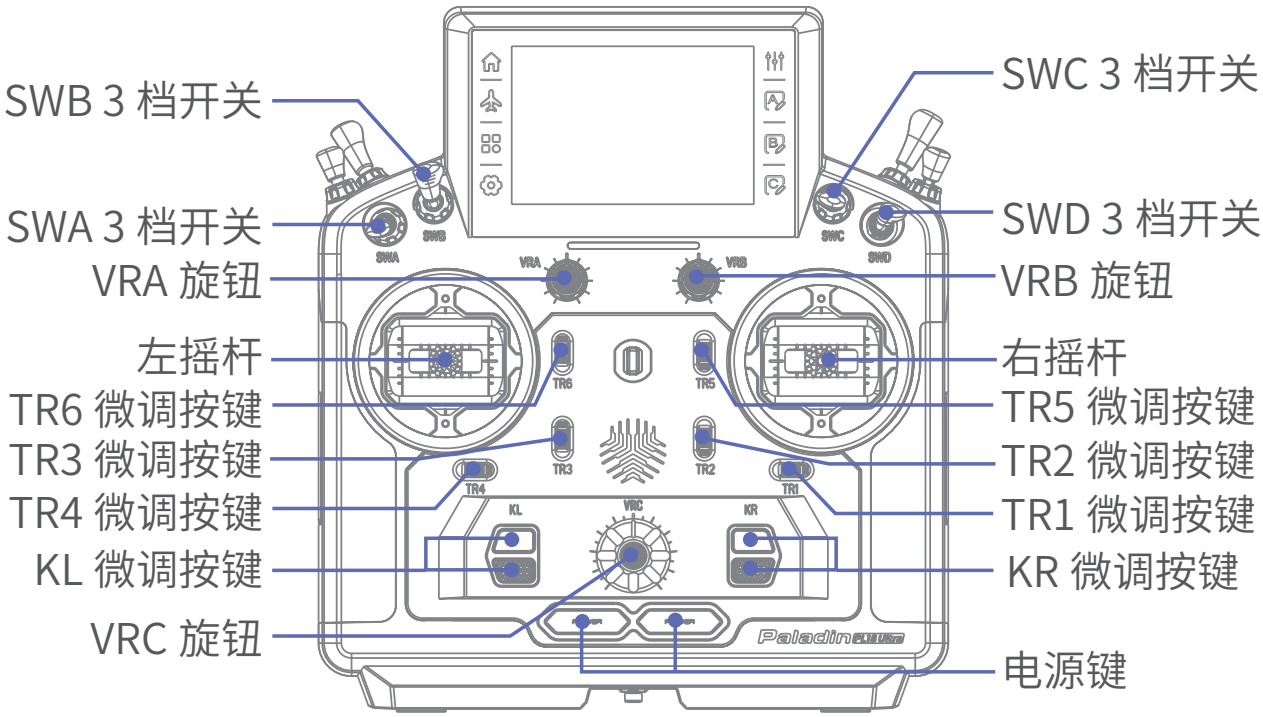
注意事项！

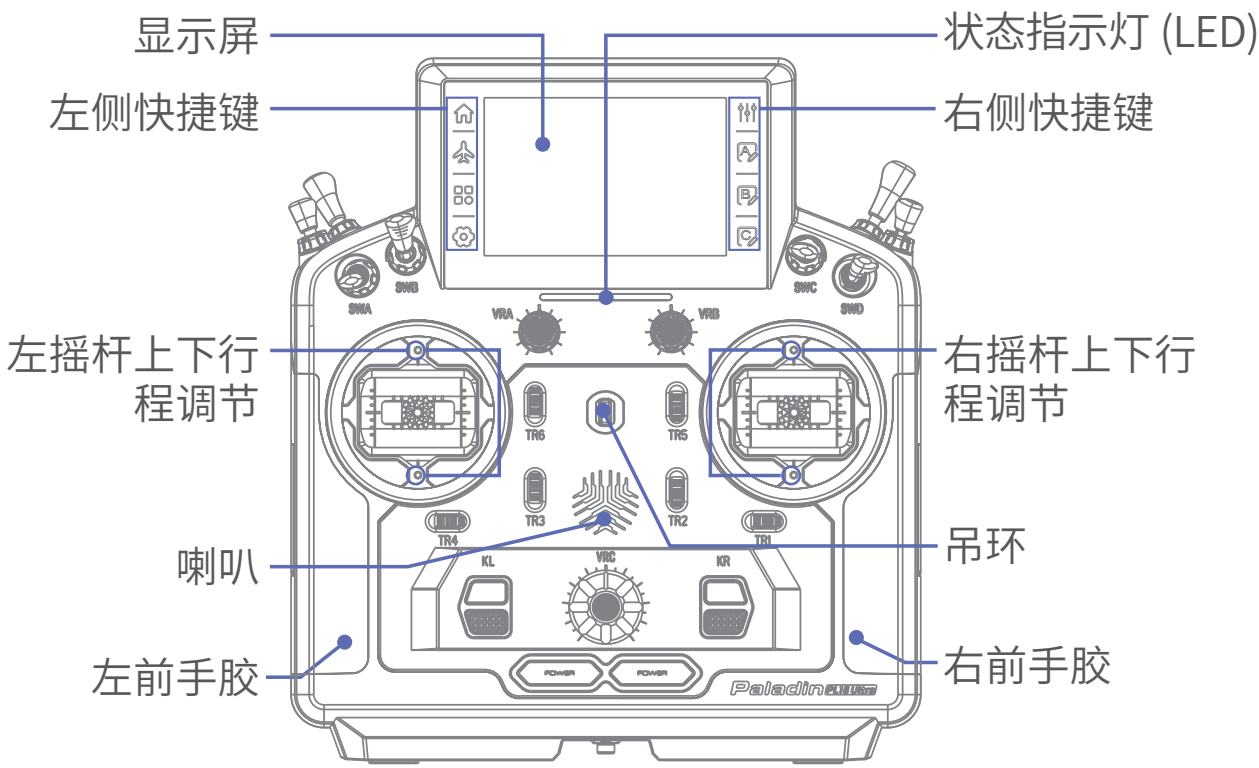
开始操作前请务必在 Flysky 官网下载并阅读《免责声明 & 警告》了解安全注意事项，并在 Flysky 官网下载阅读使用说明书。

Flysky 官网地址：www.flyskytech.com

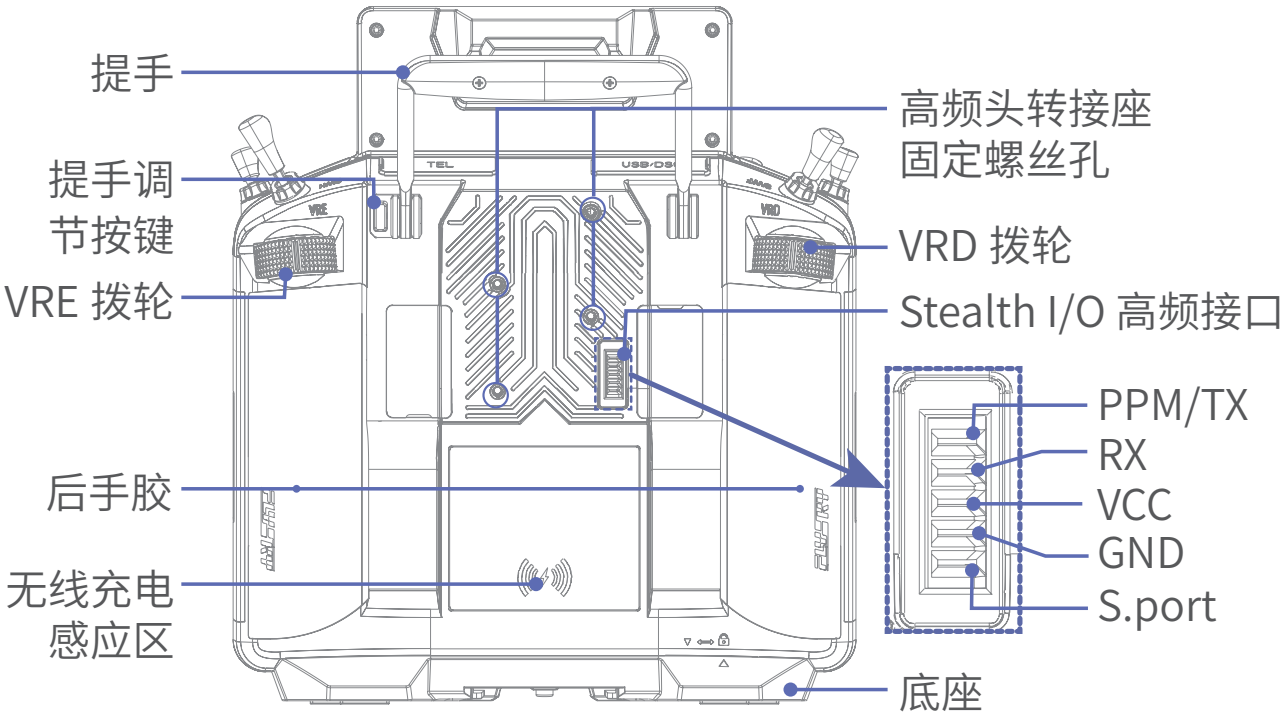
1. 此发射机所用天线的安装必须与所有人员保持距离，不得与任何其他发射机共用或一起使用。必须向最终用户和安装人员提供天线安装说明和发射机操作条件，以满足射频暴露合规要求。
2. 特此，【ShenZhen FLYSKY Technology Co., Ltd.】声明无线电设备【Paladin PL18 Ultra】符合 Directive 2014/53/EU .
3. 欧盟 DoC 声明全文可在以下互联网地址：www.flyskytech.com/info_detail/10.html 获取。

前视图

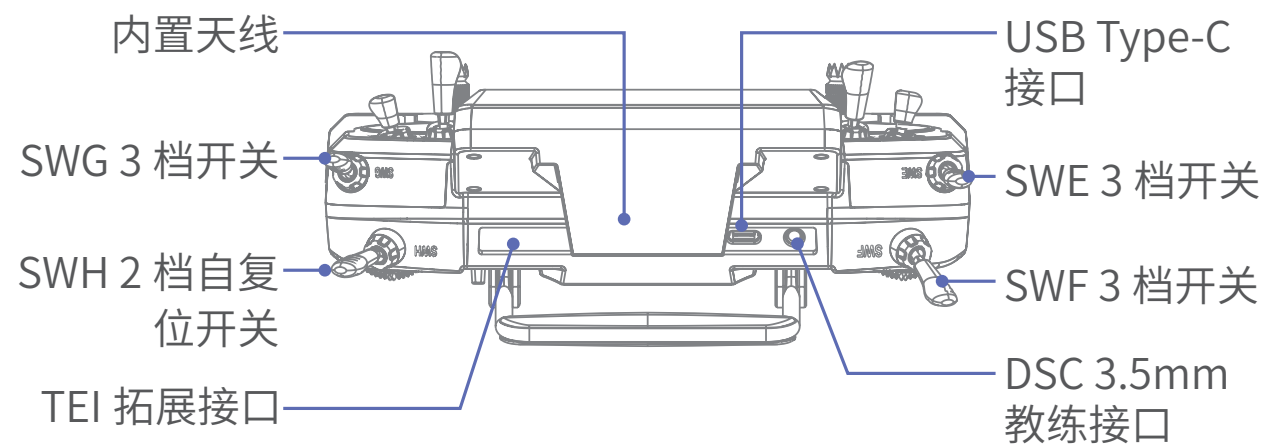

SWB 3 档开关
SWA 3 档开关
VRA 旋钮
左摇杆
TR6 微调按键
TR3 微调按键
TR4 微调按键
KL 微调按键
VRC 旋钮
SWC 3 档开关
SWD 3 档开关
VRB 旋钮
右摇杆
TR5 微调按键
TR2 微调按键
TR1 微调按键
KR 微调按键
电源键


显示屏
左侧快捷键
左摇杆上下行程调节
喇叭
左前手胶
状态指示灯 (LED)
右侧快捷键
右摇杆上下行程调节
吊环
右前手胶

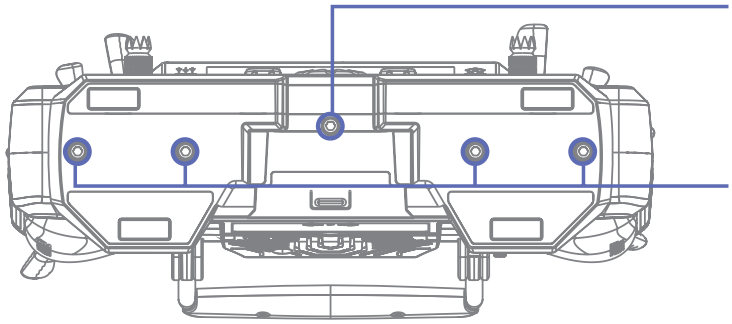
后视图


提手
提手调节按键
VRE 拨轮
后手胶
无线充电感应区
高频头转接座固定螺丝孔
VRD 拨轮
Stealth I/O 高频接口
PPM/TX
RX
VCC
GND
S.port
底座

顶视图

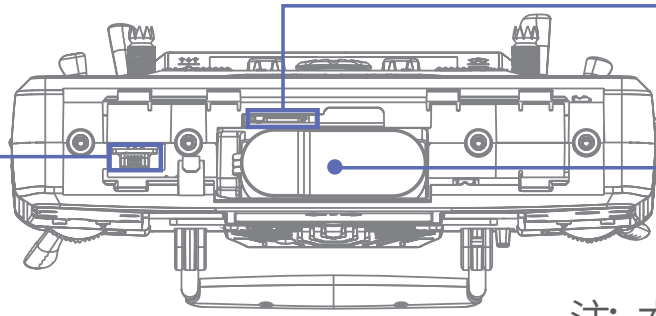

内置天线
SWG 3 档开关
SWH 2 档自复位开关
TEI 拓展接口
USB Type-C 接口
SWE 3 档开关
SWF 3 档开关
DSC 3.5mm 教练接口

底视图



FS-TJ01 托架
固定螺丝孔

底座固定螺丝孔



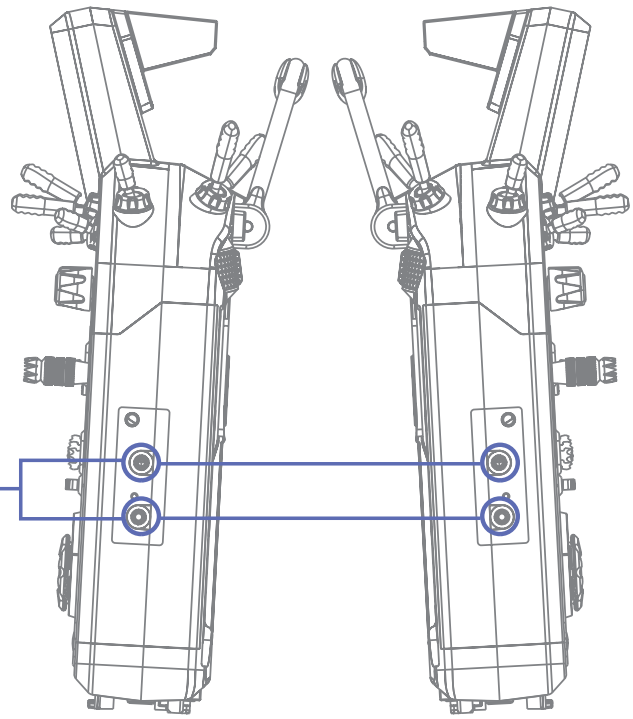
SD 卡槽

电池导线
接口（JST）

电池

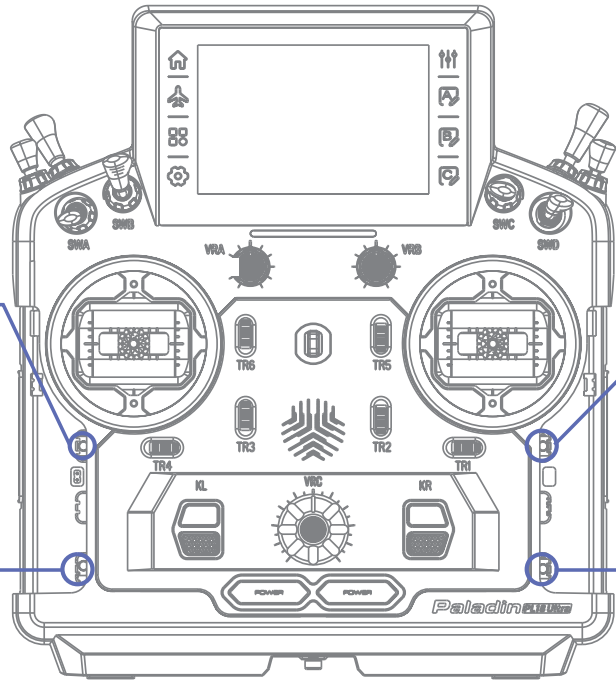
注: 本示意图里底座已拆。

侧视图



FS-ST01 手托安
装孔

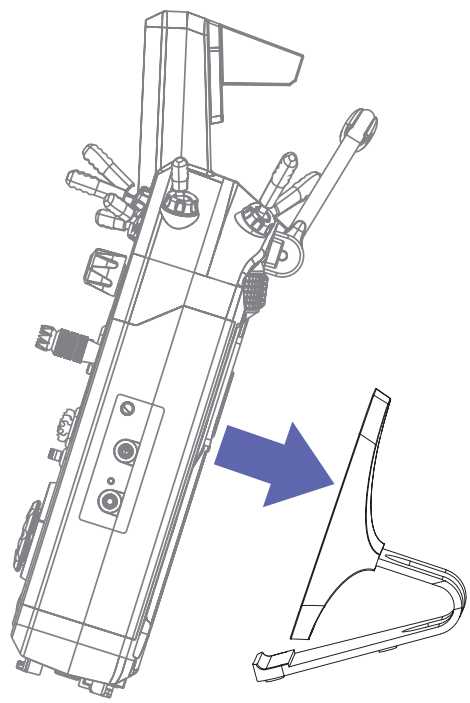
手胶内按键



充电

本发射机支持两种充电方式: 有线充电（USB 充电）和无线充电。

- 有线充电：USB Type-C 线一端连接电源，另外一端连接发射机 USB Type-C 接口。
- 无线充电：使用无线充电底座对其进行充电（如图所示）。



有线充电最高支持 18W，此时会显示为快充模式；无线充电最高支持 12W，此时会显示为快充模式。若使用非正常识别的快充充电器给发射机充电，将显示为正常充电。

请使用本款发射机标配的充电线对其进行充电，使用不当可能造成电池损坏影响使用寿命。

注：

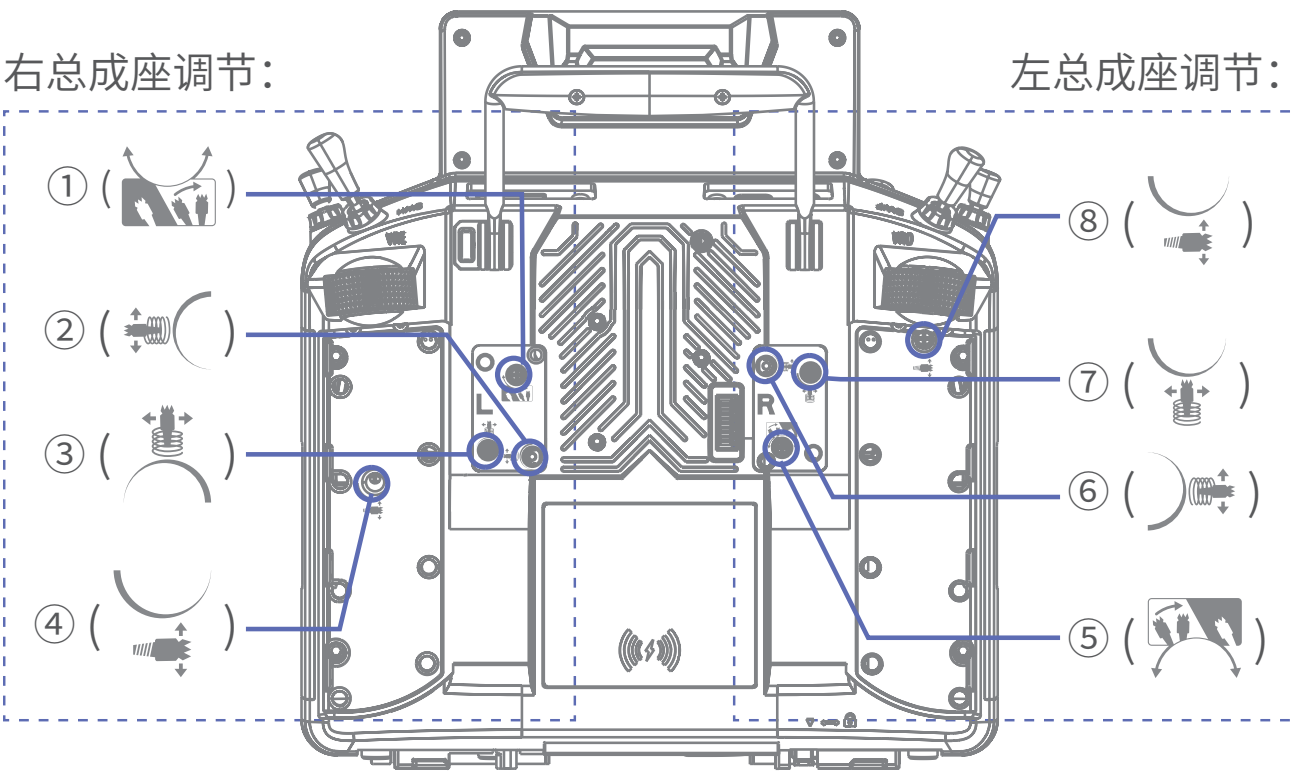
1. 发射机开机前，通过 USB Type-C 线将其与电脑连接，开机后则弹

出 USB 功能选择弹窗：[仅充电] 或 [联机应用]，选择 [仅充电]，则发射机不与电脑进行通信；若选择 [联机应用]，发射机与电脑进行通信，即可连接富斯遥控管家或模拟器软件等；

2. 默认有线充电优先，即若发射机同时接入无线充电和有线充电，优先有线充电，无线充电无效；
3. 低温环境下充电，将会导致电池容量及使用寿命下降；
4. 电池存放时间不可超过半年，且每 3 个月须充电一次；
5. 若发射机已取出电池或者电池处于过放保护状态，此时通过 USB Type-C 线连接电源不能开启发射机，重新安装电池或待电池充电至可用状态后即可开机。

总成座调节说明

总成座不回中 - 回中 / 摩擦力 / 弹力调节



如上图，可通过调节相应螺丝孔内的螺丝实现左右总成座横向 / 纵向

回中与不回中切换、不回中时拨动摩擦力、调节摇杆自回中时回中弹力 (拨开背部手胶和胶片后即可找到相关的螺丝孔及螺丝)。螺丝说明:

①.⑤	调节总成座摇杆是否回中	②.⑥	调节总成座纵向摇杆弹力
③.⑦	调节总成座横向摇杆弹力	④.⑧	调节总成座纵向摇杆摩擦力

调节螺丝时，须测试摇杆弹力，以确保摇杆弹力不会过大或过小。若螺丝拧得过紧则可能会损坏弹簧；过松则可能会导致弹簧脱落，并可能损坏内部电路。 调节时注意力度，不宜用力过大。

以右摇杆为例，调节步骤如下：

不回中 - 回中

1. 用十字螺丝批逆时针调节①号螺丝（如上图所示）使摇杆变为回中状态；
2. 逆时针调节④号螺丝调整摩擦力度 ;
3. 如还需调整横向或纵向回中力度，请操作③或②号螺丝调节回中力度，顺时针力度加强，反之减弱。

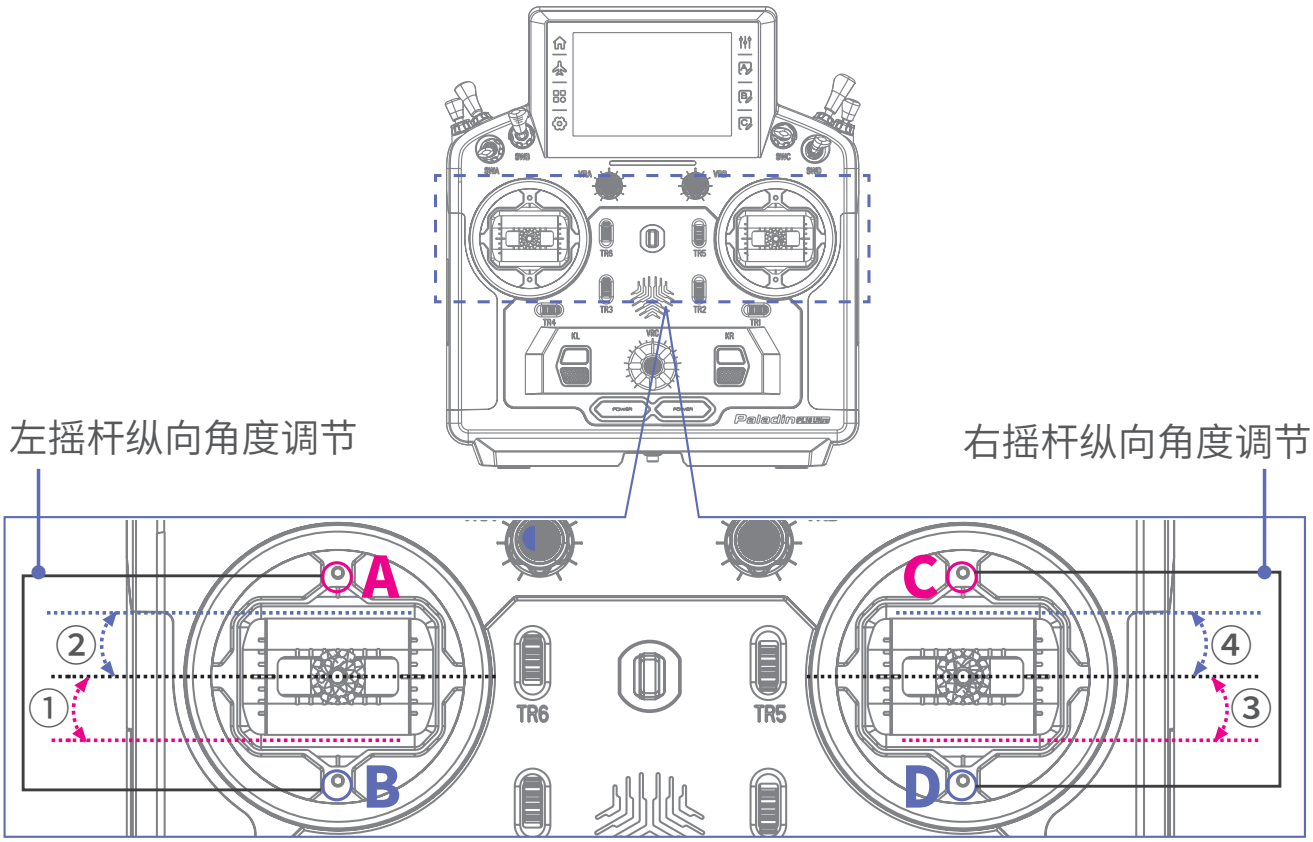
回中 - 不回中

1. 用十字螺丝批顺时针调节①号螺丝直至拧紧，使摇杆变为不回中状态；
2. 顺时针调节④号螺丝加强摩擦力度；
3. 如还需调整横向回中力度，请操作③号螺丝调节回中力度， 顺时针力度加强，反之减弱。

总成座纵向角度调节

总成座机械行程可调范围为 38° ~ 54°，可根据具体需要调节合适的行程。

调整完成后须重新校准摇杆。



螺丝 **A** 对应①半边的行程调节；螺丝 **B** 对应②半边行程调节；螺丝 **C** 对应③半边行程调节；螺丝 **D** 对应④半边行程调节。

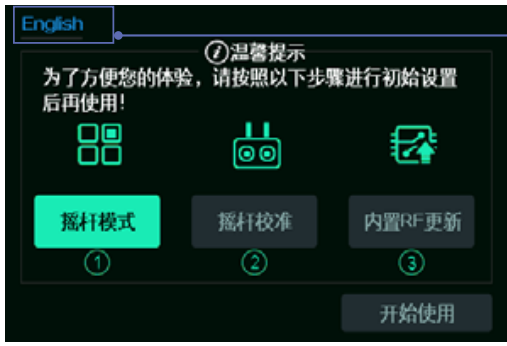
注：调节时注意力度，不宜用力过大。

调节步骤如下：

1. 用公制 1.5mm 内六角扳手沿顺时针方向调节相应的螺丝，则行程变大；
2. 沿逆时针方向调节相应的螺丝，则行程变小。

开机

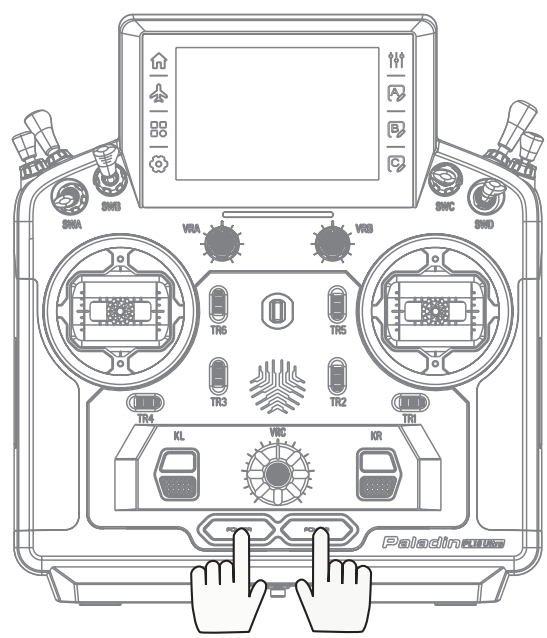
发射机首次开机，出现开机向导界面，依据界面提示分别完成 [摇杆模式] 、[摇杆校准] 和 [内置 RF 更新] 后，点击 [开始使用] 即可。



点击切换语言

发射机在 [更新遥控器固件] 后自动开机或执行 [恢复出厂设置] 功能后也进入开机向导功能。除此之外，请按以下步骤进行开机：

1. 检查系统状态，确保电池电量充足；
2. 同时按住两个电源键，至屏幕亮起；
3. 依如下屏幕提示操作至开机成功。
    - 是否开启发射功能。若此次开机无需使用高频，可关闭发射功能。
    - 开关是否位于安全位置（控件红色底表示位置需调整）。请根据提示检查控件位置，并按照提示将其拨至正确位置。



- 当前模型是否设置失控保护。若要开机关闭失控保护设置提醒，则点击 [不再提示] 或通过 [通用设置] 关闭“开机提示失控保护未设置”。

关机

请按照以下步骤关机：

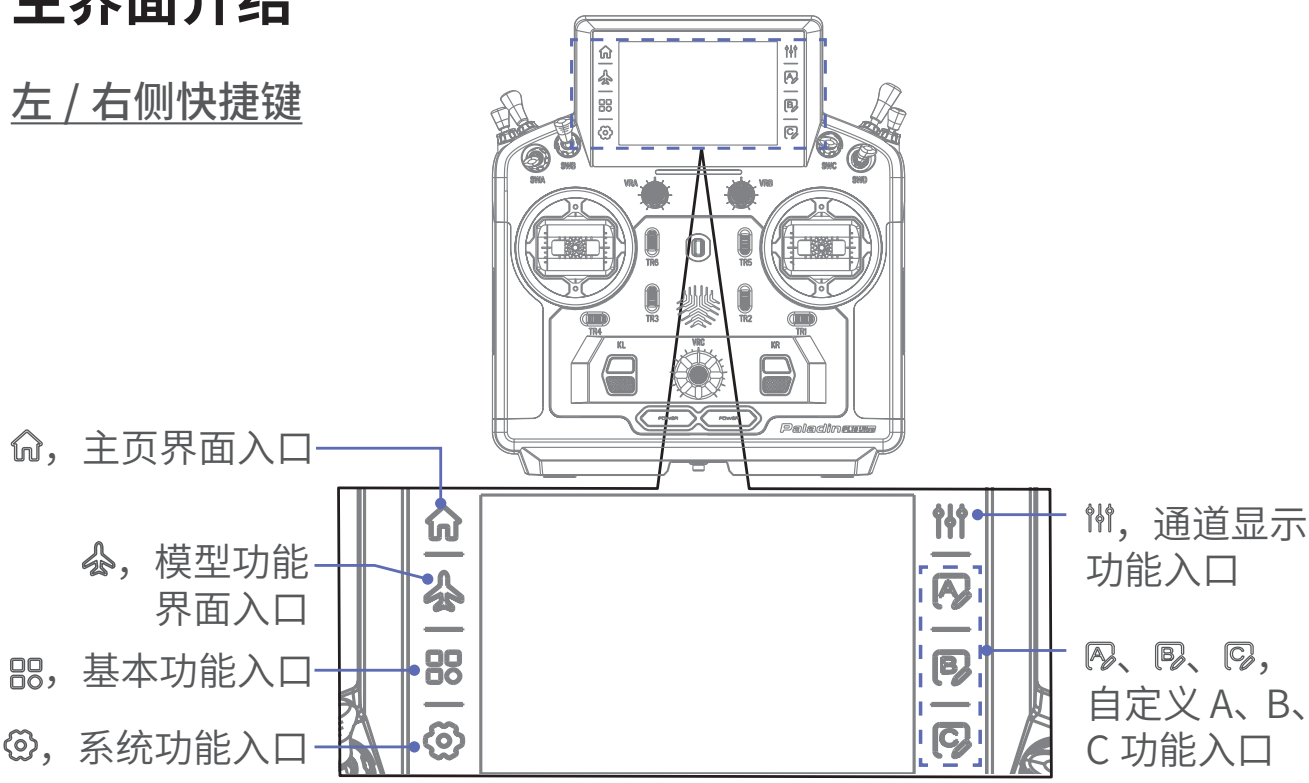
1. 断开接收机电源；
2. 同时按住发射机两个电源键 3 秒钟，直至屏幕提示 “正在关机中 ... 请稍候！”，待系统保存数据后即自动关机。

注: 同时按下发射机电源键，将弹出提示执行关机时间及休眠模式图标。休眠功能可参考说明书自动休眠部分。

关闭前，请务必先断开接收机电源，然后关闭发射机。如果强行关闭发射机，将会导致遥控设备失控。失控保护设置不合理可能引起事故。

主界面介绍

左 / 右侧快捷键



注：自定义 A、自定义 B 和自定义 C 默认未分配，触摸无响应，可通过 （系统功能）>[自定义触摸菜单] 设置功能，然后点击快捷键即可访问功能。

主界面

模型名称

信号强度 / 未接入接收机 / 未开启高频

状态栏

注：状态栏所显示的功能图标，代表此功能已经激活。

显示当前模型图片；[模型选择] 入口

显示 RF 系统；[对码设置] 入口

注：当高频协议设置为 PPM、CRSF 或 CRSF2 时，此区域无显示。

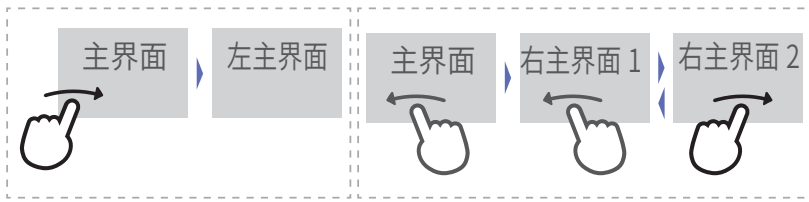
锁屏图标，点击锁定屏幕；长按锁屏图标即解锁。

发射机电量

[自定义菜单] 图标及入口

TX 电压、RX 电压、信号强度；[传感器] 入口

4 个点表示四个页面：白色点表示当前页面，灰色点代表其他页面，左或右滑动屏幕进入其他页面（如下示意图所示）。



右主界面 1

显示记录对象 1 的实时信息；[数据记录] 入口

显示记录对象 3 的实时信息；[数据记录] 入口

显示记录对象 2 的实时信息；[数据记录] 入口

显示记录对象 4 的实时信息；[数据记录] 入口

注：记录对象可设置为 [传感器数据]、[输出通道] 或 [摇杆或旋钮]。

右主界面 2

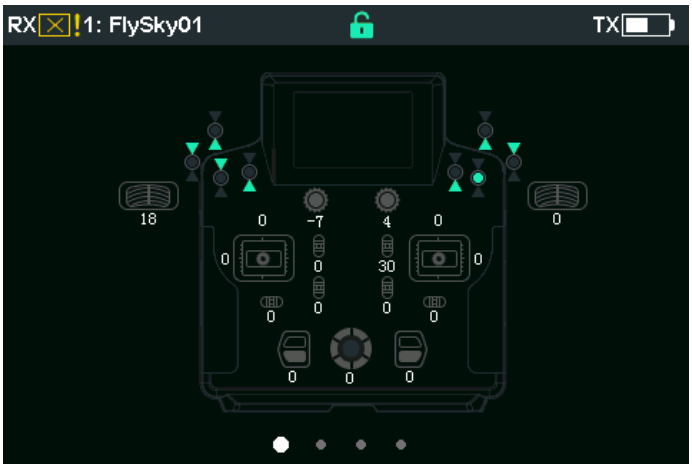
计时器显示 1; [计时器显示: 1] 入口

计时器显示 2; [计时器显示: 2] 入口

计时器 1 ; [计时器 1] 入口

计时器 2 ; [计时器 2] 入口

左主界面



开关类：显示开关当前所在的物理位置

旋钮类 / 拨轮类：显示旋钮 / 拨轮当前所在的位置值

摇杆：显示摇杆当前值

微调类：显示微调当前值

功能界面相关图标介绍

	触屏锁定，不可操作。		表示此功能或此界面可操作
	表示此功能在禁用状态		表示此功能在开启状态
	当前界面功能恢复默认值		表示设置适用于所有模式
	点击可进行开关等控件分配		表示设置仅适用于当前模式
	点击增加数值，长按可迅速增加数值。		点击减少数值，长按可迅速减少数值。

注: 数字微调功能里锁屏图标 (/) 用于锁定或解锁微调; 点击 （解锁）后变为 （锁定)，此时操作微调控件时，微调值不会变化。

模型选择

在模型选择功能下可通过复制或新建功能建立模型，可删除非当前正在使用的模型，可搜索模型所对应的接收机。对于不同的模型，相应的模型设置也不同，此功能提供了同一台发射机可以对应不同模型使用的便利。在此功能界面也可快捷进入模型设置功能。PL18 Ultra 最多支持 50 组模型。

以 [复制] 功能建立模式为例说明，新建 / 删除模型功能设置请参考复制部分。

功能设置：

1. 点击 (基本功能) >[模型选择] 进入模型选择界面；
2. 点选要复制的模型；
3. 点击 [复制]，在弹出界面上点击 [是] 即完成复制。

模型设置

PL18 Ultra 发射机支持飞机、滑翔机、直升机、多轴、车、船和机器人七种模型类型。通过此功能可设置各个模型参数及功能，以固定翼飞机为例，其他模型设置请参考飞机的功能设置部分。

点击进入修改模型名称界面，可以修改模型名称。

[摇杆模式] 入口

点击进入模型类型及相关结构和功能的设置界面

点击进入更改模型图片界面。

点击重置模型数据，请注意重置后原数据会被删除。

功能设置：

1. 点击 ⊞（基本功能）>[模型设置] 进入模型设置界面，点击 [飞机]；
2. 根据实际模型点选合适机翼结构；
3. 根据实际模型点选合适尾翼结构；
4. 根据实际模型点选功能。

固件更新

让发射机进入固件更新状态。当使用固件更新程序更新时，需要先通过此功能，让发射机进入更新状态后，然后通过固件更新程序执行更新。

⚠ 警告	• 当固件正在更新时请勿断开 USB Type-C 线。

功能设置：

1. 下载并打开最新的固件更新程序；
2. 先将发射机通过 USB Type-C 线与电脑连接；
3. 进入 ⚙（系统功能）>[通用设置] 界面，点击 [遥控器固件更新]，弹出提示弹窗“更新固件可能会导致模型数据恢复成出厂默认值，是否更新？”，点击 [是] 即可进入更新状态；
4. 在电脑端，点击 [Update] 后开始更新；
5. 更新完成后，发射机将会自动退出更新状态，重新开机。（断开 USB Type-C 线连接，并关闭电脑更新软件）。

注：也可通过富斯遥控管家固件（FlySkyAssistant）更新发射机的固件，此时无需操作此功能设置，仅需确保发射机开机并与电脑连接。

接收机固件更新

更新接收机固件。PL18 Ultra 包含了 FTr8B 和 FTr12B 等接收机的固件。

也可通过“富斯遥控管家”来更新接收机固件。请注意此功能仅遥控管家 V3.0 及以上版本支持。

功能设置：

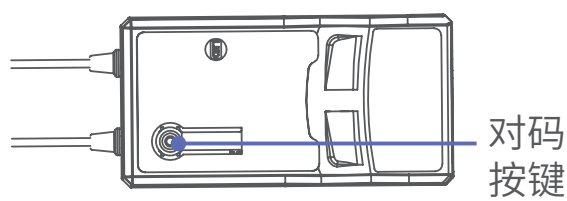
1. 发射机与接收机已对码建立连接；
2. 点击 (基本功能) >[接收机设置]> [接收机固件更新] 进入更新界面，点选要更新的接收机型号；
3. 点击 [更新] 后，系统弹出确认弹窗，点击 [确定] 后即进入更新状态；
4. 更新完成后自动返回上一级界面。

注：如果接收机固件为最新版本，系统会提示“当前固件已是最新版本无需升级！”。

发射机在固件更新完后，如无法与接收机对码，需强制更新接收机固件。

以 FTr8B 接收机为例，可通过两种方式使接收机进入强制更新状态：

- 按下对码按键，通电 10 秒后指示灯三闪一灭，松开对码按键；
- 先给接收机通电，长按对码键 10 秒后指示灯三闪一灭，松开对码键。

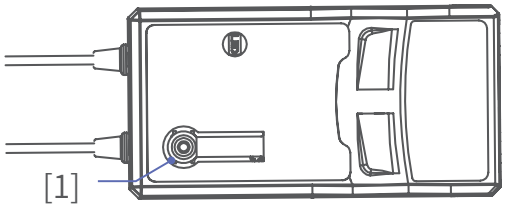


注：不同接收机进入强制更新状态方式不同，请参考具体接收机的说明书。

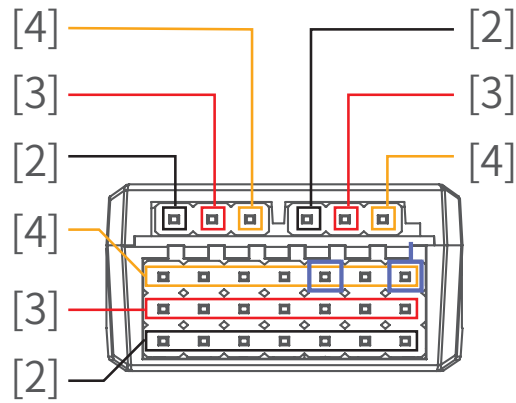
对码

本发射机和接收机在出厂前已对码成功。如果您需要重新对码时，请按照如下步骤进行对码。

以与 FTr8B 接收机对码为例，FTr8B 接收机概览如下：



[1] 对码键　[2] -（电源负极）
[3] +（电源正极）[4] S（信号端）



注：

1. 富斯 AFHDS 3 经典版接收机型号：FTr10、FGr4、FGr4s、FGr4P、FTr4 和 FTr16S; 其他富斯 AFHDS 3 接收机均为增强版接收机；
2. RF 系统项：Routine 18ch、Lora 12ch 和 Fast 8ch 三个 RF 系统选项用于适配富斯 AFHDS 3 增强版接收机。Routine 18ch：提供 18 通道，通信距离适中；Lora 12ch： 提供 12 通道，超强抗干扰，通信距离适中； Fast 8ch: 提供 8 通道，通信速度快，但通信距离较近； 而 Classic 18ch 和 C-Fast 10ch 用于适配富斯 AFHDS 3 经典版接收机。Classic 18ch：提供 18 通道通信；C-Fast 10ch：提供 10 通道通信，延迟效果优于 Class 18ch。点击 [对码] 后，会弹出支持的接收机列表提示菜单。请根据实际应用场景及实际接收机型号选择合适的 RF 系统项 ;
3. 当选择 Routine 18ch，且选择选择 [双向通信]，此时发射机支持双接收机模式，默认单接收机模式。当选择双接收机模式后，要分别设置主、副接收机 [起始通道]，然后分别对主、副接收机对码，点击 [对码] 发射机即进入对码状态；
4. 若 [高频设置]>[外置高频协议] 设置为非 PPM、CRSF 或 CRSF2 时，也可通过高频设置界面访问 [对码设置] 功能。

功能设置：

1. 点击 ⊞ (基本功能)>[接收机设置]>[对码设置]，进入对码设置界面 ;
2. 选择合适的 RF 系统及是否双向通信，对于增强版接收机还需设置

起始通道，然后点击 [对码]，发射机进入对码状态；

3. 按住接收机对码按键同时上电，接收机 LED 灯快闪表示已进入对码状态；
4. 当接收机指示灯变为常亮时，表示对码成功；
   - 若对码的发射机是单向模式进入对码状态时，接收机 LED 灯变为慢闪后将发射机退出对码状态，此时接收机 LED 灯常亮，表示对码成功。
5. 检查发射机、接收机是否连接正常。如有异常，重复以上步骤重新对码。

⚠ 失控保护

失控保护功能用于在接收机失去信号不受控制后，接收机按预设方式进行输出，保护模型及人员安全。

在失控保护菜单下：

- 可设置 [失控保护判断时间]。系统支持设置“失控保护判断时间”，且对于不同模型类型，默认判断时间不同。
- 可开启 / 关闭 [开机提示此模型失控保护未设置] 功能。
- 可设置针对 i-BUS&PPM 信号无输出状态；可对所有通道单独设置：未设置（无输出）、无输出（仅限一些特殊模型或部分飞控板检测端口使用））、保持或固定值；可将所有已设固定值的通道设为当前输出值。
- 此功能界面也可测试失控保护功能。可模拟模型失控后，发射机将关闭高频输出 , 模型进入失控状态 , 所有通道按失控保护设置输出。

可参考以下建议进行设置 :

1. 考虑到飞机 / 滑翔机没有动力也可以滑落的因素，用户可将其油门设定为最低值或者低怠速，其余通道设定为平稳飞行（或者盘旋);
2. 直升机油门设定为最低值，其余通道就设定为平稳飞行；
3. 多轴请参考相关说明书；

4. 如接收机上连接设备对失控状态设置有要求，可配合设备设置。

注：以上建议仅作参考，具体设置方式请按实际飞行情况设置。

失控保护判断时间

用于设置失控保护判断时间。设置范围为 250ms~1000ms。
不同模型类型默认失控保护判断时间不同。飞机、滑翔机、直升机、多轴失控保护判断时间默认 700ms，车、船、机器人失控保护判断时间默认 300ms。

功能设置：

1. 点击 (基本功能)>[接收机设置] > [失控保护] 进入设置界面 ;
2. 点击 [失控保护判断时间] 进入设置界面;
3. 点击 [+]/[-] 设置的时间，点击 返回。

开机提示此模型失控保护未设置

设置勾选或不勾选 [开机提示此模型失控保护未设置] 功能项。
注意 [系统功能]>[通用设置] 里“开机提示失控保护未设置”功能项勾选，且所有通道都为 [未设置（无输出）] 状态，发射机开机时才会弹窗提示失控保护未设置。

功能设置：

选项右侧的选项框，无勾选（ ） 即未开启。

测试失控保护功能

功能设置：

1. 点击 ，系统弹出操作提示。长按 超过 1 秒，系统切断高频输出。此时

接收机按失控保护设置输出通道值；

2. 放开 后即恢复通信。

设置 i-BUS-out&PPM 信号无输出

此功能选择后，不管各通道失控保护如何设置，这两类信号失控保护始终为无输出，系统默认开启状态。

功能设置：

点击功能右侧框，无勾选（ ） 即未开启，失控后按通道设置：固定值或者保持最后输出值。

设置单独通道

可分别设置通道 1~18 输出信号状态：[未设置（无输出）] 表示未设置失控保护；[无输出] 表示无信号输出（仅限一些特殊模型或部分飞控板检测端口使用)；[保持] 表示失控时保持输出最后信号；[固定值] 可以通过移动控件来设置失控保护输出值。

功能设置：

1. 点击要设置的通道，进入下一界面；
2. 选择合适功能项；若选择固定值，则将摇杆（开关、旋钮或逻辑开关）拨到需要的位置并保持，同时点击 即完成设置。

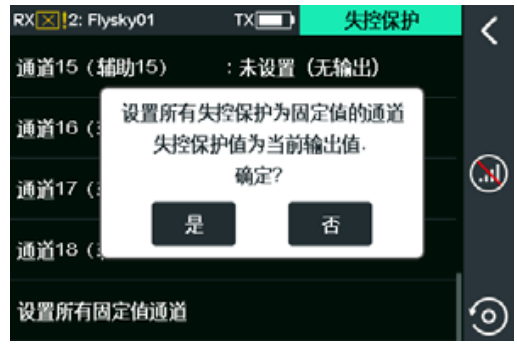
设置所有固定值通道

用于设置所有已经设置为固定值的通道

失控后的输出值。

功能设置：

1. 点击 [设置所有固定值通道], 系统弹出提示界面 ;
2. 将所有固定值通道对应的控件拨到需要的位置并保持 ;
3. 点击 [是] 即完成。



PWM 频率

可调节接收机输出 PWM 信号的频率。理论上频率越高信号刷新速度越快，舵机响应信号变化就越快。但是部分舵机不支持识别频率过快的 PWM 信号，故此项设置应考虑舵机性能设置。

此功能根据对码模式设置不同而界面有所不同，对于增强版接收机，支持每个通道单独设置 PWM 频率 , 可选项包括模拟舵机（50Hz）/ 数字舵机（333Hz）/SR（833Hz）/SFR(1000Hz)/ 自定义。

对于经典版接收机，则仅支持对所有通道一起设置，且不支持设置为 SR（833Hz）和 SFR(1000Hz)。

当选用 SR（PWM 频率 833Hz)、SFR(PWM 频率 1000Hz）时整个系统的延时会减小，但此时 PWM 信号脉冲区间已经发生了变化。请确保适配的舵机为支持相应频率的数字舵机并且设置匹配，否则可能导致舵机无法正常工作，甚至损坏舵机。

以增强版接收机单独通道为例：

功能设置：

1. 点击 ⊞ (基本功能)>[接收机设置]>[PWM 频率] 进入设置界面;
2. 点击要设置的功能项进入下一级设

对码增强版接收机时界面

置界面，根据需要选择点击对应功能项 , 点击 返回上一级界面；

3. 若选择 [自定义]，点 [+]/[-] 设置合适的频率值；
4. 若选择“与高频同步”，则点击右侧功能框，出现 " ✓” 即与高频同步，勾选后 PWM 输出与（RF）无线信号接收的时序同步。

对码经典版接收机时界面

- 关于 Paladin Ultra 发射机的更多操作请阅读使用说明书。

规格参数

产品型号	PL18 Ultra
适配接收机	AFHDS 3 协议接收机，如空模用 FTr12B、FTr8B、Tr8B、FTr10、FTr16S、FTr4、INr6-HS、TMr； 车模用 FGr8B、FGr4B、FGr12B、FGr4P、FGr4S、FGr4、GMr； 船模用 FBr12 等
适配模型	固定翼飞机、直升机、滑翔机、多轴、车、船、机器人
通道个数	18
波段个数	171
无线频率	2402.15MMHz-2479.85MMHz
无线协议	AFHDS 3
发射功率	<20dBm (e.i.r.p.)（EU）
天线类型	内置双天线（FPC 天线）
输入电源	1S（3.6V）*8700mAh
充电接口	USB Type-C/ 无线充
低电压报警	支持
数据接口	USB Type-C、TEI 扩展接口、DSC 3.5mm 教练接口（PPM）、SD 卡槽
通道分辨率	4096 级
显示方式	320*480 分辨率 IPS 触摸彩屏
遥控距离	大于 3500 米（空旷无干扰空中距离）
在线更新	支持
机身颜色	黑色
工作环境温度	-10°C ~ +60°C
充电环境温度	0~45°C
湿度范围	20%~95%
机身重量	1005g
操作语言	简体中文或英文
外形尺寸	212.5*86.7*191mm
认证	SRRC 、CE、FCC ID: 2A2UNPL18ULTRA

微信公众号

Bilibili

Website

Facebook

FCC ID: 2A2UNPL18ULTRA

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