



Release Notes for Paladin PL18 transmitter firmware/Paladin PL18 软件版本更新记录

Software Version 软件版本	1.0.77	Date 日期	12/2024
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- **新增功能：**
1. 船模型新适配 ([基本功能] > [模型设置])
 - [模型图片] 功能下增加 [帆船] 和 [仿真船] 图片可选。
 - [模型类型] 功能下船模型的可选功能增加 [收索机] 功能可选。
 2. 竞赛模式适配
 - [模型设置] 界面新增 [设为竞赛模式] 功能项，通过它可快速关闭 [低信号报警] 功能和 [遥测丢失报警] 功能。
 - [接收机设置] 功能下原 [低信号语音报警] 功能重新设计为 [低信号报警]：
可设置报警声音和振动；
可设置报警值和报警重复周期；
可以开启或关闭此功能。
 - [接收机设置] 功能下新增 [遥测丢失报警] 功能：
可设置遥测丢失时报警声音和振动；
可以设置报警灵敏度，避免短暂干扰导致丢失报警；
可以开启或关闭此功能。
- **修改功能：**
1. 油耗提醒
 - [油耗提醒] 功能增加了分配复位开关：现在可以通过操作界面上的复位按钮或者拨动分配的复位开关来实现剩余油量的复位。
 2. 修复已知 bug，例如：
 - [计时器] 等功能分配了启动开关，关机后再次开机操作开关无效问题。
- **特殊变化：** 无

注意事项：

关于模型数据继承的说明：

- 65 版本以前的固件部分功能将不会被继承，程序处理为保持默认，用户使用前需要重新设置这些功能。例如：比率曲线→功能比率 + 双比率、收油门→降低怠速和油门熄火、线性混控和曲线混控→编程混控、传感器设置、教练功能设置等。
- 65 版本以前的接收机 ID 未被继承，更新完成（旧版模型数据导入后）需重新与接收机对码。



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- **New functions:**
1. **Ship Model New Adaptation (Basic > Models)**
 - Under the **Model picture** feature, added options for 'Sailing Ship' and 'Simulation Ship' images.
 - Under the **Type** feature, added the **Reef** function as an optional feature for **Ship** models.
 2. **Race Mode Adaptation**
 - A new **Set as race mode** feature item is added to the **Models** interface, which allows for quick disabling of the **Low signal alarm** function and the **Telemetry loss** function.
 - Under the **RX Setting** feature, the original **Low signal voice alarm** feature is redesigned as **Low signal alarm**:
Alarm sound and vibration can be set.
Alarm value and alarm repetition cycle can be set.
The function can be enabled or disabled.
 - Under the **RX Setting** feature, a new **Telemetry loss** feature is added:
Alarm sound and vibration can be set when telemetry is lost.
Alarm sensitivity can be set to avoid loss alarms due to brief interference.
The function can be enabled or disabled.

- **Modified function:**
1. **FUEL Alarm**
 - The **Fuel Alarm** feature has added a reset switch: Now you can reset the remaining fuel level by operating the reset button on the interface or by toggling the assigned reset switch.
 2. **Fixed the bugs, such as:**
 - Issues with functions like the Timer, where the assigned start switch would not work after the transmitter is powered off and then turned back on.

- **Special changes:** None

Note:

Description of model data inheritance:

- Some firmware functions earlier than V65 will not be inherited. It is subject to the default processing by the program. Users need to re-configure these functions before usage. For example: Rate and exp → Func. Rate (AFR) + DR setup, Throttle down → Idle up and Throttle Cut, Linear Mixes and Curve Mixes → Pro. mixes, Sensor, Trainer mode, etc.
- The receiver ID is not inherited for earlier than V65. The re-bind with the receiver is required after the update is completed (after the model data of the earlier version is imported).



Release Notes for Paladin PL18 transmitter firmware/Paladin PL18 软件版本更新记录

Software Version 软件版本	1.0.73	Date 日期	08/2024
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- **新增功能：**
1. 传感器
 - [传感器] 功能下增加 [数据记录] 功能。可记录 4 个记录对象（传感器、通道值或控件）近 30 分钟（5Hz）/3 分钟（50Hz）的数值变化。
 - [传感器] 增加监测“电流电压传感器”功能。可监测“电流电压传感器”的相关数值，及设置报警提醒和数据记录等。
 - [传感器] 报警功能新增可设置不同的声音 / 振动类型，以区别不同的报警对象。
 2. 计时器
 - [计时器] 计时提醒新增多种提醒方式，可设置不同的声音 / 振动类型。
 3. 油门位置报警
 - 新增 [油门位置报警] 功能。可设置报警位置和报警开启状态，当油门摇杆经过设置位置时，系统发出“滴”声提示。
 4. 油耗提醒
 - 新增 [油耗提醒] 功能，可根据经验设置油门动作量大小与油耗间的比率，系统通过监测油门摇杆位置实现油耗显示和油耗报警。
 5. 失控保护
 - 新增 [失控保护判断时间] 功能。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。例如，对于船模型，可设置很短的失控保护判断时间，在船模型入水失控后，可快速进入失控保护状态，即系统立即关闭油门输出，船模型得以浮出水面。
 - 新增 [开机提示此模型失控保护未设置] 功能。
 6. 系统功能
 - 新增 [开机提示失控保护未设置] 功能。可开启或关闭此功能，开启后，若当前模型失控保护未设置（无输出），且开启 [开机提示此模型失控保护未设置] 功能，则发射机开机时，系统会弹窗提示。

- **修改功能：**
1. 振动
 - [振动] 功能修改。从“开关机、开机报警等功能振动可分别设置”，改为“系统的振动是否开启以及开启的振动强度”。

- **特殊变化：** 无

注意事项：

关于模型数据继承的说明：

- 65 版本以前的固件部分功能将不会被继承，程序处理为保持默认，用户使用前需要重新设置这些功能。例如：比率曲线→功能比率+双比率、收油门→降低怠速和油门熄火、线性混控和曲线混控→编程混控、传感器设置、教练功能设置等。
- 65 版本以前的接收机 ID 未被继承，更新完成（旧版模型数据导入后）需重新与接收机对码。
- 71 版本固件升级至该版本，模型数据完全继承。
- 72 版本固件升级至该版本，模型数据完全继承。

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- **New functions:**
- Sensor**
 - Added **Data Record** function to **Sensor** function. It can record the value changes of 4 recording objects (Sensor Data, Output Channel or Stick or Knob) over a period of approximately 30 minutes (5Hz)/3 minutes (50Hz).
 - Added the function of monitoring "current and voltage sensor" to **Sensor** function. It can monitor the relevant values of "current and voltage sensor", as well as alarm setting and data recording, etc.
 - Added the function that different sound/vibration types can be set for the alarm function of **Sensor**, so as to distinguish different alarm targets.
 - Timer**
 - Added a variety of reminder method of **Sensor**, and different sound/vibration types can be set.
 - THR Pos. Alarm**
 - Added **THR Pos. Alarm** function. The alarm position and alarm on state can be set. When the throttle stick crosses the set position, the system will beep for prompt.
 - FUEL Alarm**
 - Added **FUEL Alarm** function. The rate between the throttle movement and fuel consumption can be set based on your experience. The system can make fuel consumption alarm and fuel consumption display by monitoring the throttle stick position.
 - Failsafe**
 - Added **failsafe judgment time** feature. The system supports setting the "failsafe judgment time", and the default judgment time vary with different RC model. For example, for RC boat, a very short failsafe judgment time can be set. After the RC boat is out-of-control after entering the water, the failsafe is enabled quickly, namely the system immediately turns off the throttle output, and then the RC boat model will float up.
 - Added **Startup reminder model failsafe is not set** feature.
 - System**
 - Added **Startup reminder failsafe is not set** feature. This function can be enabled or disabled. When enabled, if the current model has not been set for failsafe (no output), and the **Startup reminder failsafe** is enabled, a pop-up window will prompt when the transmitter is powered on.
- **Modified function:**
- Vibration**
 - Modified **Vibration** function. Changed from "the vibration of functions such as power-on/off, power-on alarm and so on can be set separately" to "whether **Vibration** is enabled or not and the vibration level when enabled".



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► Special changes: None

Note:

Description of model data inheritance:

- Some firmware functions earlier than V65 will not be inherited. It is subject to the default processing by the program. Users need to re-configure these functions before usage. For example: Rate and exp → Func. Rate (AFR) + DR setup, Throttle down → Idle up and Throttle Cut, Linear Mixes and Curve Mixes → Pro. mixes, Sensor, Trainer mode, etc.
- The receiver ID earlier than V65 is not inherited. The re-bind with the receiver is required after the update is completed (after the model data of the earlier version is imported).
- When the firmware V71 has been upgraded to this version, model data is fully inherited.
- When the firmware V72 has been upgraded to this version, model data is fully inherited.



Release Notes for Paladin PL18 transmitter firmware/Paladin PL18 软件版本更新记录

Software Version 软件版本	1.0.72	Date 日期	7/2023
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- ▶ 新增功能： 无
- ▶ 修改功能： 解决 FRM303 部分适配性问题。
- ▶ 特殊变化： 无

注意事项：

关于模型数据继承的说明：

- 65 版本以前的固件部分功能将不会被继承，程序处理为保持默认，用户使用前需要重新设置这些功能。
例如：比率曲线→功能比率 + 双比率、收油门→降低怠速和油门熄火、线性混控和曲线混控→编程混控、传感器设置、教练功能设置等。
- 65 版本以前的接收机 ID 未被继承，更新完成（旧版模型数据导入后）需重新与接收机对码。
- 71 版本固件升级至该版本，模型数据完全继承。



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Software Version 软件版本	1.0.72	Date 日期	7/2023
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- ▶ New functions: None
- ▶ Modified function: Some FRM303 compatibility issues are resolved.
- ▶ Special changes: None



Note:

Description of model data inheritance:

- Some firmware functions earlier than V65 will not be inherited. It is subject to the default processing by the program. Users need to re-configure these functions before usage. For example: Rate and exp → Func. Rate (AFR) + DR setup, Throttle down → Idle up and Throttle Cut, Linear Mixes and Curve Mixes → Pro. mixes, Sensor, Trainer mode, etc.
- The receiver ID earlier than V65 is not inherited. The re-bind with the receiver is required after the update is completed (after the model data of the earlier version is imported).
- When the firmware V71 is upgraded to this version, model data is fully inherited.

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- **新增功能：**
- 对码设置新增 C-Fast 10ch RF 系统：
 - 设置为出厂默认项。
 - 此系统仅支持对码经典版接收机（FTr10、FGr4、FGr4S、FGr4P、FTr4、FTr16S）。
 - 延迟效果优于 Class 18ch，若有低延迟需求时，可选此项对码。
 - 高频设置
 - 1) 新增 CRSF2 高频类型：
 - 用于适配黑羊高频头。
 - 与接收机完成对码正常通信后，可获取 RSSI 参数和当前连接的飞控参数（包括飞控电压、电流、电池容量），获取的数据可在【传感器设置】界面设置报警。
 - 设置为 CRSF2 时，主界面和信息栏快速操作做了修改：主界面取消对码快捷入口显示和功能，取消信息栏单击快捷键【对码设置】界面和进入开启高频的功能。
 - 2) 新增 FRM303 高频类型：
 - 选择此高频类型可设置蜂鸣器报警。当报警开启后，低信号、低电压和温度过高或过低均可发出报警声音。
 - 选择 FRM303 高频类型，隐藏系统功能中的【控制范围测试】功能。
 - 本高频类型支持三种功率版本：不可调版本、25mW~1W、25mW~2W，相应的功率调节界面也不同。
 - 支持根据高频头供电状态设置相应的高频功率，并可获取高频头当前功率，当设置的功率超出限制范围，则输出限制内的最大功率。
 - 选择 FRM303 高频类型，可获取射频温度和外部电压，获取的数据可在【传感器设置】界面设置报警。
 - 新增识别非富斯授权第三方品牌的兼容接收机功能：
 - 发射机与接收机建立稳定双向通信后，识别接收机为非富斯授权第三方品牌的兼容接收机时则提示弹窗，并且射频中断，待重新连上正版接收机后方可恢复通信（当前仅支持识别 FGr4S/FGr4P/FTr4）。
 - 失控保护
 - 新增失控保护测试功能，长按  图标超过 1s 可切断高频输出，接收机按失控保护设置输出通道值，从而模拟失控保护状态，松开  图标后立即恢复通信。
 - i-BUS2 设备预览
 - 新增 i-BUS2 传感器显示，当连接 i-BUS2 传感器时，设备列表显示设备连接接口和设备类型，右侧设备信息显示传感器类型和编号。
 - HUB 和 PWM 转换器显示的是型号和设备连接接口，与回传到传感器列表的参数不一致（传感器列表回传的数据类型）
 - 双引擎混控
 - 船模型双引擎无方向时，模型功能菜单下新增双引擎功能，可通过混控实现船的前进 / 后退、左转 / 右转，功能逻辑同履带混控。
 - 方向联动
 - 船模型双引擎双方向时，模型功能菜单下增加方向联动功能，设置方向联动输出（功能同方向功能的方向联动）
 - 遥测控制
 - 除多轴外所有模型增加遥测控制功能



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- **新增功能：**
- 支持设置两组遥测，可设置传感器的高低端范围、中位值、中位死区，根据设置的参数将传感器实时值转换为对应的控制。
 - 可设置遥测为开关、控件或【编程混控】的【主动】，根据传感器数据变化实现智能控制。
9. 传感器动态 ID 识别
- 新增动态识别传感器 ID 功能，当 TX 与 RX 通信时，检测到【传感器设置】、【遥测控制】预设的传感器数据来源丢失或与存储数据存在差异时提示数据来源丢失弹窗。
10. i-BUS2 转速传感器设置
- 新增 i-BUS2 转速传感器桨叶设置功能。连接 i-BUS2 转速传感器后，进入【接收机设置】>【i-BUS2 转速传感器设置】，可设置转速传感器桨叶数量（1~12 个）。设置后发射机将桨叶数量发送给传感器，传感器加入桨叶数量运算后将转速回传给发射机。
- **修改功能：**
1. 模型设置
- 细化船模型结构，选择船模型可设置模型结构为正常（单引擎单方向）、双引擎无方向、双引擎单方向、双引擎双方向，并根据不同模型结构调整模型菜单。
 - 选择机器人、船、车模型时，无摇杆模式功能。
 - 固定翼可选功能增加【飞行姿态】功能，默认为 0，选择后即在模型菜单显示【飞行姿态】功能，功能不变。
 - 直升机可选功能增加陀螺仪功能，至少具备一个陀螺仪，最多可分配 2 个。
 - 车模型可选功能取消差速锁 3 功能。
 - 船模型可选功能增加油门针，默认为 0，分配后除双引擎无方向结构，其他可在模型菜单显示油门针功能。
2. 逻辑开关
- 修改逻辑开关为可分配 2-4 个开关进行控制，即逻辑开关第一重的逻辑中的两个开关可分别选择设置一个开关、或两个开关进行控制。
 - 取消逻辑开关可分配其他逻辑开关进行再次逻辑的功能。
3. 飞行模式 / 工作模式
- 修改设置默认飞行模式功能，通过调节优先级顺序设置默认飞行模式，当模式被调至顶部时此模式即为默认飞行模式。
 - 将重命名、设置开关功能按键提到主界面。
4. 功能分配
- 修改直升机模型通道对应功能，通道 5 对应陀螺仪，通道 6 对应螺距，并且陀螺仪可分配控件和微调，出厂默认不分配。
 - 选择车、机器人时，油门功能控件默认修改为 J3，微调为 TR5。
5. 陀螺仪
- 陀螺仪修改为可选功能，支持两组陀螺仪。
 - 取消陀螺仪功能中开关分配功能修改为功能启用 / 禁用按钮，功能开启则陀螺仪通道输出值为控件值 + 陀螺仪设置数值，界面进度条仅显示为陀螺仪当前界



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- **修改功能：** 面设置的数值映射。
- 自定义接口协议
 - 双向通信下，通过获取主接收机产品型号，对比 TX 程序已录入的产品（FTr10、FTr16S、FTr4、FGr4、FGr4S、FGr4P、GMR、FGr8B、FTr8B、FGr12B、FTr12B、FGr4B、TMR、Inr-HS、Tr8B、INr6-FC）自定义接口协议的接收机型号显示区可显示对应型号，如无适配的，则显示【--】。
 - GPS 显示
 - 修改旧版经纬度对应显示错误问题。
 - 调整显示信息，先显示维度，再显示经度，并采用字母对应显示，即维度为 N/S，经度为 W/E，同步修改 GPS 传感器设置界面中的经纬度显示为【GPS 显示】中的实时位置。
 - 温度传感器
 - 修改温度传感器报警值范围为 -40~250°C。
 - 修复部分 Bug
 - 油门熄火：修改熄火阈值，可设置油门任意位置触发熄火。
 - 摇杆校准：任意摇杆模式下校准摇杆均可修正中点位置。
 - 修复使用无线教练配合 PL18 陪练员（学员模式）切换控制权开关延迟问题。
 - 信号强度输出设置
 - 修改信号强度默认输出通道为通道 14。

- **特殊变化：** **车模下减少差速锁 3 功能。**


注意事项：

- 使用 CRSF2 高频类型时，需要在飞控设置中设置相关的信息才可回传飞控信息。
- 直升机陀螺仪功能做修改，旧版本固件的数据可能无法继承。
- 关于模型数据继承的说明：
 - 65 版本以前的固件部分功能将不会被继承，程序处理为保持默认，用户使用前需要重新设置这些功能。例如：比率曲线→功能比率+双比率、收油门→降低怠速和油门熄火、线性混控和曲线混控→编程混控、传感器设置、教练功能设置等。
 - 65 版本以前的接收机 ID 未被继承，更新完成（旧版模型数据导入后）需重新与接收机对码。




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- **New functions:**
- For the **Bind setting**, add the C-Fast 10ch RF system:
 - Set to the factory default value.
 - This system supports only classic version receivers (FTr10, FGr4, FGr4S, FGr4P, FTr4, and FTr16S).
 - The delay effect is better than **Class 18ch**. If there is a low delay demand, you can choose this item for bind.
 - RF setting**
 - Add the **CRSF2** RF type.
 - It is used to adapt to Black Sheep RF module.
 - After completing the bind with the receiver for normal communications, it can obtain RSSI parameters and parameters of the currently connected flight control (including flight control voltage, current, and battery capacity). Alarms can be set for the obtained data on the **Sensor setup** interface.
 - When RF is set to CRSF2, the main interface and status bar will also modify, namely binding quick access function is cancelled, as well as from status bar to enter binding interface. And the function to enable RF from status bar is also cancelled.
 - Add the **FRM303** RF type:
 - It can set the buzzer alarm in this RF type. When the alarm is enabled, there will be an audible alarm in case of low signal, low voltage, and too high or too low temperature.
 - After **FRM303** RF type is selected, the **Range test** function in the **System** function will be hide.
 - This RF type supports three power versions: non-adjustable version, 25mW~1W, and 25mW~2W. The corresponding **Power regulation** interface is different.
 - It supports the settings of the corresponding RF power according to the RF module power supply status. It can get the current power of the RF module. When the configured power exceeds the limit, it outputs the maximum power within the limit.
 - After FRM303 RF type is selected, the radio frequency temperature and external voltage will obtain. Alarms can be set for the obtained data on the **Sensor setup** interface.
 - A new function is added to identify compatible receivers of non-FlySky authorized third party brands.
 - After the transmitter and receiver establish stable two-way communication, a pop-up window will appear when the receiver is identified as a compatible receiver of a non-FlySky authorized third-party brand. Meanwhile, the radio frequency will be interrupted. The communications will resume only after the reconnection to the genuine receiver (currently it can identify only FGr4S/FGr4P/FTr4).
 - Failsafe**
 - Add a new failsafe test function. Press  icon for more than 1s to cut off

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- **New functions:**
- the RF output. The receiver is set with the output channel value according to the failsafe, to simulate the failsafe status. The communications resume immediately after you release  icon.
5. **i-BUS2 device display**
 - Add the i-BUS2 sensor display. When the i-BUS2 sensor is connected, the device list displays the device connection interface and device type. On the right side, the sensor type and ID are displayed.
 - For the HUB and PWM converter, the model and device connection interface are displayed, which are not consistent with the parameters transferred back to the sensor list (the data type on the sensor list).
 6. **Dual-engine Mix**
 - When the boat model' s dual engines without rudders, there is a new Dual engine Mix function added under the Model Menu. It can realize the forward/backward and left/right turn of the boat by mixing control. The function logic is the same as those of the track mixing control.
 7. **Rudder linkage**
 - When the boat model with dual engines and dual rudders, there is a new **Rudder linkage** function added under the **Model** Menu. It can set the rudder linkage output (the function is the same as the Rudder function)
 8. **Telemetry control**
 - Add the **Telemetry control** function for all models except multicopter.
 - You can set two groups of telemetry, to set the high and low end range, neutral value and dead zone of the sensor. The real-time value of the sensor is as the corresponding control according to the configured parameters.
 - The telemetry can be set as a switch, a control or the **Master of Pro. Mixes** (Programming mixes), to implement the intelligent control according to the change of sensor data.
 9. **Sensor dynamic ID recognition**
 - Add the function of the dynamic identification of sensor ID. During the communications between the TX and RX, a pop-up window will appear for prompting the loss of data source when the detected preset sensor data source of the **Sensor setup** and **Telemetry control** is lost or differs from the stored data.
 10. **Setting of i-BUS2 rotate speed sensor**
 - Add the blade setting function for the i-BUS2 rotate speed sensor. After connecting the i-BUS2 rotate speed sensor, choose **RX setting > i-BUS2 rotate speed sensor** setting to set the number of blades of the rotate speed sensor (1~12). After the setting, the transmitter will send the number of blades to the sensor. The sensor will calculate the rotate speed with using the number of blades and send the rotate speed back to the transmitter.



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► Modified functions: 1. Models

- The ship model structure is more specific. Select the boat model. You can set the model structure to normal (single-engine single-rudder), 2THRO(dual-engine no-rudder), 2THRO+1RUDD(dual-engine single-rudder), or 2THRO+2RUDD(dual-engine dual-rudder). You can adjust the model menu according to different model structures.
- When you select the **Robot**, **Ship** and **Car** models, there is no **Stick** function.
- For the **Airplane** model, the optional function is added with **Attitude**. By default, it is 0. After selection, the **Attitude** function will be displayed in the **Model** menu. The function remains unchanged.
- For the **Helicopter** model, the optional function is added with "Gyroscope" . At least, there should be one gyroscope. Up to 2 gyroscopes can be assigned.
- For the **Car** model, the differential lock 3 is cancelled.
- For the **Ship** model, the optional function is added with **Throttle needle**. By default, it is 0. Except for the 2THRO(dual-engine no-rudder) structure, other structures are displayed with the throttle needle function in Model menu after the assignment.

2. Logic switches

- Modify the logic switch: assign 2-4 switches for control. That is, for the two switches in the first logic of the logic switch, you can select one switch or two switches for control, respectively.
- Cancel the function that a logic switch can be assigned for other logic switches for re-logic.

3. Flight condition/Working condition

- Modify the settings of the default flight condition function. Set the default flight condition by adjusting the priority order. When a condition is set to the top, this condition is the default flight condition.
- Arrange the Rename and Set switch function button to the main interface.

4. Function assignment

- Modify the functions corresponding to the channels of helicopter model. CH5 corresponds to **Gyroscope**, and CH6 corresponds to **Pitch**. In addition, the gyroscope can be assigned with a control and trim. By default, it is not assigned in the factory setting.
- When you select **Car** model and **Robot** model, the throttle function control is modified to J3 by default. The trim is TR5.

5. Gyroscope

- The gyroscope function is modified to the optional function. It supports two groups of gyroscopes.
- Cancel the switch assignment function in the gyroscope and modify it to the enable/disable button. If the function is enabled, the gyroscope channel output value is control value + gyroscope setting value. The



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- **Modified functions:** interface progress bar is displayed only as the value mapping set on the gyroscope current interface.
6. **Custom port protocol**
 - In the two-way communication, you can customize the receiver model display area of the interface protocol, and display the corresponding model by obtaining the main receiver product models and comparing with the recorded products (FTr10, FTr16S, FTr4, FGr4, FGr4S, FGr4P, GMR, FGr8B, FTr8B, FGr12B, FTr12B, FGr4B, TMR, Inr-HS, Tr8B, and INr6-FC) through the TX program. If the adapted model does not exist, display --.
 7. **GPS display**
 - Solve the longitude and latitude correspondence display error problem in the earlier versions.
 - Modify the display information. Display the latitude first, and then the longitude. Use the letter for display, i.e. latitude for N/S, longitude for W/E. In addition, modify the display of longitude and latitude in the GPS sensor setting interface to the real-time position in **GPS display**.
 8. **Temperature sensor**
 - Modify the alarm range of temperature sensor to -40~250°C .
 9. **Fix some bugs**
 - **Throttle cut:** Modify the threshold for the throttle cut. You can set to trigger the throttle cut at any throttle position.
 - **Stick calibration:** The stick calibration in any stick mode can be used to correct the neutral position.
 - Fix the problem of delay in switching the control in case of wireless trainer unit + PL18 transmitter in student mode.
 10. **Signal strength output setting**
 - The default signal output channel has been changed to channel 14 for firmware version 1.0.71 or later.

- **Special changes:** **Cancel the differential lock 3 in the Car model.**

Notes:

1. When using CRSF2 RF type, you need to set the relevant information in the flight control settings so that it can transfer back the flight control information.
2. Modify the helicopter gyroscope function. The firmware data in the earlier version may not be inherited.
3. Description of model data inheritance:
 - Some firmware functions earlier than V65 will not be inherited. It is subject to the default



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Notes:

processing by the program. Users need to re-configure these functions before usage. For example: Rate and exp → Func. Rate (AFR) + DR setup, Throttle down → Idle up and Throttle Cut, Linear Mixes and Curve Mixes → Pro. mixes, Sensor, Trainer mode, etc.

- The receiver ID earlier than V65 is not inherited. The re-bind with the receiver is required after the update is completed (after the model data of the earlier version is imported).



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- **新增功能：**
1. 新增编程混控功能：
 - 支持 10 组自定义混控，应对多种应用场景。
 - 可设置开启 / 关闭混控的延迟。
 - 当主动被设置为功能时可定义微调是否影响被动（开或关）。
 - 当主动被设置为功能时，可设置关联（可设置正关联、负关联，不关联）。选择关联（正或负）时，其它功能混控影响此功能的变量也会影响此组混控的被动；被动均可设置关联，设置关联（正或负）后，以此混控被动为主动的编程混控的主动设置为关联（正或负）时，可被影响。
 - 主动可选控件或定义到通道的所有功能（包括辅助功能），被动可选择全部功能。
 2. 新增功能比率（AFR）功能：
 - 全新的功能界面。
 - 可设置偏移项，调节偏移会把整条变量线在 Y 轴上移动。
 - 在线型选择功能项，将油门回中与不回中的设置修改为一种线型，所有功能曲线均可设置不同的线型。
 3. 新增双比率设置功能：
 - 可以定义 10 组双比率。
 - 支持对非联动控制的功能设置双比率、开启双比率的开关以及设置启用模式。
 4. 模型设置：
 - 新增多种模型类型和可选功能项目。
 - 新增船和机器人模型类型（原工程车模型也扩展为车模型）。
 - 飞机和滑翔机模式下增加了 4 副翼 / 4 襟翼的选择、多油门设定等功能，重新优化了翼型结构和功能选项。
 - 车模式、机器人模式增加了履带混控功能，更好地适配履带类模型。
 - 新增更改模型图片功能，模型图片不再被类型限制，模型设置功能中用户可以自定义模型主界面显示的图片（系统内置多款模型图片可选）。
 5. 模型选择：
 - 新增新建模型功能。
 - 自动搜索接收机功能，点击搜索接收机按钮来快速切换到已开机的接收机所对应的模型。
 6. 开关分配：
 - 新增设置摇杆作为开关控制功能是否启用的功能，新的 UI 界面。
 - 可分配摇杆被设置为逻辑开关时作为某项功能的启用或禁用开关，灵活适配复杂的应用场景。
 7. 新增适配 i-BUS2 设备功能：
 - 可连接 i-BUS2 GPS (FS-iBG01) 传感器。在发射机端查看相关的回传信息（如模型当前方位、移动方向和姿态等信息）并可对其进行校准等初始设置。
 8. 新增适配无线教练模块（FS-WTM01）的功能：
 - 搭配无线教练模块使用，可实现无线教练功能。
 9. 微调：
 - 新增备份微调功能，可设置备份微调实现微调数值的存储。对于数字微调，可通过调用备份微调方式恢复为备份；对于旋钮，可手动设置为备份值。

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- **新增功能：**
10. 传感器：
 - 新增极值监测功能，还可设置开关清除极值。
 - 新增转速传感器速度监测功能和对应的里程显示功能，可设置周长，把转速转换为速度，并根据速度和时间计算出 2 个里程，且可分配开关实现里程归零。
 11. 接收机设置：
 - 新增电压传感器校准设置功能，i-BUS 设置中增加设置电压传感器（FS-CVT01）校准功能，可设置一个补偿值，补偿压差让界面显示值与实际值更接近。
 12. 油门熄火：
 - 新增可分别设置多油门功能，最多支持 4 个引擎，可以分别设置每个引擎的熄火位置、熄火阈值和熄火控件。
 13. 教练模式：
 - 新增教练功能控制权切换：新增未直接连接飞机的发射机可以设置教练功能控制权切换能力（仅确认同款搭配有此功能，其它需要支持关闭与无线教练通信 / 切断与教练遥控有线通信的机型才可以使用）。
 - 新增教练可以与学员同时控制飞机的功能：教练功能中设置输入对象控制模式为混合时教练和学员可同时控制模型，二者控制效果叠加。
 - 新增教练口可自适应识别非标 PPM 信号和设置输出非标 PPM 信号功能。
 14. 计时器：
 - 计时器 1 和计时器 2 增加语音 + 振动计时提醒选项，提醒更强烈。
 15. 帮助中心：
 - 增加推广平台二维码，沟通更便捷。
 16. 新增自动搜索接收机功能：
 - 可设置开机开启高频后自动切换到当前已开机的接收机所对应的模型
 - 也可在模型选择功能中触发搜索接收机图标来快速切换到已开机的接收机对应的模型。

- **修改功能：**
1. LED 状态指示修改：
 - 规范 LED 灯对应状态指示，具体参见对应版本说明书。
 2. 调整自动关机功能：
 - 当遥控器电压低于 3.4V 时，语音提示“遥控器电压低，自动关机”后，发射机执行自动关机。
 3. 菜单排布：
 - 将原有的模型菜单拆分成模型选择、模型设置菜单。
 - 将原比率和曲线功能拆分为功能比率（AFR）、双比率设置菜单。
 - 原有的收油门功能拆分为油门熄火和降低怠速。
 - 修改系统菜单中控制范围测试为高频仅选择 FRM301 时有此功能。
 - 优化主页 1 页面框架和排版及菜单入口。
 - 高频设置、接收机设置、教练模式菜单调整到基本功能中，逻辑开关调整到模型功能中，相应的菜单排序也进行了一些调整



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- 修改功能：
- 通道显示：
 - 界面增加全部通道显示页，且默认展示，数据仅显示通道数和百分比。
 - 功能分配：
 - 把微调菜单中微调按键设置中“微调模式、微调比率”移至本功能中，即以功能为设置对象，对应到每个功能可以设置不同的微调模式 / 微调比率。
 - 微调分配界面增加微调设置按钮，点击进入微调设置界面，显示微调比率和微调模式并可点击设置。
 - 去掉功能概览，在控件概览和微调概览界面，区别已分配的和未分配的控件 / 微调（图标为红色代表已分配）。
 - 微调：
 - 功能分配中未设为微调的按钮也始终显示数值，且均可点击进入界面设置微调。
 - 把设置微调比率和微调模式的设置项移至功能分配界面，设置不绑定控件，同一个控件分配给不同功能时，可设置不同的微调模式和微调比率。
 - 设置微调调节当前模式 / 所有模式方式由图标改为点击内容区域切换，如此可直观地展示设置项内容。
 - 传感器：
 - 始终显示设置的报警值，且根据传感器类型可以设置两个（均低于 / 均高于 / 一高一低）报警值，并可选择两个都报警或开启哪一个报警。
 - 模型选择：
 - 把原模型设置功能中“选择模型”“复制模型”功能整合到本功能中，并把模型默认 20 组改为默认一组，允许用户新建的方式增加模型数量（最多增加至 18 组）。
 - 可以针对当前正在使用模型进行模型设置，修改模型名称、类型、新建和删除模型等。
 - 模型设置：
 - 把原模型设置中“模型重命名”、“摇杆模式选择”、“模型结构设置”、“恢复模型默认设置”等功能集合在此菜单。
 - 全新的 UI 设计适配功能设置，新的图形向导指引下完成模型结构相关设置。
 - 可对当前正在使用模型进行模型设置（可修改模型名称、类型、翼型等）。
 - 飞行模式 / 工作模式：
 - 所有模型均支持飞行模式 / 工作模式功能，功能设置一样，仅名称不一样（车船机器人显示为工作模式，飞机类显示为飞行模式）。
 - 界面显示由原来的 5 组模式修改为默认只有一组，用户可根据需要新建到最多五组。
 - 支持用户通过调节模式顺序、设为默认方式改变飞行模式优先级。
 - 可复制 / 新建模式，也可以删除任意不用的模式。
 - 舵机速度：
 - 将原延迟设置改为舵机速度，同时更改菜单界面用语，以更好区分不同设置方式。
 - 增加设置启动速度和恢复速度，且可定义为对称 / 线性的启动恢复基准。
 - 油门熄火：
 - 修改原收油门功能下熄火功能可设置多油门熄火，允许设定低于油门最低位置

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- **修改功能：**
- 的熄火位。
 - 13. 降低怠速：
 - 修改原收油门功能下怠速功能运算方式，可以降低 / 升高怠速。
 - 14. 油门针、螺距曲线：
 - 修改功能运算，支持单独分配控件来控制，不与油门绑定。
 - 15. 飞机 / 滑翔机修改：
 - 翼型相关设置：以功能主控为向导，整合了混控给其它功能的设置菜单。例如副翼功能 / 襟翼功能等。
 - 部分菜单界面进行了优化设计、把很多功能的开关分配入口提到了功能界面内容区域直接显示分配控件名称和控制状态。
 - 飞机 / 滑翔机下均整合了无尾飞机的设置方式。
 - 16. 直升机：
 - 把油门混控、倾斜盘混控功能从混控中移出后分别作为单独的设置功能。
 - 17. 逻辑开关：
 - 移至模型功能菜单，且新增一组逻辑开关，由原来的 3 组开关变为 4 组。逻辑开关设置可以选择自己以外的逻辑开关进行再一次逻辑。
 - 18. 教练模式：
 - 适配新增功能，UI 界面也做了修改。
 - 19. 接收机设置：
 - 修改部分用词，修改菜单排序。
 - 增加 i-BUS2 设备预览功能项，将发射机接入的所有 i-BUS2 设备显示在此菜单中，对应不同的 i-BUS2 设备在接入后可以在接收机设置菜单中设置。
 - 20. 优化系统功能：
 - 当同时按下发射机两个电源键时，系统即切断高频头的电源；屏幕变暗并显示“正在关机 ... 请稍候！”，待屏幕熄灭，表示发射机关机。

- **特殊变化：**
1. **模型数据存量变为最多支持 18 组模型存储。**
 2. **部分功能被优化。基于为用户不断创新，提升用户体验的理念，将之前版本的功能，如比率和曲线、模型、混控、油门模式、收油门和延迟设置等优化后，开发为新的功能。**



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注意事项：

1. 去掉油门模式功能，校准需要把油门摇杆放置在中位再进行校准，校准运算始终识别中位。
2. 新版本程序混控叠加有可能超出内行程，设置通道行程时一定要确认高低端范围在舵机安全位置内。
3. 关于模型数据继承的说明：
 - 新版本程序一部分功能逻辑运算发生了变化，旧版数据继承不再适用，程序处理为保持默认，用户使用前需要重新设置这些功能。例如：比率曲线→功能比率 + 双比率、收油门→降低怠速和油门熄火、线性混控和曲线混控→编程混控、传感器设置、教练功能设置等。
 - 旧版模型数据继承部分因为新版功能变化效果可能有点不同，需要先地面验证各功能正常再执行飞行，检验异常重新设置此项即可。
 - 工程车模型设置不能继承到新版本，工程车用户需要重新设置模型，使用车模型即可。
 - 接收机 ID 未被继承，更新完成（旧版模型数据导入）后，需重新与接收机对码。



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- New functions:
- 1. Pro. Mixes (programming mixes)**
 - This function is newly added, supporting 10 groups of custom mixings for a variety of scenarios.
 - You can set delay to enable/disable the mixes.
 - When **Master** is set to a function, it can be defined that whether the **Trim** affects the **Slave (On or Off)**
 - When **Master** is set to a function, the **Link** can be set (can be set to **NOR**(normal), **REV**(reverse), or **OFF**). When the **Link** is set to **NOR** or **REV**, other function mixing variables that affect this function will also affect the **Slave** of this group of mixing. All **Slaves** can be set the **Link**. After the link is set to **NOR** or **REV** for one Mix's Slave, at the time, if the other Program Mix uses this Slave as its Master and the Master's link is set to **NOR** or **REV**, then the later will be affected by the former.
 - For **Master**, it can be set to one of controls or one of functions defined to the channels (including auxiliary functions), and for **Slave**, it can be set one of functions.
 - 2. Func. Rate (function rate) (AFR)**
 - The function is newly added with the brand-new interface.
 - Offset** item can be set. In the process of offset adjustment, the whole variable line can be shifted on Y axis.
 - In the line type selection item, a line type is increased for the setting of throttle not returning to the neutral position, and all function curves can be set to different line types.
 - 3. DR (dual-rate) setting**
 - This function is newly added, 10 groups of dual-rates can be defined.
 - Supports the setting of dual-rate for non-linkage control functions, enable the dual-rate switch, and set the enable **Mode(Condition)**.
 - 4. Model setup**
 - Provides various model types and optional function items.
 - Adds **Boat** and **Robot** model types (the original engineering vehicle model is also extended to car model).
 - For the **Airplane** and **Glider** modes, adds 4 ailerons/4 flaps option and multi-throttle setting functions. The airfoil structure and function options are re-optimized.
 - For the **Car** and **Robot** modes, adds the **Track mixing** function to better adapt to track models.
 - Adds change of model pictures function. The restriction on the types of model picture is lifted. The user can customize the picture displayed in the main interface through **Model setup** function. a variety of model pictures can be selected.
 - 5. Model select**
 - Adds the new model function and receiver automatic search function. Click  (the receiver search button) to quickly switch to the model



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► New functions: corresponding to the receiver that has been turned on.

6. Switch Assignment

- Adds the **Stick** with a new function, that is, to work as a switch to enable/disable a function. It is a new UI.
- The **Stick** can be set to a logical switch to enable or disable a function, to flexibly adapt to complex application scenarios.

7. Adds a new function to adapt to the i-BUS2 device.

- The i-BUS2 GPS (FS-iBG01) sensor can be connected. At the transmitter side, you can view the relevant return information (such as the current orientation, moving direction and attitude of the model) and make initial settings (for example, **Calibration**).

8. Adds a new function to adapt to the Wireless Trainer Unit (FS-WTM01).

- It can be used with a wireless trainer unit to realize the wireless trainer function.

9. Trim

- Adds the backup trim function. The backup trim can be set to store trim values. For the digital trim, you can restore to backup data by calling the backup trim method. For knob, you can set to backup value manually.

10. Sensor

- Adds the extreme value monitoring function for sensors. You can set a switch to clear the extreme value.
- Adds the speed monitoring function and the corresponding mileage display function. The perimeter can be set to convert RPM to speed. You can calculate 2 mileages based on speed and time. The switch can be assigned to achieve mileage to zero.

11. RX setting

- Adds the voltage sensor calibration setting function. The **i-BUS setup** is added with the voltage sensor (FS-CVT01) calibration function. You can set a compensation value for the voltage difference so that the interface display value is closer to the actual value.

12. Throttle cut


- Adds the settings of multi-throttles separately. Support up to 4 engines. You can set the **Cut position**, **Cut threshold** and **Cut switch** for each engine separately.

13. Trainer mode

- Adds trainer function control switching: add the function that a transmitter not directly connected to the airplane can be set with the trainer function control switching capability (Only the same model is confirmed to have this function, and other models that support shutting down connection with wireless trainer unit/cutting off wired connection with the trainer transmitter can use it).
- Adds the function that the trainer can control the airplane with the student at the same time: When the **Mixed mode** of input object control

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- **New functions:**
- is set to **Mixed** in the **Trainer mode**, the trainer and the student can control the model at the same time, and the control effect is of the two superimposed.
 - Adds such functions as adaptive recognition of non-standard PPM signal and setting the output of non-standard PPM signal at the Trainer port.
14. **Timer**
- In **Timer 1** and **Timer 2**, add the option of **Sound + Rock** timing reminder, with a better sound effect.
15. **Help center**
- Adds the promotion platform QR code for more convenient communication.
16. Added an automatic search for receiver function.
- You can make settings to automatically switch to the model corresponding to the currently powered on receiver after the transmitter is turned on and the RF is enabled.
 - You can also click  (the receiver search button) to quickly switch to the model corresponding to the currently powered on receiver.
- **Modified functions:**
- LED status indication modification
 - Standardizes the corresponding status indication of the LED. For detailed information, refer to the manual of the corresponding firmware version.
 - Adjusts the automatic shutdown function.
 - When the transmitter voltage is lower than 3.4V, the transmitter will perform automatic shutdown after the voice prompt "The transmitter voltage is low, and will automatically shut down".
 - Menu layout
 - Splits the original **Models** menu into **Model select** and **Models**.
 - Splits the original **Rate and exp** function into **Func. Rate (AFR)** and **DR setup**.
 - Splits the original **Throttle Down** function into **Throttle cut** and **Idle up**.
 - Modifies the **Range test** in **System** function. This function is available only when FRM301 is selected for **RF setting**.
 - Optimizes the frame, layout, and menu entrance of **Home 1** page.
 - Adjusts the **RF setting**, **RX setting** and **Trainer mode** menu to **Basic** function. Adjusts the **Logic switches** to **Model** function. Makes some adjustments in the corresponding menu sequence.
 - Disp servos**
 - The interface is added with all channels display page. It is displayed by default. Only the number of channels and percentage are displayed.

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► Modified functions: 5. Func assign

- **Trim Mode, Trim Rate** are moved from the trim setup interface to this function. That is, takes the function as the setting object. Each function can be set with different trim mode/trim rate.
- **Trim setting** button is added on the trim assignment interface. Click and enter the trim setting interface, The **Trim rate** and the **Trim mode** are displayed. You can click to set them.
- The assigned and unassigned controls/trims are displayed separately on the **Control Preview** and **Trim Preview** interface (Icon in red means assigned).

6. Trim

- The buttons that are not set as trim in the **Function Assign** also always show the value. For all of them, you can click to enter the interface to set the trim.
- Moves the setting items of **Trim rate** and **Trim mode** to the **Function assign** interface. Set to the unbound controls. You can set different trim modes and trim rates when the same control is assigned to different functions.
- The setting for the trim adjustment of current condition/all condition is switched from icon to content area clicking. In this way, the setting items can be displayed visually.

7. Sensor

- The set **Alarm** values are always displayed. According to the sensor types, you can set two (both smaller than/both greater than/one greater than and the other smaller than) alarm values. You can choose both alarms to turn on or set one to turn on.

8. Model select

- **Model Select** and **Copy Model** are Integrated from the original **Models** function into this function. Changes the default 20 groups of models into a default group, to allow users to create new models to increase the number of models (up to 18 groups).
- You can set the model for the currently used models, you can modify the model name or type, as well as create or delete models.

9. Models

- The functions of **Model name, Stick mode**, model structure setting and **Restore the current model** in the original model settings are put in this menu.
- New UI design matches the function setting, and the well-designed graphic wizard guides to the related settings of model structure.
- You can set the model for the currently used models (You can modify the model name, type, wing type, etc.).

10. Condition

- All models support the **Condition** function.

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► Modified functions:

- The interface is changed from the original 5 groups to only one group by default. Users can create up to five groups as required.
 - Support users to change the priority of conditions by adjusting the condition sequence and setting it as default.
 - You can copy/create new modes, and delete any unused modes.
11. **Servo speed**
 - The original **Delay setting** is changed to **Servo speed**, and change the menu interface language, to better distinguish different setting methods.
 - **In speed** and **Out speed** are added. You can define the symmetrical/linear start recovery reference.
 12. **Throttle cut**
 - Modifies the original **Throttle cut** function in the original **Throttle down** function. You are allowed to set the throttle cut position that is below the lowest throttle position.
 13. **Idle up**
 - Modifies the **Idle up** function algorithm mode in the original **Throttle down** function. You can lower/raise the idle speed.
 14. **Throttle needle and Pitch curve**
 - Modifies the functional computing to support separate allocation of controls and unbound with the throttle.
 15. **Airplane and Glider modification:**
 - Airfoil-related settings: Based on the main function control, integrate the mixing with other functions in the setting menu. For example, **Aileron** and **Flap**.
 - Optimizes part of the menu interfaces. Arrange the switch assignment portals of many functions in the content, to directly display the names of assigned controls and status.
 - The setting method of a tailless airplane is integrated under **Airplane/Glider**.
 16. **Helicopter**
 - The **Throttle mixed** and **Swashplate** functions are removed from the **Mixes** as separate setting functions.
 17. **Logic switches**
 - it is moved to the **Model** menu. A new group of logic switches is added, which are changed from the original 3 groups to 4 groups. In the **Logic switches**, a logic switch for another setting of logic switch can be selected.
 18. **Trainer mode**
 - Adapts to the new functions. The UI is modified.
 19. **RX setting**
 - Modifis some of the words and the menu sequence.



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► Modified functions:

- Adds **i-BUS2 device display** function. All i-BUS2 devices the transmitter connected are displayed in this menu. The corresponding i-BUS2 devices can be set in the receiver settings menu after connected.
20. The system function is optimized. When you press the two **Power Switches** of the transmitter at the same time, the system will power off the RF module. The screen will be dark, with showing "Shutting down... Please wait!" . When the screen goes off, it means the transmitter is turned off.

► Special changes:

1. **Supports up to 18 groups of models.**
2. **Some functions are optimized. Based on the concept of continuous innovation for users and improving user experiences, the functions of the previous version (such Rate and exp, Model, Mixes, Throttle type Throttle down, and Delay setting) are optimized, so as to develop new functions.**

Notes:

1. Removes the **Throttle type** function. In the calibration, place the throttle stick in the neutral position and then start to calibrate. During the calibration operation, the neutral position is identified.
2. In the new version, the **Program mixes** superposition may exceed the travel endpoints. When setting the **Channel route**, you must confirm the **UP end** and **DW end** values within the safe range of the servo.
3. Descriptions about the inheritance of model data.
 - In the new version, a part of the function logic operations in the program has changed. The data of the earlier version may not apply. In the program processing, the default data is kept. User needs to reset these functions before use. For example: **Rate and exp** → **unc. Rate (AFR) + DR setting**, **Throttle down** → **Idle up** and **Throttle cut**, **Linear mixes** and **Curve mixes** → **Pro. mixes**, **Sensor**, **Trainer mode**, etc.
 - The inheritance part of model data in the earlier version may be a little different because the functions in the new version are different. You need to first verify that each function is normal on ground and then execute the flight. If it is found that the function is abnormal after check, reset it.
 - The settings of the engineering vehicle model cannot be inherited in the new version. The engineering vehicle user needs to set the model again, that is, use the **Car** model to set.
 - Receiver ID is not inherited. After the update (after model data in the earlier version is imported), you need to rebind the receiver to the transmitter.



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- **新增功能：**
1. 新增对码设置界面，对码接收机前可以对高频参数进行设置来应对不同的应用场景。
 2. 为适配增强版接收机新增以下功能：
 - 增强版接收机的 RF 系统为 Routine18ch、Lora 12ch 和 Fast 8ch，经典版接收机 RF 系统为 Classic 18ch，对码时会弹窗提示支持的接收机类型。
 - 支持增强版接收机的 RF 系统均可以设置起始通道，另外在 Routine 18ch 下双向通信时候可设置为双接收模式。
 - 增强版接收机对应的舵机响应速度菜单支持设置每一个通道舵机响应速度，并且支持 SR 和 SFR 模式和可选与高频同步项目。
 - 传感器中新增 BVD 电压回传，接收机菜单中增加 BVD 电压校准功能。
 - 新增 i-BUS2 PWM 转换器设置功能，可以自定义每个接口的输出通道，并且可以设置每个接口的舵机响应速度。
 3. 增强版 / 经典版接收机都支持的新增功能：
 - 新增失控保护可设置成无输出模式。
 - 新增接收机可以自定义一个通道输出信号强度功能。
 - 新增配置接收机为 PWM 转换器功能，可以配置接收机为 i-BUS/i-BUS2 协议的 PWM 转换器。
 4. 新增空气刹车功能，在飞机降落时打开开关来实现快速减速功能。
 5. 工程车模型类型里面增加模型结构设置项，18 种结构可选，用户可以根据自己的车选择不同的结构功能来实现多样化的模型车控制。例如：选择油门时候可以设置 ABS 开启实现点刹功能，设置油门曲线功能等。
 6. 新增升级向导功能，升级完成后第一次开机时引导用户设置默认的摇杆模式、校准摇杆、升级高频头以及提示升级接收机事宜。
 7. 新增支持《富斯遥控管家 V2.0》进行更新发射机固件的功能。更新发射机固件和导入导出模型数据无需多平台操作，打开遥控管家即可实现。
 8. 新增支持《Flysky Receiver Updater》更新接收机固件的功能，支持更新非标配的接收机。发射机通过 USB 连接电脑无线更新所有 AFHDS3 协议接收机。

- **修改功能：**
1. 主页 1 界面重新设计并将主菜单按应用分为三类菜单，在主页 1 上展示分类菜单入口和自定义菜单入口。
 - 基础功能：模型的基本参数设置和辅助工具菜单。
 - 系统功能：与硬件关联的一些公共设置，模型相关的设置项是一个模型只须设置一次。
 - 模型功能：针对精细控制的模型特有功能的设置。
 - 自定义菜单：用户可以选择三种类型中任意菜单在此菜单列表中显示 / 不显示，以及排列顺序。
 2. 主页 2 界面优化：计时器区域缩小，传感器数据个数由 4 增加到 8。
 3. 开机界面优化：开机界面重新设计更改为彩色 LOGO。



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修改功能：

4. 高频设置菜单优化：
 - 把之前点击高频类型设置中对应选项进入的设置菜单（高频模块版本信息、高频模块固件更新、PPM 设置）提到同级，解决了在不更改高频设置时无法发现此菜单的问题。
 - 把设置高频通信方式为单向通信还是双向通信的设置项移到对码设置中。
5. 接收机设置中部分界面用语修改和功能细微调整：
 - 因增加了对码前设置 RF 系统等功能，【接收机对码】改为【对码设置】并链接到对码设置界面，对码入口在对码设置界面。
 - 删除【控制范围测试】菜单，系统菜单中增加一个专门的测试菜单图标来进入功能。
 - 【接收机协议】改为【自定义接口协议】，页面修改为以接口为基准对应去选协议，并且针对不同的接收机有不同的设置项和可选协议，不再显示连接接收机才可以设置，让连接和断开接收机都可以设置。
 - 【i-BUS 设置】改为【i-BUS 串行总线接收机设置】，突出该功能仅设置 i-BUS 串行总线接收机。
 - 删除【配置从机】菜单，新增【配置接收机为 PWM 转换器】菜单。
 - 【舵机中点】改为【舵机中点偏移】，并且选项对应改为偏移和不偏移。
 - 【接收端电压监测】改为【低电压语音报警】，当前不在信息栏显示接收机电压，此功能仅设置语音报警电压，故修改界面用语明确指示功能目的。
 - 【低信号报警】改为【低信号语音报警】，相对传感器里面的报警设置，用户无法区分此处设置报警时什么样的效果，故增加语音字样，清晰指示报警为语音。
6. 扰流板中增加升降舵设置项，可以设置扰流板变化时升降舵的补偿值。
7. 线性混控由 10 组增加至 20 组。
8. 修改微调功能，通道行程 / 范围的改动不影响微调量，微调比率决定了微调量。
9. 优化启用 / 禁用图标：①在表达启用 / 禁用的地方，改为即可表达当前状态又有点击指示的状态开关；②在开关分配界面，可设为无或者已经是无的状态使用撤销图标。

特殊变化：修改微调功能，通道行程 / 范围的改动不影响微调量，您的微调可能需要重新设置。

注意事项：

1. 升级方案及数据继承说明：
 - 1.0.30 及之前版本：模型数据无法继承，可直接升级到 1.0.55 版本。
 - 1.0.40 版本：①无需继承数据时，直接升级到 1.0.55 版本。②需要继承数据时，模型数据可以通过《富斯遥控管家 V1.0》进行备份，升级到 1.0.49 后通过《富斯遥控管家 V1.0》导入 备份数据。然后通过《富斯遥控管家 V2.0》进行数据备份，升级到 1.0.55 后通过《富斯遥控管家 V2.0》导入 备份数据。
 - 1.0.49 版本：通过《富斯遥控管家 V2.0》进行数据备份，升级到 1.0.55 版本后通过《富斯遥控管家 V2.0》导入 备份数据。
2. 《富斯遥控管家 V2.0》支持数据导入导出，支持固件从 1.0.49 版本更新到 1.0.55，也支持重刷固件、降级更新。但是需要注意的是：
该《富斯遥控管家 V2.0》不支持 1.0.49 版本以前的固件升级，之前版本需要先下载官网 1.0.49 版本固件进行升级后才能使用《富斯遥控管家 V2.0》升级到 1.0.55 版本。



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注意事项：

3. 本版本更新了高频库，升级发射机固件后需要同步升级高频头、接收机固件后才能使用。更新方法如下详细描述：
 - 升级装机的 FRM301 高频头：本次固件升级后第一次开机增加了升级向导，用户按指导操作即可升级高频头，但是如高频未连接或者其它情况需要后续用户自主通过发射机菜单点击升级。在遥控器正常开机高频正常连接且开启状态下点击高频设置菜单中，选择高频类型为 301 时菜单列表中有升级高频模块菜单栏，点击即可。
 - 请使用 FRM302 高频头的用户暂缓升级此次固件，后续将提供 FRM302 的专属升级方案，敬请期待。
 - 升级接收机：①发射机固件打包两款接收机的固件，可以直接让接收机进入更新状态后通过发射机的【接收机设置】中更新接收机，选择对应型号去更新；②所有 AFHDS3 系列接收机都可以通过电脑端的更新接收机软件《Flysky Receiver Updater》进行更新。更新方法为：让接收机进入更新状态，PL18 发射机通过 USB 连接电脑，高频开启且版本适配，在软件界面中选择对应的型号点击更新即可。
4. 更新高频头和接收机后需要重新对码才可以使用，之前的对码信息失效。
5. 本版本固件新增多种高频配置可选，但是标配的 FTr10/FTr16S 接收机仅支持 Classic 18ch 的高频配置，如需体验其它配置则需要购买增强版接收机 FTr8B、FTr12B 等。
6. 发射机固件、接收机固件、高频头固件均支持降级更新，注意事项如下：
 - 由于 1.0.49 及之前版本发射机不支持《Flysky Receiver Updater》，如需降级更新非标配的接收机则需要先使用《Flysky Receiver Updater》降级更新接收机版本后再降级更新发射机版本。
 - 使用 FRM301 高频头的发射机降级更新后，发射机无法识别高频头，需要将 FRM301 高频头进行强制更新。



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- **New functions:**
1. Added the bind setting interface. Set the high frequency parameters to cope with different application scenarios before the bind receiver.
 2. The following functions are added for the enhanced receivers:
 - The RF systems of the enhanced receiver are Routine18ch, Lora 12ch and Fast 8ch. The RF system of the classic receiver is Classic 18ch. In case of binding, the pop-up window indicates the type of the supported receiver.
 - On the RF system supporting the enhanced receiver, you can set the starting channel. In addition, you can set it to the dual receiving mode on the Routine 18ch in case of bi-directional communications.
 - The Servo frequency menu for the enhanced receiver supports the setting of the Servo frequency for each channel. It supports SR and SFR. You can select Synchronized with RF.
 - New BVD voltage return in the sensor and the BVD voltage calibration is added in the receiver menu.
 - The i-BUS2 PWM converter setting function is added. You can customize the output channel of each interface. You can set the Servo response speed of each interface.
 3. New functions supported by both Enhanced Edition and Classic Edition receivers:
 - Added the settings of no output mode for failsafe.
 - Added the function of customizing the output signal strength of one channel of the receiver.
 - Added the function to configure the receiver as a PWM converter. You can configure the receiver as an i-BUS/i-BUS2 protocol PWM converter.
 4. Added the air brake function. Switch on realize the fast deceleration function when the aircraft is landing.
 5. Added the model structure setting items in the model type of engineering vehicle. There are 18 types of model structures. You can select one type or a combination of them. Users can choose different structure functions to achieve diversified model car control. For example, When selecting the throttle, you can enable the ABS to achieve the point brake function, and set the throttle curve function, etc.
 6. Added the upgrade guidance function. After the upgrade is complete, guide the user to set the multiplex stick mode, calibrate the multiplex stick, upgrade the LNB, and prompt to upgrade the receiver.
 7. Added the function of updating the transmitter firmware by supporting "FlySky Assistant V2.0". Update transmitter firmware and import and export model data without multi-platform operation. This can be implemented by enabling the Assistant.
 8. Added the function of updating the receiver firmware, and updating non-standard receivers for "Flysky Receiver Updater". The transmitter can be connected to a computer via USB to update receivers with the AFHDS3 protocol wirelessly.



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- **Modified functions:**
- Homepage 1 interface is redesigned. The main menu is divided into three categories of menus according to applications. The category menu and custom menu are displayed on Homepage 1.
 - Basic functions: basic parameter settings of the model and auxiliary tools menu.
 - System functions: Some public settings related to hardware. There is one model-related setting. You can set only once.
 - Model function: The settings of model-specific functions for fine control.
 - Custom Menu: Users can choose three menus to be displayed/not displayed and arrange the sequence on the menu list.
 - Homepage 2 interface optimization: Timer area is reduced and the number of sensor data records is increased from 4 to 8.
 - Optimization of the power-up interface: The power-up interface is redesigned and changed to a colorful logo.
 - Optimization settings of RF menu:
 - The lower-level menu of [RF type] (RF module version info, RF module firmware update, and PPM settings) is arranged in [RF Setting]. It is convenient for users to use menus because the menus can be found directly.
 - Moved from the setting of RF communication mode as one-way communication or two-way communication to the bind setting.
 - Modified some interface terms and fine-tuned some functions in the receiver settings:
 - Added the setting RF system and other functions before bind. [Bind with a receiver] is changed to [Bind Setting], with linked to the bind setting interface. The bind entry is on the binding setting interface.
 - Deleted the [Range Test] menu. Added a special test menu icon in the system menu for entry of the function.
 - [RX Protocol] is changed to [RX Port Protocol]. You can select the port first and then select protocol. For different receivers, there are various setting items and optional protocols, and the setting can be completed without connecting to the receiver. In this way, the settings are allowed in case of receiver connection/disconnection.
 - The [i-BUS setup] is changed to [i-BUS Setting-CEV04], highlighting that this function is available for i-BUS serial bus receiver.
 - Deleted [Configure the Slave] menu. Added [Config Rx as PWM Converter] menu.
 - [Servo midpoint] is changed to [Midpoint Offset], and the options are changed to Offset and No Offset.
 - [Rx Voltage Monitor] is changed to [Voltage Alarm]. The current receiver voltage is not displayed in the information bar. This function is used only to set the voice alarm voltage. Modify the interface language to clearly indicate the purpose of the function.



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- **Modified functions:**
- [Low signal voice alarm] is changed to [Low Signal Alarm]. Compared to the alarm settings inside the sensor, the user cannot distinguish the effect of setting the alarm here. Add the voice word to clearly indicate that the alarm is voice.
 - 6. Add the elevator settings in Slingshot Autosculpt. You can set the compensation value of the elevator when the Slingshot Autosculpt changes.
 - 7. Increased the number of linear mix control from 10 groups to 20 groups.
 - 8. Modified the trimming function. The change of channel travel/range does not affect the trim volume. The trimming ratio determines the trimming volume.
 - 9. Optimized the enable/disable icons: ① In the place of expressing enable/disable, change the status switch which can express the current status. You can also click the indicated status switch. ② In the switch assignment interface, you can set it None or use the Undo icon for those that are already in the None status.
- **Special changes:** **Modified the trimming function. The change of channel travel/range does not affect the trimming volume. Your trimming may need to be reset.**

Notes:

1. About upgrade scheme and data inheritance:
 - Versions 1.0.30 and earlier: The model data cannot be inherited and can be directly upgraded to version 1.0.55.
 - Version 1.0.40: ① If there is no need to inherit data, upgrade to version 1.0.55 directly. ② When you need to inherit the data, the model data can be backed up through "FlySky Assistant V1.0". After upgrading to V1.0.49, you can import the backup data through "FlySky Assistant V1.0". The data can be backed up through "FlySky Assistant V2.0". After upgrading to V1.0.55, you can import the backup data through "FlySky Assistant V2.0".
 - Version 1.0.49: The data can be backed up through "FlySky Assistant V2.0". After upgrading to V1.0.55, you can import the backup data through "FlySky Assistant V2.0". Import the backup data.
2. "FlySky Assistant V2.0" supports data import and export, supports firmware update from 1.0.49 to 1.0.55, also supports refreshing of firmware, downgrade of the update.
However, it should be noted that:
"FlySky Assistant V2.0" does not support firmware update for versions earlier than 1.0.49. For the earlier versions, download version 1.0.49 firmware from the official website first. After the upgrade, use the "FlySky Assistant V2.0" to upgrade to version 1.0.55.
3. This version has updated the RF library. After upgrading the transmitter firmware, you need to upgrade the LNB and receiver firmware before you use it. The update method is as follows:
 - Upgrade the installed FRM301 LNB: The upgrade guidance is added to the first boot after the firmware upgrade. Users can upgrade the LNB by following the instruction. If the LNB is not connected, the user needs to upgrade through the transmitter menu independently. Use the controller to power on normally. In the normal connection, click the RF setting menu. When



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Notes:

selecting the RF type as 301, there is a menu bar for upgrading RF module in the menu list. Click on it.

- Please hold off to upgrade the firmware if you are using FRM302 LNB, we will provide the exclusive upgrade program for FRM302 later.
 - Upgrade the receiver: ① The transmitter firmware is packaged with the firmware of two receivers, you can directly let the receiver enter the update state and update the receiver via the [Rx Setting] of the transmitter. You can update the receiver through the transmitter's [Rx Setting] and select the corresponding model to update; ② All AFHDS3 series receivers can be updated through the computer terminal's receiver software "FlySky Receiver Updater" to update. Update method: the receiver enters the update state. PL18 transmitter connects to the computer through the USB. The high-frequency is enabled and the version is adapted. Select the corresponding model in the software interface and click Update.
4. After updating the LNB and receiver, you need to bind before use. The previous bind information is invalid.
 5. This version of firmware is added with a variety of RF configurations for selection. The standard FTr10/FTr16S receiver only supports Classic 18ch RF configuration. If you want to experience other configurations, you need to buy enhanced receivers FTr8B, FTr12B, etc.
 6. The transmitter firmware, receiver firmware, and LNB firmware all support downgrade:
 - As V1.0.49 and earlier versions of transmitters do not support "Flysky Receiver Updater", if you need to downgrade non-standard receivers, you need to use "Flysky Receiver Updater" to downgrade of the receiver version first, then downgrade the transmitter version.
 - If the transmitter with FRM301 LNB is downgraded, the transmitter cannot recognize the LNB. The FRM301 LNB needs to be updated in a forced manner.

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- **新增功能：**
- 新增功能分配菜单，替换了通道分配、辅助通道分配功能，并且加入了微调分配。
 - 新增 ABS 功能：在模型类型切换为工程车后会有 ABS 功能，开启后可以让左履行和右履带功能刹车时候有点刹（防刹车抱死）的效果；
 - 工程车模式新增工作模式菜单，大致功能与飞行模式一致，仅两个模式，用户可以设置不同模式控件、曲线等不同设置，实现更大自由度的控件复用；
 - 新增主页 2，主界面信息栏按钮点击可以切换主页 1 和主页 2。主页 2 可显示微调概览，被分配的微调控件在对应位置会有数字显示，点击可以进入微调菜单主界面；同时可显示计时器 1 和计时器 2。
- **修改功能：**
- 1、计时器优化
 - 触发开关改为进入动作触发，只有进入时刻被识别，离开不被识别，保持也不被识别。这个改变使得一个三档开关控制两个计时器同时开启异时结束得以实现；
 - 增加目标时间设置，这样使得正计时也可以报警；
 - 优化界面，把计时器 1, 2 排布在前面，点击上方标题栏可以方便切换计时器，去掉之前的向上计时，向下计时，向下再向上，改为正计时和倒计时，倒计时时间结束后自动正计时；
 - 优化语音提示，在 30 秒后开始能读秒（30-21 秒，一声滴，20-11 秒两声滴，10-0 读数字和时间到）；
 - 变更以前语音提示二选一为用户可以自定义语音或者是震动。
 - 2、传感器优化
 - 高度传感器调节地面高度取消加减调而是点击一下自动把当前高度调节为 0，增加最高点记录（可清除）增加上升下降声音提示；
 - 更改界面逻辑，把传感器设置（之前的选择传感器功能）添加到传感器数据列表下方。传感器数据列表修改界面显示方式；
 - 传感器设置菜单里面界面修改显示方式。
 - 3、曲线
 - 修改中文界面的主菜单名称，曲线改为比率和曲线；
 - 曲线和比例里面分配开关仅保留可分配双重开关，去掉比率、曲线调节旋钮分配，仅支持屏幕点击调节比例值和曲线值；
 - 新增分段调节的形式，单点击中间的关联图标  切换为不关联  时候，可以分别调节 0 点两边的比例值和曲线值。
 - 4、通道显示：修改为竖向进度条，显示通道值、通道百分比，通道对应功能、控件，并且显示飞行模式，下方三栏按钮点击可以切换 1-6、7-12、13-18；
 - 5、高低行程：调节界面优化，扩大行程范围至 150%，增加高低端范围，行程限制主控调节量，范围限制微调量、混控叠加数据等。
 - 6、微调
 - 修改为显示微调按钮的值和进度调。如未分配则没有值，被分配的微调按钮 / 旋钮都会有值和进度条。并且点击被启用的微调按钮可以进入微调按键功能设置界面；



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- **修改功能：**
- 微调键设置界面增加微调范围调节，全行程范围微调可调；
 - 可以设置不同的微调模式，平移（微调值被通道行程的范围限制，范围以内微调值大小不会随通道值大小而改变）、中心最大（中点最大，正负分别削弱到行程最大 / 最小值时候微调为 0.）、高端最大（最高行程点为微调正常值，往低端走微调被削弱，另一端同平移）、低端最大（与高端最大相反）等四种微调模式；
 - 点击 TR1-TR8 在第（2）（3）点的基础上可以设置步进值和对所有飞行模式设置还是当前飞行模式设置 微调值。
 - 7、开机：优化开机时间，短按开机双键后 LED 亮起放开后就可以正常开机。
 - 8、对码后再次对码：对码成功后点击对码命令，弹窗提示会导致当前断开确认后再次对码。
 - 9、对码后切换模型：对码成功后切换模型，弹窗提示切换会导致当前断开确认后切换。
 - 10、接收机电池监测：去掉高低压设置，保留设置二级电压报警，报警值可以根据不同的电池选择。
 - 11、襟翼功能、扰流板、陀螺仪等功能控件分配统一到功能分配里面。
- **特殊变化：**
- 工程车模式去掉摇杆复用菜单，新增工作模式，在工作模式下设置移动模式的开启开关，功能分配时选择不同模式不同分配即可以实现摇杆复用的功能；
 - 去掉微调调节提醒框；
 - 通道分配和辅助通道分配功能被删除，对应的分配在功能分配里面进行。

注意事项：

- 1.0.40 版本以下固件更新完成后遥控器所有模型数据将会被复位（用户配套的模型需要重新调试参数）；
- 1.0.40 版本需要先使用模型导入导出上位机备份全部（20 组模型数据）后再升级。升级完成先恢复出厂设置后再使用模型导入导出上位机备份全部（20 组模型数据）才能保证模型数据正常置入。（若之前把 1-4 通道分配给非摇杆控制的功能可能会导致升级后功能分配出错，重新分配正确即可保持原样。）
- 本次固件版本上工程车模型做了较大调整，进行固件更新会导致工程车模型数据复位，请提前记录好工程车的模型设置，升级完成后再手动恢复相关设置；另 EXP 可能会出现概率性复位，请更新完成后对 EXP 进行确认。



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- **New Features :**
- Newly added function assignment menu, replaced channel assignment and auxiliary channel assignment, and added trimming assignment.
 - Newly added ABS function: After the model type is switched to "Engineering vehicle", the ABS function will be available. After it is turned ON, the left and right tracks can have the ABS (antilock brake system).
 - Newly added working mode menu in engineering mode, with roughly the same function as flight mode. There are two modes only. The user can set different mode controls, exponential and other settings, so as to realize a greater freedom of control.
 - Newly added Homepage 2. You can switch between Homepage 1 and Homepage 2 by clicking the button of information bar on the main interface, Homepage 2 can display the preview of trimming. The assigned trimming controls will have a digital display at the corresponding position. Click to enter the main interface of trimming menu, meanwhile Timer 1 and Timer 2 can be displayed.

- **Editing :**
- 1. Timer optimization**
 - The start switch is modified to an entry action trigger; it is recognized on entry only, but not when leaving or holding, it is not recognized either. This modification enables a three-position switch to control two timers to start at the same time and stop at the different time.
 - Add the target time setting, so that it can also alarm when counting up.
 - Optimized interface, and Timer 1 & Timer 2 arranged in the front position. When clicking the title bar above, these timers can be switched easily. Delete the previous "up timer", "down timer", and "down then up", and modify them into "up" and "down". After the countdown time is over, the timer will automatically count up; Optimized sound reminders, which will start counting down after 30 seconds (30-21 seconds: one beep; 20-11 seconds: two beeps; 10-0 seconds: read the numbers and "Time is up").
 - Modified sound reminder. The user can customize to either voice or vibration.
 - 2. Sensor optimization**
 - The altitude sensor adjusts the current ground height. Adjustment by +/- are cancelled, but the current height is automatically adjusted to "0" by clicking; added a record of the highest point (which can be cleared), and added sound reminder of upward and downward movement.
 - Modified interface logic, and added sensor settings (previously "choose sensors") below the list of sensor data. Modified the interface display mode in the list of sensor data.
 - Modified the interface display mode in the menu of sensor settings.

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- **Editing :**
3. **Exponential**
 - Modified the name of the main menu from "Exponential" to "Rate and exponential".
 - In "Rate and exponential", only reserves the dual switch which can be assigned, deleted the assignment of rate and exponential adjustment knobs, which only supports the adjustment of rate and exponential values by clicking on the screen.
 - Newly added form of segmented adjustment. When clicking the associated icon  in the middle to switch it to "not associated icon" , you can adjust the rate and exponential values on both sides (+/-) of "0" (+/-) respectively.
 4. **Channel display:** Modified to vertical progress bar, which displays the channel value, channel percentage, channel corresponding functions and controls, as well as the flight mode. When clicking the buttons in the lower three columns, 1-6, 7-12 and 13-18 can be switched.
 5. **UP and DW ENG:** Optimized adjustment interface, expanded travel range to 150%, increased range of higher and lower end, the adjustment amount of master control limited by the travel, the trimming amount limited by the range, and the stack data of mixed control.
 6. **Trimming**
 - Modified to display the value and progress bar of trimming button. If not assigned, there is no value; if assigned, the trimming button/knob will have the value and progress bar. In addition, when clicking the trimming button that is enabled, it will enter the Trim setup.
 - Added trimming range adjustment in Trim setup. The trimming is adjustable within the range of the whole Endpoint.
 - Different trimming modes can be set: there are four kinds of trimming modes, including "Translation" (the trimming value is limited by Endpoint, and the trimming value within Up range will not change with the channel value), "Central max" (the center point is the maximum, and the trimming is 0 when +/- value is weakened to the maximum/minimum value of the travel), "High max" (the highest travel point is the normal trimming value, and the trimming is weakened when moving to the lower end, and the same as that of "Translation" when moving to the other end), and "Low max" (as opposed to that of "High max").
 - Click TR1-TR8 to set the step value on the basis of (2) & (3), and set the trimming value for all flight modes or the current flight mode.
 7. **Power on:** Optimized power-on time. When pressing the double button of power on for a short time, LED will be ON; after releasing, it can be powered on normally.
 8. **Bind successfully after bind once again :** When clicking the command of "Bind with a receiver" after bind is successful, the pop-up window reminder will unmatch the current code, and then the code can be bound once again after confirmation.
 9. **Switch the model after bind:** When switching the model after code matching is successful, the pop-up window reminder will un-bind the current code, and then the model can be bound after confirmation.
 10. **Receiver battery monitoring:** Deleted of high and low voltage settings, and reserved the setting of secondary voltage alarm, whose alarm value can be selected according to different batteries.
 11. The assignment of flap, spoiler, gyroscope and other functional controls are unified into the Func assign.



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- **Special changes :**
- Deleted the menu of multiplex stick in the mode of engineering vehicle , newly added working mode, and set the switching-on switch for moving mode in the working mode. The function of multiplex stick can be realized by selecting different assignment in different modes.
 - Deleted trimming reminder box.
 - Deleted the functions of channel assignment and auxiliary channel assignment, whose corresponding assignment is carried out in the function assignment.

Precautions :

- After the firmware with below Version 1.0.40 is updated completely, all model data of remote controller will be reset (for the user's matching model, its parameters need to be re-debugged).
- For Version 1.0.40, it is necessary to use the "Flysky Assistant" to import/export all the backups (20 sets of model data) into/from the host computer before upgrading. After the upgrade is completed, first restore the factory settings, and then use the "Flysky Assistant" to import/export all backup (20 sets of model data) into/from the host computer to ensure the normal placement of model data. (If Channel 1-4 were previously assigned to the function not controlled by the rocker, it may result in an error of function assignment after the upgrade. If the function is re-assigned correctly, it will remain the same as before.)
- The model of the Engineering vehicles has been greatly adjusted in terms of this firmware version. Updating the firmware may result in resetting the model data of the Engineering vehicles. Please record the model settings of the Engineering vehicles in advance and restore the related settings manually after the upgrade is completed. In addition, EXP may be reset probabilistically. Please confirm EXP after updating.

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- **新增功能：**
- 新增高频类型: 支持 FRM302 高频头且可双向通信 (302 需搭配 JR 模块适配器)，且当识别到可调功率版本程序时增加功率可调菜单，默认未接高频或者接不可调版本高频程序无此功能
 - 新增拨档开关档位可调功能 (可自定义 SWE、SWF、SWG、SWH 开关为 2 档或者 3 档)
 - 新增主界面滑动快捷操作功能 (可自定义上、下、左、右滑动进入部分快捷界面)
 - 新增多用途计时器整分钟语音提示功能 (仅中文有提示)
 - 新增引擎计时器可分配停止和复位开关
 - 新增多用途计时器可分配停止开关
 - 新增闲置报警功能，用户可自定义报警时间
 - 新增油门熄火点位置可调功能
 - 新增旋钮可分配做微调控件的功能 (注：固定微调控件的功能不可分配旋钮来作为微调控件)
 - 新增可单独选择开启 / 关闭开关机声音的功能
 - 新增兼容 FTr4 接收机功能 (在连接 FTr4 接收机时，增加接收机协议中“传感器”选项)，且传感器与 i-BUS 协议切换时增加断开设备提醒窗口
 - 新增开机选择是否开高频功能，且对应的主界面增加高频未开启 / 未连接的警示图标，且可点击去开高频
 - 新增配置从机功能，可以通过发射机配置好从机，通过 ibus 接口把从接收机与正常对码接收机相连从而达到扩展通道的作用

- **修改功能：**
- 优化模型命名键盘功能，增加特殊字符
 - 优化部分界面中的十字光标显示方式
 - 优化界面滑动反馈效果 (滑动到极限时有滑出一半回弹的效果，直接滑动到极限再滑动无反馈)
 - 优化油门功能，让油门熄火功能可以在任意状态下被触发
 - 优化碟形飞菜单下的控件触发方式，增加旋钮及摇杆的反向触发功能
 - 结合上位机解决了后续版本升级模型数据复位的问题
 - 修改说明书 & 软件版本更新记录为帮助中心，并优化后台文件存储方式 (一个二维码地址对应所有说明书、快速操作指南、版本更新记录读取地址)
 - 修改主菜单功能名称“曲线”为“比例和曲线”，修改对应菜单界面名称“大小舵和曲线”为“比例和曲线”
 - 修改英文字体，改为无衬线的字体
 - 增加模型名称最大长度为 25，首页信息栏显示全部模型名称，其它子页面信息栏默认显示 10 位，如超出十位，后面不显示，显示三点省略号
 - 信息栏去掉接收机电量显示图标，增加双向协议时接收机未对码提醒并且可以点击进入对码
 - 对滑屏触发交互效果做了调整，解决慢速滑动时界面停止时间较慢导致的卡屏错觉



Release Notes for Paladin PL18 transmitter firmware/Paladin PL18 软件版本更新记录

Software Version 软件版本	1.0.40	Date 日期	03/2020
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注意事项

- 更新完成后模型被复位
- 更新完成后需重新与接收机对码

以上步骤完成后，可正常使用。

- **New Features :**
- New support for the FRM302 RF module (using JR bay adapter) and bidirectional communication with support for power adjustment.
 - Switch customization (the SWE, SWF, SWG, and SWH swapped with 2 or 3 position switches)
 - Added customizable swipe shortcut to the home screen (swipe up, down, left or right to activate your shortcuts)
 - Newly added engine timers stop and reset functions can be assigned switches
 - New multi-purpose timer can be assigned stop switch
 - Added idle alarm function, users can customize alarm trigger time
 - Adjustable throttle stop position
 - Trim functions can now be assigned to knobs (Note: fixed trimming control cannot be assigned as a knob)
 - Added the ability to individually turn sounds the on / off
 - Added FTr4 compatible receiver function (when connecting FTr4 receiver, add "sensor" in receiver setup. When the sensor and i-BUS protocol switch a device disconnect warning will be displayed)
 - Added the option of turning on or off RF completely, and the corresponding main interface adds a high-frequency non-open / not connected alarm with an icon to turn it back on again
 - Added the function to configure a slave. You can configure the slave through the transmitter, and connect the slave with the receiver through the ibus interface.
- **Editing :**
- Optimized keyboard function for model naming and added special characters
 - Optimized the cross cursor display in some interfaces
 - Optimize the interface sliding effect (when sliding to the limits of the menu, it will have half the rebound effect, sliding directly to the extreme and sliding back without feedback)
 - Optimized the throttle function so that the throttle stall function can be triggered in any state



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- Editing :
- Optimized the control trigger mode under the dish flying menu, add the reverse trigger function of the knob and joystick
 - Combined with the host computer to solve the problem of data reset in subsequent versions of the upgrade model
 - Modify the manual & software version update record as a help center and optimize the background file storage method (The QR code address corresponds to all manuals, quick operation guides, and version update records)
 - Modify English font to sans-serif font
 - Increase the maximum length of the model name to 25, the home page information column displays all model names, and other sub-page information. The column displays 10 digits by default. If it exceeds 10 digits, it is not displayed at the back and three dots are displayed.
 - Remove the power indicator of the receiver in the information bar, and add a two-way protocol to the receiver without a code reminder and you can click to enter the code
 - Adjusted the interaction effect of the sliding screen trigger to solve the stuck screen caused by slow interface stop time when slow sliding illusion

Precautions

- The model data will be reset after the update is completed
- The receiver and transmitter must be bound again after the update

After the above steps are completed, the system will function as normal.



Release Notes for Paladin PL18 transmitter firmware/Paladin PL18 软件版本更新记录

Software Version 软件版本	1.0.30	Date 日期	08/2019
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- **新增功能：**
- 新增高频头接口支持 PPM 协议高频头
 - 新增高频头接口支持 Crossfire 协议高频头 (当前仅支持通道传输)
 - 新增模型数据传导功能 (搭配上位机使用)

- **修改功能：**
- 修复 USB 模拟器偶尔断连的 BUG
 - 修复切换摇杆模式后摇杆与微调不对应的 BUG
 - 修复模型数据低概率出现自动复位的 BUG

注意事项

- 更新完成后模型被复位 (用户配套的模型需要重新调试参数)
- 更新完成后需重新与接收机对码

以上步骤完成后，可正常使用。

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- **New Features：**
- Added support for third party RF modules
 - Added RF UI that supports Crossfire and related protocol (currently only support channel transmission)
 - Added new model data transmission function (used with computer)

- **Editing：**
- Optimize bug that caused the USB simulator mode to disconnect occasionally
 - Optimize a bug with stick assignment not working correctly after changing stick mode
 - Optimize bug causing model data to occasionally reset

Precautions

- The model data will be reset after the update is completed (The user will have to set their models up again)
 - The receiver and transmitter must be bound again after the update
- After the above steps are completed, the system will function as normal.