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## HTLNUZD FS-ST8

# Flysky FS-ST8 Transmitter Controller with FS-SR8 Receiver User Manual

Model: FS-ST8 Standard Edition

## 1. INTRODUCTION

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The Flysky FS-ST8 Transmitter Controller, paired with the FS-SR8 Receiver, is a versatile 10-channel 2.4GHz radio system designed for a wide range of remote-controlled models including helicopters, gliders, delta-wing airplanes, multicopters, engineering vehicles, robots, cars, and boats. This manual provides essential information for setting up, operating, and maintaining your FS-ST8 system.

## 2. PACKAGE CONTENTS

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Please verify that all items are present in your package:

- 1 x FS-ST8 Radio Transmitter
- 1 x FS-SR8 RC Receiver
- 1 x BVD Battery Voltage Detection Line
- 1 x User Manual

## 3. PRODUCT OVERVIEW

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The FS-ST8 features a highly recognizable whale tail antenna handle and is equipped with a 5TM32 new G series chip, ensuring compliance with the new ANT protocol for stable and safe operation. It supports 8-10 channels and offers extensive customization options.

# Bring the real world for you

- 8-10 channels
- Track mixing control
- Vibration function
- USB simulator
- Bilingual in English and Chinese
- 4096 resolution
- Function customization of switches, knobs and keys.
- Support for settings of the receiver output signals such as PPM, PWM, ibus, and sbus.
- Support sensors such as height, rotation speed, temperature, voltage and FS-CGPS01 GPS modules;
- RGB ambient light
- 8 groups of linear mixing control
- 20 sets of model data
- Support firmware update
- Stick mode replacement
- Support FlySky Assistant 3.0
- Free settings of adjustable ratio, throttle curve, and so on
- Back transmission of RSSI, BVD voltage, other telemetry information
- Support fixed-wing, delta-wing, glider, helicopter, multi-axis, FPV, car model, engineering vehicle, robot, boat and other models.



**Equipped with STM32 new G series chip,  
in compliance with the new ANT protocol,  
to create a cost-effective product**

Figure 1: Flysky FS-ST8 Transmitter Controller highlighting key features like 8-10 channels, RGB ambient light, track mixing control, vibration function, USB simulator, and 4096 resolution.

## Key Features:

- **Channels:** 8-10 adaptive channels.
- **Protocol:** 2.4GHz ANT protocol.
- **Mixing Control:** 8 groups of linear mixing control.
- **Telemetry:** Back transmission of RSSI, BVD voltage, and other telemetry information.
- **Power Options:** Supports 4 x 1.5AA batteries or 2S Lipo battery (JST interface).
- **External Accessories:** External RF head aperture, support for Flysky series C sensors and FS-CGPS01 GPS module.
- **Customization:** Function customization of switches, knobs, and keys; stick mode replacement; five-way simple trim keys.
- **Display:** 128\*64 LCD (Black and white Dot Matrix Screen).
- **Connectivity:** Type-C Interface for firmware updates and DSC.

# FS-ST8

## All-round functions (Think what you think)



You can optionally choose Flysky series C sensors.



Support the GPS module of FS-CGPS01.



The CEV04 can implement the channel expansion. All ten channels are in use;



RF head adapter



Type C cable can be used to implement functions such as power supply and firmware update.



It is the best companion for wheel, keys on the back and track model.



It can be equipped with a mobile phone holder, to easily get phone's camera or pictures.



The external antenna modification component allows you to upgrade the strong signal antenna



Provide setback throttle pressure plate that can be replaced as needed



The assembly base throttle return accessory allows you to determine return-to-center OR not-return-to-center. You can determine your transmitter;



The 3-segment audio coach interface and the coach line allow the teacher and student to connect each other;

Figure 2: Flysky FS-ST8 Transmitter Controller showcasing its all-round functions and support for various accessories like sensors, RF head adapter, and customizable switches.

## 4. SETUP

### 4.1. Powering the Transmitter

The FS-ST8 can be powered by four 1.5V AA batteries or a 2S Lipo battery (JST connector). The battery compartment is located on the back of the transmitter. Ensure correct polarity when inserting batteries.

# FS-ST8

**The powerful battery life  
extends the happy time.**

Support AA battery and 2S battery;  
The Type C can also be used for the power supply for the transmitter.

Low power consumption:  
The 4 x 1300mAh AA NiMH batteries can last for more than 10 hours;



Figure 3: The FS-ST8 battery compartment, illustrating the use of AA batteries or a 2S Lipo battery for power.

## 4.2. Receiver Binding (FS-SR8)

To establish communication between the FS-ST8 transmitter and the FS-SR8 receiver, a binding process is required. The FS-SR8 receiver adapts to transmitters using the ANT protocol.

1. Ensure the transmitter is powered off and all switches are in their default (up) position, and the throttle is at its lowest setting.
2. Connect the binding plug to the B/VCC port on the FS-SR8 receiver.
3. Power on the receiver. The receiver's LED should flash rapidly, indicating it is in binding mode.
4. While holding down the 'BIND KEY' on the transmitter, power on the transmitter.
5. The transmitter's screen will display 'RX Bind OK' once binding is successful. The receiver's LED will turn solid.
6. Power off both the transmitter and receiver. Remove the binding plug from the receiver.
7. Power on the transmitter first, then the receiver. The receiver's LED should be solid, indicating a successful connection.

Your browser does not support the video tag.

Video 1: An official product video demonstrating the features and components of the Flysky FS-ST8 RC Transmitter and FS-SR8 Receiver,

## 5. OPERATING INSTRUCTIONS

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### 5.1. Basic Controls and Navigation

The FS-ST8 features dual joysticks for precise control, along with various switches, knobs, and trim keys for customizable functions. The 128\*64 LCD screen provides essential information and allows for menu navigation.

- **Joysticks:** Control primary flight/movement functions (e.g., throttle, aileron, elevator, rudder).
- **Switches:** Four programmable switches (two 2-way, two 3-way) for various functions like flight modes, gear, or auxiliary channels.
- **Knobs:** Two programmable knobs (VR A, VR B) for fine-tuning parameters.
- **Trim Keys:** Five-way simple trim keys for adjusting control surfaces.
- **Menu Buttons:** Use the 'MENU' and 'EXIT' buttons, along with the scroll wheel, to navigate the LCD menu.

### 5.2. Model Selection and Configuration

The transmitter supports 20 sets of model data, allowing you to save configurations for different RC models.

1. From the main menu, navigate to 'Model Select' to choose or create a new model profile.
2. Select the appropriate model type (e.g., Helicopter, Glider, Multicopter, Car, Boat).
3. Configure channel assignments, mixing, and other parameters as needed for your specific model.

### 5.3. Data Output and Telemetry

The FS-ST8 supports various data output signals and provides real-time telemetry information.

- **Data Output:** Configure receiver output signals such as PWM, PPM, i-BUS, and S.BUS.
- **Telemetry:** Monitor critical data like RSSI (Received Signal Strength Indication), BVD (Battery Voltage Detection), height, rotation speed, temperature, and voltage.

### 5.4. FlySky Assistant 3.0 and Firmware Updates

The transmitter supports FlySky Assistant 3.0 for advanced configuration and online firmware updates via the Type-C interface.

# External FlySky Assistant 3.0, Buff top up



- Firmware upgrade
- Model data storage
- Model data copy

Figure 4: The FlySky Assistant 3.0 interface, used for firmware upgrades, model data storage, and model data copy.

## 6. MAINTENANCE

### 6.1. Battery Care

- Always remove batteries if the transmitter will not be used for an extended period.
- Use only recommended battery types (AA or 2S Lipo).
- Monitor the low voltage warning (AA: <4.2V / Lipo: <7.2V) and replace/recharge batteries promptly.

### 6.2. Cleaning and Storage

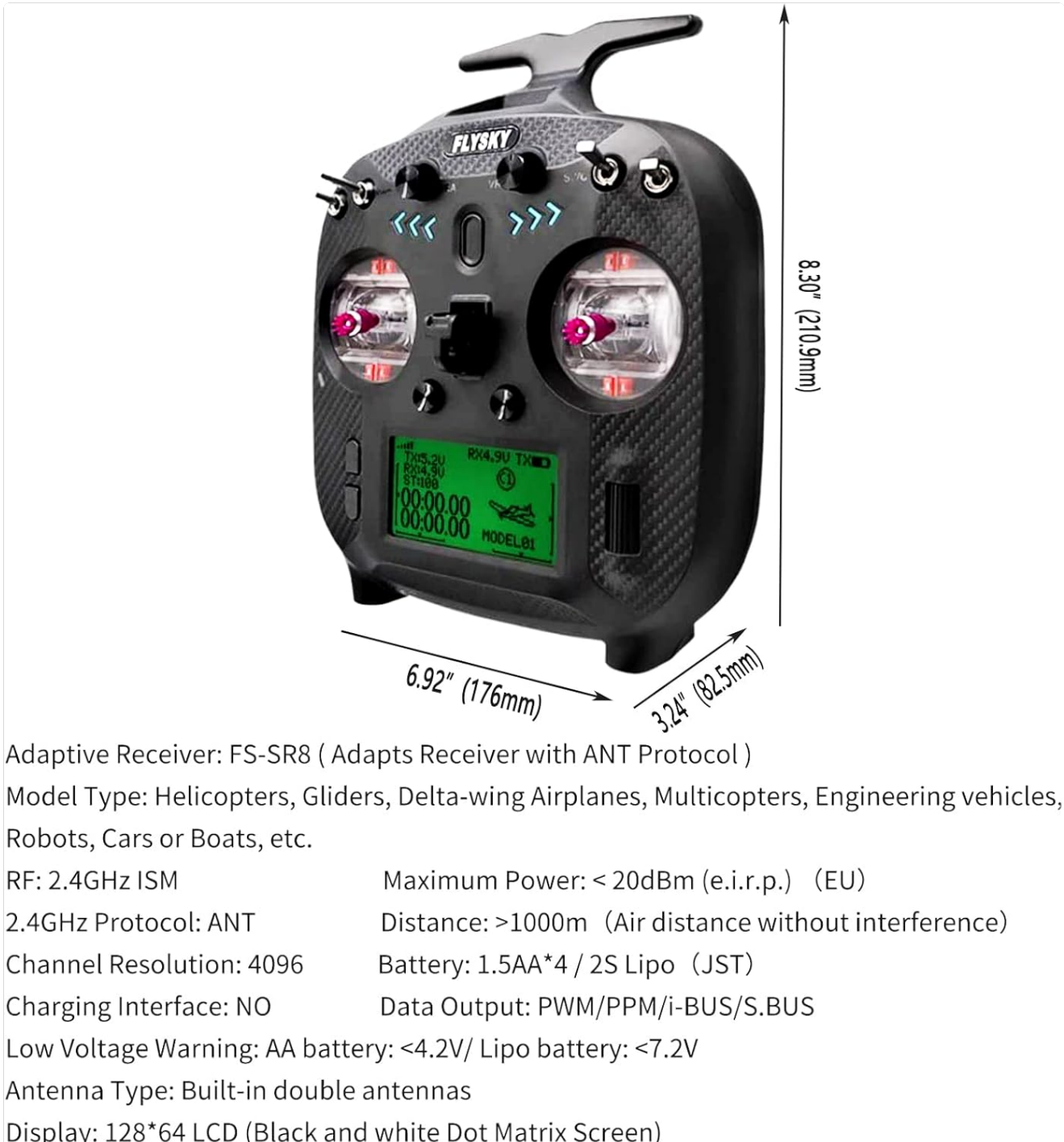
- Clean the transmitter with a soft, dry cloth. Avoid using solvents or abrasive cleaners.
- Store the transmitter in a cool, dry place, away from direct sunlight and extreme temperatures.

## 7. TROUBLESHOOTING

- **No Power:** Check battery installation and charge level. Ensure the power button is pressed correctly.

- **Binding Failure:** Re-attempt the binding process carefully, ensuring the binding plug is correctly inserted and the transmitter's BIND KEY is held during power-on. Verify the receiver is compatible (FS-SR8 or other ANT protocol receivers).
- **Loss of Control/Range:** Check antenna connections on both transmitter and receiver. Ensure no interference sources are nearby. Verify the remote control distance (up to 1000m in air without interference).
- **Incorrect Control Response:** Check model settings in the transmitter, including channel assignments, trims, and mixing.

## 8. SPECIFICATIONS



Adaptive Receiver: FS-SR8 ( Adapts Receiver with ANT Protocol )

Model Type: Helicopters, Gliders, Delta-wing Airplanes, Multicopters, Engineering vehicles, Robots, Cars or Boats, etc.

RF: 2.4GHz ISM

Maximum Power: < 20dBm (e.i.r.p.) (EU)

2.4GHz Protocol: ANT

Distance: >1000m (Air distance without interference)

Channel Resolution: 4096

Battery: 1.5AA\*4 / 2S Lipo (JST)

Charging Interface: NO

Data Output: PWM/PPM/i-BUS/S.BUS

Low Voltage Warning: AA battery: <4.2V/ Lipo battery: <7.2V

Antenna Type: Built-in double antennas

Display: 128\*64 LCD (Black and white Dot Matrix Screen)

Figure 5: Physical dimensions and key technical specifications of the Flysky FS-ST8 Transmitter Controller.

### FS-ST8 Transmitter:

Feature	Specification
Channels	8-10
Adaptive Receiver	FS-SR8 (Adapts Receiver with ANT Protocol)
Model Type	Helicopters, Gliders, Delta-wing Airplanes, Multicopters, Engineering vehicles, Robots, Cars or Boats, etc.
RF	2.4GHz ISM
Maximum Power	<20dBm (e.i.r.p.) (EU)
2.4GHz Protocol	ANT
Distance	1000m (Air distance without interference)
Channel Resolution	4096
Battery	1.5AA*4 / 2S Lipo (JST)
Charging Interface	NO
Data Output	PWM/PPM/i-BUS/S.BUS
Low Voltage Warning	AA battery: <4.2V / Lipo battery: <7.2V
Antenna Type	Built-in double antennas
Languages	Chinese, English
Online Update	Yes
Weight	420g

### FS-SR8 Receiver:

Feature	Specification
Adaptive Transmitter	FS-ST8 (Adapts Transmitter with ANT Protocol)
Adaptive Models	Helicopters, Gliders, Delta-wing airplanes, Multicopters, Engineering Vehicles, Robots, Cars or Boats, etc.
Number of Channels	8
RF	2.4GHz ISM
2.4GHz Protocol	ANT
Antenna Type	Two Antennas
Input Power	3.5~9V/DC
Data Output	PWM/PPM/i-BUS/S.BUS
Online Update	Yes

