Instruction Manual for FrSky TW Mini Receiver

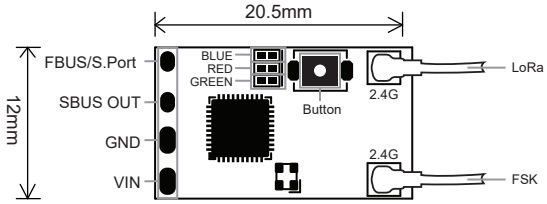
Introduction

TWIN series TW Mini receiver features a new stable TW protocol that benefits from simultaneously integrating dual active 2.4G frequency bands. The TW active-active protocol is different from the general active-standby redundancy solutions (where one receiver takes over signal control only when the other is in Failsafe mode), with the TW protocol, dual 2.4G frequency bands are active on the TW series receiver at the same time.

This receiver is designed for RC users who want to benefit from resilience and long-range in their radio communications, typically tens of kilometers are achievable. The TW Mini receiver is lightweight and tiny, making it suitable for building into racing drones or airplanes with limited installation space and weight constraints.

The TW Mini receiver is equipped with 2x 2.4G antennas. The TW Mini includes one SBUS output channel, it supports telemetry functions through FBUS / S.Port. By setting the TW Mini to use FBUS protocol in the ETHOS system, the signal control and telemetry can be connected to any device that supports FBUS protocol through only one line to achieve bidirectional transmission, also simplifying the model build using fewer wires.

Overview



Specifications

- Frequency: Dual 2.4GHz
- Dimension: 20.5×12mm (L*W)
- Weight: 2.2g
- Operating Voltage: 3.5-10V (Please ensure the supplied voltage exceeds 2.8V during the use.)
- Operating Current: ≤90mA@5V
- Antenna connector: IPEX1
- Compatibility: TWIN series Radio & RF module in TW mode.

Features

- Simultaneous working dual 2.4G TW mode
- Black Box function
- Long control range (Range varies based on the RF Power settings.)
- Over-The-Air (OTA) FW update
- SBUS Out (Supports 16CH / 24CH mode)
- FBUS/S.Port/F.Port

Registration & Automatic Binding

Follow the step below to finish the registration & binding procedure:

1. For TWIN X Lite as an example, enter into the Model, select RF System, turn on the internal module, select status [ON] and TW MODE(Type), then select [Register].
2. Connect the battery to the receiver while holding the button on the receiver. The RED LED and GREEN LED on the receiver will be on, indicating into the [Reg] status.

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3. When it shows the Register ID, RX name and UID, click [Register]. The RED LED and GREEN LED on the receiver will flash, and the transmitter displays [Registration OK].
4. Power off the receiver.
5. Move the cursor to select any one of the 3 receivers and press [Bind].
6. Connect the battery to the receiver.
7. Select the RX, the GREEN and BLUE LED will keep lit, then the transmitter displays [Bind successful].

Note: Once the receiver is registered, the button is not needed anymore in the binding process.

LED State

Status	Green LED	Blue LED	Red LED
LoRa	-	On	Off
FSK	On	-	Off
Failsafe	Off	Off	On

How to switch the S.Port/F.Port/FBUS

Enter into the Set-Options, click the Telem.Port, and select S.Port/F.Port/FBUS.

How to switch SBUS channel mode

Enter into RX Settings, click [SBUS], then select SBUS-16 mode or SBUS-24 mode.

About OTA function

Go to the [File manager], and select the FW, press the enter button, select [Flash RX by int.OTA]. Power on the receiver, select the RX, go to the [ENTER], complete the flash process, the transmitter will display [Success]. Wait for 3 seconds, the receiver works properly at the moment.

Note: Please do not do the binding operation in the near range while the firmware upgrading in progress.

Note: Update the firmware after the receiver getting registered (OTA).

FCC STATEMENT

1. 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.
   2) This device must accept any interference received, including interference that may cause undesired operation.
2. 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 transmitter frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to transmitter communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to transmitter 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 transmitter/TV technician for help.