## 1.  Introduction

### 1.1  Compatibility:

1.1.1  Compatible systems
FASST 2.4GHz Air Systems (7CH Mode/Multi Mode): 6EX, 7C, TM-7, TM-8, T8FG, T10C, TM-10, T10CG, T12Z, T12FG, TM-14, T14MZ, etc.
FASST 2.4G Surface Systems (C1 Mode): 3PK, 4PK, etc.
1.1.2  Compatible servos at SB port
Futaba S.BUS servos, FrSky servo D12MB

### 1.2  Specifications:

Model: TFR8SB (8CH FASST compatible receiver with RSSI & SB ports)
Dimension: 44.5*27.5*17mm
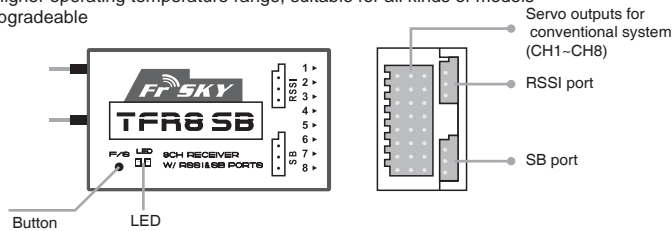Weight: 11.5g
Operating Voltage Range: 3.5~10V
Operating Temperature Range: -10℃~80℃
Servo Frame Rate: 14ms (FS – Normal Speed Mode)
            7ms (HS – High Speed Mode)

### 1.3  Features:

1)  Compatible with FASST 2.4GHz Air Systems (7CH Mode/Multi Mode) & Surface Systems (C1 Mode)
2)  SB port is compatible with Futaba S.BUS servos and FrSky servo D12MB. No receiver channel limits (except by those on your transmitter) and prevent mismatched servo-channel connections
3)  With RSSI output
4)  Two selectable failsafe setting options (use native failsafe on radio side or set failsafe on TFR8SB side)
5)  S.BUS servos/S.BUS compatible servos channel setting on TFR8SB
6)  improved sensitivity and stability
7)  Wider and higher operating temperature range, suitable for all kinds of models
8)  Firmware upgradeable



Button    LED

Servo outputs for conventional system (CH1~CH8)
RSSI port
SB port

**Note: Be sure that when using battery or regulated output from ESC, the capacity must meet the usage conditions of servos.**

## 2.  Setup

### 2.1  Bind procedure:

Turn on the transmitter, connect the battery to the receiver while pressing receiver's F/S button. After the **RED LED** is off and **GREEN LED** is solid, the binding process is completed and the receiver is operating normally.

**Note: Do not perform linking procedure while motor's main wire is connected or engine is operating, otherwise damage may occur. After linking is completed, recycle the receiver power and check if the receiver is really under control by linked transmitter.**

### 2.2  Setting failsafe:

TFR8SB support two selectable failsafe setting options, either use native failsafe position preset on the transmitter side,or set failsafe on TFR8SB.
2.2.1 Use native failsafe position preset on the transmitter side:
   If not disabling failsafe on the transmitter side, TFR8SB will use native failsafe position preset on the transmitter side.

2.2.2 Set failsafe on TFR8SB side:
   TFR8SB supports failsafe function for all channels. Follow the steps below to set failsafe on TFR8SB:
1) Bind the receiver first, and disable failsafe on the transmitter side;
2) Set all transmitter controls to the desired failsafe position;
3) Press briefly the F/S button of the receiver, the **GREEN LED** of the receiver will flash twice, indicating the failsafe is set up successfully.
   If you do not need the failsafe function any more, just re-bind the receiver to set default failsafe mode.

   Failsafe is recommended to set when system is firstly used, or receiver has been re-bound. Follow steps below to set failsafe for SB port.

Option-1： How to set failsafe to a user-determined state on lost signal:
1) Bind the receiver to the transmitter module first and turn on both the transmitter and the receiver;
2) Move the controls to desired failsafe position for all channels;
3) Press briefly the F/S button on the receiver and you are done.

Option-2： How to set failsafe for no pulses on lost signal:
1) Just press briefly the F/S button on the receiver while the transmitter is off and you are done.

**Note: If failsafe is not set, failsafe default will hold last position before signal is lost. In this case, there exists risk that your model will fly away or cause injury.**

### 2.3  LED Status:

| RED LED | GREEN LED | Mode |
|---|---|---|
| Off | On | Normal mode |
| On | On | Waiting to be bound |
| Flashing | On | Signal lost |
| On | Flashing twice | Set failsafe |
| Flashing slowly | On | Normal speed mode |
| Flashing fast | On | High speed mode |

## 3.  How to switch between two PPM modes

Turn the transmitter off, connect the battery to the receiver, press the F/S button of receiver for 6 seconds and then release. The **RED LED** will flash fast in HS Mode and slow in FS Mode. Repeat this to alternate modes.

**Note: If PPM mode is switched while the transmitter is ON, RED LED is always OFF while GREEN LED is always ON, from which it is hard to distinguish whether TFR8SB is in normal speed mode or high speed mode. In this case, conventional servos might get hot or even burn out if TFR8SB is switched to high speed mode. So it is recommended to switch PPM mode when the transmitter is off.**

**HS mode is only applied for high-speed digital servos. Other servos should select FS mode, otherwise servos will get hot or even burn out.**

## 4.  Channel Setting Methods

Channel setting for Futaba S.BUS servos and FrSky servo D12MB can be performed at TFR8SB.
1、Connect the SB port and RSSI port by the provided cable.
2、Connect an S.BUS servo or S.BUS compatible servo to the output connector (1~8) corresponding to the channel you want to set.

| Output Connector | Channel Setting | |
|---|---|---|
|  | Mode A | Mode B |
| 1 | 1 | 9 |
| 2 | 2 | 10 |
| 3 | 3 | 11 |
| 4 | 4 | 12 |
| 5 | 5 | 13 |
| 6 | 6 | 14 |
| 7 | 7 | 15 |
| 8 | 8 | 16 |

3, Connect battery to the receiver, RED blinking LED indicating the channel setting is completed in Mode A. To switch to Mode B, press the button on receiver for three seconds until **GREEN LED** starts to blink, indicating the channel setting is completed in Mode B.
   Mode A: **RED LED** blinks
   Mode B: **GREEN LED** blinks

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