

# Futaba® R3001SB

**T-FHSS Air 2.4GHz System  
S.BUS2 Port and  
S.BUS Port (or PWM CH3 Port)  
Small size, Light weight Receiver**



Thank you for purchasing a Futaba R3001SB T-FHSS Air-2.4GHz compatible receiver. The R3001SB receiver features bi-directional communication with a T-FHSS Air-2.4GHz Futaba transmitter using the S.BUS2 port. Using the S.BUS2 port an impressive array of telemetry sensors may be utilized. It also includes both standard S.BUS output port or PWM (ch3) output port.

Applicable systems: Futaba T-FHSS Air 2.4GHz system

### Usage precaution

- Futaba T-FHSS Air system does not work with current Futaba FASST/FASSTest/S-FHSS/T-FHSS Car system. Futaba FASST/FASSTest/S-FHSS/T-FHSS Car system and T-FHSS Air system are not compatible to each other.

**⚠ WARNING**

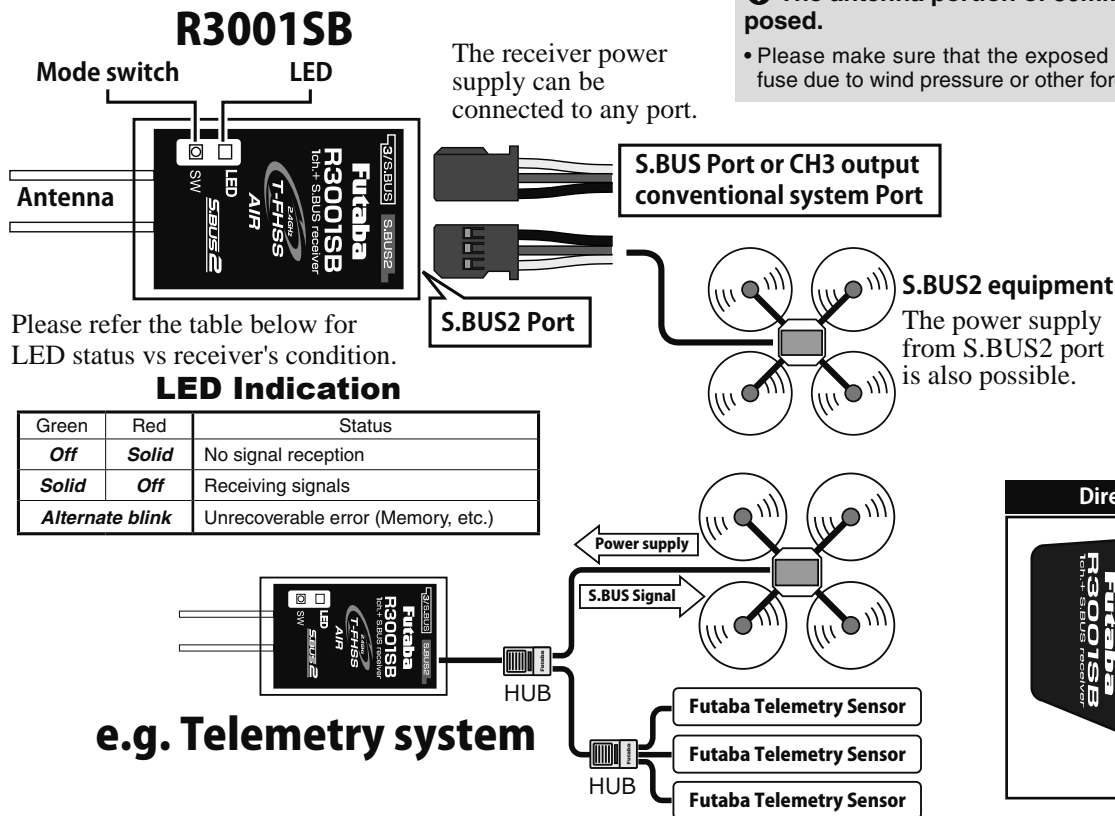
- ❗ **Wrap the receiver with something soft, such as foam rubber, to avoid vibration. Moreover, the receiver must not get wet.**
- ⊘ **Do not short-circuit the connectors.**
- ⊘ **Do not expose the receiver to high temperatures.**
  - The shrink cover could become distorted.
- ⊘ **Do not break the tube.**
  - Could cause a short circuit.
- ❗ **When inserting and removing a connector, hold the receiver tightly.**
  - Be careful so that a tube doesn't come off.

### Antenna installation precaution

- ⊘ **Do not cut or bundle the receiver antenna wire.**
- ⊘ **Do not bend the coaxial cable. It causes damage.**
- ❗ **The antenna should not be pulled.**
- ❗ **Keep the antenna as far away from the motor, ESC and other noise sources as you possibly can.**
- ⊘ **Do not touch the antenna to metal, carbon, or other conductive material.**
- ❗ **Be sure that the two antennas are placed at 90 degrees to each other.**
  - The R3001SB has two antennas. In order to maximize signal reception and promote safe modeling Futaba has adopted a diversity antenna system. This allows the receiver to obtain RF signals on both antennas and fly problem-free.

### Antenna installation for carbon fuse

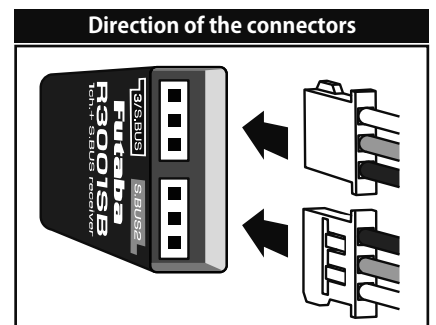
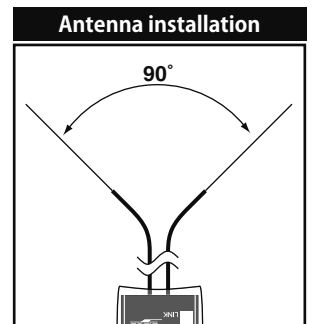
- ⚠ WARNING**
- ❗ **The antenna portion of 30mm tip must be fully exposed.**
    - Please make sure that the exposed portion won't slide back in the fuse due to wind pressure or other force during the flight session.



Please refer the table below for LED status vs receiver's condition.

### LED Indication

Green	Red	Status
Off	Solid	No signal reception
Solid	Off	Receiving signals
Alternate blink		Unrecoverable error (Memory, etc.)



### R3001SB Specifications

T-FHSS Air 2.4GHz system/S.BUS2 port and 1 channel for conventional system (or S.BUS) receiver

- Dual antenna diversity
- Size: 0.83 x 1.65 x 0.21 in. (21.1 x 41.8 x 5.3 mm)
- Weight: 0.15 oz. (4.2g)
- Power requirement: 4.8V to 7.4V
- Battery F/S Voltage: It sets up with a transmitter
- \* Be sure that when using ESC's regulated output the current capacity of the ESC meets your usage condition.
- \* S.BUS/S.BUS2 port: R3001SB can be used with up to 18 channels. However, it differs according to the transmitter. An unused channel is a neutral signal. The F/S setting channel at F/S is F/S position. Another, it is Hold signal.

### Compliance Information Statement (for U.S.A.)

This device, trade name Futaba Corporation, model number R3001SB, complies with part15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:**

To assure continued FCC compliance:

1. Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
2. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

The responsible party of this device compliance is:

Futaba Service Center  
3002 N Apollo Drive Suite 1, Champaign, IL 61822 U.S.A.  
TEL (217)398-8970 or E-mail: support@futaba-rc.com (Support)

## Link to the transmitter

Easy Link ID allows T-FHSS Air receivers to link to compatible transmitter without pressing the link button on the receiver.

- 1 Bring the transmitter and the receiver close to each other, within 20 inches (half meter).
- 2 Turn on the transmitter. Place the transmitter into the receiver linking mode.
- 3 Turn on the receiver.
- 4 The receiver will wait for the linking process to begin for 3 seconds. Following that it will return to the normal operation mode.
- 5 When the LED of the receiver changes from blinking red to solid green, linking is completed.  
(A link waiting state is ended in 3 second.)

\* Refer to the transmitters operation manual for complete details on how to place the transmitter into the linking mode.

\* If there are many T-FHSS Air systems turned on in close proximity, your receiver might have difficulty establishing a link to your transmitter. This is a rare occurrence. However, should another T-FHSS Air transmitter/receiver be linking at the same time, your receiver could link to the wrong transmitter. This is very dangerous if you do not notice this situation. In order to avoid the problem, we strongly recommend you to double check whether your receiver is really under control by your transmitter.

\* If the System Type of the transmitter is changed, the receiver will need to be re-linked to the transmitter.

\* Link is required when a new model is made from a model selection.

### ⚠ WARNING

⊘ Do not perform the linking procedure while the motor's main wire connected or the engine is operating as it may result in serious injury.

⚠ When the linking is complete, please cycle the receiver power and ensure the receiver is properly linked to the transmitter.

⚠ Please power up your system in this order. Transmitter first, followed by the receiver.

⚠ If the R3001SB receiver was previously linked to another transmitter, make sure that transmitter is not operating while linking the receiver to the new transmitter.

## Channel Modes (S.BUS ⇔ CH3)

The R3001SB is capable of changing its channel allocations as described in the table below.

- 1 Turn on the receiver. (At this moment, the transmitter should be off.) Then, LED blinks RED in about 3 seconds. Next, wait until it becomes solid RED.
- 2 Press and hold the **Mode switch** more than 5 seconds.
- 3 Release the button when the LED blinks RED and GREEN simultaneously.
- 4 The receiver is now in the "Operation CH Set" mode. At this moment, the LED indicates current set status through flashing a pattern that corresponds to the CH mode.

\*Cannot exit this CH setting mode before the operation mode is fixed.

\*\*See the next table that shows correspondence between "CH mode" and way of flashing LED.

\*\*\*Default CH mode is "Mode B".

- 5 By pressing the **Mode switch**, the operation CH is switched sequentially as " Mode B" "Mode A" "Mode B"....

- 6 The operation mode will be set by pressing the **Mode switch** more than 2 seconds at the desired CH mode.

- 7 Release the button when the LED blinks RED and GREEN simultaneously. Then, the operation CH is fixed.

- 8 After confirming the operation CH mode is changed, turn off and back on the receiver power.

\*The "Operation CH Set" mode cannot be changed during the receiver communicates to the transmitter.



R3001SB CH Mode table

	Mode A	Mode B
3/S.BUS	3CH	S.BUS
Red LED blink	1 time	2 time

Default CH mode

## What is S.BUS?

Different from conventional radio control systems, the S.BUS system uses data communication to transmit control signals from a receiver to a servo, gyro, or other S.BUS compatible devices. This data includes commands such as "move the channel 3 servo to 15 degrees, move the channel 5 servo to 30 degrees" to multiple devices. The S.BUS devices execute only those commands for their own set channel. For this reason, it can be used by connecting multiple servos to the same signal line.

### ⚠ WARNING

⚠ Turn on the power on transmitter → receiver in order. In addition, always check the operation of all the functions before flight.

### ⚠ WARNING

⊘ Do not insert or remove the S.BUS connector while the receiver power is ON.

Since the S.BUS servo switches the operation mode automatically according to the type of signal (S.BUS signal/PWM signal) from the receiver, if the connector is inserted or removed while the power is ON, an S.BUS connected servo will be erroneously recognized and may stop.

