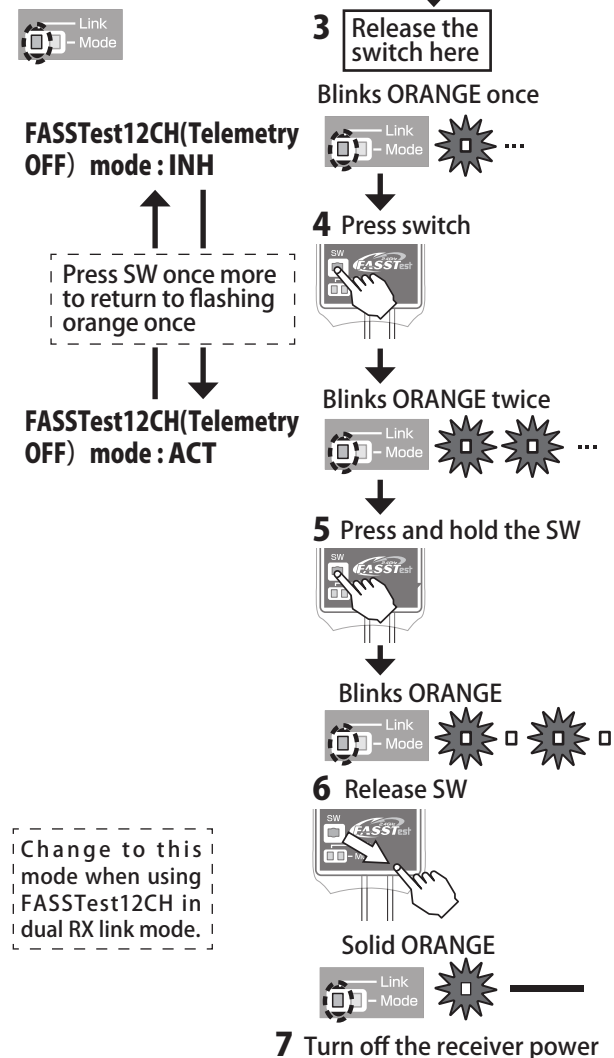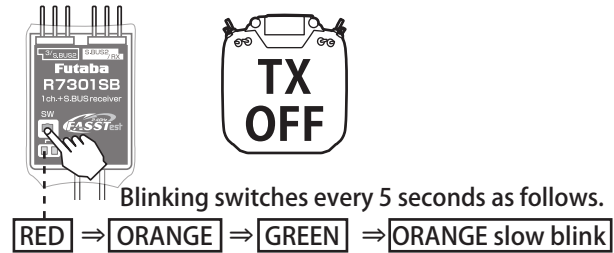## FASSTest12CH(Telemetry OFF) mode

This mode is forcibly turning off telemetry transmission to prevent collision of telemetry signals from the receiver to the transmitter when using dual RX link mode in FASSTest12ch mode.

1 Turn on the receiver. [Transmitter is always OFF]

2 Press and hold the SW for 5 seconds or more.

TX OFF

Blinking switches every 5 seconds as follows.

RED ⇒ ORANGE ⇒ GREEN ⇒ ORANGE slow blink

3 Release the switch here

Blinks ORANGE once

FASSTest12CH(Telemetry OFF) mode : INH

Press SW once more to return to flashing orange once

FASSTest12CH(Telemetry OFF) mode : ACT

4 Press switch

Blinks ORANGE twice

5 Press and hold the SW

Blinks ORANGE

6 Release SW

Change to this mode when using FASSTest12CH in dual RX link mode.

Solid ORANGE

7 Turn off the receiver power

✓ Check | After restarting, the LINK LED lights up.

In FASSTest12CH Telemetry OFF Mode

| Status	LINK LED
Start	Orange Solid

How to Dual Rx Link

1 Install two receivers on the aircraft as shown in the connection example.

2 Link the two receivers using the dual receiver feature of the transmitter.

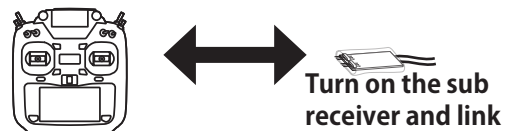For systems without dual receiver capability, link each receiver in turn.

Transmitter in link mode
For FASSTest 18CH Select dual mode and link primary
*Follow the link procedure for each receiver manual.

Turn on the main receiver and link
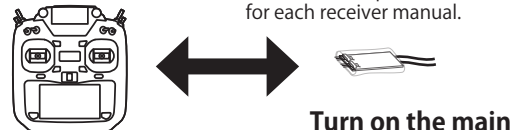
Transmitter in link mode
For FASSTest 18CH Select dual mode and link secondary
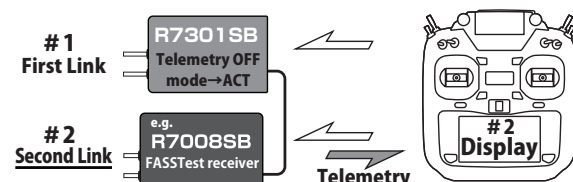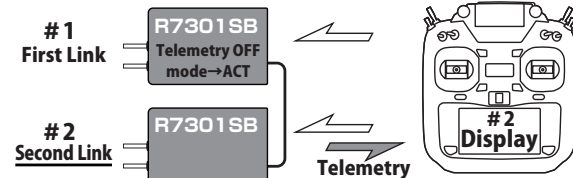
Turn on the sub receiver and link

◆ About telemetry system

When using the dual receiver function
- The telemetry function of the main receiver can be used
- Sub-receiver telemetry function is not available

Telemetry for FASSTest12CH

In FASSTest12CH mode, after linking R7301SB in telemetry OFF mode, link the receiver you want telemetry to. (The transmitter will show the telemetry of the last linked transmitter.)

#1 First Link — R7301SB Telemetry OFF mode→ACT

#2 Second Link — R7301SB — Telemetry — **#2 Display**

#1 First Link — R7301SB Telemetry OFF mode→ACT

#2 Second Link — e.g. R7008SB FASSTest receiver — Telemetry — **#2 Display**

#2 Telemetry display of second-linked receiver.
(**#1** Telemetry OFF first-Linked receiver.)

1M23N36214

Futaba®
R7301SB

FASSTest 2.4GHz Extended System Telemetry
High Voltage System HV
S.BUS2

◆ FASSTest-2.4GHz Bidirectional Communication System
◆ Dual Rx Link System Equipment
◆ S.BUS2 / RX Port and 1 Channel (CH3) for Conventional System Receiver

● **Applicable systems: Futaba FASSTest-2.4GHz system transmitter**

Thank you for purchasing a Futaba **R7301SB FASSTest-2.4GHz** compatible receiver. The **R7301SB** receiver features bi-directional communication with a **FASSTest** 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 PWM output ports (ch3). The **R7301SB** can also be switched to the **Dual Rx Link** System. This system can ensure safety by mounting two **FASSTest** receivers on one aircraft.

Usage precaution
- Analog servos cannot be used with the R7301SB in the FASSTest 12CH mode.
- Analog servos move slightly at startup in the FASSTest 26CH/18CH mode.

⚠ WARNING
❶ **Changes or modification not approved by the party responsible for compliance could void the user's authority to operate the equipment.**
❶ **The R7301SB receiver should be protected from vibration by foam rubber, Velcro, or similar mounting methods. Protect from moisture.**
❶ **Keep away from conductive materials to avoid short circuits.**

Antenna installation precaution
⊘ **Do not cut or bundle the receiver antenna wire.**
❶ **The antennas must be mounted in such a way to assure they are strain relieved.**
❶ **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.**
❶ **Be sure that the two antennas are placed at 90 degrees to each other.**
■ The R7301SB 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 fuselage
❶ **You must leave 30mm at the tip of the antenna fully exposed. The exposed antenna should be secured so that it cannot move around or back inside of your aircraft.**

Link precaution
⊘ **Do not perform the linking procedure while the motor's main power is connected or the engine is operating as it may result in serious injury.**
❶ **When the linking is complete, please cycle the receiver power and ensure the receiver is properly linked to the transmitter.**
❶ **Power on the system in this order: Transmitter first, followed by the receiver.**
❶ **If the R7301SB receiver was previously linked to another transmitter, make sure that transmitter is not operating while linking the receiver to the new transmitter.**
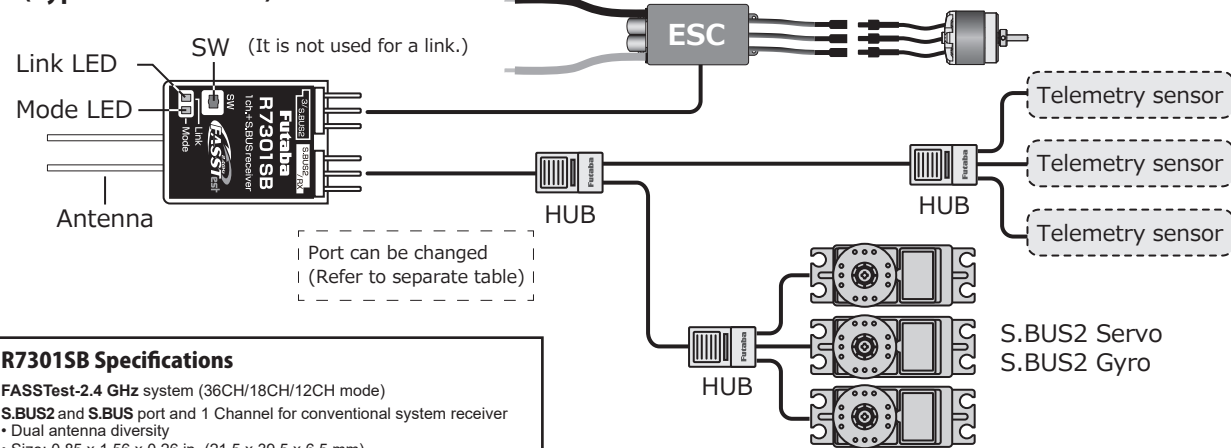
Be careful of connector insertion
⊘ **Don't connect an S.BUS servo / gyro to S.BUS2 connector.**
⊘ **Do not mistake the insertion position/direction of the connector. If make a mistake as shown in the diagram below, there is a risk of fire, burnout, or burns.**

OK
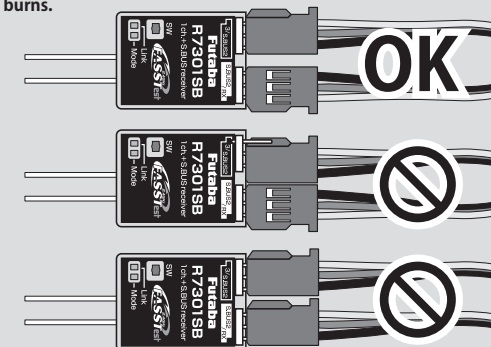
*Be sure that when using ESCs regulated output the capacity of the ESC must meet your usage condition.
*Never use dry batteries for the power supply of the R7301SB as they may cause difficulties.

(Typical installation)

Link LED
Mode LED
SW (It is not used for a link.)
Antenna
ESC
Telemetry sensor
Telemetry sensor
Telemetry sensor
HUB
HUB
S.BUS2 Servo
S.BUS2 Gyro
HUB

Port can be changed (Refer to separate table)

R7301SB Specifications
FASSTest-2.4 GHz system (36CH/18CH/12CH mode)
S.BUS2 and **S.BUS** port and 1 Channel for conventional system receiver
- Dual antenna diversity
- Size: 0.85 x 1.56 x 0.26 in. (21.5 x 39.5 x 6.5 mm)
- Weight: 0.21 oz. (6.0 g)
- Power requirement: 3.7 V to 7.4 V(Voltage range: 3.5 V to 8.4 V)
- Battery F/S Voltage: It sets up with a transmitter

R80 Percentage of Waste Paper pulp 80%
合格証 検査員 002
CE
UK CA

LED Indication

Status	LINK LED
No signal reception	Red Solid
Receiving signals	Green Solid
Waiting for link	Start → 2second later → Red Blink (3 second)
Unrecoverable error (EEPROM, etc.)	Red Green Alternate blink

Link / Mode

In Dual RX Link Mode

Status	MODE LED
External receiver is receiving error or not connected. S.BUS signal not received	Red Solid
S.BUS signal reception from external receiver (also received by external receiver)	Green Solid

Link / Mode

In FASSTest12CH Telemetry OFF Mode

Status	LINK LED
Start	Orange Solid

Link / Mode

Link

FASSTest is a bidirectional communication system between the R7301SB receiver and FASSTest capable transmitters. Multiple optional telemetry sensors may be connected to the S.BUS2 on the receiver and that data is in turn displayed on the transmitter.

Link to the transmitter

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 2 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 complete.

(A link waiting state is ended in 3 second.)

• Refer to the transmitter's operation manual for complete details on how to place the transmitter into the linking mode.

• If there are many FASSTest 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 FASSTest transmitter/receiver be linking at the same time, your receiver could link to the wrong transmitter. This is very dangerous if not noticed. To avoid the problem, we strongly recommend that you double check whether your receiver is really under control by your transmitter.

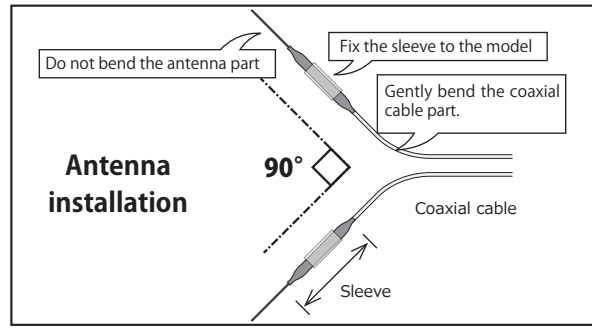• If the System Type of the transmitter is changed, the receiver will need to be re-linked to the transmitter.

S.BUS2

S.BUS2 extends S.BUS and supports bidirectional communication. Sensors are connected to the S.BUS2 port.

Do not bend the antenna part

Fix the sleeve to the model

Gently bend the coaxial cable part.

Antenna installation 90°

Coaxial cable

Sleeve

Channel Modes

The R7301SB is capable of changing its channel allocations as described in the table below. This is especially important when using the receiver in a dual receiver mode. See your transmitter operation manual for complete details on operating in the dual receiver mode.

R7301SB CH Mode table

Port	CH Mode		
	Mode A	Mode B	Mode C
3 / S.BUS2	3	S.BUS2	S.BUS
LED	RED 1	RED 2	RED 3

Link / Mode **Default**

1 Turn on the receiver. [Transmitter is always OFF]

2 Press and hold the SW for 5 seconds to 10 seconds.

3 When the LED of the receiver changes from blinking red to blinking orange, SW is released.

4 The LED should now blink red two times in the patterns described in the chart below.

5 Each press of the SW advances the receiver to the next mode.

6 When you reach the mode that you wish to operate in, press and hold the SW for more than 2 seconds. When LED blinks in orange, it is the completion of a mode change, SW is released.

7 Cycle the receiver power off and back on again after changing the Channel mode.

✓ **Check**   Link / Mode

|		LINK LED
1	Turn on the receiver. [Transmitter is always OFF]	Red Solid
2	Receiver enters link waiting state	Start → 2second later → Red Blink (3 second)
3	The LED will flash for the current CH output mode.	Current CH mode display

---

Dual Rx Link System

By installing two receivers in one aircraft, if one receiver becomes unable to communicate, the other receiver can be operated.

Receiver : A   Receiver : B

Communicate with two receivers

⚠ **Even if there is a problem with the B receiver, communication will be performed with the A receiver.**

⚠ **Even if there is a problem with the A receiver, communication will be performed with the B receiver.**
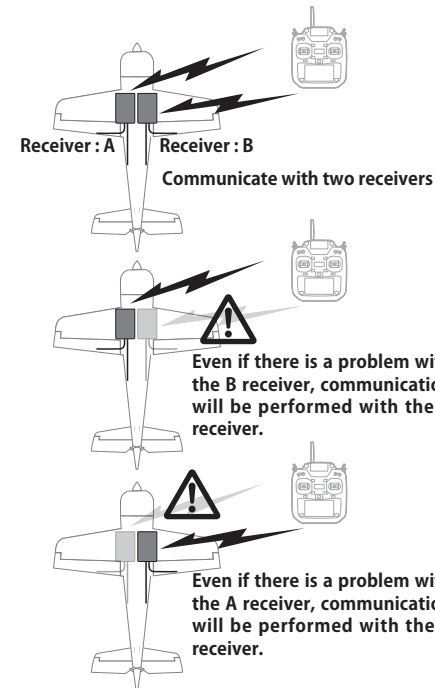
In Dual RX link mode, the S.BUS2/RX port is for reception only, so use separate ports for S.BUS output and S.BUS2 input/output.
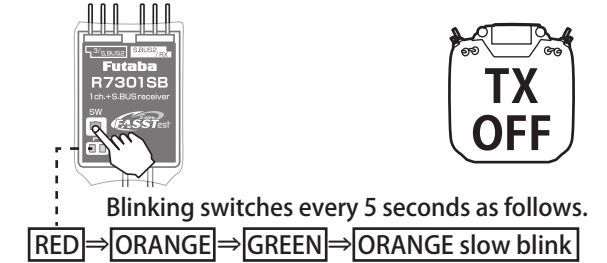
Connection example

Battery

CH mode B
R7301SB

MAIN

S.BUS2 Receiver

SUB
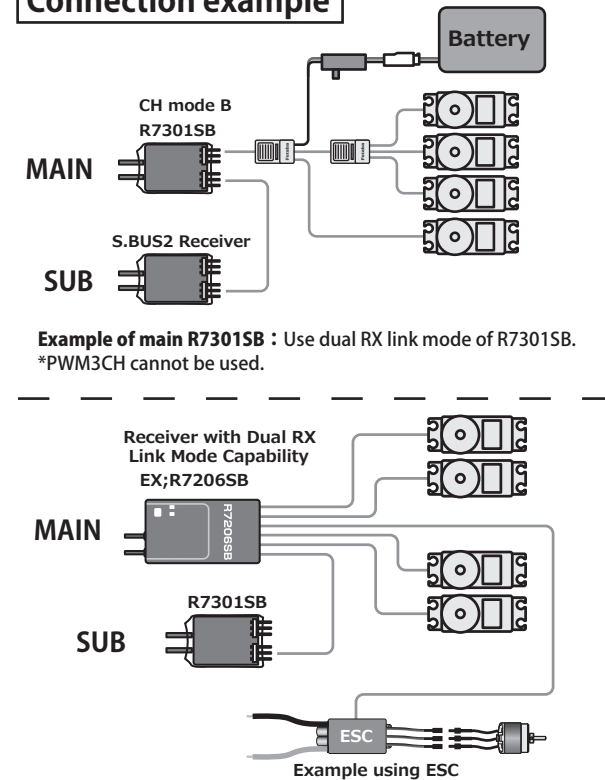
Example of main R7301SB： Use dual RX link mode of R7301SB.
*PWM3CH cannot be used.

Receiver with Dual RX Link Mode Capability EX;R7206SB
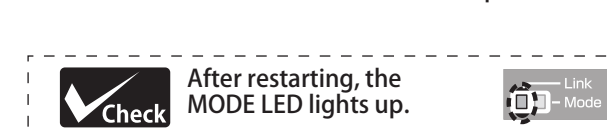
MAIN

R7301SB

SUB
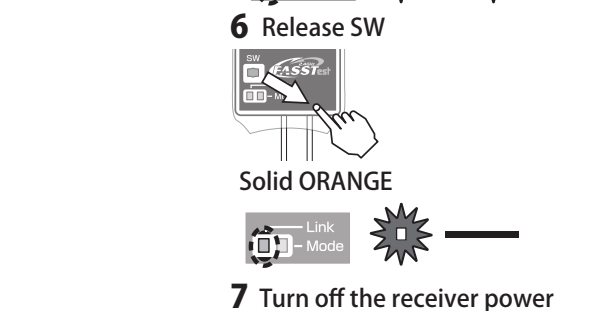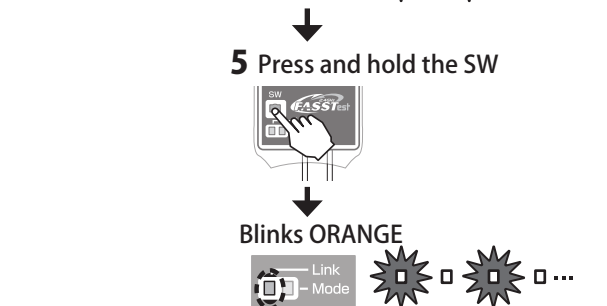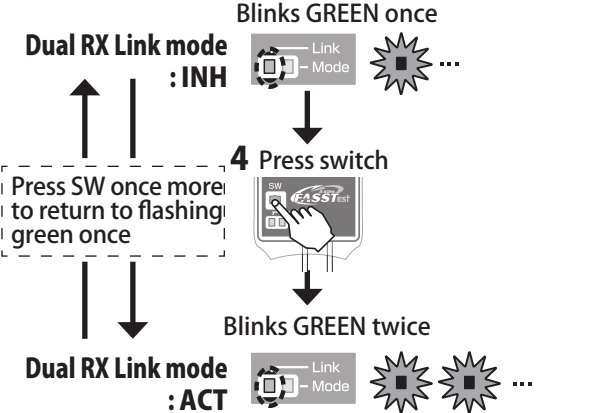
ESC

Example using ESC

Example of sub R7301SB： Use dual RX link mode of R7206SB.
*Do not turn on the dual RX link mode of the R7301SB.

How to change to Dual RX Link mode

1 Turn on the receiver. [Transmitter is always OFF]

2 Press and hold the SW for 5 seconds or more.

TX OFF

Blinking switches every 5 seconds as follows.

RED ⇒ ORANGE ⇒ GREEN ⇒ ORANGE slow blink

Link / Mode

3 Release the switch here

If it is passed, turn off the power and restart

Blinks GREEN once

Dual RX Link mode : INH   Link / Mode

Press SW once more to return to flashing green once

Dual RX Link mode : ACT

4 Press switch

Blinks GREEN twice   Link / Mode

5 Press and hold the SW

Blinks ORANGE   Link / Mode

6 Release SW

Solid ORANGE   Link / Mode

7 Turn off the receiver power

✓ **Check**   After restarting, the MODE LED lights up.   Link / Mode

Status	MODE LED
External receiver is receiving error or not connected. S.BUS signal not received	Red Solid
S.BUS signal reception from external receiver (also received by external receiver)	Green Solid