Thank you for purchasing a Futaba R7003SB FASSTest-2.4GHz compatible receiver. The R7003SB 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. R7003SB has a merit which acquires the information from the model on flight by connecting an optional telemetry sensors. It also includes both standard PWM output ports and S.BUS output ports. 4 ports of R7003SB can choose an output channel from the 11 modes.

### Usage precaution
- Analog servos cannot be used with the R7003SB in the FASSTest 12CH mode.
- The R7003SB receiver can only be used with FASSTest capable transmitters.

#### WARNING
- Changes or modification not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
- The R7003SB receiver should be protected from vibration by foam rubber, Velcro or similar mounting methods. Protect from moisture.
- Keep away from conductive materials to avoid short circuits.
- Don’t connect the servo or gyro which do not correspond to S.BUS2 port to S.BUS2.
- When the servo and gyro which do not correspond to S.BUS2 are connected to S.BUS2 port, there is a danger of falling by malfunction.
- Turn on the power in transmitter → receiver order. In addition, always check the operation of all the servos before flight.
- Do not insert or remove the servo 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.

### Antenna installation precaution
- Do not cut or bundle the receiver antenna wire.
- Do not bend the coaxial cable. It causes damage.
- The antennas must be mounted in such a way as to assure they are strain relieved.
- Keep the antenna as far away from the motor, ESC and other noise sources as you possibly can.
- Be sure that the two antennas are placed at 90 degrees to each other.
- The R7003SB 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
- 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.

### Compliance Information Statement (for U.S.A.)
This device, trade name Futaba Corporation, model number R7003SB, 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.

### R7003SB Specifications
- FASSTest-2.4GHz system/S.BUS2 and S.BUS port and conventional system receiver
- Dual antenna diversity
- Size: 0.89 x 1.47 x 0.37 in.(22.5 x 37.4 x 9.3 mm)
- Weight: 0.25 oz. (7.2g)
- Power requirement: 3.7V to 7.4V(Voltage range: 3.5 to 8.4V)
- Battery F/S Voltage: It sets up with a transmitter
- Extra Voltage port (port2)"EXT-VOL cable and CA-RVIN-700" of an option is used: 0 ~ 70V DC
- * Be sure that when using ESCs regulated output the capacity of the ESC must meet your usage condition.

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![Antenna Installation Diagram](image-url)

**Usage precaution**

<table>
<thead>
<tr>
<th>LED Indication</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td>No signal reception</td>
</tr>
<tr>
<td>Solid</td>
<td>Receiving signals</td>
</tr>
<tr>
<td>Alternate blink</td>
<td>Unrecoverable error (EEPROM, etc.)</td>
</tr>
</tbody>
</table>

**Link/Mode switch** (It is not used for a link.)

**R7003SB**

**Battery to 3/B**

**CH output mode A (Default)**

**Example**

**Antenna installation**

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

<table>
<thead>
<tr>
<th>Mode</th>
<th>Port1</th>
<th>Port2</th>
<th>3/B</th>
<th>S.BUS2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(Default)</td>
<td>S.BUS</td>
<td>CH2</td>
<td>CH3</td>
<td>S.BUS2</td>
</tr>
</tbody>
</table>

**Antenna Installation**

- Keep the antenna as far away from the motor, ESC and other noise sources as you possibly can.
- Be sure that the two antennas are placed at 90 degrees to each other.
- The R7003SB 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**

- 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.

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**FASSTest**

FASSTest is a bidirectional communication system between the R7003SB 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.

- *Please see your transmitters operation manual to configure transmitter to operate with telemetry sensors.*
S.BUS2

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

<table>
<thead>
<tr>
<th>Port</th>
<th>S.BUS Servo</th>
<th>S.BUS2 Servo</th>
<th>Telemetry sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.BUS</td>
<td>○</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.BUS2</td>
<td>X (*)</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*Only S.BUS2 capable devices may be connected to the S.BUS2 port. Standard S.BUS servos and gyros should not be connected to the S.BUS2 port.

Link to the transmitter

Easy Link ID allows FASSTest 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. When the LED of the receiver changes from red to solid green, linking is complete.

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

WARNING

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

If there are many FASSTest systems turned on in close proximity, your receiver might have difficulty linking the transmitter. In that case, turn off power supply OFF and retry.

The LED should now be early blinking green. Mode/Link button is released.

When LED blinks in green with red, it is the completion of a mode change.

Please cycle the receiver power off and back on again after changing the EXT-VOL Mode.

< How to change R7003SB into "EXT-VOL Mode" >

1. Turn on the receiver. LED lights up red. [Transmitter is always OFF]
2. Press and hold the Mode/Link button for 5 seconds to 10 seconds. *It becomes the mode which makes a mistake in exceeding 10 seconds. In that case, carry out power supply OFF and retry.
3. The LED should now be early blinking green. Mode/Link button is released.
4. Each press of the Mode/Link button advances the receiver to the next mode.
5. When you reach the mode that you wish to operate in, press and hold the Mode/Link button for more than 2 seconds.
6. When LED blinks in green with red, it is the completion of a mode change.
7. Please cycle the receiver power off and back on again after changing the EXT-VOL Mode.

Channel Modes

The R7003SB is capable of changing its channel allocations as described in the table below. Please choose the mode which suits the use in the following procedure from the 11 modes.

1. Press and hold down the Link/Mode button on the R7003SB receiver. [Transmitter is always OFF]
2. Turn the receiver on while holding down the Link/Mode button. After power up, the button can be released.
3. The LED should now be blinking red with green.
4. Each press of the Mode/Link button advances the receiver to the next mode. [Refer to CH Mode table shown below.]
5. When you reach the mode that you wish to operate in, press and hold the Mode/Link button for more than 2 seconds.
6. When LED blinks in green with red, it is the completion of a mode change.
7. Please cycle the receiver power off and back on again after changing the Channel Mode.

Measurement of Extra Voltage

R7003SB can display the voltage of a receiver battery on a transmitter. Furthermore, the following procedures are required in order to display the voltage of another battery (Drive battery etc.).

1. The optional adapter for CA-RVIN-700 is purchased.
2. R70003SB is changed into "EXT-VOL Mode" in the following procedure.
   - A "EXT-VOL Mode" is used, the port 2 cannot be used as the servo CH.
3. According to the manual of CA-RVIN-700, battery wiring is branched and it connects.
4. One side of EXT-VOL CABLE is connected to the port 2 of R7003SB.

When using the R7003SB Receiver with the GYA440, GYA441 and CGY750

The following table corresponds to the gyro's functions. A port can be used effectively. The servo which a gyro controls is connected to a gyro.

* Please refer to the description of each gyro manual.

WARNING

Don't touch wiring.
* There is a danger of receiving an electric shock.

Don't connect to Extra Voltage before turning on a receiver.

Don't connect EXT-VOL CABLE other than port 2 of R7003SB.

* It connects with reference to the manual of CA-RVIN-700.