Thank you for purchasing a Futaba R7008SB FASSTest-2.4GHz compatible receiver. The R7008SB 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 and S.Bus output ports.

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

**Usage precaution**
- Analog servos cannot be used with the R7008SB in the FASSTest 12CH mode.
- The R7008SB receiver can only be used with FASSTest capable transmitters.
- Don't connect to Extra Voltage before turning on a receiver.

**WARNING**
- Changes or modification not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
- The R7008SB 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.

**Antenna installation precaution**
- Do not cut or bundle the receiver antenna wire.

<table>
<thead>
<tr>
<th>(Antenna installation)</th>
<th>Extra Voltage Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>It connects with the battery for power, etc. External voltage input cable of an option is used. The voltage of the battery can be displayed with a transmitter.</td>
<td></td>
</tr>
</tbody>
</table>

Do not bend the coaxial cable. It causes damage.

The antennas must be mounted in such a way 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 R7008SB 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**

**WARNING**
- 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.

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

**LED Indication**

<table>
<thead>
<tr>
<th>LED Colour</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Off</td>
</tr>
<tr>
<td>Red</td>
<td>Solid</td>
</tr>
<tr>
<td>Solid</td>
<td>Off</td>
</tr>
<tr>
<td>Alternate</td>
<td>Unrecoverable error (EEPROM, etc.)</td>
</tr>
</tbody>
</table>

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

This device, trade name Futaba Corporation of America, model number R7008SB, 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.

To meet the RF exposure requirements of the FCC this device shall not be co-located with another transmitting device. 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)

**R7008SB Specifications**

FASSTest-2.4GHz system(18CH/12CH mode)/S.BUS2 and S.BUS port and 8 channels for conventional system receiver

- Dual antenna diversity
- Size: 0.98 x 1.86 x 0.56 in. (24.9 x 47.3 x 14.3 mm)
- Weight: 0.38 oz. (10.9g)
- 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: 0 ~ 70V DC

* Be sure that when using ESCs regulated output the capacity of the ESC must meet your usage condition.
**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. 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 1 second.)

- Refer to the transmitters 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 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.

**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 R7008SB receiver was previously linked to another transmitter, make sure that transmitter is not operating while linking the receiver to the new transmitter.

**FASSTest**

FASSTest is a bidirectional communication system between the R7008SB 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.

**What is S.BUS?**

Unlike 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 device. 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.

**Channel Modes**

The R7008SB 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.

1. Press and hold down the Link/Mode button on the R7008SB receiver.
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 in one of the patterns described by the chart below.
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. Once locked into the correct mode the LED will change to a solid color.
7. Please cycle the receiver’s power off and back on again after changing the Channel Mode.

**R7008SB CH Mode table**

<table>
<thead>
<tr>
<th>Output connector</th>
<th>Mode A</th>
<th>Mode B</th>
<th>Mode C</th>
<th>Mode D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 ~ 7</td>
<td>1 ~ 7</td>
<td>9 ~ 16</td>
<td>9 ~ 15</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>5</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>4</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>3</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>7/B</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>8/SB</td>
<td>8</td>
<td>8</td>
<td>S.BUS</td>
<td>S.BUS</td>
</tr>
</tbody>
</table>

- Red LED blink: 1 time 2 time 3 time 4 time

**S.BUS2**

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

*Only S.Bus2 capable devices may be connected to the S.Bus2 port. Standard S.Bus servos and gyro’s should not be connected to the S.Bus2 port.*

**WARNING**

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.

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