

R6303SB

FASST-2.4GHz (7ch/8ch/10ch/Multi-ch) system
S.BUS port and 3 channels for conventional system
High-Speed receiver

Thank you for purchasing a Futaba **R6303SB** FASST-2.4GHz receiver.
The **R6303SB** has an **S.BUS** system output port and 3 conventional system channel outputs. It can also be used with conventional system servos, etc. in addition to **S.BUS** system compatible servos and gyros, etc. When the linking procedure is performed, **R6303SB** recognizes the signal mode (FASST-2.4GHz 7ch mode or 8ch/10ch/Multi-ch mode) automatically.
The **R6303SB** can change the output CH from seven groups (CH group table).
In addition, the operating mode (high-speed mode/normal mode) can be selected.

Usage condition for conventional system output (Ch1-3) on "High Speed mode"

CAUTION

- The "High Speed mode" accept the digital servos only or most type of peripherals.
- If an analog servo is connected to these outputs it will cause a malfunction. Please check the peripherals if there is a malfunction full stick movement. If there is a malfunction change the receiver back to "Normal mode."

Applicable systems: FASST-2.4GHz 7ch or 8ch/10ch/Multi-ch system

Antenna installation precaution

WARNING

- Be sure that the two antennas are placed at 90 degrees to each other.
- Futaba's dual antenna diversity, or DAD, then seamlessly selects the best signal reception between these antennas to ensure that there is no loss of signal.

Antenna installation for carbon fuse

WARNING

- The last 30mm of the antenna tip must be fully exposed.
- Please make sure that the exposed portion will not be able to slide back inside the aircraft by any forces during flight.

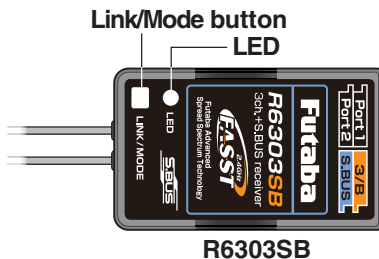
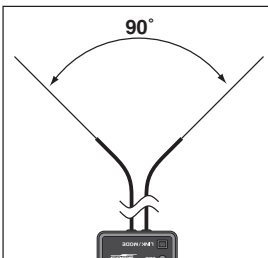
Power Source Precautions

It is not recommended to use a power source of less than 4.0V. However if less than 4.0V is used please keep in mind the conditions below..

- The Fail Safe Function **MUST** be set to "OFF" since it will disturb the normal operation of the receiver.
 - Please make sure that the fully loaded condition on the ESC and the Servos will not disturb normal receiver operation before the start of your flight.
- This is **VERY** Important once the voltage drops below 3.5 volts the receiver will no longer continue to operate.
- Please be sure that everything on continues to work correctly all the way down to 3.5 volts. ie: Servos, ESC...

The input voltage must not exceed the servo rating or 8.4V which ever is lower.

(Antenna installation)



(Connectors)

- Port 2 (Initial setting is the Channel 2)
- Port 1 (Initial setting is the Channel 1)
- Channel 3 output for conventional system/Battery terminal
- S.BUS Port

R6303SB Specifications

FASST-2.4GHz (7ch/8ch/10ch/Multi-ch) system/S.BUS port and 3 channels for conventional system/high-speed 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)

*Be sure that when using ESC's regulated output the capacity of the ESC must meet your usage condition.

*The Battery F/S voltage is set for 4-cell NiCd/NiMH battery. Battery F/S function doesn't work properly when other type battery is used.

*The fail safe function can be set for each channel when on "Multi-ch" mode, however, it differs according to the transmitter. When on "7ch" mode, the fail safe function can be set for 3-channel only.

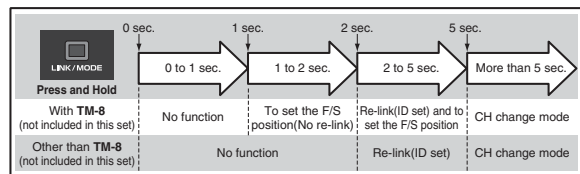
*S.BUS port: R6303SB can be used up to 7 channels or less on the "7ch" mode and 16 channels + DG1/2 or less on the "8ch/10ch/Multi-ch" mode, however, it differs according to the transmitter.

Link to the Transmitter

- Press and hold the **Link/Mode** button between 2 and 5 seconds.

Re-adjust the 3CH F/S position (only for TM-8)

- Press and hold the **Link/Mode** button between 1 and 2 seconds.



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

This device, trade name Futaba Corporation of America, model number R6303SB, complies with part15 of the FCC Rules. Operation is subject to the following two conditions:

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

The responsible party of this device compliance is:
FUTABA Corporation of America
2681 Wall Triana Hwy Huntsville, AL 35824, U.S.A.
Phone: 1-256-461-9399 FAX: 1-256-461-1059
E-mail: service@futabaUSA.com

WARNING

Do not perform the Linking procedure with the motor powered up. This could result in serious injury.

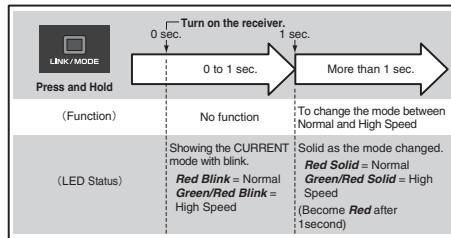
Once the Linking process is completed please cycle the power to the receiver to make sure that it is linked and under the control of the Transmitter.

Operation Normal/High Speed Mode Select

The operation mode is set on "Normal Mode" from the factory. To change the mode please follow the steps below.

- 1 Turn off the receiver.
- 2 Press and hold the **Link/Mode** button and turn on the receiver. Press and hold the button for more than 1 second. The LED will start to flash and will indicate the current status.
- 3 Release the button.
- 4 Turn off the receiver.

By following these steps the receiver modes can be switched back and forth between normal and high speed modes.



Please check the operation mode by observing the **LED** when turning on the receiver. The best way to confirm the mode you are on is to make sure that there are no other **FASST** transmitters turned on around you.

When turning on the receiver, the **LED** will be;

- Red when on "Normal mode"
- Green and Red (making orange) when on "High Speed mode". (After 2 seconds, the LED will change to red.)

If there are any **FASST** transmitters turned on around the receiver, the **LED** may show the above status, but just for a brief moment and then change to the status indicated in the "**LED indication**" table below.

LED Indication

Green	Red	Status
Solid	Solid	Initializing when on "High Speed mode"
Off	Solid	No signal reception
Solid	Off	Receiving signals
Blink	Off	Receiving signals but ID is unmatched
Alternate blink		Unrecoverable error (EEPROM, etc.)

How to Set the Operation Channel

It is possible to choose the operation channel mode of the port 1 and 2 from 7 setting groups.

- 1 Turn on the receiver. (At this moment, the transmitter should be off.) Then, ensure the **LED** is lit in RED or flashing green light.
- 2 Press and hold the **Link/Mode** button 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 group.

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

**See the below table that shows correspondence between "CH group" and way of flashing LED.

***Default CH mode is "Group 1".

- 5 By pressing the **Link/Mode** button, the operation CH is switched sequentially as "group 1" "group 2" "group 3"....
- 6 The operation mode will be set by pressing the **Link/Mode** button more than 2 seconds at the desired CH group.
- 7 Release the button when the **LED** blinks RED and GREEN simultaneously. After releasing the button, the RED and GREEN **LED** are lit 1 second 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.

CH group table

CH group	LED blink	Port 1	Port 2
group 1	Red 1 time	CH1	CH2
group 2	Red 2 time	CH1	CH4
group 3	Red 3 time	CH2	CH4
group 4	Green 1 time	CH1	CH5
group 5	Green 2 time	CH2	CH7
group 6	Green 3 time	CH4	CH8
group 7	Red/Green 1 time	CH11	CH12
group 8	Red/Green 2 time	not used	not used
group 9	Red/Green 3 time	not used	not used

※ Initial setting is group 1.

※ The groups 8 and 9 are not usually used.

※ 3CH port and S.BUS port never change.

When using the R6303SB Receiver with the GYA430, 431

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.

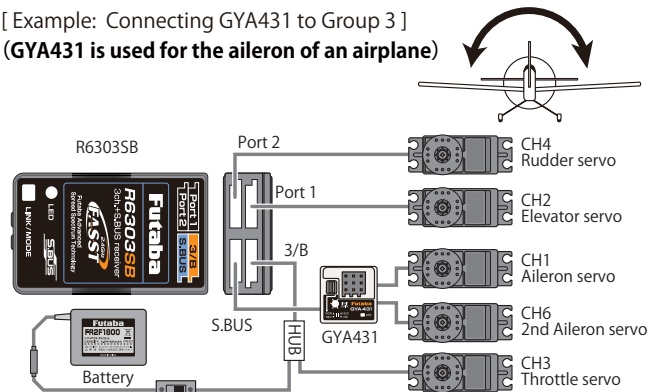
* Please refer to the description of each gyro manual.

S.BUS gyro group table

Gyro control CH	CH group
Rudder	group 1
Elevator	group 2
Aileron	group 3
Elevator+Rudder	group 4
Aileron+Rudder	group 5
Aileron+Elevator	group 6
Aileron+Elevator+Rudder	group 7

[Example: Connecting GYA431 to Group 3]

(GYA431 is used for the aileron of an airplane)



What is S.BUS?

S.BUS is different from conventional radio control systems in that it uses data communication to transmit control signals from the receiver to a servo, gyro, or other S.BUS compatible devices. The S.BUS devices only execute only those commands for their own set channel. This is why a single signal can be used to connect multiple servos.

When S.BUS is used

- * Set the channel of **S.BUS** servos by using an **SBC-1** channel changer, **CIU-2** USB serial interface or the programming software in the **18MZ** transmitter.
- * Can also be used together with conventional servos. However, conventional servos cannot be used by the **S.BUS** output.
- * When using servos with a remote battery pack, use **S.BUS** Hub with Cable (2-way/remote battery pack use). Please refer to the instruction manual of **S.BUS** Hub with Cable (2-way/remote battery pack use) for the connection method.
- * 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.