

Futaba S-Bus Set-up Tips



By Dave Reaville

I have been asked to write about my latest project employing the Futaba S.BUS2 technology. To be clear I am not a sponsored pilot nor a spokesperson for Futaba ... just an end user like most :-)

With many options available in the RC world today, this is but one of a multitude of set ups available to control your aircraft. Your brand of radio, type of plane and flying style you employ will govern the application that you may need or desire. Ultimately the choice is yours to make.

In my case I am preparing to set up my electric powered Oxai

Accuracy Biplane with the Futaba S.BUS2 system. This system, coupled with the

Futaba 18MZ, is state of the art in providing precise control and the functionality I need. Numerous benefits come to mind that include simplicity, weight savings, programming, safety enhancements and telemetry.

So lets get started...

First thing is to set up your Futaba Transmitter with a new model. Select the appropriate wing type, elevator type etc. so that your TX has functions for all the S.BUS2 servos that you plan to use. In my application I need four aileron servos, two elevator servos and one rudder servo. By selecting the appropriate wing/elevator types the TX will automatically assign servo channels to the model. You can change these but why work so hard.

I then created a document with the servo channel, servo ID number, and function so I could keep track of what servo goes where on the plane! Mine looks like this:

Ch# ID# Servo Location

Ch 1 011-16204 Aileron Top Left

Ch 6 011-16281 Aileron Top Right

Ch 7 011-16293 Aileron Bottom Left

Ch 8 011-16288 Aileron Bottom Right

Ch 2 011-16286 Elevator Left

Ch 5 011-16292 Elevator Right

Ch 4 015-21681 Rudder

Note: Channel 3 is the throttle/esc on my RX so that is not included.

You must then program the S.BUS2 servo to match the channel/control surface that you want it to respond to. This is easily done by plugging in a Y harness or hub to the back of the TX with a power supply attached to one lead and the S.BUS2 servo to the other. Call up your S.BUS Servo screen from the System Menu, hit "Recall" and the servo ID will be displayed.

It will be the same as the number on the side of the servo. Select and enter the channel number that you want it to control from your document. These servos can be adjusted six ways to Sunday on this screen page but I keep it very simple.

I only assign the channel # and make sure that Soft Start is 'ON.' When the servo is powered up, it does not snap into position but rather moves slowly. I then select 'write' and your servo is now set up. Repeat the process for all the servos until complete. You can select 'recall' and you can see the servo details you have assigned once again.

I am using a 3 Channel Receiver (R7003SB) to provide control and at first it seemed a little weird to use a RX this size... but it doesn't

matter with this technology.

The TX governs the amount of servos that you can control not the RX. So why not use the lightest one!

The only concern you should have is that the RX has the minimum amount of slots that you will require for your setup. I need four slots for my application as I will be also using telemetry to get both my RX and main battery voltages displayed on the TX. To enhance safety, I also set up an audible warning should voltages drop below a set point.

Ch 3/B - ESC/throttle

Port 1 - RX Battery input

Port 2 - Voltage input

S.BUS2 - to a four port Terminal Box

You will require a male to male connector to go from the S.BUS2 output to a terminal box. From the box I will then connect up the remainder of the plane.

Both the top and bottom wings will each have a Y Harness connecting the respective servos on each wing so the layout from the Terminal Box is going to be as follows:

1 - S-Bus2 male from RX

2 - S-Bus2 Hub w 100mm Cable - to the tail servos (both elevators and rudder)

3 - Aileron top

4 - Aileron bottom

You can plug them into the Terminal Box anyway you like as there is no longer any requirement to match a connector to a particular servo lead. The true beauty of a serial bus:-)

Take the time to ensure the servos are in their correct location servo arms are properly positioned and centred with minimal or no sub trim, control functions and directions are correct and that end points/throws do not cause binding or contact.

This is just a short overview of the application and hope you find it useful. For more information you can go to this link <http://www.futaba-rc.com/sbus/> ✈

