

Quickstart Guide

**PowerBox Systems®**

World Leaders in RC  
Power Supply Systems

# PowerBox

# ROYAL

# SRS



What's the quickest method of installing and setting up the **Royal SRS** in a new model?

These instructions describe the most effective sequence of operations. Details of the set-up procedure can be found in the main instructions. We also include a few tips which cover the most frequently asked questions.

Whether your aircraft is a jet or a conventional power model, both can be set up completely in about thirty to sixty minutes, depending on the number of functions.

1. Setting up the base functions at the transmitter
2. Selecting the radio control system
3. Setting the battery type
4. Gyro Basic Setup Assistant
5. Servo matching
6. Door Sequencer Assistant
7. Setting up the iGyro in flight

## 1. Setting up the base functions at the transmitter

The transmitter needs to be set up in such a way that all the functions and associated channels are defined. These include:

- Throttle
- Aileron
- Elevator
- Rudder
- Landing flap
- Retract switch
- iGyro flight mode switch (three-position)
- iGyro gain adjuster (slider or rotary knob)
- Smoke pump
- Lighting control system

The channels for the **iGyro** and the retract switch must be set to the range -100% to +100% (Futaba may require +/- 105%).

For the aileron, elevator, rudder / nosewheel and landing flap functions you can save channels by defining just one channel for each function. The other side is then assigned to the same channel at the backer, after which it can be reversed and adjusted as required with the help of the servo-matching function.

If your model is a delta or has a V-tail, the transmitter mixer should be disabled, as the integral **iGyro** carries out the essential delta / V-tail mixing.

## 2. Selecting the radio control system

The appropriate radio control system has to be selected In the **RX/TX Settings** menu. No servos should be connected to the **PowerBox** at this point.

The receiver or receivers can now be connected to the backer, and bound to the transmitter. You may need to make adjustments at the receiver to ensure that the serial output is operating; this varies from system to system.

- HoTT (SUMD OF 16)
- M-Link (digital output)
- Futaba (S-BUS)
- Jeti (UDI or EX)
- JR (X-BUS Type A)

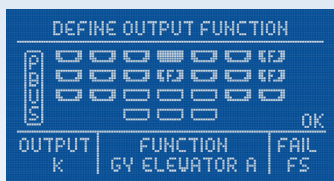
## 3. Setting the battery type

It is important to avoid deep-discharging the batteries while you are carrying out the set-up procedure. You can avoid this by selecting the battery type under the **PowerManager** point, and entering the capacity and type of your packs.

## 4. Gyro Basic Setup Assistant

The Assistant defines the essential system functions, such as channel assignment for the primary functions, and the output sequence.

Start the **Basic Setup Assistant**, and enter the information in the order displayed by the Assistant. Please note that the servos should not be connected to the output sockets until you reach the Output Mapping menu point. This is accomplished by moving the cursor over the Output field, and selecting the corresponding socket:



## Examples:

### Setting up two aileron channels at the transmitter:

For the right-hand aileron select **GY AILERON A**; by default the two outputs **G** and **H** are provided. For the left-hand aileron select **GY AILERON B**, and outputs **V** and **W**. If the model is fitted with multiple aileron servos per side, all of them should be assigned to **GY AILERON A** or **GY AILERON B** as appropriate. If a third output is required, simply set output **I** to **GY AILERON A**, and output **X** to **GY AILERON B**.

**Caution:** at this point connect only the inboard servo to the aileron; don't install the other servo linkages, as this runs the risk of tension between the servos. The servo linkages are completed later during the servo matching procedure.

### Setting one aileron channel at the transmitter:

For the right and left ailerons: **GY AILERON A**; the two outputs **G** and **H** are provided by default. Both ailerons can simply be plugged in here.

**Note:** the procedure for the elevator is exactly analogous: outputs **K** and **L**, **S** and **T** are assigned by default to **GY ELEVATOR A** and **GY ELEVATOR B**. If only one elevator channel is used at the transmitter, the second elevator will be reversed, but this can be corrected later during the servo matching procedure.

All the other functions can now be connected and set up using the **DIRECT** outputs, which pass on the transmitter signal 1 : 1.

### Example - throttle:

The throttle function is channel 1 at the transmitter. If you assign **DIRECT 1** to any output, the throttle can be plugged in at that socket. The end-points can be adjusted at the transmitter itself.

## Example - landing flaps:

Both landing flaps are to be controlled using one channel; this is channel 5 at the transmitter. Assign **DIRECT 5** to any two outputs, e.g. **Q** and **R**. Now plug in one landing flap, and set it up accurately at the transmitter. The other landing flap is connected and adjusted later, i.e. during the servo matching procedure.

The final point in the Basic Setup Assistant is to define the direction of gyro effect, and the integral **iGyro** activates itself to allow this. By physically moving the model you can check whether the gyro's effect is in the correct direction; reverse it if necessary.

**Note:** if, for example, one elevator channel is used for both sides, the direction of effect must be rechecked if you subsequently reverse that output in the servo matching menu. The direction of effect can then be corrected manually using the iGyro menu.

## 5. Servo matching

At this juncture you can reverse the landing flaps and elevators, and adjust the servos' centre and end-points if necessary.

If your model is fitted with more than one servo per control surface, this is the time to fine-tune the servos to match each other, and connect the control surface linkages.

## 6. Door Sequencer Assistant

Start the Assistant, carry out each step exactly as described on-screen, and then connect the servos and / or valves one by one. As of Version 07 the system incorporates a second front wheel door, which makes it possible to complete the set-up procedure for the whole retract sequence in about ten minutes.

If you also need to adjust the process times, we suggest that you visit our Forum, where you will find a list of all tasks in the FAQ section. It is a very simple matter to adjust the pause and running times for the doors manually.

## 7. Setting up the iGyro in flight

The final step is to adjust the gyro's settings in flight. This is accomplished by selecting the **TEST FLY ASSISTANT**, and adjusting all three axes while the model is in the air. We recommend that you carry out several 'dry runs' on the ground in order to familiarise yourself with the sequence of operations.

The **Royal SRS** is now fully set up, and we wish you great fun and success with the system!



**PowerBox Systems**<sup>®</sup>

*World Leaders in RC  
Power Supply Systems*

**PowerBox-Systems GmbH**  
certificated according to DIN EN ISO 9001:2008

Ludwig-Auer-Straße 5  
**D-86609 Donauwörth**  
**Germany**

Tel: +49-906-22 55 9  
Fax: +49-906-22 45 9  
info@PowerBox-Systems.com

**www.PowerBox-Systems.com**