

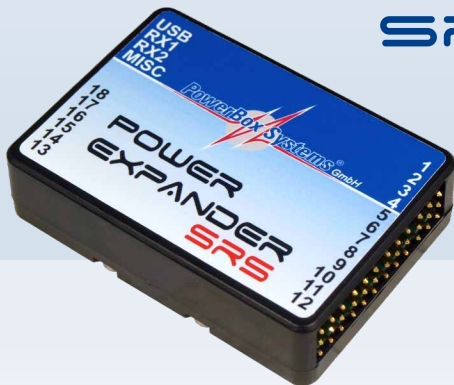
PowerBox Systems®

World Leaders in RC
Power Supply Systems

Instruction Manual



POWER EXPANDER SRS



Dear customer,

we're delighted that you have chosen the **PowerExpander SRS** from our range of products. We hope you have great pleasure and success with this accessory!

1. PRODUCT DESCRIPTION

The **PowerExpander SRS** makes it possible to exploit all the channels provided by your radio control system when using small but highly-specified receivers. Safety is also significantly enhanced, because two receivers can be connected to the **PowerExpander SRS**. The integral **Serial Receiver System** selects any receiver, and - if an error should occur - switches over automatically to the receiver which is still operating. This represents a simple method of doubling the number of receiver aerials.

The unit is fitted with a high-current socket to ensure that the power supply can cope with the large number of channels which it makes available. It also features an output carrying the S-BUS signal, which makes it possible to use any radio control system in conjunction with an S-BUS wiring arrangement.

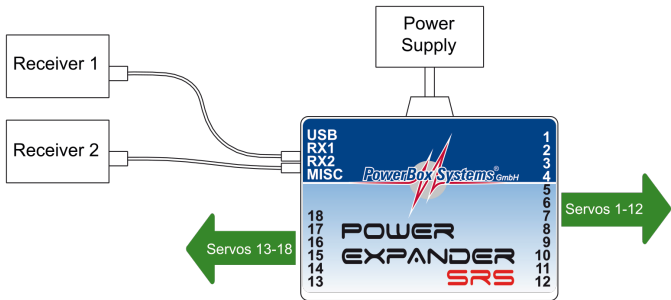
Features:

- Access to a maximum of eighteen channels
- Simple wiring: the receivers are connected using a serial link
- Integral SRS, allowing the use of two receivers
- Compatible with: Futaba, Spektrum, Graupner, Jeti, Multiplex and JR
- High-current power socket
- S-BUS output for use in a BUS system
- User-variable frame rate
- Can be updated using the **PowerBox USB Interface**

2. CONNECTING THE VARIOUS RADIO CONTROL SYSTEMS

Most types of receiver require intervention to activate the bus output or set the correct operating mode.

By default the **PowerExpander SRS** is set up for Futaba. If you intend to use a different radio control system, you can change the setting using the **PowerBox USB Interface Adapter** in conjunction with the **PowerBox Terminal** program, which is available free of charge. USB adapters made by Jeti or Multiplex can also be used.



a) Futaba FASST and FASSTEST

The **PowerExpander SRS** works with the S-BUS signal. Many receivers require one output to be re-assigned to S-BUS:

- R7003SB: no adjustment necessary; signal present at "PORT 1".
- R7008SB: output 8 must be set to S-BUS, Mode B or Mode D.
- R6303SB: no adjustment necessary; direct S-BUS output fitted
- R6308SB(T): output 8 must be set to S-BUS, Mode B or Mode D.

Other receivers with an S-BUS output can also be used; please refer to the set-up notes included in the instructions supplied with the receiver.

b) Spektrum DSM2 and DSMX

If you are using a Spektrum **AR 9020**, the **SRXL** output can be used: all eighteen channels are then available without requiring an **X-Plus module**. No adjustments are required: all you have to do is connect the **SRXL** output to the **PowerExpander**. Once again it is also possible to connect two receivers.

c) Graupner HoTT

When a HoTT system is used, the receivers should first be bound; adjustments can then be carried out in the Telemetry menu. All receivers require the **CH-OUT-TYPE** to be set to **SUMD-OF-16**.

- GR16 and GR24: **SUMD-OF-16** is present at **Output 8**.
- GR32: **SUMD-OF-16** is present at **Output S**.

d) Jeti EX

With a Jeti system you simply connect one or two **R-Sat2** receivers. These should be bound to the transmitter, and then set either to **UDI** or **EX**.

- **UDI**: this setting retains the telemetry function at the EXT output; the R-SAT is

connected to **PPM** out and the **PowerExpander SRS**.

Disadvantage of UDI: only twelve channels available

- **EX:** all sixteen channels available.

Disadvantage of EX: the signal is present at the EXT socket; at present no further telemetry equipment can be connected (unless a third R-Sat is installed).

Additional settings: frame rate 14 ms, computed

e) Multiplex M-LINK

If you are using a Multiplex system, the **B/D** output at the receiver must be set to **Serial Servo Data SRXL**. This can be accomplished using the USB lead and the **MPX Launcher** PC program. If you connect two receivers, the following settings must also be entered: **max. hold duration: 0.2 s** and **max. Failsafe duration: 0.0 s**.

f) JR DMSS

For a JR system you need DMSS receivers with an **X-BUS** output, e.g. **RG731BX**. The receiver or receivers are first bound, then set to **MODE A** at the transmitter. The **X-BUS** output now generates sixteen channels, which are accessible from the **PowerExpander SRS**.

3. S-BUS OUTPUT

At the **MISC** socket a **PowerBUS** signal is present which is identical to the widely used **S-BUS** signal – regardless of the radio control system connected to it. This means that any radio control system can be used in conjunction with **PowerBus** components.

Our range of products includes adapter leads which ensure that sufficient current is available to power the bus.

4. FAILSAFE AND HOLD

Failsafe / Hold can be adjusted using the RC system transmitter, but also using the free **PowerBox Terminal** program and the USB lead, or the Mobile App and the BlueCom Adapter.

- **Hold:** if signal loss occurs at the receiver, the servos remain in the last known position.
- **Failsafe:** if signal loss occurs at the receiver, the servos run to the position previously set by the user.

Teaching the Failsafe position:

Use the transmitter to move the output concerned to the position which it is to take up in the event of signal loss. In the Terminal program tick the **Failsafe** checkbox for this output. Continue setting all the outputs to **Failsafe** or **Hold** as appropriate, then press **Teach Failsafe** at the bottom.

This action stores the positions. You can check the settings simply by switching the transmitter off: all the servos should now either 'stay put', or move to the selected position.

5. FRAME RATE

The frame rate can also be changed using the free **PowerBox Terminal** program. The default setting is 18ms; this value works with all current servo types. New digital servos operate reliably and accurately at 12ms.

6. SET CONTENTS

- **PowerExpander SRS**
- 2x Patch-lead 18cm
- Self-adhesive pad
- Operation instruction in German and English

7. SERVICE NOTE

We are anxious to offer good service to our customers, and to this end we have set up a Support Forum which deals with all queries concerning our products. This relieves us of a great deal of work, as it eliminates the need to answer frequently asked questions time and again. At the same it gives you the opportunity to obtain help quickly all round the clock - even at weekends. All the answers are provided by the **PowerBox Team**, guaranteeing that the information is correct.

Please use the Support Forum before you telephone us.

You can find the forum at the following address:

www.forum.powerbox-systems.com

8. GUARANTEE CONDITIONS

At **PowerBox-Systems** we insist on the highest possible quality standards in the development and manufacture of our products. They are guaranteed **“Made in Germany”!**

That is why we are able to grant a **36 month guarantee** on our **PowerExpander SRS** from the initial date of purchase. The guarantee covers proven material faults, which will be corrected by us at no charge to you. As a precautionary measure, we are obliged to point out that we reserve the right to replace the unit if we deem the repair to be economically unviable.

Repairs which our Service department carries out for you do not extend the original guarantee period.

The guarantee does not cover damage caused by incorrect usage, e.g. reverse polarity, excessive vibration, excessive voltage, damp, fuel, and short-circuits. The same applies to defects due to severe wear.

We accept no liability for transit damage or loss of your shipment. If you wish to make a claim under guarantee, please send the device to the following address, together with proof of purchase and a description of the defect:

SERVICE ADDRESS

PowerBox-Systems GmbH

Ludwig-Auer-Straße 5
D-86609 Donauwoerth
Germany

9. LIABILITY EXCLUSION

We are not in a position to ensure that you observe our instructions regarding installation of the **PowerExpander SRS**, fulfil the recommended conditions when using the unit, or maintain the entire radio control system competently.

For this reason we deny liability for loss, damage or costs which arise due to the use or operation of the **PowerExpander SRS**, or which are connected with such use in any way. Regardless of the legal arguments employed, our obligation to pay compensation is limited to the invoice total of our products which were involved in the event, insofar as this is deemed legally permissible.

We wish you every success using your new **PowerExpander SRS**.

A handwritten signature in blue ink, appearing to be 'D. H. R.', written in a cursive style.

Donauwoerth, February 2018

PowerBox-Systems GmbH

certificated according to DIN EN ISO 9001

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