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PowerBox SOURCE

Source Components:

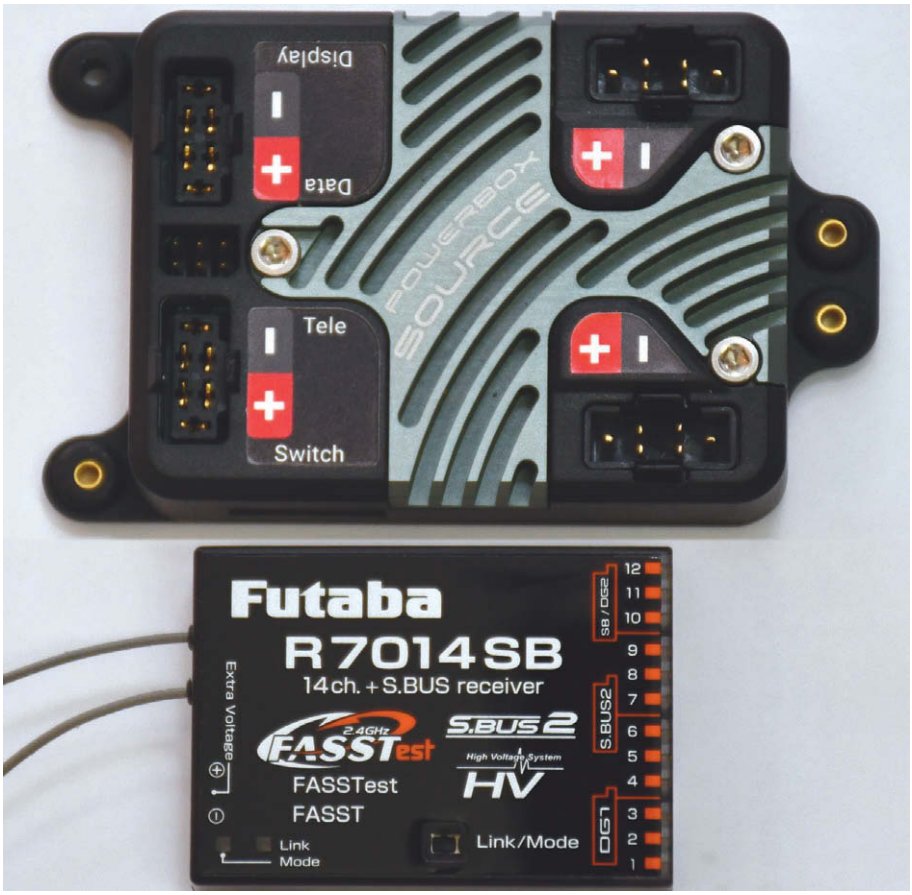
- Source unit
- SensorSwitch
- 3 PowerPatch leads (1 x MPX/MPX & 2 x MPX/JR)
- Grommets, ferrules and mounting screws
- Operating instructions in English and German

I have been using PowerBox products in my jets for many years now, and have come to depend on them to provide a reliable power supply to the on-board radio system, as well as utilising the additional features included in many of the more sophisticated units, for example twin receiver operation, servo matching, three axis gyro, telemetry etc.

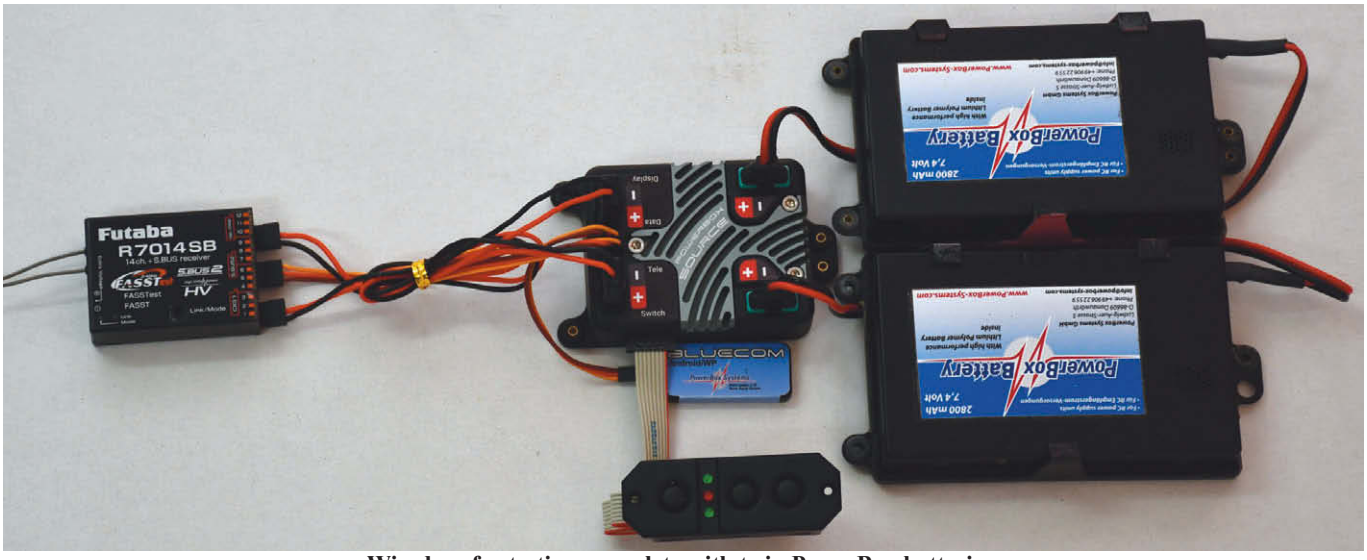
One of the popular mid range power supply units available from PowerBox was the Baselog, an example of which I have had installed in my Mick Reeves Hunter for several years now, with the usual 100% reliability, so I was particularly interested when I saw that PowerBox had developed the new Source power supply unit to replace the Baselog. Smaller than the Baselog, the Source is a mere 88 x 54 x 23mm in size, including the mounting lugs and grommets, and weighs only 77 grams, making it ideal for smaller models, although with a peak current ability of 2 x 20Amps it is also suitable for use in many much larger aircraft as well.

Developed to provide a completely reliable power supply to the on-board radio system, probably the most vital requirement for any model, in particular our high performance and expensive jets, and utilising redundant regulator design, the Source has two battery inputs and two power outputs which connect to the receiver being used. With the use of two battery packs with two connections to the receiver means that should one of the batteries go flat or fail, perhaps going open circuit, the model will be unaffected in any noticeable way, although the inclusion of telemetry allows the pilot to be warned that there is a problem, so that he or she can make an immediate precautionary landing. As well as this the Source offers suppression of servo feedback current and integral regulator monitoring whilst further feature is integral protection against electrostatic discharge.

Complete Source package as supplied includes leads and SensorSwitch.



Close-up of the Source unit, with Futaba receiver for scale – the quality of the Source machining and finish can be seen.



Wired up for testing, complete with twin PowerBox batteries.

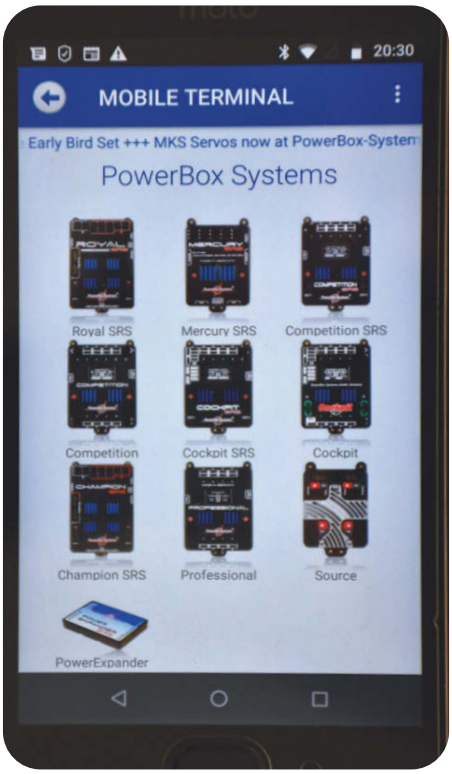
The Source as supplied is an attractive unit, with a metal casing produced in separate black and grey anodised sections, these latter parts having curved fins for additional cooling. Connections comprise two Multiplex style inputs and two similar outputs, as well as connections for the switch and (optional) display, whilst the last two connections are JR style sockets for data (USB lead or Bluecom device) and telemetry. Additional items supplied include a SensorSwitch, set of leads comprising 1 heavy duty MPX to MPX lead, 2 MPX to JR leads, mounting screws, ferrules and grommets as well as a dual language (English/German) Instruction manual.

The Source offers a great deal of functionality packed into its compact dimensions, being suitable for use with a wide range of battery technologies including Lithium Polymer, Lithium Ion, Lithium Metal and Nickel Cadmium/Nickel Metal Hydride, the operating voltage range being from 4.0 to 9.0v. As mentioned above the Source has a maximum load current of 20 Amps on each of the dual circuits, whilst the output voltage can be set to 5.9, 7.4, 7.8 or Open (where the battery voltage is passed through the unit unregulated). Current drain of the unit in its power on state is 85mA, but this drops to a tiny 10µa when the unit is switched off.

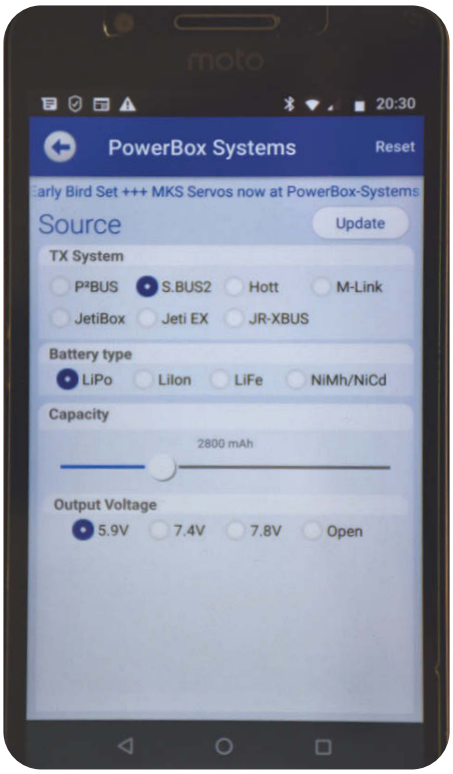
Currently the following telemetry systems are supported: PowerBox, Futaba, Jeti, Graupner HoTT, JR DMSS and Multiplex.

Although the optional PowerBox OLED display can be connected to the Source itself, and left installed in the model, allowing the unit to have all settings adjusted and fine tuned, as well as enabling all battery data to be accessed quickly and easily, the Source offers three useful alternatives to set up the unit. First of these and the simplest solution is the easy option of using the Source together with the PowerBox Core radio, which offers plug and play functionality alongside the ability to program all settings

Mobile Terminal screen on my smartphone.



The Mobile Terminal screen where the Source, or other PowerBox products, can be selected.

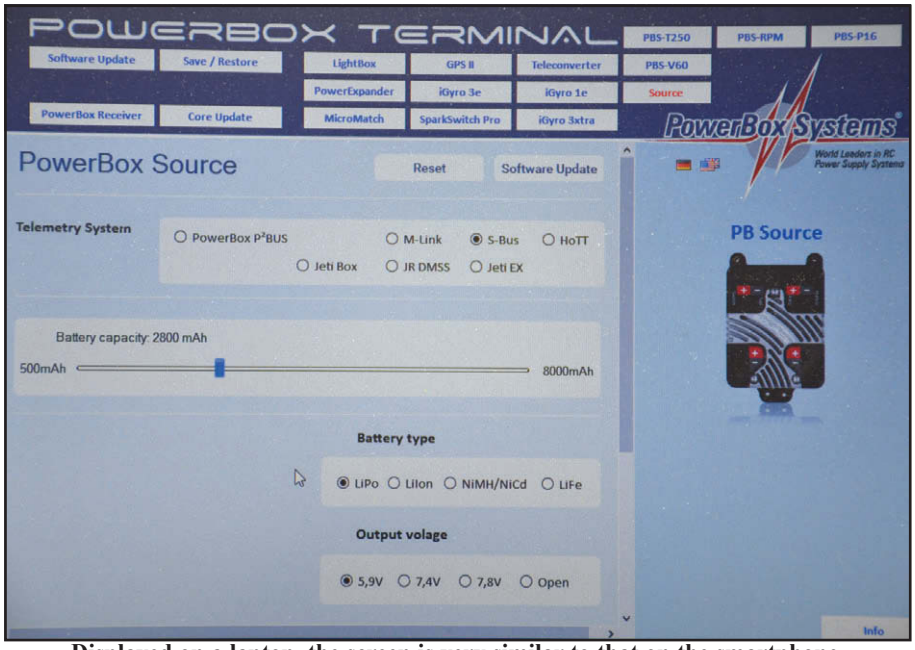


Specific Source screen where Tx operating system, battery type, capacity and output voltage can be set.

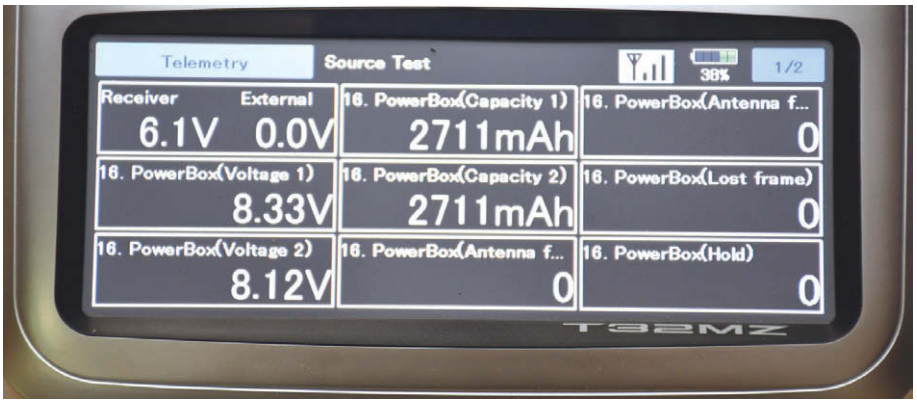
directly from the Core transmitter. Alternatively set up can be carried out using a smartphone via a PowerBox BlueCom Bluetooth adapter, the final option being the use of a laptop or PC using a PowerBox USB Interface.

First to be tested was the option of using a smartphone together with the Bluecom adapter, this being simple to do, particularly as I already had the PowerBox Mobile Terminal app on my phone. With the Source powered up, opening the app brings up the intro page, where the Source can be selected from the complete range of PowerBox systems. This selection brings up the specific Source page, where the Tx system being used is set, along with the battery type and capacity, this last set by a neat slider, the last variable remaining to be selected being the output voltage. Using a laptop and USB Interface for set up was also simple, although not necessarily as easy to do when the Source is installed in a model of course!

With the optional OLED display connected it is equally easy to set up the Source, entering the programming by depressing the SET button for around 4 to 5 seconds, and then using buttons I or II to scroll through the options detailed above, with a press of the SET button opening the required screen, where again the options can quickly be scrolled through using buttons I/II, the SET button finally being used again to select the setting required. Note that in common with other PowerBox units, the Source measures the battery capacity being consumed when in operation, so a simple reset procedure is carried out each time the batteries are charged, providing the pilot with information on the remaining capacity of each of the two batteries before and after each flight, or with telemetry activated, whenever the radio system is switched on. This is an important safety feature, and gives confidence to the pilot that ample battery capacity remains before every flight.



Displayed on a laptop, the screen is very similar to that on the smartphone.



Telemetry display on my Futaba 32MZ transmitter, with data showing for the input voltages of both batteries and their remaining capacities – the remaining fields are for use with different PB units.

PowerBox are clearly very confident with the reliability of their products, as they offer a full 3 year guarantee on the Source, which should give peace of mind to any users. With a great deal of advanced technology packed into this compact and high quality unit, PowerBox should have another winning product – the review unit is already destined for installation in the FlyFly Viperjet I am currently assembling for a future review in RCJI, so it will get a thorough airborne testing as soon as the model is finished!

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WEBSITE
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Main screen of the OLED display, showing the input voltages, remaining capacities, output voltage and operating time since reset.

Main set up screen allows all parameters to be selected so that they can be changed or set.

Telemetry is selected via this screen, currently set to Futaba S-Bus2.