

Booma RC

Wallaby Switch



www.boomarc.com

Congratulations for choosing the Booma RC Wallaby Switch. Wallaby Switch was designed for giant scale RC enthusiasts by giant scale RC enthusiasts. Wallaby Switch offers features never seen before in Radio Control applications in a compact, light weight and affordable package.

Before you install Wallaby Switch please take the time to read these instructions. A few simple steps will have you successfully using this advanced product in no time at all.

Wallaby Switch Features:

- **Microprocessor control** - of high powered digital switching circuit(s) .
- **Fail Safe Switching** - of both batteries.
- **High Bright Blue LED** - for easy daylight reading.
- **Voltage Monitoring** - of each battery. (BRCWAL1 and 2 version)
- **Selectable Battery Type** - for monitoring of LifePO4, LiPo and Lion battery chemistries.
- **Low Voltage Alarm** via LED indication.
- **2 x 10 Amp** constant current capability (Ultra Connector version).
- **2 x 20 Amp** for 30 seconds (Ultra Connector version).
- **Micro-Power** design less than 0.4mA in standby mode.
- **Input Voltage 6v to 13v.**
- **Weight 17 grams.**
- **Dimensions 36mm x 17mm (1.41 x 0.66 inches).**

DO'S and DON'TS

Wallaby Switch comes with 1 or 2 completely independent solid state digital switches and is designed to be used with 1 or 2 batteries of the same chemistry and capacity for receiver and servo switching. A matched pair of batteries will give best performance.

DO'S and DON'TS

DO NOT use Wallaby Switch dual battery version with batteries of different voltages or different battery chemistries unless you are an advanced user that is aware of the consequences. Mixing of different battery voltages or chemistry types when using Wallaby Switch may cause the battery with the highest voltage to be consumed first. This may be desirable if you are experienced with modeling or Robotics, however you do this at your own risk.

It is recommended that Wallaby Switch dual battery version is used in conjunction with a *Booma RC Dual Battery* isolator for battery fail-safe single receiver usage.

NEVER USE Wallaby Switch (OR ANY DUAL SWITCH) TO SWITCH AN IGNITION SYSTEM AND RECEIVER SYSTEM AT THE SAME TIME. INTERFERENCE FROM THE IGNITION SYSTEM MAY CAUSE LOSS OF CONTROL OF YOUR MODEL.

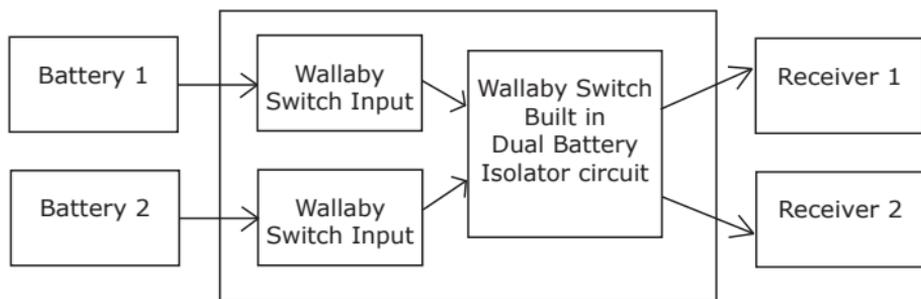
To switch your models gas ignition system we recommend the Booma RC Ignition (Iggy) Switch, designed to isolate any ignition interference from your receiver system.

WARNING

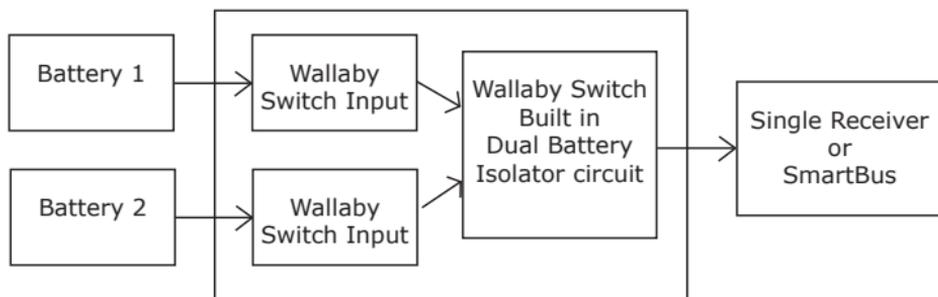
Please observe correct connection polarity i.e. **RED is battery positive** and **BLACK is battery negative**. Incorrect polarity will damage the main circuit output capacitor(s) voiding warranty.

Typical Connection Examples for Wallaby Switch.

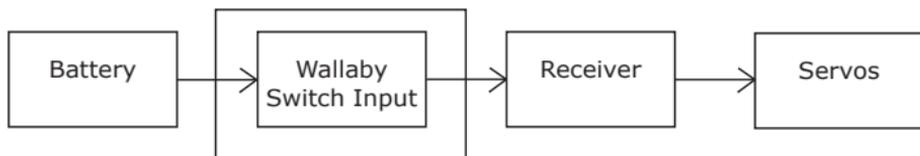
Dual Battery and Dual Receiver System



Dual Battery Redundant System

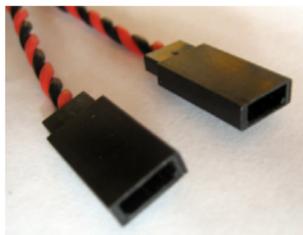


Single Battery System

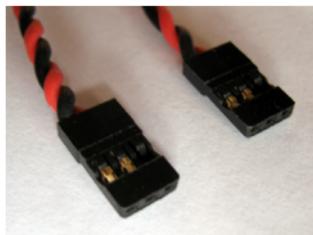


Lets get started

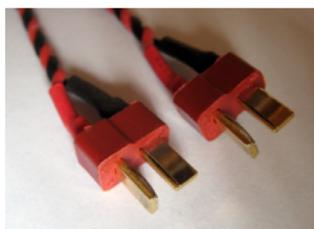
Connect both batteries to Wallaby Switch battery inputs as shown below.



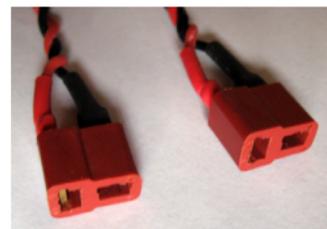
Battery Inputs



Wallaby Switch Outputs



Battery Inputs



Wallaby Switch Outputs

As you connect the battery or batteries to Wallaby Switch the LED indicator will flash slowly THREE times.



This indicates that all is OK.

If the LED starts to flash rapidly this is an indication of incorrect battery type or a low voltage on one of the connected batteries. We will discuss battery type and voltage monitoring further in these instructions.

Turning Wallaby Switch ON and OFF



Wallaby Switch is supplied with 1 or 2 x fail-safe switches (depending on the selected model). As long as power is supplied to Wallaby Switch it will hold the state of the switch. Wallaby Switch also comes with additional protection circuitry to avoid an accidental ON or OFF state.

To Switch Wallaby Switch ON (after battery connection is made) **PRESS AND HOLD** the **GREEN "ON/OFF"** button. The Blue LED will start to FLASH rapidly up to 10 times. While the LED is flashing press the **RED "ENTER"** button once and Wallaby Switch will switch both batteries on supplying power.



To Switch Wallaby Switch OFF (Wallaby Switch must be in the on position) **PRESS AND HOLD** the **GREEN "ON/OFF"** button. The Blue LED will start to FLASH rapidly up to 10 times. While flashing press the **RED "ENTER"** button and Wallaby Switch will switch both batteries off removing power to the receiver(s).

Sleep Mode

SLEEP MODE WILL ONLY ACTIVATE WHEN Wallaby Switch IS IN THE OFF STATE

Wallaby Switch uses a state-of-the-art low power technology to maximise the life of your batteries. While in the off state Wallaby Switch will go into a sleep mode using only 0.4mA to conserve power. You can leave Wallaby Switch connected to the batteries however it is advisable to disconnect Wallaby Switch from the batteries if storing your model for a long period.

WHAT HAPPENS IN SLEEP MODE?

To conserve power Wallaby Switch turns off all unnecessary circuits and blanks the LED to conserve battery power.

WAKING Wallaby Switch FROM SLEEP MODE.

In sleep mode Wallaby Switch is monitoring the front panel buttons. Wallaby Switch will automatically wake from sleep mode when you press the press **GREEN "ON/OFF"** button.



Template Cutout for Wallaby Switch

17 mm



36 mm

Battery selection

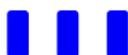
Wallaby Switch comes pre-calibrated to monitor voltage levels and current consumption of **LiFeP04** chemistry batteries. **If you are using LiPo or Lion batteries you will need to re-calibrate Wallaby Switch.** Wallaby Switch is easy to calibrate.

IMPORTANT - DO NOT MIX BATTERY CHEMISTRY WHEN USING Wallaby Switch. ALWAYS USE BATTERIES OF THE SAME CHEMISTRY AND CAPACITY.

How To Calibrate - connect both batteries to Wallaby Switch and wait until the system check is complete (three slow flashes).

Press and hold the RED "ENTER" button. After a brief period the LED will start to flash rapidly. While rapidly flashing, release the **RED "ENTER" button.** Depending on currently selected battery chemistry the LED will then flash as follows:

LiFe monitoring



Three flashes - pause - three flashes etc



Lion and Lipo



One flash - pause - one flash etc



Pressing the **RED "ENTER" button** or **GREEN "ON/OFF"** will cycle through the different battery types. Once you have selected the battery type to match your batteries just release the button.

Wallaby Switch will automatically return back to normal mode after 4 flash cycles.

Battery Monitoring

Once you have calibrated Wallaby Switch with the correct battery type it will monitor the output voltage of your battery(s) **If a low voltage is seen by Wallaby Switch from either battery then Wallaby Switch will flash the Blue LED in rapid bursts. This is an indication that something is wrong and should be investigated.**

FACTS

Why does Wallaby Switch show a low voltage condition when I switch on even if I have selected the correct battery type?

This could be an indication that one of the cells in a battery is going bad. Test and if necessary replace the poor battery.

This could also be an indication that you are using batteries of insufficient capacity i.e. the battery does not have the ability to output the required power without a significant voltage drop. Install a more powerful battery.

Connecting the outputs of Wallaby Switch together.

This will work fine in a single receiver/Cybuss system (as long as the batteries are the same chemistry and cell count). Be aware though that the battery with the highest voltage will supply the load to the receiver/servos and try to balance the 2 batteries. Think of 2 buckets of water, each bucket filled slightly differently.

If you connect the 2 buckets with a hose then the bucket with higher water level will try to fill the bucket with the lower water level until they are equal. It is the same with batteries and this is why we should always use the same battery type and cell count when connecting the outputs of Wallaby Switch together.

Using Wallaby Switch with a Booma RC DUAL-BAT circuit.

The Dual-Bat circuit allows you to safely connect the 2 Wallaby Switch outputs together, effectively isolating the batteries from each other. In a single receiver setup a Dual Bat circuit is a great idea. The Wallaby Switch internal microprocessor circuit uses an internal micro Dual Bat circuit to guarantee supply to the Wallaby Switch microprocessors.

Battery Capacity

DO NOT EVER try to get the full mA capacity out of your batteries! An attempt to do this may end in disaster. Wallaby Switch meters consumption conservatively but **NEVER OPERATE YOUR MODEL WITH A LOW VOLTAGE CONDITION.**

Current carrying capacity of connectors.

Wallaby Switch will handle 15A per circuit (30A total). However, JR or Futaba type servo connectors are designed to carry a maximum of approximately 5 Amps per connector. This is sufficient for most RC models up to 9 servos. If your model has more than 9 servos it is recommended to use a deans style ultra connector.

Template Cutout for Wallaby Switch

17 mm



36 mm

Current capacity will then be limited to Wallaby Switch design.

Using Wallaby Switch with a voltage regulator

Wallaby Switch was designed to work with all current RC products regulated and unregulated. If you prefer using LifePO4 chemistry batteries (nominal 6.4v) then Wallaby Switch will work excellently in most RC and Robotics applications without a regulator.

If you prefer to use newer higher 7.2 volt servos then we recommend using Wallaby Switch with Lion (nominal 8.2v) or Lipo batteries (nominal 8.4v). These batteries will in most cases require a voltage regulator like the Booma RC Intelli-Reg, Regulator-Pro or Helli-Reg Pro. These regulators have been designed to deliver professional results for the most discerning hi-end user. Wallaby Switch may also be used with all other types of regulators and power buss circuits.

Specifications

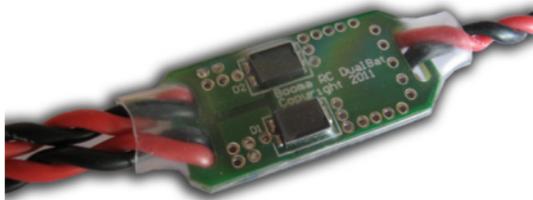
- 2 x independent switching circuits in a double pole single throw combination.
- Battery chemistry
 - LifeP04 (2 - 3 cells),
 - LiPo Life (2 - 3 cells),
 - Lion (2 - 3 cells).
- Maximum input voltage 13 volts.
- Minimum input voltage 6 volts
- Max continuous current:
 - 2 x 10 Amp (20 Amp),
 - 2 x 20 Amp (40 Amp for 30 sec),
- Max instantaneous current 2 x 30 Amp.
- Weight 17 grams.
- Approximately 0.4 mA current draw in power-down mode.
- Length 36 mm x width 17 mm x Depth 17 mm
- Operating Temperature - 40 to 80 degrees Celsius

12 Month Replacement Warranty

Booma RC will replace this product within 12 months if found to be defective in material and/or workmanship when used in the intended purpose. The warranty does not cover - Shipping charges related to any warranty claim. An over voltage or over current usage beyond stated specification. Damage due to system failure, negligence, abuse, accident, improper installation or freezing. Loss of time, inconvenience, loss of model, or other incidental or consequential damages.



Booma RC Ignition (Iggy) Switch



Booma RC DualBat



Booma RC Intelliswitch

Notes