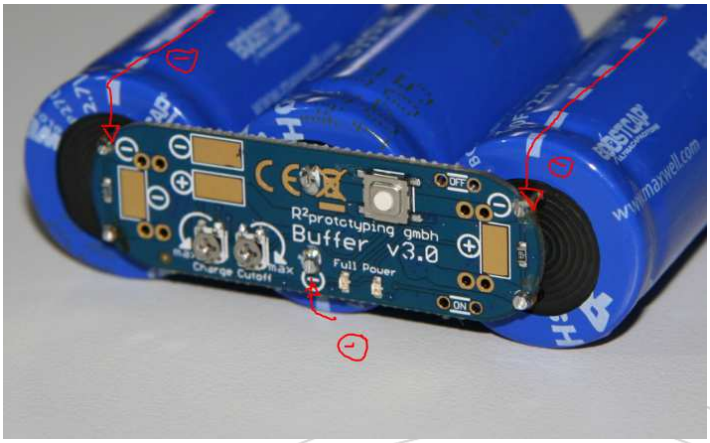
Assembling of the buffer circuit MP-GCG1-v3

Cap Version ("NC")

1) Pay attention to the polarity, the capacitor minus is marked with a minus sign (the long dashed line on one side), minus is printed in each case on the circuit board

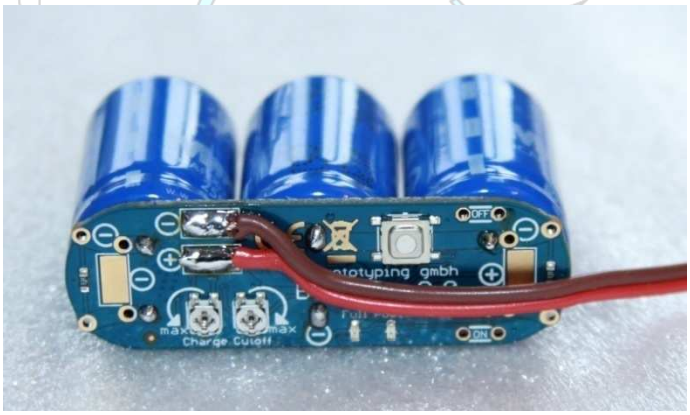


2) Insert

3) Soldering

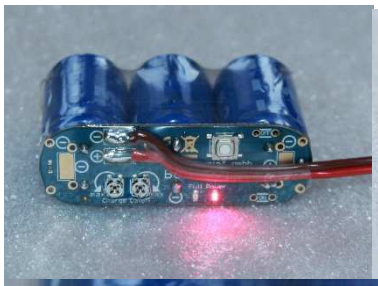
4) Shorten surplus of the wires

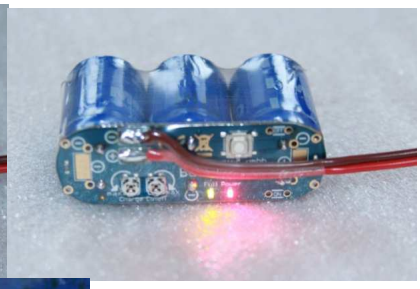
5) Solder the cable



6) Shrink the whole assembly, then cut free the potentiometers and the button with a sharp blade.
Especially a shrunken button leads to malfunction of the board!

Immediately after putting on the power, the red LED indicates the charging





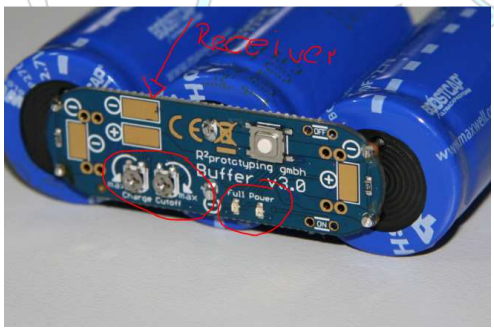
If the green LED is burning, the CAPs are fully loaded

The pictures show the right potentiometer for a cut-off voltage of about 3.5 V

6) Settings

a) The charging current

For the maximum charging current of about 0.7 amp the left potentiometer turned fully anticlockwise.



b) Cut-off voltage

There are several methods. The easiest one loads the Caps to the required shutdown voltage, with an adjustable power supply for example. Then unplug the Caps and turns slowly the right potentiometer clockwise until both LEDs go out. 3 V are about at about (4-5 clock).

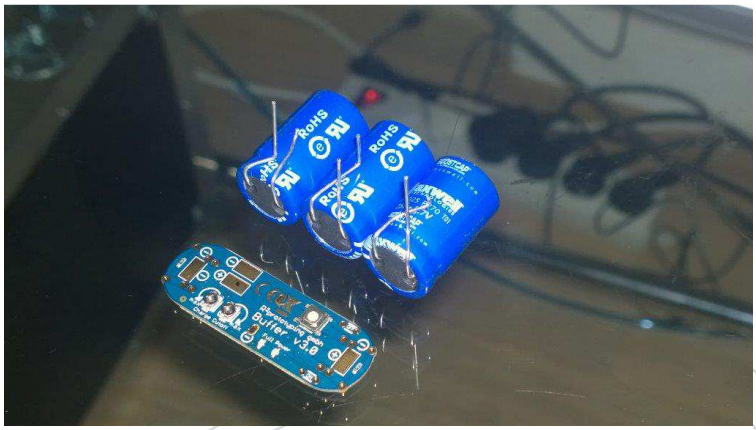
Otherwise you can power up the circuit with a 4-5 cell battery (NiCd / NiMH) and leave the circuit with a multimeter connected "idle". You may repeat this process several times until the desired tension is set.

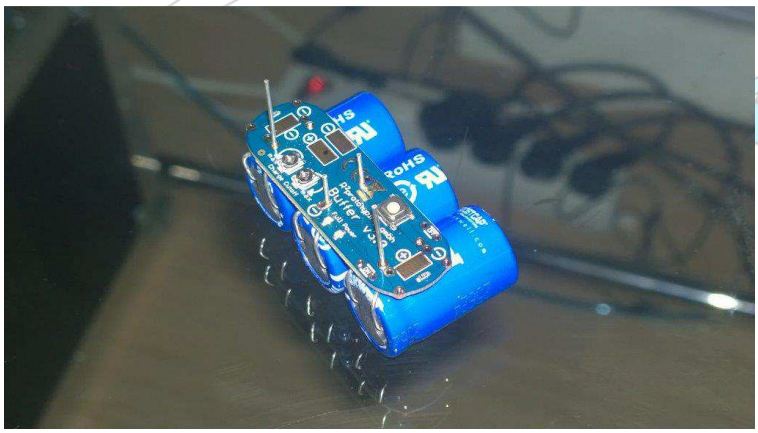
Alternative assembly of the CAPs

When it is desired that the button can be operated from above, as in the version v2, the circuit board should be soldered even different.

This can be done bending the legs of the caps slightly to fit, thereby definitely pay attention to the polarity!

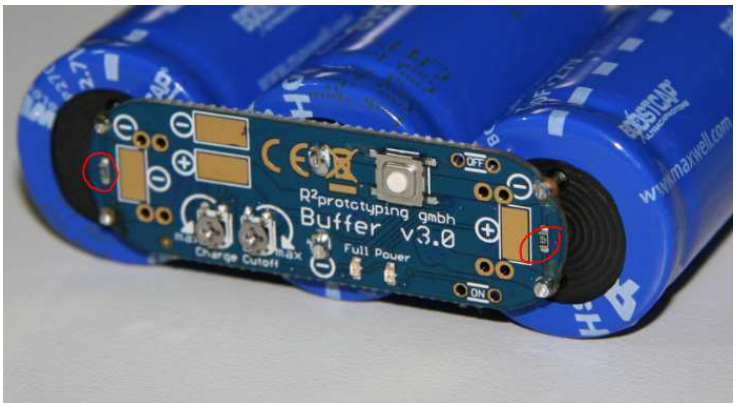
In addition the connections of the CAPs must be insulated against the circuit board. You should add some little shrink tube or stick Captontape on the bottom of the board, so there is no short circuit!





The LiPo Version ("NL")

1) remove one of the balancer resistors



2) For optical and weight reasons, you can remove the original shrink tube from the battery

3) Soldering rechargeable battery and wire (Picture shows the CAP Version)

4) Do not forget shrinking and replace the LiPo sticker

5) Setting

a) set charge current to max. 2C (max. 700mA)

b) set cut-off voltage to Volt – see above like the CAP version

The connections for push-button

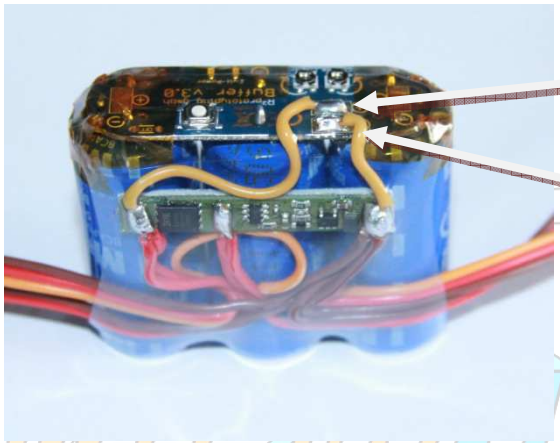
The v3 board now also has ports for 2 push buttons.

The upper with "OFF" labeled can be used for a outwardly button (NO type) to turn off the circuit after the flight.

The lower "ON" is labeled only for the LiPo version to turn on. Of course, in this version, the circuit should always be turned off by pressing the “OFF” button otherwise the LiPo is always discharged to the cut-off voltage.

As last the "R" Addon

This can easily be soldered directly to the wires, there are no limits to creativity, even angled (pay attention for insulation to the CAP housing)



Input from the BEC is in the middle, exit to the receiver on the left.

All mass connections are collected on the R-board

The visible orange cable loop is the signal cable of the master port. We usually use an extension cord, from which the (+) and (-) line are separated by the R board. So we get a reverse-polarity protected buffer solution.

With cable markers, however, you could save the additional plug-in to Jive or Kosmik and connect the buffer unit with 4 connectors, instead of 2 connectors and 2 sockets :-)
The connectors can be plugged directly to the Jive or Kosmik.

When preassembly was ordered, the circuits are indeed soldered but have not yet been set, the procedure is described in the previous sections.

Engineering Marcellinus Pfeifer

Since this is a kit, further guarantees and compensation claims are excluded.