

## GBA Reg & Charge v2.0

With this device you can upgrade your Gameboy Advance or Gameboy Colour to support a LiPo battery. Features over 90% efficiency, charge & play and supports the red power LED indicator on the GBA – it will light up when the battery is low.

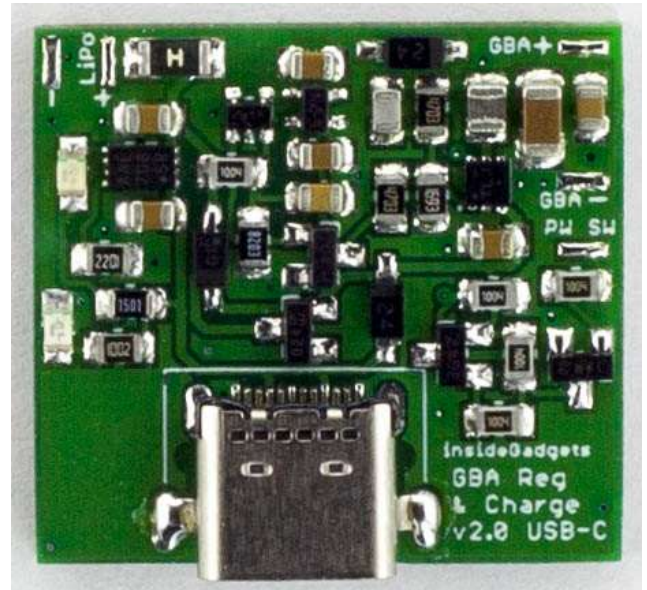
If you use a Turnigy 2000mAh battery, the battery life is estimated to be 20-24 hours (to reach around 1650mAh used – 3V reading on LiPo) on a 32 pin backlit GBA running a regular Gameboy cartridge which draws 85mA at 2.9V (LiPo consumption at ~70mA). Cutting/filing some parts of the GBA battery compartment is required if you use the Turnigy battery.

This is a DIY part, you will need to solder your LiPo battery leads to the board and wires from the board to the GBA/GBC to power it and another connection to a capacitor on the GBA/GBC board. You can use double sided tape to stick the board to the battery so that it doesn't move around. Check out the How to Install section for a GBA installation guide.

Each unit is assembled and tested in house. You will receive the product as pictured.

### Features

- Use any LiPo battery you like (recommended to use a LiPo with a battery protection)
- Uses a DC-DC to give the best efficiency, more than 90%
- Gameboy Advance power light turns red when the LiPo battery drops to ~3.33V. Gameboy Colour's red light becomes much dimmer.
- Charge and play at the same time; automatically switches GBA to be powered from 5V charger when connected.
- Micro USB or USB-C connector option



(v2.0 Board Pictured)

### Specifications

Red LED on = charging

Blue LED on = charger connected

Size: 27mm x 25mm x 4mm (5mm for USB-C)

Weight: 3g

Maximum recommended discharge rate: 500mA (will work with all carts)

Charging max input voltage: 5.5V

Charging rate: 450mA

Output voltage: 2.85V normally, switches to 2.25V when LiPo is at ~3.33V

Quiescent current: 11uA

Efficiency: 90%+

Battery protection on board: Polyfuse 1A

DC-DC converter will power off if battery drops to ~2.7V

### Requirements

LiPo battery, wires & Micro USB cable or USB-C cable depending on the option you purchase

Disclaimer: We shall not be held liable to and shall not accept any liability, obligation or responsibility whatsoever for any loss or damage that may occur by using this product directly or indirectly.

## How to Install – For GBA

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Solder the red and black power wires (at least 26 AWG and at least 4cm length) to the Gameboy Advance's positive and negative battery terminals. Also solder a wire (any AWG) to the positive terminal after the power switch or to the capacitor closest to the power switch, as above I chose one of the capacitors.



Run the wires through the case and solder them to their respective terminals.

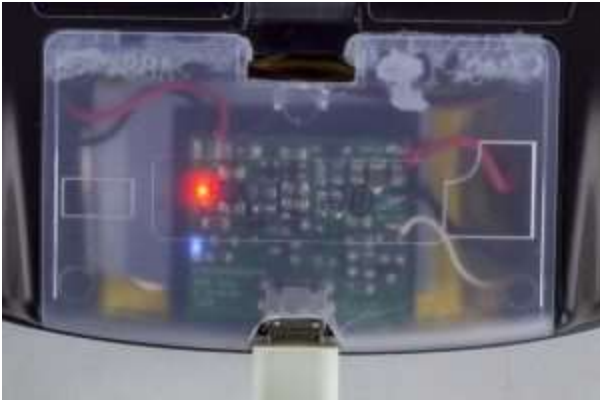
Red: GBA +

Black: GBA -

White: PW SW



Install your LiPo battery underneath the board and carefully solder the negative terminal and then the positive terminal. Be careful not to short the 2 terminals with the soldering iron or with any of the tools you might be using.



With some thin double sided tape (1mm), you should attach the board to the battery. Test fit your battery cover and use a pen to draw where you have to cut out material for the Micro USB port.

We recommend using a clear GBA back cover so you can see when the battery is charging (red LED); the blue LED lets you know when USB power has been applied.

Depending on the battery you use, you may need to remove the back cover clip as that can potentially apply pressure to the LiPo battery when the battery cover is closed, that's why you can see we're just used some blu-tack to hold it in place.

## How to Install – For GbC

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Solder the PW SW wire to the power switch contact labelled “C”

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