

# SETTING UP YOUR BADGE

The config is stored in the SPIFFS. If you delete the config or power on the badge for the first time, a new config will be created.

## 1. Power on the Badge.

Put the power switch in down position.

## 2. Visit the displayed IP.

Configure the Badge to your desire.

## 3. Download more ROMs.

Visit the ROM store for more cool ROMs.

## 4. Contribute!

Build your own ROMs and hacks and share them!

Your Badge is not booting? Try the following:

1. Have you tried turning it off and on again?
2. Put the USB Select switch in the upper position.
3. Cover the IR receiver from sunlight.

If all that doesn't work, visit the Badge team.

# README.md



The GPN-Badge comes with a precharged Lithium Ion Battery. Be sure to follow the safety warnings:

**Do not** connect the positive terminal and negative terminal of the battery to each other with any metal object (such as wire).

**Do not** carry or store the Badge together with necklaces, hairpins or other metal objects.

**Do not** pierce the battery with nails, strike the battery with a hammer, step on the battery or otherwise subject it to strong impacts or shocks.

**Do not** expose the Badge to water or salt water, or allow the battery to get wet.

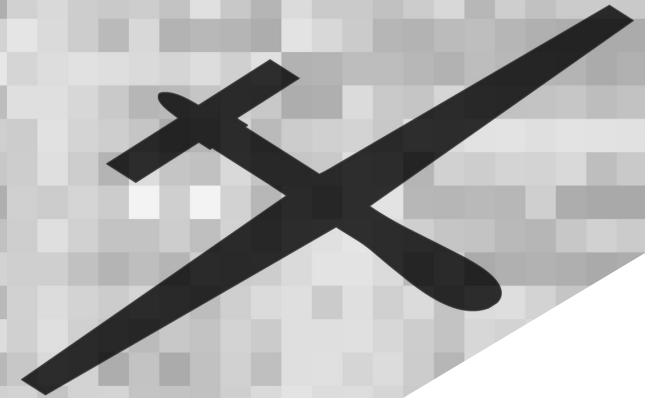
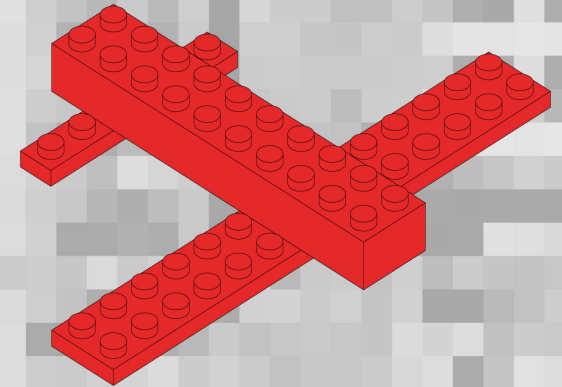
The GPN Badge is not designed to be reverse-polarity protected! Please double-check the battery polarity before plugging it in.

The Lithium-Ion cell or the Badge may get hot, explode or ignite and cause serious injury if exposed to abuse conditions.

The GPN Badge is sold without any warranty.

# Works as intended?

## 17. Gulaschprogrammierenacht



# GPN BADGE GETTING STARTED

Everything you need to know about your Badge.

## HACK THE BADGE

Bored of the shipped ROMs and the lame hardware? Develop your own software and hardware for the Badge and participate in the "Hack the Badge" challenge.

Learn more at:  
[https://entropia.de/GPN17:Hack\\_the\\_Badge](https://entropia.de/GPN17:Hack_the_Badge)



## SPONSORS

We would like to thank our partners for providing the following parts:



**BOSCH**

Bosch Sensortec GmbH  
BNO055 9-axis IMU



乐鑫信息科技  
ESPRESSIF SYSTEMS

Espressif Systems  
ESP8266 WiFi SoC

<https://github.com/entropia/gpn17-badge>

<https://twitter.com/GPN17Badge>

<https://entropia.de/GPN17:Badge>

## THE GPN BADGE

### YOUR SMART COMPANION

After 3 months of development, the GPN Badge finally became a reality. This small piece of electronics will accompany you during the next four days. Here is a overview of what makes the GPN Badge so powerful.

### EXPANSION HEADER

Build your own shields, breakout boards or additional hardware and connect it to the Badge. Solder on more WS281x LEDs and I2C devices. Complete your time machine. However, ensure you don't violate the given maximum ratings.

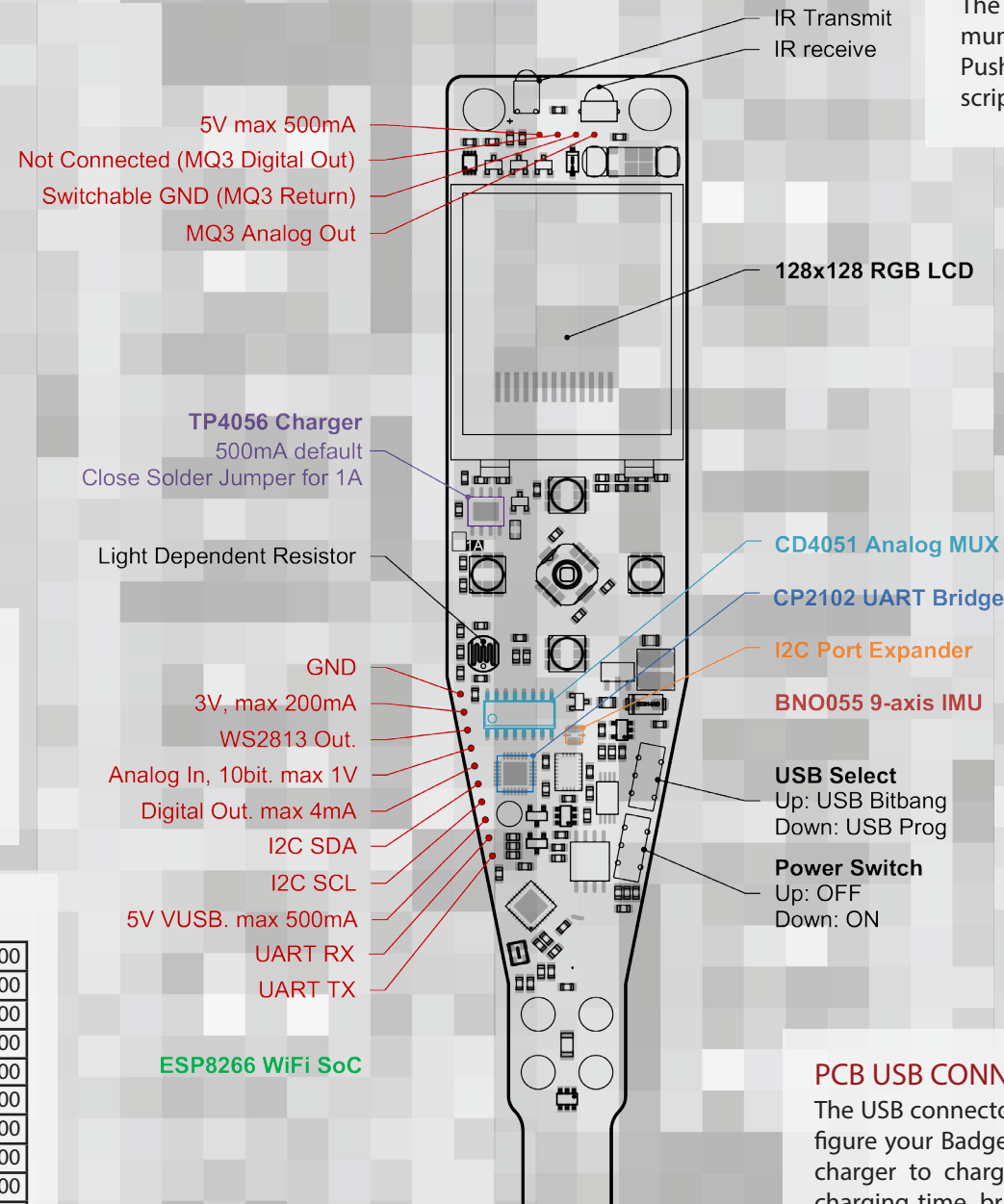
### ESP8266 WiFi SoC

The ESP8266 is a low-cost Wi-Fi chip with full TCP/IP stack and 32-bit Tensilica Xtensa MCU. Among that it features 16 GPIOs, I2C, SPI and a 10bit Analog-To-Digital converter.

Only the first 4MB of flash can be programmed by USB.

### MEMORY MAP

rboot	8kB	0x000000
rom0	512kB	0x002000
rom1	512kB	0x082000
rom1	512kB	0x102000
rom3	512kB	0x182000
rom4	512kB	0x202000
rom5	512kB	0x282000
SPIFFS	1MB	0x300000
rom6 OTA	1MB	0x400000
rom7 OTA	1MB	0x500000
rom8 OTA	1MB	0x600000
rom9 OTA	1MB	0x700000



### INFRARED COMMUNICATION

The IR LED and receiver can be used to communicate over short distances. In the Gulasch Push Notifier ROM, this can be used to subscribe your Badge to additional notifications.

### SENSORS

- BNO055

This is not a single sensor, it's an encapsulated unit of 10 sensors. It contains a 3-axis accelerometer, gyroscope, e-compass and a temperature sensor.

- MQ3 Alkohole Sensor  
Sensor for measuring ethanol concentration in air. Not very accurate, but good enough to tell you whether you had enough tschunk ;) Also detects other flammable gases.

- Light Dependent Resistor  
Measures ambient light level.

### PCB USB CONNECTOR

The USB connector is used to program, charge and configure your Badge. Simply plug it into your laptop or wall charger to charge your Badge with 500mA. To reduce charging time, bridge the solder jumper. When programming your Badge, make sure the upper switch is in the correct position.