

CybAAAAAAAAAAAAA Badge by flocom

About

The badge features room for 120(+1) 5mm LEDs and should be used with self-blinking ones. This creates a cyber-y “supercomputer” look. My inspiration for this were some projects by Big Clive: <https://youtu.be/7f8jgvvJe-Q?si=K1YutMEGLPqai4x0>.

You can also extend the badge with you own daughterboard via a header that (very loosely) adheres to the SAO standard. Only using thru-hole components is a deliberate design choice that aims to make this project a bit less intimidating to soldering beginners.

Parts

Every CybAAAAAAAAAAAAA Badge comes as a kit including the following:

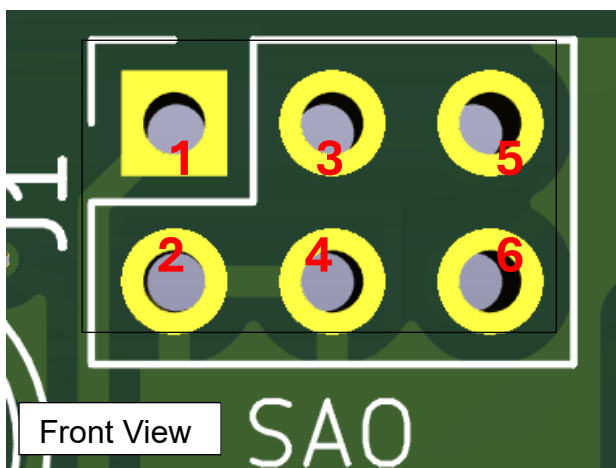
- The unpopulated circuit board
- 1x DIP Switch (SW1)
- 1x SAO Header (J1)
- 2x Battery Holders (BT1 and BT2)
- 2x Non-rechargeable Lithium Batteries
- Lanyard

If you decide to buy the kit with LEDs included, you also get:

- 121x Self-blinking LEDs in your color of choice
- 15x Resistor arrays (RN1-RN15) (Layout: 8 resistors, 1 common, SIP 2,54mm)
- 1x Small resistor for SAO LED-Mode

SAO Header

The Shitty Add-On (SAO) header can be used in two ways on the badge.



1) “SAO Mode”

This is the default. Use it, if you want to connect a daughterboard to your badge. Pin 1 acts as a 3V supply (switched by SW1), Pins 2 and 4 are GND. The remaining pins are not connected, but pins 3 and 5 are bridged together.

2) “LED Mode”

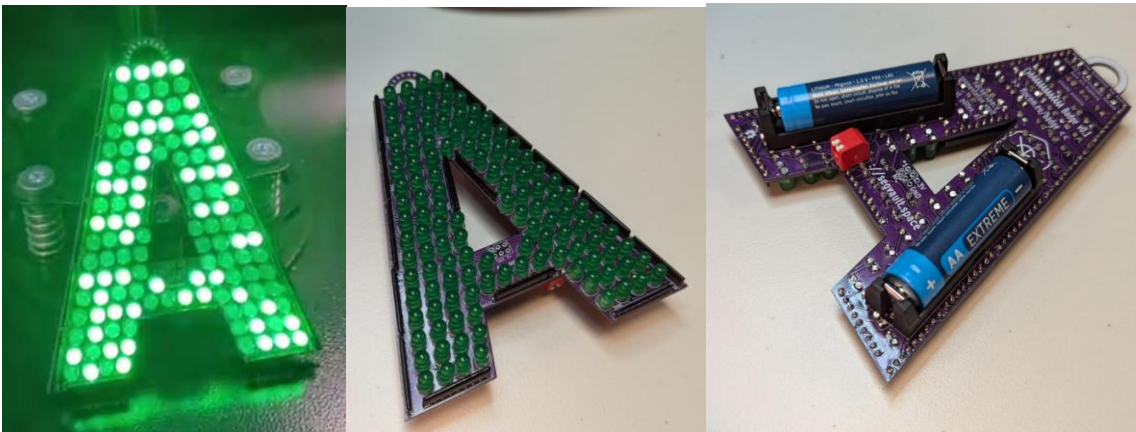
If you don't want to use an add-on, you can populate the board with an additional LED instead. Bridge the solder jumper JP1 on the back of the board. Place an

appropriately sized resistor between pins 5 and 6. Place the LED between pins 3 and 4. Pin 3 is the anode (+) of the LED.

Build Guide

1. Solder all resistor arrays. RN1 thru RN15. The common side of the arrays (usually marked with a dot) needs to be in the square pad.
2. Solder all LEDs. Mind the orientation. The cathode (-) of your LED usually has a shorter leg and should be placed in the square pad.
Attention: One LED is marked with “SW1 1st”. Before soldering this LED, you should solder SW1 on the backside, so you can reach the solder pads more easily. Cut legs of the LED soldered on front side (opposite of SW1) as flush as possible, so the switch fits nicely.
3. Choose if you want to use the SAO header in “SAO Mode” or “LED Mode”.
 - a. SAO Mode: Solder the SAO header to the front of the board in position J1.
 - b. LED Mode: Follow the instructions in the SAO Header section.
4. Last, the fun part. Cut all LED legs as flush as possible. Place the battery holders BT1 and BT2 in the correct orientation. There is an alignment hole in the board that should prevent you from having them backwards (if you use the genuine Keystone 1015 parts). Solder the terminals from the front side of the board, between the LEDs. Use smallest tip for your soldering iron. Be patient. Luckily LEDs are usually quite heat resistant.
5. Turn on the board via the dip switch SW1.

Some pictures:



This is infosheet v0.2