BSides Tampa 2023 Electronic Badge Instructions

If you picked up a badge kit at Tamp Bsides, your kit will come with 5 components. If you did not pick up a badge kit at the con, the parts can be easily purchased at the links provided. In addition to these parts, you will need a soldering iron, some solder, and a wire cutter.

Any soldering iron will do, but if you don't have one I would highly suggest considering the Pinecil from Pine64. It can be purchased directly through Pine64, however in my personal experience, the shipping can take a very long time. Checking something like Amazon first may be a wise decision if you're impatient when it comes to new projects like I am.

Quantity	Part	Order Link
2	3mm LED*	https://www.digikey.com/en/products/detail/sparkfun-electronics/COM-11448/5673782
1	switch	https://www.digikey.com/en/products/detail/te-connectivity-alcoswitch-switches/1825232-1/4021554
1	battery holder	https://www.digikey.com/en/products/detail/adam-tech/BH-25C-1/13537703
1	2032 battery	https://www.digikey.com/en/products/detail/duracell-industrial-operations-inc/2032/13280369

*NOTE: Any 3mm LEDs will technically work for the eyes. The recommended LEDs will cycle through the colors of the rainbow.

To prepare your soldering iron, first heat it to around 400°C. Once the iron is nice and hot, carefully touch your solder to the tip of the iron to evenly distribute some solder onto the tip. This is what's known as tinning the tip; it will help with the heat transfer to your components and protect your soldering iron.

Once you have all of your components laid out and your iron is ready, you can begin to solder your badge. It will likely be easiest to start on the back side first with the switch. Simply push the pins of the switch through the back side of the badge so the pins come out the front of the PCB. Hold the heated iron to the joint created by base of the first pin and the PCB for a second or two to heat it up, then gently touch the solder to the joint and allow solder to flow evenly. Do not touch the solder to the soldering iron tip itself; the joint should be hot enough to melt the solder on its own.

Repeat this for the other two pins on the switch as well as the two guide posts, then push the battery holder into the back, ensuring the side with the square protrusion is on the positive side facing the center of the badge. Solder the pins coming out the front in the same manner as before.

With the battery holder and the switch in place, now the LEDs can be added. For each LED, one leg will be slightly longer than the other; this is the anode, or positive, end of the LED. The positive hole is marked with a + on the back of the badge. Once the orientation of the LEDs has been confirmed, bend the legs out slightly to keep the LEDs in place while you solder, and solder the joints. The excess can be trimmed off with wire cutters once the LEDs are soldered in place.

Now your badge is done! Install the battery and flip the switch to enjoy your new masterpiece!