Experiment 8

Introduction to Soldering

Introduction

In this lab, you will be working **individually.** This lab introduces you to basic soldering techniques. Because there is some safety and technical training involved, you are required to attend a lab session to start work on your soldering project. After that, you may come in on your own time to finish up your project if needed, provided you agree to follow correct safety procedures.

Equipment

Velleman soldering kit of your choice

Hakko soldering iron

Rosic core solder

Wire stripper/cutter

Desoldering wick

Third hand PCB clamp

Bending tools (pliers, x-mas tree)

Safety glasses

Flux

Multimeter

Water squeeze bottle

Procedure

1. Pick a Velleman soldering kit from the options provided you in lab.
2. Pull out the instructions manual of your kit and take a moment to ensure all the parts are included. You can also find the instructions online at [www.velleman.eu](http://www.velleman.eu), by searching for your kit part number.
3. Follow along and participate in the in-class lab training.
4. Begin on your soldering kit when instructed to do so, following the step-by-step instructions for your kit.
5. Once completed, demonstrate your soldering skills and functional gadget to a labbie or instructor and get it signed off on the form below.
6. Clean up after yourself.
7. Write up a lab report (LaTEX not required for this one) that includes the following sections:
   1. Introduction
      1. Purpose of lab
      2. Description of what your gadget is supposed to do
   2. Procedure. Provide a general methodology for soldering a pcb (in list format), as if you were training someone else to solder. Include some safety tips, clever techniques, etc. that you picked up from your own experience.
   3. Results
      1. Does your gadget work? If not, why not?
      2. Schematic description. Take a look at the schematic of your gadget (provided in the instructions manual) and “reverse engineer” how it works. You may need to look up part numbers of components online and understand what each component does.
   4. Conclusions
      1. What did you learn from this lab (include new things learned, and mistakes you learned from)?
      2. What would you do differently next time?
      3. Any additional feedback on this lab?
   5. Sign-off Sheet

Fall 17 ELEC240

Lab 8 – Introduction to Soldering

Lab 8 Sign Off Sheet

Get signatures from a labbie/instructor as you work on the following items, and turn in this sheet along with your lab report.

1. Show a labbie how safely you work ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Can you desolder an ugly solder joint? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Show off your PCB soldering masterpiece ­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Demo your gadget \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_