

# Team 9 SPRING 2016



Wentao Zou



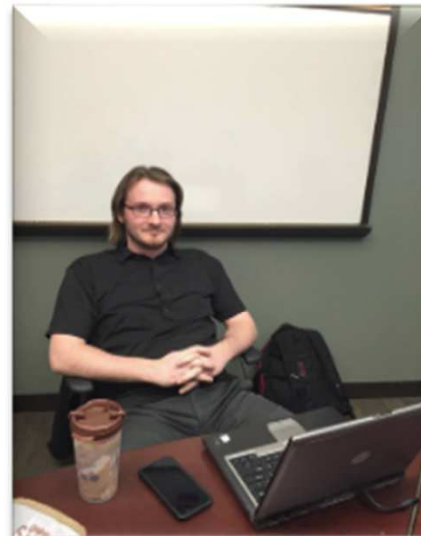
Yuhao Chen



Rui Ma



Yanning Li



Zoran Milosavljevic

# Reflow Soldering Oven

## Brief Overview

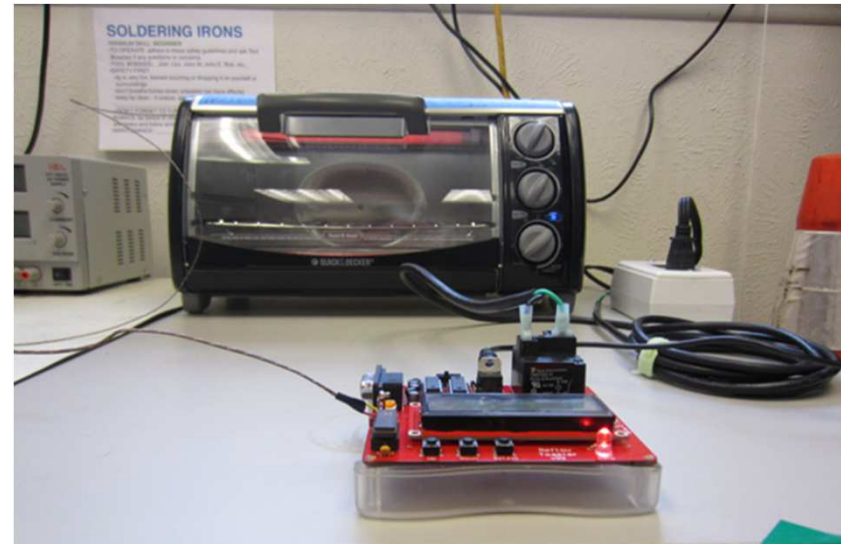
- A reflow oven for diy individuals and small businesses.
- Re-purposing a toaster oven with our own controller and heat insulation.
- The reflow oven would be capable of reflowing small to medium sized pcb's with either a leaded or lead-free temperature profile.

## What is it?

A reflow oven for small volume production by diy individuals or small businesses.

## Why would I be interested?

A reflow oven of this quality and capability is only \$200 - \$300. This is a very reasonable price for a diy electronics enthusiast and very reasonable for small businesses. There are many benefits to using surface mount components in electrical design, and the ability to reflow for such a low price is very beneficial.



# EE-595

## Key Requirements

- **Cost**

- Sales Price: \$200-\$300
- Component Cost: \$75
- Assembly & Test Costs: \$20

- **Environment**

- Indoor or outdoor use with roof enclosure. Device will not be waterproof.
- Operating Temp Range: -30°C - 50°C
- Operating Humidity Range: 0 - 100

- **Power Input(s)**

- Residential AC Power: 102 - 132 VAC @ 7 Amps Max
- Battery Power: Qty 1, 3.7 Volts, 15 mAmps (for RTC)

- **Major Functions, Quantities Measured, Displayed**

- Temperature Accuracy: 25°C - 260°C, +/- 5°C within profile
- Temperature Reading Accuracy: 25°C - 260°C, +/- 4°C of actual temperature
- Operating Frequency: 57Hz - 63Hz
- Operating Voltage: 102VAC - 132VAC
- Operating Current: 6Amps - 8Amps
- Operating Altitude Range: -50 meters - 3000 meters

# Block Diagram

