Team 9
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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