



Canary Connect (Home Internet Security Camera)

Canary is a home IP camera, with some air quality and automatic arming/disarming features. The designers are known for attention to detail, and have published blog posts about various aspects of the camera design.

Written By: Bryce Nesbitt



INTRODUCTION

Canary is not so easy to disassemble. But fiddle with the rubber foot until it pops off, and you're on your way...

TOOLS:

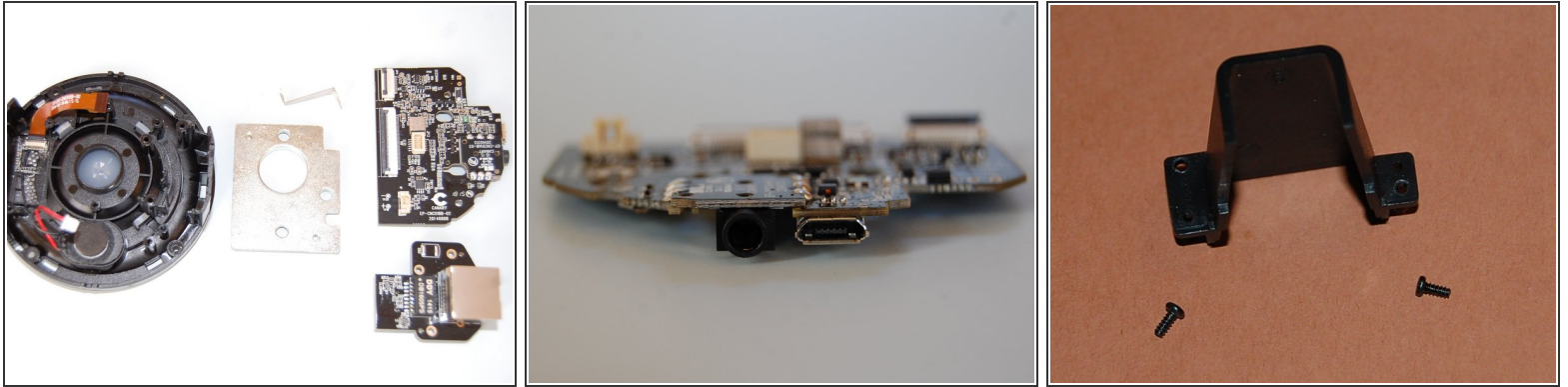
- [Essential Electronics Toolkit \(1\)](#)
-

Step 1 — Cracking Open the Case



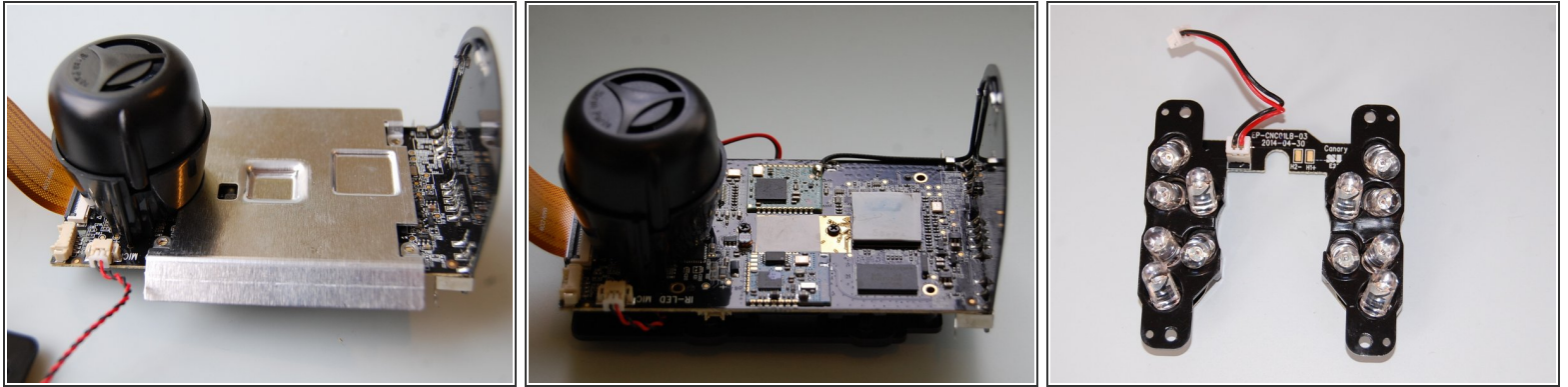
- The key to cracking open Canary is in the base. First pop off the rubber foot, and remove four screws.
- Canary uses multiple screw types. If you ever hope to get it back together, consider a screw management system (here plastic bags for each section of the disassembly).
- Once you get the base off, you'll need to peel off the front plate (held on with double sticky tape).

Step 2 — Dissecting the Base



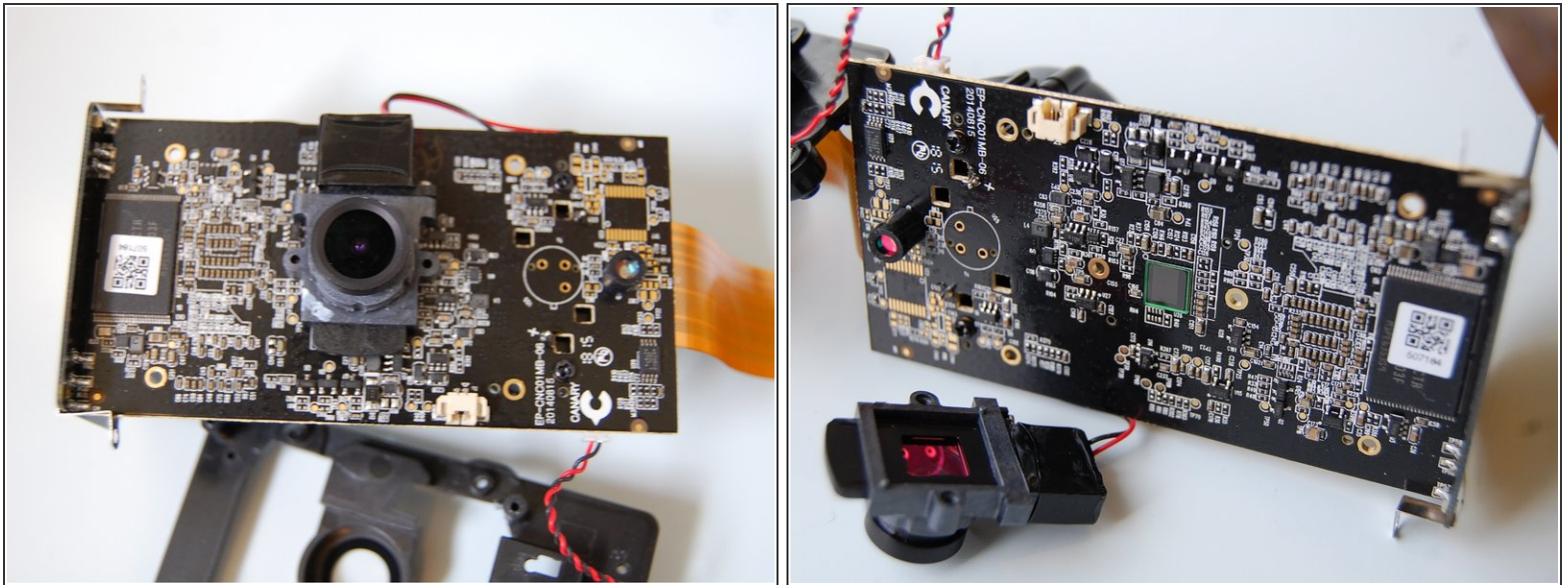
- The base does not do all that much. It holds Ethernet, audio jack, and USB power plugs, along with a steel plate for heft.
- Note the attention to detail: there's a second PCB board for no apparent purpose other than making the audio jack line up with the USB jack. That's obsession!
- The little chimney is, in fact, a chimney. The idea is that hot air from the electronics rises, drawing room air. This is an older approach (see grated US patent <http://patents.justia.com/patent/6347747>).

Step 3 — Heat Sinks



- The inside is dominated by an aluminum plate with dimples for the Ambarella A5S CPU and the back of the image sensor. The heat sink presses against the outer case, through a squishy thermal interface material (TIM).
- The huge round thing is a buzzer. The round PCB board hosts the 2.4Ghz WiFi and bluetooth antennas (there is no 5Ghz).
- The infrared LED board sports a plastic frame to aim each LED separately.

Step 4 — What's Behind the Lens?



- Canary achieves its flat lens front with an extra sheet of glass that's not optically active. Buried inside is a conventionally shaped M12 security lens.
- A switchable IR blocking filter is included for day/night mode. This blocks IR light during the day, but switches to be transparent at night.
- The lens holder is unremarkable. Components are placed within the light chamber to allow the back to support the heat sink.
- Note the empty holes for... some sort of sensor, not stuffed. Maybe air quality?
- That's it. I hope you've enjoyed this tour into the insides of Canary.