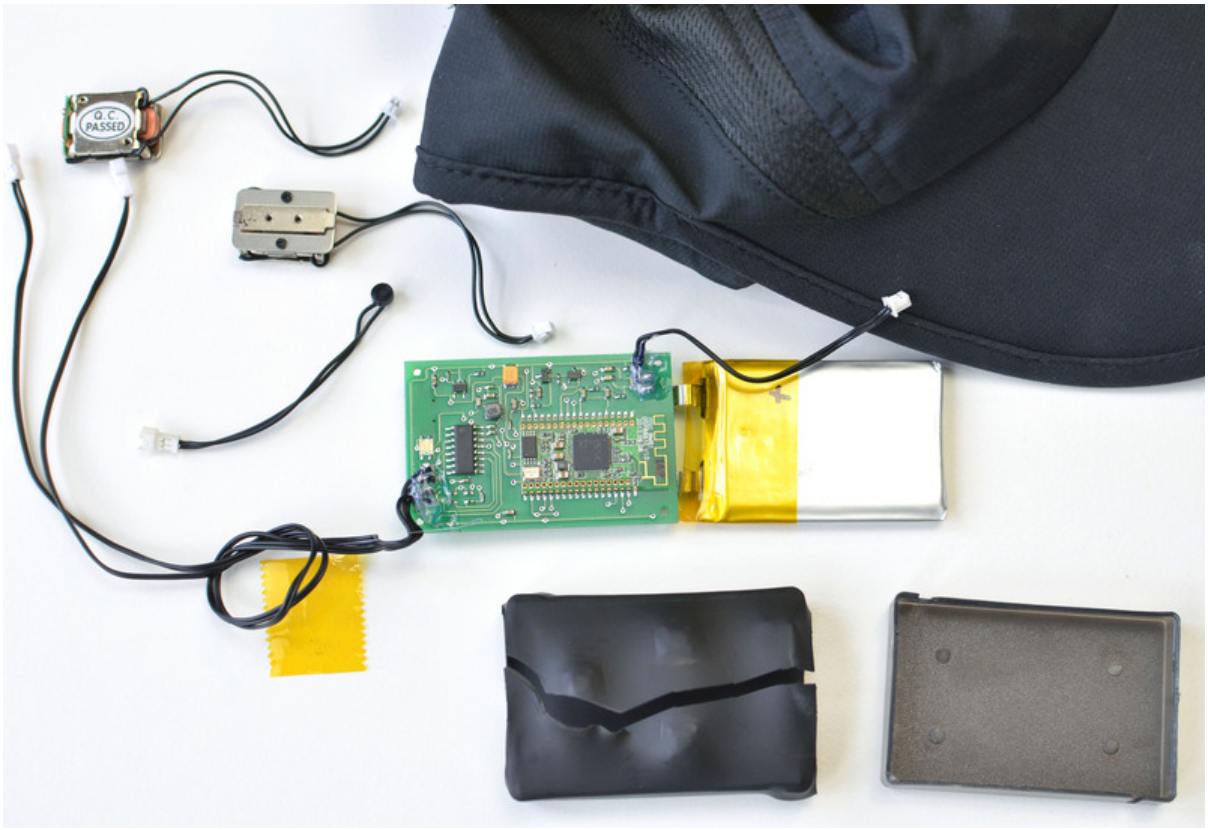
Cynaps Bone Conduction Headset Teardown

Created by Becky Stern



https://learn.adafruit.com/cynaps-bone-conduction-headset-teardown

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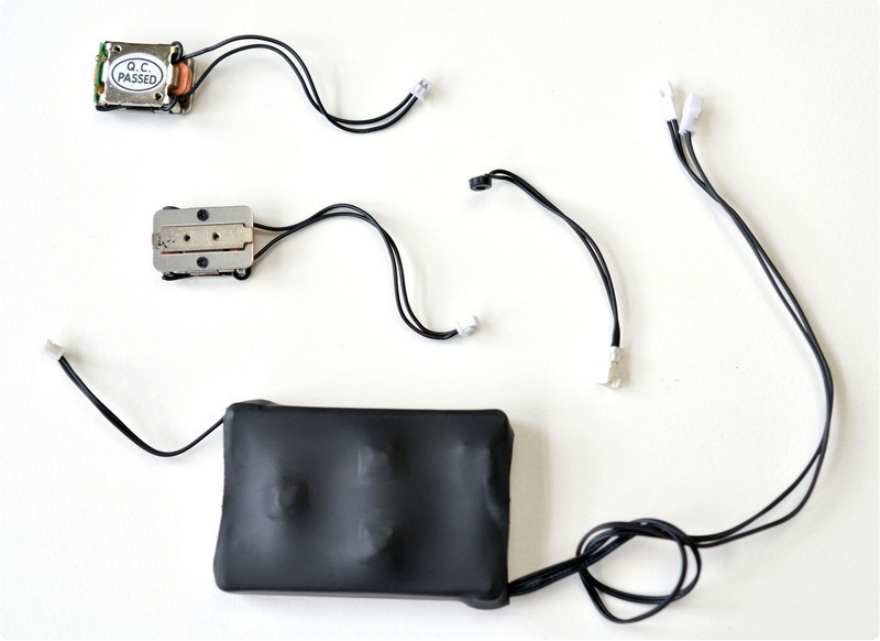
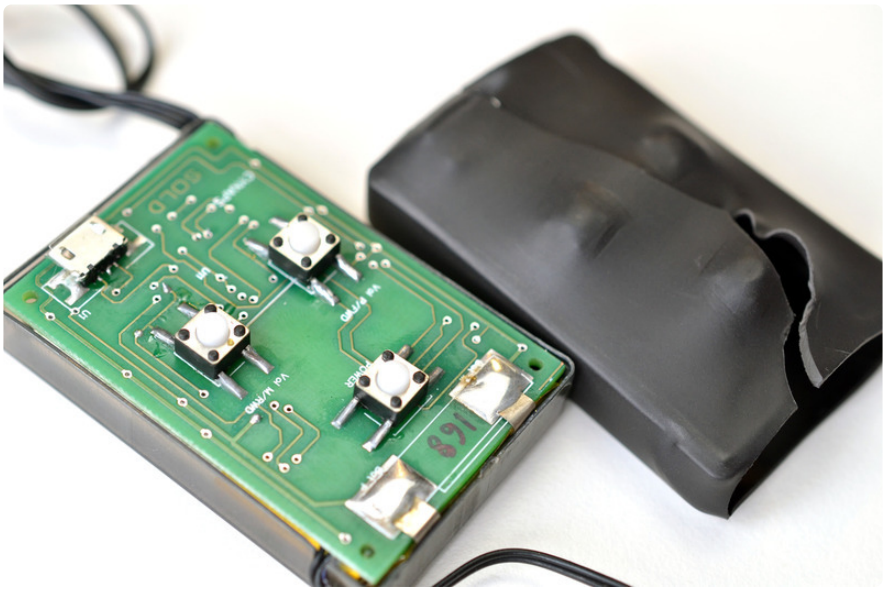
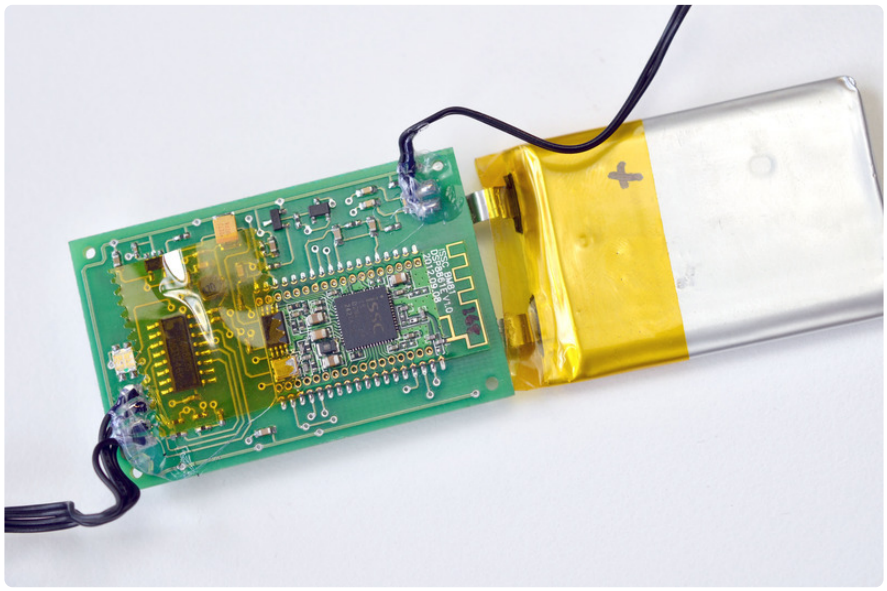
The Cynaps bluetooth headset (https://adafru.it/cuP) us a hands- and ears-free audio playback device built into a baseball cap. It uses bone conduction speakers to vibrate your skull to transmit vibrations to your inner ear. It basically uses your head as the cavity of a speaker! We opened one up to see what's inside.



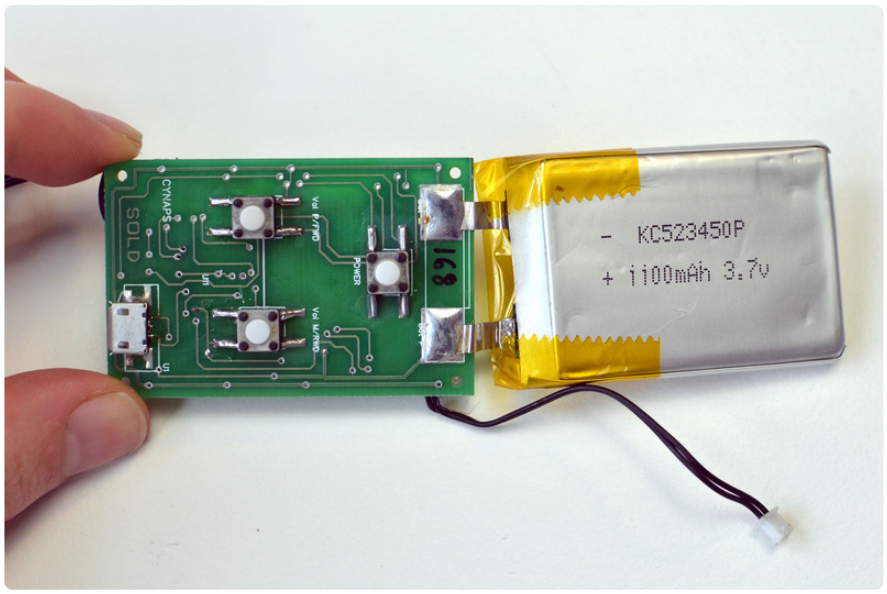
The two bone conduction speakers sit in the band of the hat, and have wires terminated in connectors that mate with corresponding wires going into the main electronics module, which is housed in the brim of the hat. There is also a small microphone in the brim for taking phone calls.



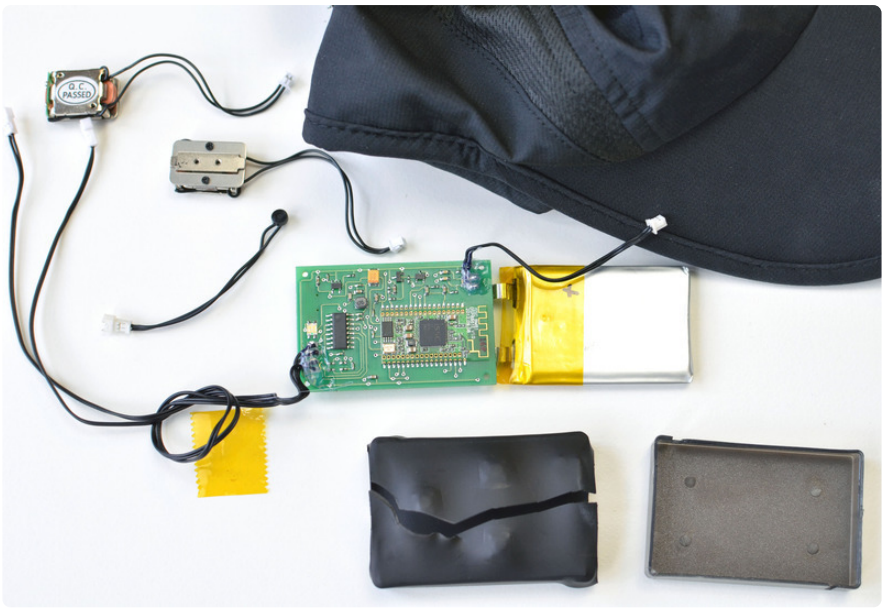
The circuit is protected by a small plastic box on one side and a large piece of heat shrink tubing over the whole unit. The buttons can still be pressed through the heat shrink and hat brim fabric.



The main board has a beefy lipoly battery connected to some protection circuitry. On board is basic ISSC bluetooth headset module and an amplifier chip to power the bone speakers.



The other side of the board houses the hand-soldered buttons and micro USB connector (for charging)



The device is fairly simple, yet interesting to use! After removing the device from the hat, we couldn't help but experiment with other headbands and bandanas, and look forward to making a bone conduction speaker project soon!