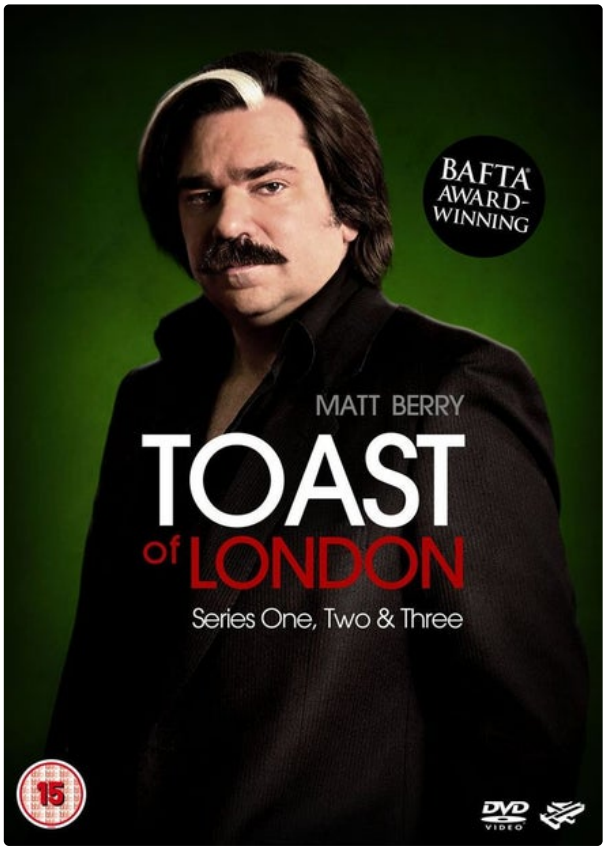
Toast Talker

by rabbitcreek

This Instructable started as my great interest in the TV show **Toast of London.** The British Matt Berry comedy that can now be found on Netflix has some superb voice overs that I wanted to accommodate in my morning toaster routine. In a running joke, he was required to make recordings for the British Navy for their launching sequence of Nuclear Missiles, Jamaican cigarettes, and the word "**YES!".** If you tire of the included MP3 audio and wish instead to be greeted by song and dance numbers, Seinfeld quips, the countdown sequence for the original moon launch or ASMR buttery toast scraping noises you know where to get them.

The tiny toaster that is velcro attached to the front of your real toaster has a capacity of about a minute of recording. A limit switch inside that is activated when the toaster handle is pushed down starts up the recording and will terminate when the recording is done. A lipopoly battery keeps the whole thing going and is recharged through a micro usb port sticking up through the other toast slot. Changing your tune is done by plugging it into a computer and adding or subtracting WAV or MP3 files. The whole thing is done up on your 3D printer in a couple hours and the electronics inside are already built and only require attaching a battery and a switch. It is a very easy and fun project to do and particularly good for a kids project over the summer holiday.



https://youtu.be/9jhreDmp_GM

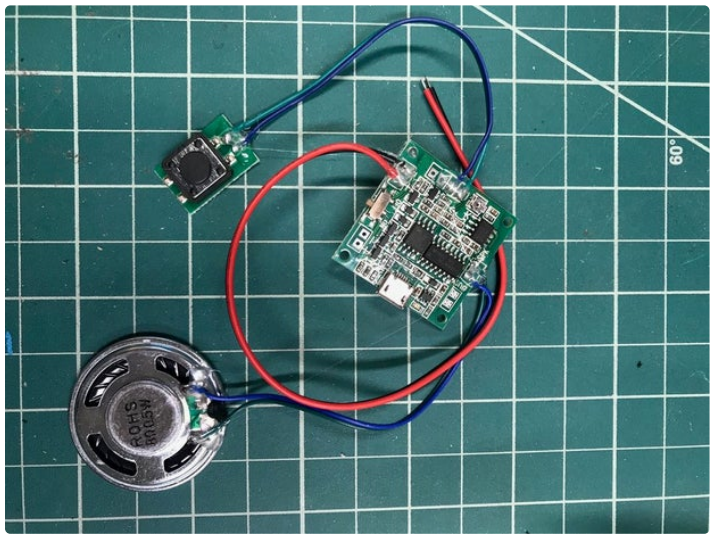
Step 1: Gather Your Materials

There is really very little to building this thing. The Icstation Sound Module is a nice unit that seems to work well. (I receive no free endorsements or money from any products.) On checking the power control I found that it draws no mA when the song is completed so the battery should last a very long time. It states that it is not compatible with iOS but I had no trouble downloading mp3 files to it from my Mac. Make sure you strip out the Chinese opera that's included as a demo -- not good with toast. The microUSB when plugged into your computer shows up like a drive so just drop it in. Leave the on/off switch to on position. There is a volume adjustment but it is plenty loud.

1. Antrader KW4-3Z-3 Micro Switch KW4 Limit $1.00

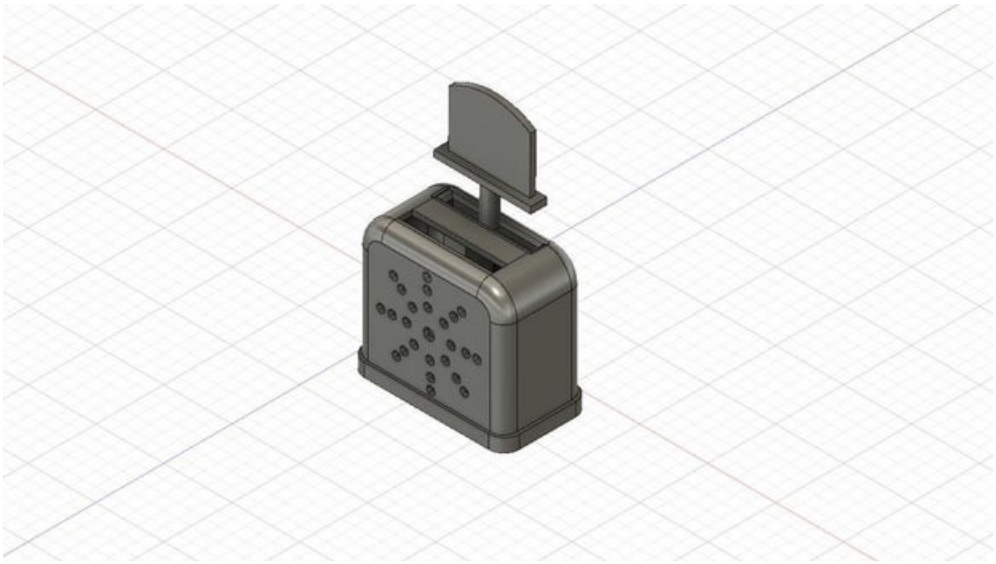
2. Icstation Recordable Sound Module Button Control 8M MP3 WAV Music Voice Player Programmable Board with Speaker $10.00

3. uxcell Power Supply DC 3.7V 650mAh 652540 Li-ion Rechargeable Lithium Polymer Li-Po Battery $6.00



Step 2: 3D Print It

There are four stl files I have included. The toaster was designed in Fusion360 and sliced with Cura. The box of the toaster takes about 3 hours to print but the other three are less than an hour. The holes in the toaster body have to be punched out and you might need some touch up work on the slots. The toaster was sanded with fine grit sandpaper and then painted with gloss enamel. All files were printed with support in PLA.



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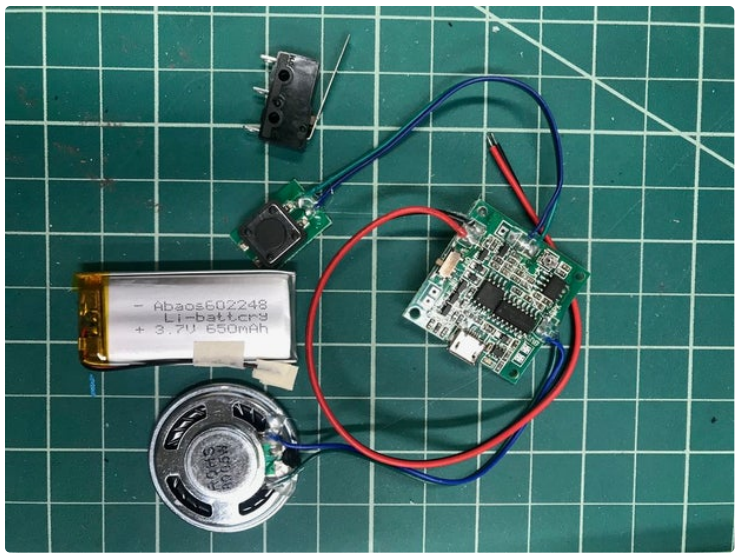
Step 3: Wire It

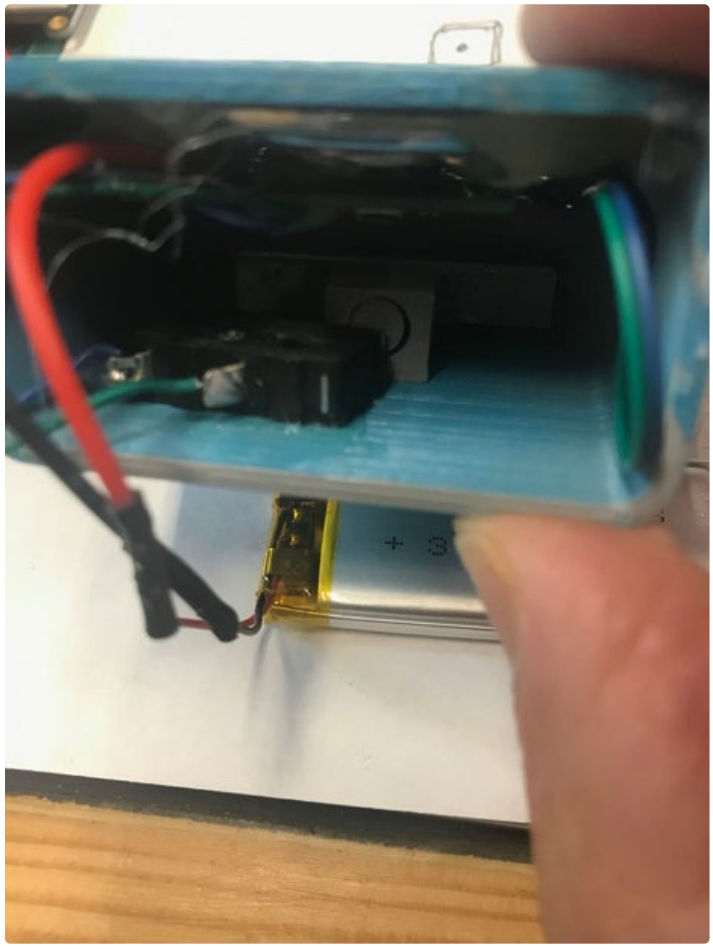
The player unit is mostly wired up but you need to make a couple of changes. The pushbutton that is included with the uint must be exchanged for the limit switch. Cut the pushbutton off leaving the wires long and strip them again. The limit switch has three connections on it. Connect one wire from the button to the common and the other wire to the tab marked NO (normally open). The other tab can be ignored.

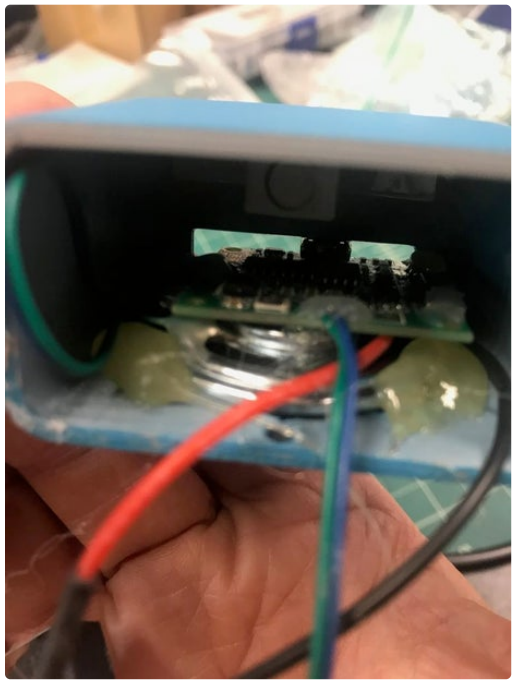
The 3.7 v lipoPoly battery that you bought has to be connected to the "3.7V" pair of pads on the board. They are clearly marked + -. The long wires that are included on the board go to the other power opening pads that require 5V and should be ignored and cut off. That's it for the wiring if your new to soldering there are a lot of tutorials on the web.



Step 4: Build It

Really simple build. The bread on a stick is slipped into the smaller of the two slots from the inside with the toast going out the slot. The square collar with a hole in it is placed over the stick part and glued into position so that when the bread is fully in the slot the collar just comes to the end of the stick. You want the toast slice to come down from its high position and protrude out the bottom of the collar when pushed. Make sure this tube/collar movement is smooth before gluing --this may require some sanding of edges. Only the bottom surface of the collar is glued to the toaster body. Use Loctite Gel Super glue -- works great. Do not accidentally glue the stick in the hole. When it is solid, glue the body of the limit switch so that the arm is engaged by the toast rod when it is pushed down. The limit arm should just abut the rod in its fully withdrawn (up) position. This sounds harder than it is and becomes obvious when you are building it. The rest of the electrical components are then sandwiched in. The speaker is hot glued to the inside of the case along its metal frame. The PCB board is then directed so that the microUSB port sticks out of the larger slot in the center. Hot glue is placed to glue it into position on the speakers back. The lipobattery is than placed at the bottom and the base is glued on with superglue.






GBM1824
650MAH
3.7V

Step 5: Using It

Charging of the battery is done through the microUSB port at the top along with loading new songs although the spectrum of "YES" is truly amazing and I will never tire of it. Every toaster is different and the same so you may have to do some modifications depending on how they are fitting. The push handle on mine had an angled slope to it so I eliminated it with a small amount of polymorph--making for a better flat bottom side. The travel for the toast slice to activate is small so you want to attach it at the very bottom of its stroke. I attached mine with two pieces of velcro which enabled for the fiddly final adjustment and depending on your mood in the morning makes for easy detachment when you want to throw the thing at the wall.

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Didn't know they already existed in the future!