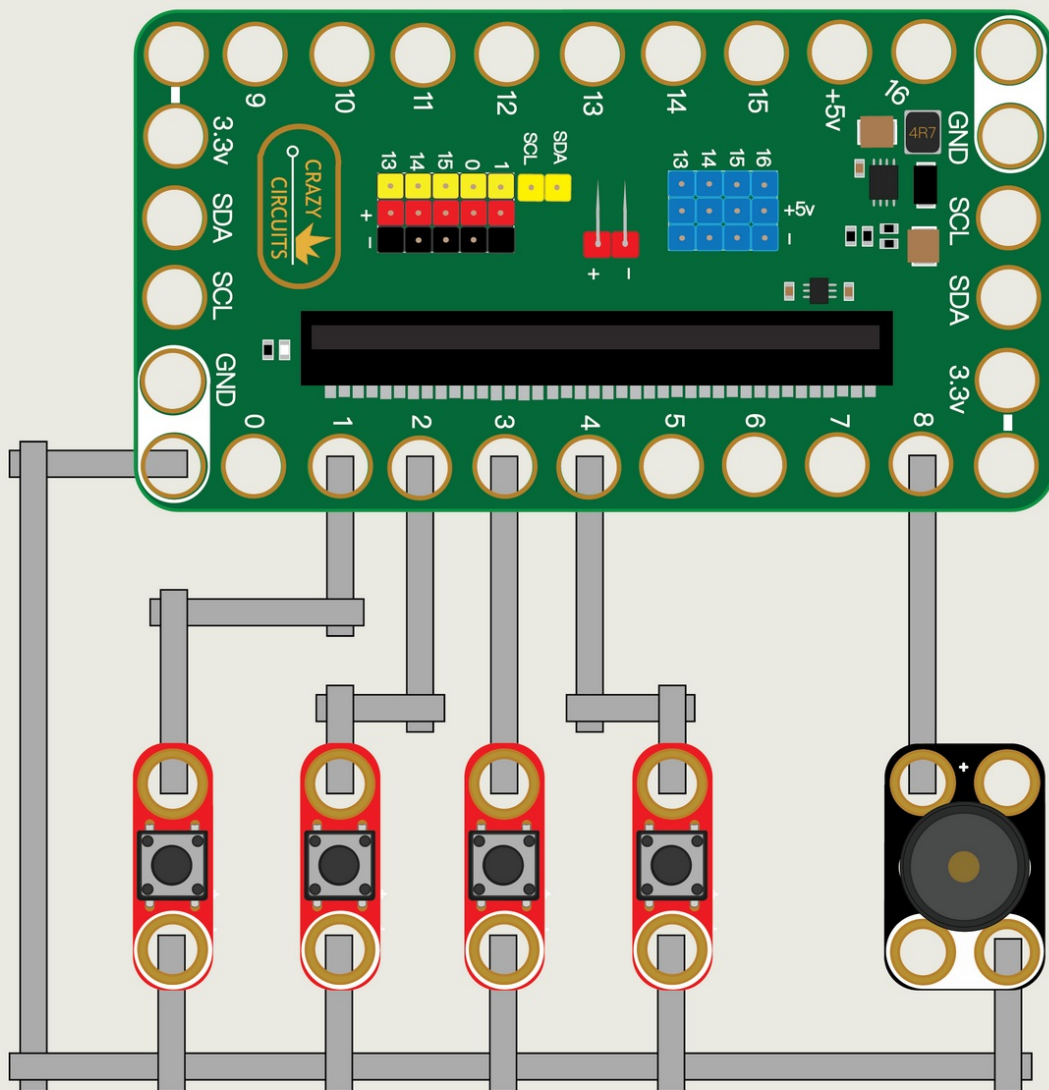




CH15-D - Piezo Siren Function

Connect four pushbuttons to a Bit Board and control a Piezo with code.

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INTRODUCTION

Connect four Pushbuttons to a Bit Board and control a Piezo with code.

We'll explore how we can make sounds using a piezo speaker with four buttons.



TOOLS:

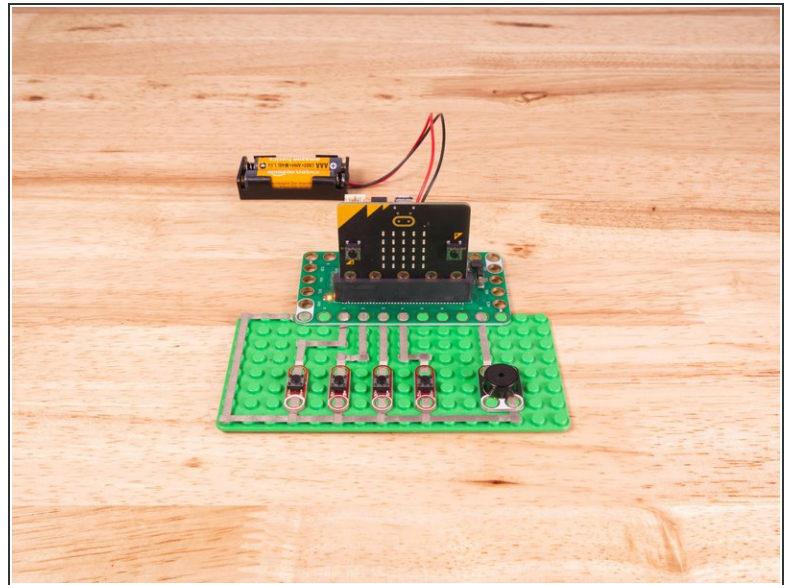
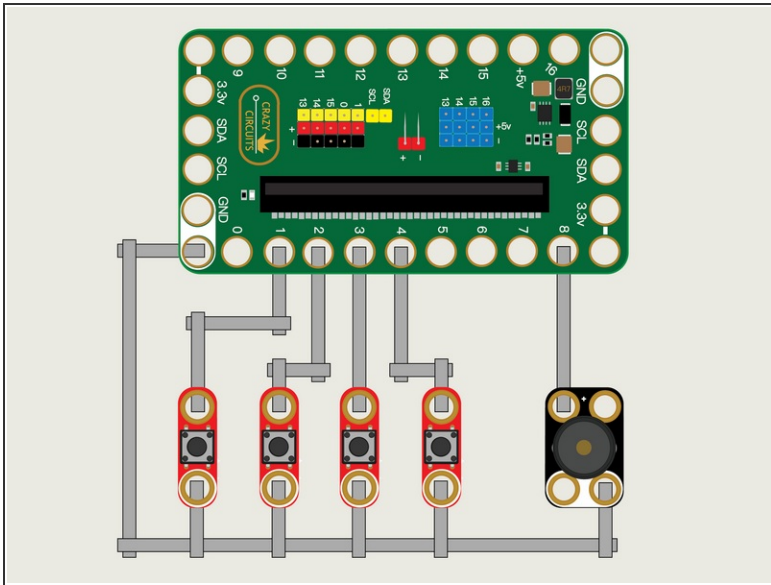
- [Computer](#) (1)
- [Scissors](#) (1)



PARTS:

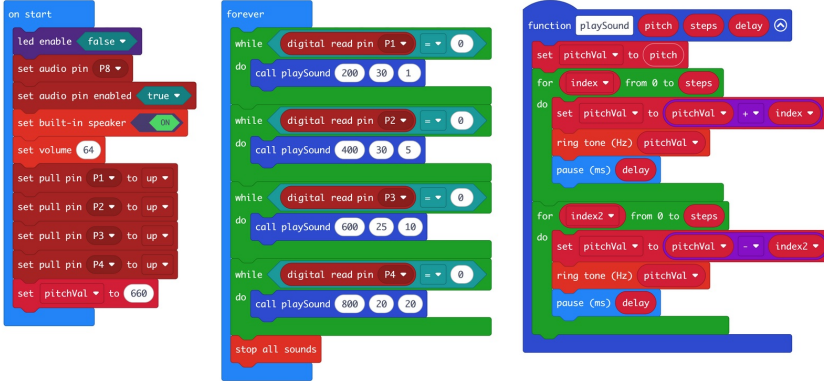
- [Crazy Circuits Bit Board](#) (1)
- [micro:bit](#) (1)
- [Maker Tape](#) (1)
1/8" Wide
- [Crazy Circuits Piezo Speaker Chip](#) (1)
- [Standard Pushbutton Chip](#) (4)

Step 1 — Connect the Piezo and Buttons



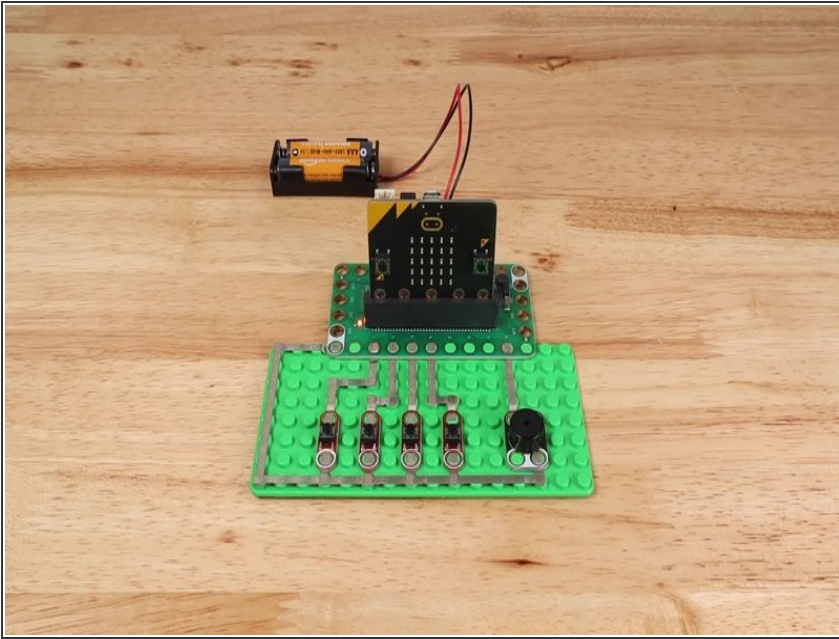
- We'll use **Maker Tape** to connect the four Buttons and the Piezo to the Bit Board on a LEGO baseplate.
- Connect **Buttons** to **Pin 1**, **Pin 2**, **Pin 3**, and **Pin 4**. Each will also connect to **Ground (GND)**.
- The Piezo will connect to **Pin 8** and to **Ground (GND)**.
- ☑ You'll notice the **Ground** on the Bit Board (as well as the Piezo, Buttons, and other Crazy Circuits components we'll use) is color coded **White**.

Step 2 — Load the Code



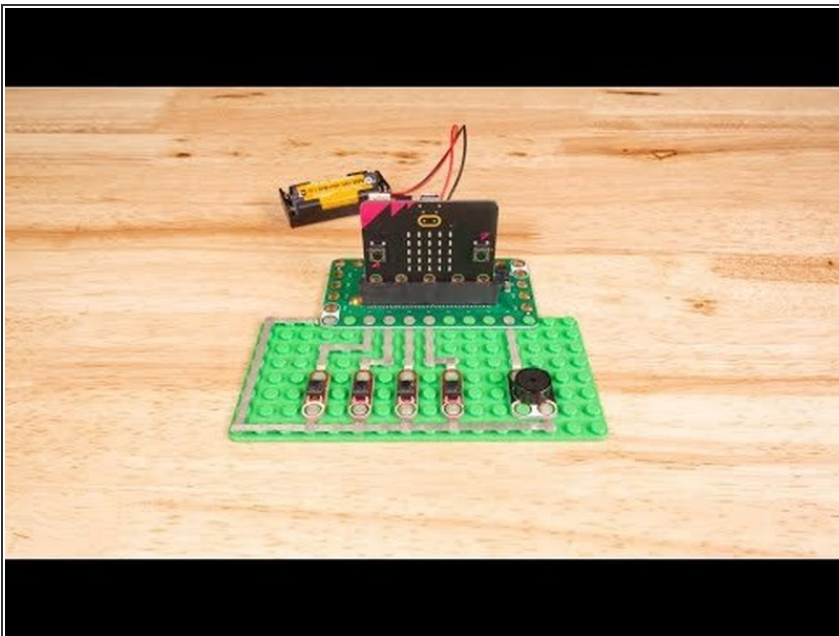
- If you've never used a micro:bit before you'll want to check out this guide: [Bit Board V2 Setup and Use](#)
- We're going to load the following code for our **Piezo Siren Function** program:
https://makecode.microbit.org/_gVL7LmV7j...
- ⚠ The micro:bit (since the release of version V2) has included a built-in piezo speaker on the back. You can use the built-in Piezo on a V2 micro:bit or connect a Crazy Circuits Piezo with Maker Tape as we've shown in this guide.
- We will still play a unique siren sound with each button press, but this time we'll use a function we can easily call with different parameters.
- Functions are a great way to make modular code and prevent having to use many blocks of code that are the same except for the values.

Step 3 — Test it Out!



- Once the code is loaded it should start running immediately.
- ① You can power the micro:bit via the USB cable you used to load the code or you can use a battery pack plugged into the Bit Board.
- Each button will play a different siren sound with slightly different parameters. (Thanks to our playSound function!)

Step 4 — Follow Along



- Follow along with our recorded Live Stream!
- ① You can watch the full video of us walking through this project, along with explaining and exploring the code:
<https://youtube.com/live/c5Dt9VZ0Rnk>