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Project 2 description

This interactive object functions as a very basic digital signal receiver / sender. The board has the ability to both receive and send digital midi signals. Using the touch pads in send mode allows a user to send unique midi signals through the serial port.

This object functions, but it should be noted that in order for it to function properly it needs to have a connection via USB to a functioning device that has some sort of DAW software running on it. The user themself (me) will have to configure the DAW software to send a midi signal out to the correct port, which is port 4. The playground express should show up, fully detected as “Circuit Playground Express” in the software’s MIDI input device settings and it should be enabled.

Designed as a continuation from project 1, the board will boot into receive mode. In this mode, the arduino will convert midi signals into short tones played from it’s speaker. The lights display a different color based on what note on the musical scale is being read.

The big new functionality to this project is send mode. Clicking the ‘left button’ will put the board into send mode. This allows you to use some of the touchpads to send midi-signals the other way through the serial port. The ‘right-button’ will force a note to play for testing purposes. The values sent from the touchpad can then be mapped to a drum machine, allowing someone to play these pads as if they were drums.

A product I already own that functions similarly has inspired me to create this project. This product has suddenly stopped working properly, so I’ve taken matters into my own hands by creating a similar type of interface while I wait to hear from customer support. This type of design allows an artist to quickly record a drum beat idea they may have, or simply experiment with their song without the need to manually program/draw in notes with a mouse and keyboard.