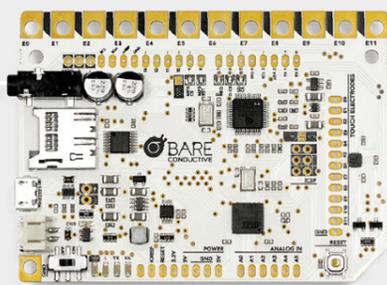


What is the difference?

TOUCH BOARD



MP3 PLAYER

- ▶ Plug and play out of the box
- ▶ No computer needed to start
- ▶ Can be programmed with the Arduino IDE
- ▶ Uses capacitive sensing
- ▶ Can detect touch and proximity
- ▶ On board MP3 playback from Micro SD card
- ▶ Installer works for every operating system

OUT OF THE BOX

Straight out of the box, the Touch Board acts as a touch-triggered MP3 player. It doesn't need to be connected to a computer to play sounds, when it arrives there is already an audio guide on the SD card that plays when you touch the electrodes. You don't need an internet connection or computer to get started.

HOW IT WORKS

The Touch Board uses capacitive sensing. This means you don't have to actually touch a sensor to send a signal to the board as it is detecting the change in the electrical field rather than connecting a circuit. The Touch Board requires no second connection this means you can use one hand to interact with the sensor while the other remains completely free! You can also trigger the Touch Board through other resistive materials such as glass and wood.

CODING

The Touch Board is compatible with the Arduino platform and you can program the chip on the board to do pretty much anything you want, whether it's touch, proximity, HID (mouse and keyboard), MIDI and much more. The Touch Board has been designed to work with a range of shields so you can add extra functions. Check out the Touch Board Shield Guide to learn more.

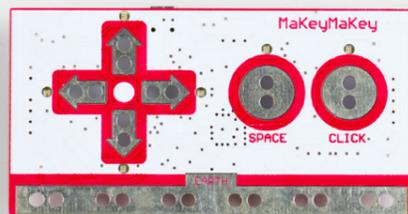
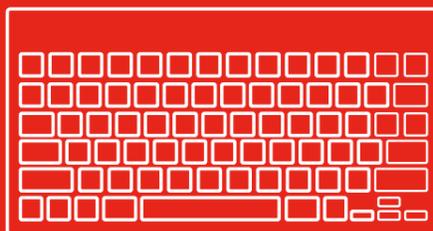
POWER

You can use a USB cable to power the Touch Board, or just plug in a LiPo battery. Your Touch Board can stand completely alone, or concealed in a project. The LiPo battery will charge when the board is plugged in via USB.

SENSORS

The Touch Board has 12 touch or proximity electrodes to play with. You can connect these to anything conductive, including Electric Paint, fruit, conductive thread, and so on.

MAKEY MAKEY



KEYBOARD

- + Is a keyboard or controller for a computer
- + Uses resistive sensing
- + Can detect touch only
- + Can be programmed with Arduino IDE

OUT OF THE BOX

When you plug in the Makey Makey to your computer, it is recognised as a keyboard and mouse combination. This means that websites or interfaces that work with these inputs can be controlled with your Makey Makey.

HOW IT WORKS

The Makey Makey works with resistive touch sensing. This means that your body forms a circuit between a sense electrode and ground. This board always requires two connections so one hand needs to be holding the grounding pad and the other on the electrode to trigger the Makey Makey.

CODING

It's compatible with the Arduino platform and you program the chip on the board to be a mouse or HID input. It is not compatible with other Arduino shields.

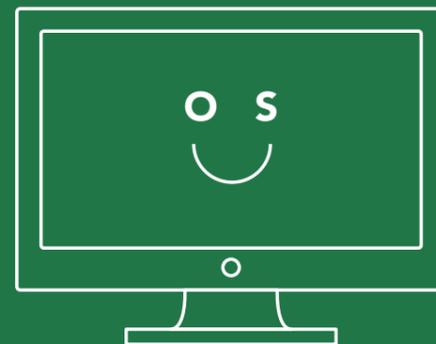
POWER

Power it through a USB cable from your computer. This means you need a direct computer connection to use it.

SENSORS

The Makey Makey has six touch-only electrodes to play with, which can also connect to anything conductive.

RASPBERRY Pi B+



COMPUTER

- Powerful credit card sized computer
- Connect to any screen to program
- All the connectivity you could expect from a full-sized computer
- NOOBS (New Out Of the Box Software) installs the relevant software to run the Raspberry Pi

OUT OF THE BOX

The Raspberry Pi needs an operating system to function out of the box, Raspbian (a version of Linux) is the suggested system. NOOBS makes it easy to install and get it setup, then you can start coding. The Pi is a computer in itself so you just need a screen to see what's going on 'inside'.

HOW IT WORKS

The Raspberry Pi has no on board touch sensing, but there are various add-on boards (often referred to as 'hats') which can add this capability. The real power of the Pi is that it works much like a normal computer. So things like web access, media playback, adding USB devices are very easy.

CODING

You will need a screen to program the board and an operating system. Raspberry Pi works with any language which will compile for ARMv6 (Pi 1) or ARMv7 (Pi 2), so you are not limited to using a certain learning language. Python, C, C++, Java, Scratch, and Ruby all come installed by default on the Raspberry Pi, which you can then run by using the installer NOOBS.

POWER

The device is powered by a 5V micro USB supply. The current you need depends on what you connect to it. Raspberry Pi suggests purchasing a 1.2A (1200mA) power supply.

SENSORS

Breakout boards are an easy way to add capacitive sensing features to the board. You could also grab a Sense Hat which responds to pressure, humidity, temperature and orientation.