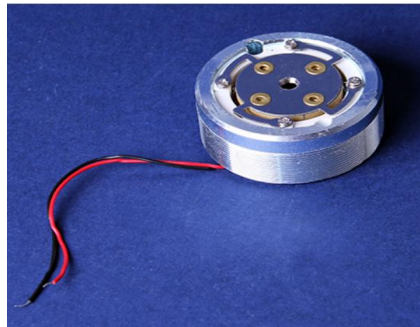# ARDUINO SENSOR SURFACE TRANSDUCER LARGE
User Manual

Introduction:

Turn any surface/wall/table etc into a speaker with a surface transducer. This type of speaker does not have a moving cone like most speakers you've seen. Instead, a metal rod is wrapped with the voice coil. When current is pulsed through the coil, the magnetic field causes a piece of metal to expand and contract - and if it's pressed against a surface it turns the transducer into a speaker!

Often these size transducers are pressed up against a flat surface to turn it into a sounding board. The effect is a surprisingly clear sound that comes from the surface itself. The body of the transducer is heavy so that it can be placed with the rubber top down on a table. And for another fun trick, put the transducer at the end of a large plastic cup to point sound in a particular direction.

This transducer is about 45mm in diameter and has 4Ω impedance and should be run at about 5W.
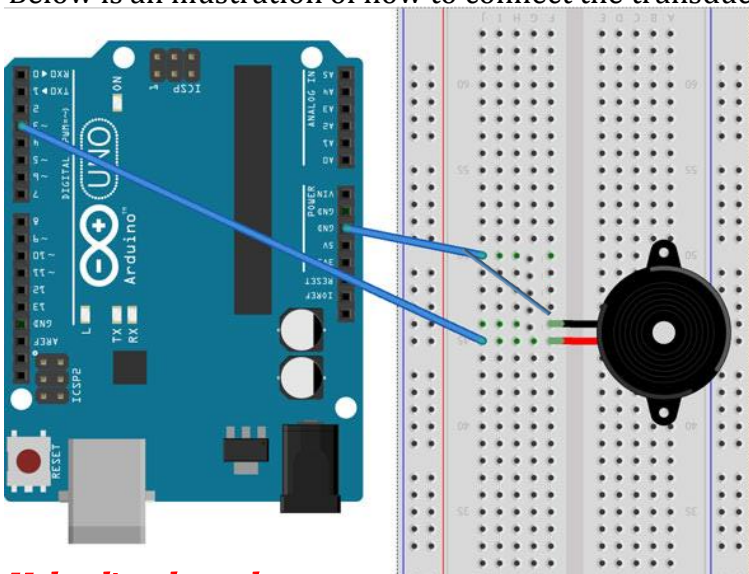How to use a Surface Transducer?

Surface transducer can be used as any ordinary speaker, with the positive pin (red) to carry data and power, and the Negative pin (black) that functions as a ground, the surface transducer can work perfectly as a regular piezo, buzzer, or speaker.

In this tutorial, we are gonna replace a piezo speaker with a surface transducer

Wring diagram:

Using an Arduino Uno
Below is an illustration of how to connect the transducer to an Arduino Uno.

Uploading the code:

The Code is pretty huge, to copy, just press ctrl+A, to select the whole code, then ctrl+C to copy it, and then place it onto Arduino IDE to play your Mario Bros tone on your surface Transducer

```
/*
  Arduino Mario Bros Tunes
  With Piezo Buzzer and PWM

  Connect the positive side of the
```