

# Using a Sparkfun Sound Detector

The Sound Detector is a board made by Sparkfun electronics that provides a way to detect ambient sound levels.

There are three connections on the board:

- **Audio** - This is the raw audio from the microphone.
- **Envelope** - This is an analog value representing the volume of the ambient sound.
- **Gate** - This is a digital value representing if sound levels are low or high.

## Wiring

There are two options for wiring, you can use both at the same time:

### Digital

Wired up in digital mode the sound detector signals if the sound level is low with a **LOW** signal, and high with a **HIGH** signal.

This method requires:

1. Power (VCC to 5V)
2. Ground (GND to GND)
3. Gate to a digital pin on the Arduino (turquoise wire in the diagram)

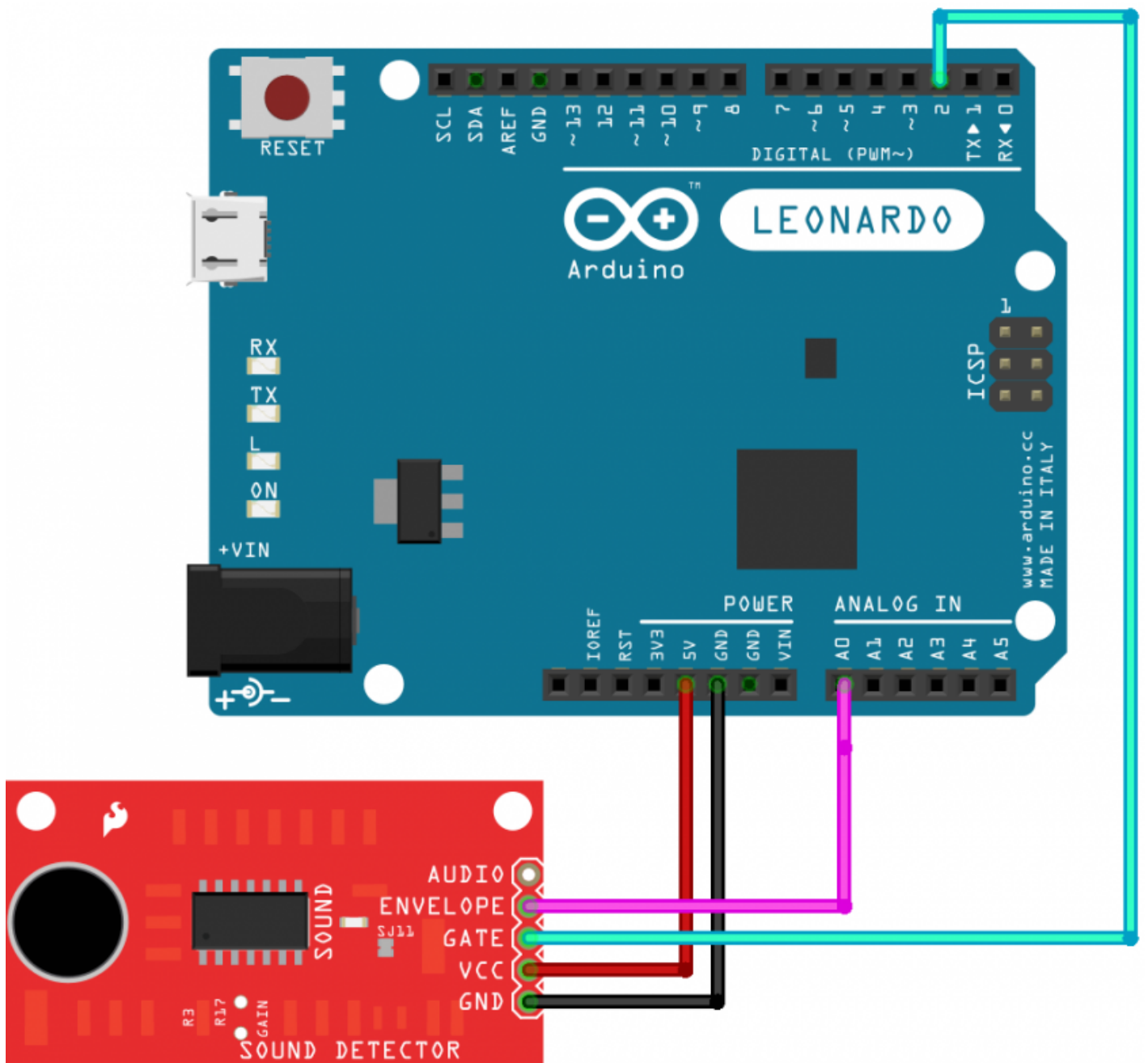
### Analog

Wired up in analog mode the sound detector provides voltage proportional to the sound level.

This method requires:

1. Power (VCC to 5V)
2. Ground (GND to GND)
3. Envelope to an analog pin on the Arduino (pink wire in the diagram) There are three wires:

## Diagram



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## Getting started

Once wired, the code is that of a standard `digitalRead` or `analogRead` to obtain the value.

## Example code reading envelope

```
#define envelopePin A0
```

```
void setup() {  
  Serial.begin( 9600 );
```

```
pinMode( envelopePin, INPUT );  
}  
  
void loop() {  
  Serial.println( analogRead( envelopePin ) );  
}
```

## Example code reading gate

```
#define gatePin 2  
  
void setup() {  
  Serial.begin( 9600 );  
  pinMode( gatePin, INPUT );  
}  
  
void loop() {  
  Serial.println( digitalRead( gatePin ) );  
}
```

## Resources

- [Sparkfun Hookup Guide](#)

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