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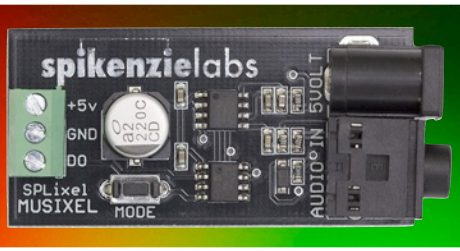
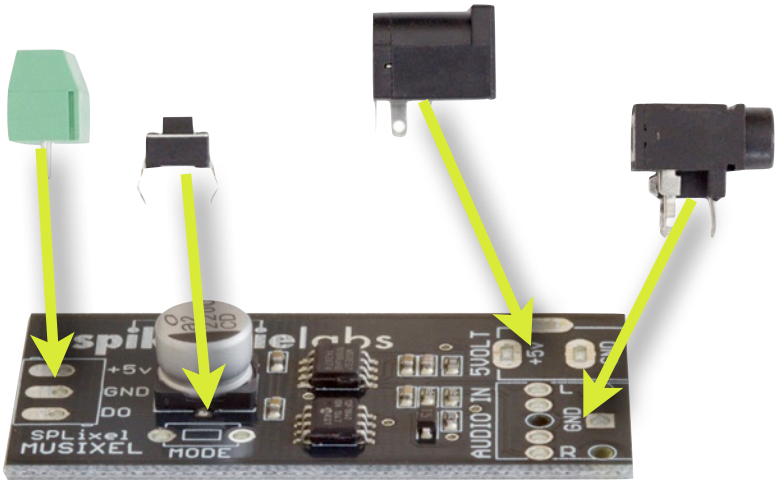
Musixel Build Guide



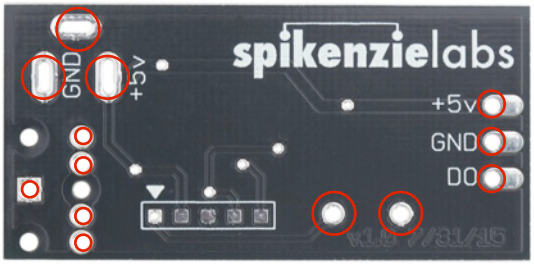
1



Place the parts onto the PCB. Make sure the openings point towards the outside of the board.

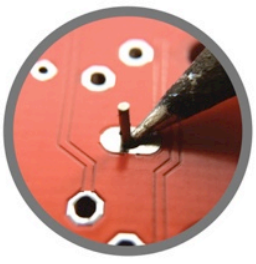
2

Solder the legs where the red circles indicate.
(Component legs not shown for clarity.)

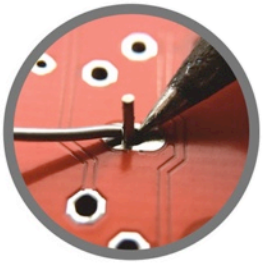


Quick soldering tips:

Prep: Allow your soldering iron to get hot. Melt a small amount of solder on the tip of the soldering iron, so that it is shiny and not globby.

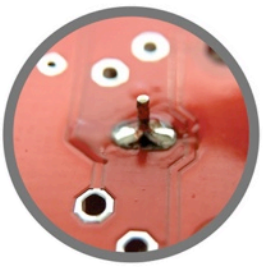


Touch iron to both pin and pad. Wait about 2 seconds.



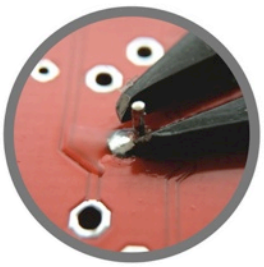
Touch solder to the pin and pad. (Not the iron) Solder should start to melt.

Allow solder to flow onto pin and pad. Remove solder. Count 2 seconds with the iron still touching.



Remove iron.

Note: Solder should be smooth and shiny.



Trim with flush cutters if needed.

WEAR SAFETY GLASSES!

Caution: Avoid breathing the fumes. Wash your hands before eating or drinking. Wear safety glasses. Clean up small pieces.

spikenzielabs.com Musixel Usage Guide

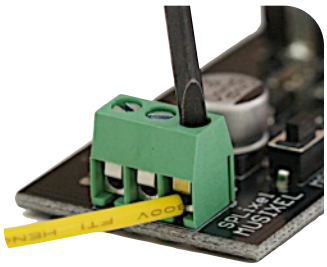
1 Connecting the LED strip

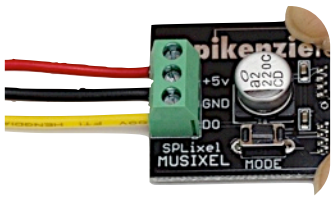
Loosen the screw terminals a little to allow the wires to slide in. ~ 3 turns

Place the **yellow** wire in the spot marked **DO**. (DO stands for data out to the LED strip.

Screw the wire down and repeat:

Red wire to the spot marked **+5v**
Black wire to the spot marked **GND**



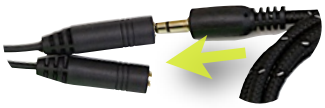


Once complete, your Musixel connections should look like this.

2 Connecting to your music

Using a combination of the included audio splitter wire, extension cable and your own headphones or powered speakers.

Plug the male end of the splitter to your audio source of choice.



Plug one end of the Male-Male extension wire into one of the female ends on the splitter.

Plug the other end of the M-M extension wire into the audio jack on the Musixel.

Plug your headphones or a set of powered speakers to the other female end of the the splitter.

3 Power up the Musixel

Plug the 5v AC adapter in to the wall outlet, then plug the AC adapter into the Musixel

The adapter that comes bundled with the Musixel will light up to 64 LEDs

Usage

1. Turn on the audio source, plug in the Musixel's AC adapter.
2. Turn on the powered speakers, or put on your headphones.
3. Adjust the volume of the audio source to produce the ideal amount of color and brightness.
4. If powered speakers are used, adjust their volume to the desired listening volume.
5. Optional: Press the MODE button to change the visual effects displayed by the Musixel. Each press brings the Musixel to the next mode. The current mode is indicated by the number of orange LEDs lit.

Don't place the Musixel on a conductive surface. Eg: Keys / Change / Metal table

Musixel Modes

The Standard Musixel Kit comes with a 16 LED (WS2812B) strip. Every Musixel comes pre-programmed with nine modes. Some modes are designed for 16 LEDs, and some for an optional strip of 64 LEDs. There are four modes [6-9] that are best viewed on a 8x8 matrix, with each strip starting on the same side. We encourage you to experiment and hack your own matrix. Send photos of your hacks to feedback@spikenzielabs.com

[Mode 1] **All On** -- In this mode all of the LEDs display the same color. The color is based on frequencies of the audio. Low tones are Reds at 63 to 160hz, Greens are 1000-2500hz and Blues (the highest notes) are 6250 to 16000hz. If there is more than one frequency being sensed at the same time, then a mix of colors will appear. The brightness of a color is based on the volume of the frequency being sensed. So, louder music will be brighter. Will work with any number of LEDs up to 64.

[Mode 2] **Confetti** -- In this mode the very first LED color is controlled by the audio. This color is then shifted down the LED strip as new frequencies are sensed at the first LED. Will work with any number of LEDs up to 64.

[Mode 3] **Color Graphic Equalizer (16 LEDs)** -- In this mode from 0 to 16 LEDs are lit depending on the volume of the music. The color is the same for all lit LEDs and this color is based on the interpretation of low notes as red, mid as green and high notes as blue.

[Mode 4] **Rainbow Graphic Equalizer (16 LEDs)** -- The colors light in a rainbow arrangement and the hight (from 0 to 16 LEDs) is based on the volume.

[Mode 5] **Traditional Graphic Equalizer (16 LEDs)** --The colors in this mode are based on a traditional style EQ level and the hight (from 0 to 16 LEDs) is based on the volume.

[Mode 6] **Rainbow Graphic Equalizer (64 LEDs)** -- This mode is designed for use with an optional 64 LED panel (or LED strips cut into sets of 8 and re-wired). Each set of 8 LEDs is assigned a single frequency of 63, 160, 400, 1000, 1750, 2500, 6250, 16000hz. As the LEDs light the panel will be filled with a rainbow pattern of colors. The height of each set of 8 LEDs is based on the volume of that frequency being sensed.

[Mode 7] **Basic Blue Graphic Equalizer (64 LEDs)** -- Similar to mode 6, but with a solid single color of blue.

[Mode 8] **Basic Red Graphic Equalizer (64 LEDs)** -- Similar to mode 6, but with a solid single color of red.

[Mode 9] **Basic Green Graphic Equalizer (64 LEDs)** -- Similar to mode 6, but with a solid single color of green.

Having trouble? Need some help? We are here:
support@spikenzielabs.com