

Audio Synchronized LED Clothing

Microcontroller uses microphone to get audio data (volume, beat or frequency) and uses this to manipulate (change color, blink at frequency, fade in and out) LEDs embedded in a clothing or jewelry item.



Suggested Parts:

Microphone: <http://www.freetronics.com/products/microphone-sound-input-module#.VCHeKvldV1Y>

Microcontroller: MSP430 Launchpad

LED Drivers: <http://www.ti.com/lit/ds/symlink/tlc5940.pdf>

AP Physics Concepts

- Batteries and energy storage
- Sound waves- amplitude, frequency (audio processing)
- DC circuits – set up basic circuit for LEDs; $V=IR$; Brightness of lightbulbs with resistance