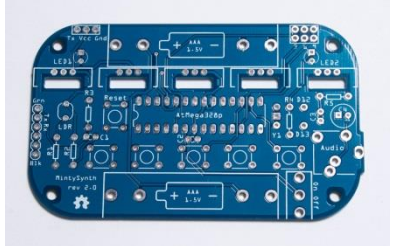
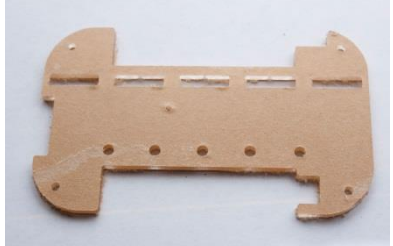



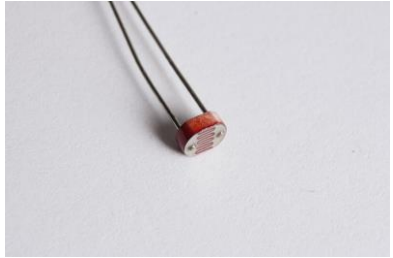
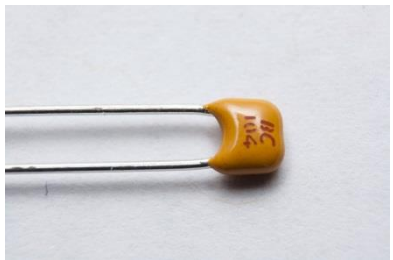
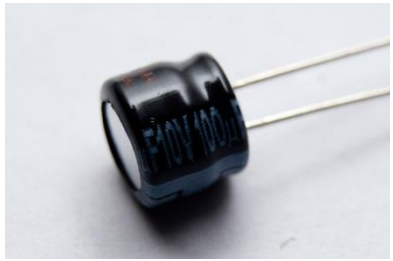
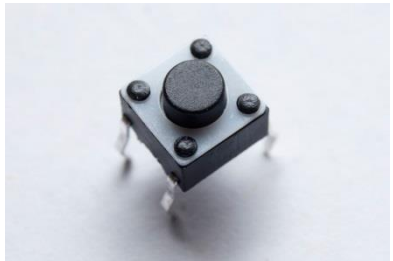
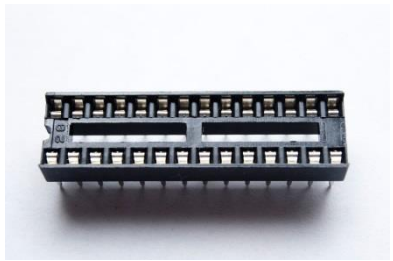

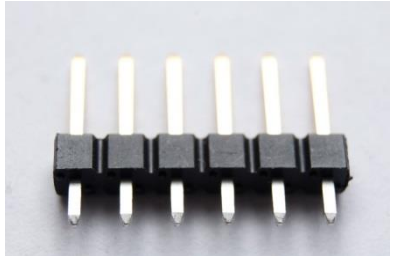

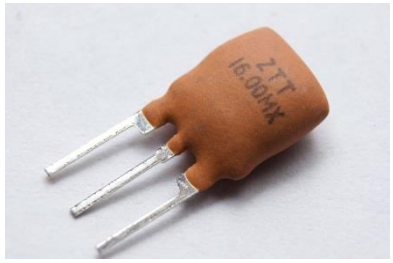
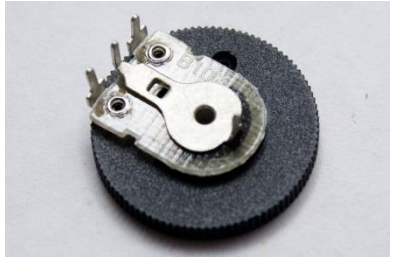


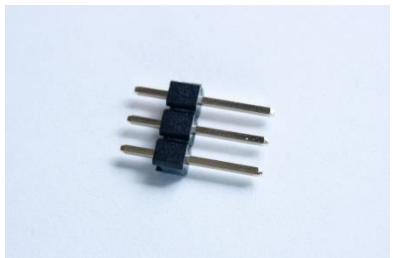
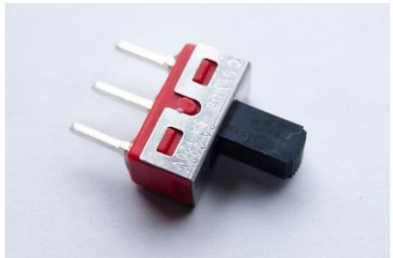
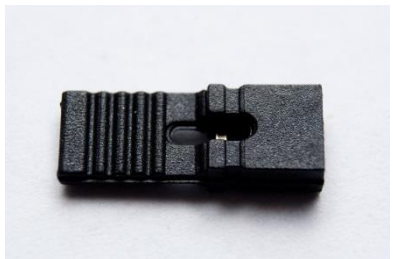




MintySynth rev. 2.0 parts list

Item	part #	
PCB		
Acrylic cover plate (shown with protective paper)		
<p>10kΩ resistor (brown, black, orange, gold)</p> <p>R1 is used along with the photocell to form a voltage divider, so that when the resistance of the photocell changes with light level, the circuit will produce a varying voltage that we can measure. R2 is used as a pull-up resistor for the reset button.</p>	R1, R2	
<p>150Ω resistor (brown, green, brown, gold)</p> <p>These limit the current to the LEDs.</p>	R3, R4	
<p>1.5 kΩ resistor (brown, green, red, gold)</p> <p>This is part of the low-pass RC filter for the audio output.</p>	R5	

<p>Photocell (light-dependent resistor)</p> <p>Can be used for all sorts of cool stuff!</p>	<p>LDR</p>	
<p>100 nF (0.1 uF) ceramic capacitors</p> <p>C1 is used to allow the FTDI cable to send a reset pulse to the microcontroller when programming. C2 is used as a bypass capacitor to smooth the input voltage. C3 is part of the low-pass filter on the audio output.</p>	<p>C1,C2,C3</p>	
<p>100 uF electrolytic capacitor</p> <p>This removes the DC component of the audio output and acts as a high-pass filter.</p>	<p>C4</p>	
<p>Reset button</p> <p>For resetting the AtMega 328. You'll probably never need it ;)</p>	<p>Reset</p>	
<p>28-pin DIP socket</p> <p>For the AtMega328.</p>		
<p>1/8" audio jack (the nut is located in the small hardware bag).</p>	<p>Audio</p>	

<p>6-pin FTDI header</p> <p>For programming the Atmega328 using a USB to FTDI adapter or cable.</p>		
<p>Buttons (5)</p>	<p>S1-S5</p>	
<p>16 mhz ceramic resonator</p> <p>The timer for the AtMega328. We use this instead of a crystal oscillator because it's more compact and more durable.</p>	<p>Y1</p>	
<p>10 kΩ thumbwheel potentiometers (5)</p>	<p>P1-P5</p>	
<p>Red LED</p>	<p>LED1</p>	
<p>Yellow LED</p>	<p>LED2</p>	

<p>6-pin jumper header</p> <p>Used to select which pin is used for the audio output.</p>		
<p>3-pin MIDI header</p> <p>Used to access Tx, Gnd, and Vcc for sending MIDI signals to other devices. Can also be used for other communications or for powering small external devices.</p>		
<p>Power switch</p> <p>Selects battery power when in the on position or power from the FTDI header when in the off position.</p>		
<p>AAA battery clip (4)</p>		
<p>ATmega328P-PU</p> <p>The brains!</p>		
<p>Jumper</p> <p>Used with the six-pin header to select which pin is used for the audio output.</p>		

<p>Hex standoffs (4) (located in the small hardware bag)</p>		
<p>M2.5 Phillips-head screws (8) (located in the small hardware bag)</p>		
<p>plastic washers, 1.5 mm thick (2) (located in the small hardware bag)</p> <p>Used underneath the PCB on the left side to hold it off of the bottom of the tin.</p>		