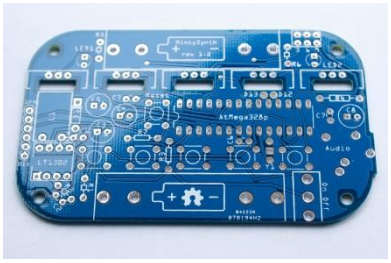
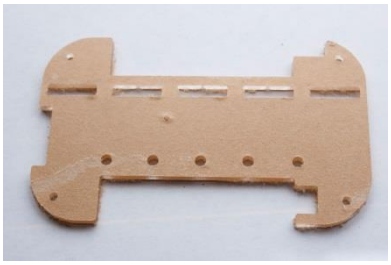
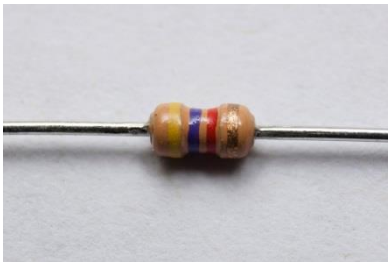
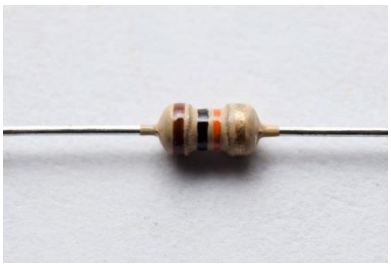
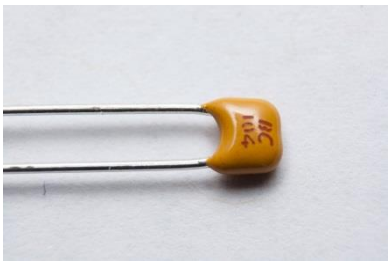
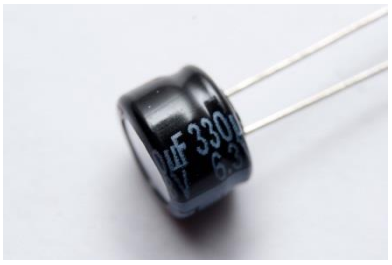
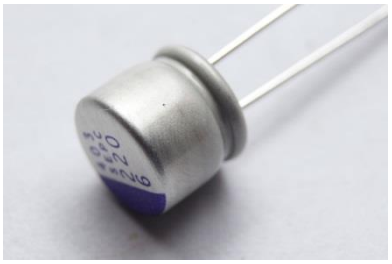
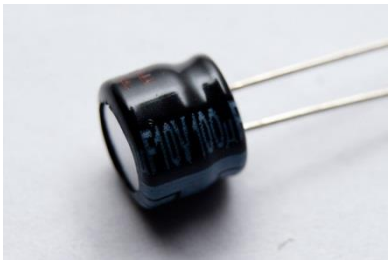
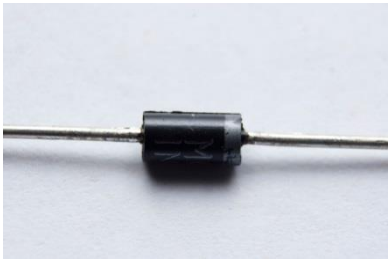
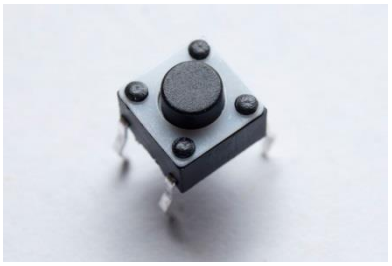
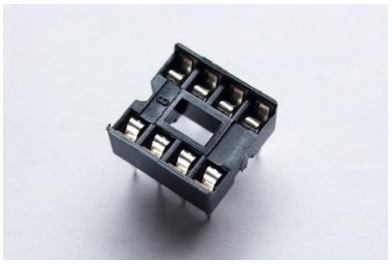
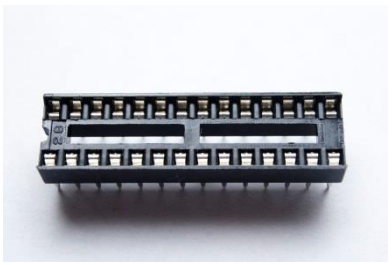
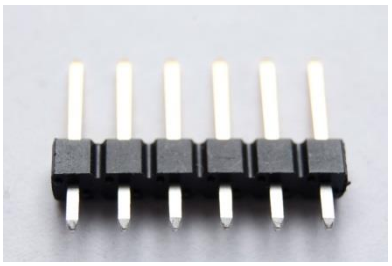
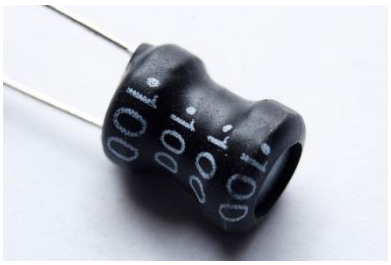
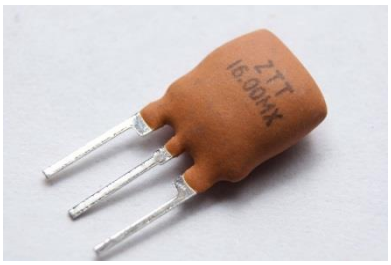
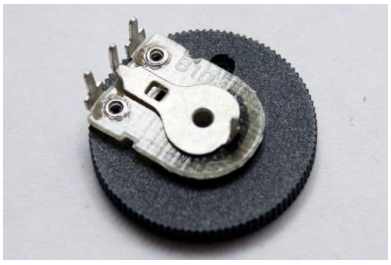
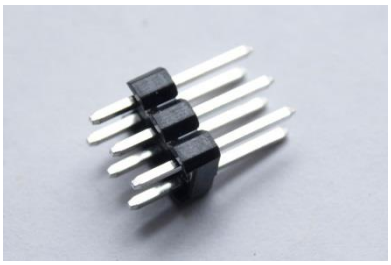
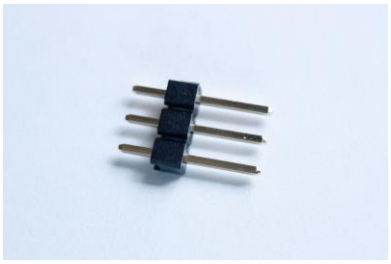
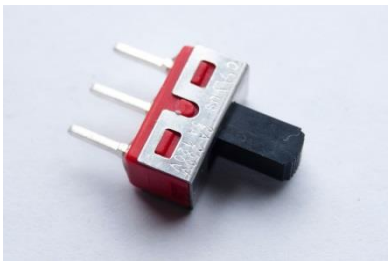
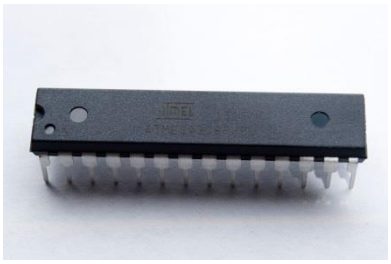
MintySynth parts list

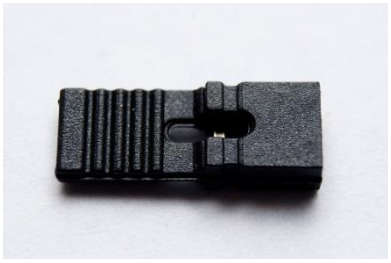
Item	part #	
PCB		
acrylic cover plate (shown with protective paper)		
3.3kΩ resistor (orange, orange, red, gold) This resistor is used in the power supply circuit to prevent the LT1302 from going into “burst” mode, which can add noise in the audible range.	R1	
4.7kΩ resistor (yellow, violet, red, gold) This is used in the frequency compensation network for the LT1302.	R2	
10kΩ resistor (brown, black, orange, gold) R3 is used to limit the current from the batteries when we check the battery voltage. R7 is a pullup resistor to prevent accidental reset of the AtMega 328.	R3, R7	

1.5 kΩ resistor (brown, green, red, gold) This is part of the low-pass RC filter for the audio output.	R4	
330 Ω resistor (2) (orange, orange, brown, gold) These limit the current to the LEDs.	R5,R6	
100 nF (0.1 uF) ceramic capacitor (5) These are used as bypass capacitors and filters in various places.	C1,C2,C6,C7,C9	
330 uF electrolytic capacitor This capacitor provides a low-impedance input for the LT1302.	C3	
220 uF OS-CON capacitor These decoupling capacitors smooth the 5v output from the LT1302.	C4,C5	
100 uF electrolytic capacitor This removes the DC component of the audio output and acts as a high-pass filter.	C8	

Schottky diode Used by the boost circuit.	D1	
Reset button For resetting the AtMega 328. You'll probably never need it ;)	Reset	
8-pin DIP socket For the LT1302.		
28-pin DIP socket For the AtMega328.		
1/8" audio jack (the nut is located in the small hardware bag).	Audio	
6-pin FTDI header For programming the Atmega328 using a USB to FTDI adapter or cable.		

10 H radial inductor Used in the boost circuit.	L1	
buttons (5)	S1-S5	
16 mhz ceramic resonator The timer for the AtMega328. We use this instead of a crystal oscillator because it's more compact and more durable.	Y1	
10 kΩ thumbwheel potentiometers (5)	P1-P5	
red LED	LED1	
yellow LED	LED2	

6-pin jumper header Used to select which pin is used for the audio output.		
3-pin MIDI header Used to access Tx, Gnd, and 5v for sending MIDI signals to other devices. Can also be used for other communications or for powering small external devices.		
power switch		
AAA battery clip (4)		
Atmega 328P-PU The brains!		
Linear Technology LT1302CN8-5 Boosts the battery voltage (around 2.4 V) to 5 V.		

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