

## Master Materials List - Theremin

### Integrated Circuits:

- CMOS CD4069UBE hex inverter (3)
- LM386 audio amp (1)

### Resistors:

- 10 Ohm resistor (1)
- 27 kOhm resistor (5)
- 22 kOhm resistor (3)
- 270 kOhm resistor (4)
- 470 kOhm resistor (1)
- 1 kOhm variable resistor (1)
- 10 kOhm variable resistor (2)

### Capacitors:

- 100 pF capacitor (3)
- 0.01 uF capacitor (2)
- 0.1 uF capacitor (2)
- 10 uF capacitor (2)
- 1000 uF capacitor (1)
- 1 nF variable capacitor (1)

### Other electronics:

- diode (2)
- switch (e.g. slide switch SS22D18) (1)
- speaker (e.g. 0.2 W, 8 Ohm breadboard mount speaker) (1)
- oscilloscope (e.g. Hantek handheld digital oscilloscope) (1)
- soldered breadboard (can be done with one large breadboard, but an additional small one is recommended)
  - large board: double wide, at least 64x10 ports
  - small board: at least 20x10 ports
- 5V power supply (1 or 2 if using 2 breadboards)

### Other materials:

- antenna (metal plate, similar in area to a circular plate with diameter 20cm)
- antenna stand (a non-conductive material that will keep the antenna around 10 in away from the circuit, for example a 1.5"x1.5"x12" wooden post)
- casing (a plastic box that fits the large breadboard with the theremin circuit)
- wire
- wire strippers
- electrical tape
- hot glue gun and hot glue