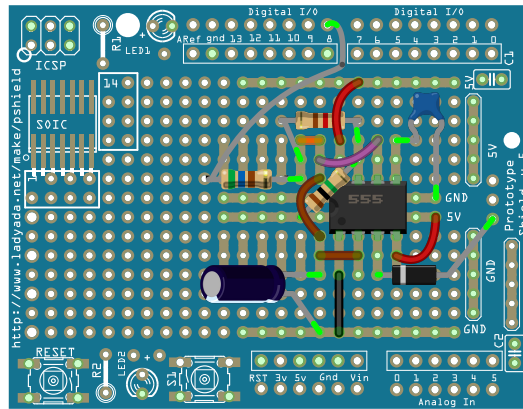


Parts list: 1x 555 timer chip. 1x 1M ohm resistor. 1x 220 ohm resistor. 1x 560 ohm resistor. 1x diode. 1x 100 uF/mF capacitor. 1x 10 nF capacitor.  
Colored wires (red, black, and two or three other colors of your choice).

### 555 pin connections list:

The 555 chip has a notch or dot on one end. The notched end goes to the left: pin 1 is bottom left, pin 8 is top left. If you have a chip socket, start by soldering it into the board with the notch facing left. When you are completely done soldering the rest of the circuit, snap the 555 into the socket, also with notch facing left. If you don't have a socket, start by soldering the 555 directly into the board with the notch facing left.

- Pin 1 goes to ground.
- Pin 2 goes between the wire nexus and C1 (the big cap, the striped end of which goes to ground). Both wires for pin 2 are shown in brown.
- Pin 3 goes through a diode to Reset, as shown.
- Pin 4 goes to 5V.
- Pin 5 goes through C2 (small cap) to ground.
- Pin 6 goes to the wire nexus, above the wire from pin 2 (shown in purple).
- Pin 7 has two connections: it goes through a 1M ohm resistor to 5V, and also through a 220 ohm resistor to the wire nexus.
- Pin 8 goes to 5V.



### Other connections:

Add a small jumper wire or bent pin (shown in orange) to connect the two parts of the wire nexus.

Run a 560 ohm resistor between the wire nexus and Digital I/O 8, as shown. You may need to sneak the resistor wire through the gap between the two sets of Arduino headers marked Digital I/O.

### Things to note (PLEASE READ before starting):

Bare wires on the diode and resistors should be covered in heatshrink before soldering. Gently bend the capacitors and other parts down into a safe spot when you're done, so they don't stick up above the headers on the board. If you have enough colors, it's a good idea to use two or three different wire colors (your choice) for the brown and purple wires shown (plus orange if desired), along with black wires to ground and red wires to 5V. It'll make the circuit easy to compare to the diagram.

C1 (the big capacitor) has a stripe on one end as shown. The striped leg goes to ground (NOT to the wire nexus). Double check before soldering it. The small capacitor (C2) may be wired in either direction.

D1 (the diode) has a stripe on one end as shown. The striped leg goes to Pin 3 on the 555 (NOT to reset). Double check before soldering it. You may need to bend the non-striped end of this diode around the Arduino header marked GND in order to reach Reset.

In practice the stripes on the diode or capacitor might be black or another color, not white.

Compare to the real-life photos on the github ([github.com/MeowWolf](https://github.com/MeowWolf), under Arduino Watchdog Circuit) if you get stuck.