

SOUND ACTIVATED SWITCH

Noise makes light? In this circuit sound waves you make when you clap your hands are gonna turn on the LED. Appliances and lights can have sound sensitive switches on them so you can turn them on and off without getting up. This is really great for people who have a hard time moving around. And museums use them to catch noisy burglars! So hook it all up and give yourself a big hand.

Start by connecting #11 to #17

Connect #17 to #21

Connect #21 to #33

Connect #12 to #30

Connect #24 to #29

Connect #18 to #23

Connect #23 to #27

Connect #19 to #22

Connect #22 to #26

Connect #26 to #38

Connect #20 to #25

Connect #25 to #28

Connect #28 to #34

And the last connection is #34 to #39

Hook up the battery and clap your hands over the piezo. Did the LED blink? If it didn't, check your connections. If it did light up, now you can give yourself a hand! You're gettin' good at this!

SOUND ACTIVATED SWITCH

Here's how the circuit works:

The piezo transducer lights up this show. When you clap, the piezo vibrates and makes an electrical current.

With no sound, the piezo transducer does not produce current. Several pathways from the battery are still active, but none turn on the LED. Current squeezes through the 470 Kilo ohm resistor, and opens the valve at transistor "A", which lets the current flow. But nothing triggers Transistor "B", so the LED stays off.

Now the piezo saves the day. When the sound waves hit the piezo, the current goes backwards past transistor "A" and the valve shuts. The current now can flow through the 10 kilo ohm resistor to open the valve of Transistor "B", and the LED lights up.

Try some other sounds. How 'bout shouting? What about using a high voice or a whisper (find out how sensitive your switch is!) Maybe you could put it next to the TV so you'll know WHEN IT'S TOO LOUD.