

LIGHT ORGAN

Are you ready for this one? We're gonna use light to make music! Any kind of light will work- light bulbs, sunlight- even the light from your computer screen. In this project, the photocell plays the major role. Once everything is connected, you'll be able to wave your hand over the photocell and make different tones. Let's go make some beautiful light-music together.

Start by connecting #3 to #35

Connect #35 to #38

Connect #4 to #20

Connect #20 to #21

Connect #21 to #26

Connect #27 to #37

Connect #37 to #39

Connect #33 to #36

Connect #36 to #46

Connect #47 to #19

Connect #22 to #28

And the last connection is #28 to #34

Make sure you're in a well lit room and hook me up. Did it make a noise? If not, check your connections. Now you're ready to play the musical oscillator. Just wave your hand over the photocell and listen to the different tones. Ready to put on a concert?

Here's how the circuit works:

In your Light Organ circuit, the photocell controls the flow of electrons according to the amount of light that hits it. Let's think about it in terms of an Electronic Pinball Game. In the dark, the electrons from the battery hit the transformer, bounce to the capacitor and then to the photocell. The photocell resists the flow of electrons, so only a few can bounce back to the transformer. The piezo then vibrates slowly, making a low pitched sound.

In the light, after the electrons bounce from the capacitor, more electrons flow through the photocell, making the piezo vibrate quickly, which makes a higher pitched sound.