

S50 VOICE-CONTROLLED LIGHT



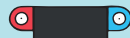
1x microphone



1x resistor 10kΩ



1x transistor PNP



1x battery



1x



2x



1x resistor 1MΩ



1x capacitor 10µF



1x LED



1x



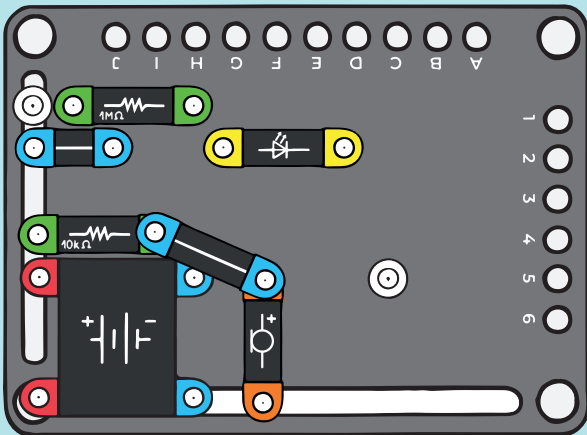
2x



1x

By connecting a microphone and a transistor amplifier, you can control the LED brightness with sound. Unlike the L100 build, the microphone is connected in such a way that the supply current is separated from the current changes caused by the captured sound. The microphone is powered via a resistor. When sound is captured, this current changes, which causes a change in the loss of voltage at the resistor. The voltage change charges and discharges the capacitor, which generates a current, amplified by the transistor, that leads to a higher voltage for the LED as the transistor opens. The resistor supplying power to the microphone and the capacitor form a 'derivative circuit', which transmits only changes in the electric current, thus separating the change in electric current caused by sound and the current for supplying the microphone. The LED only lights up when the microphone registers sound.

1.



2.

