

Electronic VOX

Voice Operated Relay

By



(Explanation of Science Fair Project)

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This project is an electronic VOX (Voice Operated Relay). It runs on 6 volts DC.

Its components are:

a.	2.2 Megohm Resistor (Red-Red-Green)
b.	3.3K OHM Resistor (Orange-Orange-Red)
c.	10 OHM Resistor (Brown-Black-Black)
d.	1 Megohm Resistor (Brown-Black-Green)
e.	33 OHM Resistor (Orange-Orange-Black)
f.	2 MEGOHM TRIM POT
g.	25K OHM TRIM POT
h.	10 mfd Capacitor
i.	2 mfd Capacitor
j.	Germanium Diode
k.	NPN Silicon Transistor
k.	NPN " "
k.	NPN " "
k.	NPN " "
l.	Relay

(Letters at left of component correspond with letters on Diagram of Components on Printed Circuit Board)

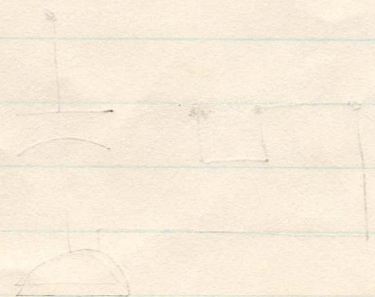
How it works:

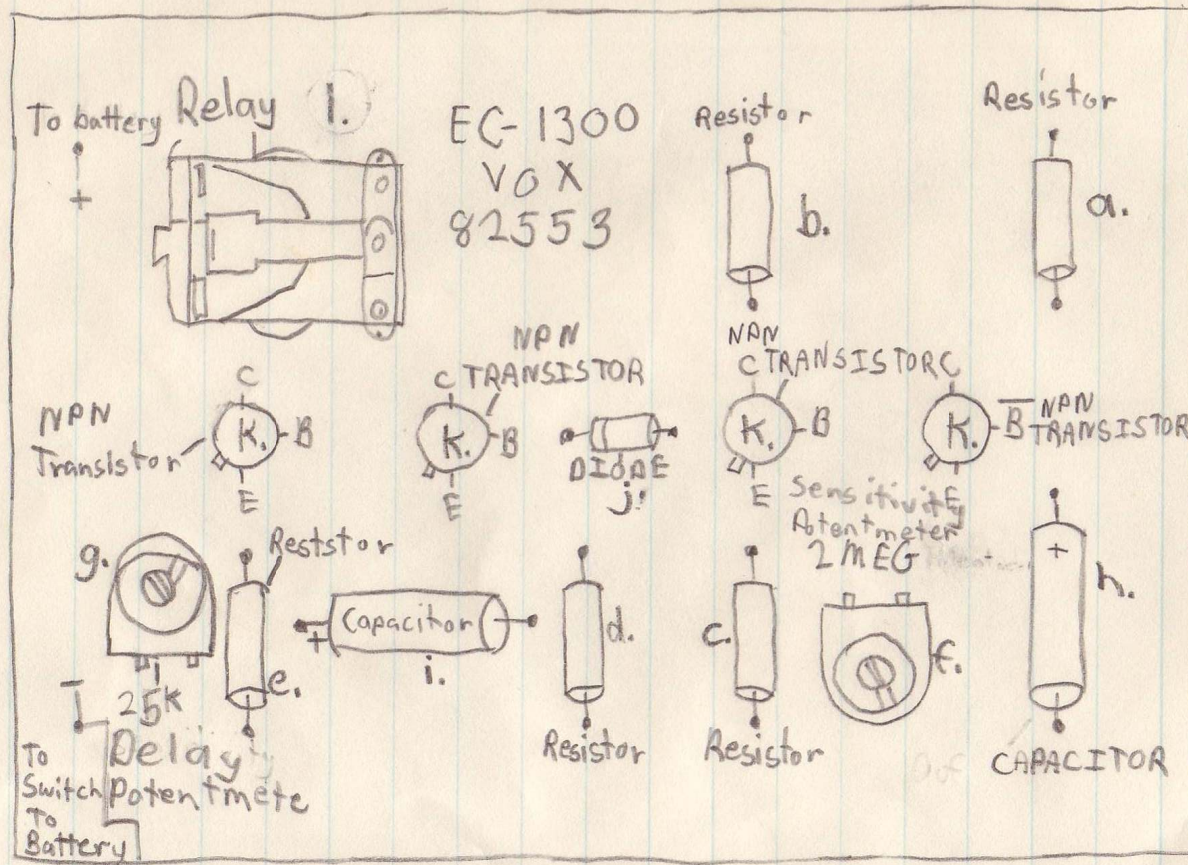
When adjusted correctly, the first two transistors are not conducting and the other two are, so the relay is not energized. When you speak into the microphone, you generate a voltage on the base of the first two transistors, and they conduct. This

causes a current to flow through the 2 Megohm Pot and decreases the negative voltage on the base of the last two transistors. They conduct more and energize the relay.

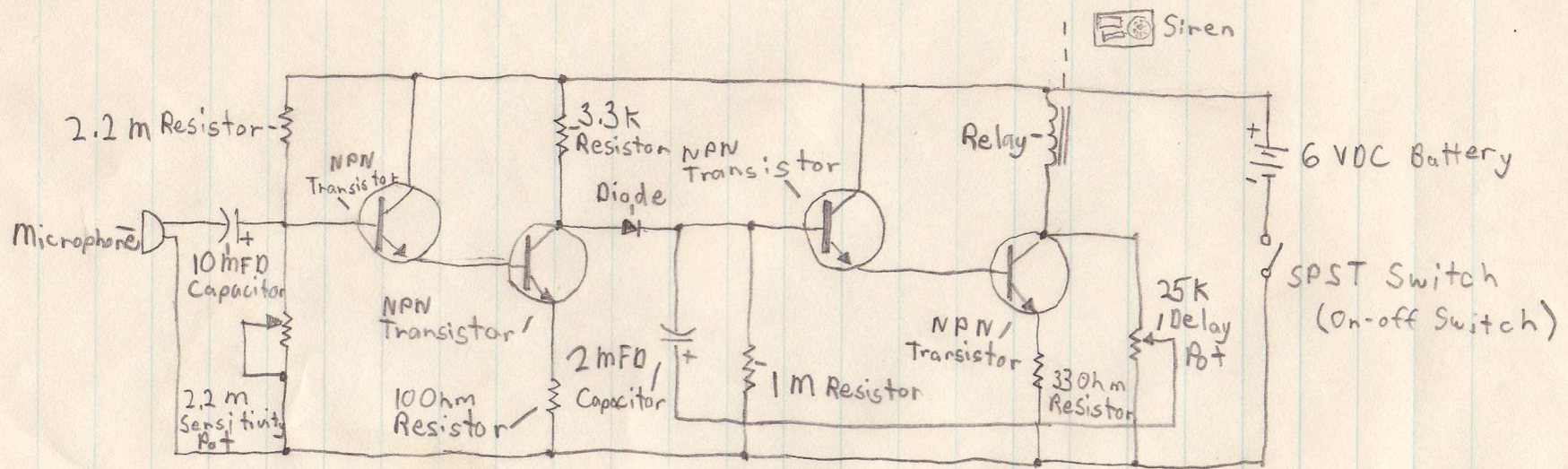
The relay has a small electromagnetic coil. When it is energised, it pulls down on the little strip of metal on top and activates the siren. This is what is meant by energizing the relay.

The two POT's (Potentiometers) are the controls. The 2 Megohm potentiometer is the sensitivity control. It regulates how loud the sound must be to activate the relay. The 25 K POT is the Delay potentiometer. It regulates how long the relay will stay energized. Its range is from about 1/2 second to about 5 or 6 seconds.





Components on Printed Circuit Board of VOX
(Voice Operated Relay)



Schematic Diagram of Electronic VOX
(Voice Operated Relay)