

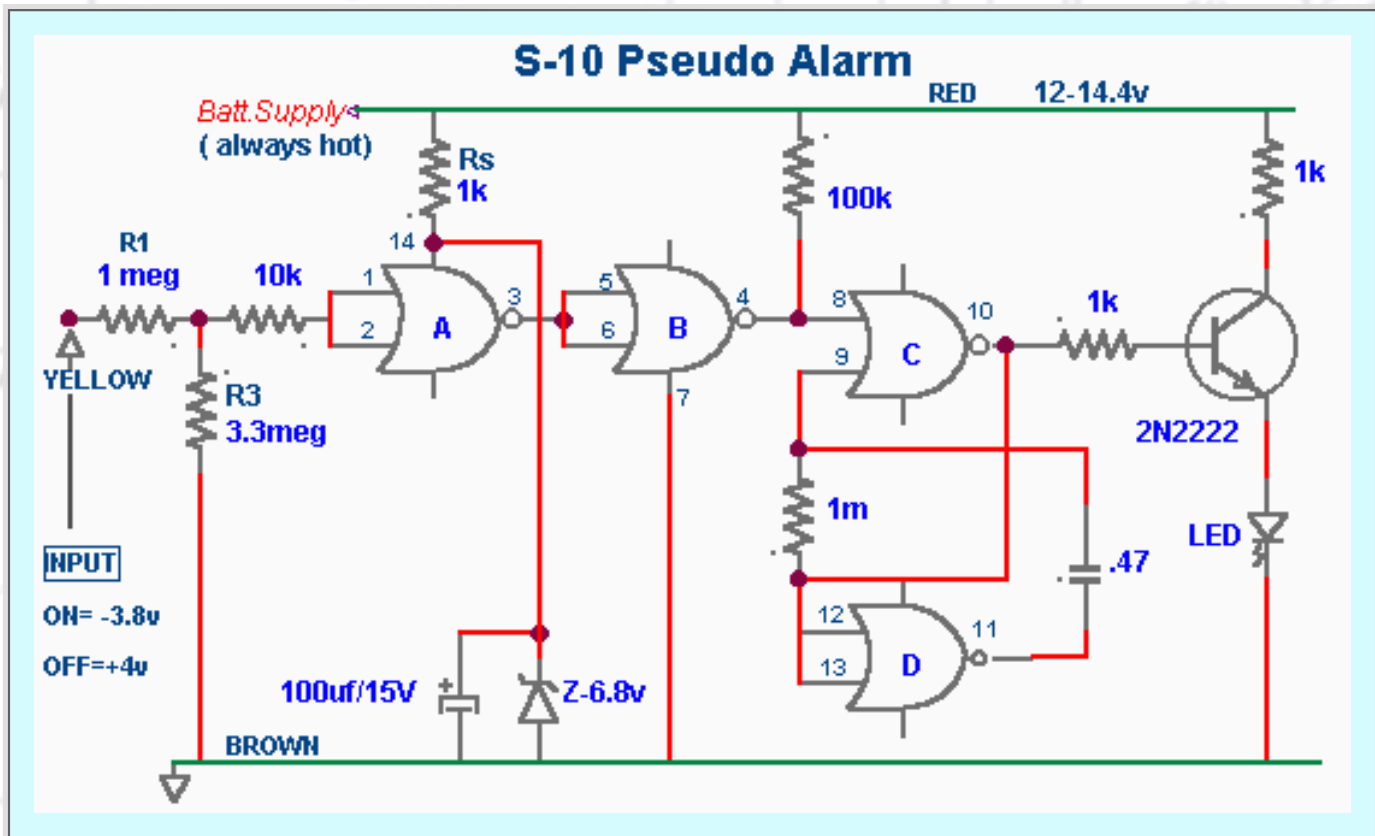


Handy Dandy #14 Little Circuits

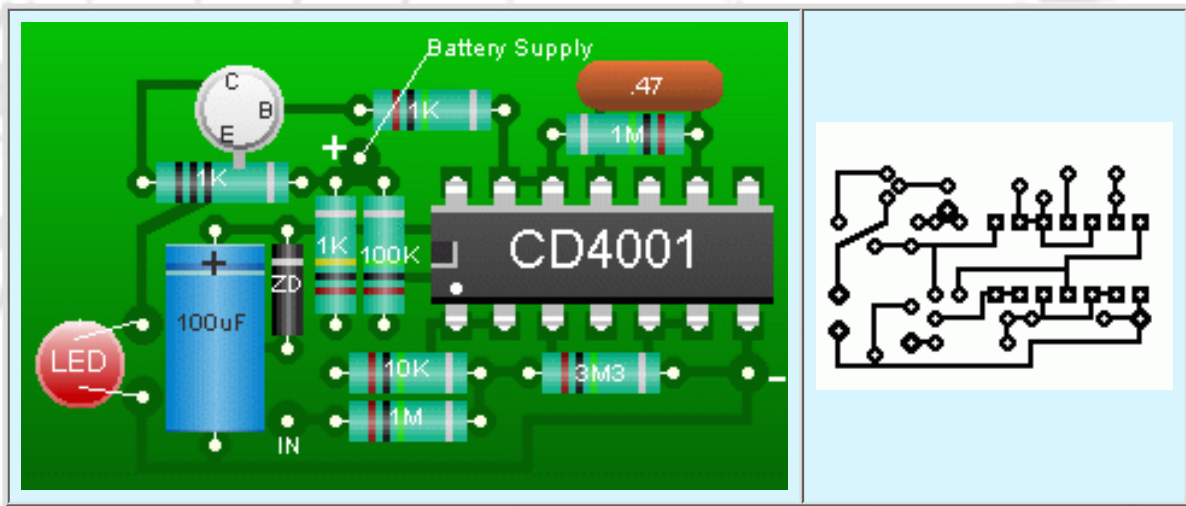
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I owned a S10 Chev pick-up which was parked in the underground of my building. It was broken into. They broke some windows and tried to steal the stereo. It was a mess. Later the vehicle was stolen. When the cops found it the ignition key system was damaged and it had been stripped clean of everything that hadn't been bolted down.

Having been told that thieves usually pass over a car with an unidentifiable alarm system, I designed a little alarm circuit to simulate a real alarm installation. I call it my "Pseudo Alarm".



The circuit is simply a low voltage detector created by putting together a CD4001 (A&B), an oscillator (C&D) driving a 2N2222 transistor, and an LED. The CD4001 gates have a threshold voltage of 3.4V, the sensitivity input is 1Mohm/V. Voltage input must be greater than the nominal 3.4V.



I installed this circuit in my S10 Chev 1990 pickup, right into the headlight switch compartment. The battery 12 V supply is always hot on the switch terminal and Ground should also be available. Make your Circuit small enough to fit well into the space where it will be installed. I drilled a small hole on the face plate and installed the LED (red, and the brightest available).

R3, the 3.3Mohm resistor, determines the treshold voltage. That resistor was MY final set-up. To find yours use a 2.2M fixed resistor in series with a 2.7M variable and adjust until the LED flashes when the ignition is off. Then substitute for a fixed one to minimize circuit size.

R1, the 1Mohm at the input, determines the source level. For a 10V input this resistance is approx 6.8M. Because my S10 had a running daylight system there was a 4.3V source available at the switch which dropped down to 3.8V when the ignition was off, so that is why I used a 1M resistor. Normally for a 6.5 V (Zener voltage) this resistor should be around 3.4M and connected to another 12 V source.

This independent 12V or other voltage source can be found with a voltmeter. It must be higher than the treshold voltage (3.4 V) and should be zero volts or below the treshold voltage when the ignition is OFF. I recommend the use of colour wiring to easily identify your connections and to protect the circuit.

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