

Re: Circuit Design Help

Source: <http://sci.tech--archive.net/Archive/sci.electronics.basics/2007-01/msg00933.html>

- *From:* "Jon Slaughter" <Jon_Slaughter@xxxxxxxxxxx>
 - *Date:* Sat, 20 Jan 2007 08:11:14 GMT
-

"buyem" <buyem@xxxxxxxxxxx> wrote in message
news:45B1CB66.90409@xxxxxxxxxxxxxxxx

I haven't designed a circuit in more years then I care to mention so I know I need help.
 What I want to do is .. control a table saw and a shop vac.
 When I turn the circuit ON...table saw and shop/vac on immediately
 When I turn the circuit OFF... table saw off immediately and shop/vac to run for approx. 5 seconds longer and then turn off.
 If your able and/or willing to help I'll give you the specs for both pieces of equipment.

all you need is the main switch, a capacitor, and a relay.

The main switch will automatically turn on the saw as it would be directly connected. The vac will be connected through the relay that will be controlled by a capacitor.

essentially the capacitor will charge up(you'll need a diode for this and a few resistors and stuff) and when it charges to the correct voltage it will switch the relay on which allows the vac to run. In the same sense it will discharge and turn of the vac. The problem here is that the vac will not start for the same time that it will be delayed. (Which is probably not an issue but if it is you can use a little more circuitry to solve the problem).

The switch that your controlling will need to to be a DPDT. One so that if controls the mains on the saw and the other will be used to charge the capacitor. The relay will always be connected to the vac.

In essenence-->

```

Mains ---- Switch ----- Saw
| |-----Diode-Resistor-Cap->Relay Control
|-----Relay In ---- Relay Out----> Vac

```

Re: Circuit Design Help

Hopefully that makes some sense.

While I think it works in theory and its just off the top of my head I'm sure some of the "experts" around here will point out all the flaws. I'm sure you probably could find something that is essentially a delayed time switch that will do what you want. You'll basically want a dual delayed time switch and set one of the timers to 0 and the other to 5 seconds. This is essentially what the above does and you would adjust the resistor and capacitor values to get the correct time constant and voltage needed to run the relay.

There are also SCR circuits that do this too but I would imagine you would want something with a true bypass.

Anyways, Just thought I'd through that idea out there as its pretty basic and probably will get the job done just fine. There might be a few issues there but I'm sure you can figure them out and if not you can ask.

Jon

.