How to Run 8 Power Relays for Car Lights:

Here is a way to run car "Tail lights" from a car battery or a big power supply.

Bob's Engineering is not responsible for damages or injury.

READ WARNING READ WARNING READ WARNING READ WARNING:

!!!!! THIS PROJECT IS NOT FOR KIDS TO PLAY WITH OR BE AROUND !!!!
Do not put, or allow any (wires or any metal) between the plus and minus posts of the battery, or between any parts that have connections to the car battery.
That is called Shorting, or short circuiting the battery.

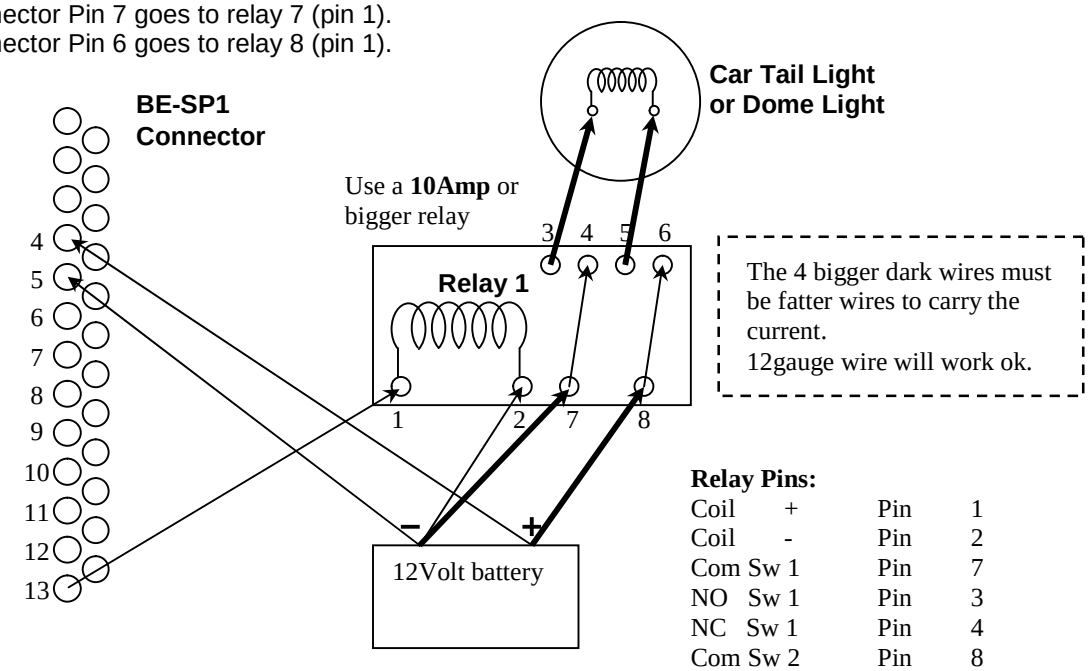
A shorted Battery can and will *Vaporize Metal*, and can severely burn you in the process.
A shorted Battery can also *Explode* and spray Hot Lead and Sulfuric Acid all over.

Car batteries can produce LOTS of CURRENT (200-1000 Amps or more for short periods).
It can easily melt a ¼ inch thick wire in 1/100th of a second, lots faster than you can let go.
It can certainly burn your hand/fingers to the bone if you were holding the wire.
12 volts won't shock you, but it can definitely heat something enough to burn you.

If you run "Car Headlights", they can pull a lot of current from battery and melt small relays.
Car taillights normally get hot, so mount them carefully, not with wood !!!! USE METAL.
If the battery or the wires get hot, reduce the number of lights that are on at the same time.

Connector Pin 4 goes to all the relays (pin 8) and to the battery (Plus) side.
Connector Pin 5 goes to all the relays (pin 2 and 7) and to the battery (Negative) side.
Connector Pin 13 goes to relay 1 (pin 1).
Connector Pin 12 goes to relay 2 (pin 1).
Connector Pin 11 goes to relay 3 (pin 1).
Connector Pin 10 goes to relay 4 (pin 1).
Connector Pin 9 goes to relay 5 (pin 1).
Connector Pin 8 goes to relay 6 (pin 1).
Connector Pin 7 goes to relay 7 (pin 1).
Connector Pin 6 goes to relay 8 (pin 1).

CAUTION:
DON'T get the Plus and Negative reversed "anywhere".
Doing that can fry the circuits.



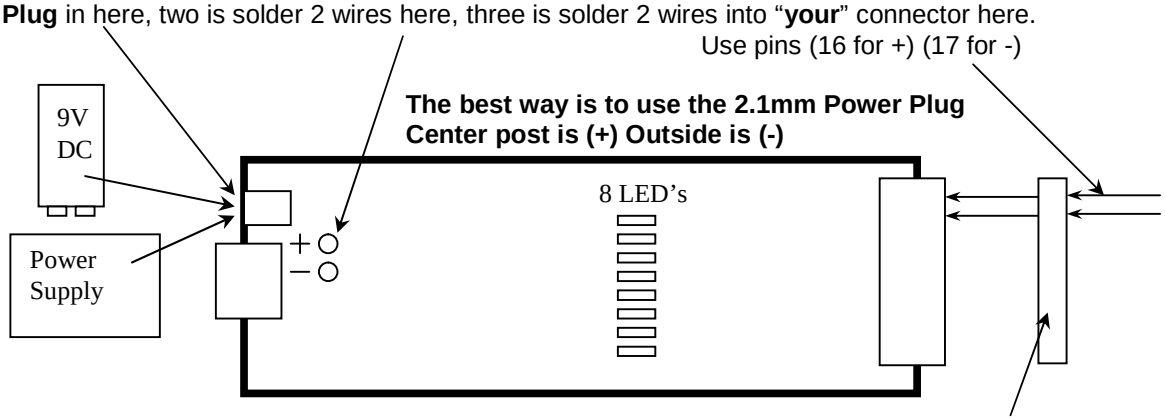
Relay Pins:

Coil	+	Pin	1
Coil	-	Pin	2
Com	Sw 1	Pin	7
NO	Sw 1	Pin	3
NC	Sw 1	Pin	4
Com	Sw 2	Pin	8
NO	Sw 2	Pin	5
NC	Sw 2	Pin	6

How to run 1 to 8 Power Relays for 110VAC:

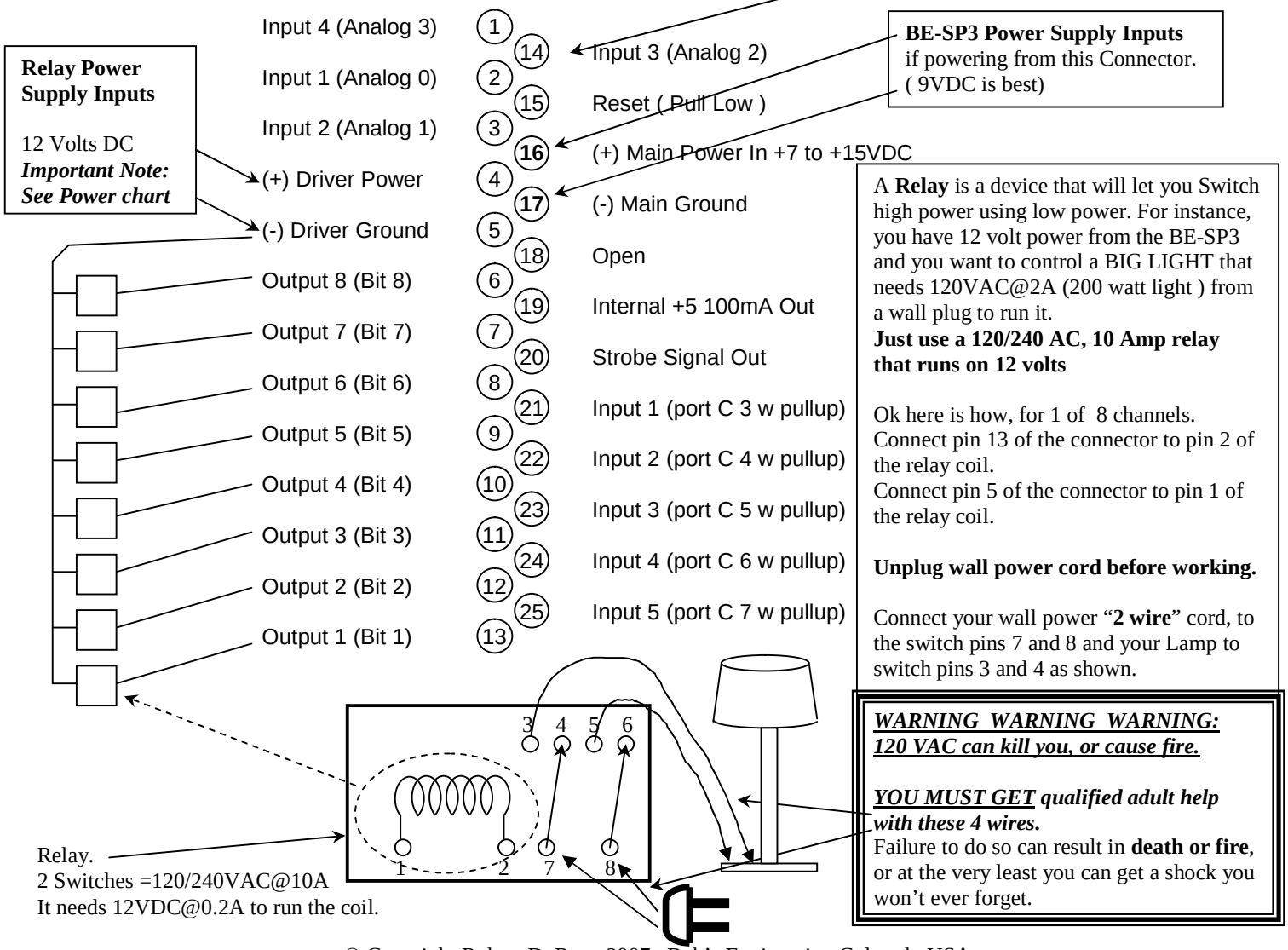
from BE_SP3 Power Outputs. **Bob's Engineering is not responsible for damages or injury.**
See "more on relays" page.

Connect the Power Supply for the BE-SP3 board to **one of the three places**, one is the **Power Plug** in here, two is solder 2 wires here, three is solder 2 wires into "**your**" connector here.



This block represents the DSUB25 connector shown below

DSUB25 to plug into BE-SP3



A **Relay** is a device that will let you Switch high power using low power. For instance, you have 12 volt power from the BE-SP3 and you want to control a BIG LIGHT that needs 120VAC@2A (200 watt light) from a wall plug to run it.
Just use a 120/240 AC, 10 Amp relay that runs on 12 volts

Ok here is how, for 1 of 8 channels.
Connect pin 13 of the connector to pin 2 of the relay coil.
Connect pin 5 of the connector to pin 1 of the relay coil.

Unplug wall power cord before working.

Connect your wall power "**2 wire**" cord, to the switch pins 7 and 8 and your Lamp to switch pins 3 and 4 as shown.

<u>WARNING WARNING WARNING:</u>
<u>120 VAC can kill you, or cause fire.</u>

<u>YOU MUST GET</u> qualified adult help with these 4 wires.
Failure to do so can result in **death or fire**, or at the very least you can get a shock you won't ever forget.

Relay.
2 Switches =120/240VAC@10A
It needs 12VDC@0.2A to run the coil.