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CAR INTERIOR LIGHT DELAY

It's dark and it's raining cats and dogs. You rush to your car, open the door and quickly close it behind you again. Then you sit there fumbling for the ignition lock. Solution? Add the following circuit, which will keep your car's interior light on for a little while after the door is closed.

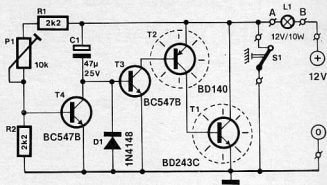
The circuit is connected across the switch in the door post. These switches

are removed quite easily.

In the circuit diagram, S_1 is the switch in the car's doorpost and L_1 is the interior light. As long as the door is open, S_1 is closed and the light is on. When the door is closed, S_1 opens and the light goes out. The full 12 V from the car battery is then present across the switch. The circuit detects when the voltage across S_1 begins to rise. Transistor T_1

and consequently T_1 and T_2 , is then switched on. This results in the voltage across S_1 rising to about 1 V, after which it can increase only very slowly. This means that the interior light stays on, although its brightness will slowly decrease.

At a certain level of potential across S_1 , transistor T_1 switches on, which results in the drive to T_2 becoming zero, and T_2



T₂ and T₁ switch off. The interior light will then go out very quickly. The delay in the light going out after the car door is closed is preset by P₁, although it is also affected by the value of C₁. The larger this value, the longer the delay and the smaller the variation in the brightness of L₁. After the light has gone out, the circuit no longer draws current.