

A7: Add a Switch to the Simple LED Circuit

1001-act7 Introduction to Electronics

Summary

This activity builds on the previous simple LED circuit by incorporating one of the TOP buttons into the circuit. By doing so, you will be able to turn the LED on and off with the button instead of having to yank up a wire each time.

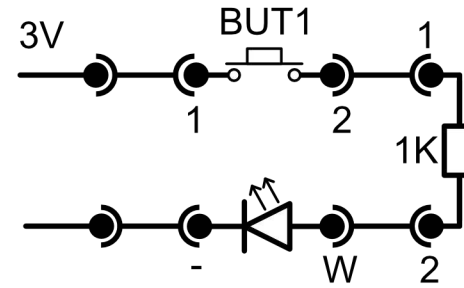
What You Need

- JackBord
- JackBord TOP
- 10 x 10cm Jumper Wires

Instructions

1. Making this circuit is simple. First, make sure that the JackBord TOP is already connected to the JackBord power pins and the two power LEDs are on (Check 1001-act5 if not). Turn off the JackBord.
2. Take one jumper and connect any one of the yellow 3V pins on the outer edge of the TOP to pin 1 of one of the TOP buttons. Now connect pin 2 of that same button to pin 1 of the 1K resistors.
3. Take another jumper and connect pin 2 of the 1K resistors to the white LED on the TOP. The pin is labelled 'W'.
4. Finally, use one more jumper to connect the corresponding '-' pin to one of the green ground pins on the TOP.
5. If done correctly, the white LED should turn on when you turn on the JackBord and push the button. If it does not, check your connections and follow the steps again. Also compare your circuit to the pictures shown right.

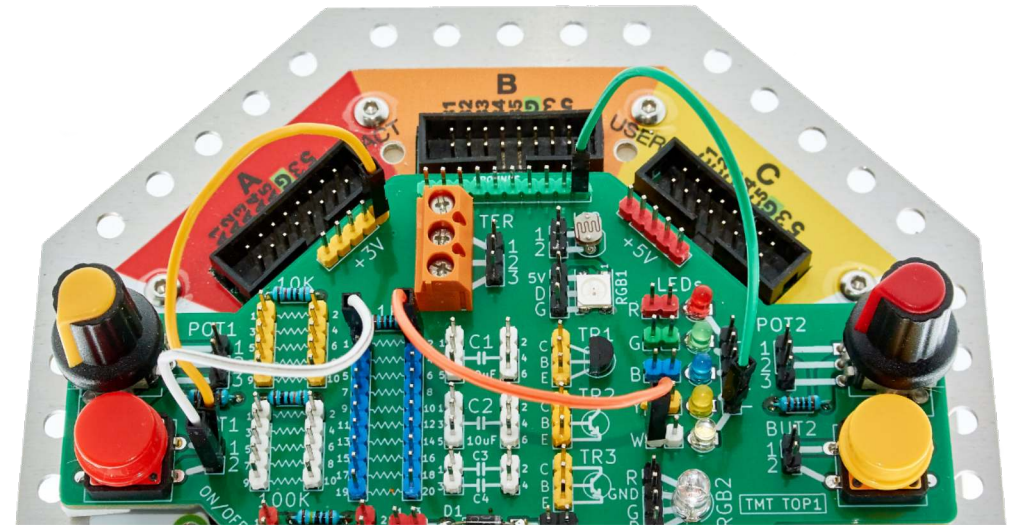
Circuit Diagram



TOP 3V rail pin	TOP button pin 1
TOP button pin 2	TOP 1K resistor pin 1
TOP 1K resistor pin 2	TOP LED pin W
TOP LED - pin (Corresponding to white LED)	TOP Ground rail

The table above contains the connections in the circuit diagram. Simply connect a jumper from the left column pins to the corresponding right column pin in the same row.

Completed Circuit



Extension

- Use the other switch on the TOP to control a second LED
- Try to make a circuit that will let you control 2 or 3 LEDs with one switch