

A11: Use a Variable Resistor to control the Brightness of 5 LEDs

1001-act11 Introduction to Electronics

Summary

Just like the button exercise in act7, now you will adapt the variable resistor circuit to control 5 LEDs at the same time.

What You Need

- JackBord
- JackBord TOP
- 13x 10cm Jumpers

Instructions

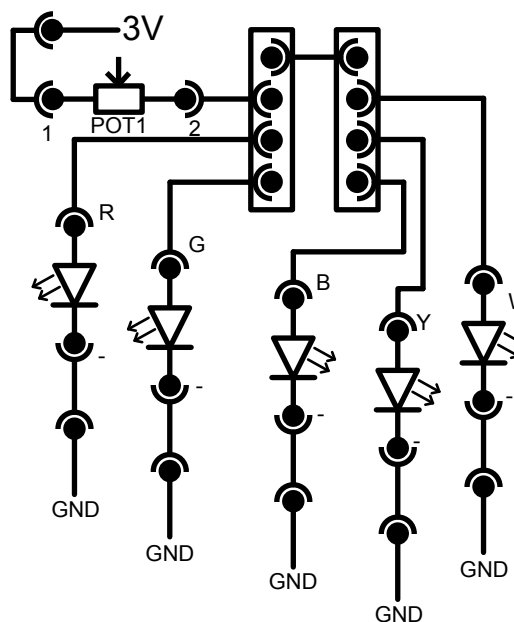
1. Making this circuit is simple. First, make sure that the JackBord TOP is already connected to the JackBord power pins and the two power LEDs are on (Check 1001-act5 if not).
2. Take one jumper and connect any one of the yellow 3V pins on the outer edge of the TOP to pin 1 of the variable resistor POT1.
3. Connect pin 2 of POT1 to one of the USER pin rows. Because you need to connect five LEDs at once, you will need to use another jumper to hook two rows of USER pins together to provide six connected pins. This is shown in the images right.
4. From the five remaining free pins of the USER pins connected to the 1K resistor, use five jumpers to connect them to each of the five LEDs on the TOP. Then use five more jumpers to connect the '-' pins of these LEDs to the ground rail of the TOP.
5. Now when you adjust the resistor, all 5 LEDs should change.

NOTE

USER pins refer to the pins on the bottom half of the top. They are connected in columns of 4, but unconnected horizontally. They are referred to by grid reference. I.e. USER pin E2 refers to the second pin down in the E column.



Circuit Diagram



TOP 3V rail	POT1 pin 1
POT1 pin 2	Blue USER Block pin 2
Blue USER block pin 1	Black USER block pin 1
Blue USER block pin 3	Red LED pin R
Blue USER block pin 4	Green LED pin G
Black USER block pin 2	White LED pin W
Black USER block pin 3	Yellow LED pin Y
Black USER block pin 4	Blue LED pin B
Red LED pin -	Ground
Green LED pin -	Ground
White LED pin -	Ground
Yellow LED pin -	Ground
Blue LED pin -	Ground

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

Here you can see the modified part of the circuit from act9. **The rest is as shown in act9.**

