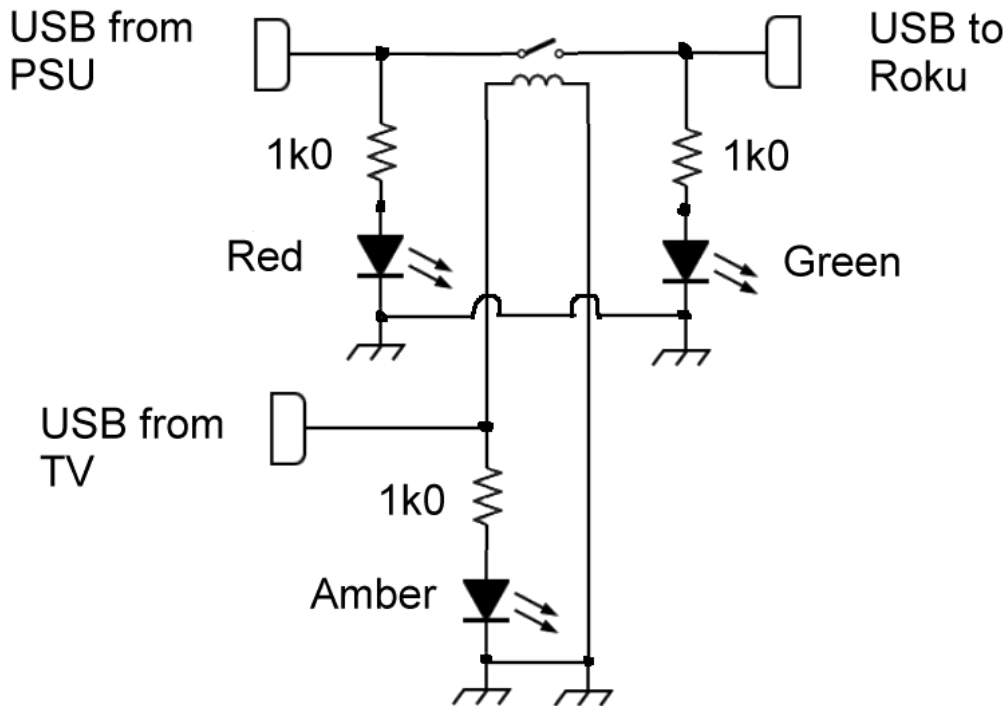


This project is extremely simple and constructed to fulfill a function I couldn't find in an 'internet buy a gadget' class of items. A small square of vector board (or Vero board) can be used to make this handy little circuit.

The power supply that comes with the Roku is plugged straight into the Roku box through a USB A-micro cable (provided). This leaves the Roku running all the time and with providers that cap internet usage will cause data caps to be exceeded. The Roku power supply provides 1A at 5VDC from a USB port. You can plug the Roku into the USB port of your TV (Samsung in our case). However, I found that it reset a couple of times in a couple of weeks and the back of the main connector area was running quite warm. Clearly, not a great idea. This circuit simply lets you run the Roku box off its original power supply, yet controls it when the TV is turned on and off. To make matters simple, I used a 5V relay which then draws less than 40mA from the TV USB port.

The red LED simply shows that the Roku PSU is plugged in, the amber LED shows the status of the TV USB port power and the green LED shows that power is going to the Roku box. Obviously, under normal circumstances, the green light should 'follow' the amber light.



The cable supplied with the Roku was re-purposed by cutting it in half and connecting the red and black wires directly to the board. For the TV port a spare USB cable had the type-B connector cut off the far end and the red and black wires used. This saves finding connectors and cutting weird shaped holes in the box! Note that the ground is isolated between the TV port and the power supply side. This makes sure there are no strange ground loops to worry about. Parts cost: about \$5, including box, relay and other parts.



Please note: This circuit is open-hardware. Do not change these notes or remove reference to the design source. You may link to it, but do not copy to other servers or group files.