

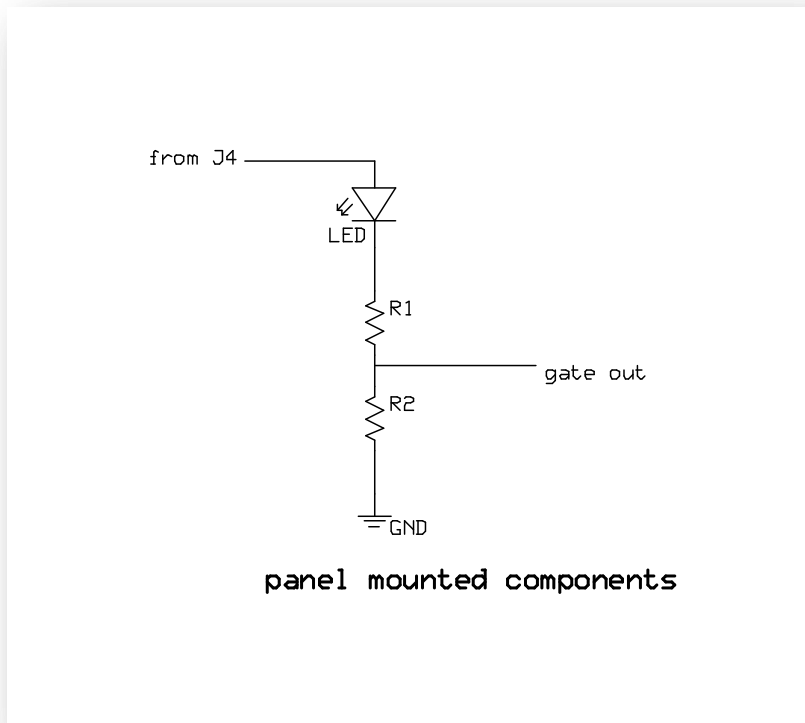
bindubba5	
andrewF	
Rev 3.0	
06/09/2010	

choose R30-33 to suit LED

J1	Main clock & reset inputs
J2	Secondary clock & reset inputs
J3	Outputs [1: Inverted CV, 2: CV, 3: Glide CV, 4: Gnd]
J4	Stages 1-4 Gate & LED outputs [1: Stage 4, 2: Stage 3, 2: Stage 3, 4: Stage 1] see connection suggestions below
J5	Power[1: -12V, 2: Gnd, 3: +12V] will run on +/-15V with no mods needed.
P1-4	Stage level pots 50k-100k
P5	Glide pot 1M

Although the schematic shows LM324, any quad op amp will work. Probably TL074 will be best.

Use your favourite general purpose NPN transistors and diodes



For gate/LED outputs from J4:

The LEDs, R1's & R2's are all panel mounted. Select the resistors according to the type of LED you use, your power supply voltage and the size of the gate output you desire.

My prototype uses blue superbright LEDs and runs off a +/-12V PSU. I want gate signals to be at least 5V.

The voltage drop across a blue LED is approx. 3V.

So $12 - 3 = 9V$

So gate out voltage = $9\left(\frac{R2}{R1+R2}\right)$

I used $R2 = 4k7\Omega$ and $R1 = 2k\Omega$.

This gives a gate output of about 6V and the total of $R1 + R2 = 6k7\Omega$, which is enough to limit the brightness of the LED so that it doesn't burn my eyes right out of their sockets.

If you use a regular LED, $R1 + R2$ should add up to a much lower value, $1k\Omega$ or even less.

See some of Ken Stone's CGS designs for suggestions and alternative ways to do this.