

# Re: how to connect an LED to PC

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*Source:* <http://sci.tech-archive.net/Archive/sci.electronics.design/2006-10/msg01052.html>

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- *From:* ehsjr <[ehsjr@xxxxxxxxxxxxxxxxxxxx](mailto:ehsjr@xxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Fri, 06 Oct 2006 23:29:05 GMT
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mrdarrett@xxxxxxxx wrote:

ehsjr wrote:

mrdarrett@xxxxxxxx wrote:

ehsjr wrote:

mrdarrett@xxxxxxxx wrote:

ehsjr wrote:

wills.kingspanama@xxxxxxxx  
wrote:

Greetings,  
How  
to  
connect  
an  
LED  
to  
the  
PCs  
PPI  
and  
make

Re: how to connect an LED to PC

it  
glow  
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program?  
Thanks  
in  
advance.

[http://www.epanorama.net/circuits/parallel\\_output.html#circuithow](http://www.epanorama.net/circuits/parallel_output.html#circuithow)

So if it's 2.6 mA max (data pins to ground), are the 470-ohm resistors still necessary? (grin)

Michael

Where's you get 470 ohms? That won't limit the current enough.

Ed

I posted a page on my website re: controlling a light bulb by parallel port:  
<http://mrdarrett.googlepages.com/blinky>

Is a 2 k-ohm resistor big enough? Should I make it larger, just to stay on the safe side?

Coming soon: PWM motor control via parallel port.

Michael

You don't get a lot of base drive with that 2K resistor, and yet you want to be darn sure you protect the port.

If you really intend to drive an incandescent bulb, you'd

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be better off with a darlington, like a TIP120. In terms of figuring the base resistor, you would be able to use a 4.7K. The TIP120 in your circuit with 4.7K base resistor could drive a bulb that needs up to 1 amp.

Ah. I was planning on driving even bigger loads than my incandescent lamp. I drove a 1A 12V blowdryer fan with an IRF530, with the setup on my website. My MOSFET got kinda warm – about 105 F with a heatsink. (I used a diode and two caps as the 555 PWM circuit recommended.)

Is a 3.3k still good for an IRF530?

Thanks!

Michael

Hmmm... since you change the design with every post, I'd recommend a "universal interface" between the parallel port and the device driver you choose. The interface would be there strictly to protect the parallel port, and/or to drive low current (< 175 mA) devices directly. You would use the output from it to control the driver for whatever device you intend to use. A ULN2003 comes in in a 16 pin DIP and provides 7 darlington transistors so you can use it for 7 pins. You could use a 3.3K resistor between each PP pin and the corresponding input pin on the ULN2003.

With regard to your IRF530 – putting 5 volts on the gate won't turn it all the way on. The resistor at 3.3K would be fine\*, but the gate voltage is low.

\* = you need very little current on the gate – except when you need rapid turn on. But your 5 volts already is a problem which superceeds that.

Ed

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