

Experiment 11

Photoresistor application experiment

Date: 2022/12/14

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V. Reflection

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The experiment this time is to use the photoresistor and comparator to observe the characteristics of the components. By swapping the inverting input and non-inverting input and adjusting the reference voltage, we can control the comparator to rather output forward saturated voltage or reversed saturated voltage. And by shading the photoresistor, we can adjust its resistance.

To me, it was my first time using the photoresistor. Although the function is not the same, it can do the same work as Infrared sensor in some way, which really amazed me. As for the comparator, we had already used this component in our homework in the course of circuit theory, so I'm more familiar with it.

Thanks to my group mate and TAs' help, we finished our experiment smoothly. It was great to see the characteristics not only on paper but also with our own eyes. I felt like the circuit and elements in our hands are much more real than before! It was a good experience, observation and actual operation indeed helped me better to get familiar with the principles.

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Through the experiment, I practically realized that how does the photoresistance work in the real load. Honestly, I haven't learned anything about photoresistance before the experiment. Instinctively guess that the resistance may become smaller when more light is received. However, it's exactly opposite, when we cover the photoresistance, the resistance becomes smaller, which make the LED in series become brighter.

Furthermore, another experiment for implementing the comparator IC. I have several experience of how it works in practical circuit from the electrical circuit course. Thus, the output result did not stun me a lot. Nevertheless, we still encountered several problems by mistake, which is forgetting to connect the load to the relative ground, I'll remember how to set up next time. It feels good and motivated to understand what I have learned before and why I learned it. Thanks to my teammate and TAs, solving and stay with me to facing on the problems I encountered during the experiment, so that the experiment could undergo so well.