

WHAT

For my project I have decided to make a laser security system. It will be comprised of a laser, a simple circuit, and a digital camera. When the laser is broken by something or someone trying to pass through it, then a signal will be sent to the camera telling it to take a picture. Once I get this working, if I have time, I might also try to implement a microphone into the design in order to take pictures when a noise is made. Finally, if there is still time remaining, I will attempt to add a siren to the circuit that will go off when the laser is broken.

HOW

In order to make the laser security system I will need the items labeled in the table below, and possibly some additional items that I have not yet thought of. I will first construct the circuit that will sense a change in light and, as a result, send an electric pulse to the digital camera. I will do this through the use of a photocell and a soldered connection to the cameras trigger button terminals. Afterwards, I will construct two housing units: one to hold the breadboard that contains the circuit along with the camera and a second to house and mount the laser. I have yet to decide whether I will supply power to the laser through the use of batteries or an AC adapter. The first will be more portable, while the latter will be more reliable. Finally, I will either align the laser to point directly at the photocell or use mirrors to do so. Using mirrors will allow for a broader range of coverage, but will also raise the chances of a misalignment malfunction.

No.	Item
1	Breadboard
2	Insulated Wires
3	Photocell
4	Potentiometer
5	Resistor
6	Transistor
7	9V Battery
8	9V Battery Clip
9	Voltage Regulator
10	Voltage Relay
11	Soldering Iron
12	2 Housing Units
13	Laser Pointer
14	Digital Camera
15	Mirrors
16	Siren
17	Microphone Chip

WHY

This project proves to be important because it adds an extra layer of physical security to computer systems without too much overhead. Instead of security cameras that are visibly obvious and supply a constant stream of information that would quickly fill up memory, a laser security system is meant to be less noticeable and more efficient (given that the laser coverage is adequate). Finally, if I am able to connect an alarm to the circuit then it will also notify victims of an attack in addition to documenting it.