SANTA CLARA UNIVERSITY	ELEN 21	Shoba Krishnan, Sally Wood
Motion Sensor Reference		

Motion Detector: Parallax PIR Sensor (#555-28027)

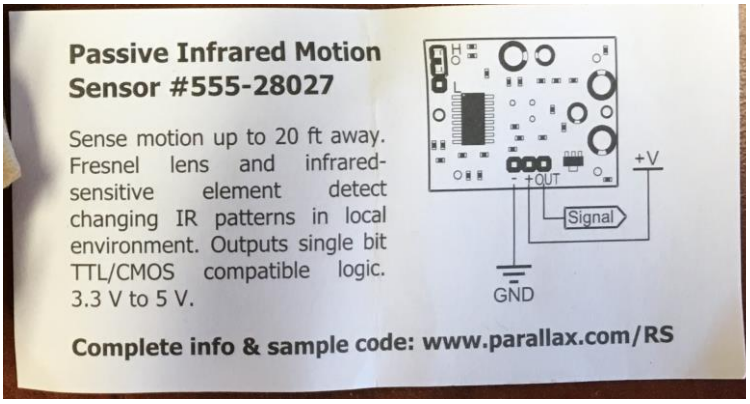
"The PIR (Passive Infra-Red) Sensor is a pyroelectric device that detects motion by sensing changes in the infrared (radiant heat) levels emitted by surrounding objects. This motion can be detected by checking for a sudden change in the surrounding IR pattern. When motion is detected the PIR sensor outputs a high signal on its output pin." (from https://www.parallax.com/sites/default/files/downloads/555-28027-PIR-Sensor-Product-Guide-v2.3.pdf)

The sensor is mounted on a PC board with interfacing circuits. Look at the bottom of the motion detector, and identify the three pins labeled -, +, and OUT. There may be a piece of protective foam covering the pins; if so, carefully remove and save it.

With the motion sensor right-side up, the -, +, and OUT pins go in the rightmost three lines on the bottom half of the breadboard, one pin in each line. Note: The other pins on the bottom of the motion detector, labeled "H" and "L", have a jumper on them; do not move this jumper.

Top view

Bottom view



Connecting the Motion Sensor:

With power off, connect the line with the "-" pin to 0V or ground. Connect the line with the "+" pin to a +5V line. The line for "out" is the motion detector "M" input to your logic circuit.

Using the Motion Sensor:

When the circuit has been completely wired, Turn the power on. The motion sensor needs an initialization procedure. Tape the small paper cylinder over the dome of the motion detector, pointing directly up. This will reduce the field of view. When the motion sensor is first powered on, do not make any motion for at least 10 seconds, while the sensor initializes. Use the circuit diagrams and pin numbers for the gates in your design and build the logic circuit for your motion detection system.