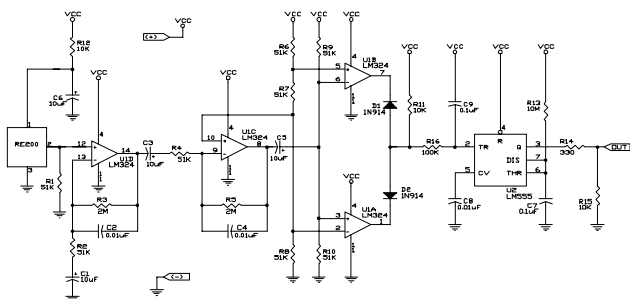
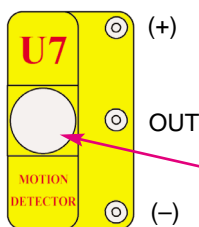


Motion Detector

The **motion detector** module (only in SCP-03) contains an infrared detector, amplifier-filter circuit, and timing circuit. Its actual schematic is complex and looks like this:



Its Snap Circuits connections are like this:



Motion Detector:

- (+) - regulated power from batteries
- (-) - power return to batteries
- OUT - output connection
- Lens

All objects (including people and animals) produce infrared radiation due to the heat in them. Infrared radiation is similar to visible light but has a longer wavelength that our eyes cannot detect. The lens on top of the motion detector module filters and focuses the radiation, it is most sensitive to the radiation produced by our bodies.

Inside the motion detector module is an infrared detector with pyroelectric crystals, which create a tiny voltage when exposed to infrared radiation. A circuit amplifies and filters this voltage, but only responds to changes in the radiation level - so is only triggered by moving objects (motion). When motion is detected a timing circuit is used to control other snap circuits devices for a few seconds, such as an alarm.

This module is very sensitive and requires a very stable voltage from the batteries, so it should always be used with the 9V battery holder (B5). The Motion Detector kit SCP-03 shows how to connect this part and what it can do. Other projects with this motion detector will be available on our website.