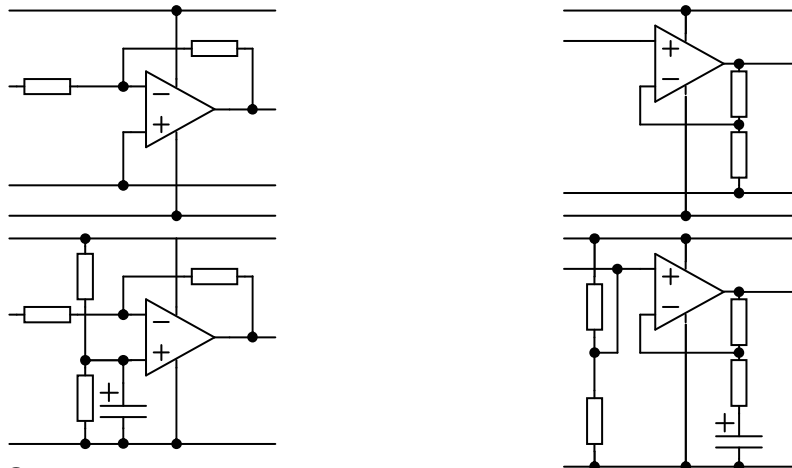
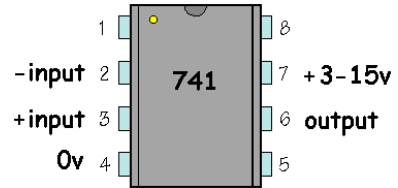


Operational Amplifiers (OpAmps)

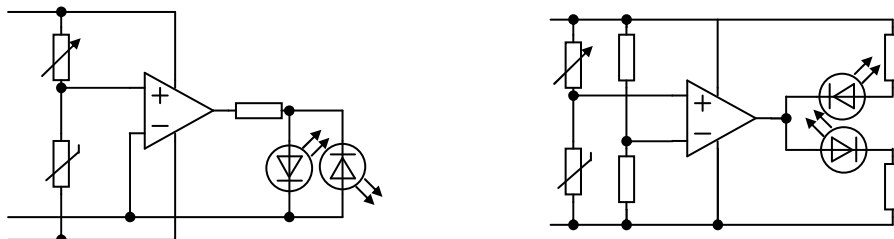
OpAmp Amplifiers

An OpAmp is a very high gain voltage amplifier in a chip, carefully designed so that it becomes a very useful component in a number of circuits. The most obvious is the amplifier. There are two sorts – inverting and non-inverting, and each can use either a single battery or a dual battery supply.



OpAmp Comparators

An OpAmp can be used as a process block following a potential divider input block. In this usage it becomes an analog to digital converter producing an output which is either very close to the positive battery voltage or down to zero (for a single supply OpAmp) or negative battery voltage (for a dual supply OpAmp).



With the single power supply version (on the right) there will be a small waste current equivalent to 2volts across one of the LED limiting resistors.

Schmitt Trigger Comparator

This circuit provides a system which switches high at a different input level to that which switches it low. Once switched high, the input voltage has to drop quite a bit before the output will switch low. It uses a resistor which feeds back to the positive input of the OpAmp. The switching action is shown by the graph below.

