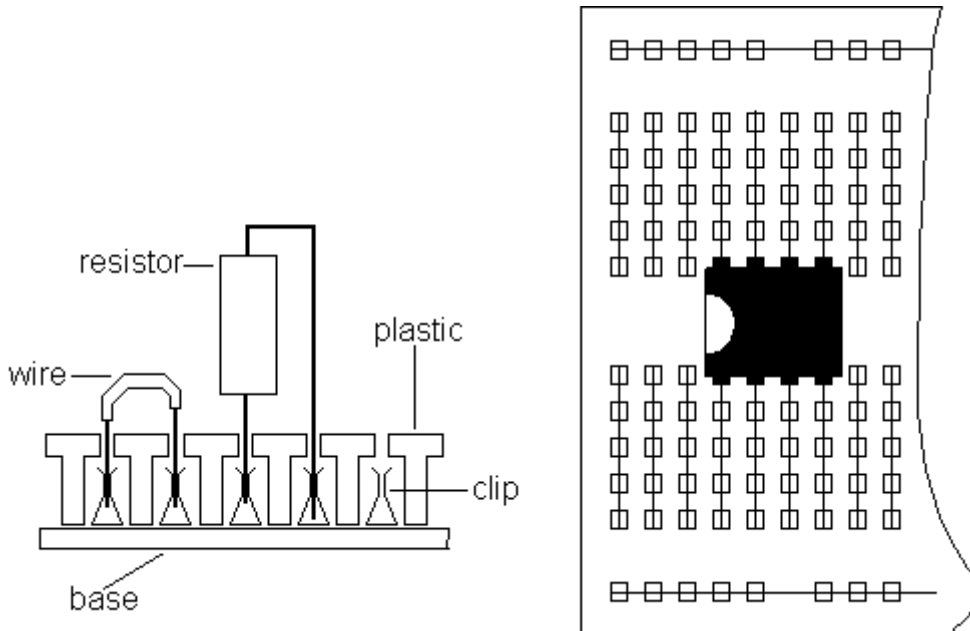


Hardware required

All the practicals assume the use of breadboard (prototype board) to assemble the circuits. This is a flat slab of plastic with an array of holes in it. Underneath the holes are strips of metal which can grip the bared ends of wires thrust through them.



You will need the following items of hardware:

1. Stabilised power supply capable of supplying +5 V and 0 V for digital circuits and +5 V, 0 V and -5 V for analogue ones.
2. Digital multimeter.
3. Double beam oscilloscope (at least 10 mV cm⁻¹, 1 μs cm⁻¹).
4. Signal generator (sine wave of up to 1 V between 100 Hz and 100 kHz).
5. Variable mains transformer with floating outputs (up to 9 V r.m.s.).
6. Computer capable of running Excel spreadsheet.
7. [Analogue](#) and [digital integrated](#) circuits and [discrete components](#) listed in the data sheets.
8. Various input/output devices, including thermistors, LDRs, relays, loudspeakers and electret microphones.
9. Lots of reels of solid 0.6 mm core wire with different colours of insulation.