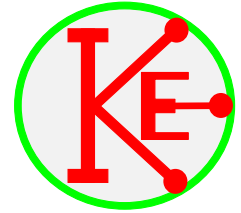


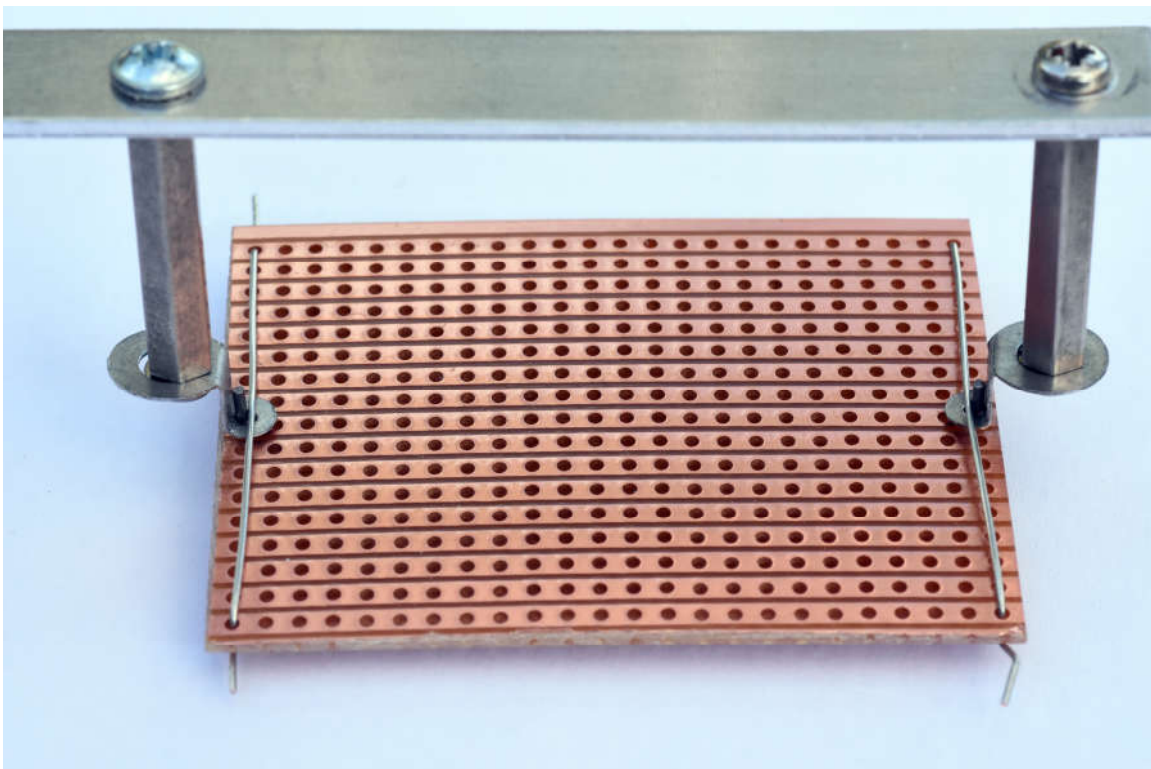
Subsystem Construction.



As far as possible all of the electronics subsystems are built on pieces of strip board 17 strips by 24 holes. Four of this size strip boards can be cut from a standard retail size of 95 x 127mm. Once cut, the edges of the strip board should be smoothed with sand paper or a file and the copper tracks wiped with alcohol or propanone (acetone) and then given a light spray of printed circuit board lacquer. While this coating is not essential it will prevent the copper tracks from oxidising where they are touched.

To minimise capacitive coupling between the various parts of a circuit, unused copper strips are connected to 0V. This is most easily achieved by soldering a wire to the edge of each strip and breaking the strips where necessary to construct the circuit. This also has the advantage that there are multiple places where components can be connected to 0V with short leads - which is very useful with radio frequency circuits as it helps to prevent circuits being unstable.

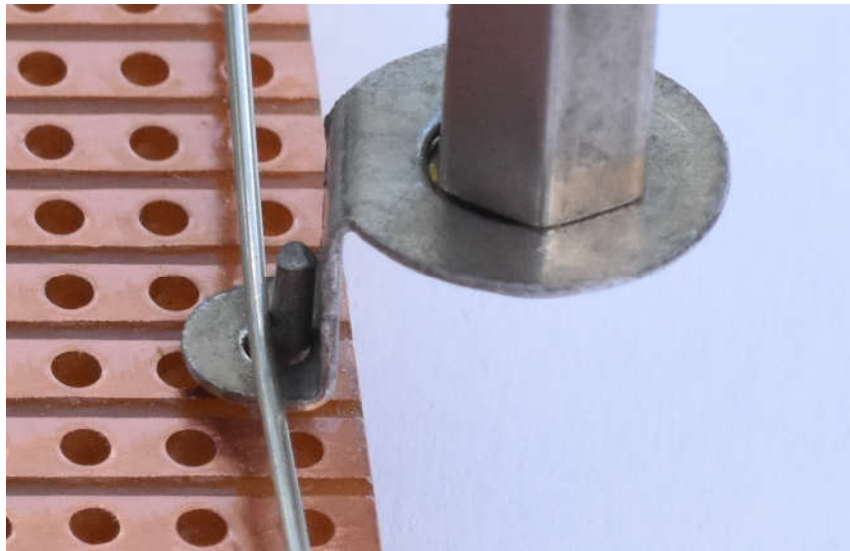
The picture below shows a piece of strip board with the two pieces of wire in place before soldering. It also shows two M3 solder tags bent to form brackets that are used to bolt the circuit board to the main frame for the system, which will also be the 0V connections for the sub-system.



The M3 solder tags are passed over a double sided terminal pin pushed through the middle strip of the circuit board. The connecting wire passes over the solder tag and stops the solder tag falling off before it is soldered.

The picture also shows a frame that was made to hold the arrangement together prior to soldering. A wooden version could easily be made, the fixing centres for the solder tags is $\approx 68\text{mm}$. The solder tags are easily bent using pointed nose pliers - the top and bottom should be as parallel as possible.

When soldering the wire, a crocodile clip can be used to hold the wire against the copper strip. A close up picture of the solder tag arrangement is shown below.



The Rapid Electronics order codes for the materials for each subsystem board are given below.

Solder pins 1mm	21-5799
Single sided terminal pins	34-0610
M3 solder tags	33-1810
Rapid strip board 95 x 127mm	34-0515
Clear protective lacquer	87-1204
Crocodile clips	17-2873