

Methods of modelling electronic circuit

Computerised prototyping

Using software is a very good way of simulating a prototype circuit. It does not require any cost for components and the circuits are very reliable. Fault finding can be simplified, making this less time consuming and modelling a circuit on the computer is also far less time consuming than using a breadboard and veroboard. The circuit can also be kept on the computer for future reference

Breadboard Prototyping

Circuits can also be built on a breadboard using real components. This is a time consuming method and often mistakes occur as many components are small and it is easy to connect components incorrectly, causing a circuit to fail. Also, breadboards are prone to damage as the small connections on the boards are quite delicate.



Veroboard/ Stripboard

Veroboard is ideal for development and prototyping work, Veroboard is designed primarily for hard wiring of discrete components, typically in analogue circuits, but is equally useful where a number of common bus or signal lines are required. Veroboard is manufactured from copper clad laminated board which has been pierced with a grid of holes and machined to provide parallel tracks.



Two methods of producing a PCB

CAD/CAM- By using PCB design software, you can design the PCB, and have a machine then make the PCB design on the board before etching.

Image transfer- A method where you print an image of the tracks on the PCB, and transfer them to the PCB, an easy way of doing this is with photo paper, and transferring the toner (etch resistant) by using heat, such as from an iron.

Etching is typically done by placing the board in an acid, and the etch-resistant ink would make a pattern, for the ink to be scratched off, revealing the copper tracks.