Prototype Motherboard Tester

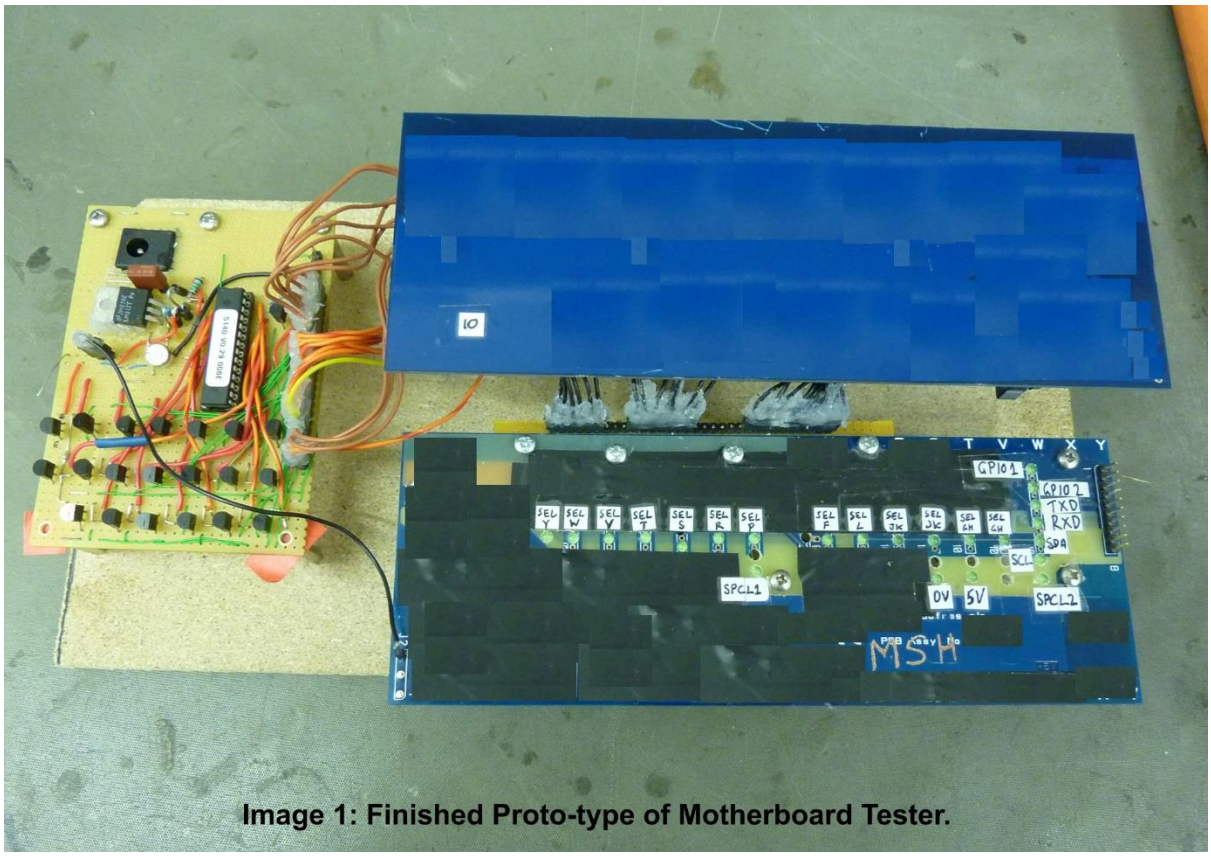

Image 1: Finished Proto-type of Motherboard Tester.

Image 1 shows the completed proto-type of the Motherboard Tester. The Motherboard tester is comprised of three main modules: the ***processor module***, the ***display module*** and the ***motherboard module***. All three modules are mounted onto a piece of MDF using 30mm metal spacers.

The purpose of the motherboard tester is to test the tracking on each individual motherboard for open circuits (e.g. damaged tracks) and solder shorts; which both occasionally occur during the manufacturing process. The motherboards are produced in high volume by the manufacturing facility and the tester is designed to be used by a single individual testing each board one at a time. A single motherboard can be tested in less than a couple of minutes.

The functionality of the tester can be explained using the 'water' analogies commonly used in textbooks / educational establishments. Electricity flows down wires in a similar way to water flowing down pipes, with current being the speed at which the electricity flows and Voltage being the amount of electricity. Electricity is the flow of electrons (Water = H^2O Molecules) through the space that exists between the atoms of the material the wire is composed of.

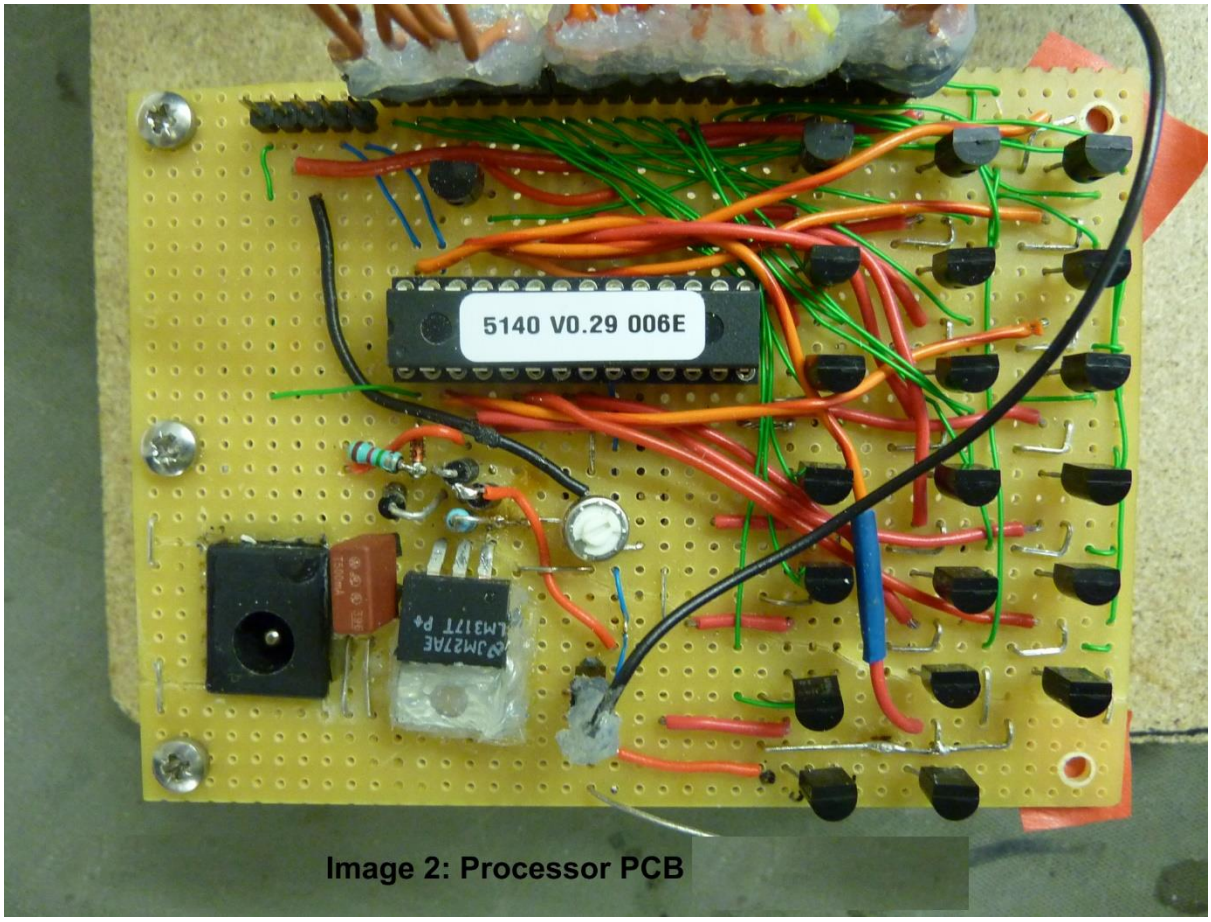

Image 2: Processor PCB

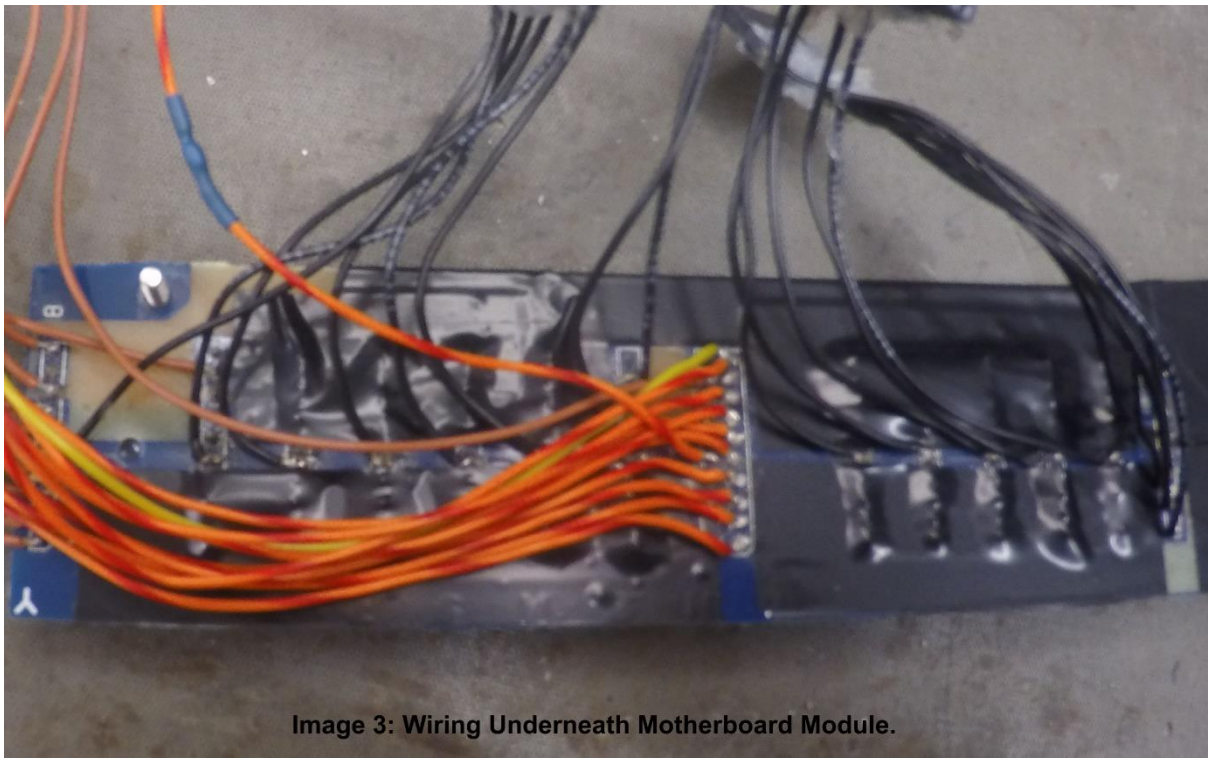

Image 3: Wiring Underneath Motherboard Module.

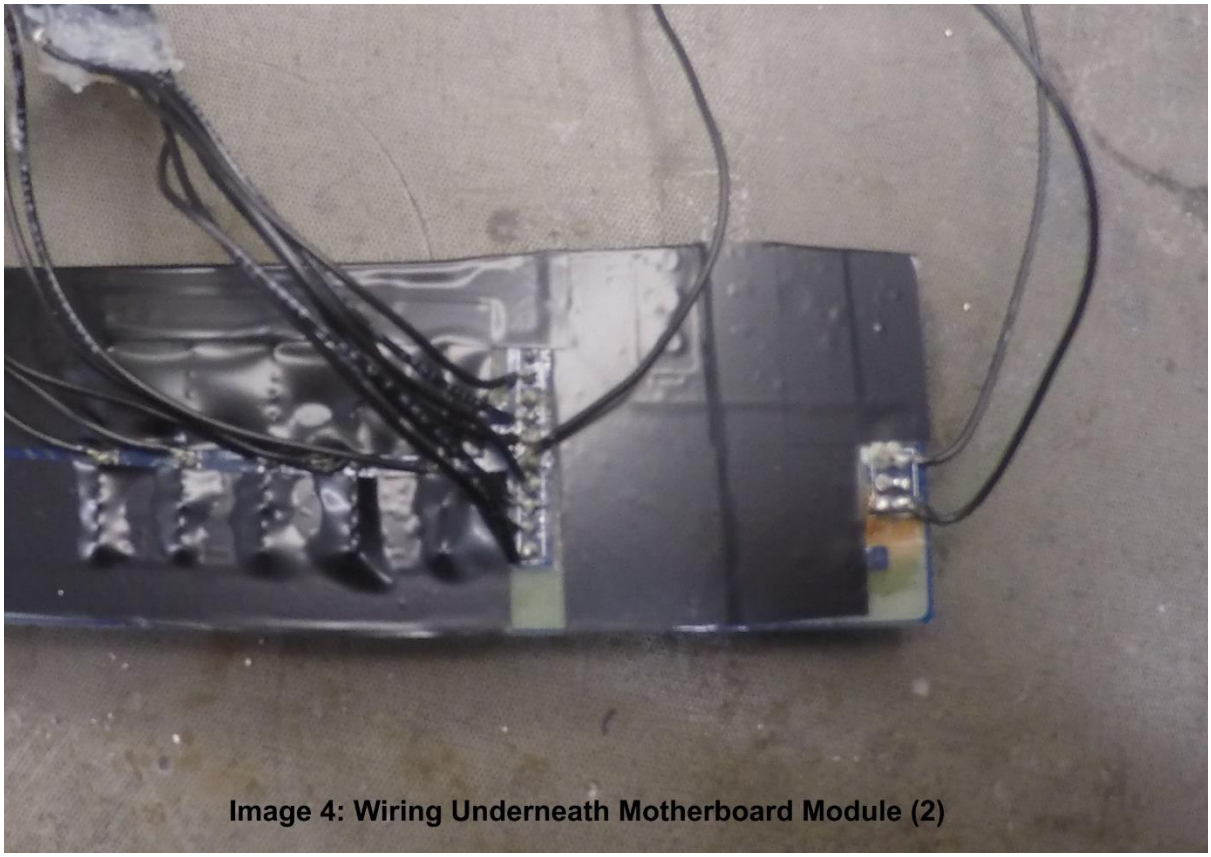

Image 4: Wiring Underneath Motherboard Module (2)

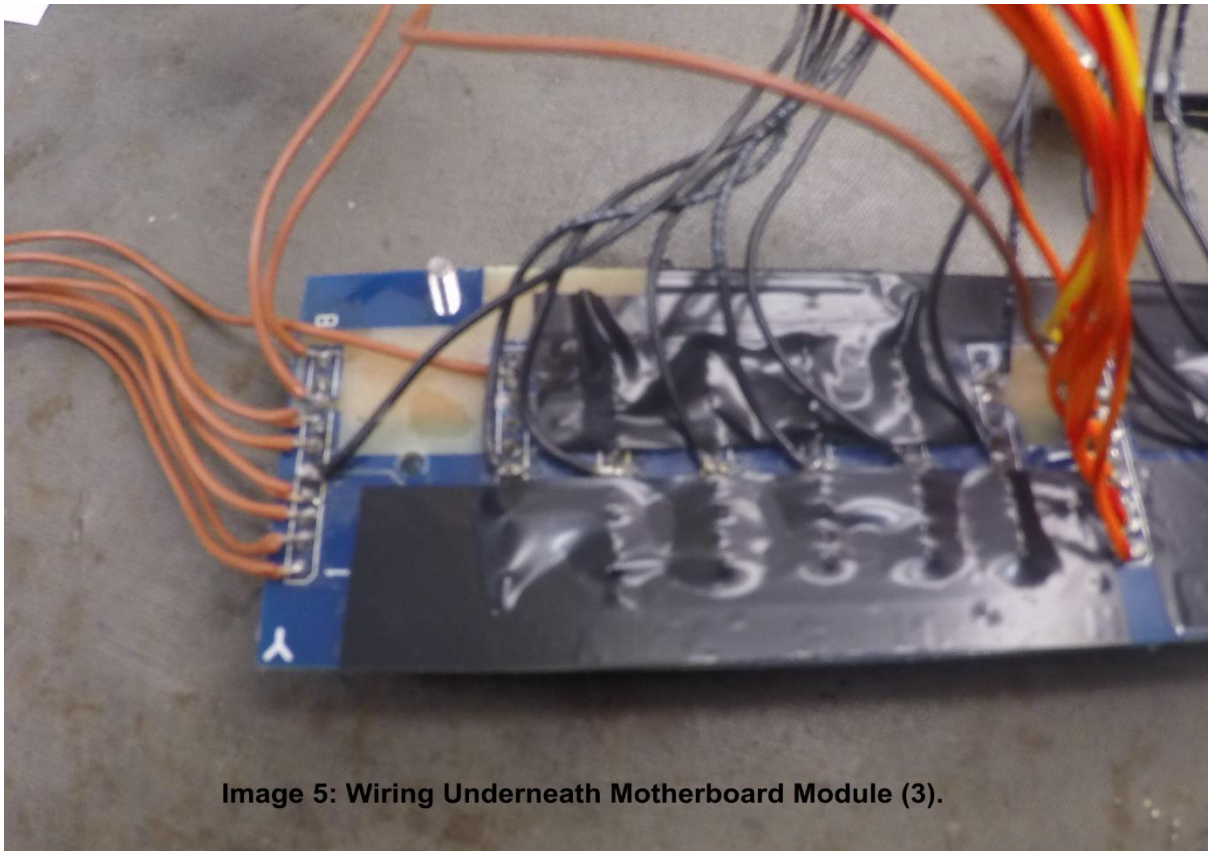

Image 5: Wiring Underneath Motherboard Module (3).

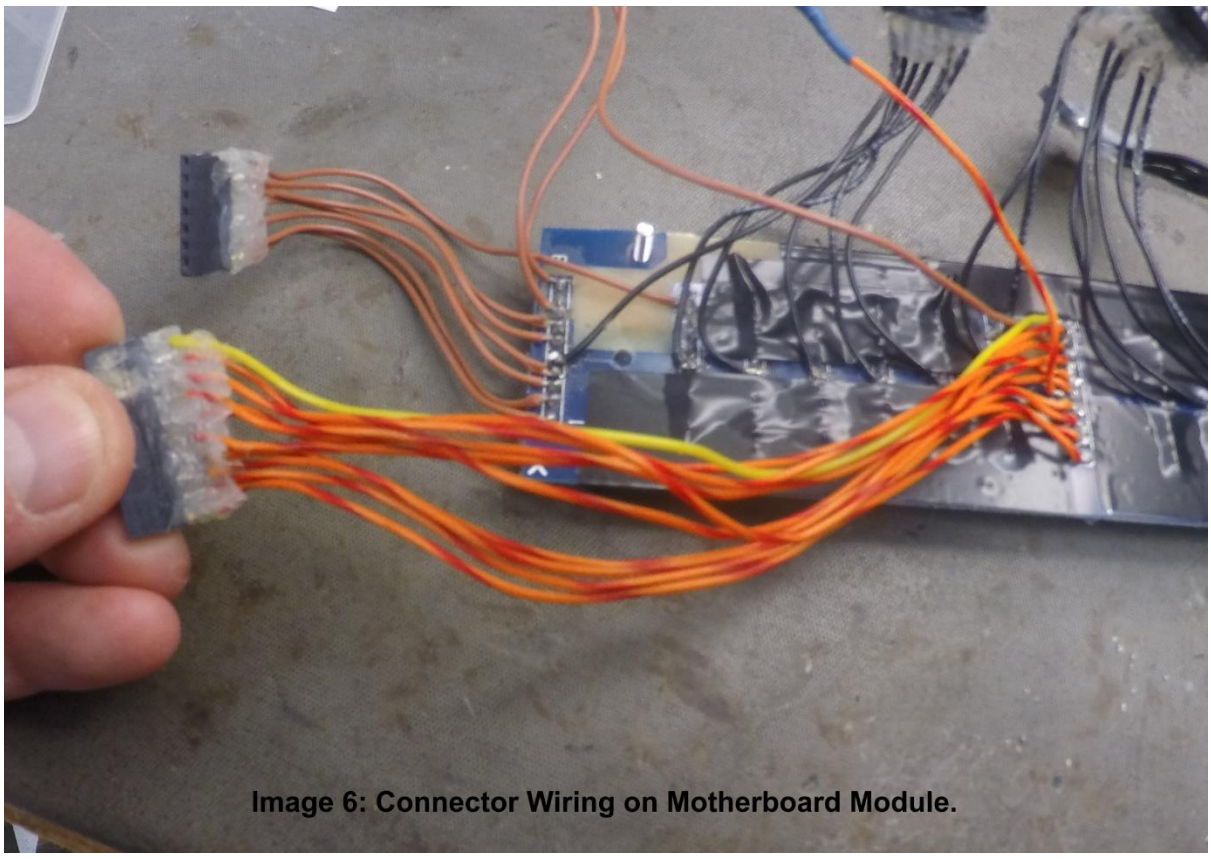

Image 6: Connector Wiring on Motherboard Module.

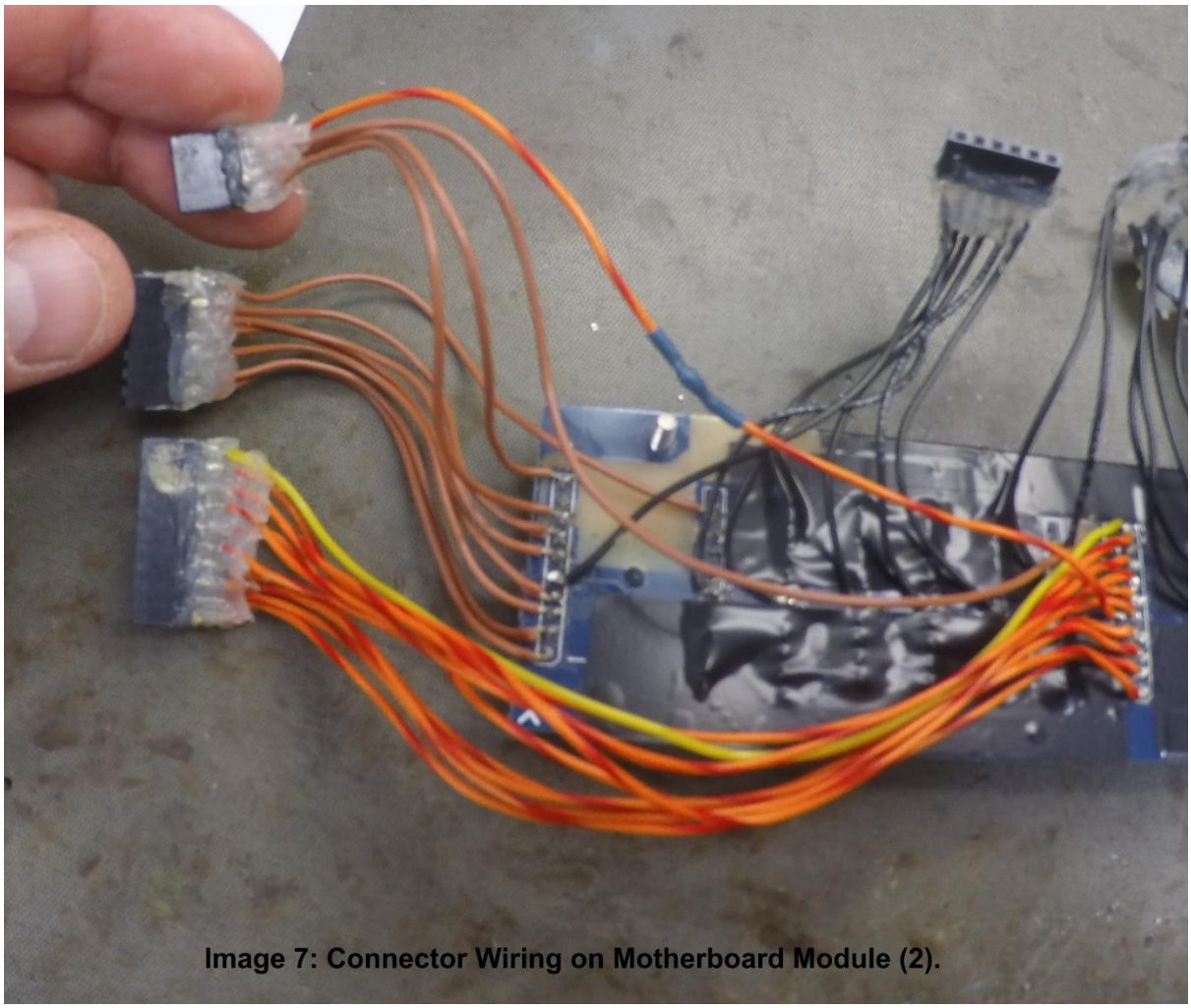

Image 7: Connector Wiring on Motherboard Module (2).

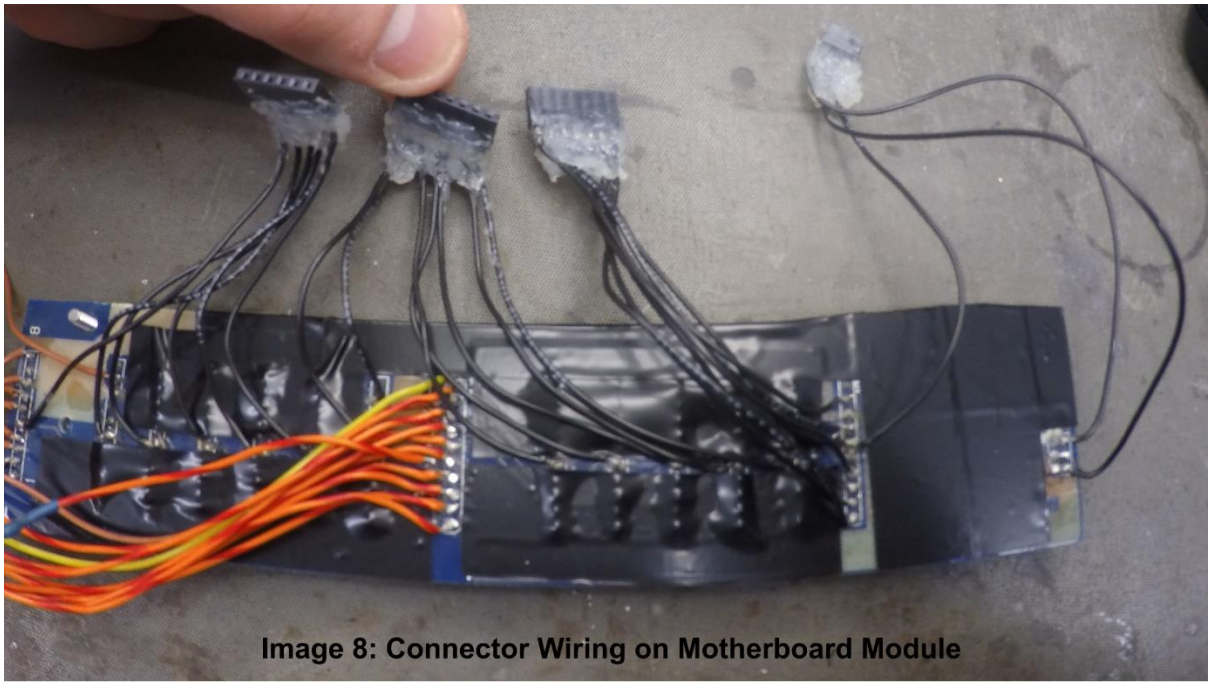

Image 8: Connector Wiring on Motherboard Module

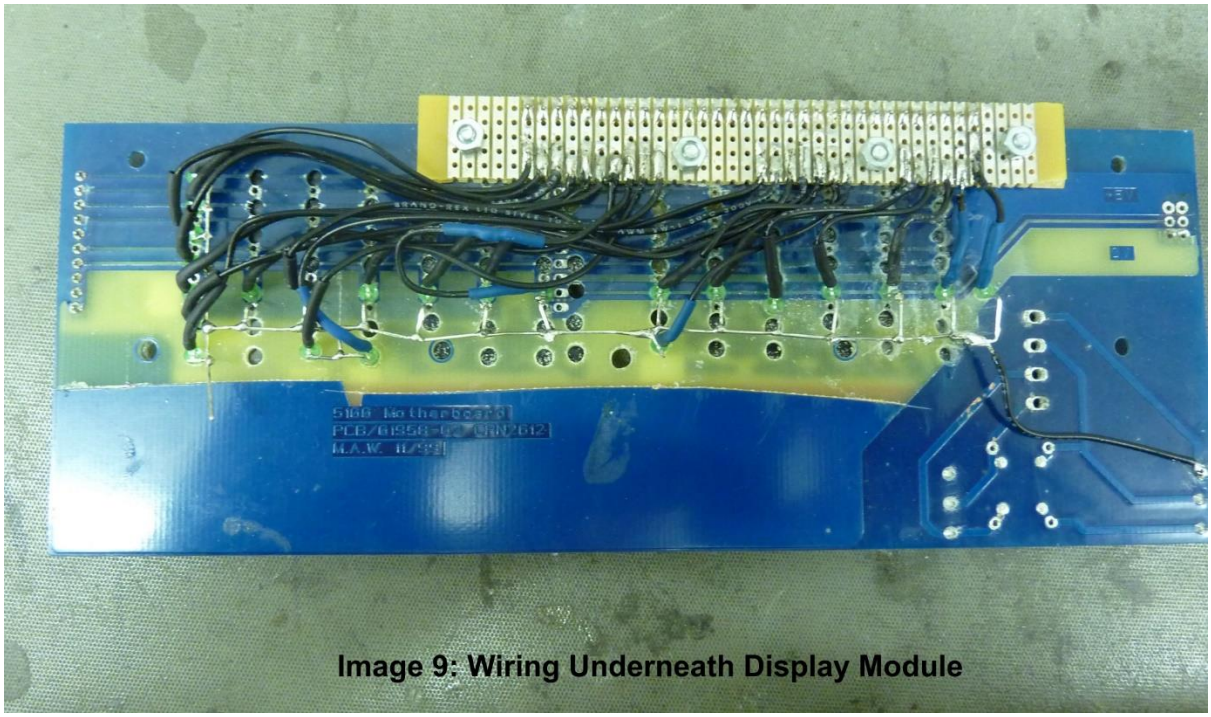

Image 9: Wiring Underneath Display Module

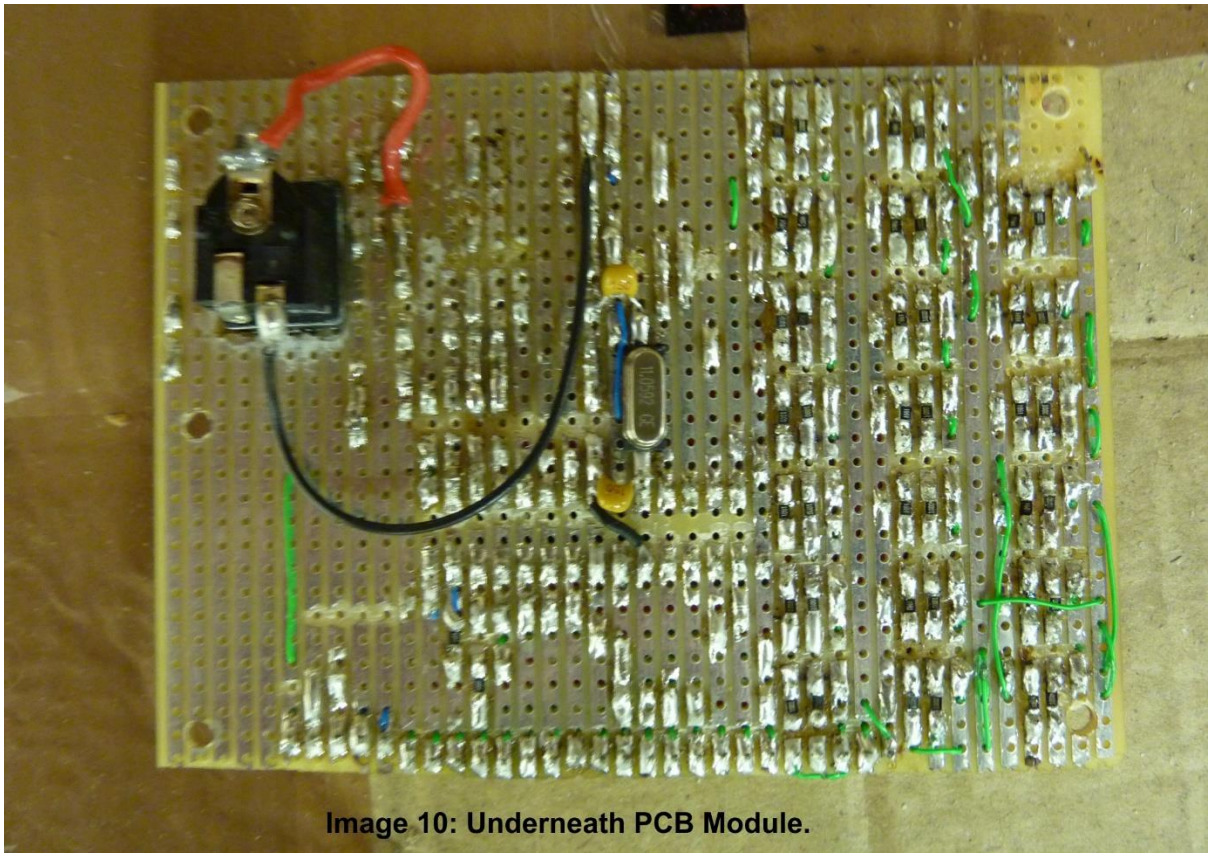

Image 10: Underneath PCB Module.

Completed Motherboard Tester

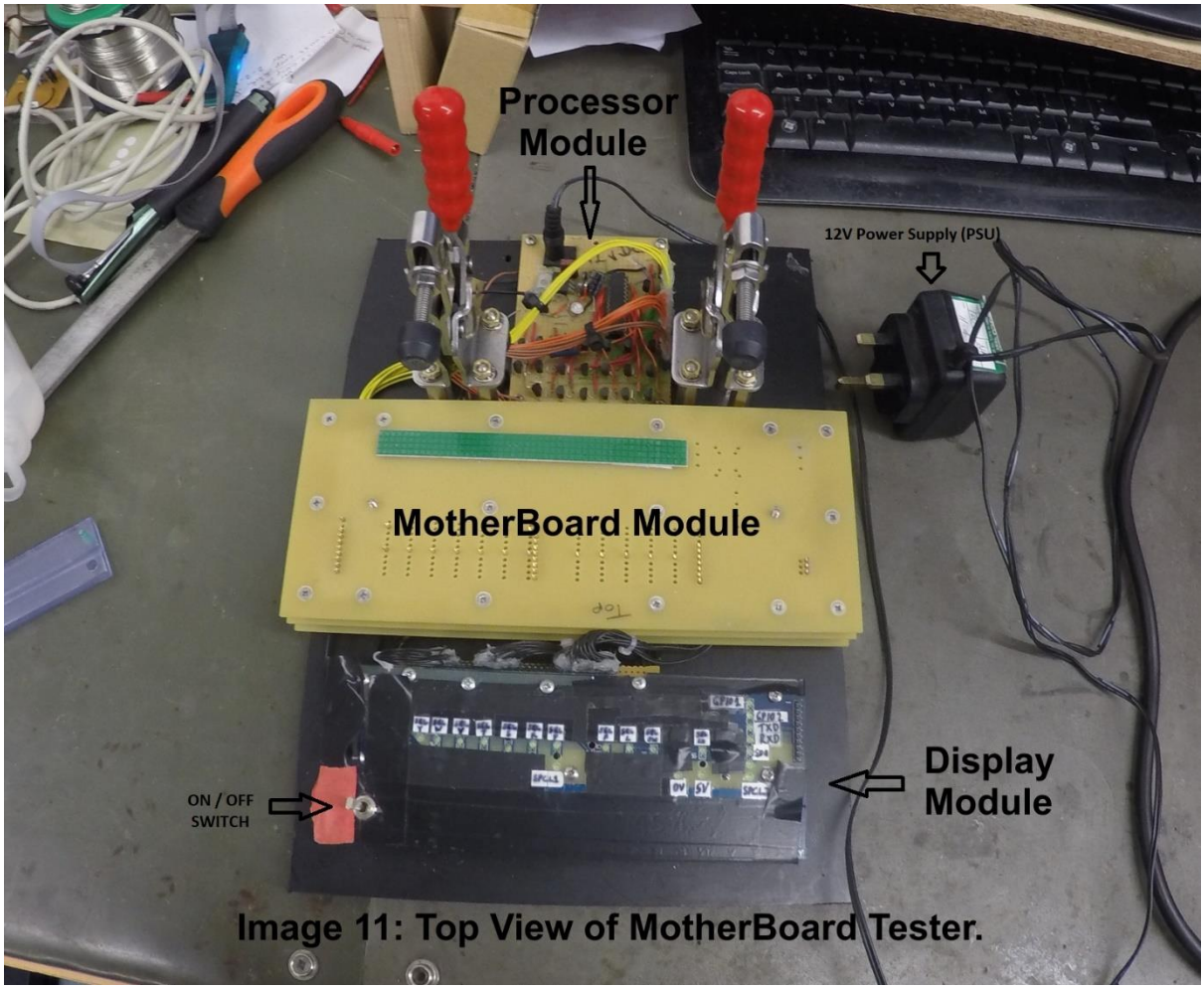

Image 11: Top View of MotherBoard Tester.

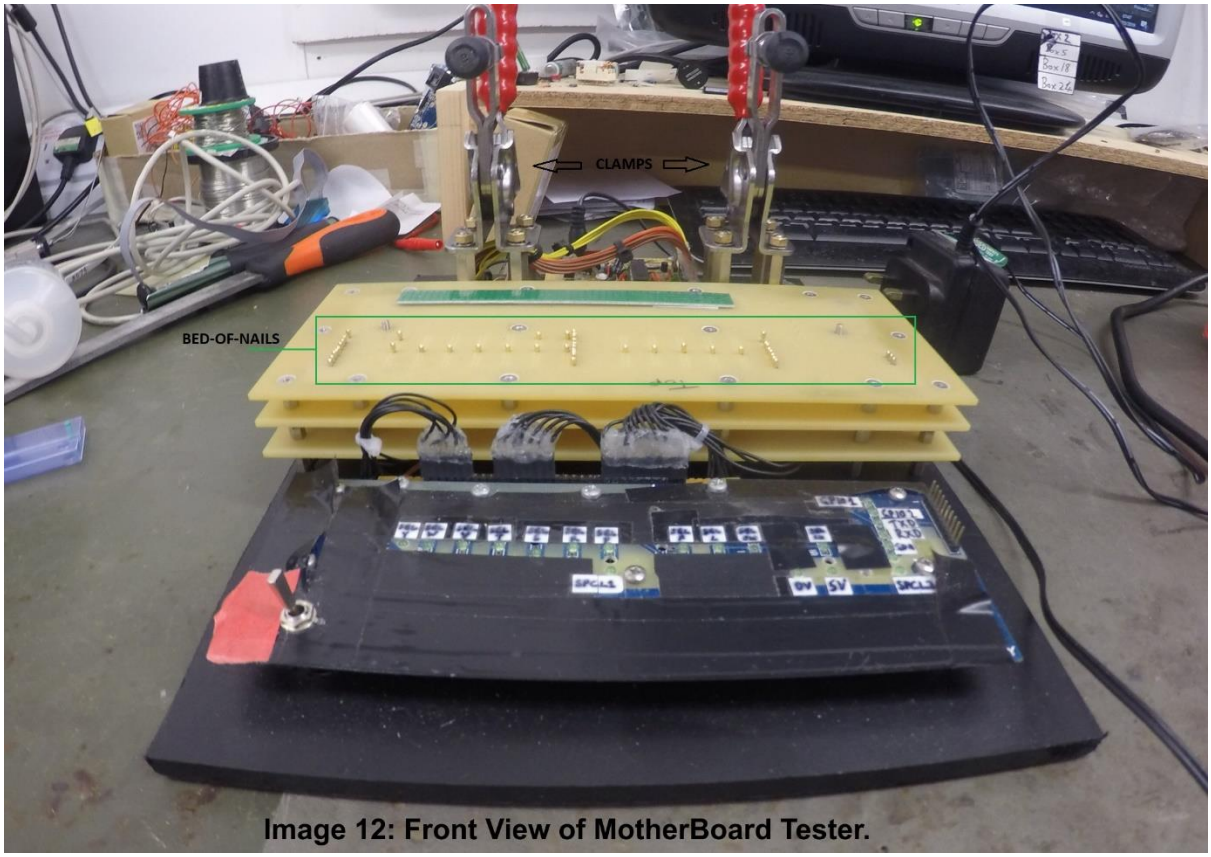

Image 12: Front View of MotherBoard Tester.

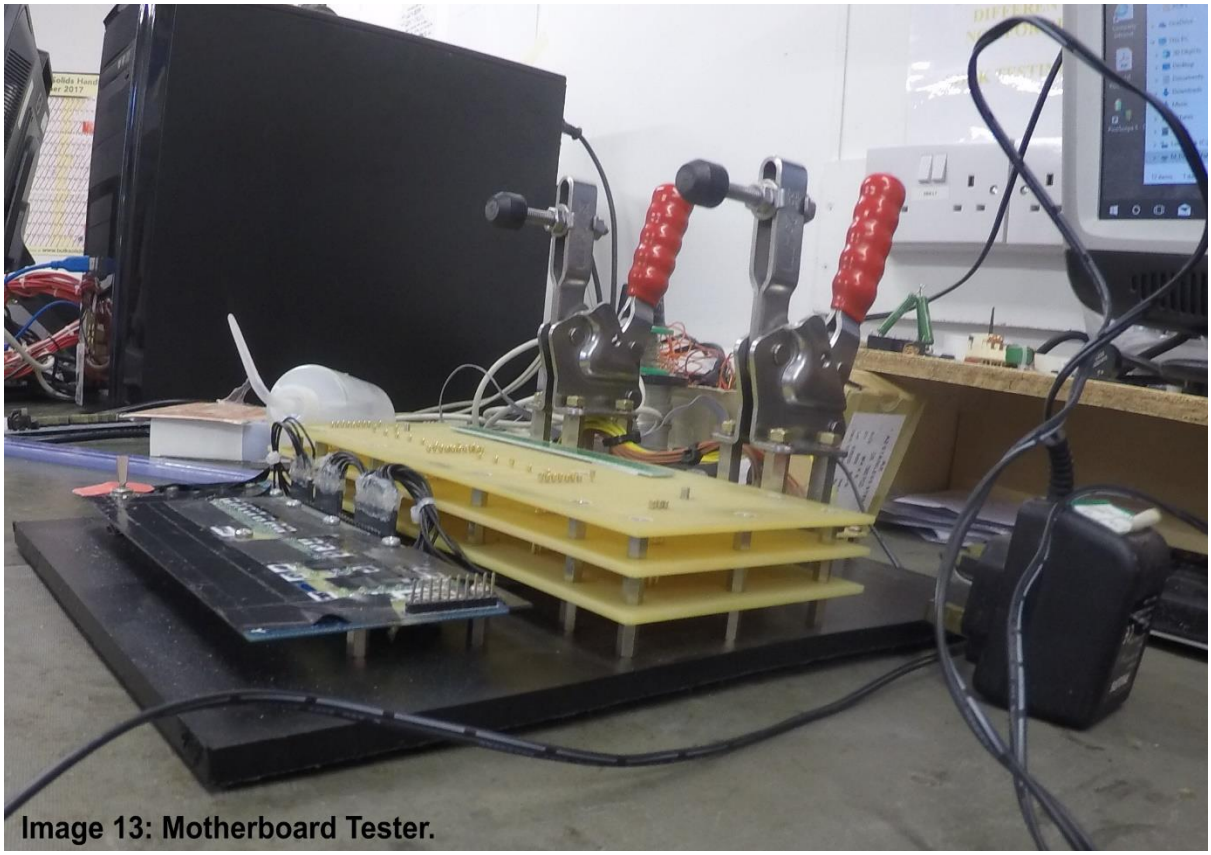

Image 13: Motherboard Tester.

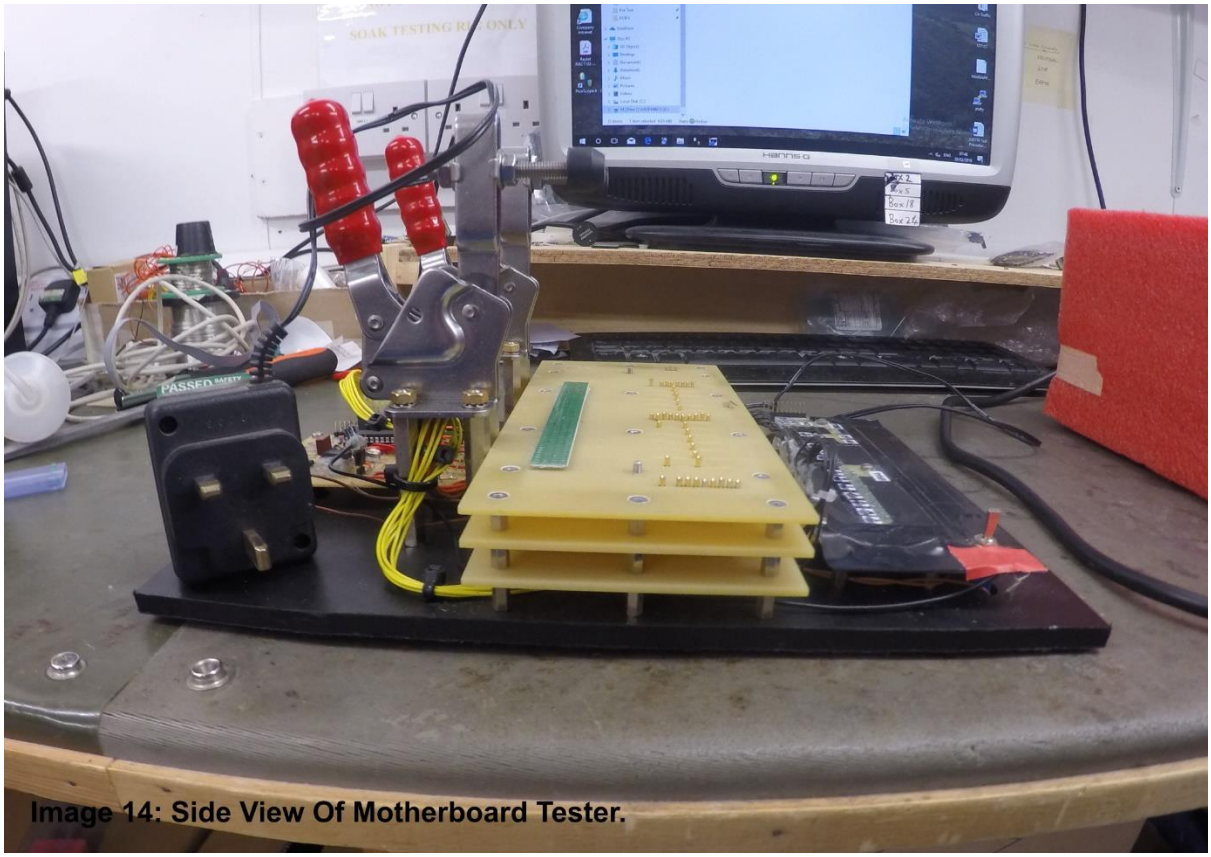

Image 14: Side View Of Motherboard Tester.

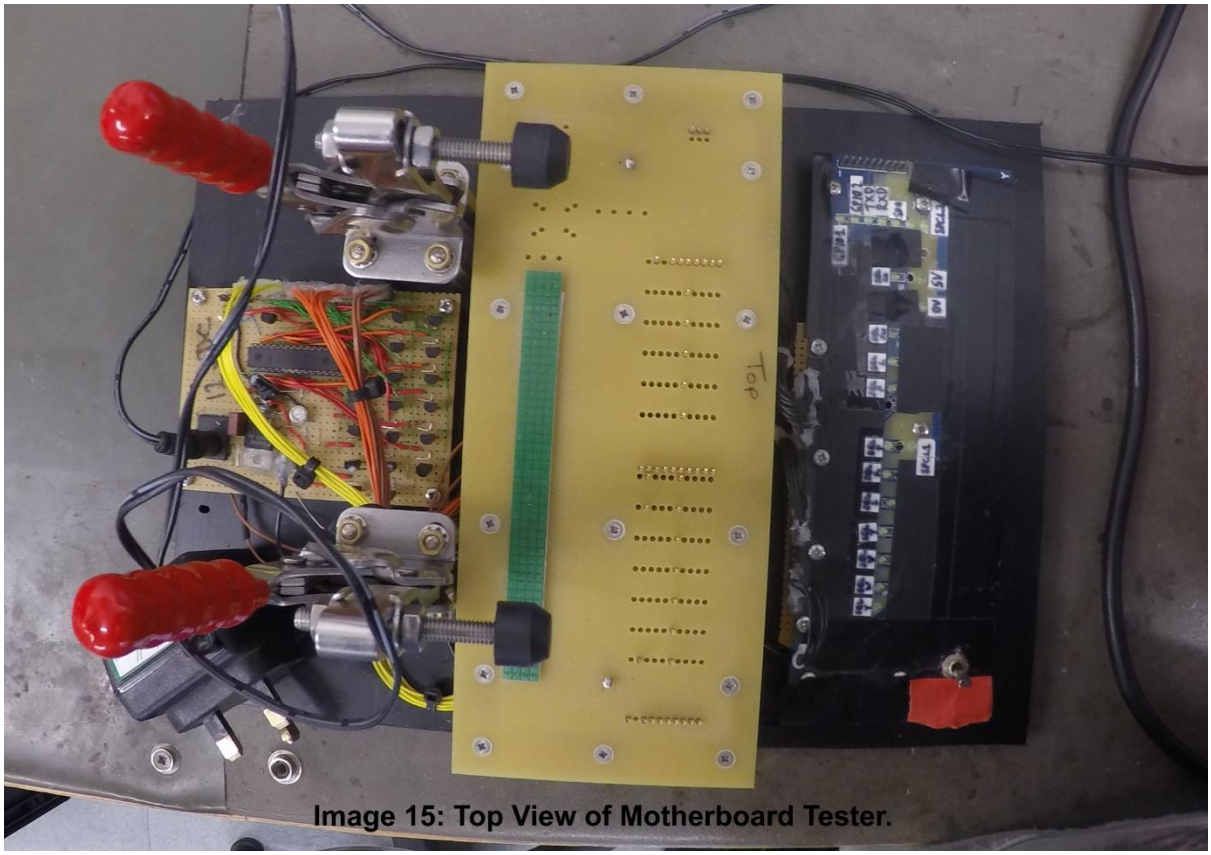

Image 15: Top View of Motherboard Tester.