

<u>About</u>

MODERN UNIVERSAL AUTOMATIC TEST EQUIPMENT(MUATE) is an equipment which is used to perform automatic measurements on the device, known as unit under test (UUT), device under test (DUT), and evaluate the test results. An MUATE has a computer controlled system that contains many complex test instruments that are capable of automatically testing and diagnosing faults in intricate electronic components, PCBs, Integrated circuits. It can test a large range of electronic devices and systems from ingenious components like resistors, inductors, capacitors to complex compiled electronic systems. To accomplish this intention, we are harnessing JIG/Fixture/ITAs.

MUATE systems designed to decrease the amount of test time needed to verify a particular PCB, Component, LRU.





TECHNICAL DETAILS

- MUATE contains Five subsystem
- (a) JTAG
- (b) Bed of Nails
- (c) Boundary scan
- (d) Data acquisition system
- (e) Controller

JTAG helps users with PCB debugging, prototyping, testing and repairing. By using the **Bed of Nails (ICT-In circuit testing)** we can check for short, open, resistance, capacitance, inductance, tracks, and many more Components, with the help of boundary scan Test device pin signals or internal signals can be monitored in real-time without interfering with normal operation.

Data Acquisition System measures electrical, physical phenomena such as voltage, current, temperature, pressure and electromagnetic signal. It also provides interconnection between the outer world and the PC controller. It contains three parts: (a) sensor (b) Signal conditioning circuit (c) ADC. Signal converter / protocol converter (bridge) interfaces the various logic families (VME/PCIE/ LVDS/ PTL) **Controllers** include multiple computer-controlled instruments to source or measure a wide range of parameters.

Controller synchronized with UUT to source and measure waveform at the proper time, It uses a VME bus. The VME signaling scheme is asynchronous, Meaning that the transfer is not tied to timing of a bus clock pin, for development and troubleshooting the VME bus, we use logic analyzers and bus analyzers tools.

Functional Tester is used for functional testing of PCB modules or LRU's. It contains high end standard COTS equipment programmed together with ITA to test as per UUT requirement. The software is user friendly LabVIEW based platform which makes system customizable and editable in future. We are not providing any Black Box which can not be troubleshot or editable in future.



Technical Specifications Of Functional Test Rack:

- 1. 34461A 6 1/2 Multimeter
- 2. 53220A Universal Frequency Counter/Timer 350 MHz 100ps
- 3. R&S ZNLE6 Vector Network Analyzer 1MHz-6 GHz
- 4. Infini Vision MSOX3104G
- 5. SMCV100B Vector Signal Generator
- 6. 33600A Waveform Generator
- 7. OSP320 Open Switch & Control Unit(RF Switch Matrix)
- 8. INTER-CONNECT PANEL
- 9. R&S NRX Power Meter
- 10. NI-PXI passed hardware with LabVIEW integrated system
 - 11. Interface PC

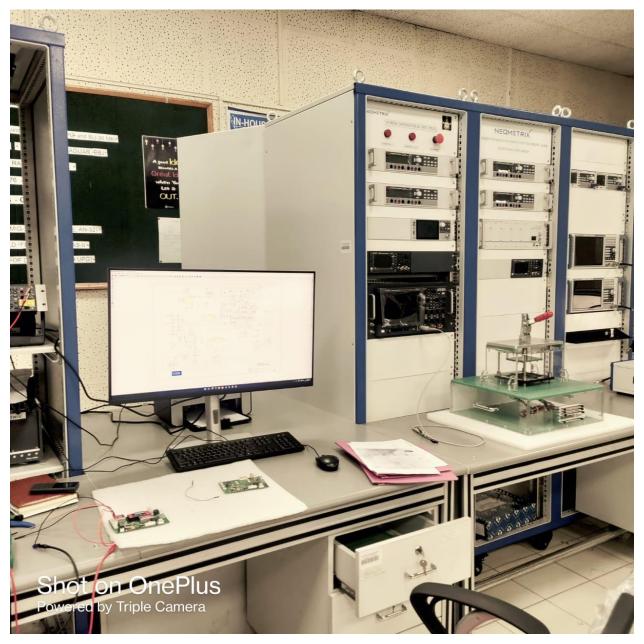




KEY FEATURES

MUATE is capable of testing and component level troubleshooting and fault diagnosis of RF, Digital, Analog and Optical PCBs. MUATE have the capability and flexibility to provide the following minimum testing and diagnostic capabilities-

- 1. Thermal testing of PCB to detect the hot zone on board
- 2. In-circuit testing (ICT)



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Application

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- 1. Thermal testing of PCB to detect the hot zone on board
- 2. In-circuit testing (ICT)
- 3. Boundary Scan(J-tag) testing of IC on board
- 4. Functional Testing to simulate the actual working scenario of MODULE and LRU's
- 5. Optical simulation and testing for optical boards and cables

