CUSTOM 96 CHANNEL STATIC LOAD BASED ESS TEST SYSTEM

Application Brief

Emerging Technologies, LLC. was called upon to develop a custom test system to load and monitor 24 four channel power supply modules during ESS (Environmental Stress Screening) testing using a customer provided environmental chamber.

The system is custom designed for automatic selection and verification of two different DUT models to be tested. Based on the selected model, the system automatically selects the correct test specifications from the customer configured test specification file and aligns the appropriate load resistors for testing. Remote sensing on a per channel basis is connected via differential inputs for continuous monitoring during the test cycle. The test cycle runs for approximately 10 hours in the existing environmental chamber under remote control of the new test application. Results are stored in a delimited text file for later review.

This system was evolved from a design previously provided by Emerging Technologies to the same customer. Custom machining, fabrication, programming, and assembly were employed. Modular components were used where possible to allow flexibility for future modifications.

Customer Benefit:
The customer is able to automatically test 24 DUTs of two different models, identify DUT test results with DUT label, and track test results for quality.
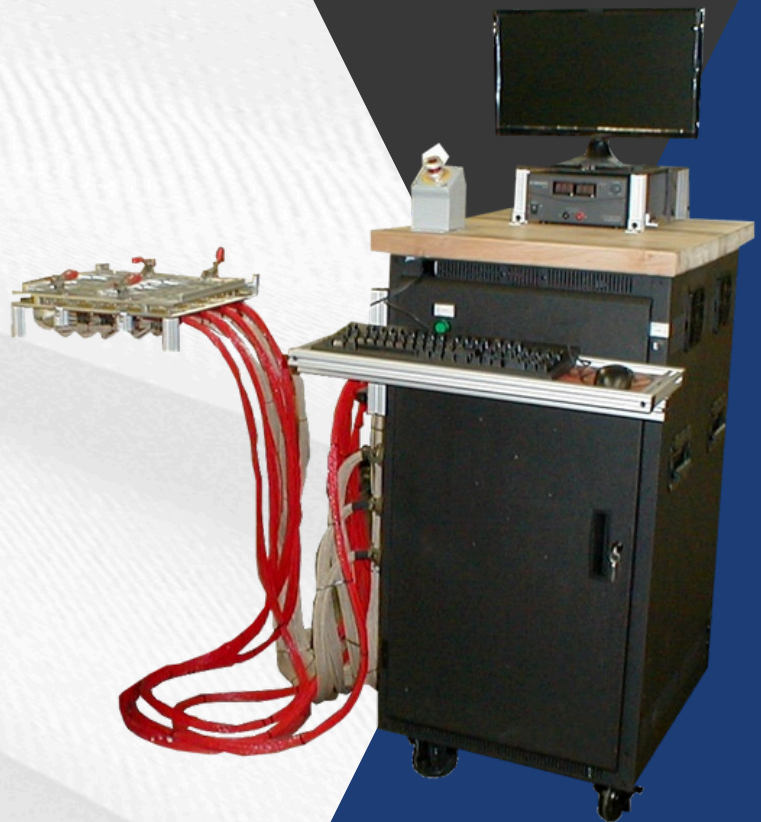
ET RESPONSIBILITIES:
Functional Specification Generation
✓ Design/Engineering
✓ Fabrication
Programming - Software
Programming - Firmware
Field Installation
✓ On-Site Commissioning
✓ Post Commissioning Support

TECHNOLOGIES:
Embedded Computers
Microcontrollers
✓ Visual Software
✓ Control Software
✓ Data Acquisition
✓ Computer Based Control
✓ Communications
✓ System Integration

SPECIAL FEATURES:
✓ Configurable Test Specification File.
✓ Test Results Storage.
✓ Remote Voltage Sensing at DUT (96 Channels)
✓ Ethernet Communication with Existing EV Chamber.
✓ Mobile Enclosure with Removable Fixture.
✓ Operator Friendly Design.