

EMBEDDED FUNCTIONAL TEST SYSTEM REFURBISH

Brief Description:

Emerging Technologies, LLC. was called upon to repair and refurbish a pair of existing embedded testers. The existing testers had fallen into disrepair and the original manufacturer of the systems was no longer doing business.

The customer provided two non-functional testers, some of the original microcontroller source code, documentation for the testers, and product samples both working and with known problems.

Emerging Technologies, LLC. started by curing known problems with the testers. This effort included replacing components, specifying new components where original parts were no longer available, and custom fabricating pieces where required. Additionally, some portions of the microcontroller code was modified to accommodate correct failure indication for supplied known bad product. Finally, a new daughterboard was designed to eliminate a problem area for the testers. The existing design suffered from failure of the DUT interface connectors over time. When it was time to replace the connectors the customer was forced to de-solder and remove the bad connectors and solder in replacement connectors. Over time the tester PCB traces became damaged. The new Emerging Technologies designed daughterboard allowed the customer a plug in replacement solution. Additionally, the new daughterboards were supplied with multiple locations for replacement connectors for the customer to replace connectors if desired.

Customer Benefit:

The customer is able to test sub-assemblies, using the Emerging Technologies, LLC. refurbished testers, to verify correct operation prior to assembly into the final product. The refurbished systems provided a significant cost savings over replacing the testers with new test systems.

Refurbish Details:

- Replaced Damaged Components.
- Updated Problem Areas of Original Design.
- Verified Operation of Known DUT Problems.
- Added New Graphic Overlay for Clean Modern Look.



Specific Challenges:

- Finding Programming Hardware and Development Environment for legacy microcontrollers.
- Finding compatible components to replace those no longer available.
- Developing a daughterboard solution compatible with the original design.

Emerging Technologies, LLC.

Responsibilities:

- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- Programming – Software
- ✓ Programming – Firmware
- ✓ Circuit & PCB Design
- On-Site Commissioning
- Post Commissioning Support
- ✓ Other - Refurbish

Technologies:

- Embedded Computers
- ✓ Microcontrollers
- Visual Software
- ✓ Control Software
- Data Acquisition
- Computer Based Control
- Communications – serial
- System Integration
- Other

Customer Category:

- ✓ OEM
- Custom Equipment
- Utility
- R&D

SPECIALISTS IN TEST, MEASUREMENT, AND DATA ACQUISITION

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