

TestStand and LabVIEW Automate Telephone and Communicator PCB Functional Test

Customer

Lifeline Systems Inc. (Framingham, MA) provides personal response services for the elderly. In an emergency, a Lifeline subscriber presses a help button, prompting a telephone or communicator to dial a response center for assistance.

Challenge

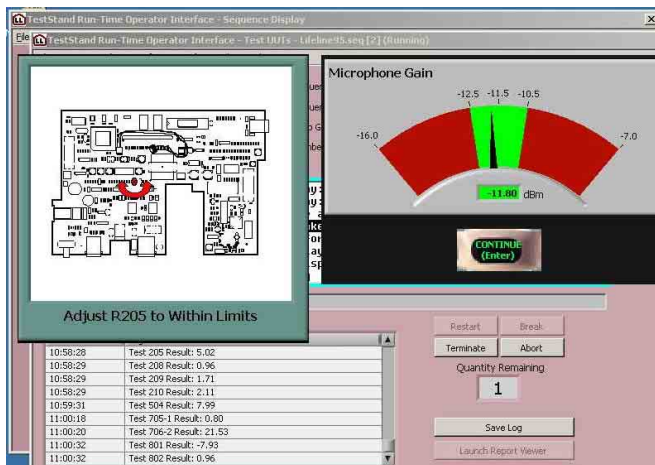
Replace outdated functional test system that tests printed circuit boards (PCBs) in telephone and communicator. One PCB requires 102 tests; the second requires 66 tests.

Solution

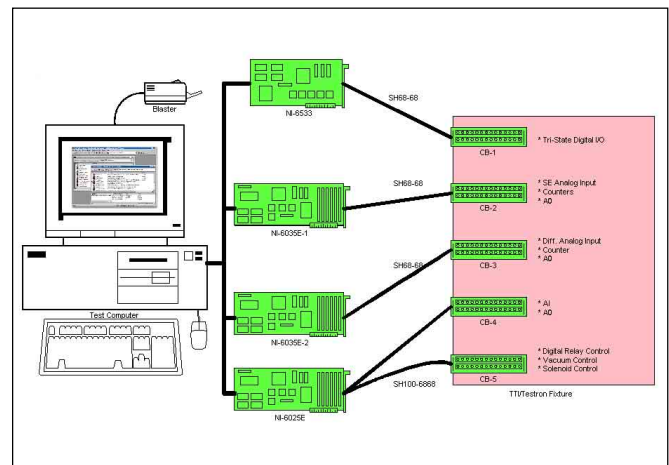
Create an automated test system that manages and performs the numerous tests, prompts the operator where required, acquires data, checks pass/fail criteria, and reports results to a database.

Key products used:

- National Instruments (NI) TestStand
- NI LabVIEW
- NI-DAQ



User interface prompts operator to adjust PCB under test and displays microphone gain feedback



System diagram for both telephone and communicator PCB functional test systems

Benefits

Testing time for telephone PCBs decreased from 4 minutes to 2 minutes and 37 seconds per board, a 35% throughput increase. Communicator PCB testing time decreased from 3 minutes to 2 minutes and 12 seconds per board, a 27% throughput increase.

“The Bloomy Controls test architecture and NI cards have made the difference in accuracy and ease of controlling the test systems. This has resulted in consistency between tests, great yields at AQL, and ease in updating the system with new tests.”

– Elaine Fasoli Bailey, Manager of Quality Assurance and Process Control, Lifeline Systems Inc.

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