

Testtalk *focus*

THE INDUSTRY LEADER IN DIGITAL AUDIO PRODUCTION
EQUIPMENT FOR THE HOME AND PROFESSIONAL
STUDIO

Combined ICT and Boundary-scan

The company has design and manufacturing operations in the USA and in Europe.

The lead test engineer needed a test solution that included ICT and boundary-scan. He wanted CheckSum to layout the fixture test points for the TSOP and QSOP components. He knew there was good coverage of manufacturing defects associated with the BGA components via boundary-scan.

The company had already selected a boundary-scan partner. The boundary-scan vendor provided the boundary-scan test sets that CheckSum integrated with the ICT plus boundary-scan test program.

CheckSum was able to limit the test points needed for ICT by eliminating most of the nets tested with boundary-scan. Limiting the number of test points reduces the cost of the test fixture and in this case does not reduce fault coverage. The boundary-scan access provides “silicon nails” to many nets since their assemblies incorporated mostly digital ICs that include boundary-scan capability.

The circuit board was approximately 5 inches by 11 inches (12.7 x 17.8 cm) with 1,200 electrical nets, of which only 810 could be physically probed and tested using conventional ICT techniques. The board’s speed and functional complexity precluded using traditional vector-based ‘backdrive’ testing.

By adding boundary-scan test, the total tested nets were 1,050, boosting fault coverage from 68% to 88% – a 30% increase. In addition, the board included 40 ICs, the largest being an 860-pin ASIC. All of them were testable with boundary-scan.

The purchase of a CheckSum test system includes in-factory training at no charge, which was well within the budget for this engineer. The test engineer made one trip to CheckSum for training and validation of the complete ICT plus boundary-scan test system, fixture, and test program.

The customer said it best “I want to say thanks to you and your team. Your professionalism, quick response, and courtesy are very much appreciated.”