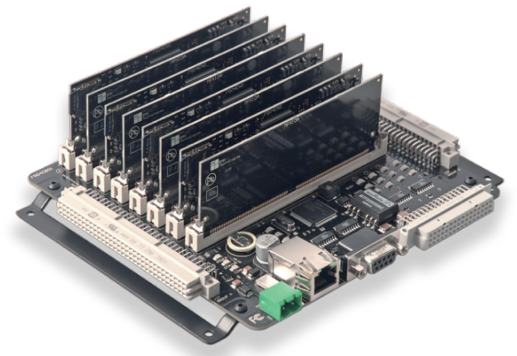


## Case Study: Testing House Flash Runner Quattro Integration to ICT with Agilent 3070 - February 2011



### INTRODUCTION

Mr. Juan José Montes, Sr. Test Engineer for Testing House México, explains how Flash Runner has proven to be a very useful tool to cover ISP requirements for their customers for the automotive industry.

"Using FlashRunner Quattro in a 3070 ICT set is easy, reliable and cheaper; also gang programming capabilities of FR04 allows a meaningful reduction on programming cycle times at a manufacturing environment that makes FlashRunner an extraordinary tool for ISP."

### THE PROBLEM

The objective was to program 2 different microcontrollers (FREESCALE MC9S08AW48 and MPC5603B) for two different assemblies. Assembly A considers an ICT fixture testing four PCBs and Assembly B requires an ICT fixture testing two PCBs, and simultaneous or parallel programming was required, 4 PCBs at the same time for Assembly / fixture A and 2 PCBs for the other one (B).

Required features for the solution were:

- ISP process with UNIX or PC base compatibility.
- Minimize ISP cycle time.
- Easy to integrate, use and understand for Engineers with Agilent 3070 ICT background.
- Avoid using communication port of the ATE controller for programming purposes. Since they are used by other customer required tools.

### THE SOLUTION

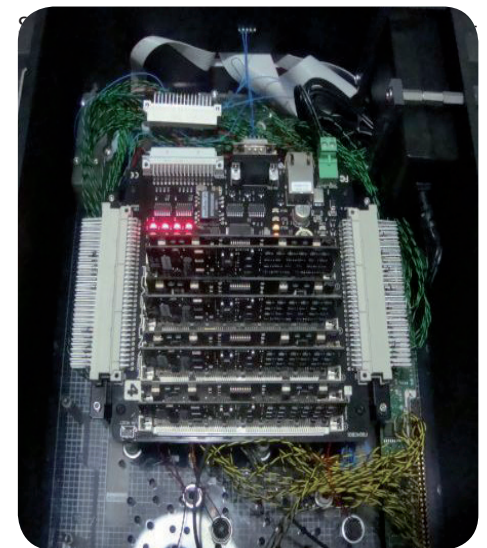
Other suggested ISP solution with a different gang programmer brand was capable to program two microcontrollers at the same time instead of four that could be programmed with the Flash Runner Quattro Technology; the other ISP solution was taking about 1min to complete programming for 2 single images, and with a higher cost.

For these applications (2 ICT fixtures) Testing House selected FR04A08 and FR04A04 because:

- Programming time with FlashRunner for target microcontrollers is about 55secs each MCU
  - Up to 4 microcontrollers could be programmed at the same time.
  - FR04AXX series provides an easy integration for ATE.
  - Previous used SMH solutions proven to be reliable at manufacturing environment.
  - It is possible to have effective management of the programmer operation thru digital control lines using standard digital test language for Agilent 3070 without using any communication port usually in use for other tester applications and not available for ISP purposes (i.e., LAN or RS232).
- The possibility of simultaneous or parallel programming allowed the total programming time to be two times less vs. the other ISP solution. Total ISP combined (2 ICT fixtures) solution cost resulted \$16K USD less than the other proposed ISP gang programmer and with twice the throughput.

Software routines used resulted easy to understand for Agilent 3070 background Test Engineers.

It wasn't required to use a communication port of the controller to have effective management of the programming routines.



### About Testing House



Testing House ([www.testinghouse.com.mx](http://www.testinghouse.com.mx)) is a global company whose mission is to produce in a creative way satisfied customers by designing, integrating and marketing technology solutions and services for the High Tech Industry through a world class system, formed with highly competitive persons and innovative processes, all managed with a totally human approach. Testing House is committed to continuously and systematically challenge our company IQ and, by being one of the best places to work, ensure that every person is completely responsible for exceeding the level of service and value expected by our stakeholders. With a strong commitment in the investment on R + D + i which will make the difference in our products and services, reducing also the ecological impact of the High Tech Industry processes, and, at the same time, stimulating our people to make of this innovation process the cornerstone for a higher quality of life