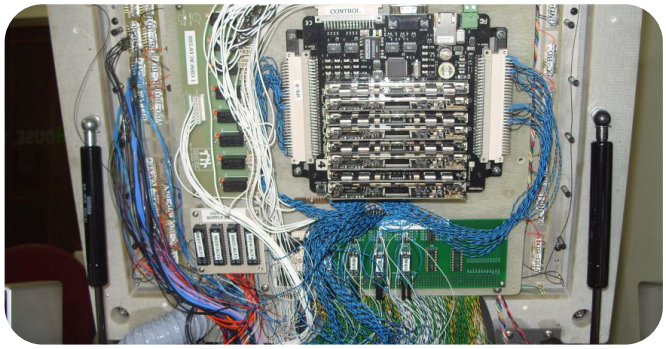
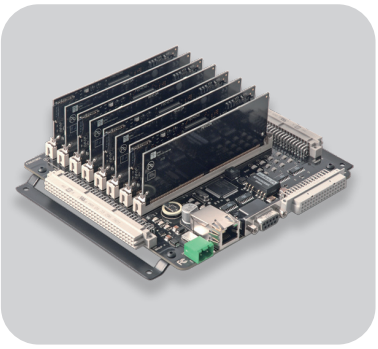
SMH Technologies™

FLASHRUNNER

High-Performance, Standalone In-System Programmer

Case Study: Testing House Flash Runner Integration to ICT Teradyne





THE PROBLEM

Previous solution was using a single programmer FR01M01, programming one microcontroller in one PWA at a time, **taking about 30 seconds for one MCU X 2 = 60 X4 = 240 seconds for four PWA**!!!

Required features for the solution were:
- Minimize ISP cycle time.
- Easy to integrate, use and understand for
- Engineers with Teradyne ICT background.

THE OBJECTIVE

Was to program 2 different microcontrollers (TI MSP430FG4618 & MSP430F5437) in 4 PWAs during their In Circuit Test on an existing Teradyne Test System TS124 (Fixture + Test SW) **in 60 seconds.**

TECHNOLOGY

1 FR04A08 (Galvanic isolation) ($7,008 + $321) = $7,329.00 USD + integration ($3.6K). 8 channels, 4 for each micro.

THE SOLUTION

Previous solution was using a single programmer, programming one microcontroller in one image at a time, taking about 2min to complete programming for 1 image.

For this application Testing House selected FR04A08 because:
Programming time with FlashRunner for target microcontrollers is about 30secs.
4 microcontrollers could be programmed at one time with FR04.
El FR04A08 provides an easy integration for ATE.
Previous used SMH solutions proven to be reliable at manufacturing environment.

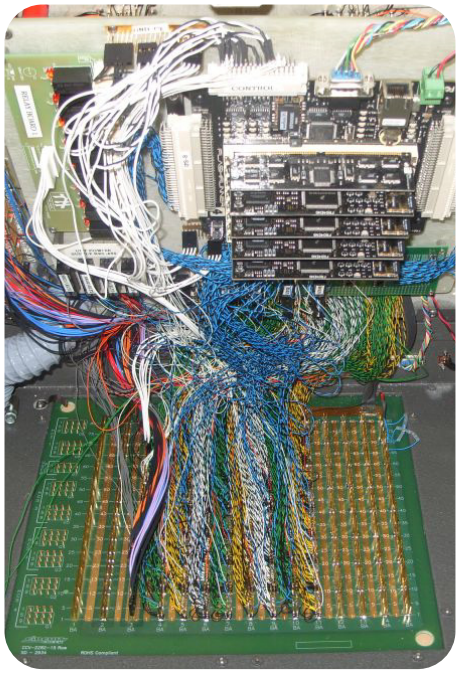
Total programming time for 8 microcontrollers (4 PCBs with 2 different microcontrollers each) takes 30 seconds per device and four are programmed at the same time. Now it takes 60 seconds to program two different devices and four PWAs

SMH INNOVATION

One FR04A08 and one PA01STD0 (Cost: $7,621 + integration ($3.6K)) = $11,221.00 USD vs $5,402 + $321 = $5,723.00 + Integration (3.6KUSD). = $9,323 USD **Only 20% more cost but four times more throughput!**

Multiple programming issue solved by implementing FlashRunner Quattro

Miguel Angel Madrigal, 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. "Using FlashRunner in a Teradyne ICT set is easy and reliable; 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."



ABOUT TERADYNE

We deliver competitive advantage to the world's leading semiconductor, electronics and automotive companies. Teradyne (NYSE:TER) is a leading supplier of Automatic Test Equipment. The company's divisions, Assembly Test, Semiconductor Test, and Vehicle Diagnostic Solutions, are organized by the products they develop and deliver.

ABOUT TESTING HOUSE

Testing House (www.testinghouse.com) 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.