



Photo: SIS live (above)



Professional video gets connected, with help from XJTAG boundary scan

“The engineering team at Vitec Videocom’s UK headquarters in Suffolk is responsible for producing embedded computing boards used in the company’s range of professional network video cameras and robotic cameras. Testing and programming the densely populated boards is entrusted to XJTAG boundary scan, throughout prototype development and full production.”

Vitec Videocom is an operating division within the Vitec Group, which last year reported revenue £345 million. Vitec Videocom brings together the most respected, sought-after and innovative brands in the industry under one umbrella, including nine product brands – Anton/Bauer, Artemis, Autoscript, Litepanels, OConnor, Petrol Bags, Sachtler, Vinten and Vinten Radamec – and its rental and services brands, Bixel, Camera Corps Hire and The Camera Store. Vitec Videocom designs and manufactures the widest portfolio of products around the camera, with the technology and expertise that covers the whole media spectrum.

The company’s engineers are using XJTAG boundary scan to develop tests for embedded computing boards used in the camera networking and control applications. These boards contain components such as processors, memories, FPGAs and analogue/digital converters, in various fine-pitch and BGA-style packages. Production boards are built, tested and programmed by Vitec’s contract manufacturing partner Prima, using the XJRunner production-optimised boundary scan test station to augment Automatic Optical Inspection (AOI), functional testing, and flying probe testing.

Martin Smith, Electronics Design Engineer at Vitec Videocom, says the XJTAG system is well liked throughout the company’s engineering community. “The XJTAG environment is feature-rich, yet cohesive and easy to understand and use,” he says. Praising the intuitive user interface that simplifies setup while also helping engineers visualise the tests being applied and the responses produced by the board, he adds, “The system is clearly the result

of joined-up thinking, focused on the needs of the user.”

He explains that XJTAG’s features are easily accessible, even for engineers with little experience of XJTAG, and that custom test scripts can be re-used allowing greater efficiency. The unique device-centric nature of XJTAG tests holds the key to this reusability, allowing a test script to be written once for a given component

type and used again each time the component is used. Engineers can store tests written during development, and these can provide the basis for production tests thereby saving test-engineering time. The tests can also be re-used in subsequent projects, delivering further savings in time and costs. In addition, the high-level XJEase programming language simplifies the process of creating tests; by abstracting the user from low-level JTAG test vectors, it allows engineers to work effectively without having a detailed understanding of boundary scan testing.

XJTAG’s in-system device programming capability allows efficient programming of production boards built by Prima. XJTAG can program components such as Flash memories, CPLDs and configuration

PROMs by running SVF or STAPL files or using XJEase scripts. In addition, the XJFlash or XJDirect modules, which are unique to XJTAG, allow ultra high-speed Flash programming.

Martin Smith continues, “Our favourite aspect is the ability to identify faults associated with individual BGA I/O pins, which is simply not possible with other test methods such as AOI and flying probe.” XJTAG pinpoints the exact location and shows the faulty connection graphically, which significantly increases the testability of boards containing BGA devices. “For boards in production, XJRunner provides a cost-effective solution for test and programming at the point of manufacture, which allows a high level of confidence in the assembly processes and helps reduce defects further down the production line.”

opinion

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Data Bank



Company	Vitec Videocom (Vitec Group)
Nature of business	Endorsing brand for innovative market-leading broadcast, movie and pro-video products
Main products	The market’s most complete range of production equipment solutions for use in studio and on location
Customers	The industry’s source for Broadcast Studio, Location, Live Event and Field News Solutions
Location	HQ in Bury St. Edmunds, UK. Direct presence in 11 countries in Europe, North & South America, Asia Pacific
Revenue	GBP £345 million (2012)
Web site	www.vitecvideocom.com