O Brasil se liga aqui.

Brazil's leading set-top box provider chooses XJTAG

❝Satbras, part of Brazil's largest provider of satellite television equipment, Century, is testing its set-top boxes using XJTAG boundary scan in preference to in-circuit testing. Advantages include efficient test development, ease of use and high test coverage, as well as international technical support for Satbras' engineering activities in Brazil and China.❞

Satbras is a business unit of Century Group, Brazil's largest provider of satellite television equipment. Based in Manaus in the state of Amazonas, and having an international network of engineering offices, Satbras produces digital and analogue set-top boxes for terrestrial and satellite services.

In Brazil, as with any other set-top box market, designs tend to change very quickly to incorporate new technologies and standards, and to keep pace with customer demands. This challenges traditional test techniques such as In-Circuit Test (ICT), which typically require a new test fixture each time a design is revised. "The cost and lead-time associated with an ICT fixture are not desirable in set-top box markets," explains Carlos Ottoboni, R&D Manager at Satbras. "There are also technical challenges such as the increasing use of BGA packages for SDRAM and Flash ICs, which have I/O pins that cannot be accessed using a conventional fixture."

Satbras sought an alternative to ICT, to introduce successive new products more quickly and to reduce the cost of test, while at the same time increasing test coverage. Ease of use was another key requirement, for fast and efficient product development, production, and field maintenance. Carlos Ottoboni and his team identified boundary scan as a solution to the cost and time overheads, and the diminishing testability, experienced with ICT.

Boundary scan equipment is easily connected to the unit under test using a standard board-edge connector. Tests can exercise JTAG-compatible components that are directly attached to the boundary-scan chain, as well as non-JTAG components such as memories connected to the same nets as JTAG components. Boundary scan tests can be used to verify designs, debug prototypes, test production units, and repair units in the field.

Satbras chose the XJTAG boundary scan system for its ease of use, with features including a graphical user interface, high-level test-description language and in-built capabilities such as scan-chain detection and automated connection tests. According to Carlos Ottoboni, "XJTAG has brought numerous benefits to our design, assembly and product-support activities. The system performs many PCB tests in a few seconds and is easier to use than ICT, as well as overcoming ICT's test-access challenges."

"The high quality of technical support provided was another key reason for choosing XJTAG," he adds. "We needed a partner capable of supporting the system at our sites in Brazil and China, to ensure the best possible results throughout the product lifecycle." XJTAG provided native-language support for both teams through its local offices, and also supported Satbras through its UK headquarters.

"We have received a very high level of support from XJTAG, including valuable help to review new designs to optimise test coverage," says Ottoboni. "Using XJTAG has shown how boundary scan rewards best design practice, leading to higher testability and end-of-line yield. This is helping us further increase value for customers, which will in turn strengthen our position in the marketplace."

opinion
**Carlos Ottoboni
R&D Manager
Satbras**

❝XJTAG has brought numerous benefits to design, assembly and field-maintenance activities. It is able to perform many PCB tests in a few seconds, and is easier to use and more effective than ICT for modern designs.**❞**

❝The high quality of technical support available was another key reason for choosing XJTAG, including support for the system at our sites in Brazil and in China as well as valuable help to review new designs to optimise test coverage. Using XJTAG has shown how boundary scan rewards best design practice, leading to higher testability and end-of-line yield.**❞**

Data Bank

Century ELECTRO - ELECTRONICS

Company	Satbras (Century Group) HQ Brazil
Nature of business	Brazil's leading set-top box provider
Main product	Satellite television equipment such as set-top boxes, satellite dishes, DVD players, Television sets…
Customers	Mass market and professionals
Location	Multiple sites in Brazil, International network of engineering offices
Incorporated	1954 São Paulo
Web site	www.centurybr.com.br