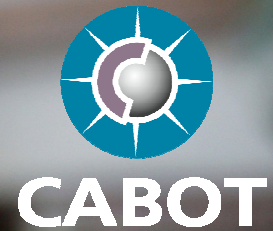


Robotester



With speed to market being of critical importance to digital device manufacturers, product testing often represents a time consuming and resource intensive phase of product development. This is especially the case for products being deployed across multiple countries and regions which can involve thousands of tests, often resulting in 'tester fatigue.' Testing is often duplicated during the development process, with tests being carried out not only by Test Teams and Managers but also by Software Developers who are now designing and running their own tests. In addition to these issues, if testing is not undertaken as a continuous process serious regression issues can result. Modern software development processes make more and more use of regression testing.

Fully customisable, fully automated test framework

In order to provide manufacturers with a simple yet seamless testing process, Cabot Communications has developed Robotester, a fully automated hardware and software testing environment for digital TV devices for any transmission network. Robotester runs on a Windows PC and includes several peripheral devices which are used to simulate 'real user' tests. Although the system is fully automated, the user can monitor the test progress at any time and is presented with a detailed structural log of the test results at completion. In addition, Robotester is fully customisable and includes an Application Programme Interface (API) that enables users to write and run their own tests using the Python programming language. Robotester can also be easily integrated with customers existing test infrastructure and can be used during the product development phase or even at production.

User friendly interface, simplified testing process

Robotester operates on a Windows PC and includes peripheral devices to simulate manual tester/user. A Windows based graphical user interface enables the user to manage test configurations and adjustments in a user friendly manner, with a minimum of time and effort. The graphical interface enables test operators to prepare the tests in a simple way and enables continuous monitoring of the test execution status and results. This has the following benefits:

- **Secure channel negotiation and authentication**
- **Diffie-Hellman key exchange**
- **Minimising the need for human intervention**
- **Reliable and reproducible tests results with high test accuracy and 24/7 testing**
- **Increasing the quality of the product with regression testing**
- **Reducing the test duration significantly**
- **Finding defects early in the test process**
- **Providing effective use of resources (reduced interaction by Test Engineers needed etc)**
- **User friendly results with overview of results, failure image and difference image**

Complete the digital experience

Comprehensive testing for complete product reliability

Robotester works by sending remote control commands to the product that is being tested using a USB IR Signal generator device. The system has full IR code leaning capabilities. Tolerance parameters can be easily adjusted to take into account elements such as the testing environment or video quality. Tests can be repeated easily with the ability to schedule repeat tests without any user intervention. It includes several special features:

- **Cross Hair Detection technique:** A target detection utility which enables the automatic detection and comparison of specific target coordinates even when the background is a moving video.
- **Black Transparent technique:** An image processing algorithm which enables the testing of transparent regions which cannot be tested using standard image comparison procedures.
- **The ability to define the test regions in captured frames in order to perform tests that are specific to output regions.**
- **A power control feature to simulate user behaviour and to perform stress tests.**
- **The ability to perform powerful black-box tests in order to be aware of potential regression issues in addition to other procedures such as unit testing.**

Minimising time to market, supporting industry standards

Robotester not only minimises test efforts but also increases test precision, shortens the time to test results and enables tests to be carried out and shared effectively. It is particularly valuable to manufacturers who wish to release their products across multiple regions and who need to ensure their product meets the complex requirements of divergent digital television markets. Robotester fully supports industry standards and is continuously enhanced to include new or emerging standards and market solutions as part of its product development roadmap.

Cabot's product road maps are continually evolving so for the most up-to-date information regarding product functionality please visit our web site www.cabot.co.uk or contact us via any of the methods listed below:



Cabot Communications Ltd
Verona House, Filwood Road
Bristol BS16 3RY, UK
Tel: +44 (0) 117 958 4232
Fax: +44 (0) 117 958 4168
Email: info@cabot.co.uk