

Overview

XJDeveloper allows you to quickly and easily set up and run tests on your circuit. A built-in connection test, combined with XJEase for non-JTAG devices, checks your boards for short-circuit and open-circuit faults. Using XJDeveloper you can easily create or customise tests, and the DFT analysis allows you to see your boards' test coverage.

XJDeveloper can also be used to program both JTAG devices (e.g. CPLDs, FPGAs) and non-JTAG devices (e.g. EEPROMs, Flash).

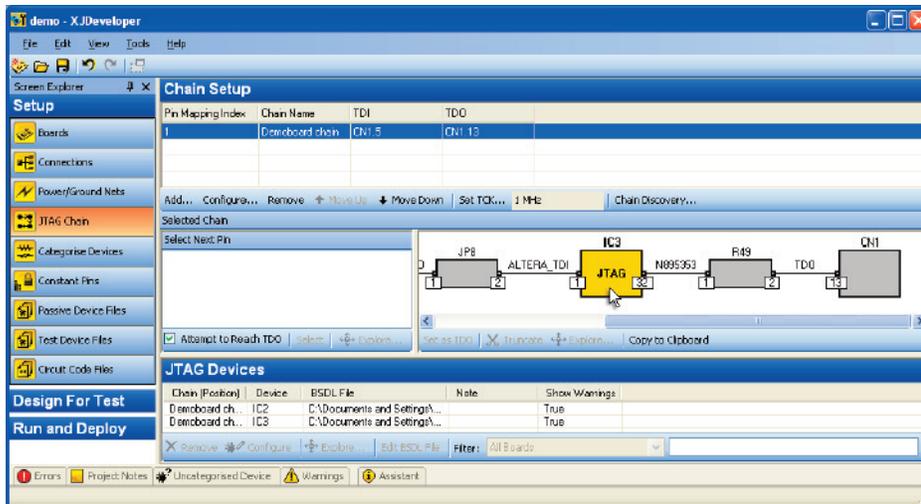
Testing your boards

XJDeveloper and XJEase use information from your netlists and Boundary Scan Description Language (BSDL) files to test the connections around the JTAG devices on the boards you want to test.

XJTAG currently supports over 50 different netlist formats, and BSDL files are generally available for free on component manufacturers' websites.

Testing non-JTAG devices

It's easy in XJDeveloper to use devices in your JTAG chain to check the connections of non-JTAG devices. For example, by writing test values to a memory chip and reading them back, you can verify that the data and address lines are free from shorts and opens. You can also run more advanced tests, such as sending and receiving Ethernet packets — without booting the processor.



Setup your project with XJDeveloper

XJEase

XJEase is a high-level programming language that provides you with all of the functionality, flexibility and control you require to test your circuit. In many cases, XJEase code for your non-JTAG devices can simply be downloaded from the XJTAG website but writing new tests or customising existing ones is a simple matter, even without any software experience.

XJEase has been designed to make accessing the hardware simple — just describe which pins on your non-JTAG device should be driven and which ones should be read. You don't need to know about JTAG instructions, or to work out which JTAG device has to drive the pins on the non-JTAG device. With XJEase, you have complete control over the tests and how they are run.

Key Benefits

- Reduce your time spent debugging boards due to high precision fault isolation
- Improve your time to market and reduce project risk by early design verification
- Reduce your test development time by reusing tests from prototype/design in manufacturing and field support
- Ongoing time savings by test reuse across projects



Rapid Test Development

The tests for a non-JTAG device are written for that device, regardless of the rest of your circuit. This allows you to reuse the tests whenever that type of device is designed into any future circuit, saving you time and money.

You also have all the advantages you would expect from a high-level programming language — variables, loops, conditional execution, function calls and much more. You can interact with your board in real time, not just “set and check” values. XJDeveloper's built-in test editor makes writing these tests fast and simple.

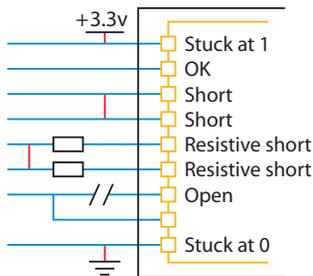
Free Library

You can download a large number of XJEase device files for testing non-JTAG devices from www.xjtag.com. Even if you have never used XJTAG before, it is possible to create a fully functioning test system with no extra programming.

If you can't find a file for your exact device, you can download the file for a similar device and make a few changes to adapt it to yours. We also offer a consultancy service to design tests to your exact requirements.

Connection test

XJDeveloper has a built-in connection test for all of the pins on your JTAG devices. Depending on what access is available with boundary scan, the connection test will check for a range of short-circuit and open-circuit faults, including shorts to power and ground, resistive shorts and shorts via an inverter. Pull-up and pull-down resistor checking is also part of the automatic tests.



Find a wide range of faults using XJTAG's connection test

When it detects an error, the connection test will run further tests, adapting to the state of your board, to pinpoint the location of the error. Many of our clients have found faults on boards previously thought to be fault-free.

Flash programming

The XJTAG website has a range of Flash device files for you to download, which include functions to program the Flash with any image.

These files simply use the programming algorithms from the device datasheets. There's no need to list the connections between the Flash and your JTAG devices — XJDeveloper uses your netlist to work this out automatically. The underlying system then generates the required vectors to program your Flash.

Integration

The COM interface allows you to integrate XJTAG testing with executives such as NI LabVIEW™ or a bespoke application written in Visual Basic®, C#®, etc.

Test coverage analysis

As soon as you have completed your circuit design, you can check how much of the board is covered by your XJDeveloper test system. You can see where to add extra connections to improve the coverage. This test coverage is automatically calculated from the combination of the connection test and the additional XJEase testing of non-JTAG devices.

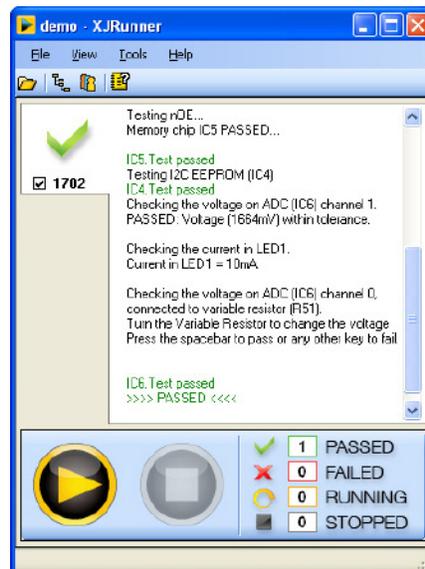
XJTAG has produced a Design For Test (DFT) document as a reference guide, covering many of the issues involved in using the full potential of XJDeveloper.

CPLD/FPGA programming

Many JTAG devices, such as CPLDs and FPGAs, can be programmed directly using STAPL / JAM or SVF files generated from tools of the device manufacturer. This programming can be done as a standalone process or integrated into your XJDeveloper test system using a single line of code.

Comes with XJRunner

This allows final testing of deployment prior to sending files to the factory.



See the XJRunner Data Sheet for more details.

Features

- Test coverage analysis before you go to PCB layout
- Built-in adaptive connection test
- Reuse device files to save time
- Free online library of standard parts
- Program devices — e.g. CPLDs, FPGAs, Flash
- Advanced testing — e.g. Ethernet loopback
- Integration with custom applications to create a full test system
- More than 50 netlist formats supported, including EDIF 2.0.0, RINF, Protel, PADS-PCB and ALLEGRO
- Supports 1149.1 and 1149.6 devices

XJTAG gives you more...

All of the features above are included when you buy XJDeveloper. The price you pay also includes:

- XJRunner — the specialised run-time environment for testing your circuit
- XJDebug — run XJEase code from the command line
- XJLink — the USB 2.0 to JTAG interface required to connect your PC to the circuit under test
- A floating licence is held within the XJLink, so you can install the software on any number of PCs
- Demonstration hardware
- Full tutorial

