# MAKING JTAG ACCESSIBLE The JTAG Live family consists of several tool options that you can use separately or in combination.

JTAG Live® is the breakthrough product for design and test engineers to debug boards too crowded for traditional probing. JTAG Live enables you to sense signal levels on prototype PCBs. Verify proper continuity between pins or groups of pins and check basic operation.

All that's needed to get started are the BSDL files for the board (there's no need for a netlist) and one of the popular JTAG programming cables from Altera, Xilinx, the JTAG Live single TAP interface, or any of the current range of controllers from JTAG Technologies, to connect to your board. The automatic chain detection feature will even figure out your scan paths for you!

#### **SEVERAL TOOL OPTIONS**

DESIGN

The JTAG Live family consists of several tool options: Buzz(Plus), AutoBuzz, Clip, Script, and CoreCommander that you can use separately or in combination.

Buzz provides the ability to quickly sample, drive or sense pins from boundary-scan devices to check connections between them. Clip creates, saves and runs vector-based cluster tests. Script provides a functional, device-oriented test approach, taking control of a design via the on-board JTAG devices. With CoreCommander options you can even peek and poke inside your micro by entering into the processor's debug mode.

#### JTAG Live Buzz 🔪 🖉 🔊

The Buzz graphical interface shows pin-level details of the boundary-scan ICs on the board. After confirming the boundaryscan infrastructure, drag and drop any scan pin and sense the logic level (H, L, or toggling) in the Watch section. In a separate section, use Buzz to check for continuity between pins. In the Measure section, verify connections involving multiple drive pins and/or multiple sense pins. You can even check connections between boards.

### JTAG Live BuzzPlus 🔔 🛯 🖉 🔍

BuzzPlus enhances the free Buzz at a minimal additional cost. As a 'bolt-on' feature for Buzz, BuzzPlus enables a unique 'seek and discover' mode that can stimulate a selected boundary-scan driver pin to find all its associated receivers. By comparing the 'seek and discover' signature a known-good board (or golden board) with a faulty board users can more quickly identify faults such as short circuits or open pin faults.

## JTAG Live AutoBuzz

AutoBuzz is a totally unique new tool that effectively learns a connectivity signature of all boundary-scan parts within a design from only the BSDL models of those parts or, optionally, from a netlist import. By expanding on the seek and discover mode of BuzzPlus, AutoBuzz automatically gathers the circuit data from either a known-good board or a CAD derived netlist and then performs a full connectivity compare against the faulty circuit.

AutoBuzz is the perfect tool for repair environments or low-volume manufacture – especially if design data is missing or incomplete. When using a netlist as the comparison database, users can indicate their 'transparent' connections, power nets and 'ignore' nets interactively.

#### <sup>•</sup> JTAG Live Script

Script is ideal when adopting a functional, device-oriented test approach for such applications as testing mixed-signal parts, operations that require user intervention, and looping test patterns to set up device registers. The tool consists of a powerful set of test routines based on the open-source Python<sup>™</sup> interpreted language.

## م JTAG Live Visualizer

JTAG Visualizer is a design data viewer that also integrates with JTAG Technologies' family of boundary-scan products and selected 3rd party systems.

JTAG

# JTAG Live Controller

The dedicated JTAG Live USB controller is **low-cost and programmable** for both TCK frequency and output voltage levels. Other supported hardware interfaces include Altera's USB-Blaster, Xilinx programmer interfaces and embedded USB-JTAG controller devices by FTDI Chip.





Clip is an interactive generator tool that allows you to create more complex vector-based cluster test sequences for targeted testing. Each vector or test pattern in a sequence contains a set of drive and sense values for logic cluster inputs and outputs. By storing the sequence for a known-good board, you can create a test for multiple boards of the same type, useful when debugging a batch of prototypes.

### JTAG Live CoreCommander

CoreCommander provides high-level functions to write data to and read data from microprocessor memory and I/O addresses without software programming. CoreCommander functions are applied via the JTAG interface. Core-Commander can be used as interactive hardware debug tool via its high-level GUI.

In this interface register access commands or full memory reads and writes can be selected and executed with a direct view of the results. Sequences of commands can be re-played within the interactive window or exported into a Python editor. The interactive usage is particularly valuable during hardware bring-up and debugging in design and (field) service.

### » JTAG Live Studio

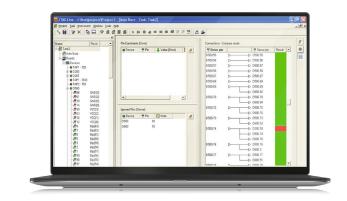


Studio contains all the individual JTAG Live tools in a single package bundled with a JTAG Live Controller. The players for JAM, STAPL and SVF files are also included. Studio is your complete JTAG / boundaryscan solution for hardware validation, board rework and repair. Furthermore it also enables small-scale PCB production test and device programming. JTAG Live CoreCommanders are available as options for Studio.

#### **BOUNDARY-SCAN**

## PCB Debug Tools

- Easy to download, easy to use
- Overcomes limited access to device pins
- Works without a netlist
- Automatic detection & verify for multiple scan chains
- Multi-lingual GUI (English, German, French, Chinese, Japanese, Portuguese, Russian)
- Samples logic level on any JTAG scan pin
- Confirms continuity between pins
- Learns board connectivity signature
- Compatible with industry standard JTAG cables



#### SUPPORT

## World class, worldwide



Our people distinguish our company. Our network of factory-trained field engineers is extensive and accessible, delivering world-class support when and how you need it – via email, phone or on-site.

#### 360° support

We commit to providing the support expected from a missioncritical partner:

- Training, on-site or remote, tailored to your needs
- On-line access to product updates, FAQs, application notes, and technical documentation
- Reasonably priced software maintenance agreements
- Flexible software licensing for LAN and WAN corporate networks
- Professional services, covering test strategy consulting, BSDL support and turn-key application development

We help you get the most from boundary-scan, and provide advanced solutions in test and programming.





#### JTAG Live<sup>®</sup> is a brand of JTAG Technologies www.**jtag**.com

# Making JTAG accessible

JTAG Live<sup>®</sup>, the easy-to-use and extremely economic printed circuit board debug tool suite, is a brand of JTAG Technologies. Since its initial development 10 years ago this low-cost family of tools has made JTAG accessible to every engineer and technician involved in PCB debug and test.

As hardware designers ourselves, we know the pressures facing today's EE: designing a new product that's highly functional and meets strict cost and reliability objectives. And, of course, you have to be sure to get your prototypes up and running quickly. With the JTAG Live tools this just becomes a lot easier.

Underneath the skin of JTAG Live is the power of boundary-scan, capitalizing on the built-in test resources in many of the chips on your board. But to use JTAG Live, you don't need to know anything about boundary-scan, because we did that part for you.



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