

SCANWORKS® USB-100 BOUNDARY-SCAN CONTROLLER

USB-100 PRODUCT OVERVIEW

The USB-100 Boundary-Scan Controller is a low-cost, easy-to-use and portable hardware interface for ScanWorks® and a unit under test (UUT). The USB-100 can be easily moved from ScanWorks stations in an office to the lab, or it can be used in field service applications where it interfaces a laptop computer to installed systems. Instead of being installed in an internal slot or bay, the USB-100 simply plugs into a USB port on the PC where ScanWorks is running. The USB-100 is based on the USB 2.0 specification that has a much higher throughput rate than USB 1.1. USB 1.1 is supported, but not recommended for most applications.

The compact USB-100 is about the size of a deck of playing cards. Standard, off-the-shelf USB 2.0 mini-B cable connects the USB-100 to a PC, making it easy to transport and connect. A large pod is not needed to connect ScanWorks to a UUT in the field

or in manufacturing environments.

The USB-100 is supported in ScanWorks just as the ScanWorks PXI-100, PCI-200EJ, RIC-100, and PCI-410 Boundary-Scan Controllers are supported, simplifying the migration of boundary-scan projects from one ScanWorks station to another with different controller types. In the ScanWorks Select Hardware dialog, the user simply selects the USB-100 as the controller type. The boundary-scan test clock (TCK) frequency and the voltage settings for the test access port (TAP) signals and discrete IO (DIO) signals are set separately in the Configure Hardware dialog.

Because of the USB-100's cost-effectiveness, multiple USB-100s authorized by network licenses could make the entire organization much more efficient since ScanWorks then could be easily deployed where it is needed and when it is needed. For example, 10 users might only require access to ScanWorks occasionally. Each user might have a USB-100 controller while two or three network





licenses were allotted to all 10. Or, fewer USB-100 controllers could be purchased and they could be easily shared among a group of users.

The USB-100 package includes the controller, a standard two-meter USB mini-B cable, a 20-pin cable to connect the USB-100 controller to a UUT and an adapter to interface the USB-100's 20-pin connector to the standard 14-pin connector. The USB-100 20-pin connector conforms to the same pin-out as the PCI-400 TAP port pin-out.

The USB-100 supports all of the primary functions used for boundary-scan test and programming, including the TAP state transitions for multi-drop device communication protocols. The USB-100 supports one set of JTAG TAP signals and four bidirectional discrete IO (non-boundary-scan)

signals. It supports UUT logic levels ranging from 0.8V to 3.3V (5V tolerant). Its TCK frequency range extends from 20 MHz to 80 KHz. Although a high TCK frequency is supported, the throughput is limited by the USB protocol to approximately three Mb/second (Mbps). The USB-100's throughput is adequate for all but the most time critical boundary-scan applications, such as flash programming in high volume manufacturing. Currently, one USB-100 at a time can be controlled by ScanWorks.

TCK FREQUENCY

The TCK frequency is set in the Configure Hardware dialog that is accessed from the ScanWorks Tools menu. It can also be set to different frequencies for specific actions using the Action Requirements dialog.

TCK Frequencies (MHz)

20.0	4.0	1.00
13.3	3.0	0.75
10.0	2.5	0.50
8.0	2.0	0.25
6.7	1.5	0.125
5.0	1.25	0.080

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Please contact your ScanWorks sales representative for more information.

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