

ScanTAP IsoPod™ Quick Start Tutorial

Features and Benefits

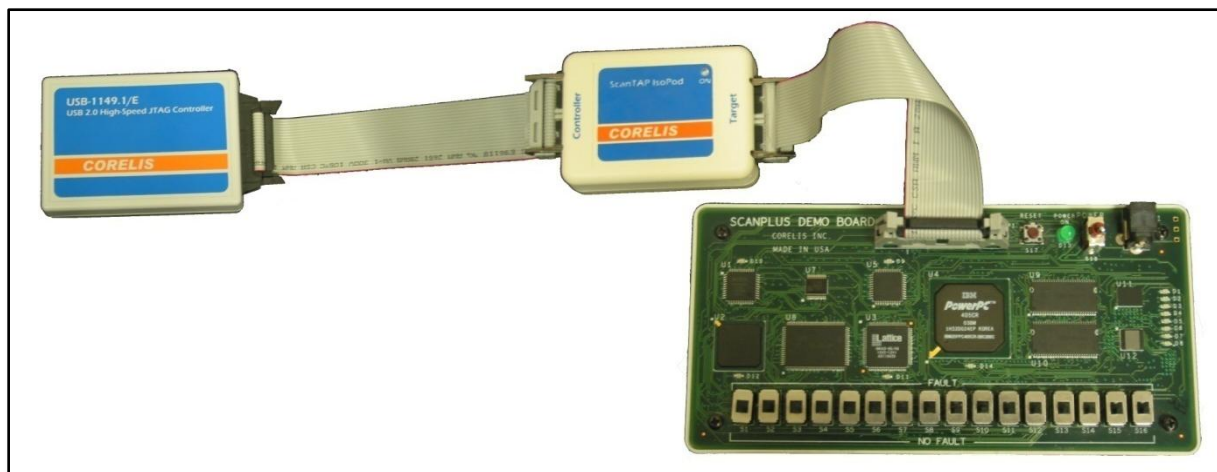
- 4kV isolation barrier helps prevent damage to hardware
- Supports 3.3V TAP signals
- Supports JTAG test clock (TCK) frequencies up to 40 MHz
- Supports I²C and SPI direct programming speeds up to 1 MHz
- Compatible with Corelis JTAG controllers and with the ScanExpress™ family of boundary-scan and functional test products

IMPORTANT NOTE:

The ScanTAP IsoPod is not hot swappable. The ScanTAP IsoPod should only be connected/disconnected when power to both the Corelis controller and the IsoPod itself is turned off. Additionally, the target (UUT) should always be powered down before connecting/disconnecting the cable between the TAP connector and the ScanTAP IsoPod.

Connecting the ScanTAP IsoPod to the Corelis JTAG Controller and the Target

1. Connect the **'Controller'** side of the ScanTAP IsoPod to the Corelis JTAG controller using the supplied 20-pin cable.
2. Connect the **'Target'** side of the ScanTAP IsoPod to the target unit under test (UUT) using the standard 20-pin cable. Verify that the target pinout matches the ScanTAP IsoPod pinout, taking extra caution if using custom cabling. In the event that an adapter cable is needed, it should always be used on the target side of the ScanTAP IsoPod.
3. Supply power to the ScanTAP IsoPod by plugging the provided 5V power adapter into the side of the box.



Test setup featuring Corelis USB-1149.1/E JTAG controller, ScanTAP IsoPod and Target (UUT)

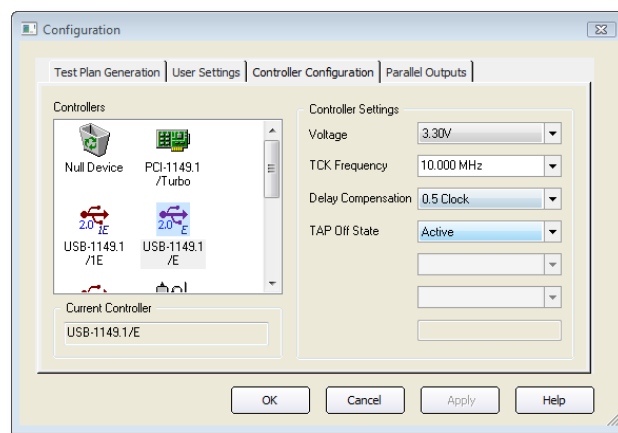
Test Execution

When executing tests in ScanExpress Runner, Programmer, or Debugger, the delay compensation must be adjusted to account for the propagation delay introduced by the ScanTAP IsoPod and any additional cabling. Please adjust the delay compensation settings in the software by following the steps below.

1. Click the **Setup** menu item and then select the **Controller** entry to display the controller **Configuration** screen. Select the JTAG controller that will be used with the ScanTAP IsoPod from the *Controllers* section.
2. Using the table below as a reference, select the *TCK Frequency* for the test plan under *Controller Settings* and adjust the *Delay Compensation* based on the TCK frequency. The delay may need to be adjusted by ± 0.5 clocks depending on the cable lengths and the selected JTAG controller. Starting with the default setting of **1 MHz** and **No Delay** is recommended.

TCK Frequency	Delay Compensation
1.0 MHz – 6.0 MHz	No Delay
7.5 MHz – 12.0 MHz	0.5 Clock
15.0 MHz – 19.0 MHz	1.0 Clock
20.0 MHz – 25.0 MHz	1.5 Clocks
28.0 MHz – 31.0 MHz	2.0 Clocks
34.0 MHz – 38.0 MHz	2.5 Clocks
41.0 MHz – 44.0 MHz	3.0 Clocks

3. Under *Controller Settings*, the controller voltage must be set to **3.30V**. Additionally, if applicable, set the **Input Threshold** and **Slew Rate** to **Automatic**, and set the **TAP Off State** to **Active**.
4. After you have made your selections, click on the **Apply** button to save the settings. The figure below shows the controller settings in ScanExpress Runner after the USB-1149.1/E is selected using a 10 MHz TCK frequency and 0.5 Clock delay compensation. The configuration screens for other controllers may appear slightly different.



Additional Notes

1. You will need to revert the controller's **Delay Compensation** setting back to **Automatic** if you remove the ScanTAP IsoPod from the test setup.
2. For troubleshooting information please see the *Troubleshooting* section in the ScanTAP IsoPod User's Manual on the Corelis Hardware Manuals CD.