

BERTScope™ DP SINK CTS

Compliance Test Solution for DisplayPort™ Sink Devices



BERTScope DP SINK CTS, provides a complete physical layer testing solution for DisplayPort Sink devices. The system provides full coverage of the DisplayPort PHY Compliance Test Specification for Sink devices. It also offers the designer additional information beyond the compliance – PASS/FAIL result, with Fast Mode analysis, monitoring and device control tools.

- Automated lane switching
- Pre-calibrated stress levels eliminate the need for pre-test calibration
- Everything necessary for testing right out of the box

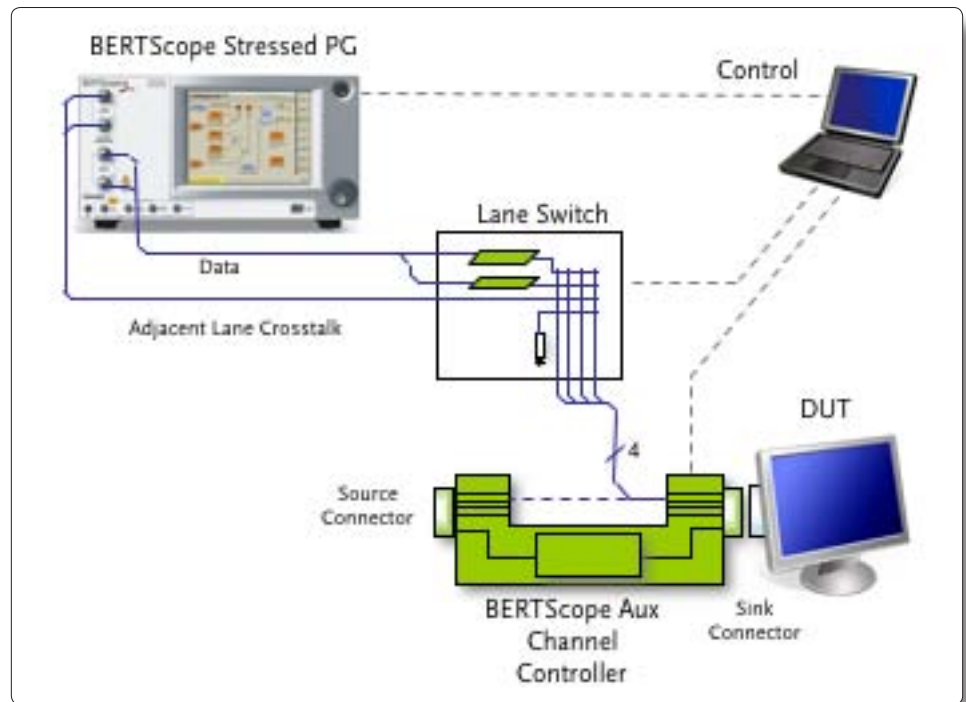
The Vision of a Scope, the Confidence of a BERT
And Clock Recovery you can Count on.

SYNTHESYS
RESEARCH, INC.

Full Aux Channel Control

The key component for implementing a Sink Device PHY test is the Aux Channel Controller. This device communicates with the device under test, reading the bit error counter at the proper times as required to determine the BER. The Aux Channel Controller in the BERTScope DP SINK CTS is the first design to be truly universal—compatible with any design of SINK Device.

The BERTScope DP SINK CTS Aux Channel Controller also supports interruptible straight through signal path of the 4 lanes in the Main link, facilitating access for compliance testing. Including both Sink and Source side connectors, the controller interface can access the lanes for compliance testing of the Source device as well.

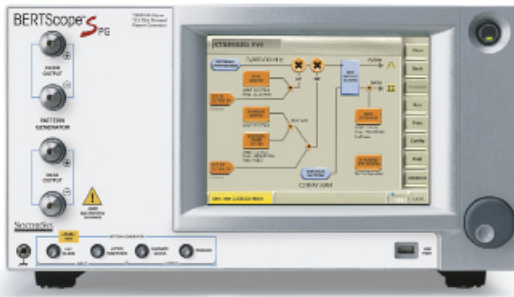


Fully Automated Lane Selection

As the lanes adjacent to the one being tested are driven with a cross talk signal, changing the tested lane during a compliance test is a labor intensive task. The DP SINK CTS includes an automated lane switch, which eliminates the need to move cables.

The lane switch incorporates the ISI channels and other signal conditioning required for the compliance test.

Full Performance Pattern Generator



The BERTScope DP SINK CTS includes a BSA12500B SPG Stressed Pattern Generator. It also can support a full BERTScope, for users who also need to perform Source testing. The pattern generator in these instruments provides the stressed stimulus, including Spread Spectrum Clocking (SSC) which fully meets the requirements of the Compliance Test Specification.

Pre-Calibrated Stress Levels

The BERTScope DP SINK CTS provides the correct calibrated stress levels for compliance testing to the DisplayPort PHY Compliance Test Specification, without the usual need to calibrate the system prior to testing. The use of precision, tight tolerance components in the test kit, combined with the stability of the BERTScope stressed pattern generator allow the calibration to be performed at the factory and saved as stored settings. This eliminates the tedious calibration steps required by other testing systems, and the possibility of user generated calibration errors. Simply connect the system as illustrated, power up the instruments and DUT, and begin testing!

The screenshot shows the 'DisplayPort CTS - TCP:bertscope-xp' software interface. It features a 'DisplayPort Compliance Test' section with fields for 'Company Name: SyntheSys', 'Test Operator: Jackson', 'DUT: DisplayPort', and 'DUT Serial Number: 32767'. Below this is a table for test results, categorized into 'High Bit Rate' and 'Reduced Bit Rate'. The 'High Bit Rate' section shows a 'FAILED' result for a 2.00 MHz test at 1000 error threshold, and an 'IN PROGRESS' result for a 20.00 MHz test at 100 error threshold. The 'Reduced Bit Rate' section shows results for 2.00, 10.00, and 20.00 MHz tests, all with error thresholds of 1000, 100, and 100 respectively. A 'Notes' section is at the bottom, and a status bar at the very bottom indicates 'Testing 20.00MHz for lane 0 : Set R3=18.5, S3=20000000, Freq=16.6. Status: InProgress'.

T-MHz	T-SJ (RUI)	Duration (secs)	Error Threshold	Lane Bit Errors	Test Status			
				0	1	2	3	
High Bit Rate								
2.00	75.6	370	1000	COUNTER				FAILED
10.00	18.6	37	100	COUNTER				FAILED
20.00	16.6	37	100	0				IN PROGRESS
100.00	16.1	37	100					
Reduced Bit Rate								
2.00	98.1	620	1000					
10.00	11.1	62	100					
20.00	8.0	62	100					

Integrated Test Automation Software

The DP SINK CTS includes compliance test automation software, which provides an easy to configure and use control interface. A full compliance test can be initiated with a single click, allowing unattended operation. For design characterization or debugging needs, the user can select subsets of the test to run—focusing on specific lanes, full or reduced data rate, or specific stress frequencies.

In addition to being instantly accessible on the PC display, test results can be documented with the integrated test report generator. Test reports can be sent to a printer for hard copy records, or saved as a file in HTML or PDF format.

Beyond Compliance

The test solution software also provides a pair of Sink Device register views, allowing the designer to monitor any of the registers in the device without the need to move the DisplayPort cable to a different instrument. Separate views show the DisplayPort Configuration Data registers and Enhanced Display Identification Data. The contents of registers defined to permit external writes can be edited from the keyboard.

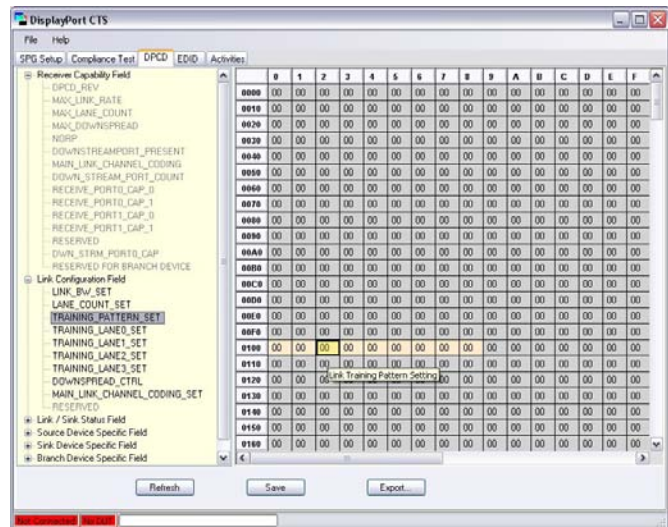
BERTScope DP SINK CTS includes:

- BERTScope Stressed Pattern Generator with enhanced SSC
- Aux Channel Controller
- Automated Lane Switch
- DP Test Automation and Control SW

The BERTScope DP SINK CTS is also available without the Stressed Pattern Generator for users who prefer a full BERTScope for Sink and Source testing. The recommended model is: BSA7500B with BSA7500B Opt-XSSC.

Also Required:

Host PC, with Microsoft Windows XP or VISTA operating system (any 32 bit version), Ethernet or GPIB and two unused USB 2.0 ports.



Ordering Information:

- DP 5400SK CTS DisplayPort Sink Device Compliance Test Solution
- DP 5400SK-G DisplayPort Sink Device Compliance Test Solution without generator
(Must be ordered with BERTScope B or CSi model)

SYNTHESYS
RESEARCH, INC.

3475-D Edison Way
Menlo Park, CA 94025 U.S.A.
Phone 650 364-1853
Fax 650 364-5716
info@synthesysresearch.com

BERTScope is a registered trade mark of SyntheSys Research, Incorporated.

DisplayPort is a trade mark of the Video Electronics Standards Association.

WindowsXP and WindowsVista are registered trade marks of Microsoft Corporation.
Copyright © 2009 SyntheSys Research, Inc. All rights reserved. Printed in USA.

Specifications subject to change. U.S. and International patents granted and pending.

SR-DS034 18Jun09