

Summit™ Z3-16 Exerciser for PCI Express® 3.0

Complete Test Solutions for PCI Express 3.0!

The Summit Z3-16 is Teledyne LeCroy's fourth generation exerciser (traffic generator), adding support for PCI Express at the new Gen3 data rates of 8 GT/s. The Summit Z3-16 Exerciser, in combination with the Summit T3-16 Protocol Analyzer, provides a complete test and development environment for engineers working on new designs using PCI Express 3.0 data rates.

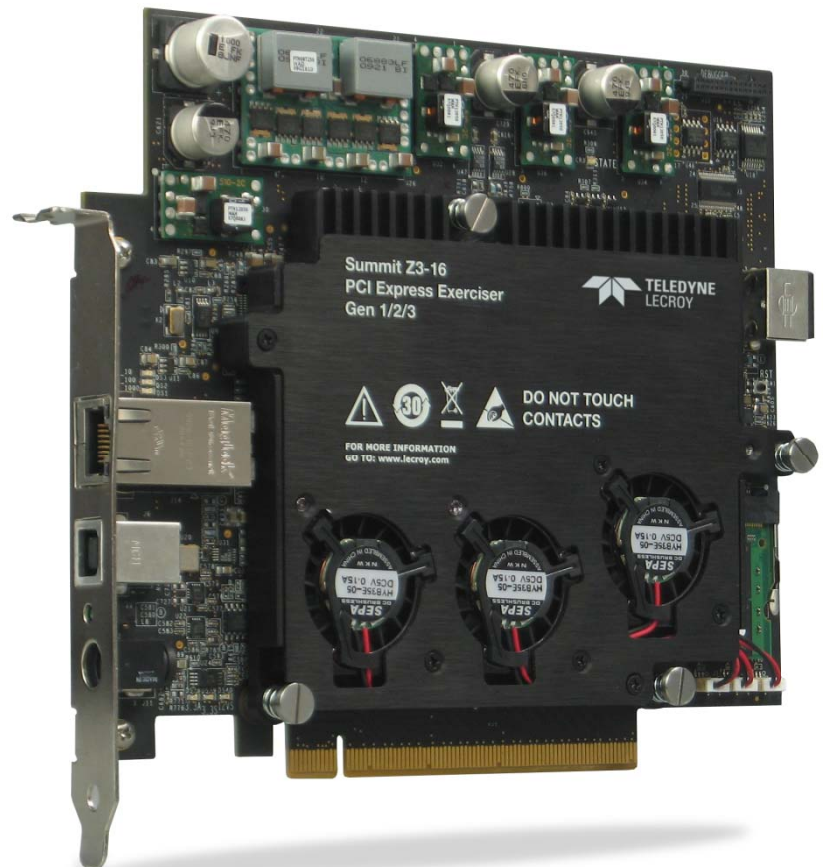
The Summit Z3-16 builds on the extensive programming and verification test libraries established for Teledyne LeCroy's *PETrainer™* and Summit Z2-16 PCI Express Exercisers, and provides the user a complete suite of test capability, including the ability to test products to the new PCI Express 3.0 specification.

The Summit Z3-16 is a critical test and verification tool intended to assist engineers in developing and improving the reliability of their systems. The Summit Z3-16 can emulate PCI Express root complexes or device endpoints, allowing new designs to be tested against known standards. As Teledyne LeCroy's fourth generation of PCI Express generators, the Summit Z3-16 leverages years of experience in providing advanced protocol analysis test tools for emerging markets.

Intuitive software controls blend sophisticated analysis capability with ease-of-use, allowing test suites to be rapidly customized to specific product requirements. One of the many features that helps troubleshoot PCIe® links is the ability to exercise LTSSM state transitions.

The powerful scripting language allows for the creation of Transaction Layer Packets (TLPs) and Data Link Layer Packets (DLLPs) at Gen3 data rates of 8 GT/s. ACK's or NAK's can be generated under user control. Packet fields not explicitly specified by the user are generated automatically (such as CRCs). The configuration space can be emulated for any device including endpoints, bridges and switches. Support for Gen1 (2.5 GT/s), Gen2 (5 GT/s) and Gen3 (8 GT/s) data rates allows the Summit Z3-16 to produce test cases that test the device's ability to auto-negotiate data rates with other devices.

In addition, the ability of the Summit Z3-16 to produce a wide variety of programmed traffic allows the user to introduce controlled error conditions. As an example, a trace file captured on a Summit or *PETracer* Analyzer can be exported and used as the basis for a test script, with selected programmed errors introduced at critical stages to test the device's ability to recognize and recover from error conditions. This allows for detailed testing of simple error recovery and complex multiple error conditions, creating more resilient products that perform well even under less than ideal conditions.



Features	Benefits
Script Level Traffic Generation	Programmability to test PCI Express components with more precision and control
Convert Trace Files into Generation Scripts	Recreate failure scenarios by replaying recorded traffic
Manual Error Injection	Verify fault handling and identify error recovery
Host/End-Point Emulation Support	End-point emulation (and optional host emulation) allow for designed stress testing and pre-testing of end-point and host devices for compliance
Programmable Data Link Layer	Ability to modify flow control, ACK/NAK, and retry behaviors
Flexible/Programmable Transaction Layer	User ability to define arbitrary sequence of transactions, payload generation, and conditional repeat of transactions provide users with maximum flexibility
Programmable Reply Timers	Allows testing of ACK latency timeouts and retry mechanisms
Point-and-Click Script Editor	Complex scripts can be created quickly and easily
Programmable Configuration Space	Test user-defined endpoints
Link Training & Status State Machine (LTSSM) Testing	Exercise LTSSM state transitions for verification
Supports Existing PETracer API	Preserve investment in API programs
Supports Legacy PETrainer Scripts	Preserve investment in legacy PETrainer scripts

Specifications							
Dimensions	Main Board: 16.8 x 13.3 cm (6.6" x 5.25")						
Connectors	<table border="0"> <tr> <td>x16 PCIe Edge Connector*</td> <td>External Trigger IN/OUT</td> </tr> <tr> <td>10/100/1000baseT Ethernet (to host PC)</td> <td>12V DC Power Connector</td> </tr> <tr> <td>USB 2.0 "B" (alternative connection to host PC)</td> <td>(AC Adapter is included)</td> </tr> </table> <p>*x16 PCIe Edge Connector can be adapted to x8, x4, or x1 slots through use of Card Reducer Edge Adapters</p>	x16 PCIe Edge Connector*	External Trigger IN/OUT	10/100/1000baseT Ethernet (to host PC)	12V DC Power Connector	USB 2.0 "B" (alternative connection to host PC)	(AC Adapter is included)
x16 PCIe Edge Connector*	External Trigger IN/OUT						
10/100/1000baseT Ethernet (to host PC)	12V DC Power Connector						
USB 2.0 "B" (alternative connection to host PC)	(AC Adapter is included)						
Power Requirements	100-240 VAC, 47-63 Hz (Universal Input) for AC Adapter (included)						
Environmental Conditions	Operating Range: 0 to 40°C (32 to 104°F), 0 to 90% humidity, non-condensing Storage Range: -10 to 80°C (-4 to 176°F)						
Emulation Capabilities	Device Emulation is a standard feature Host Emulation is available through optional Host Emulation Platform						
Script Memory Size	2 GB for trace generation, device memory emulation, timing and control information						

Ordering Information

Product Description

Summit Z3-16, licensed as a Gen3 x16 Exerciser, supports device emulation

Product Code

PE050AGA-X

Summit Z3-16 Host Emulator Platform (adds host emulation to Summit Z3-16)

PE050UEA-X

Host Machine Minimum Requirements: Microsoft Windows® XP, Windows Vista, Windows 7, Server 2003 or Server 2008; 2GB of RAM; hard drive with at least 200 MB of free space for the installation of the software and additional space for storing recorded data; display with resolution of at least 1024x768 with at least 16-bit color depth; USB 2.0 port and/or 100/1000 Mbps Ethernet network interface. For optimal performance, please refer to our recommended configuration in the product documentation.



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Local sales offices are located throughout the world.
Visit our website to find the most convenient location.