

MANAGE INSTRUMENTATION COSTS WITH LXI INSTRUMENTS



Effectively Manage Costs with LXI Instruments

LXI incorporates the power of Ethernet in test and measurement instrumentation, allowing system designers and users to leverage this ubiquitous communications protocol to manage costs more effectively.

With LXI-enabled hardware, users can build hybrid systems that incorporate existing instrumentation. This reduces the cost of migrating to LXI-based systems. Hardware components can be replaced as needed; LXI's communications compatibility means there's no need to replace all of the components at once.

Systems based exclusively on the LXI protocol are typically less expensive than those based on older technologies. This is particularly true when compared with VXI and PXI architectures because LXI doesn't require costly card cages, Slot-0 controllers, or proprietary interfaces and cables. Furthermore, the Ethernet interface required for LXI is already a standard, no-extra-cost feature of most PCs and other infrastructure components, such as hubs, switches, and routers, are readily available.

LXI makes it possible to build a system for less:

Hardware	VXI (13-slot)	PXI (14-slot)	GPIB	LXI
Interface card	\$50 (FireWire)	Incl.	\$550	\$100*
Cabling	\$0	Incl.	\$640	\$50
Card cage	\$5,500	\$3,600	\$0	\$0
Slot 0	\$2,650	\$1,500	\$0	\$0
TOTAL	\$8,200	\$5,100	\$1,190	\$150

**This comparison is based on a seven-instrument system, with an 8-port router used in the LXI-based system.*

The gap between R&D applications that rely on bench-top instruments and automated applications that use VXI or PXI spotlights another LXI system cost advantage. LXI bridges this gap because it accommodates both interactive bench-top instruments and high-performance no-front-panel-interface instruments. The ability to use the same architecture for both types of systems makes it easier to reuse existing software and other solution elements, which results in lowered cost and faster implementations.

Test equipment manufacturers benefit because they can create both bench-top and no-front-panel versions of an instrument using the same measurement circuitry, I/O hardware, and firmware. LXI leads to lower-cost instruments in classic, modular, and building-block form factors.



**IT'S FASTER.
IT'S EASIER.
IT'S BETTER.**

An LXI instrument is much more than an instrument with a LAN port. When compared with card-cage- or mainframe-based solutions, LXI-based systems provide many of the same advantages, such as tight synchronization of multiple instruments and low-latency inter-instrument communication. To these capabilities, LXI adds the advantage of a distributed architecture, as well as standardization on instrument synchronization and timing, test network architecture, and software interoperability.

Standard Software Functionality

Many test and measurement instruments provide Ethernet connectivity, but the LXI Standard is unique in that it defines the base functionality an instrument must provide in order to be compliant with it.

LXI's Ethernet connectivity provides the unique ability to embed web server applications within the instrument in a "no software installation" approach that other interfaces cannot provide.

The LXI architecture is built around flexible web applications that allow instrument manufacturers to embed specialized web tools into the instrument that can bridge the gap from instrument control to the user's ultimate need. Data can be quickly presented in easy-to-understand ways and exported to the user's analysis tool of choice.

Taking advantage of the benefits of LXI reduces test system development time while significantly improving a user's time to measurements. Using LXI instrument functionality expands the efficiency and effectiveness of the test system designer, while driving costs down.

The LXI Standard creates new capabilities that optimize test throughput, overall system performance, and cost efficiency in a way that allows engineers to build powerful, web-enabled test systems in less time. LXI's flexible packaging, high-speed I/O, and standardized use of LAN connectivity address a broad range of commercial, industrial, aerospace, and military applications. Additional information about LXI-compliant products is available at www.lxistandard.org.



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