



# **LXI Documentation Overview**

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Version 1.0

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#### **Revision history**

| <i><b>Revision</b></i> | <i><b>Description</b></i>  |
|------------------------|--|
| Feb 2, 2011            | Made minor changes to overview diagram and URL links based upon review with TC Chairman. |
| Feb 1, 2011            | Changed approach to documentation overview in order to simplify                          |
| Jan 24, 2011           | Updated documentation overview for Feb 2011 LXI General Meeting and Plugfest             |

# 1 Introduction

The LXI Consortium is an industry consortium that maintains the LXI specification, promotes the LXI Standard, and ensures interoperability.

This document is an overview of the technical documents and specifications maintained by the LXI Consortium. Manufacturers of products subject to LXI Consortium standards should review the documents pertaining to their device.

## 1.1 Key Links to Information

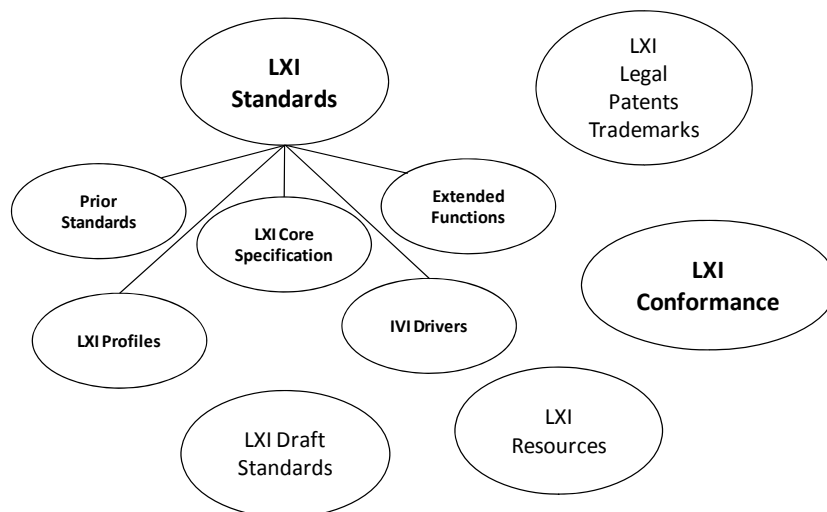
The LXI Consortium website is the repository for technical documents, specifications, presentations, and resources:

[www.lxistandard.org](http://www.lxistandard.org)

The LXI Home page provides the major links to all documentation and resources, both for Members and those visiting the site. The following links provide the locations of that information:

- **LXI Standard** - <http://www.lxistandard.org/Specifications/Default.aspx>
- **Member Companies** - <http://www.lxistandard.org/Consortium/Members.aspx>
- **Products** - <http://www.lxistandard.org/Products/ProductList.aspx>
- **Join** - <http://www.lxistandard.org/Consortium/HowToJoin.aspx>
- **Contact Us** - <http://www.lxistandard.org/ContactUs.aspx>
- **Member Area of Web site** - <http://www.lxistandard.org/login.aspx>
- **Site Map** - <http://www.lxistandard.org/SiteMap.aspx>

## 1.2 Overview Documentation Diagram



## 2 LXI Legal, Patents, and Trademark

The following documents contain information specifications that must be adhered to by all members of the LXI Consortium and any organization or person using the LXI Trademark of Logo or making products conformant to any LXI standard <http://www.lxistandard.org/Consortium/Default.aspx>

- *LXI Consortium Trademark, Patent and Licensing Policies* covers licensing and the specification and use of the LXI trademark.
- *LXI Consortium Operating Procedures* describes LXI Consortium rules and practices for conducting LXI Consortium business.

## 3 LXI Standard

The LXI Standard encompasses multiple documents in categories that cover hardware requirements, software requirements, and software profiles. The following documents contain information and specifications that must be adhered to by products designed in conformance to the LXI Standard. All of these documents can be found at the following location:

<http://www.lxistandard.org/Specifications/Default.aspx>

### 3.1 LXI Core Specification

The Baseline specification is a requirement for all LXI Devices. LXI Devices can also add Extended Functionality beyond the baseline requirements. Some Extended Function are already integrated into the *LXI Device Specification 2011*.

- *LXI Device Specification 2011* covers the LXI Core Specification for all LXI Devices, but it also includes some integrated (but optional) Extended Functions. This document also includes references to all external standards required by the LXI Standard.

### 3.2 Extended Functions

Extended Functions are features outside the LXI Core Specification and can be optionally implemented by vendors. New Extended Functions can be approved individually by the LXI Consortium without a major overhaul of the LXI Core Specification. Over time, these Extended Functions may be integrated into the LXI Core Specification. Current Extended Functions are listed as follows:

1. *LXI Wired Trigger Bus* – included in *LXI Device Specification 2011*
  - a. *LXI Trigger Bus Cable and Terminator Specification Revision 2.0 (Dec 10, 2011)* is an external document that details the requirements of vendors who implement external accessories for use by integrators implementing this Extended Function in a test system.
2. *LXI Event Messaging* – included in *LXI Device Specification 2011*
3. *LXI Clock Synchronization* – included in *LXI Device Specification 2011*
  - a. *System Tests For LXI Devices Implementing IEEE 1588-2008* describes tests that can be used to verify the performance of IEEE 1588-2008 in an LXI Device that implements Extended Function LXI Clock Synchronization.
  - b. *LXI IEEE 1588 Profile* describes the IEEE 1588 profile and is published as a separate document referenced by the *LXI Device Specification 2011*

4. ***LXI Timestamped Data*** – included in ***LXI Device Specification 2011***
5. ***LXI Event Logs*** – included in ***LXI Device Specification 2011***
6. ***LXI HiSLIP*** is a LAN protocol for faster communication over multiple socket connections
  - a. ***LXI HiSLIP Testing Procedures*** describes tests that can be used to verify the performance of HiSLIP in an LXI Device that implements Extended Function ***LXI HiSLIP***

### 3.3 IVI Drivers

A requirement for all LXI Device conformant products is an IVI Driver that adheres to the following specifications:

- IVI 3.1: Driver Architecture Specification
- IVI 3.2: Inherent Capabilities Specification
- IVI 3.3: Standard Cross Class Capabilities Specification
- IVI 3.4: API Style Guide.
- IVI Class Specifications

IVI drivers for LXI Devices shall conform to the IVI-3.15 IviLxiSync specification if they support any of the following Extended Functions: LXI Wired Trigger Bus, LXI Event Messaging, LXI Clock Synchronization using IEEE 1588, LXI Timestamped Data, and LXI Event Logs.

See the IVI Foundation Web Site for these specifications: <http://www.ivifoundation.org/specifications/default.aspx>

### 3.4 LXI Profile and Schema

LXI Core Specification and (optional) Extended Functions often have external requirements in addition to the requirements created by the LXI Standard. .

- ***LXI IEEE 1588 Profile*** is the IEEE 1588 profile for LXI Devices that implement the Extended Function LXI Clock Synchronization.
- ***XML Identification Document*** provides the schema of the XML Identification file required for every LXI Device.

### 3.5 Prior Standards

The following documents pertain to LXI Devices manufactured under earlier releases of the LXI Standard (for LXI Devices)

- ***LXI Standard Revision 1.3*** (Released October 30, 2008)
- ***LXI Standard Revision 1.2.01*** (Released Nov. 26, 2007)
- ***LXI Standard Revision 1.2*** (Released October 3, 2007)
- ***LXI Standard Revision 1.1*** (Released August 28, 2006)

- *LXI Trigger Bus Cable and Terminator Specifications Revision 1.1* (Released August 28, 2006)

## 4 LXI Conformance

LXI Device conformance requirements, verification, and the process of certification is covered in the following:

- *LXI Consortium Policy for Certifying Conformance to LXI Consortium Standards.* specifies the conformance process required for any product claiming conformance to an LXI Standard.
- *LXI Conformance Test Suite* is an executable test suite for products conforming to the *LXI Device Specification 2011*. It is only available to members of the LXI Consortium.
- *W3C Validation Service* - a set of tools used to verify compliance of LXI Device web pages <http://validator.w3.org/LXI> Resources

This category represents a plethora of presentations, white papers, consortium articles, and industry applications to assist vendors and users in the understanding and implementation of the LXI Device Specification 2011 and Extended Functions. A few key documents are listed here. Many more can be found at <http://www.lxistandard.org/Resources/Papers.aspx>.

- *Recommendations for LXI systems containing devices supporting different versions of IEEE 1588* - a paper that can assist in the integration of different IEEE 1588 implementations found in LXI Devices along with the integration with other commercial IEEE 1588 Devices.
- *Wired Trigger Bus Physical Aspects* – a paper providing background on the decisions made concerning the WTB implementation.
- *LXI Triggering*- a paper that describes the various LXI Triggering methods and how they differ from prior triggering systems

## 5 LXI Draft Standards

As proposals for new functionality become available, those documents are available for review by LXI Members who log into the LXI Consortium website [Members](#) Login in area

Once logged into the system, the **Members/Draft Specifications** folder provides the location of these documents.

## 6 Further Information

The Executive Director of the LXI Consortium is responsible for the access and infrastructure of the LXI Consortium Website. This person also arranges meeting locations and events. Contact the Executive Director for information on membership or general inquiries that you do not find on the LXI Consortium website.

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