Diamond$_X$ HSI3$_X$ eLearning

High-Speed Multisite Solution for SerDes / LVDS / MIPI / D-Phy / C-Phy

Automotive

Consumer

Flat Panel Display

IoT/IoV & Optoelectronics

Industrial & Medical

MCU

Mobility

Course Description

This eLearning course introduces the student to the HSI3$_X$ High-Speed instrument. This training will provide the student with an overview of the instrument, the theory of its operation, test programming examples, and accessing help. On completion of the course, the student will be able to describe the target devices the instrument was design to test, summarize the functionality improvements over previous Cohu High-Speed Instruments, understand the theory of operation, be able to access the Unison HSI3$_X$ help documentation, add instrument resources and perform simple debugging tasks within a test program, and be able to describe and use programming statements used in test examples. This is accomplished by a combination of multimedia presentations and interactive software demonstrations.

Course Outline

- Product Overview and Market Focus
- Functionality and Theory of Operation
- Programming
- Unison HSI3$_X$ Help

Course Length

- Self-paced – 4-5 hours typical depending on skill level

Prerequisites

- Six months test program experience
- Successful completion of Unison Applications Programming course

Recommended

- C and C++ programming
- Familiarity with Linux Operating Systems
- English - written and spoken

- **64 Single ended channels**
- **Modular design for maximum scalability**
- **Up to 4 hardware instance segments**
- **Serial ports with data rates up to 12.5 Gbps**
- **64 Gbits per module (16-ch)**
- **+/-40 V isolation relays per channel**

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Course Modules

1 - HSI3$_X$ Product Overview

This module is a foundation for the later modules, providing the student with an overview of the HSI3$_X$. On completion of this module the student will be able to:

- Define essential terms and concepts
- Summarize introduced instrument improvements
- Identify primary market segments and device types
- List key features / benefits over previous instrument

2 - HSI3$_X$ Functionality and Theory of Operation

This module provides an in-depth description of the HSI3$_X$ instrument functionality. Included in this module are functional block diagrams and illustrations meant to assist in understanding the operation of the instrument. On completion of this module the student will be able to:

- Describe the major functional blocks of instrument
- Identify the 3 testing configs / protocols supported
- Recognize the licensing model and impact on channel / module enablement
- Summarize key operating specifications

3 - HSI3$_X$ Programming

Designed to build on the student's existing knowledge of creating a Test Program in Unison, this section consists of multiple modules which introduce the student to general, as well as specific programming material. The examples will be completed by the student using interactive software demonstrations to reinforce the programming concepts introduced. Throughout this section the student is encouraged to access the help system to develop familiarity with the programming statements. On completion of this module the student will be able to:

- Understand pin-paring logic
- Add HSI3$_X$ resources to an Adapter Board Object using the Unison Package Tool
- Recognize and apply channel assignment rules
- Recognize and use various Unison Digital and VI APIs
- Recognize the features and benefits of the Unison GraphicalDebugTool (GDT)
- Summarize the programming models, their intended uses and associated APIs
- Recognize the role of PatternSetupTool
- Demonstrate working knowledge of C-Phy HSI3$_X$ digital pattern
- Recognize the features and benefits of the Unison
- SerDes and PPMU/VI Graphical Debug Tool (GDT)

4 - Unison HSI3$_X$ Help

Unison provides an extensive help system. In this module the student will become familiar with the structure of the help system, and how to navigate to those areas where HSI3$_X$ information can be found. On completion of this module the student will be able to:

- Launch the help system from the Test Tool
- Navigate to the HSI3$_X$ instrument manuals
- Create a PDF of the Unison help documents
- Navigate to the application programming instructions (API) help documentation
- View / save a PDF version of the HSI3$_X$ chapter including hardware and programming sections
- Be able to determine which APIs apply to the HSI3$_X$
- Recognize how to install the Unison help documentation on a local workstation or PC

At the end of each module the student will be required to pass a test, achieving a score of 75% or more. The student is encouraged to take notes throughout the course and repeat or pause the presentation as needed

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Who Should Attend

- Test program development engineers

Related Classes

- Unison Introduction course or Applications Programming course

Course Viewing Requirements

To view the course, you must have:

- Microsoft® Edge, Mozilla®, Firefox®, or Chrome®
- Audio-listening capabilities
- Connection speed of at least 600 kbps

Course Cost

- Free of charge to all Diamondx and DxV Cohu customers

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