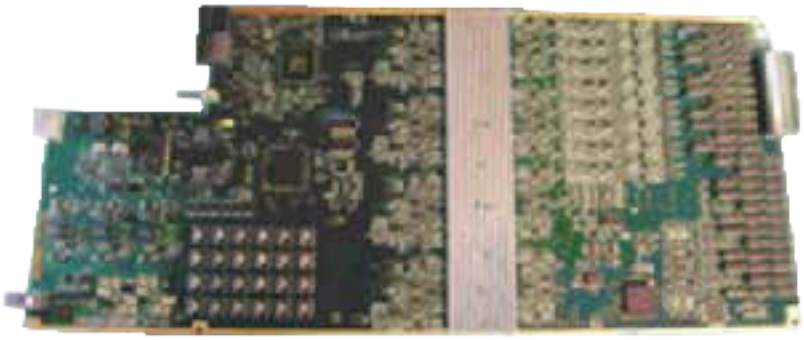
Diamond$_X$ HPVI$_X$ eLearning

High-Power Voltage / Current Programmable Power Source
Course # 2400e



Course Description

This eLearning material introduces the student to the High-Power V/I Source (HPVI$_X$) instrument. The training will provide the student with an overview of the instrument, the theory of operation, accessing help, and some simple test examples. On completion of the course, the student will be able to describe the components of the HPVI$_X$, understand the theory of operation, be able to access the help documentation, add the instrument resources to a program, and be able to describe programming statements used in simple test examples. This is accomplished by a combination of multimedia presentations and interactive software demonstrations.

Course Outline

- Product Overview
- Functionality and Theory of Operation
- Programming - Test Examples
- Calibration
- Using the Unison System Help

Course Length

- Self-paced – 2-3 hours typical depending on skill level

Prerequisites

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

Recommended

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

Automotive

Consumer

Power Management

IoT/IoV & Optoelectronics

Industrial & Medical

MCU

Mobility

- **8 Channels**
- **Force/Measure 4-Quadrant Operation**
- **±100 V / 500 mA**
- **4:1 SmartMux**

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Course Modules

1 - HPVI$_X$ Product Overview

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

- State on which system the HPVI$_X$ can be installed
- Identify target markets the HPVI$_X$ is intended to meet
- Summarize the Operating Specifications of the HPVI$_X$
- Recognize the instrument's major feature set

2 – HPVI$_X$ Functionality and Theory of Operation

This module provides an in-depth description of the HPVI$_X$ instrument functionality. On completion of this module the student will be able to:

- List the major features of the HPVI$_X$ instrument
- Recognize where the HPVI$_X$ instrument can be installed
- Describe how the instrument is controlled by the tester
- Recognize the need for the Cable Interface Board (CIB) and rack-mounted power supply
- Describe the Continuous Power Mode
- Describe the Pulsed Power Mode
- Recognize the Smart MUX capabilities

3 - HPVI$_X$ Programming – Test Examples

Designed to build on the student's existing knowledge of creating a Test Program in Unison, this module will introduce the student to a Charge Pump test example. This example will be completed by the student in multiple stages using interactive software demonstrations to reinforce the programming concepts introduced. On completion of this module the student will be able to:

- Add HPVI$_X$ resources to an Adapter Board Object using the Unison Package Tool
- Recognize and use various Unison VI APIs
- Recognize the Smart MUX connect / disconnect APIs
- Recognize the features and benefits of the Unison Graphical Debug Tool (GDT)
- Complete a Charge Pump Test including a Unison Sequence for use with time-critical API statements

4 - HPVI$_X$ Calibration

Calibration of the instrument is important to ensure proper testing of the device. During this module the student will learn the correct process for checking the performance of the instrument and performing calibration. On completion of this module the student will be able to:

- Identify the difference between system calibration and checker
- Identify checker, verification and calibration programs
- Demonstrate the use of the Unison SMC+ tool
- Describe how the system's DMM is used during calibration and verification of the HPVI$_X$ board

5 - Using the Unison System 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 HPVI$_X$ information can be found. On completion of this module the student will be able to:

- Launch the help system from the Operator Tool
- Navigate to the HPVI$_X$ instrument manuals
- Create a PDF of the Unison help documents
- Navigate to the application programming instructions (API) documentation
- Be able to determine which APIs apply to the HPVI$_X$

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 Courses

- Unison 5.x, or later, Application Programming
- Introduction to Unison

Course Viewing Requirements

To view the course, you must have:

- Browser supporting HTML5
- Audio-listening capabilities (such as a headset or speakers)
- Connection speed of at least 600 kbps

Course Cost

- Free of charge to all Diamondx and DxV Cohu customers

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