

Diamond_x PD_{1x}/PD_{2x} eLearning

Test Solution for Ultra-High Definition Display Driver ICs

Course # 2700e



Course Description

This eLearning material introduces the student the Panel Display Driver (PD_{1x} / PD_{2x}) instrument. The eLearning 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 eLearning, the student will be able to describe the components of the PD_{1x} / PD_{2x}, understand the theory of operation, identify important Loadboard design criteria, 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

- PD_{1x} Product Introduction
- Functionality and Theory of Operation
- Interface
- Programming - Test Examples
- Using the Unison System Help
- PD_{2x} Product Overview

Course Length

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

Prerequisites

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

Recommended

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



Automotive



Consumer



Flat Panel Display



IoT/IoV & Optoelectronics



Industrial & Medical



MCU



Mobility

- 320 Channels per Instrument
- 16-bit 123 kps Digitizer
- Max Current Constant/Pulsed $\pm 10.24V$, 0/+20V
- Max Pins 6,080 (20 slot), 12,160 (40 slot)

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Course Modules

1 - PD1_x Product Introduction

This module is a foundation for the later modules, providing the student with an overview of the PD1_x. On completion of this module the student will be able to:

- State on which system the PD1_x can be installed
- Identify target markets the PD1_x is intended to meet
- Summarize the Operating Specifications of the PD1_x
- Recognize the instrument's major feature set

2 - PD1_x Functionality and Theory of Operation

This module provides an in-depth description of the PD1_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:

- List the major features of the PD1_x instrument
- Recognize where the PD1_x instrument can be installed
- Describe how the instrument is controlled by the tester
- Recognize the specialized leakage / continuity circuits.

3 - PD1_x Interface

This module provides a description of the PD1_x instrument interface and general guidelines regarding Load board design and manufacturing. Included in this module is information about the Adapter Board tester resources, the instrument pogo pin arrangement, and diagrams related to Channel Selection and the Leakage/ Continuity Circuits. On completion of this module the student will be able to:

- Identify methods for creating a PD1_x Adapter Board Object
- Describe the connection interface to the DUT interface hardware
- State some general design considerations for the DUT interface as it relates to Display Driver IC testing

4 - PD1_x Programming – Test Examples

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 examples.

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:

- Add PD1_x resources to an Adapter Board Object using the Unison Package Tool
- Recognize and use various Unison Digital and VI APIs
- Recognize the features and benefits of the Unison Graphical Debug Tool (GDT)
- Complete an Opens / Shorts Measurement Test
- Complete a Grayscale Measurement Test

5 - Using the Unison Help System

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 PD1_x/ PD2_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 PD1_x/ PD2_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 instrument

6 - PD2_x Product Overview

This module provides the student with an overview of the PD2_x instrument . On completion of this module the student will be able to:

- State on which system the PD2_x can be installed
- Identify target markets the PD2_x is intended to meet
- Summarize the Operating Specifications of the PD2_x
- Recognize the instrument's major feature set

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.

- 320 Channels per Instrument
- 16-bit 123 kpsps Digitizer

- Max Current Constant/Pulsed $\pm 10.24V$, 0/+20V
- Max Pins 6,080 (20 slot), 12,160 (40 slot)

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Who Should Attend

- Test program development engineers

Related Courses

- Unison Applications Programming
- Introduction to Unison eLearning

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