Diamond$_X$ ATMP$_X$ eLearning

Cohu

Analog Time Measurement Processor
Course # 2600e

Automotive

Consumer

Flat Panel Display

IoT/IoV & Optoelectronics

Industrial & Medical

MCU

Mobility

Course Description

This eLearning material introduces the student to the Analog Time Measurement Processor (ATMPx) 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 ATMPx, 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 class

Recommended

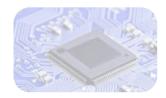- Familiarity with Linux Operating Systems
- English - written and spoken

- **TED - Time Event Digitization**
- **8M Sample Event Memory**
- **Burst Mode Read Back**
- **Multiple Trigger Modes**
- **High Voltage Direct Input**
- **Mixed-Signal Sync Capability**

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Course Modules

1 - ATMP$_X$ Product Overview

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

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

2 - ATMP$_X$ Functionality and Theory of Operation

This module provides an in-depth description of the ATMP$_X$ 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 ATMP$_X$ instrument
- Recognize where the ATMP$_X$ instrument can be installed
- Describe how the instrument is controlled by the tester
- Distinguish between Two-Event and Multiple-Event Time Measurement Modes
- Describe the MUX Mode measurement feature
- Recognize the need for trigger / arming in obtaining accurate time measurement results
- Recognize the Smart MUX capability

3 - ATMP$_X$ Programming – Test Examples

Designed to build on the student's existing knowledge of creating a Test Program in Unison, this section of the course consists of multiple modules and introduces the student to a Pulse Width Test example. This example will be completed by the student in multiple stages 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 ATMP$_X$ resources to an Adapter Board Object using the Unison Package Tool
- Recognize and use various Unison TMU APIs
- Recognize the Smart MUX connect / disconnect APIs
- Recognize the features and benefits of the Unison Graphical Debug Tool (GDT)
- Complete a Pulse Width Measurement Test

4 - ATMP$_X$ 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 checkers
- Identify checker, verification and calibration programs
- Recognize some of the ATMP$_X$ calibration routines and the hardware they adjust
- Demonstrate the use of the Unison SMC+ tool

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 ATMP$_X$ 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 ATMP$_X$ 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 ATMP$_X$

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

Course Viewing Requirements

To view the course, you must have:

- Microsoft® Internet Explorer® 9.0 (or later), 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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