

# Diamond<sub>x</sub> Digital Theory

Flexible, Cost Optimized Test Solutions

Course # 0201e



Automotive



Mobility



IoT/IoV & Optoelectronics



Computing & Network



Industrial & Medical



Consumer

## Course Description

This eLearning material introduces the student to the test methodologies and hardware used to test digital devices on ATE equipment. On completion of this course, students will understand how to develop DC and functional tests, perform device characterization, and debug test programs.

## Course Outline

- ATE Introduction
- DC Test
- Functional Test
- Functional DC Test
- High Speed Functional Test

## Course Length

- Self-paced – 20-25 hours typical depending on skill level

## Prerequisites

- Six months test program experience
- Successful completion of Diamond Digital Applications course, or equivalent experience

## Recommended

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

- Next-gen test system for wide range of applications
- Scalable high-throughput architecture
- Flexible configurations and solutions
- Small form factor
- Air cooled architecture and instruments
- Compact low power technology

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## Course Modules

Topics currently available include:

### 1 - ATE Introduction

- ATE Overview
- Digital Testing Overview
- ATE Digital Hardware Overview

### 2 - DC Test

- Continuity Test
- Static VOL/VOH Test
- Static IDD Test
- Dynamic IDD Test
- IIL/IIH Test

### 3 - Functional Test

- Gross Functional Test
- DC Levels
- Timing
- Patterns

### 4 - Functional DC Test

- Functional Continuity Test
- Functional VIL/VIH Test
- Functional VOL/VOH Test

### 5 -High Speed Functional Test

- Differential Signals
- DFT Overview
- Device Characterization
- AC Parametric Test
- Max Frequency
- Setup/Hold Time
- Prop Delay Time
- Min Pulse Width Time
- Rise time / Fall time
- Test Program Development
- Test Program Debug
- TDR

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.

## Who Should Attend

- Test program development engineers

## Related Courses

- Diamond Basic Applications Course #0900
- ASL visual ATE Applications Course #0085
- Unison Applications Courses

## 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 for all Cohu Semiconductor Tester Customers