Diamond$_X$ Maintenance

Flexible, Cost Optimized Test Solutions

Automotive

Mobility

IoT/IoV & Optoelectronics

Computing & Network

Industrial & Medical

Consumer

Course Description

The Diamond$_X$ maintenance training course provides a comprehensive overview of the hardware available in the test system. The course focuses on the preventative maintenance procedures needed to ensure maximum system uptime. This course covers the operation of the diagnostic interface, hardware functionality, and preventative maintenance procedures applicable to the test system. The attendees will become confident in navigating through the user interface and accessing the functions of which help in the calibration and maintenance. Execution of the instrument families associated checker, verification, and calibration programs will be explained. Attendees will also be provided with access to systems to ensure they are comfortable and confident in performing the preventative maintenance activities necessary to achieve the maximum reliability.

Course Outline

- Hardware Overview
- Software Overview
- Maintenance Procedures
- DragonRF Instrument

Course Structure

- Four days, including classroom and practical exercises

Prerequisites

- None

Recommended Skills

- Familiarity with Unix and Linux operating systems
- English - written and spoken

Who Should Attend

- Test system maintenance engineers and technicians

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

Diamond$_X$ Maintenance

Course Modules

1 - Hardware Overview

This unit introduces the student to the components of the Diamond$_X$ test system. Topics included in this unit are:

- Familiarization with the System Resource Box
- Power and EMO switch locations and operation
- The test head module mechanics, cooling, and backplane
- System Instrumentation

Upon completion of this unit the attendee will:

- Be familiar with the architecture of the Diamond$_X$ test system, location of key components; and the support for both native Diamond$_X$ instrumentation, and Diamond10 or X-Series instruments.

2 - Software Overview

This unit provides a brief introduction to Linux, and the System Maintenance Controller Plus (SMC+). The student is introduced to the SMC+ essentials, concepts and the skills necessary to calibrate the test system. Some of these concepts and skills include:

- Launching and exiting Unison
- System directory file structure
- Using maintenance related SMC+ tools

Familiarization with basic Linux commands, file structure and file manipulation

  - cmiService
  - System Maintenance Controller Plus (SMC+)
  - Dataviewer
  - Datalogging results
- Performing System Diagnostics, such as Checker, Calibration and Verification

3 - Maintenance Procedures

This unit will provide the student with the information necessary to perform maintenance procedures on the following:

- System Resource Box components
- Test head Module Components

Upon completion of this unit attendee will be able to:

- Powering the Diamond$_X$ up and down
- Perform pogo pin replacement
- Assemble and disassemble mechanical components
- Understand the steps of IMA integration
- Perform backplane replacement
- Perform Calibration and Diagnostics

This unit includes:

- Tester resource box locations
- Tester head architecture
- Instrument location
- Calibration and Diagnostics

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Course Modules (cont.)

4 - Dragon RF Instrument

This unit will introduce the DragonRF subsystem source and measure option to include:

Upon completion of this unit, students will:

- Be familiar with source and measure instruments of the DragonRF subsystem
- Be aware of DragonRF generation sources and subsystem interfaces
- Be able to maintain and perform Dragon RF source and measure operations
- Be familiar with DragonRF configuration options available
- Performing diagnostics on the DragonRF subsystem, and
- Removing/replacing DragonRF instrument modules

Cohu, Inc.
12367 Crosthwaite Circle, Poway, CA 92064-6817
Tel. +1 858.848.8000 I info@cohu.com I www.cohu.com