Cassini Maintenance Training

Syllabus

Roos Instruments

DESCRIPTION

The Cassini Maintenance Training is a 5-day course offered at the Roos Instruments factory in Santa Clara, CA that provide instruction on the operation and maintenance of a Cassini test system. This beginning-level class provides training on the hardware, software, and fundamental microwave theory necessary to troubleshoot, diagnose, repair, calibrate, and maintain the various instruments and components of the Cassini ATE system. Attendees receive up to 20 hours of hands-on training with the test system in addition to in-class lectures and reference material.

PREREQUISITES

There are no prerequisites for this course.
A basic understanding of circuit and RF/microwave fundamentals are advantageous but not required.

ORGANIZATION

The week-long course is structured into lecture-lab modules designed to build a comprehensive understanding of the hardware and software aspects of the tester and the integrated relationship between them. Roos Instruments engineers provide in-class instruction as well as supervise hands-on training with factory Cassini test systems to demonstrate practical application of in-class concepts. Attendees are provided a maintenance manual as well as additional training material handouts to supplement class lectures.

COURSE OBJECTIVES

Attendees that have completed the course will have the necessary skills to understand and manage all of the hardware and software components of the tester. Upon completion of the course, students will be able to:

1. Understand and be familiar with the various software and hardware components of the Cassini test system: infrastructure, test instrument modules, fixtures, operating system, and software tools.

2. Understand the Cassini DC, Digital, and RF instrument architectures and test head configurations.

3. Conduct diagnostics and repairs of various instruments.

4. Isolate and troubleshoot issues throughout multiple system configurations of the RF source/receive measurement chain.

5. Apply best practices for preventative maintenance of DC, Digital, and RF test instruments as well as strategies for expediting repairs.

6. Conduct instrument and system calibrations as well as asses and verify instrument operability.

COURSE OUTLINE

Topic	Description
Getting Familiar with the Cassini Test System	• Infrastructure • Test Instrument Modules • Fixtures • Operating System & Software Environment • Crating/Un-crating a System • Startup/Shutdown Procedures • Docking/Undocking a Fixture & Handler
Guru - Networked Database System	• Concept & Philosophy • Objects, Attributes, & File/Directory Types • System & File Backups • Permissions & Access Control • Guru Applications • Resolving Network Issues • System Recovery
Software Tools	• Tester Environment • Patches & Shortcuts • Log Window • Equipment Pool • Test Plan Environment • Hands-on Labs
Interfacing with Peripherals	• Roos Instruments Fast Link(RIFL) Data Bus • Using RIFL Ports & Pods • Connect to Handlers • Connect GPIB 3rd Party Hardware

COURSE OUTLINE CONTINUED

Topic	Description
System Fundamentals	• Basics of RF • RF Vector Fundamentals • Modular Instrument Architecture • Configuring the Test Head • RF Instrument Functions & Integration • Calibrated vs. Uncalibrated IO & Paths
Preventative Maintenance	• How to Care for: DC, Digital, and RF Instruments • How to Care for Fixtures • Good Practice Techniques • Daily, Weekly, Monthly, & Yearly Maintenance Recommendations
Troubleshooting	• Where to Start • What Tools to Use • Procedural Techniques • Isolating the Issue/s • Hands-on Repair of Components
Calibration	• Concept & Philosophy • RF Vector Calibration, Validates, & Verifies • Calibration Kits: Hardware & Software • Viewing, Saving & Sending Calibration Data • Installing Calibration Data onto Instruments
Getting Assistance	• Available Services • Gathering Data • Sending Information to Support • Strategies for Expediting Repair
Final Examination	• Debugging and Repairing a Live Cassini System • Class Certification
Wrap Up & Review	• Week in Review • Open Q&A

NOTE: This document provides an overview of the Cassini Maintenance Training Course. This document, the course material, and course content are subject to change without notice.