

INTEGRATING MIXED INSTRUMENTS EASILY WITH A SINGLE SOFTWARE INTERFACE

Learn How to Combine Hardware from Different Manufacturers into a Working Test System

Overview

Attend this two-day course to learn how to quickly create a test setup of various instruments from different manufacturers and then control them from a single software interface. The course will demonstrate how the LabVIEW™ programming environment can be used to communicate with these varied instruments via GPIB, Ethernet, or serial interfaces. Students will discover how to remotely perform a variety of test system functions, including taking measurements, plotting and storing data, and performing basic statistical operations such as standard deviation and mean. The course is taught primarily through hands-on laboratory activities, interspersed with lectures and group discussions.

Who should attend

Scientists, researchers in industry and universities, product engineers, design engineers, and technicians in a lab setting who need to create prototypes of benchtop test systems quickly using instruments sourced from multiple manufacturers. This course is NOT designed to address the needs of those implementing high speed production test systems.

What you'll learn

After attending this course, students should be able to:

- Understand key differences between remote communications methods such as GPIB, Ethernet, USB, and serial.
- Select and install the appropriate software driver (IVI-C vs. IVI-Com vs. native LabVIEW) for a given test situation.
- Set up a single-instrument test correctly, ensuring proper hardware and software connections, and verifying remote communication using VISA (Virtual Instrument Software Architecture) Interactive Control and CEC communication tools.
- Perform basic LabVIEW operations and navigation. Verify remote communication using LabVIEW with a single instrument.

- Make a basic measurement using a single instrument connected to a basic DUT. Perform measurements, plot the results, and display basic statistical analyses.
- Properly add additional pieces of SCPI-based equipment for a more complex test system prototype on a more complex DUT. Learn to coordinate operation between instruments.
- Customize drivers for individual test needs, and save for future reuse.
- Create personalized Virtual Instruments (VI). Collect individual instruments into an instrument macro.

How you'll benefit from attending this course

- Avoid costly delays by recognizing common test system communication issues.
- Prevent measurement errors by learning how to coordinate operation between instruments.
- Increase productivity by customizing drivers for current test needs as well as reuse.
- Optimize your testing by using the appropriate software driver for a given test situation.

Course outline

- Introduction to remote communication interfaces
- Complex remote communication terminology made easy
- Introduction to LabVIEW (the Basics)
- Interactive lecture/lab project using LabVIEW
- Troubleshooting tips
- Extensive Q&A with examples

	Classes Conducted at Keithley Facilities	Classes Conducted at Your Facility
Duration	2 days	1–3 days
Classroom Dates	Call 1-888-KEITHLEY or visit www.keithley.com/events/training for dates and locations.	Scheduled at your convenience.

KEITHLEY

A GREATER MEASURE OF CONFIDENCE