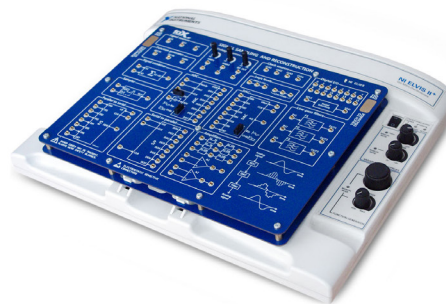


Signal Sampling and Reconstruction Lab



Overview

Signal Sampling and Reconstruction educational lab is a compact, user-friendly learning platform that provides comprehensive and practical way to learn the basic concepts of signal digitalization and reconstruction techniques of ADC/DAQ.

The educational lab is based on NI ELVIS platform, where training board comes with necessary inputs/output, connections and components that allows students to experiment the challenges of signal conversion procedures using high precision measurement hardware SCOPE, DMM, AWG, etc.

Each lab armed with detailed learning materials, that covers the theory part, step-by-step instruction to conduct the experiment and other useful information.

Hardware and software

- NI ELVIS II (или NI ELVIS II+)
- Educational board "Signal Sampling and Reconstruction"
- Software
- User Manual

Features

- Students registration mechanism
- Experiment step-by-step instruction
- Graphical presentation of the results of experiments
- Saving the results of completed laboratory
- Semiautomatic control
- High flexible architecture of the stand

List of Labs

1. Discretization\Quantization
2. Nyquist criterion for sampling and reconstruction
3. Antialyzing filter
4. Analog to digital conversion, ADC transfer function
5. ADC resolution, ADC error
6. Digital to Analog conversion (DAC)
7. Signal recovery through smoothing filters
8. Data conversion full path synchronization
9. Over 15 hands-on experiments