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Find the *National Instruments ELVIS* at our website: ***Click HERE***

Integrated Tools for University Laboratories

NI Educational Laboratory Virtual Instrumentation Suite (NI ELVIS)

- Offers integrated, multi-instrument functionality
- Combines instrumentation, data acquisition and prototyping station
- Virtual Instrument Suite
  - Oscilloscope, DMM, Function Generator, Variable Power Supply, Bode Analyzer, Arbitrary Waveform Generator, DSA, Voltage/Current Analyzer
  - LabVIEW source code provided
  - Completely open and customizable in the LabVIEW environment
  - Data storage in Excel or HTML

Workstation

- Short-circuit and high-voltage protection
- Variable power supplies
  - Manual or programmatic control
- Function generator
  - Manual or programmatic control
- ±15 and +5 V supply available
- BNC inputs for DMM and scope
- Detachable, customizable prototyping board
  - Affordable for student ownership
  - Designed to fit in a 2 or 3-ring binder



Overview

The National Instruments Educational Laboratory Virtual Instrumentation Suite (NI ELVIS) is a LabVIEW-based design and prototyping environment for university science and engineering laboratories. NI ELVIS consists of LabVIEW-based virtual instruments, a multifunction data acquisition device and a custom-designed benchtop workstation and prototyping board. This combination provides a ready-to-use suite of instruments found in all educational laboratories. Because it is based on LabVIEW and provides complete data acquisition and prototyping capabilities, the system is ideal for academic coursework from lower-division classes to advanced project-based curriculum.

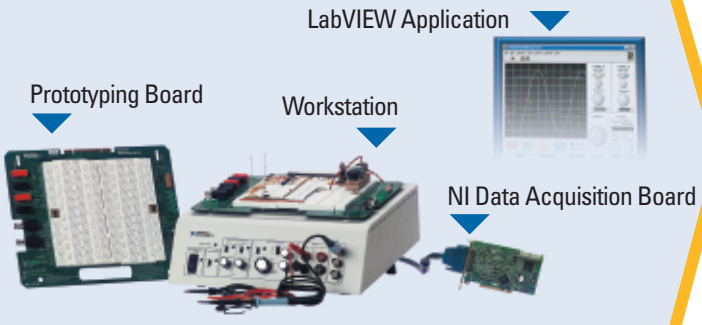
Applications

- Circuit design and analysis for learning analog and digital electronics
- Measurements in mechanical, electrical, biomedical, and physics laboratories
- Teaching data acquisition and signal conditioning
- Live demonstration of concepts in a lecture hall
- Communications and control applications for Electrical and Mechanical Engineering
- Hands-on LabVIEW training

NI Educational Laboratory Virtual Instrumentation Suite (NI ELVIS)

LabVIEW VIs

- Oscilloscope
- DMM
- Function Generator
- Arbitrary Waveform Generator
- Bode Analyzer
- Dynamic Signal Analyzer
- Power Supply



Curriculum Applications

- Instrumentation
- Circuit Design
- Signal Processing
- Communication
- Controls
- Mechatronics

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Integrated Tools for University Laboratories

Ordering Information

For Desktop Computers

NI ELVIS/PCI-6251 Bundle 778748-02
Qty 1-4: $1995 each
Qty 5+: $1495 each

For Laptop Computers

NI ELVIS/DAQCard-6062E Bundle 779064-01
Qty 1-4: $2260 each
Qty 5+: $1695 each

Includes NI ELVIS workstation, DAQ device, cable, and LabVIEW drivers. For individual unit pricing please visit ni.com/academic.

BUY NOW!

For complete product specifications, pricing, and accessory information, call (800) 813-3693 (U.S. only) or go to ni.com/academic.

Specifications

Analyzers

Oscilloscope

Two channels
Data storage, cursors, auto scaling

Max input bandwidth	50 kHz[1]
Max sampling rate	500 kHz / channel[1]
Range	±10 V
Input resolution	12 or 16 bits

[1]Specification depends on Data Acquisition device functionality.

Bode Analyzer

Frequency and phase plots
Frequency range and step control
Logarithmic or linear frequency spacing
Data storage, cursors, auto scaling

Frequency range	5 Hz to 35 kHz[1]

[1]Specification depends on Data Acquisition device functionality.

Dynamic Signal Analyzer

Input range	±10 V
Input resolution	12 or 16 bits

Impedance Analyzer

Measurement frequency range	5 Hz to 35 kHz

2-Wire Current Voltage Analyzer

Voltage range	±10 V
Current range	±10 mA

3-Wire Current Voltage Analyzer

NPN BJT transistor only
Data storage, cursors, auto scaling

Maximum Collector Voltage	10 V
Minimum base increment	15 µA

Digital Multimeter

Resistance

Accuracy	1%
Range	5 Ω to 3 MΩ

DC Voltage

Accuracy	0.3%
Range	±20 V
Input impedance	1MΩ

AC Voltage

Accuracy	0.3%
Range	±14 V_{rms}

Current

DC accuracy	0.25% ±3 mA[1]
AC accuracy	0.25% ±3 mA[1]
Range	±250 mA
Shunt resistance	0.5 Ω
Maximum common mode voltage	±20 V
Common mode rejection	70 dB

[1]Proper null correction at the common mode voltage can reduce ±3 mA error to 200 µA noise.

Capacitance

Accuracy	2%
Range	50 pF to 500 µF
Test voltage range	1V_{pp}

Continuity

Resistance threshold	15 Ω max

Inductance

Accuracy	1%
Range	100 µH to 100 mH
Test frequency	950 Hz
Test frequency voltage	1 V_{pp}

Digital I/O

Digital input resolution	8 bits
Digital output resolution	8 bits
Digital addressing	4 bits

Source

Function Generator

Manual or software control
Sine, triangle, square waveforms
Frequency sweep
TTL sync pulse out
AM, FM modulation

Frequency range	5 Hz to 250 kHz
Frequency accuracy	3%
Output amplitude	±2.5 V
Software amplitude resolution	8 bits
Offset range	±5 V
AM voltage	10 V max
Amplitude modulation	Up to 100%
FM Voltage	10 V max
Amplitude flatness	
To 50 kHz	0.5 dB
To 250 kHz	3 dB

Arbitrary Waveform Generator

Two channels
One-shot or continuous generation
Waveform editor

Amplitude	±10 V
Frequency range	DC to 100 kHz[1]
Output drive current	25 mA max
Output impedance	1
Slew rate	1.5 V/µs

[1]Specification depends on Data Acquisition device functionality.

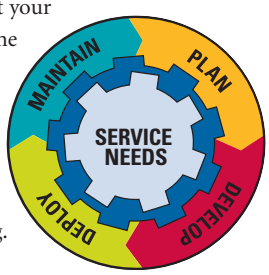
Power Supplies

±15 V Supply	
Output current	Fused at 500 mA
Ripple and noise	1%
Line regulation	0.5% max
5 V Supply	
Output current	Fused at 2 A
Ripple and noise	1%
Line regulation	0.5% max
Variable power supplies	
0 to +12 V and -12 V	
Ripple and noise	0.25%
Software resolution	7 bits
Current limiting	0.5 V at 130 mA, 5 V at 275 mA, 12 V at 450 mA

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