

Digilent in Education

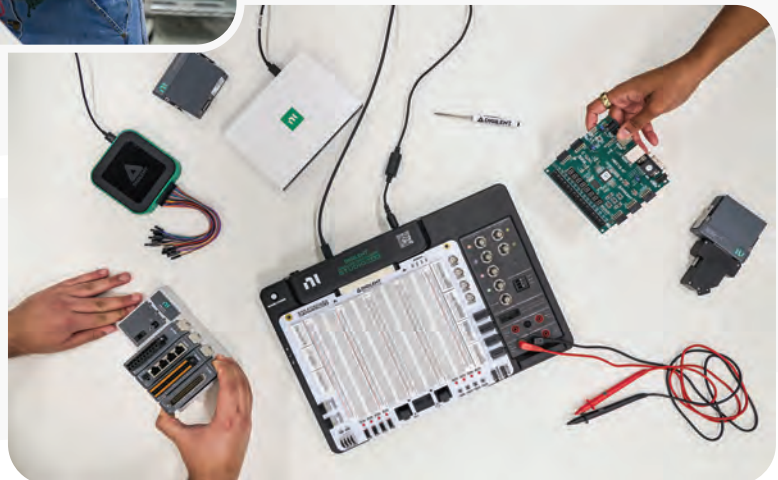
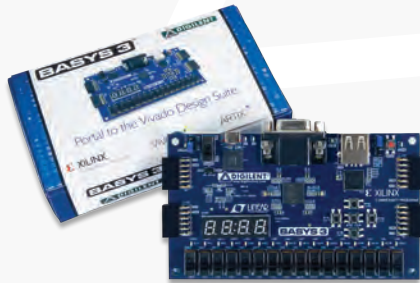


Teaching with Digilent

At Digilent, our mission has always been - and still is - to make engineering technologies understandable and accessible to all. We provide professors, lab managers and students with low-cost, fundamental tools and coursework to turn this mission into reality. Products like the portable Analog Discovery 3 mixed signal oscilloscope for teaching electronics and circuits, or the entry-level Basys 3 FPGA development board put the hardware in the student's hands for maximum engagement and growth in a traditional classroom setting or remote.

As NI's myDAQ, myRIO, VirtualBench, and ELVIS III products become legacy products, equip yourself with Digilent's low cost, flexible options that make practical, hands-on teaching possible, whether classes are in person or remote.

digilent.com/academic



Solutions for Engineering Curricula

Collaborating with educators from around the world, Digilent has taken feedback to create learning tools that can work in multiple academic disciplines. In analog and circuits courses, portable test devices equipped with our popular WaveForms software allow students to use multiple test instruments (both input and output) on their PC or Mac while giving freedom and flexibility to complete projects either in the classroom or work on them at home. Digilent's FPGA development boards (based on AMD chips) give hands-on application experience in digital and computer architecture courses by providing multiple I/O and peripheral connection options. All of Digilent's education offerings can be extrapolated past graduation and the same skills can be applied in almost any professional setting.

Product Course	Analog Discovery 3	Analog Discovery Studio Max	Analog Discovery Pro 5470	Zybo Z7	Basys 3
Analog	●	●	●		
Digital	●	●	●		●
Power	●	●	●		
Robotics		●		●	●
Controls		●		●	●
Computer Architecture				●	●
Projects	●	●	●	●	●

ANALOG DISCOVERY 3

Discover More.



Digilent's Analog Discovery 3 is a versatile mainstay of EE/ECE labs and classrooms in over 300 universities in North America alone. This portable dynamo fits inside a student's pocket, but when connected to a PC, Mac, or Linux machine via USB-C, utilizes our intuitive test software, WaveForms, to act as an oscilloscope, logic analyzer, waveform generator, and more.

The AD3 is a key enabler for conducting engineering education remotely. It allows students to power their breadboards and take measurements just as if they were physically at a lab bench on campus.



WaveForms software
allows for access to
10+ test instruments.

Scope Inputs:

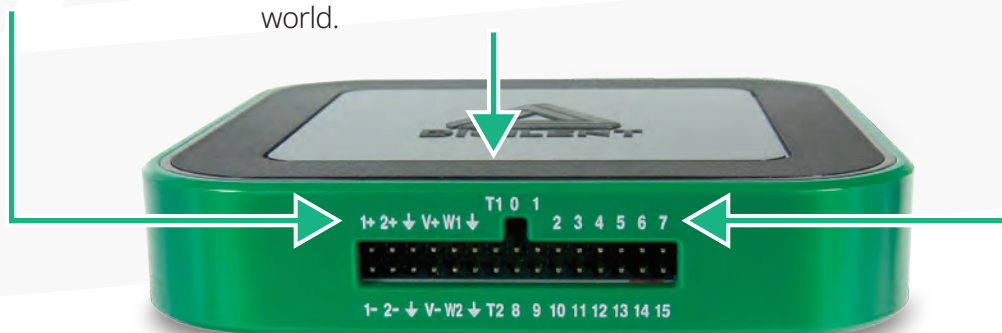
Learn about time and frequency domain by measuring an RC low-pass filter's time constant and plotting its frequency response in a bode plot.

Trigger Pins:

Use the complex triggering system for edge, pulse width, timeout, and transition triggers in addition to cross-instrumentation and external triggers to catch all of the nuances of the real world.

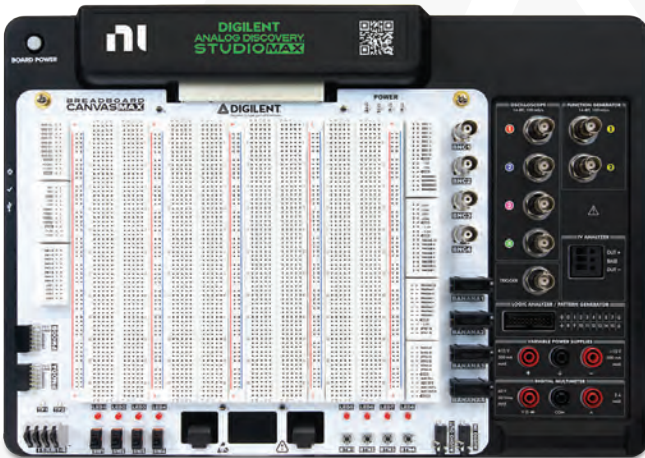
Digital I/O:

Explore digital signals and interfaces by sending, receiving, and spying on various standard protocols like UART, I2S, I2C, CAN, & more.



ANALOG DISCOVERY STUDIO MAX™

A Multi-Instrument Lab for Engineering Experimentation.



- **Mixed-Signal Oscilloscope:** 4 analog input channels, 14-bit resolution, up to 100 MS/s sampling rate, 50 MHz bandwidth.
- **Function Generator:** 2 channels, 14-bit resolution, up to 100 MS/s, ± 10 V output range.
- **Programmable Power Supplies:** ± 15 V, ± 5 V, ± 3.3 V with varying current ranges.
- **Digital Multimeter (DMM):** 4.5-digit resolution, comprehensive voltage and current ranges.
- **Digital I/O:** 16 versatile channels, with an additional 8 available when used with select canvases.

The Analog Discovery Studio Max (ADS Max) is a versatile and comprehensive electronics laboratory solution tailored for academic environments. It integrates 13 essential test instruments, including an oscilloscope, waveform generator, logic analyzer, spectrum analyzer, digital multimeter (DMM), power supplies, and protocol analyzer, into a single, portable device. This all-in-one design allows students to engage in hands-on learning and apply theoretical knowledge in practical scenarios, making it an invaluable tool for engineering education.

All-in-One Design:

Combines 14 essential test instruments, including an oscilloscope, waveform generator, and logic analyzer. Ideal for both in-classroom and remote learning environments.

ADS Max Ecosystem:

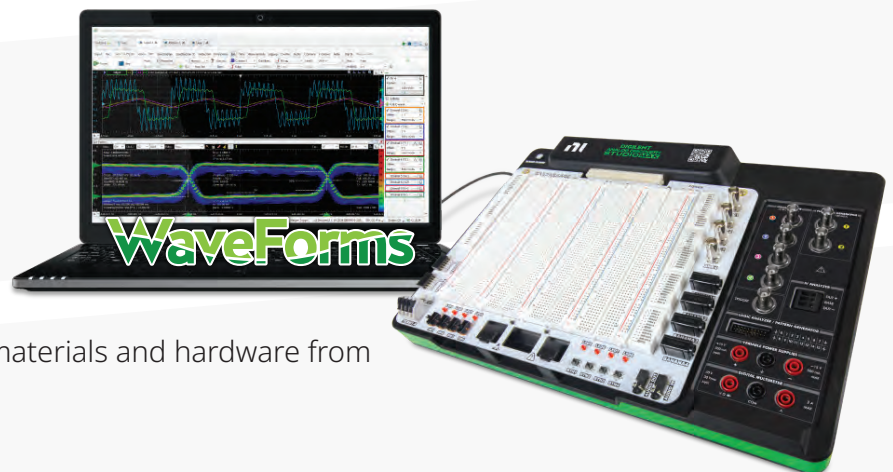
Extends the platform with subject-specific materials and hardware from academic partners.

Breadboardable Interface:

Allows for easy and quick circuit design and testing.

Software Support:

Compatible with Digilent WaveForms, LabVIEW, C, and Python for custom software development.



For users of NI's VirtualBench:

ANALOG DISCOVERYTM PRO ADP5470

The Ultimate All-In-One Test System.



A Complete 1.5 GS/s 350 MHz Mixed Signal Oscilloscope, Function Generator, Power Supply and DMM, All-In-One!

The ADP5470 takes multiple tools and puts them into a single system that any test engineer can benefit from providing a reliable way to work on a majority of their needs. It combines high performance analog (four at 350 MHz) and digital (34) channels, external triggering, and a built-in programmable DMM and tri-output programmable power supply with rails capable of -25 V and +25 V. The ADP5470 is also supported by Digilent's WaveForms software.

Digilent Support

Extensive software support for familiar languages and tools, like LabVIEW, C, C++, and Python.

DMM & Power Supply

A built-in DMM and variable power supply provide a lab station with a complete benchtop experience.

High-Speed Analog Inputs

350MHz bandwidth and up to 1.5 GS/s sample rate make the ADP5470 uniquely suited to analyze real radio signals.



WaveForms

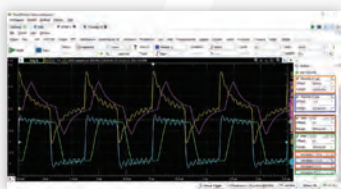
Supported by
Windows, MacOS, and Linux



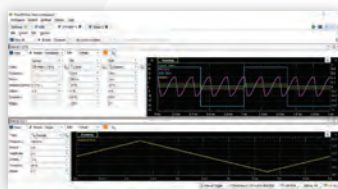
All of our Test and Measurement devices come with the multi-instrument software application, WaveForms. It seamlessly connects our Analog Discovery products and the Digital Discovery with full Windows, Mac OS X, and Linux support.

Designed with a clean, easy-to-use graphical interface for each instrument, WaveForms makes it easy to acquire, visualize, store, analyze, produce and reuse analog and digital signals. And as an added perk, it's FREE for all to download and use.

Oscilloscope



Arbitrary Waveform Generator



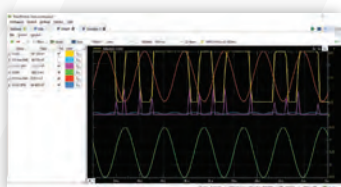
Power Supplies



Voltmeter



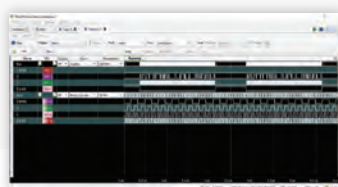
Data Logger



Logic Analyzer



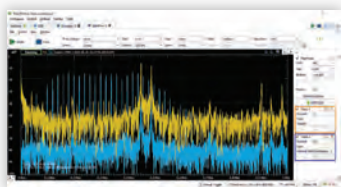
Digital Pattern Generator



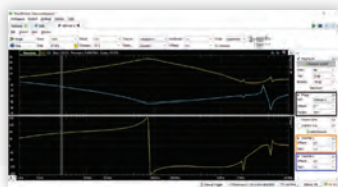
Virtual I/O



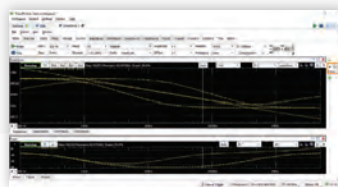
Spectrum Analyzer



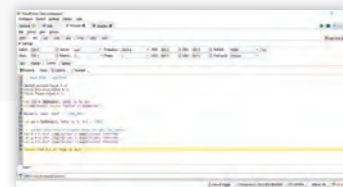
Network Analyzer



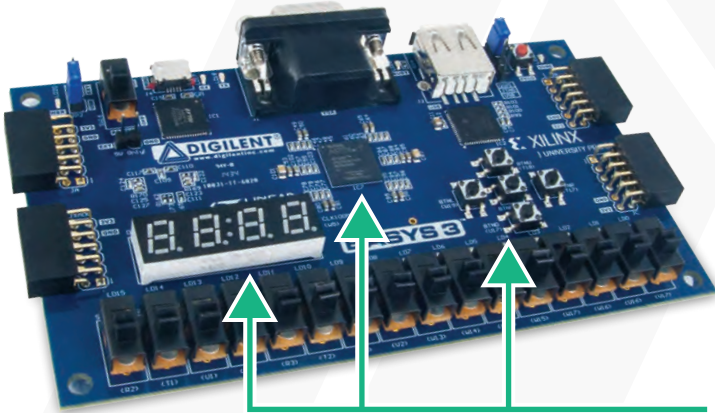
Impedance Analyzer



Protocol Analyzer



BASYS 3



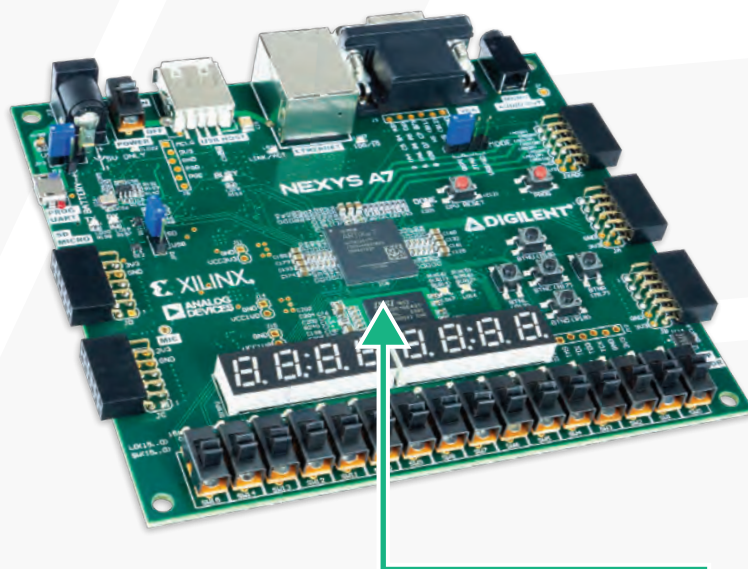
FPGA Trainer Board Perfect for Introductory Users

Designed to facilitate hands-on learning, Digilent's Basys 3 FPGA development board empowers students to grasp complex concepts of digital design through practical experimentation. Its versatility and user-friendly interface make it an ideal platform for teaching fundamental digital design principles.

Tangible Switches, Buttons and LEDs

Create and interact with a variety of combinatorial digital logic circuits, from basic gates up to adders, comparators, and multipliers.

NEXYS A7



FPGA Trainer Board Recommended for ECE Curriculum

The Nexys A7 is an incredibly accessible, yet powerful, FPGA development board. It is a ready-to-use digital circuit development platform that brings industry applications into the classroom environment and allows students to start learning right away with the Nexys A7 thanks to its versatile selection of interfaces.

Versatile Interfaces and DDR Memory

Put computer architecture into practice by building your own processor from scratch.

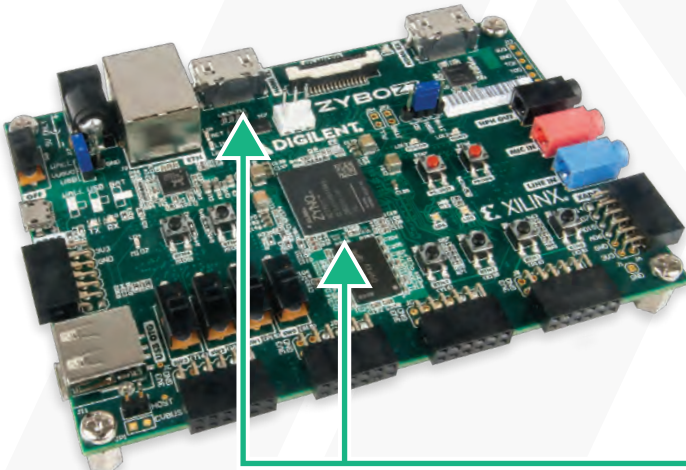
ZYBO Z7

Zynq-7000 ARM/FPGA SoC Development Board

The Zybo Z7's integration of both a programmable FPGA and a dual-core ARM Cortex-A9 processor provides an ideal starting point for hands-on learning and experimentation in system-on-chip (SoC) architecture. By demonstrating how hardware and software components can be seamlessly integrated on a single chip, students can gain a deeper understanding of how complex systems function and understand the relevance of advanced digital design in various industries like embedded systems and IoT devices to multimedia processing and industrial automation.

Advanced Digital Applications

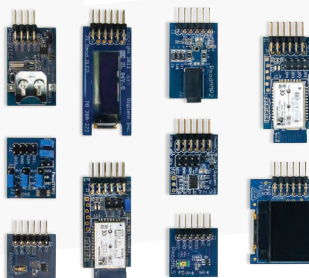
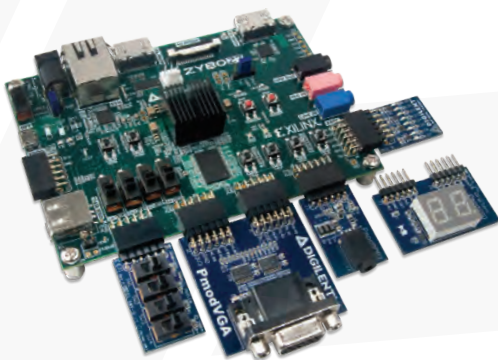
Experiment with vision applications making use of complex system-on-chip subsystems, including built-in processor cores and memory controllers.



Pmod

A diverse ecosystem of Peripheral I/O Modules

Digilent Pmod™ (peripheral module) devices are a line of small plug-and-play digital I/O interface boards that offer an ideal way to extend the capabilities of programmable logic and embedded control boards. When used with a compatible host board, they provide a variety of ways for students to easily add new features and functionality by providing interfaces for their projects to interact with external systems and users.



Versatile Standard for Any Project

Expand functionality by adding peripheral modules that provide access to sensors, motor controllers, and various I/O devices.



Single Seat Licenses for NI LabVIEW



Digilent's WaveForms SDK also supports NI LabVIEW on Analog Discovery products. NI LabVIEW is a programming environment for creating test and measurement applications with an intuitive graphical programming language, extensive libraries of IP, and a large developer community. NI LabVIEW can be used to help students create professional user interfaces, see data in real time, and provide a visual element to compile the information that your Analog Discovery device is analyzing.

Alternatives to Single-Seat Licenses for Academia

Community Edition

Available for LabVIEW and G Web Development Software, community editions are free and designed for use by students on their personal machines.

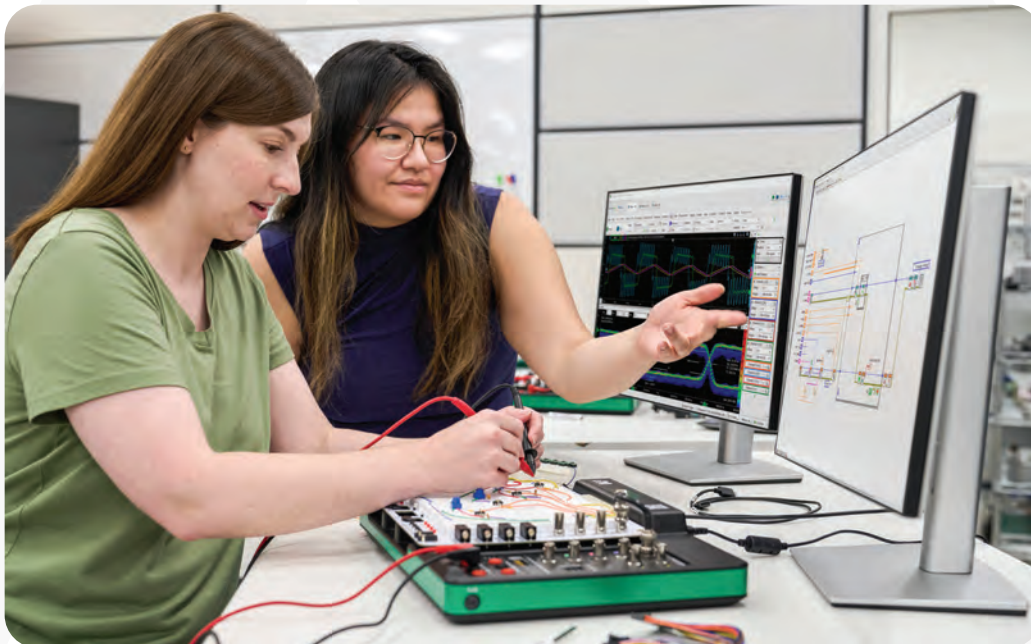
Academic Volume License (AVL)

AVLs are tailored for academic organizations requiring comprehensive access to NI software, on-demand training, and certification credits for teaching and research.

Commercial License

Suited for commercial or industrial applications, these licenses provide advanced tools and support for industry applications.

Academic Pricing



We believe in empowering the next generation of engineers, educators, and innovators. That's why we offer a 15% academic discount on all products in our store for qualified academic customers! This makes it easier than ever to access the tools you need for your projects, coursework, and research. Getting verified is as easy as 1-2-3!

Step 1:

Set up your Digilent account.

Step 2:

Verify your credentials:
(email, ID, proof of enrollment
or employment)

Step 3:

Receive your confirmation!

**To get instantly
academically verified:**



