OVERVIEW

Product Name: Analog Discovery 3: *USB Oscilloscope, Function Generator, Logic Analyzer, Pattern Generator, and Variable Power Supply*

Product Subtitle: 125 MS/s, 14-bit digital oscilloscope, logic analyzer, waveform generator, pattern generator, and more

Product Description: The Digilent Analog Discovery 3 is a digital oscilloscope, logic analyzer, waveform generator, pattern generator, and much more. Using the included WaveForms software (supported by Windows, Mac, and Linux), the Analog Discovery 3 can be used in the lab, in the field, or even at home as any number of test instruments that you might have to buy separately on a traditional benchtop.

Like its predecessor, the Analog Discovery 3 is a portable USB-powered test and measurement device, though it now features an upgraded USB-C connection. It's lightweight and small enough to fit in your pocket or backpack, so it becomes an exceptional companion for any engineer.

This iteration of our most popular Analog Discovery digital oscilloscope also allows engineers access to two new powerful features in WaveForms: the FIR (finite impulse response) Filter and the PID (Proportional Integral Derivative) Controller. Through the use of optional FIR filters on Oscilloscope input channels, users can reduce the amount of high frequency noise that could affect the quality of their measurements. The PID Controller allows the control of an output of a signal based on the response of your system.

Accessories
The Analog Discovery 3 has access to all of the adapters and accessories from its previous version. These accessories, like the Transistor Tester, Impedance Analyzer, and Breadboard Adapter, are available optionally.

Bundle Kit
The Analog Discovery 3 Pro Bundle includes (471-060) includes the Analog Discovery 3, BNC adapter and probes, and test clips.

Software
WaveForms is the free software application for the Analog Discovery 3 and enables use of the available analog and digital instruments. The friendly user interface that has the feel of traditional benchtop software. The hardware device communicates with WaveForms via a USB connection to your computer, allowing users to capture, record, analyze, and generate mixed signal and mixed domain waveforms. In addition to the use of instruments in the application, the WaveForms application has a script editor tool, which allows custom scripting of the instrument in JavaScript. WaveForms is designed to be run on a laptop or desktop computer and is Windows, Mac, and Linux compatible.

For even more customization potential, the WaveForms Software Development Kit (SDK) can be used to create custom applications and scripts in Python, C and additional languages. The Analog Discovery 3 is also compatible with LabVIEW and the Digilent Toolbox for compatibility with MathWorks' MATLAB Data Acquistion Toolbox.

Also included with Analog Discovery 3 is a free 30-day trial of EveryMeasure, our new data storage and visualization platform, plus a one-year subscription to Multisim Live Premium, the online circuit simulator that lets users create, learn, and share circuits and electronics online.

The following instruments are available in the WaveForms application for the Analog Discovery 3:

- Oscilloscope
- Waveform Generator
- Power Supplies
- Voltmeter
- Data Logger
- Logic Analyzer
- Pattern Generator
- Static I/O
- Spectrum Analyzer
- Network Analyzer
- Impedance Analyzer
- Curve Tracer
- Protocol Analyzer

Expanded WaveForms Features

The Analog Discovery 3 boasts a larger-than-ever buffer size, allowing more data to be sent through the waveform generator and received through the mixed channel (analog and digital) oscilloscope. It also has an increased sampling rate of up to 125 MS/s on all channels and a more potent power supply (~800 mA). The larger buffers also offer increased performance with higher resolution AM/FM bands, along with AWG phase modulation, summation, and internal loopback.

Key Search Terms: USB Oscilloscope, Mixed Signal Oscilloscope, PC Oscilloscope, Analog Discovery	*Video Link: TBA*

Datasheet: TBA

Specifications / Tutorials / Project Links:
- TBA

Features	*Product Image*
Oscilloscope: • Two differential channels with 14-bit resolution at up to 125 MS/s per channel	

with a +/-25 V input range, 30+ MHz bandwidth with optional BNC Adapter
- User-configurable input filters and lock-in amplifier
- FFT, Spectrogram, Eye Diagram, XY Plot views, and more

Arbitrary Waveform Generator:
- Two channels with 14-bit resolution at up to 125 MS/s per channel with a +/-5 V output range, 12 MHz bandwidth with BNC Adapter
- Standard waveforms, amplitude and frequency modulated signals, direct playback from analog inputs, custom waveforms, and more

Logic Analyzer and Pattern Generator:
- 16 digital I/O channels at up to 125 MS/s per channel
- Individually-configurable 3.3 V digital inputs and outputs, 5 V tolerant inputs
- SPI, I2C, UART, CAN, JTAG, ROM logic, custom protocols, and more

Programmable Power Supplies:
- 0.5 V to 5 V and -0.5 V to -5 V variable power supplies
- Up to 800 mA per channel when used with auxiliary power source

Additional Features:
Additional software instruments including:
- Spectrum Analyzer, Network Analyzer, and Impedance Analyzer
- Protocol Analyzer, virtual digital I/O such as buttons, switches, LEDs
- Data logging, Voltmeter, in-app scripting

Includes:

- Includes (410-415 Analog Discovery 3)

  - USB-C cable
  - 2x15 flywire signal cable assembly
  - 5-pack of 6-pin male headers
  - 30-pin flywire labels

Image Links:
- TBA

• Includes (471-060 Analog Discovery 3 Pro Bundle)
 	
    ○ USB-C cable
    ○ BNC adapter board
    ○ BNC probes (pair)
    ○ Mini-grabber test clips (6)
    ○ 2x15 flywire signal cable assembly
    ○ 5-pack of 6-pin male headers
    ○ 30-pin flywire labels	

3 Target Applications
  • NA
	Related Products
	  • ADP3450 (PN: 410-394)
	  • ADP3250 (PN: 410-394-1)