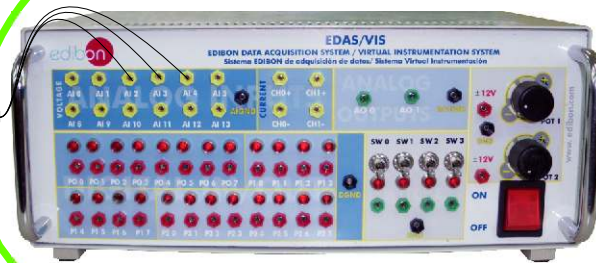


EDAS/VIS. EDIBON Data Acquisition System/ Virtual Instrumentation System



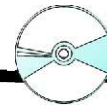
Example of Teaching Unit:
Module "M1" of Basic Electronics



①
Data Acquisition Interface Box



②
Data Acquisition Board



③
Data Acquisition and Virtual Instrumentation Software



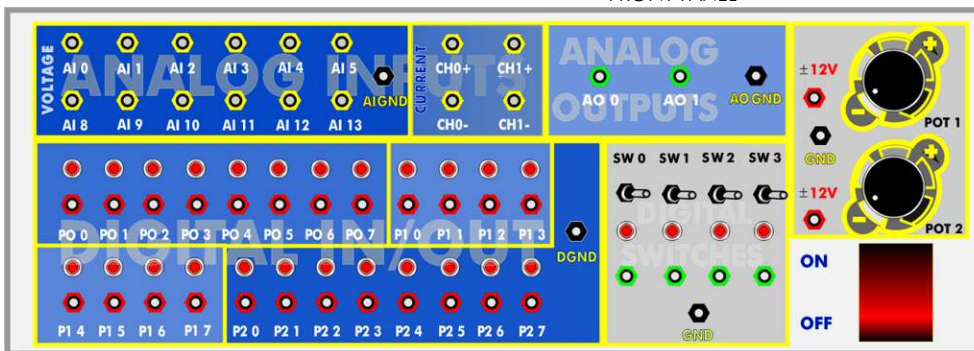
Computer
(not included in the supply)

- Available versions of the system:
 - EDAS/VIS-1.25. with sampling velocity of 1,250,000 samples per second.
 - EDAS/VIS-0.25. with sampling velocity of 250,000 samples per second.
- This system can be used with:
 - All modules type "M" (M1 to M99) of Basic Electronics (LIEBA).
 - All modules type "ED-CAM, ED-CFM and EDICOM" of Communications (LICOMBA).
 - SAI.T. Transducers and Instrumentation Trainer.
 - * Any other electronic board.



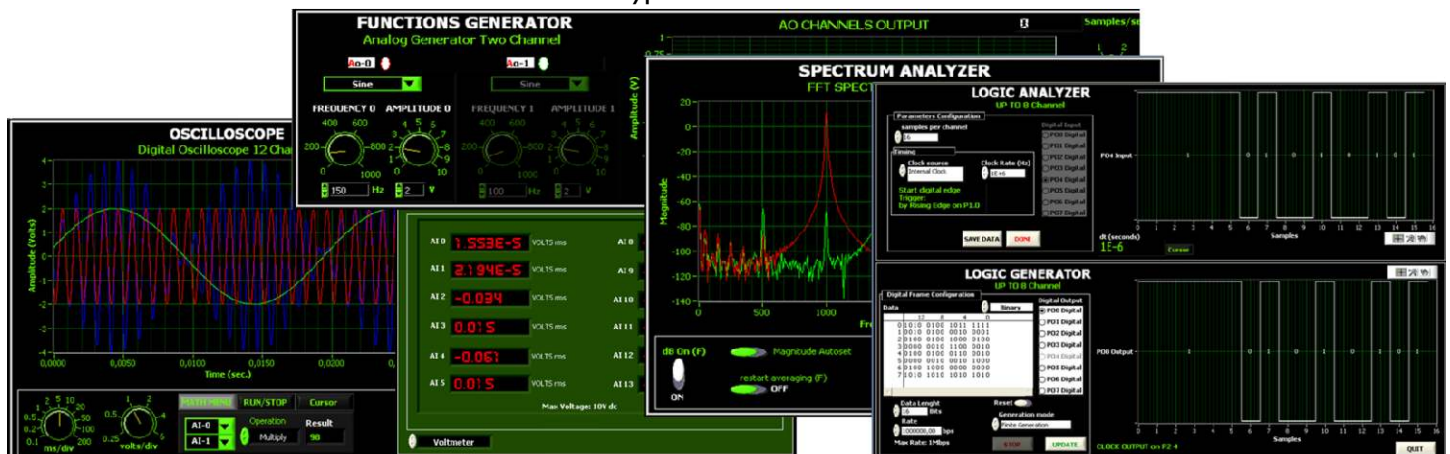
PROCESS DIAGRAM AND ELEMENTS ALLOCATION

Data Acquisition Interface Box FRONT PANEL



AI= Analog input.
AO= Analog output.
P= Digital input/output.
SW= Digital signal Switch 0-5V.
POT=Analog signal Potentiometer $\pm 12V$.

Some Typical Software screens



ISO:9001-2000 Certificate
of Approval. Reg. No. E204034



European Union Certificate



Certificates ISO 14001: 2004 and
ECO-Management and Audit Scheme
(environmental management)



Worlddidac Quality Charter
Certificate
Worlddidac Member

SPECIFICATIONS

The EDAS/VIS System includes a Hardware: DAIB Data Acquisition Interface Box + DAB. Data Acquisition Board and a Software: EDAS/VIS-SOF. Data Acquisition and Virtual Instrumentation Software:

① DAIB. Data Acquisition Interface Box:

Metallic box. Dimensions: 310 x 220 x 145 mm. approx.

Front panel:

16 Analog inputs (1 block with 12 voltage channels and 1 block with 2 current channels (4 connections)).

Sampling velocity 1,250,000 samples per second for EDAS/VIS 1.25 Version.

Sampling velocity 250,000 samples per second for EDAS/VIS 0.25 Version.

2 Analog outputs.

24 Digital inputs/outputs, configurable as inputs or outputs, with 24 state led indicators. These digital inputs/outputs are grouped in three ports of eight channels (P0, P1 and P3).

4 Digital signal switches 0-5V.

2 Analog signal potentiometers $\pm 12V$.

Main ON/OFF switch.

Inside: Internal power supply of 12 and 5 V. Potentiometer.

Back panel:

Power supply connector. SCSI connector (for connecting with the data acquisition board).

Connecting cables.



DAIB

② DAB. Data Acquisition Board:

For EDAS/VIS 1.25 Version:

PCI Data acquisition board (National Instruments) to be placed in a computer slot. Bus PCI.

Analog input:

Number of channels = 16 single-ended or 8 differential. Resolution = 16 bits, 1 in 65536.

Sampling rate up to: 1,250,000 S/s (samples per second). Input range (V) = $\pm 10V$.

Data transfers = DMA, interrupts, programmed I/O. Number of DMA channels = 6.

Analog output:

Number of channels = 2. Resolution = 16 bits, 1 in 65536. Max. output rate up to: 833 KS/s.

Output range (V) = $\pm 10V$. Data transfers = DMA, interrupts, programmed I/O.

Digital Input/Output: Number of channels = 24 inputs/outputs. Port 0 up to 8 MHz.

Timing: Counter/timers = 2. Resolution: Counter/timers: 32 bits.

For EDAS/VIS 0.25 Version:

Sampling rate up to: 250,000 S/s (samples per second).

Analog output: Max. output rate up to: 10 KS/s.

Digital Input/Output: Number of channels = 24 inputs/outputs. Port 0 up to 1 MHz.

Rest of characteristics are the same than EDAS/VIS 1.25 Version.



DAB

③ EDAS/VIS-SOF. Data Acquisition and Virtual Instrumentation Software:

Compatible with actual Windows operating systems. Amicable graphical frame.

Configurable software allowing the temporal/frequency representation of the different inputs and outputs. Visualization of a voltage of the circuits on the computer screen.

It allows data store in a file, print screens and reports of the signals at any time.

Measurement, analysis, visualization, representation and report of results.

Set of Virtual Instruments:

- Oscilloscope:

Channels: 12 simultaneous. Maximum input voltage: $\pm 10V$.

All 12 input channels could be scaled to compare signal with different voltage levels.

"Math Menu" with operations as Addition, Subtraction, Multiplication and Division, between any of the 12 oscilloscope channels.

- Function Generator:

Two independent signal generators, for sinusoidal, triangular, saw tooth and square.

Channels: 2 (allowing working simultaneously). Maximum output voltage $\pm 10V$.

It includes a graph where an output signal for each channel is shown.

- Spectrum Analyzer:

Channels: 12 (simultaneous). Max. voltage: $\pm 10V$. Digital spectrum analyzer: based on the FFT.

- Multimeter:

Voltmeter (Channels: 12 (simultaneous). Maximum voltage: $\pm 10V$ RMS).

Ammeter (Channels: 2 (simultaneous). Max. Ampere: 500 mA rms per channel).

- Transient Analyzer.

- Logic Analyzer:

Number of Input channels: 8. TTL Voltage Level.

Clock Source: 3 different sources.

This instrument allows receiving as far as 8 digital signal simultaneously at 1 or 8 Mbps (depending of the version).

- Logic Generator:

Number of transmission channels: 8. TTL voltage level.

This instrument allows generating up to 8 digital simultaneous signals of 1 or 8 Mbps (depending of the version).

Sampling velocity 1,250,000 samples per second for EDAS/VIS 1.25 Version.

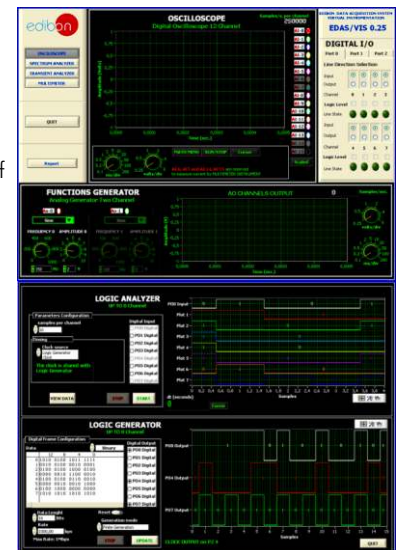
Sampling velocity 250,000 samples per second for EDAS/VIS 0.25 Version.

Manuals: This system is supplied with the following manuals: Required Services, Assembly and Installation, Interface and Software, Starting-up, Safety, Maintenance & Practices Manuals.

This system can be used with:

- All Modules type "M" (M1 to M99) of Basic Electronics (LIEBA).
- All Modules type "ED-CAM, ED-CFM and EDICOM" of Communications (LICOMBA).
- SAIT. Transducers and Instrumentation Trainer.

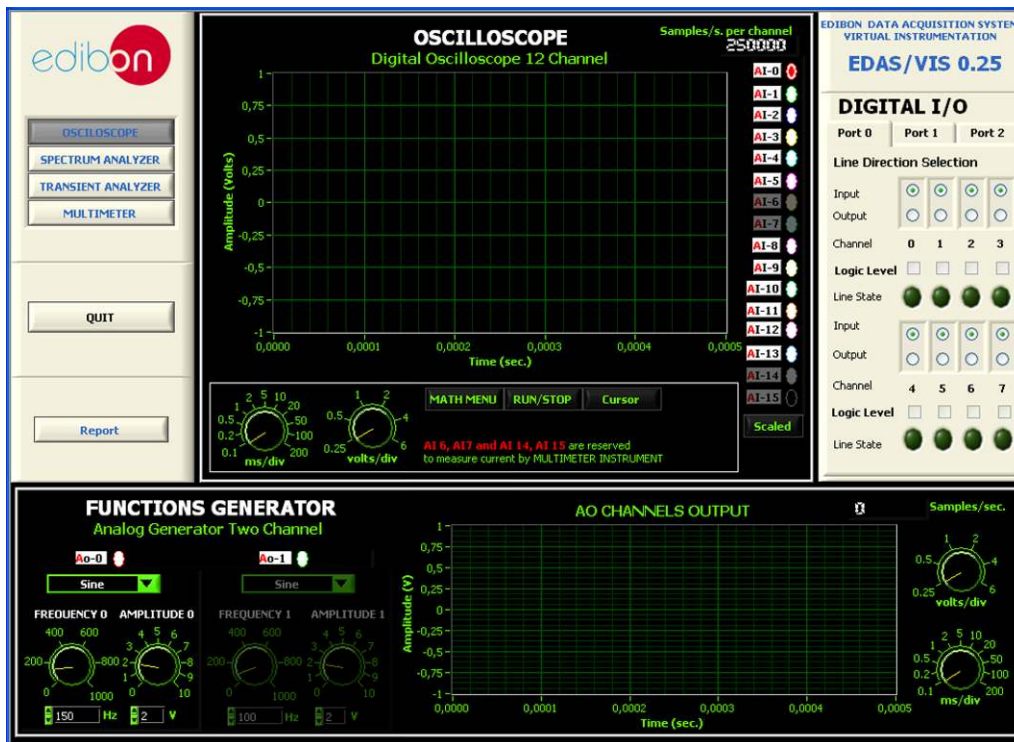
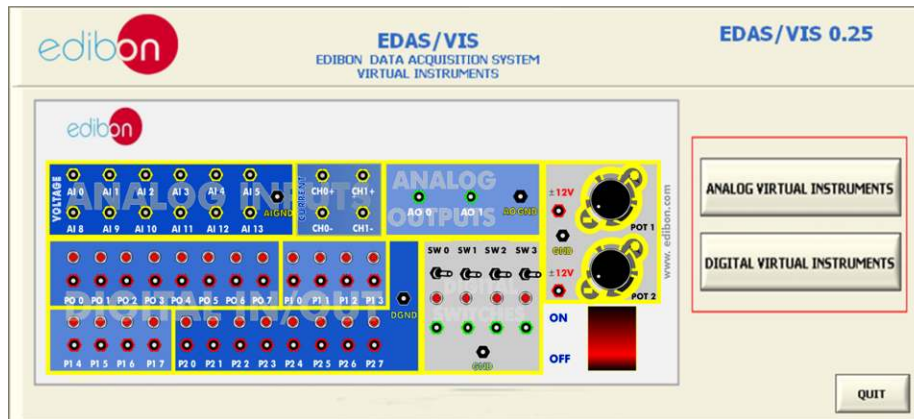
* Any other electronic board.



EDAS/VIS-SOF

Software Main Screens

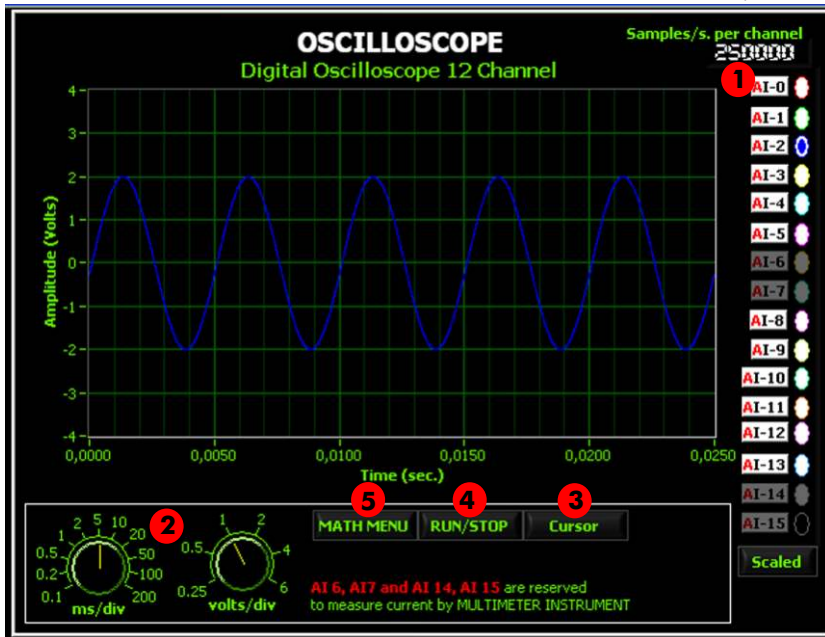
Main screen

Main screen of
Analog Virtual InstrumentsMain screen of
Digital Virtual Instruments

Continue...

Analog Virtual Instruments screens

Oscilloscope



1 Channels selector:

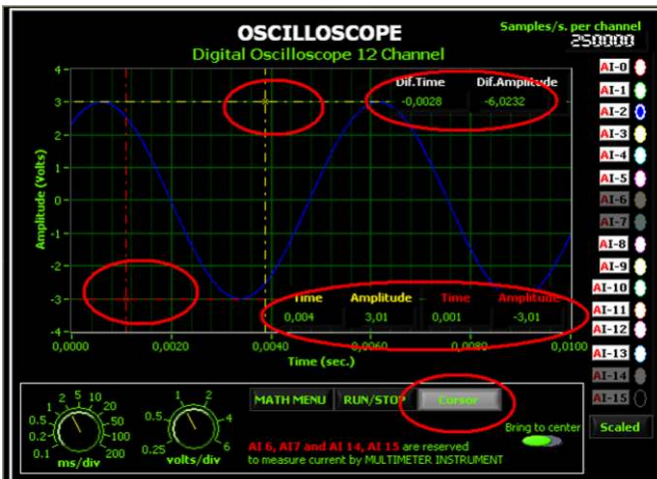


2 Handler Control Axis:



Let us to change the volts per division (volts-axis) and milliseconds per division (time - axis).

3 Cursors:



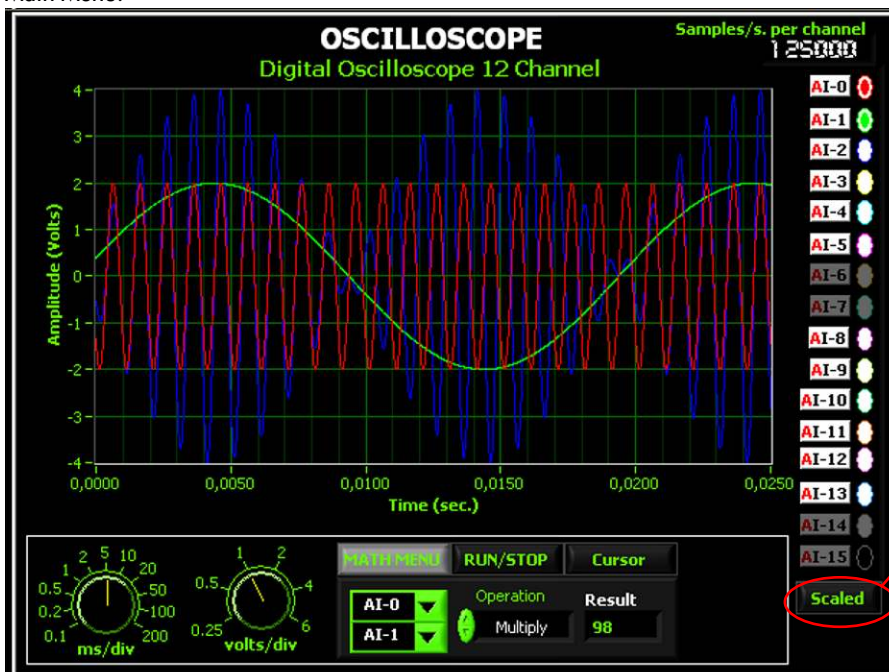
Two cursor appear if you press "Cursor" button on oscilloscope's screen. Also several displays appear on the screen that show the volts shift, the time shift and the difference between both. The "Bring to center" button allows us bringing the cursors to center of graph.

4 Run/Stop:



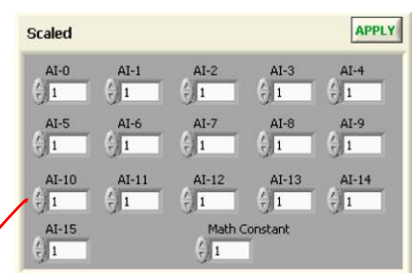
The RUN/STOP button lets us to hold the signal on the screen until pressing this button again. This option lets us to improve the accuracy when you work the cursors.

5 Math Menu:



If press you Math Menu button a frame appears. This frame contains two channel selectors and an operation selector to apply between the selected channels. The result of the operation will be shown in a display and on the graph. The available operations are ADD, REST, MULTIPLICATION and DIVISION; among any of the 12 channels of the oscilloscope.

◀ In this screen we can see an example of multiplication between the red signal (AI-0) and green (AI-1), the blue signal of the graph is the result of the operation.

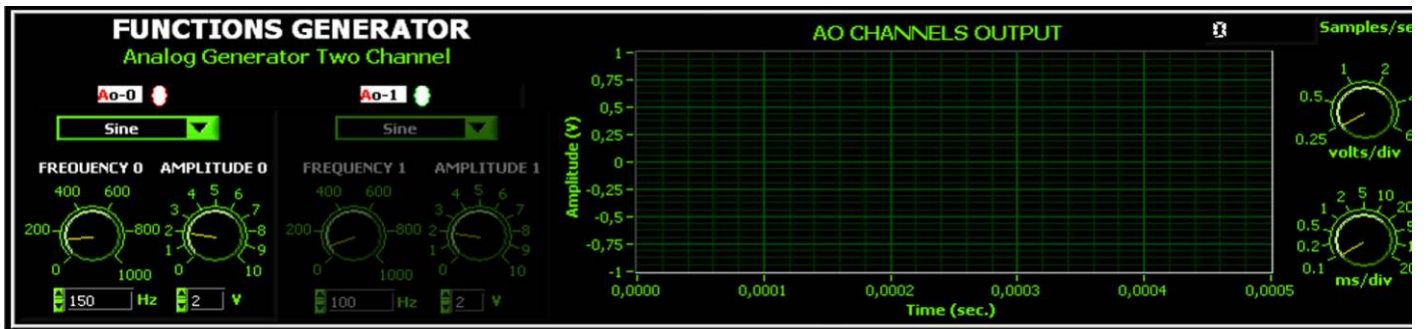


This instrument allows to scale independently each one of the channels. Like wise, the user could scale the result signal of the math operation.

Continue...

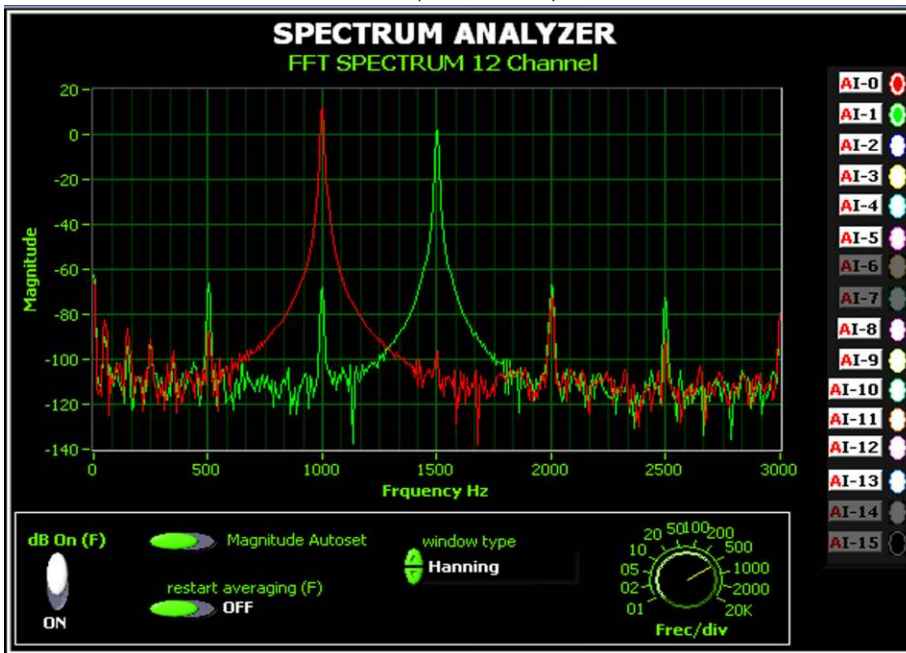
Analog Virtual Instruments screens

Functions Generator



It has 2 channels and 4 type of functions.

Spectrum Analyzer



Digital spectrum analyzer: Based in FFT, Fourier Fast Transformer. It lets us to change the frequency per division through a control placed under the graph, it can show magnitude in dB, auto magnitude scaled and it can apply several windows types, (Nothing, Hanning, Hamming, Blackman-harris, exact Blackmann, Blackman, flat top, 4 term B-harris, 7 Term B-harris o low sidelobe).

Multimeter

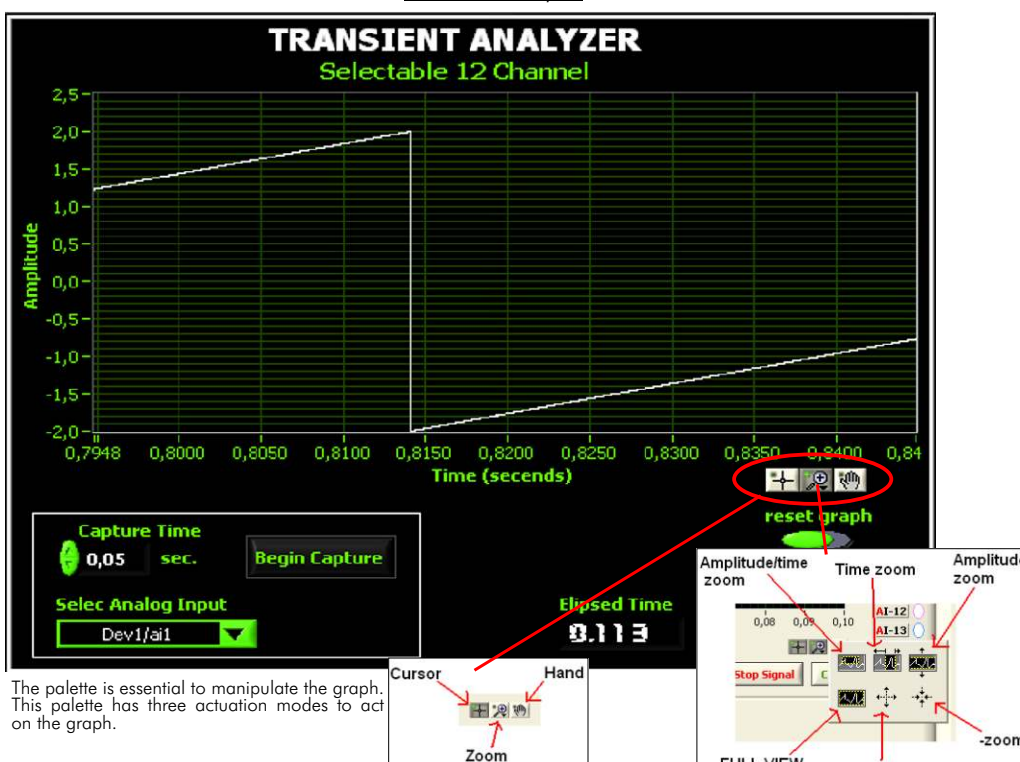


Voltmeter



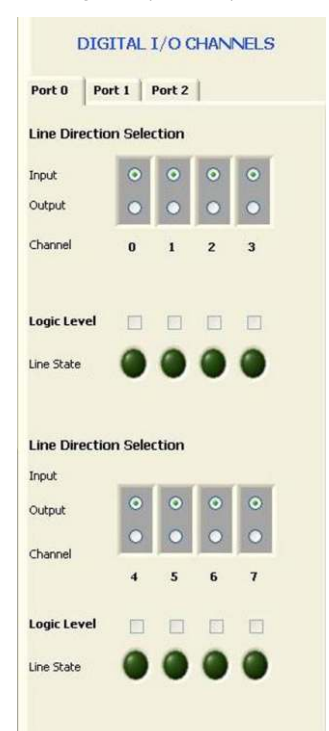
Ammeter

Transient Analyzer



The palette is essential to manipulate the graph. This palette has three actuation modes to act on the graph.

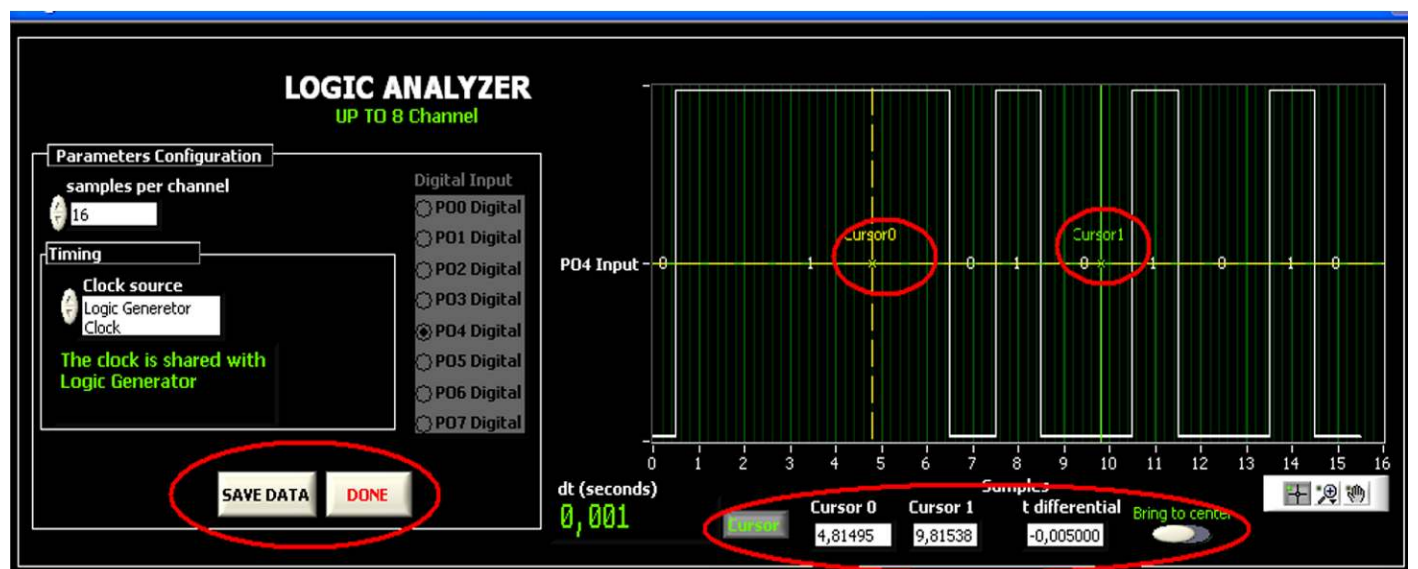
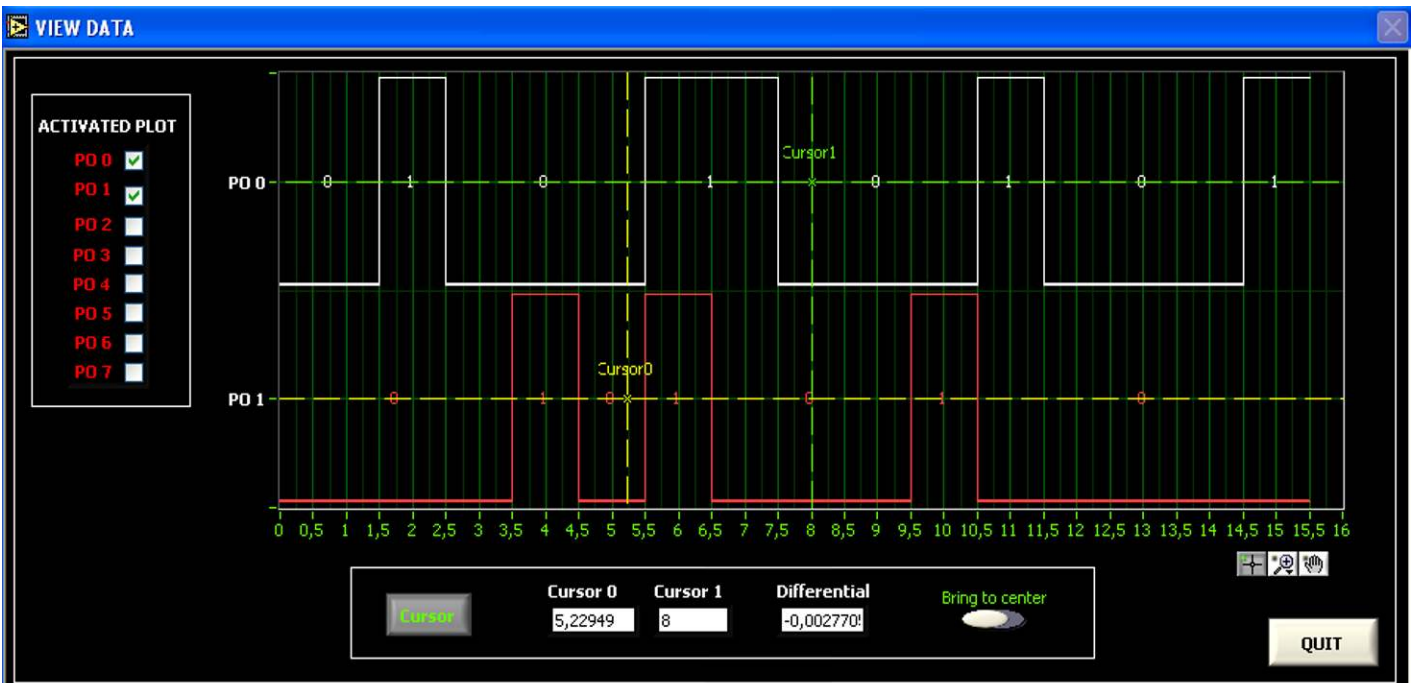
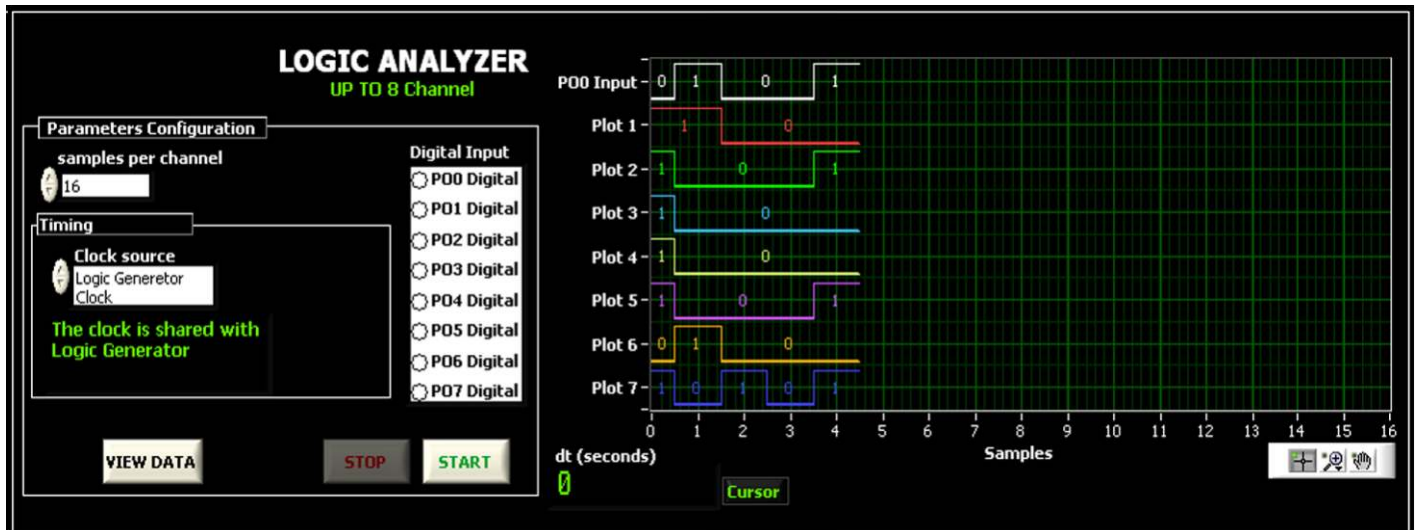
Digital Input/Output



Continue...

Digital Virtual Instruments screens

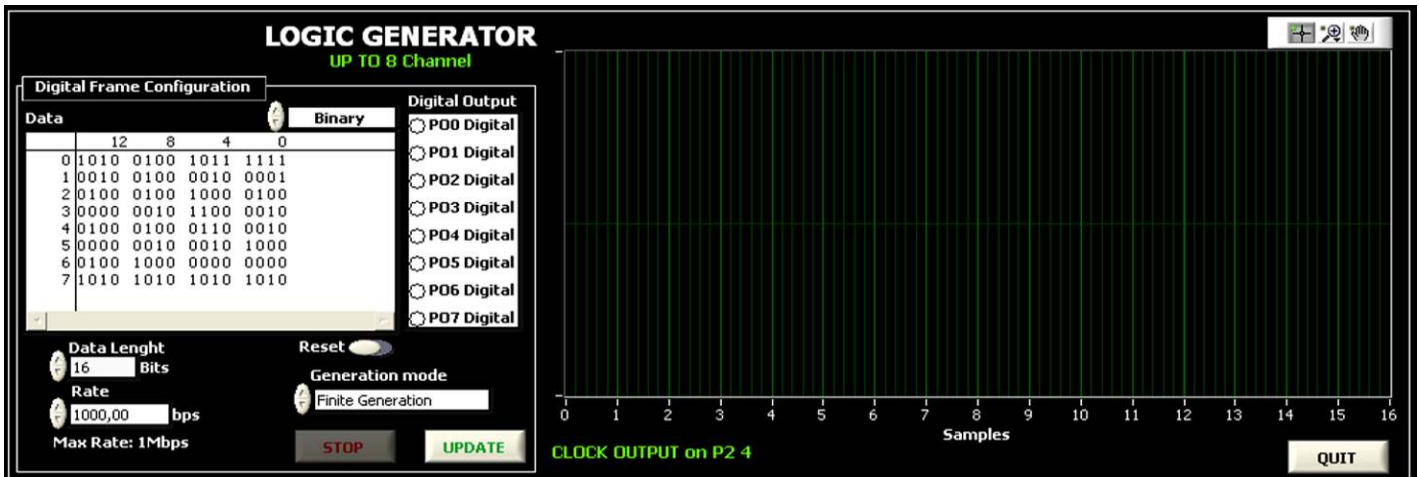
Logic Analyzer



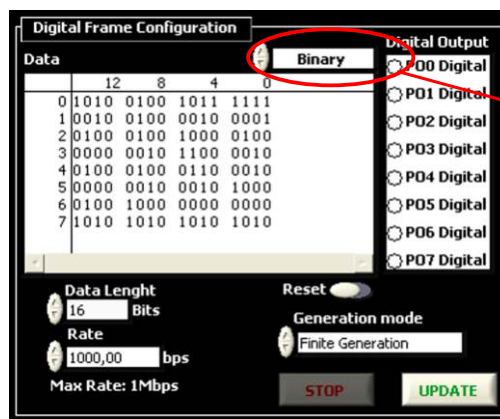
Continue...

Digital Virtual Instruments screens

Logic Generator

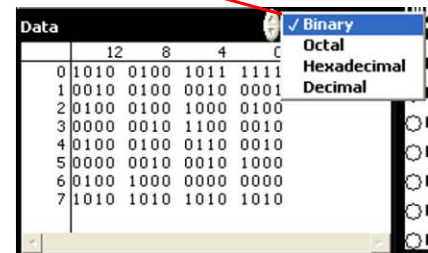


It has two generation types: Finite generation and Continuous generation.

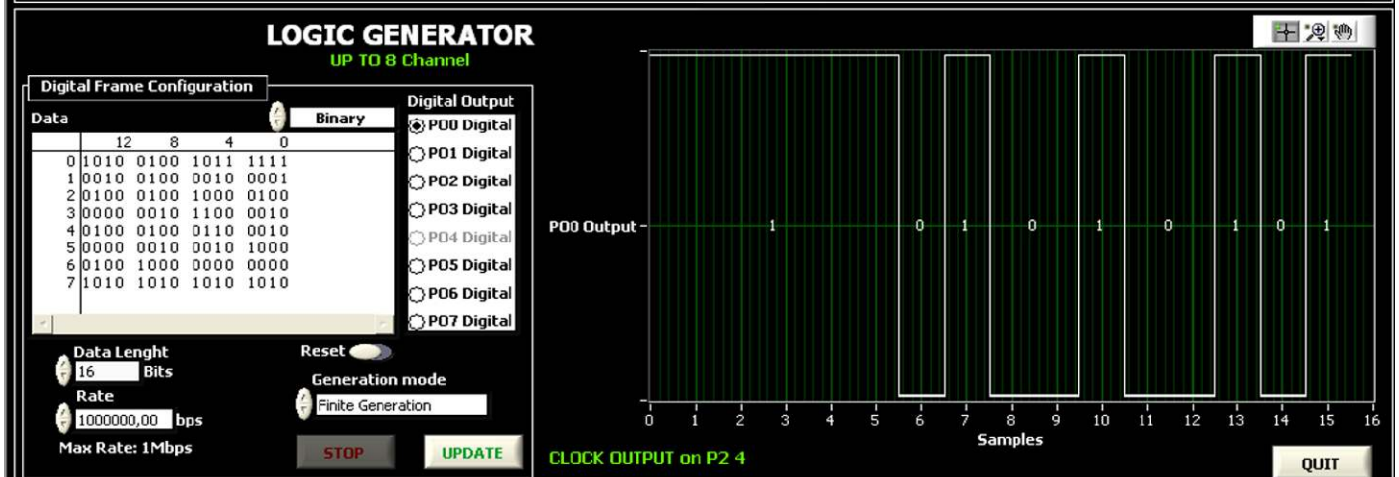
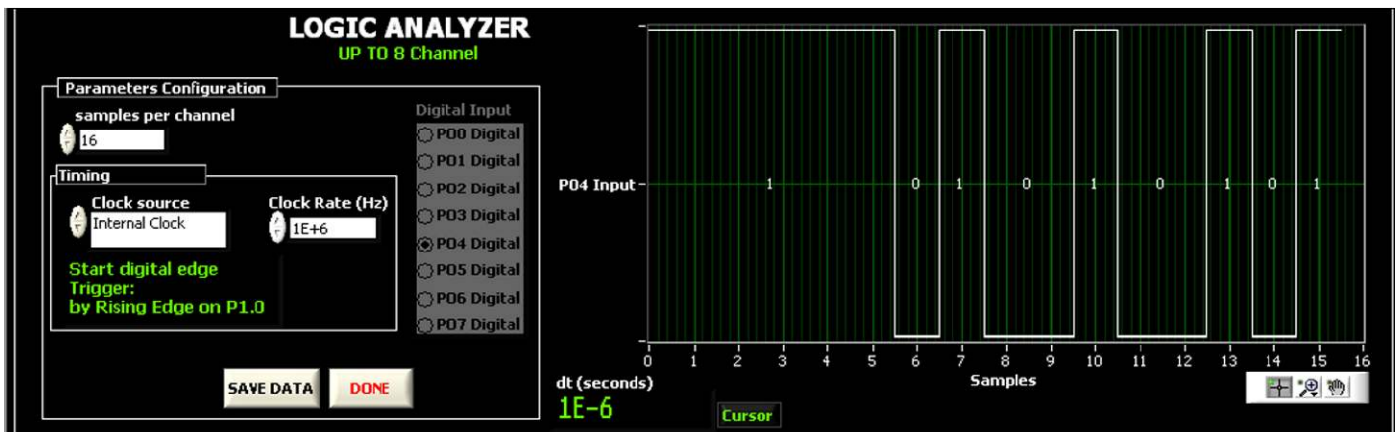


Several numeric bases:

- Binary.
- Octal.
- Hexadecimal.
- Decimal.



Example of Digital Transmission - Reception, LOOPBACK



REQUIRED SERVICES

- Electrical supply: single-phase, 220V. 50Hz /60Hz.
- Computer (PC).

DIMENSIONS & WEIGHTS

- Dimensions: 310 x 220 x 145 mm. approx.
- Weight: 2 Kg. approx.

AVAILABLE VERSIONS

- EDAS/VIS-1.25. **EDIBON Data Acquisition System/Virtual Instrumentation System.** (Sampling velocity: 1,250,000 samples per second).
- EDAS/VIS-0.25. **EDIBON Data Acquisition System/Virtual Instrumentation System.** (Sampling velocity: 250,000 samples per second).

* Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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REPRESENTATIVE: