DASYLab Data Acquisition System Laboratory

SWD-DASYLAB

$995

Basic Unit

- ✔ **Acquisition: Analog and Digital Input, Counters and Timers**
- ✔ **Control: Binary Logic, Status Display and PID Control**
- ✔ **Signal Generation: Used with DACs as a Programmable Function Generator and Simulations**
- ✔ **Flowchart Design: Place and Wire Module Icons On-Screen to Schematically Describe Acquisition, Control and Analysis**
- ✔ **Analysis: Complex Real-Time Data Analysis**
- ✔ **User-Constructed Icons**
- ✔ **Display Formats Include Strip Chart, Scope, Digital and Analog Meters**
- ✔ **High speed Streaming to Disk at Speeds to 200 kHz**
- ✔ **DDE to Communicate with Other Programs**
- ✔ **DASYLab+ Also Features FFT and Filter Modules, and Action Modules for Event-Based Actions**

Solve acquisition problems in just a few minutes

The easy-to-use DASYLab software helps you solve complex data acquisition and control scenarios easily and quickly by working with a flowchart directly on the screen.
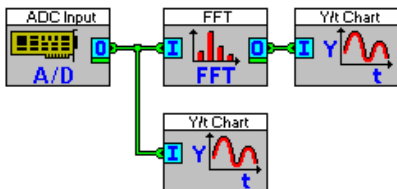
Module icons are placed on the screen and connected with wires in a schematic diagram, which represents the flow of data through the system. Each icon represents an input, operation or output function.

The key features of DASYLab include a truly intuitive interface with context sensitive help, high acquisition and processing speed, support for a large number of data acquisition devices, and graphical display of acquired data.

Real-time acquisition rates of up to 800KHz and on-line display of up to 75KHz can be achieved. The actual rates depend on the data acquisition board and other hardware used.

The worksheet

The worksheet can be of any size, and if it is larger than the screen, it can be scrolled horizontally and vertically. Editing of the worksheet is easy; modules can be added, deleted, and moved with the click of the mouse. When you double click on a module, a dialog box appears in which you set the parameters of the module.

Worksheets can be saved by name, and these named worksheets can later be opened, either manually or automatically, for immediate or auto-timed start of the application.

Acquisition, control, and analysis modules

The versatility of DASYLab lies in its rich set of function modules. These include analog input (ADC), analog output (DAC), triggers, digital I/Os, function generators, action operation,* digital filters*, spectral/FFT analysis*, and mathematical, statistical and logical operations. Output modules allow for file writing, DDE output, and various types of displays, including strip charts, x-y graphs, digital and analog meters, and bar graphs.

*DASYLAB-PLUS only

User definable icons include the ability to create a Black Box icon containing many icons, enhancing the usability for large worksheets.

The module icons can be connected manually or, using the integrated Autorouter feature, wire paths will be determined automatically.

The display

Results of acquisition and analysis can be displayed in strip charts, t-y graphs, and x-y graphs with a selectable system of coordinates. Linear, logarithmic, and polar coordinates are available. The results can also be displayed as bar graphs, analog and digital meters, and status lamps.

The operator can interact with the displays while the system is running, changing the X, Y or time scales, selecting data channels to be displayed, or even looking back in time on the chart recorder. With DASYLab+, those changes to the displays can be done automatically based on system events.

Signal Generation

You can test your DASYLab flowcharts by using simulated signals from the signal generator by temporarily replacing the ADC icon with the signal generator. This, in combination with the mathematical functions, can be used to generate complex wave forms. In addition, a sequence generator is available that allows you to generate even more arbitrary functions, combining ramps and curves.

Control

PID control, and binary logic control can be defined using the module icons. Pulse generators can be used for exact time dependent control, even with complex control signals.

IBM PC **IBM PS/2**

SERIAL I/O
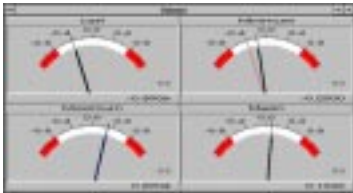
Events and actions*
There are a class of modules that allow you to cause events in the system based on acquired or calculated data. These events can automatically cause certain action. Using the action modules, you can print a display window, change the characteristics of a display window, or even change the whole display. You can automatically notify the operator of problems and suggest remedies.

Disk Streaming
Input data can be streamed to disk at rates up to 200KB. Portions of the data can be monitored during the disk streaming process.

Saving and loading data
Data can be saved to disk in several formats via the file I/O icon. Importing of data from disk during a real-time run is also supported from files of several formats.

DDE, and RS-232 Support
DDE EXPORT
Using the DDE (Dynamic Data Exchange) interface, DASYLab can act as a server, transferring data on-line to other DDE-compatible Windows programs.

DDE IMPORT
Other programs such as Visual BASIC can control the DASYLab application by starting, pausing, and stopping the experiment.

RS-232
Read data from RS-232 devices including scales, balances and data recorders.

HARDWARE SUPPORTED
DAS-16, DAS-16G, DAS-1600, OMB-DAQBOOK family (consult Engineering for the lastest driver support); WB-800/815, COMP-LITE, COMP-250, COMP-1012, CIO-DAS08, CIO-DAS08-PG, CIO-DAS16/F, CIO-DAS16-JR, INET Series, OMD-5508 Series (Consult Engineering for availability)
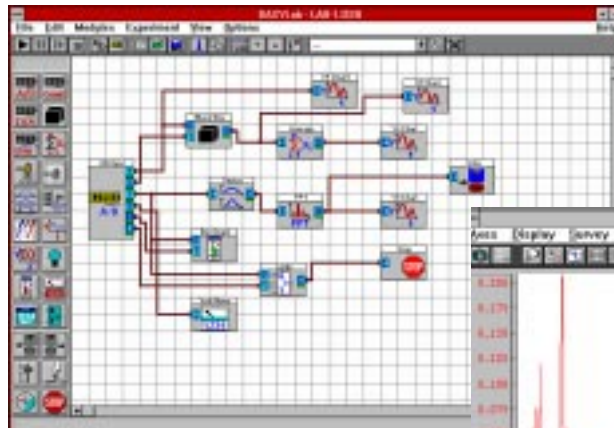
DASYLab Modules

Arithmetic
Addition, subtraction, multiplication, division, addition & multiplication with a constant, inverse, absolute value, square, square root

Exponential / Logarithmic
E to the channel value, n to the channel value, channel value to a constant power, natural logarithm, logarithm to bases 2 and 10

Trigonometric Functions
Sine, cosine, tangent, arcsine, arccosine, hyperbolic sine, hyperbolic cosine, hyperbolic tangent

Interpolation and Scaling
Linear scaling, interpolation, non-linear scaling (from table), transformation to cartesian or polar coordinates

Averaging
Arithmetic and quadratic means (block/sliding, running)

Analysis
Differentiation (w/ phase correction), integration (block incrementing integral), min/max with x position

Statistical
Histogram, variance, minimum, maximum, standard deviation
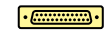
Binary Logic, Counting, Control
Bit isolation, AND, OR, XOR, NOT, local extreme (min, max) counting, zero cross counting, slope (pos, neg) counting, PID control
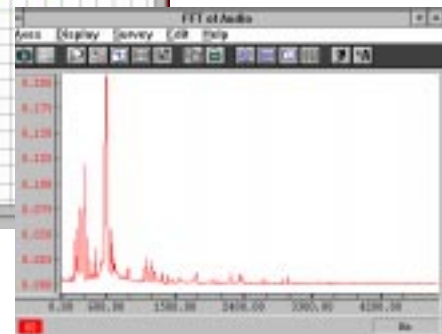
Triggering
High/low hysteresis trigger/alarm, window trigger/ alarm, slope trigger, state trigger

DASYLab+ Additional Modules

Filters / Windows
High pass and low pass filters with arbitrary coefficients; Hamming, Hanning, Blackmann, Poison, Cauchy, Gauss, Tukey windows

FFT / Spectral Analysis
FFT, Inverse FFT up to 8192 points, amplitude, phase, power spectrum, FFT averaging, dB weighting, inverse dB weighting, auto-correlation, cross-correlation, cepstrum, waterfall

Signal adaptation
To synchronize non-synchronous inputs

Events, actions & messages
Pre-defined conditions defined for inputs or calculated values can cause the system to auto print, send operator messages w/ optional acknowledgment, cause swapping of display screens or automatic changes to display windows, resetting of modules, and more.

To Order *(Specify Model Number)*

Model Number	Price	Description
SWD-DASYLAB	**$995**	DASYLab software
SWD-DASYLAB-PLUS	1295	DASYLAB plus software, with realtime FFTs and filters

*Ordering Example: SWD-DASYLAB software, **$995**.*

*DASYLAB-PLUS only