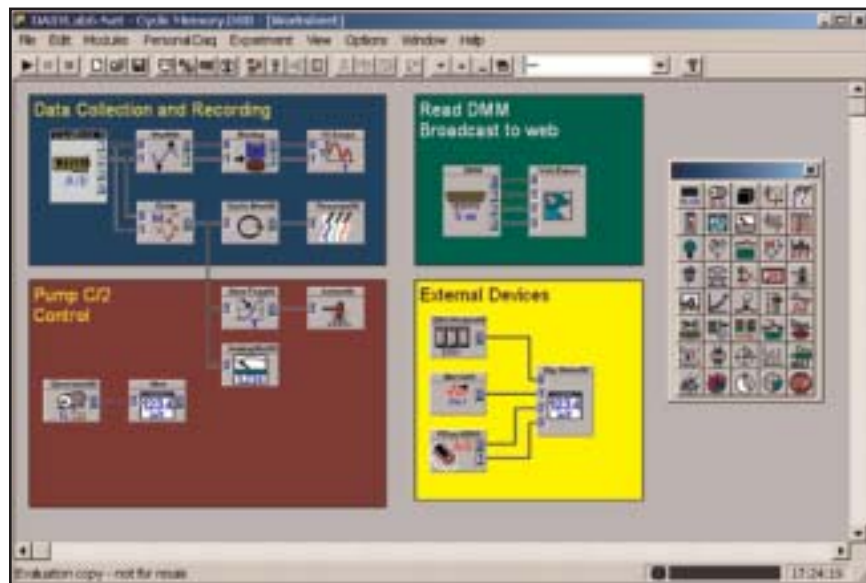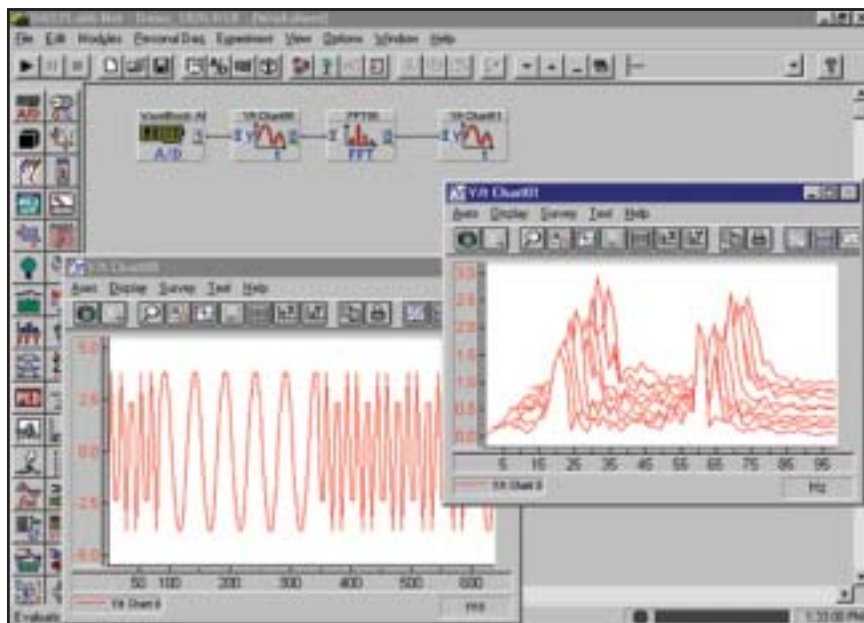# DASYLab®

Icon-based Data Acquisition, Graphics, Control, & Analysis Software

DASYLab® picks up where DaqView™ and WaveView™ leave off, letting you interactively develop PC-based data acquisition applications by simply attaching functional icons. DASYLab offers real-time analysis, control, and the ability to create custom graphical user interfaces (GUIs). What's more, in contrast to other graphical programming environments, which can require weeks of training to master, DASYLab has a very short user-learning curve. Many applications can be configured in a few minutes, rather than days or weeks.

Extensive Hardware Support

DASYLab supports all of IOtech's data acquisition hardware, as well as a host of hardware from over 20 vendors. There is a wide variety of I/O capabilities to choose from, such as analog, digital, counter/timer, IEEE 488, RS-232, and DDE, plus any I/O device that is supported by an OPC (OLE for Process Control) driver. DASYLab/Full also includes IVI drivers (Interchangeable Virtual Instruments) for scopes, DMMs, and function generators.

Effortless Setup

To set up an application, simply drop the desired icons on your worksheet. Connecting all your icons together requires very little effort — simply click and drag them together or drag the output box of one functional icon (e.g., DBK8™) to the input box of another functional icon (e.g., statistics).

Supported Hardware

WaveBook Series
(see p. 17)

DaqBook/2000 Series
(see p. 89)

DaqLab/2000 Series
(see p. 103)

DaqScan/2000 Series
(see p. 108)

DaqBoard/2000 Series
(see p. 192)

Daq/216B
(see p. 215)

Personal Daqs
(see p. 222)

PointScan Series
(see p. 242)

Software

DASYLab®
Software

Custom, Real-Time Data Display

DASYLab provides a comprehensive selection of real-time display format capabilities for easy development of custom displays. DASYLab's display formats include:
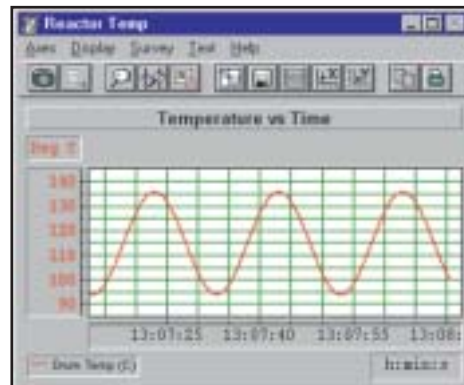
- **Chart recorders**
- **Analog and digital meters**
- **Bar graphs**
- **Y/t & X/Y charts**
- **Status lamps**
- **Lists**

You also have your choice of a host of other features such as limit and trend indicators and the ability to zoom and scroll waveforms, plus display overlapping traces and waterfall plots.
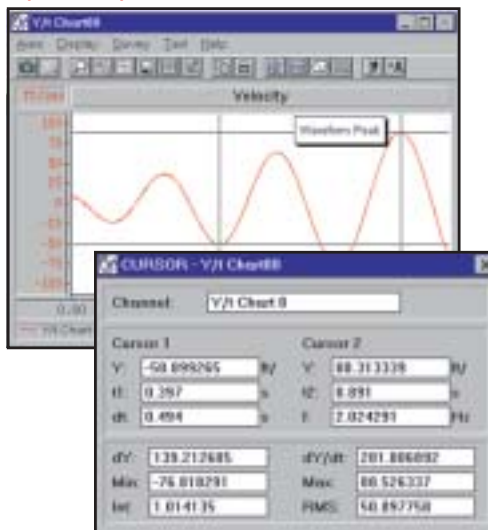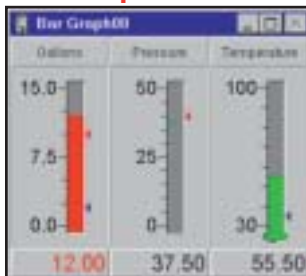
Analog Meters

Y/t & X/Y Charts

Bar Graphs

Chart Recorders

Status Lamps

Digital Meters

Powerful, Real-Time Data Analysis and Control

DASYLab includes a wide range of real-time data analysis and control functions for easy development of custom applications. DASYLab's analysis function groups include:

- **Mathematics**
- **Statistics**
- **Signal analysis**
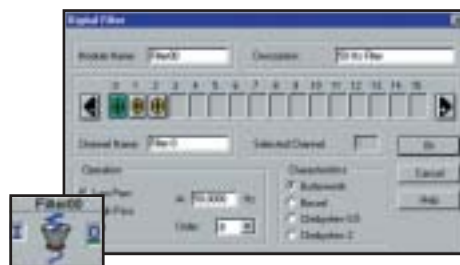- **Data reduction**
- **Control**

Within these groups, there are specific modules for performing FFTs, Digital Filtering, Polynomial and Linear Regression, Logical Operations, and much more. These modules all have simple set up with point and click configuration, allowing complex calculations to be set up in seconds.

Fast Fourier Transform Module

Formula Module
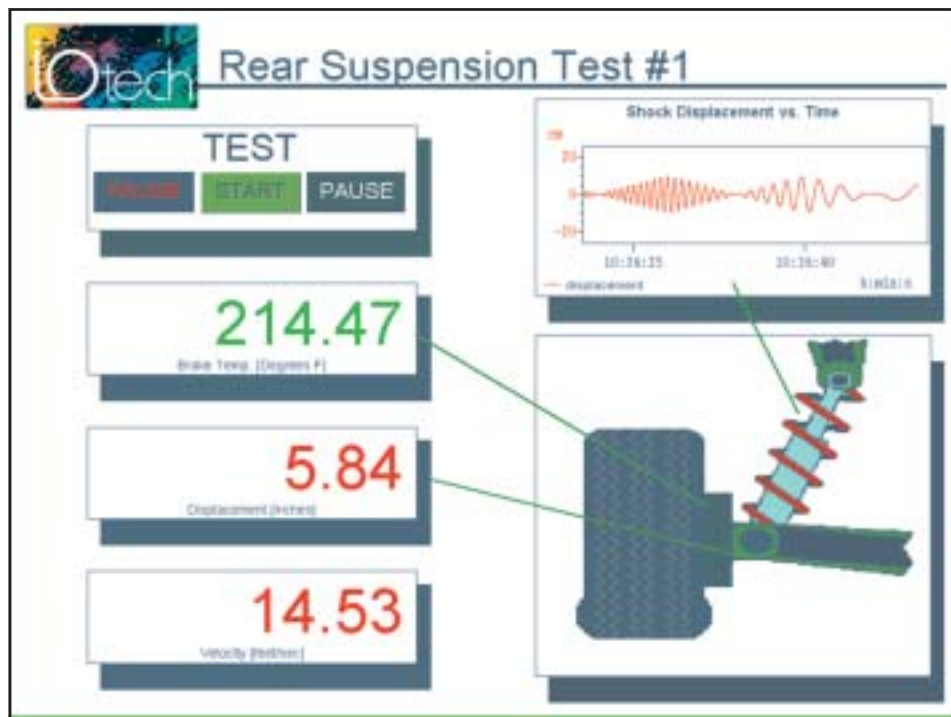
Digital Filter Module

Software

DASYLab®
Software Options

Custom Graphical User Interfaces

DASYLab's integrated VITool (included with DASYLab/Full and greater) provides the means to create custom graphical user interfaces (GUIs), allowing you to present your system operator with screens that contain only the information pertinent to a specific test. It is easy to create custom screens with VITool—simply use the tool box to draw and place switches, charts, digital and analog indicators, text, and your own custom bit-map images.
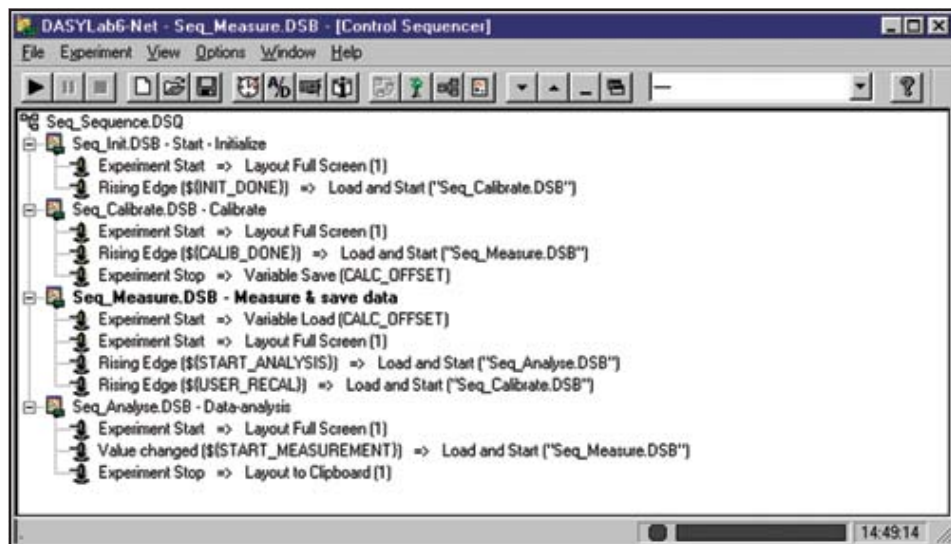
One application can contain up to 200 animated screens, and each screen can be dynamically activated based on prescribed conditions within a test or process. You can also set up VITool to automatically print out any of the screens when predetermined conditions are met. As a result, generating custom reports and documentation is as easy as creating graphical user interfaces. You can also cut and paste any graphical or text elements from a screen into any other Windows application, such as a word processor document or a spreadsheet.

DASYLab's VITool lets you create custom graphical user interfaces (GUIs) for your system operators (included with DASYLab/Full and greater)

Worksheet Test Manager— Control Sequencer

DASYLab/Full contains the Control Sequencer, a tool designed to control sophisticated applications consisting of more than one DASYLab worksheet. The Control Sequencer supervises the execution of worksheets, contingent on user-defined conditions and events. You can define multiple actions for each worksheet to control the flow of the application. The Control Sequencer setup window organizes the worksheets in a tree, showing the actions and associations for each worksheet.

Worksheets and execution conditions are displayed in an easy-to-read tree

Software

DASYLab®
Software Options & Ordering Information

DASYLab Selection Guide

Group	Module	DASYLab/LE	DASYLab	DASYLab/FULL
Input/Output	Analog Input	✓	✓	✓
	Analog Input Multi-Speed		✓	✓
	Analog Output	✓	✓	✓
	Digital Input	✓	✓	✓
	Digital Output	✓	✓	✓
	Counter Input	✓	✓	✓
	Frequency Output	✓	✓	✓
	ICom Input (TCP/IP)		✓	✓
	ICom Output (TCP/IP)		✓	✓
	Modbus Devices		✓	✓
	RS232 Input	✓	✓	✓
	RS232 Output		✓	✓
	IEEE488 Input		✓	✓
	IEEE488 Output		✓	✓
	DDE Input	✓	✓	✓
	DDE Output	✓	✓	✓
	IVI Devices		✓	✓
Trigger	Combi Trigger		✓	✓
	Pre/Post Triggering	✓	✓	✓
	Start/Stop Triggering		✓	✓
	Trigger on Demand		✓	✓
	Sample Trigger		✓	✓
	Relay	✓	✓	✓
Mathematics	Formula Interpreter		✓	✓
	Arithmetic	✓	✓	✓
	Comparator		✓	✓
	Trigonometry		✓	✓
	Scaling	✓	✓	✓
	Different./Integration		✓	✓
	Logical Operations		✓	✓
	Slope Limitation		✓	✓
	Bit Logic		✓	✓
	Gray Code		✓	✓
	Flip-Flop		✓	✓
	Reference Curve		✓	✓
Statistics	Statistical Values		✓	✓
	Position In Signal		✓	✓
	Histogram		✓	✓
	Regression		✓	✓
	Counter		✓	✓
	Minimum/Maximum		✓	✓
	Sort Channels		✓	✓
	Pulse Width Analysis		✓	✓
	Check Reference Curve		✓	✓
Control	Blocktime Info		✓	✓
	Generator	✓	✓	✓
	Stop		✓	✓
	Switch		✓	✓
	Coded Switch		✓	✓
	Slider		✓	✓
	PID Control		✓	✓
	Two-Point Control		✓	✓
	Time Delay		✓	✓
	TTL Pulse Generator		✓	✓
	Signal Router		✓	✓
	Latch		✓	✓
	Global Variable Read	✓	✓	✓
	Global Variable Write	✓	✓	✓
Standard Signal Analysis	Filter		✓	✓
	Correlation		✓	✓
	Data Window		✓	✓
	FFT		✓	✓
	Polar/Cartesian		✓	✓
	Electrical Characteristics			✓
	Harmonic Distortion			✓
	Period Check			✓
Display	Y/t Chart	✓	✓	✓
	X/Y Chart		✓	✓
	Chart Recorder	✓	✓	✓
	Analog Meter	✓	✓	✓
	Digital Meter	✓	✓	✓
	Bar Graph	✓	✓	✓
	Status Lamp	✓	✓	✓
	List Display	✓	✓	✓
Files	Read Data	✓	✓	✓
	Write Data	✓	✓	✓
	Backup Data			✓
	ODBC In			✓
	ODBC Out			✓
Data Reduction	Average	✓	✓	✓
	Block Average	✓	✓	✓
	Shift Register		✓	✓
	Separate		✓	✓
	Merge/Expand	✓	✓	✓
	Cut Out		✓	✓
	Time Slice		✓	✓
	Circular Buffer			✓
Network	DataSocket In (OPC)	✓	✓	✓
	DataSocket Out	✓	✓	✓
Special	Black Box		✓	✓
	Ex/Import Black Box			✓
	Event Driven Actions			✓
	Message			✓
	Send E-Mail			✓
	Time Base		✓	✓
	Signal Adaptation	✓	✓	✓
	Multiple Layout Windows			✓

DASYLab Version Selection

The table to the left shows which I/O, analysis, and display modules are included with each version.

DASYLab/LE includes support for 32 analog input channels on two devices, with a maximum of 64 data connections. One VITool layout window is included, allowing you to create a custom report or user display.

DASYLab, the basic version, includes unlimited data connections and up to 512 analog input channels as well as one VITool layout window. Basic does NOT include Action and Action-enabled modules (such as ODBC, Message, or Email).

DASYLab/FULL version includes all standard modules, including the Standard Signal Analysis modules and all Action and Action-enabled modules. In addition, it includes the full VITool with 200 layout windows, and the powerful Control Sequencer. It does not include the Advanced Signal Analysis modules.

DASYLab/AT, the Advanced Signal Analysis Toolkit add-on option for *DASYLab/FULL* version, includes advanced Frequency Analysis, Rainflow, Sequence Generator options, and much more.

Group	Module
Advanced Signal Analysis Toolkit	Transfer Function
	Convolution
	Block Weighting
	Universal Filter
	Save Universal File
	FFT Filter
	FFT Max
	Octave Analysis
	Nth Harmonic
	Sequence Generator
	Rainflow
	Two Channel Counting

DASYLab/NET Modules

DASYLab/NET, the Network add-on option for *DASYLab/FULL* version, adds high-speed TCP/IP synchronous network communication for two or more networked DASYLab workstations.

Group	Module
Network Option	Net In
	Net Out
	Message In
	Message Out

DASYLab/PRO includes all the features of *DASYLab/FULL*, plus the *DASYLab/AT* and *DASYLab/NET* add-on options.

DASYLab/RT is a run-time version of DASYLab, allowing completed worksheets to be executed on a target PC for a reduced cost. For additional cost savings, quantity discounts are available on all DASYLab versions and add-on options.

Ordering Information

Description	Part No.
Limited version of DASYLab	DASYLab/LE
Basic version of DASYLab	DASYLab
Full version of DASYLab	DASYLab/FULL
Packaged combination of DASYLab/FULL, DASYLab/AT, and DASYLab/NET	DASYLab/PRO
Analysis Toolkit add-on option (requires DASYLab/FULL)	DASYLab/AT
Network add-on option (requires DASYLab/FULL)	DASYLab/NET
Run-time license to economically deploy completed worksheets	DASYLab/RT

Related Products

Software