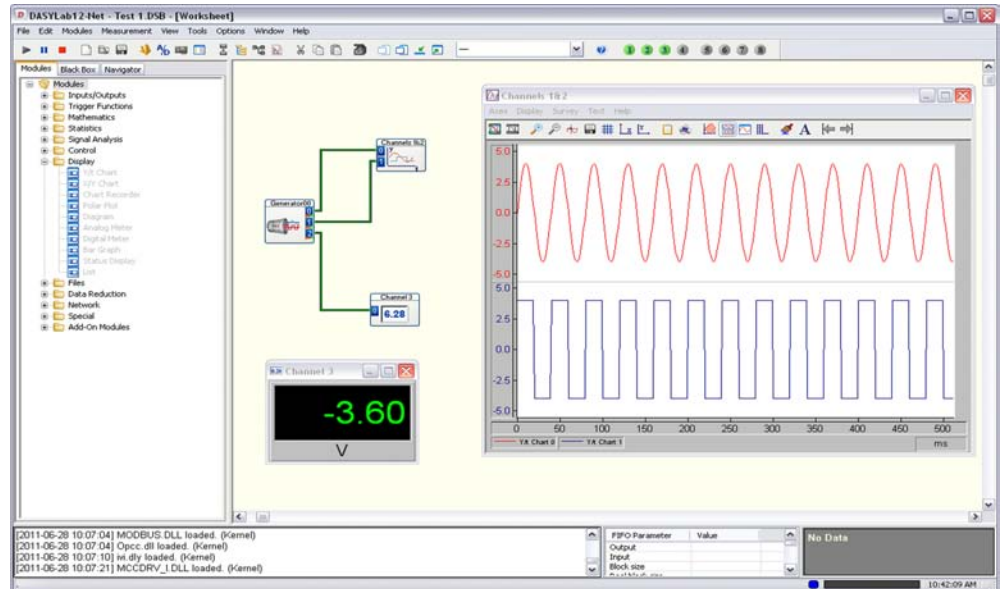


## Features

- Create complex applications in minimal time without programming
- Use graphical functions to build worksheets:
  - Select icons from a palette and place them on the worksheet
  - Connect them using “soft” wiring
  - Set parameters that determine performance
- Implement real-time operations, including PID control:
  - Input icons bring live data into the worksheet
  - Functional icons perform computations
  - Output icons send live data to the hardware
- Provides standard real-time displays (charts, meters, graphs)
- Use layout windows to create simple custom displays and reports for operational end users
- Provides complete library of computational functions:
  - Math, trigonometry, and Boolean logic
  - Formula icon implements user-entered equations
  - Statistics, signal analysis and control
  - Data manipulation and storage
- Includes generator functions to simulate inputs
- Switch, Slider, and Coded Switch controls allow user interactions
- Black Box module lets you create sub-worksheets, up to 256 levels
- Provides serial, OPC, ODBC, TCP/IP, Modbus, and network interface functions
- Supports data acquisition hardware from Measurement Computing and other vendors
- Includes example worksheets, online help, and a printed tutorial,
- Compatible with Windows 7, Windows Vista®, and Windows XP, operating systems and multi-processor PCs



## Overview

With DASYLab®, you can interactively develop PC-based data acquisition applications by simply attaching functional icons. DASYLab offers real-time analysis and control, and the ability to create custom GUIs. What’s more, in contrast to other graphical programming environments, which can require weeks of training to master, DASYLab has a very short learning curve. Many applications can be configured in a few minutes, rather than days or weeks.

## Extensive Hardware Support

DASYLab supports all Measurement Computing 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, DDE, and Modbus, plus any I/O device that is supported by an OPC (OLE for Process Control) driver.

## Effortless Setup

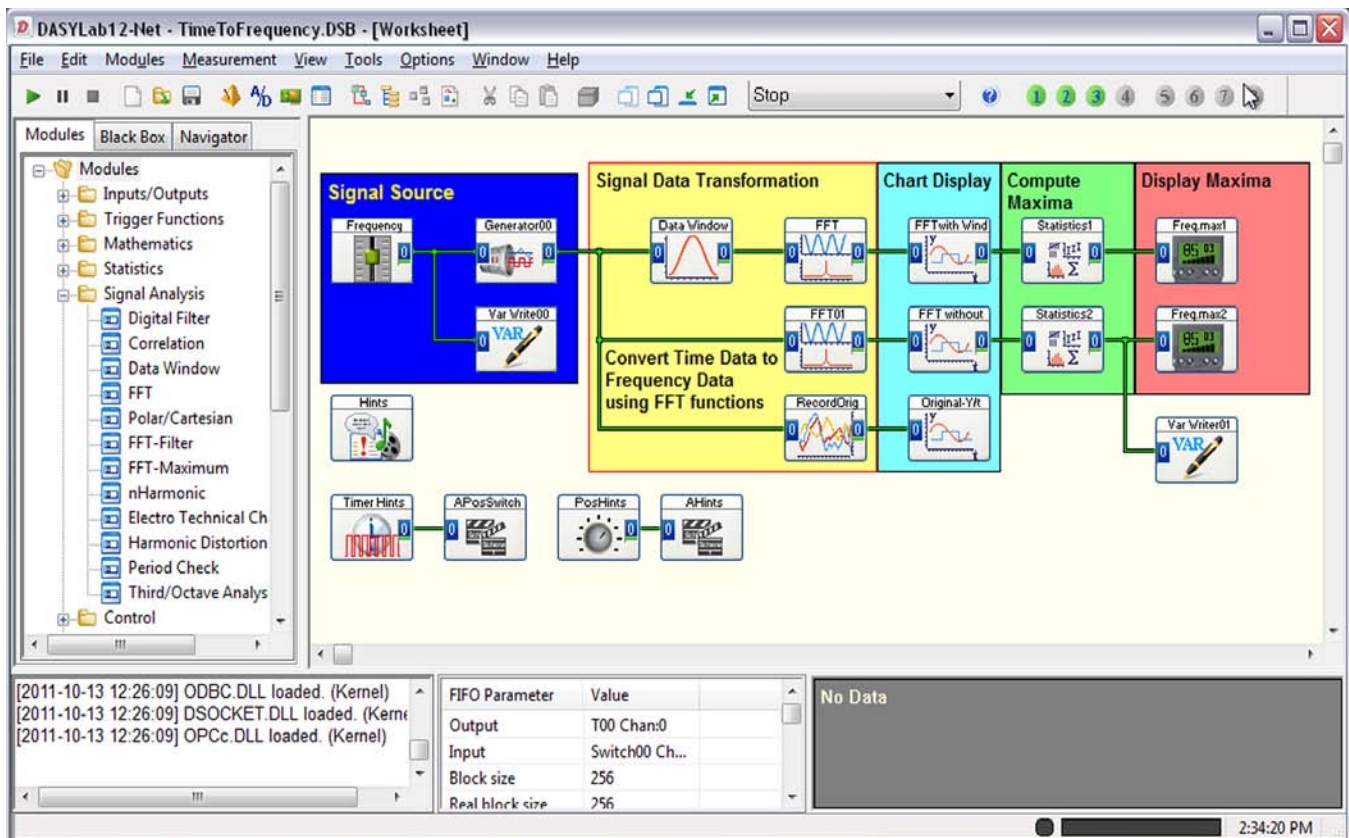
To set up an application, simply place the icons you want on your worksheet. Connecting icons together requires very little effort — simply click and drag them together or drag the output box of one functional icon to the input box of another functional icon (for example, statistics).

## Custom, Real-Time Data Display

DASYLab provides a comprehensive selection of real-time display format capabilities for easy development of custom displays. 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.

## 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. 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.



## Worksheet

The Worksheet is where you create the data flow logic for the application. Select and combine the desired function modules and connect them with wires that represent the data flow.

The browser window displays a tree structure containing all available function modules as well as any saved black boxes. It also contains a navigator to quickly find specific modules in a worksheet. The console window displays graphical and numerical information about content and structure of the data flow.

## Dialogs and Displays

Configure modules easily using the Module Properties dialog boxes. Easily specify the capability of each function block, the number of channels and the parameter settings.

Use the different displays in DASYLab to represent your data online. Interactively zoom and view cursor measurements on or off-line.

## Control Sequencer

DASYLab Full includes 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.

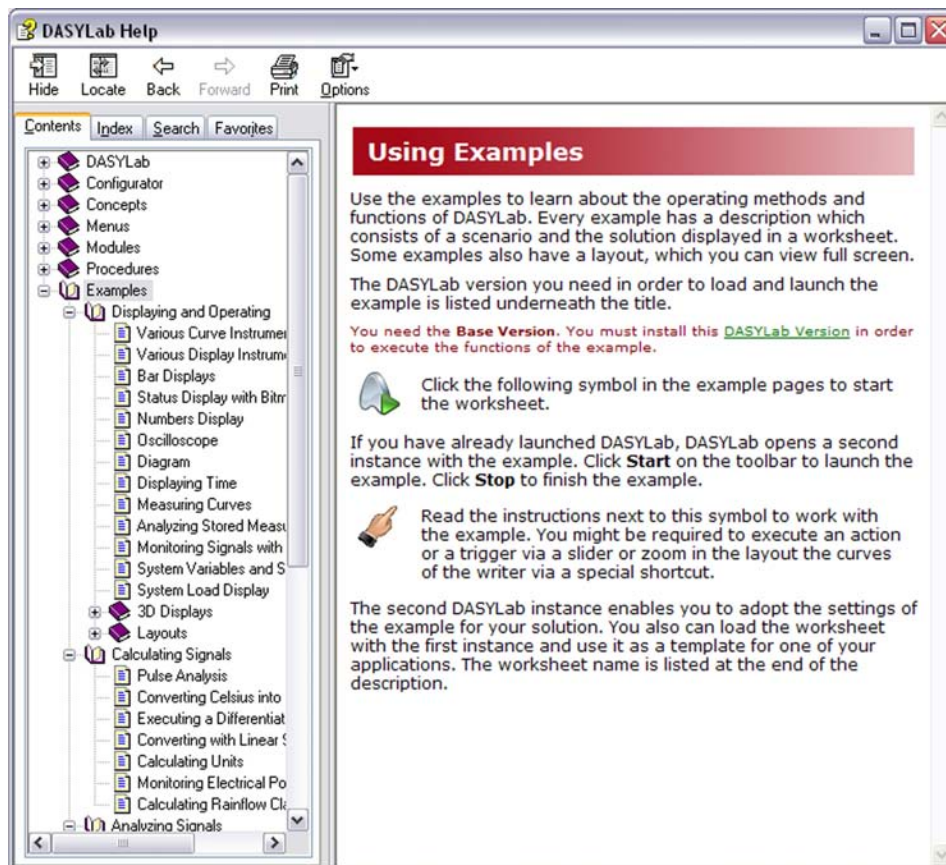
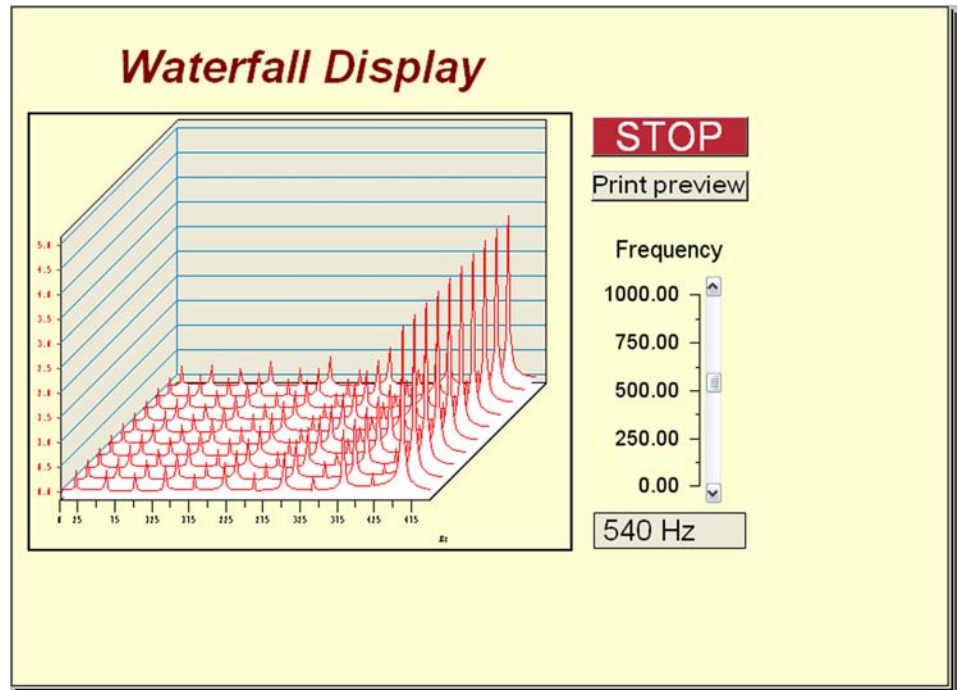
## Layouts and Reports

Use the DASYLab Layout Windows to create a clear and informative presentation of your data and results. Represent your data in scope displays, numerical listings, chart recorders, or bar graphs, just by placing the corresponding objects in the layout and connecting them to the worksheet modules. Use text or graphical elements to enhance the clarity and useability of your application.

## Create Custom Graphical User Interfaces

Use the integrated Layout Windows in DASYLab provide the means to create custom GUIs, allowing you to present screens that contain only the information pertinent to a specific test. Simply use the tool box to draw and place switches, charts, digital and analog indicators, text, and your own custom bitmap images.

One DASYLab Full or Pro application can contain up to 200 animated screens, and each screen can be dynamically activated based on prescribed conditions within a test or process. Layout Windows allow you 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.



## DASYLab Help and Example Programs

The DASYLab help contents lists the help sections for the installed standard drivers and the example programs.

The DASYLab collection of example worksheets demonstrate the working method of the modules in the data flow. You can start the worksheets from the help menu and run them in a second instance of DASYLab. Use these worksheets as templates for your own worksheets.

The *DASYLab User Manual* (dasylib.pdf on the installation CD) includes a tutorial with a quick start program which leads you through the various areas in DASYLab.

## Version Selection

You can choose between four different DASYLab versions to get the exact features that you need.

*DASYLab LITE* includes support for 32 analog input channels on two devices, with a maximum of 64 worksheet wires. One Layout Window is included, allowing you to create a custom report or user display.

*DASYLab BASIC*, the basic version, includes unlimited data connections and up to 256 analog input channels as well as one 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 200 Layout Windows, and the powerful Control Sequencer. It does not include the Advanced Signal Analysis modules.

*DASYLab PRO* version includes the full set of modules, the complete signal analysis tools, sequence generator, and all available add-on modules (without third-party modules). The PRO version also offers full network functionality.

Group	Function Module	LE	Basic	Full	Pro
Input/Output	Analog Input / Output	●	●	●	●
	Digital Input / Output	●	●	●	●
	Counter Input	●	●	●	●
	Frequency Output	●	●	●	●
	RS232 Input	●	●	●	●
	RS232 Output	○	●	●	●
	ICOMS Input	●	●	●	●
	ICOMS Output	●	●	●	●
	IEEE488 Input / Output	○	●	●	●
	DDE Input / Output	●	●	●	●
	MODBUS Analog Input / Output	●	●	●	●
	MODBUS Digital Input / Output	●	●	●	●
	OPC Input / Output	●	●	●	●
	IVI Switch	●	●	●	●
	IVI Counter	●	●	●	●
IVI Digital Meter	●	●	●	●	
IVI DC Power	●	●	●	●	
DAP DLL I/O (premium driver)	○	○	○	○	
Trigger	Combi Trigger	○	●	●	●
	Pre/Post Trigger	○	●	●	●
	Start/Stop Trigger	○	●	●	●
	Trigger on Demand	○	●	●	●
	Sample Trigger	○	●	●	●
	Relay	●	●	●	●
Mathematics	Formula Interpreter	○	●	●	●
	Arithmetic	●	●	●	●
	Comparator	●	●	●	●
	Trigonometry	○	●	●	●
	Scaling	●	●	●	●
	Differentiation/Integration	○	●	●	●
	Logical Operations	○	●	●	●
	Slope Limitation	○	●	●	●
	Bit Logic	○	●	●	●
	Gray Code	○	●	●	●
Flip Flop	○	●	●	●	
Create Reference Curve	○	●	●	●	
Statistics	Statistical Values	○	●	●	●
	Position in Signal	○	●	●	●
	Histogram Classification	○	●	●	●
	Regression	○	●	●	●
	Rainflow Classification	○	○	○	●
	Two Channel Classification	○	○	○	●
	Counter	○	●	●	●
Minimum/Maximum	○	●	●	●	
Sort Channels	○	●	●	●	
PWM Pulse Analysis	○	●	●	●	
Check Reference Curve	○	●	●	●	
Signal Analysis	Digital Filter	○	●	●	●
	Correlation	○	●	●	●
	Data Window	○	●	●	●
	FFT	○	●	●	●
	Polar/Cartesian	○	●	●	●
	Electro Technical Characteristics	○	○	○	●
	Harmonic Distortion	○	○	○	●
	Period Check	○	○	○	●
	FFT Filter	○	○	○	●
	FFT Maximum	○	○	○	●
Third/Octave Analysis	○	○	○	●	
nHarmonic	○	○	○	●	

Group	Function Module	LE	Basic	Full	Pro
Control	Generator	●	●	●	●
	Stop	○	●	●	●
	Switch	○	●	●	●
	Coded Switch	○	●	●	●
	Slider	○	●	●	●
	PID Control	○	●	●	●
	Two-Point Control	○	●	●	●
	Time Delay	○	●	●	●
	TTL Pulse Generator	○	●	●	●
	Latch	○	●	●	●
	Signal Router	○	●	●	●
	Block Time Info	●	●	●	●
	Global Variable Read	●	●	●	●
	Global Variable Write	●	●	●	●
	Sequence Generator	○	○	○	●
Display	Y/t Chart	●	●	●	●
	X/Y Chart	○	●	●	●
	Polar Plot	○	●	●	●
	Chart Recorder	●	●	●	●
	Diagram Chart	●	●	●	●
	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/Peak Hold	○	●	●	●
	Separate	○	●	●	●
	Multiplexer/Demultiplexer	○	●	●	●
	Shift Register	●	●	●	●
	Cut Out	○	●	●	●
	Time Slice	○	●	●	●
	Circular Buffer	○	○	○	●
Network	Net Input	○	○	○	●
	Net Output	○	○	○	●
	Message Input	○	○	○	●
	Message Output	○	○	○	●
	DataSocket Import	●	●	●	●
	DataSocket Export	○	○	○	●
Special	New Black Box	○	●	●	●
	Black Box Export/Import	○	●	●	●
	Action	○	○	○	●
	Message	○	○	○	●
	E-Mail	○	○	○	●
Add-On	Time Base	○	●	●	●
	Signal Adaptation	○	●	●	●
	Transfer Function	○	○	○	●
	Convolution	○	○	○	●
Program	Block Weighting	○	○	○	●
	Universal Filter	○	○	○	●
	Save Universal File	○	○	○	●
	Control Sequencer	○	○	○	●
	Number or Layout Pages	1	1	200	200
DASYLab Lite is also limited to a maximum of 64 data connection wires					

## What's New in DASYLab 12

**DASYLab 12** continues our commitment to deliver an easy-to-use data acquisition application that requires no programming. Whether they are scientists or engineers, DASYLab users can focus on their particular areas of expertise, while tapping into the power of the display, analysis, and control features needed to fully process measurement data.

**Updated Installation and Configuration:** DASYLab 12 separates installation from configuration, allowing the user to easily update the software with features, drivers, and user-defined packages.

**New IVI Driver:** DASYLab 12 adds support for Interchangeable Virtual Instruments (IVI) using National Instruments™ (NI) software and drivers. IVI is a revolutionary standard for instrument driver software technology. IVI builds on the VXIplug&play specifications and incorporates new features that address issues such as system performance, development flexibility, and instrument interchangeability. IVI drivers also take advantage of the power of the VISA I/O library defined by VXIplug&play to seamlessly communicate with instruments across different I/O buses such as GPIB, VXI, PXI, Serial, Ethernet, and USB.

The [IVI Foundation](#) is the industry consortium that drives this standardization effort. Formed by NI in August of 1998, the IVI Foundation has grown to more than 25 members, including end-users, system integrators, and software and instrument vendors. The goals of the Foundation are to define standard specifications for programming common test instrument capabilities. The Foundation delivers specifications for interchangeable, better performing, and more easily maintainable instrument drivers.

The IVI interface offers these modules and supported devices:

IVI Module	Supported Devices
IVI Counter	Agilent 53131A, 53132A Fluke PM6685, PM6685R
IVI DCPower	Agilent 6030A, 6031A, 6032A, 6033A, 6035A, 6038A, 60309B/D, 66311A/B/D, 66319B/D, 66000A, 66101A, 66102A, 66103A, 66104A, 66105A, 66106A, N6700A, N6700B, N6701A, N6702A, N6705A, N6731A, 6621A, 6622A, 6623A, 6624A, 6625A, 6626A, 6627A u.v.m. Keithley 2302, 2306, 2303, 2303B, 2303PJ, 2304A Kepco BOP20_5M, BOP50_2M, BOP100_1M, BOP20_10M u.a Rohde & Schwarz NGPT18, NGPT35, NGPT7, NGPX Tektronix PS2520G, PS2521G And many others...
IVI DMM	Advantest R6552, R6552T, R6552T-R Agilent 34401A, 34410A, 34411A, E1412A, 34420A, 3458A, E1411B, U2741A Beijing AMC9304 Fluke 8808A, 8845A, 8846A, 45, 8840A Fluke/Philips PM 2534 Keithley 2000 RIGOL DM3068, DM 3058 Tektronix TX1, TX3 Wavetek 1362S
IVI Switch	Racal Instruments XI1380, 1820, 1830, XI1450D, XI1450F VXI Technology EX7000, all EX switch cards

**Updated Example Library:** All software examples have been updated, and collected into the Example help, with description and easy access. You can run examples directly from the Help in a second, special instance of DASYLab 12. You can view your worksheet side-by-side with the example worksheet.

**Ease-of-Use Features:** DASYLab 12 continues the long tradition of ongoing improvement to the existing software features, including:

- increased filename path length
- improved navigation in module property dialog boxes
- new navigation on the work area using mouse wheel features
- improved dialog boxes throughout the product
- updated and improved Help.
- standardized file selection in all modules and functions that refer to external files

In addition, DASYLab now supports all main processors of a multi-processor system. DASYLab no longer controls the assignment of its threads to the main processors, but leaves the thread management to the operating system. DASYLab supports the display on two-screen systems. This is primarily a bug fix – ensuring that dialog boxes and other program elements correctly display on a secondary monitor. This feature is not full dual or multiple monitor support.

The layout windows now support graphics in JPG and PNG formats, in addition to BMP and WMF formats. The PNG filter does not support transparency.

**New Driver Support:** In addition to the new IVI drivers, DASYLab 12 ships with updated drivers that include the Measurement Computing driver with support for most InstaCal/Universal Library supported products, an updated NI-DAQmx driver, and updated CAN driver support for NI-CAN IXXAT and VECTOR CAN.

## Continued Support in DASYLab 12

**Diagram Module:** The Diagram graphical display module provides outstanding interactive versatility of time domain data. The Diagram module may be configured as an enhanced Y/t Chart, an X/Y Chart, or a Data Chart Recorder. It supports multiple y-axes and allows the user to freely assign signals to each y-axis. For easy comparison of the time domain waveforms, users can define the offset used to display a signal, and can dynamically move a signal around within the graphical display to compare one signal with another. Users can now define a reference curve or tolerance band to display at the same time as they are collecting new data.

**Reference Curve Editor.** The Reference Curve Editor allows the user to define the tolerance band interactively, using a table of reference points and a graphical display. The reference curve can be used in the Diagram Y/t Chart, and Chart Recorder modules to display the acquired signal against the defined tolerance band. In addition, the acquired signal can be monitored using the Check

Reference Curve module, allowing the user to activate different alarms and events when the data value is within range, above, or below a specified range.

**Enhanced E-Mail Module.** The E-Mail module includes an internal SMTP client to allow the user to send unattended e-mail via a standard SMTP server. E-mail messages can be configured to send a message with data results on a scheduled basis or to send alarm messages when a data event or alarm condition is detected.

**New Driver Support.** DASYLab 12 will ship with updated drivers that include the new Measurement Computing driver with support for all InstaCal/Universal Library supported products, an updated IOtech driver, an updated Microstar Laboratories DAP driver, and an updated NI-CAN driver that supports NI USB-CAN devices.

## Try DASYLab for 28 days

You can also download the *DASYLab V12 Evaluation* version and try this graphical programming software for 28 days. Go to [www.mccdaq.com/software.aspx](http://www.mccdaq.com/software.aspx) and click on the *DASYLab V12 Evaluation Copy* link.

## System Requirements

For the correct DASYLab performance the following minimum requirements must be met:

### Hardware

- **CPU** – x86 compatible processor, 1 GHz or more
- **Memory** – At least 1 GB, 2 GB recommended
- **Hard Drive** – 250 MB free storage space, of which at least 200 MB on the system partition
- **Graphics Board** – Color depth at least 16 bit (High Color), recommended 24- or 32-bit (True Color)
- **Screen Resolution** – At least 1024 × 768
- **Mouse** – A windows pointing device, such as a mouse, is required to develop a worksheet

### Operating Systems\*

- Windows 7 32-bit
- Windows 7 64-bit (as 32-bit application)
- Windows Vista 32 bit with Service Pack 2
- Windows Vista 64-bit (as 32-bit application)
- Windows XP Pro with Service Pack 3

\* Not every DASYLab driver supports all of the listed operating systems.

## Ordering Information

Description	Part No.
Lite version, includes all drivers; comes without analysis, limited module count, and one Layout Window	DASYLab LITE
Basic version, includes all drivers; comes with all standard modules (except Signal Analysis and Actions), and one Layout Window	DASYLab BASIC
Full version, includes all drivers; comes with all standard modules, 200 Layout Windows, and Control Sequencer	DASYLab FULL
Pro version, includes all drivers; includes Full version plus all add-on modules (without third-party modules)	DASYLab PRO
Runtime license for DASYLab	DASYLab RUNTIME

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call 1-800-234-4232 or visit [mccdaq.com](http://mccdaq.com).