

DaqViewXL

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The ability to run DaqViewXL can be verified by checking the option status in DaqView's "About" dialog.

Overview

DaqViewXL is a Microsoft Excel add-in that provides complete setup and data acquisition within Excel under Windows 95, 98, ME, NT, or 2000. Acquired data is immediately placed in an active spreadsheet, updating cells and graphics. Data is then analyzed and graphically displayed. DaqViewXL:

- Augments Microsoft's Excel spreadsheet software with data acquisition capability
- Provides strip-chart graphics for real-time data display
- Automatically converts data to engineering units

Once DaqViewXL is installed within Excel, the spreadsheet provides a toolbar that contains all the data acquisition controls. This DaqViewXL tool bar (also accessible from Excel's menu) can enable all configuration and data acquisition tasks. The features of Excel and DaqView are seamlessly combined to form a powerful data acquisition solution.

DaqViewXL performs like DaqView despite a slightly different user-interface. To set up your data acquisition system, you just click on the Configure button in the Excel tool bar. DaqViewXL's main window appears with all of the controls required to configure data acquisition including setting up input and output channels on an easy-to-use grid. Each column of the channel-configuration grid corresponds to specific parameters in the data acquisition system and allows you to set these parameters on a per-channel basis.

You can obtain automated reports by taking advantage of the Software Components concept. For example, you can embed an Excel spreadsheet object into a Word document. When the spreadsheet object is activated, it gives you access to DaqViewXL. In this case, the Word document holds all text, as well as an embedded Excel spreadsheet object that holds raw and calculated data and graphics. Double-clicking on the Excel object in Word can access DaqViewXL to efficiently prepare a statistical report. This compound document allows you to collect, configure, analyze, graph, and annotate data with a few clicks of a mouse button.

Program Requirements

DaqViewXL requires the following software:

- IOtech DaqBook/DaqBoard Series driver version 5 or later.
Installed components must include DaqView version 7.7.25 or later.
- Microsoft Excel 97 or later
- Microsoft Windows Operating System (Windows 95, 98, ME, NT, or 2000)

Installation of DaqViewXL Software

DaqViewXL is an option in DaqView that can be enabled by entering an appropriate authorization code into DaqView's product registration dialog. DaqViewXL can also be enabled for a 30-day trial period by pressing the "Evaluation" button in the same dialog.

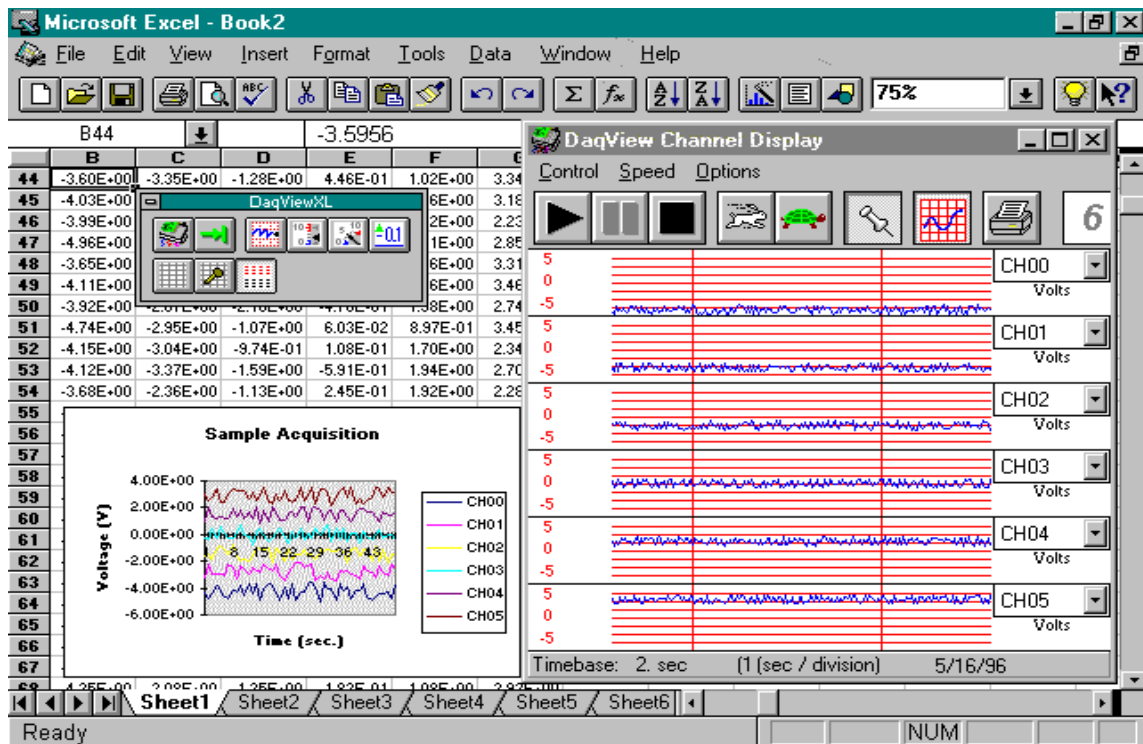
The ability to run DaqViewXL can be verified by checking the option status in DaqView's "About" dialog.

To run DaqViewXL, simply start Excel and open the Daqviewxl.xls macro. You may be prompted about the workbook containing macros. This is OK. The DaqViewXL file uses Excel macros to communicate with DaqView. Click the "Enable macros" button to continue.

To enable the DaqViewXL toolbar, click View-Toolbars-DaqViewXL. You can position this toolbar just like any other Excel toolbar.

Basic Function of DaqViewXL

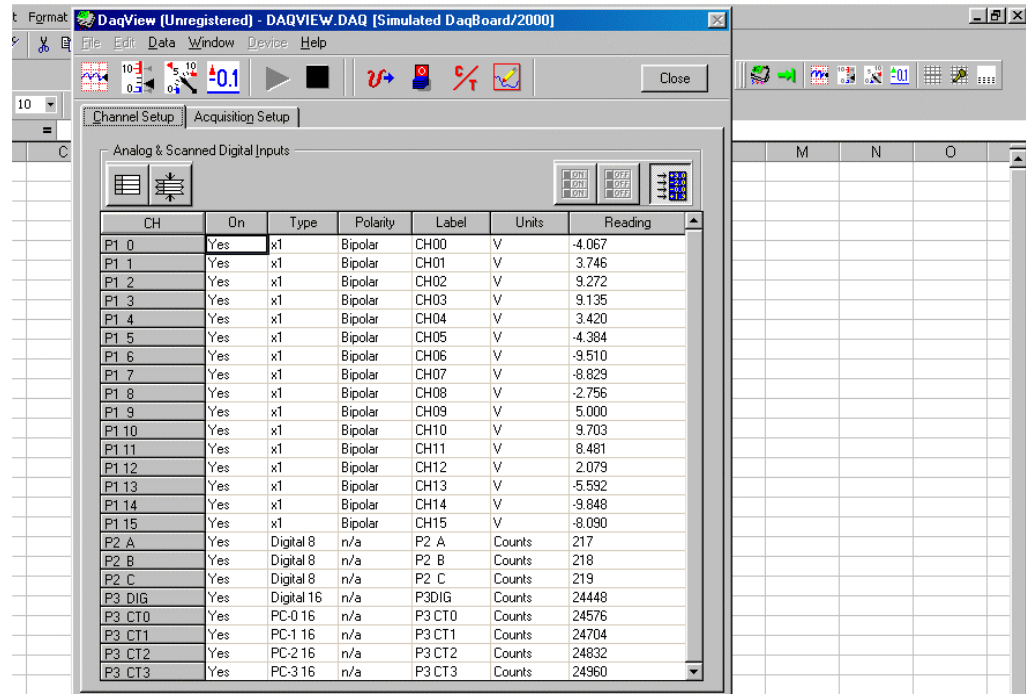
DaqViewXL performs much like the standard DaqView. With Excel's macro capabilities, you can tailor DaqViewXL to meet various requirements. Your knowledge of Excel will help you use all its tools for better data acquisition and processing. The following sections give you the basics of how DaqViewXL can organize and analyze your data. These basic ideas will give you the ability to explore all DaqViewXL has to offer. The discussion mirrors previous sections and highlights the differences between DaqViewXL and DaqView. The *Hints and Tips* section gives you tools and suggestions to improve your productivity with DaqViewXL.



DaqViewXL Toolbar and Displays

Configuring an Acquisition

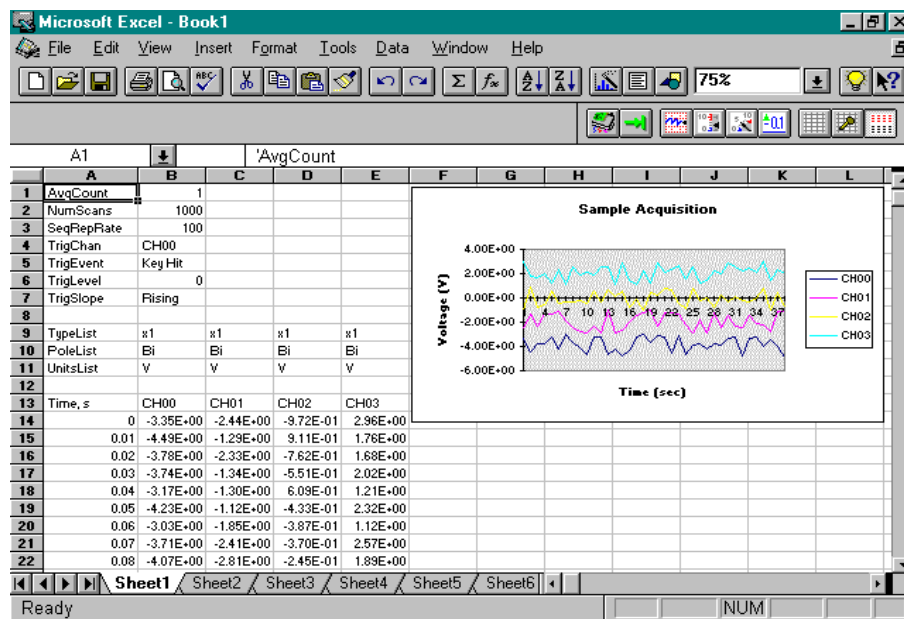
After installing DaqViewXL and entering Excel, click the *Configure...* icon (first in the DaqViewXL toolbar) to set up your system. This launches DaqViewXL's main screen (see following figure). This screen is slightly different from the stand-alone version shown at the beginning of the chapter. (Specifically, DaqViewXL does not have a PostView or DIAdem button—Excel performs those functions better. Also, the Go button is now the 2nd button on the toolbar window rather than the main screen.) The earlier discussion of DaqView configuration still applies.



DaqView Screen Within Excel

Data Header

DaqViewXL's optional data header supplies the global acquisition parameters and the configuration of each channel and places this information directly in the spreadsheet along with acquired data. This information includes channel gain or thermocouple type, bipolar/unipolar setting, units, and channel label. To activate Data Headers select the *Use Data Headers* icon in the DaqViewXL toolbar.



DaqViewXL Data Header

Hints and Tips for using DaqViewXL

- Do not run DaqView first and then try to use DaqViewXL. When DaqViewXL runs, DaqView is put into a special "server" mode which supports transactions with "client" applications such as Excel. Normally DaqView does not run in this mode and cannot support DaqViewXL.
- When you acquire data into a worksheet, some of the data may be displayed as a string of hash marks (e.g. #####). Excel will do this whenever the column is not wide enough to display all the digits of a number. To eliminate the hash marks, just widen the column. An easy way to do this is to use the "Format, Column, Auto Fit Selection" menu command. Immediately after an acquisition, all the rows and columns of data are selected. Click this menu item to automatically fit all the columns to the new data.
- You can start an acquisition from an Excel macro as shown in the following VBA macro code example:

```
Sub Macro1()  
    Application.Run Macro:="menuGoDoIt"  
End Sub
```

This is equivalent to clicking the Go! button on the DaqViewXL toolbar. It arms the hardware for an acquisition, and if DaqView is set up to trigger on "External TTL" or "Channel Value", the acquisition will take place automatically when the trigger condition is met. For acquisitions configured to trigger on a "Key Hit", the acquisition will not start until the user presses the "Manual Trigger" button on the "DaqView Armed" dialog box.

To automatically press this button after arming DaqView use the following macro:

```
Sub ArmAndKeyHit()  
    Application.Run Macro:="menuGoDoIt" 'presses the Go! button  
    SendKeys "{ENTER}" 'presses the space bar  
End Sub
```

This macro will start a "Key Hit" acquisition immediately.

Note: Macro1, shown above, was generated by Excel's macro recorder.

- If you chose to customize DaqViewXL's toolbar, you should avoid removing buttons. If DaqViewXL detects missing buttons it will prompt you to allow it to remove the toolbar and recreate it with all buttons. You can decline to do so, but DaqViewXL will continue to ask you to recreate the toolbar each time it starts-up. You can add buttons, rearrange them, and re-size the toolbar without getting this prompt.
- If DaqView cannot connect to your hardware on start-up, it will automatically switch to the Simulated Instrument mode when loaded from DaqViewXL.