

HP

DAC Express

Data Acquisition Software

You are about to explore HP's intuitive software that turns HP measurement hardware into a complete data logging and recording system. HP DAC*Express* extends your engineering senses, letting you do engineering instead of programming.

From now on you'll be able to set up your hardware with a friendly, familiar spreadsheet interface. Once you've seen how easy it is to monitor, log and record data, you may never want to write programs again. With this handy guide you can try it yourself.

Your Demonstration Copy

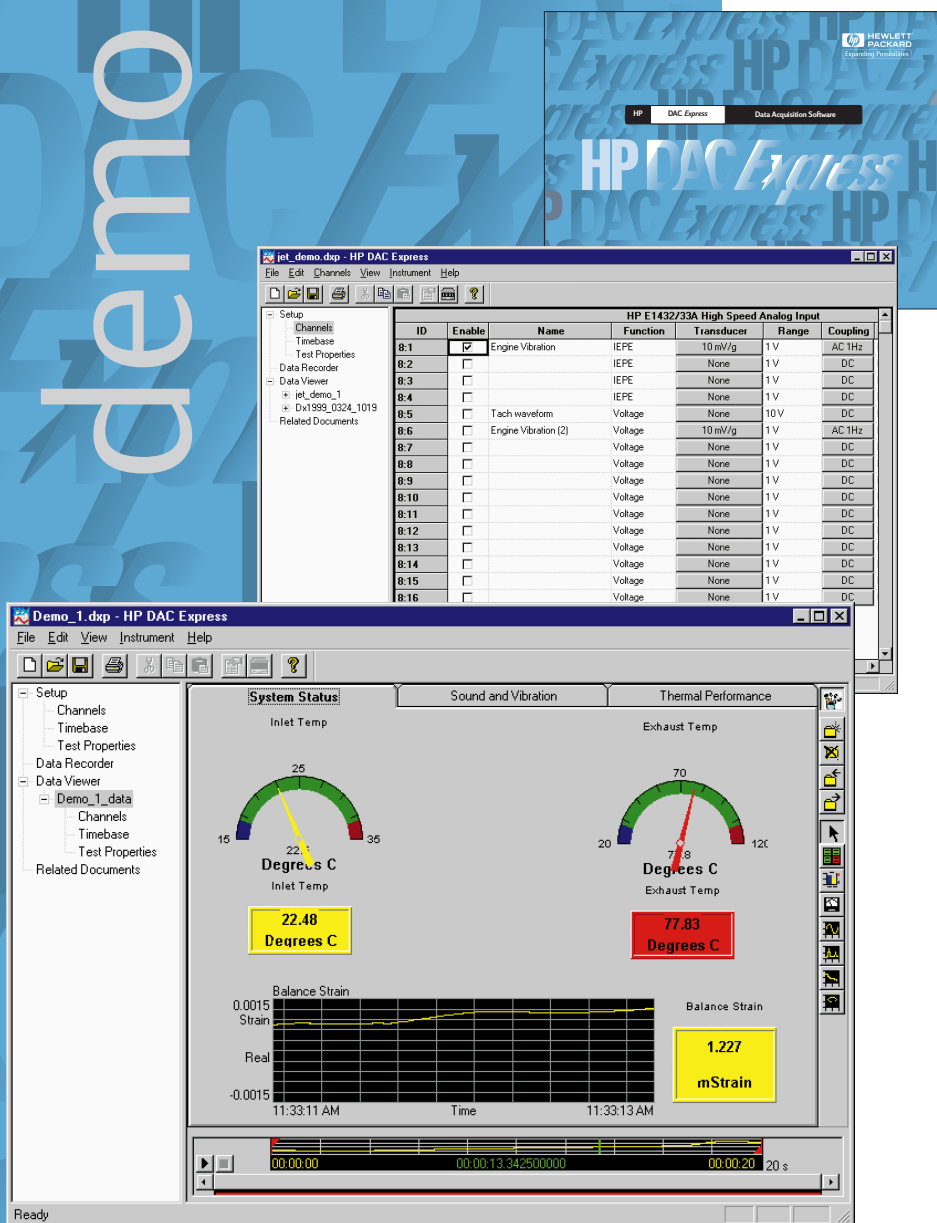
This is a full-featured copy of HP DAC*Express*. The only limitation is that it will shut off after 60 days. The program requires Microsoft® Windows 95 or Windows NT® 4.0 (service pack 3) and works best if you have 30 MB of free disk space.

Real or Simulated

HP DAC*Express* can control supported HP measurement hardware or it can simulate a complete data acquisition system.

Supported hardware is:

- HP E1413B,C 64-Channel Scanning ADC
- HP E1432A 16-Channel 51.2kSample/Sec Digitizer
- HP E1433A 8-Channel 196kSample/Sec Digitizer
- HP E1434A 4-Channel 0 to 25.6 kHz Source
- HP E1562D,E Data Disk



1. Installing HP DACExpress

Simply insert the HP DACExpress CD in your PC. Then use Windows Explorer to access the CD and double click on “setup.exe”.

2. Using HP DACExpress

From the Windows Start menu select Programs, then select program group HP DACExpress followed by HP DACExpress.

The program will search for and activate all supported instruments. If none are available a “No instruments were found” message appears and the program will operate in a simulated mode.

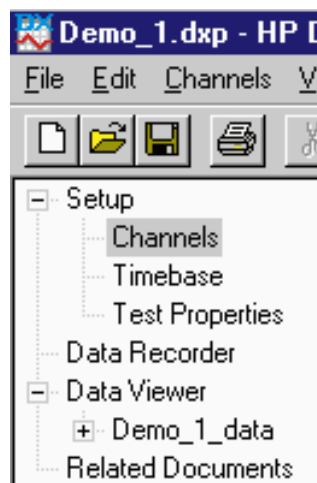
3. Exploring HP DACExpress

To help you get started quickly the CD includes a “project” and some pre-recorded data. To recall this project click on File, Open and select the CD file named “Demo_1.dxp”. Click OK on the warning message that you are using simulated instruments. HP DACExpress will bring up a Setup spreadsheet for you to explore.

The Setup Menu

HP DACExpress Setup follows the same logical thought process that you use for setting up data acquisition.

In the Setup-Channels spreadsheet you can select, activate and define the channels you want to use. The tabs along the bottom of the spreadsheet provide one-click access to other instruments in your system. Use the mouse and explore some of the built-in functions. You can also copy and paste cells, columns and rows, speeding your setups.



The demonstration shows you the setup used for an actual data recording session.

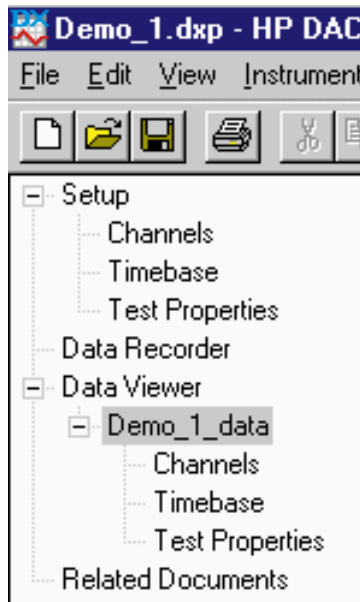
In the Setup-Timebase menu you can easily set the sample rates, scan rates, recording length and trigger conditions for your data acquisition. The demonstration settings are the ones used to record the included data files. Try changing sample rates or recording times, all with simple mouse clicks.

You can document it all in the Setup-Test Properties page. Here at last is a place to keep your test notes permanently recorded with your data. Simply type in the information you want to keep and it will always be available for future reference.

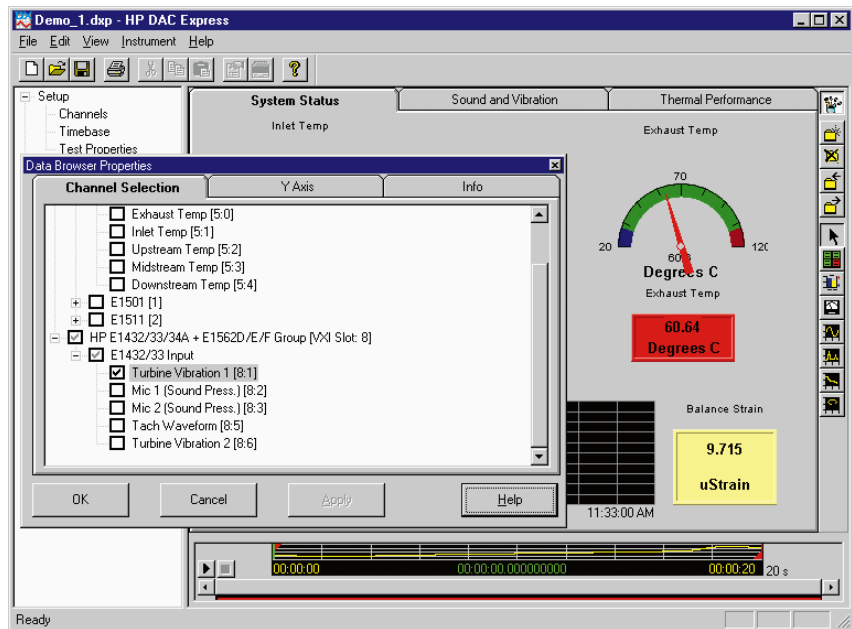
We have included a description of our demonstration apparatus in the file on your CD.

See Some Real Data

Click the file named “Demo_1_data” in the Data Viewer menu to recall a recording from the CD. When the recording is recalled you’ll see the monitoring displays that were created when the data was recorded. You can explore the Channels, Timebase and Test Properties to see how this measurement was set up and made.



Click the Play button to see the sample data as it replays.

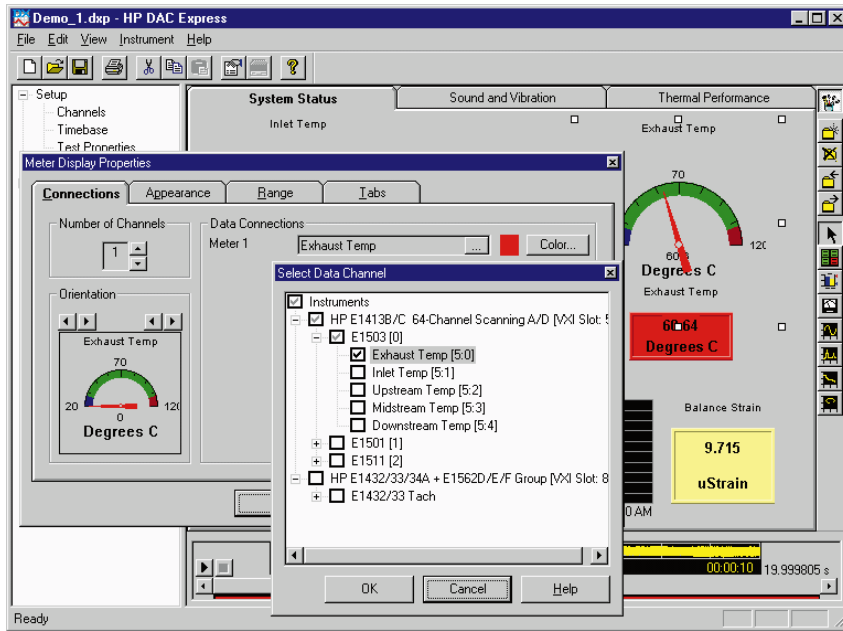


The Data Browser

To the right of the Play button is a strip chart display of a recorded channel. This is the Data Browser. The displayed data on the screen comes from the point indicated by the green data marker on the browser. You can play back an entire file or directly position the marker on the time point you want.

Right click on the Data Browser. A menu will appear for Data Export and for Data Browser Properties. Click on Data Browser Properties.

Uncheck the HP E1413B/C and open the HP E1432/33A inputs by clicking on the “+” sign. Select Turbine Vibration 1 by clicking on the box next to that channel name. Click “Apply”, select the “Y-Axis” tab, click “Autoscale” and then click “OK.” HP DACExpress will now play back data a block at a time.



Build a Virtual System

You've had a small sample of how HP DAC*Express* can improve your productivity with no programming. We want you to enjoy using HP DAC*Express*, adding displays or sending data to your favorite applications.

We've given you a head start on building a virtual system. On your HP DAC*Express* CD there are two additional projects. These are the "Demo_DataLogger" and the "Demo_DataRecorder" projects. We've added the instruments you would get in two of our HP DAC*Express* system bundles. A description of each bundle is saved in the Test Properties section of each project. Copy these to your PC for use in simulated mode.

Exporting Data

Right click on the Data Browser. A menu will appear for Export Data and for Data Browser Properties. Click on Export Data. A dialog box will appear that lets you select channels and the time interval of data to be exported.

Output files can be comma-separated variable (CSV) or Standard Data Format (SDF), an HP binary file type read by many HP products and by MATLAB.

Recording & Monitoring

See your data your way with the built-in display builder. Try adding a display using the Windows copy and paste commands. We've left an opening on the screen for you to add your own displays. You can also add extra "Tabs" to make more pages.

Click on the gauge labeled "Exhaust Temp" and then select the Copy command. Click on the Paste command and a new copy of the gauge will appear. Use the mouse to drag the gauge to a new position on the screen. You can also resize the HP DAC *Express* window to create more working room for your data displays.

Click on the gauge using the right mouse button to bring up the editing menu. From this menu select Properties. A Display Properties dialog box will appear, with all the information regarding the current display.

Try connecting the gauge to another temperature channel using the button in the Data Connections menu. Click OK and play back the data on your new display. HP DAC *Express* makes viewing your test simple.

You can also build your own unique system. Simply start HP DAC*Express* and then use the Add Instruments button on the tool bar to add simulated measurement hardware.

Some Cautions:

The best performance of simulated systems is achieved when the HP DAC*Express* projects are on a local disk drive and no hardware is connected.

If you have actual measurement hardware we recommend that you use HP DAC*Express* in a real mode controlling your instruments.

Information and setups based on the CD files can not be updated unless moved to a local writable disk drive.

Hewlett-Packard strives to make our literature and demonstrations as accurate as possible. Given the wide variety of PCs, it is possible that some errors may occur when using this demo program

USA call: 1-800-452-4844
Canada call: 1-877-894-4414

Or visit our web site:
www.hp.com/go/data_acq