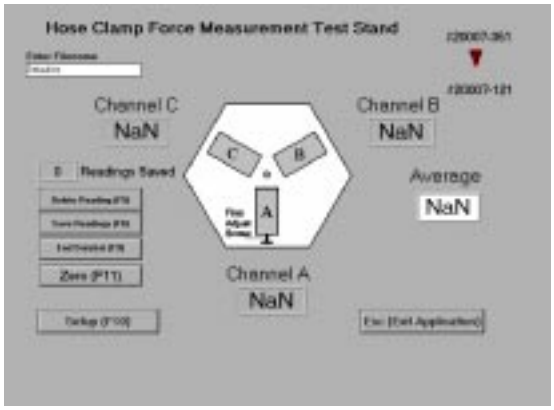
VIRTUAL INSTRUMENTS

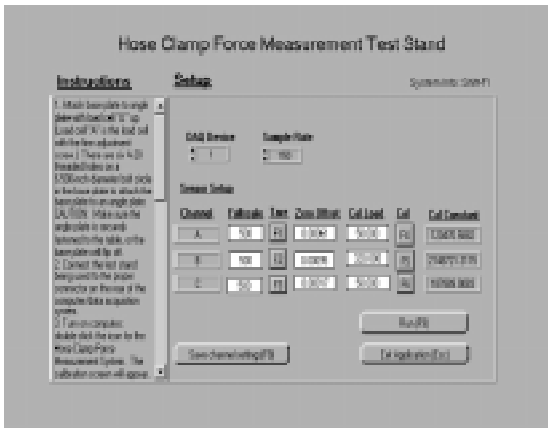
Turn one computer into many DAQ systems using VI!

Virtual Instruments are software applications that take the place of expensive, single purpose instrumentation.

We have developed many applications that create greater flexibility for our customers. The customer can now use a computer with data acquisition equipment and custom application software, and turn the computer into a data acquisition solution.

We can mix and match your existing equipment with data acquisition hardware to develop a custom virtual instrument or develop it from ground zero. Some recent examples follow:





The example above is a virtual instrument shown giving a graphical representation of the deflection on a hose clamp. The hose clamp is opened and placed over three load cells. The force is measured and the reading from the three load cells is averaged. The average is compared to a predetermined IEEE standard and then the hose clamp is accepted or rejected. Readings can be saved and plotted or downloaded for mathematical calculations.

The setup screen displays instructions, readings and calibration data. The instructions will give the user a step-by-step guide for operating the system. Also included will be calibration data for each channel to be inputted and saved.

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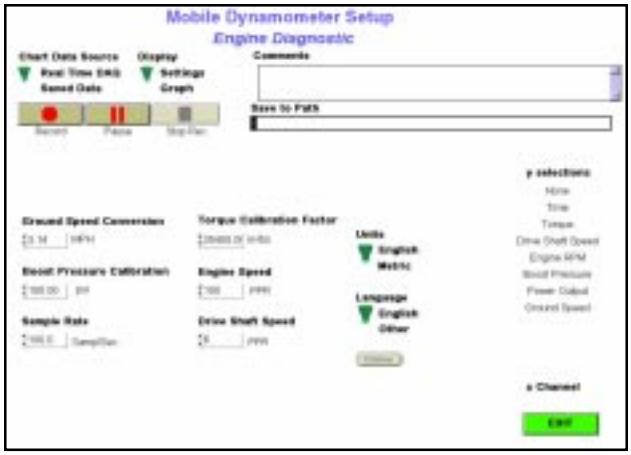

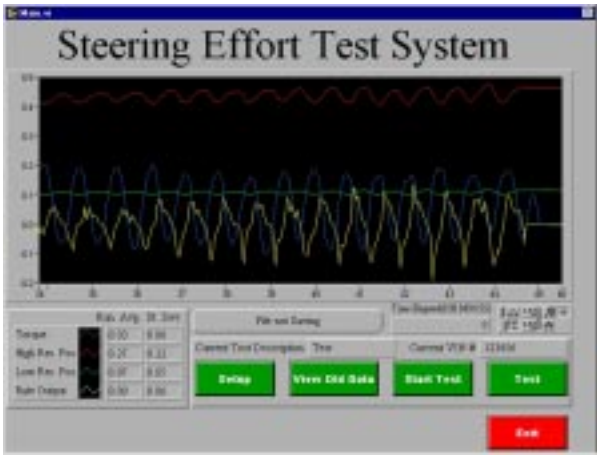

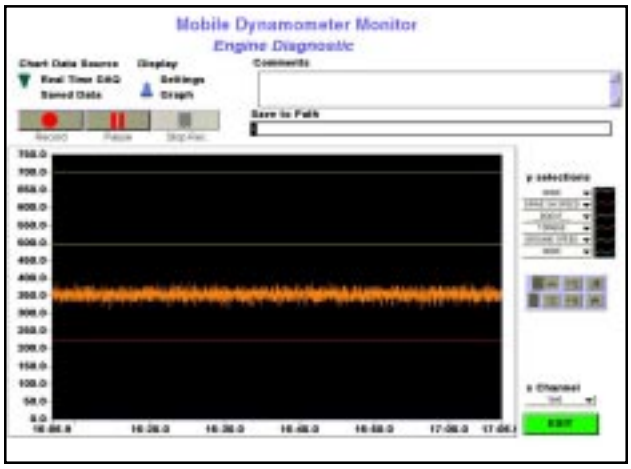

Pictured above are two screens used to create a virtual instrument for a steering effort application. The first screen above demonstrates the type of information that can be presented using your computer and hardware. Calibration data, scale factors, and test file information are just some of the information that it can contain.

The next screen shows four channels of data being acquired real time from the steering effort sensor. It also presents some running statistical calculations for the operator to determine vehicle performance. Data storage and retrievel is also a standard feature for many systems like this one.

This next example shows another application using VI to monitor the torque signal from a driveshaft application using our digital FM telemetry system and a custom in-line torque sensor. Combining it's output with other signals from within the vehicle, the user can determine the output horsepower of the engine. All of this can be done while operating the vehicle on the open road. There's no need for a dedicated dynamometer laboratory with this VI package.