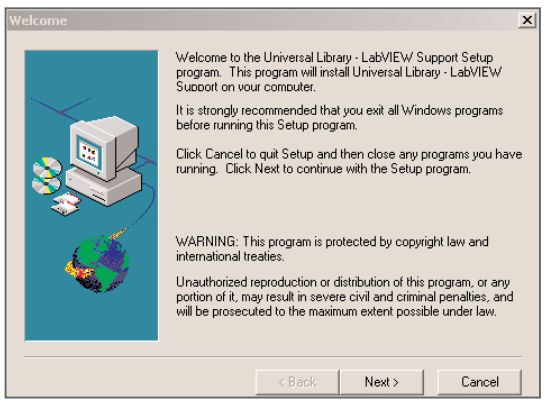
Universal Library™ for LabVIEW™

Use your existing NI DAQ VI's with Measurement Computing boards

You can now use the LabVIEW VIs supplied by NI with your MCC boards. Switching to MCC is easier than ever, as you won't have to rewrite your existing LabVIEW programs, or learn a new set of VIs.

Installation and use

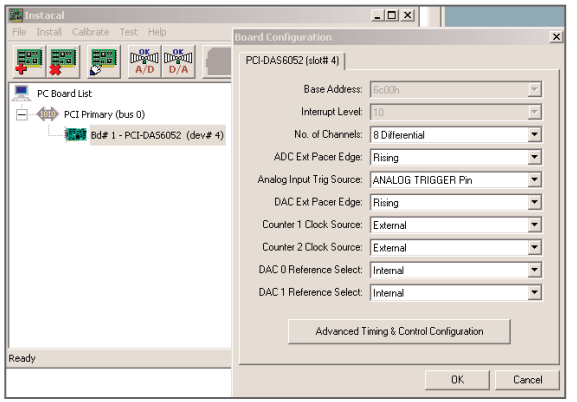
Switching to an MCC DAQ board is simple. With LabVIEW already installed on your computer, simply follow these steps.



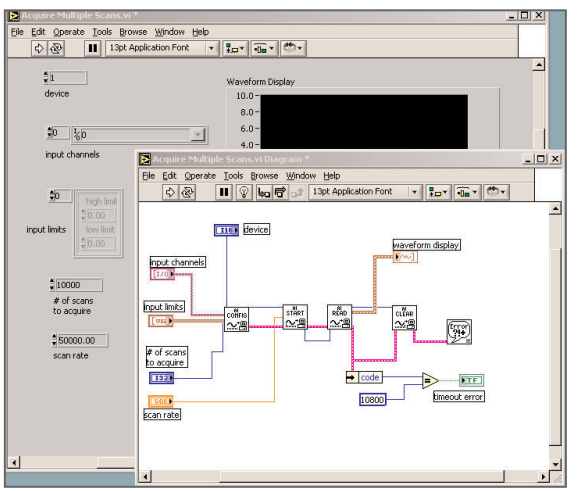
1 Insert the Universal Library for LabVIEW CD. Follow the install wizard instructions. This will install and modify all required files.

2 Install your MCC PCI board. You may install it in any unused slot.

3 In Windows, go to START / PROGRAMS / MEASUREMENT COMPUTING and launch the application called InstaCAL. InstaCAL is Measurement Computing's hardware installation and test application and should be used rather than NI's MAX when configuring an MCC board.



4 Use InstaCAL to configure the board as desired. The menu tabs are very simple and intuitive.



5 Launch LabVIEW and load the program you would like to run. That's all there is to using LabVIEW.

Universal Library for LabVIEW FAQ

Can I use MCC and NI boards in one system?

Absolutely. UL for LabVIEW determines whether a particular device is an MCC or NI board, then runs the board you want.

Does UL for LabVIEW adversely affect any part of LabVIEW?

No.

Does it support LabVIEW 7 Express?

Yes. UL for LabVIEW will support any of the "traditional" VIs you use in a 7 Express application. However UL does not currently support any of the new, 7 Express-specific VIs or functions.

Is this legal?

Of course. Using the NI VIs with MCC boards does not violate any law or copyright.

Can I still use VIs from earlier versions of MCC's Universal Library for LabVIEW?

Yes. The VIs from previous versions of UL for LabVIEW will continue to be provided and maintained. In fact, you may use both the earlier MCC VIs and the NI VIs within the same application. We support our customers and would never leave you out in the cold.

Is this support only for the PCI-DAS6000 series boards or for all MCC boards?

UL for LabVIEW supports every DAQ product supported by MCC's Universal Library. However, the initial release that allows you to use NI VIs supports only the PCI-DAS6000 series. The remainder of the products will

be added in a future revision. Please call or email us for an update on the availability of these features for your product of interest.

What versions of LabVIEW™ does the library support?

Version 6.0 or greater.

Will I have to make any changes to my program if I switch from an NI board to one from MCC?

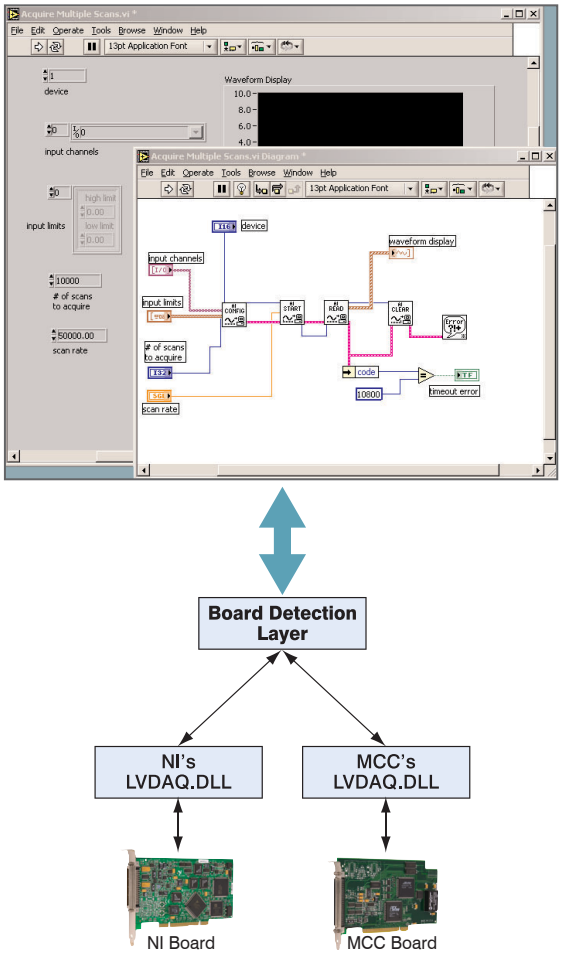
Possibly. The current version of InstaCAL does not support virtual channels as available in MAX. If you have coded any Virtual channels into your LabVIEW program, you will need to redefine the channels by selecting the appropriate device# and channel#.

Also, the current version of InstaCAL does not provide automatic linearization or conversion to engineering units. If you have used MAX to manipulate your data, you will need to modify your LabVIEW program to include any data conversion methodology you have selected in MAX.

But don't worry, these features are on the way!

Are there any NI VIs not supported?

Yes. The current version of UL for LabVIEW supports all analog and digital "Easy VIs" and all of the analog input and output "Intermediate" VIs. However, it does not support every digital Intermediate VI, nor does it support all "Intermediate VI" VIs. Please visit our website for a detailed listing of the VIs currently supported.



How LabVIEW recognizes your board

Does the UL for LabVIEW run as fast as the standard NI library?

Yes. Our bench marks testing has indicated no difference between execution speed of the MCC and NI libraries.

How Does it work?

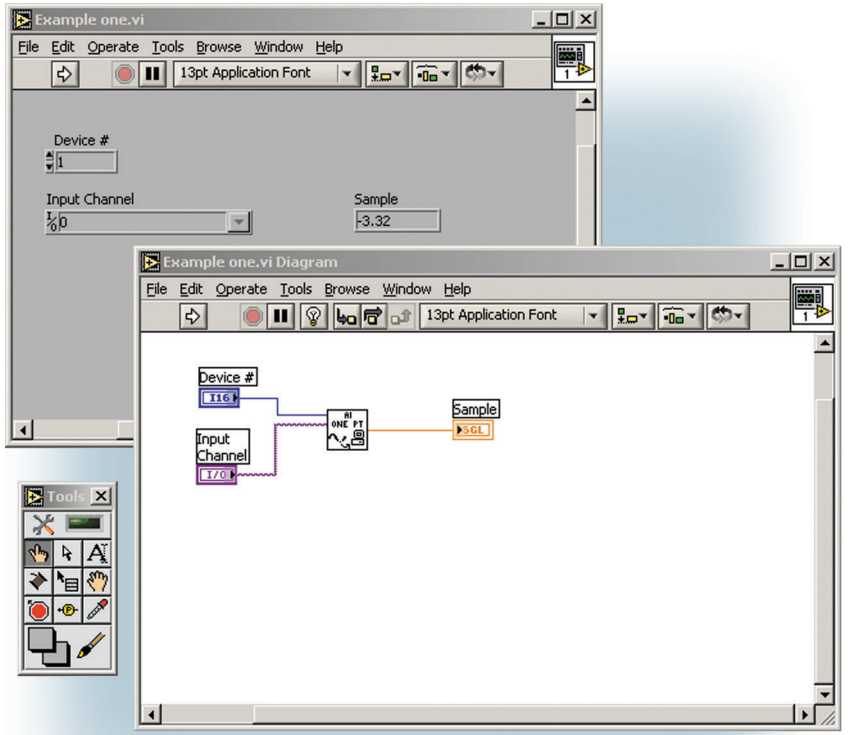
The new Universal Library for LabVIEW adds a software layer between LabVIEW and the NI DLL that actually controls the data acquisition board.

This new layer looks at each hardware VI function call, and determines if the function is slated for an NI, or MCC board.

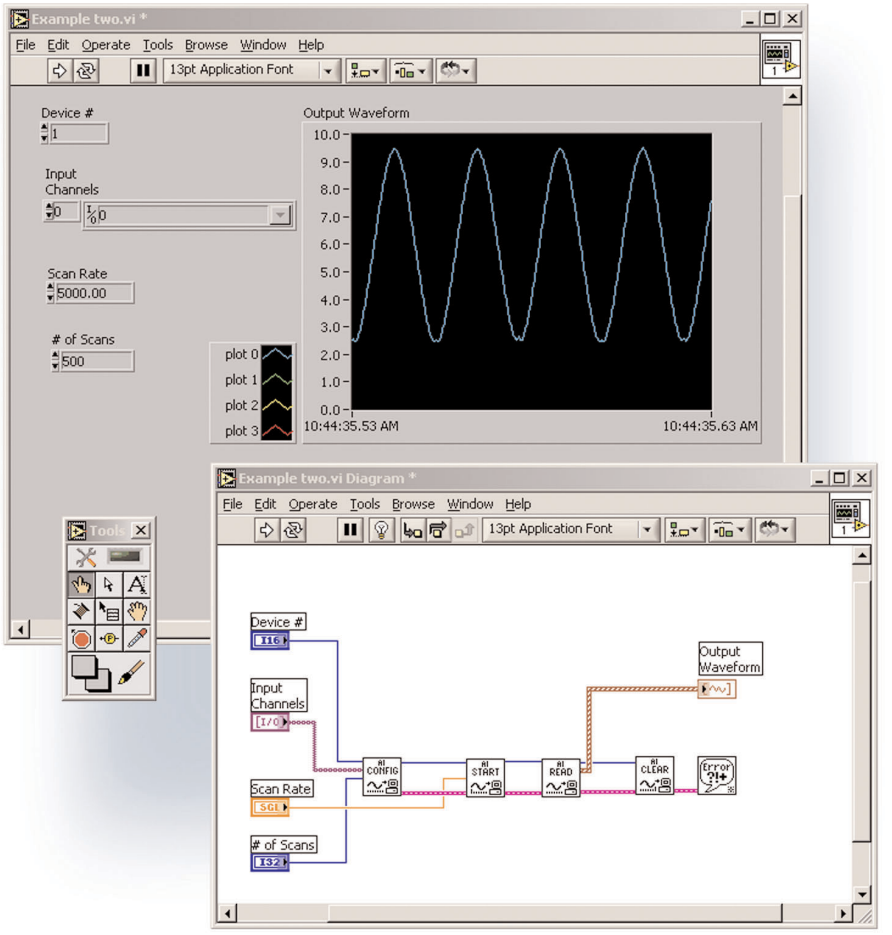
If the function is for an NI board, the function call is forwarded to the standard NI DLL. If the function is for an MCC board, the function is executed by the MCC DLL.

Universal Library™ for LabVIEW™ example programs

Use your existing NI DAQ VI's with Measurement Computing boards



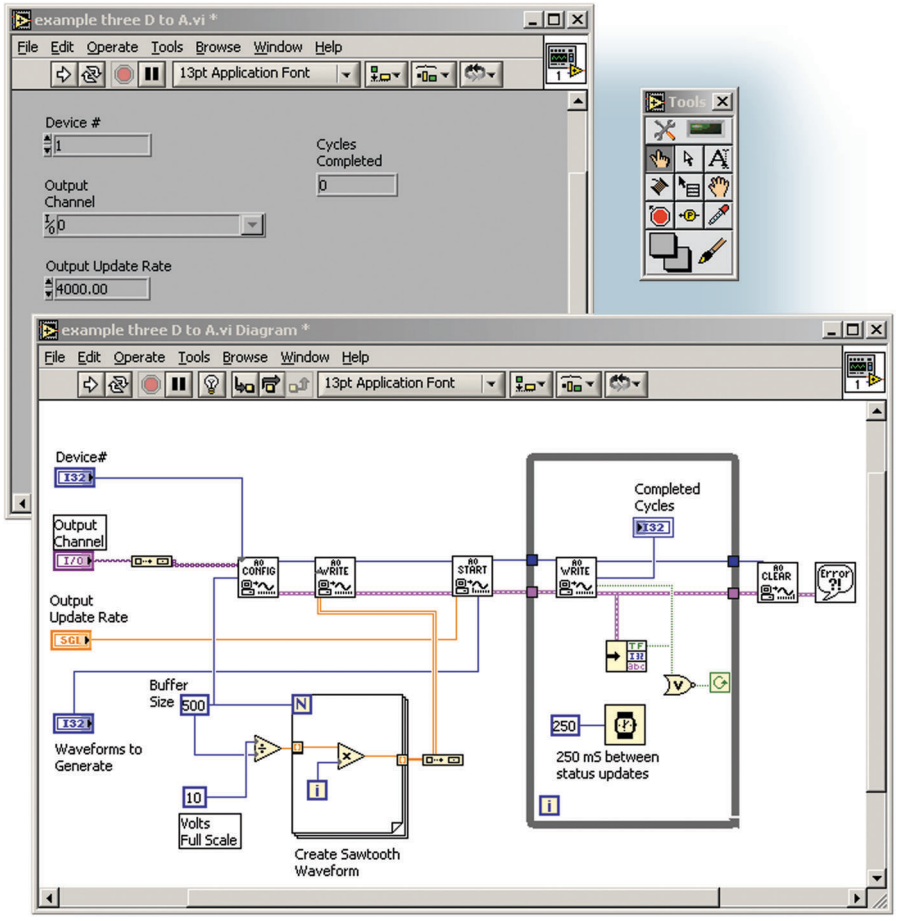
The new Universal Library for LabVIEW allows you to use Measurement Computing boards with the same VIs you have been using with NI boards. The above example is a simple one-point analog input capture program.



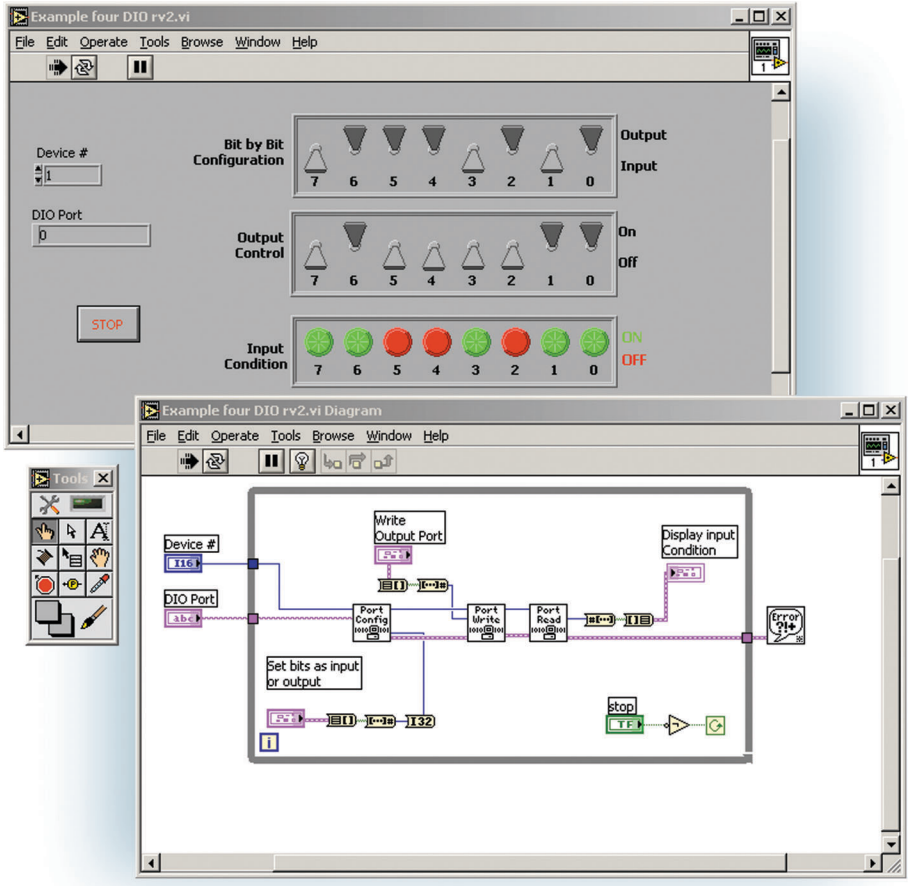
The example above is a simple, but typical use of a multipoint, timed scan of analog inputs. The results are shown on a waveform plot.

Universal Library™ for LabVIEW™ example programs

Use your existing NI DAQ VI's with Measurement Computing boards



The LabVIEW program above uses the NI analog output VIs to create a sawtooth waveform on an analog output.



The digital input and output example program shown above utilizes NI's digital port I/O VIs, and allows the user to configure eight DIO bits as input or output, set the state of the outputs, and monitor the state of the inputs.