

# IVI DRIVER LIBRARY RELEASE NOTES

This document contains installation and programming considerations and changes that are too recent to be included in IVI Driver Library documentation.

## Before Installation

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Consider the following issues before installing the IVI Driver Library:

- If you are installing on Windows NT, you must have Windows NT 4.0 or later.
- If you want to use the IVI Driver Library with LabVIEW, you must install LabVIEW before you install the IVI Driver Library.

The IVI Driver Library requires LabVIEW 5.1 or later. If you are a LabVIEW user, and you have not upgraded to LabVIEW 5.1, you are entitled to a free upgrade. You should have been prompted to order the LabVIEW 5.1 upgrade at the time you purchased the IVI Driver Library. If you have not ordered or received your upgrade, please contact your local National Instruments representative.

- If you want to use the IVI Driver Library with LabWindows/CVI, you must install LabWindows/CVI before you install the IVI Driver Library.

The IVI Driver Library requires LabWindows/CVI 5.0.1 or later. If you are a LabWindows/CVI 5.0 user, and you have not upgraded to LabWindows/CVI 5.0.1, you are entitled to a free upgrade. You should have been prompted to order the LabWindows/CVI 5.0.1 upgrade at the time you purchased the IVI Driver Library. If you have not ordered or received your upgrade, please contact your local National Instruments representative.

- The IVI Driver Library installs VirtualBench 2.5. If you are currently using an earlier version of VirtualBench you must do one of the following:
  - Run the VirtualBench uninstall program.
  - Install VirtualBench 2.5 in a different location by selecting the Custom Setup option in the IVI Driver Library installation program.
- The IVI Driver Library installs the IVI Engine, the LabWindows/CVI Run-Time Engine, NI-VISA, NI-DAQ, and the Measurement & Automation Explorer. Installation disk images for these components are located on the IVI Driver Library CD in the following subdirectories:

<b>Component</b>	<b>Drivers Directory</b>
IVI Engine 1.2	drivers\ivi
LabWindows/CVI Run-Time Engine 5.0.1	drivers\cviрте
NI-VISA 2.0.1	drivers\visa
NI-DAQ 6.5.1	drivers\daq
Measurement & Automation Explorer 1.0.1	drivers\max

- The IVI Driver Library CD contains the installation disk image for NI-488.2 for Windows version 1.5 in the `drivers\gpib\win32` subdirectory.
- If you select to install VirtualBench, the IVI Driver Library installs a minimal installation of NI-DAQ 6.5.1. For a complete installation of NI-DAQ, you can rerun the NI-DAQ installation program from the CD image.
- If LabWindows/CVI is installed on your computer, the IVI Driver Library installs the following instrument driver files for each specific driver in the `cvi\instr` directory.
  - source files (\*.c)
  - include file (\*.h)
  - import library file (\*.lib)
  - function panel files (\*.fp and \*.sub)
  - help file (\*.hlp)
  - readme file (\*.txt)

If LabWindows/CVI is not installed on your computer, the IVI Driver Library installs the above files in the `VXIplug&play` directories.

The instrument driver dynamic link library (\*.dll) file is always installed in either the `vxipnp\win95\bin` or `vxipnp\winnt\bin` directory.

# Using IVI Drivers with LabVIEW

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If you initialize an instrument handle using an IVI class driver and then attempt to use the instrument handle with the IVI specific driver VIs for the instrument, you must explicitly type-cast the instrument handle.

If you use the LabVIEW property node to control attributes of an IVI specific driver that is compliant with an IVI class driver, the extension properties that the class driver defines appear in the list of properties for the specific driver. If the specific driver implements an extension property, the property appears twice in the list of properties. Selecting either property from the list has the same effect.

## LabVIEW IVI Driver Sample Programs

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The IVI Driver Library installs a sample program for each class driver. The IVI sample VI library for LabVIEW is located in the `labview\examples\instr\iviClass.llb` directory.

The IVI sample VI library for LabVIEW contains the following sample VIs:

- **Acq Wfm Edge Triggered (IviScope)**—Configures the instrument for a single-channel waveform acquisition. It uses edge triggering to trigger the acquisition.
- **Generate Arb Sequence (IviFgen-SEQ)**—Defines a sequence that contains two arbitrary waveforms of equal length and then instructs the instrument to generate the sequence.
- **Generate Arb Wfm (IviFgen-ARB)**—Instructs the instrument to generate an arbitrary waveform.
- **Generate Std Wfm (IviFgen-STD)**—Instructs the instrument to generate a standard waveform.
- **Multi-point Measurement (IviDmm-MP)**—Reads multiple measurements from the instrument based on multiple triggers and multiple measurements per trigger. This VI uses immediate triggering for both the measurement trigger and the sample trigger.
- **Output DC Volts (IviPower-DCV)**—Instructs the instrument to output a DC voltage. The VI then checks to see if an overvoltage or overcurrent condition occurred.
- **Path Operation Test (IviSwitch)**—Interactively connects, disconnects, and checks the path between switch channels.
- **Single Point Measurement (IviDmm)**—Uses immediate triggering to read a single measurement from the instrument.

# LabWindows/CVI IVI Driver Sample Programs

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The IVI sample programs for LabWindows/CVI are located in the `cvi\samples\iviclass` directory. The sample programs give a basic example of class driver operations. Each example has UIR panels that allow you to interactively configure the device. Some of the UIR panel default settings might not apply to all instruments. Refer to the function panel help of the specific instrument driver for a description of valid values for the instrument.

The following table shows the LabWindows/CVI example program project files.

LabWindows/CVI Project	Description
<code>ividmm.prj</code>	Demonstrates basic use of the <code>IviDmm</code> class driver. This project uses immediate triggering to read a single measurement from the instrument.
<code>ivifgen.prj</code>	Demonstrates basic use of the <code>IviFgen</code> class driver by generating a standard waveform.
<code>ivipower.prj</code>	Demonstrates basic use of the <code>IviPower</code> class driver by instructing the instrument to output a DC voltage.
<code>iviscope.prj</code>	Demonstrates basic use of the <code>IviScope</code> class driver. This project configures the instrument for a single-channel waveform acquisition. It uses edge triggering to trigger the acquisition.
<code>iviswtdh.prj</code>	Demonstrates basic use of the <code>IviSwtdh</code> class driver by connecting, disconnecting, and checking the path between switch channels.

## Using NI Spy

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If you use NI Spy to view interchangeability warnings, you must consider the following:

- NI Spy highlights functions that log interchangeability warnings in blue. If you enable logging of non-IVI API calls (e.g., VISA, NI-488.2), the color coding for interchangeability warnings does not appear. The interchangeability warnings are still visible in the properties dialog for each IVI function call.

- If a function logs an interchangeability warning, an Interchange Checking tab appears in the properties dialog for that function call, but the entire warning might not appear. To see the entire interchangeability warning, you must select the Full Buffer option in the NI Spy Options dialog box. To display the NI Spy Options dialog box, select the **Options** command in the **Spy** menu. The IVI Driver Library installation program enables the Full Buffer option by default.

## Class Simulation Drivers

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The IVI Driver Library installs a simulation driver for each IVI class driver. The IVI Driver Library installs the C source files for the simulation drivers so that you can modify the drivers to meet your specific simulation requirements. If you modify the simulation drivers, do not change the simulation driver function prototypes.

## Change to the IVI Driver Library User Manual

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After the *IVI Driver Library User Manual* went to print there was a change in the procedure to edit configuration information in an `ivi.ini` file. This change affects the *Multiple IVI.INI Files* section in Chapter 4, *Configuring Your System*.

The following sentence replaces the last sentence in Step 4:

If you select a directory that does not contain an `ivi.ini` file, you must create a new `ivi.ini` file by selecting the **New** command from the **File** menu.



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