

LabWindows™/CVI™ Release Notes

Version 2009

These release notes introduce the beta version of LabWindows™/CVI™ 2009. Refer to this document for system requirements, installation and activation instructions, and information about new features in LabWindows/CVI.

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Minimum System Requirements

To run LabWindows/CVI, you must have the following:

- Personal computer using a Pentium 1 GHz or higher microprocessor
- Microsoft operating systems:
 - Windows 7 (32-bit and 64-bit)
 - Windows Vista (32-bit and 64-bit)
 - Windows XP (32-bit)
 - Windows 2000 Service Pack 3 or later



Note LabWindows/CVI 2009 is the last major release to support Windows 2000.

- 1024 × 768 resolution (or higher) video adapter
- Minimum of 128 MB of RAM, 512 MB recommended
- 1.1 GB free hard disk space for full installation, which includes the Interface to Win32 Application Programmatic Interface (API).



Note Installing the *Documentation from MSDN Library* requires additional disk space.

- Microsoft-compatible mouse

Installation Instructions

The LabWindows/CVI Platform DVD includes LabWindows/CVI and the following modules and toolkits.

Modules

- Real-Time Module
- Vision Development Module

Toolkits

- Execution Profiler Toolkit
- PID Toolkit
- Real-Time Execution Trace Toolkit
- Signal Processing Toolkit
- SQL Toolkit



Note The LabWindows/CVI Platform DVD also includes the *Documentation from MSDN Library*.

If you purchased any of these modules or toolkits, you can install them using the LabWindows/CVI Platform DVD. If you want to evaluate any of these modules or toolkits before purchasing them, you can install these add-ons from the LabWindows/CVI Platform DVD and try them for free for 30 days.

Complete the following steps to install LabWindows/CVI:



Note If you already have a different version of LabWindows/CVI installed on your computer, be sure to install version 2009 in a different directory. If you want to install to an existing directory, uninstall the other version before installing LabWindows/CVI 2009.

1. Insert the LabWindows/CVI media into the disk drive. If the media does not run automatically, open Windows Explorer, right-click the disk drive icon, and select **AutoPlay**.
2. On installation startup, the National Instruments LabWindows/CVI 2009 screen appears. Click **Install LabWindows/CVI, Modules, and Toolkits**.
3. In the **Product List** panel, select all the products you want to install. Select **Install** to install products using default options. Selecting **Install with customization** opens additional dialog boxes that require your input.
4. In the **Product Information** panel, determine whether to allow the installer to contact National Instruments to search for new notifications, such as critical updates, on the products you are installing. The checkbox is enabled by default.
5. In the **User Information** panel, enter your name and organization.
6. Enter the serial number, from the Certificate of Ownership card in the software kit, in the appropriate field for each product you install. LabWindows/CVI uses this serial number when you run the NI Activation Wizard. Leave the **Serial Number** field blank to evaluate the product.



Note To activate a National Instruments product *after* you evaluate it, refer to the *Activation Instructions* section of this document.

7. Continue to follow the instructions on the screen.



Note If you selected **Device Drivers** in the **Product List**, after installing LabWindows/CVI and any selected modules and toolkits, the LabWindows/CVI installer prompts you to insert the National Instruments Device Drivers DVD. Follow the instructions on the screen to install the device drivers.

Activation Instructions

You can activate licenses you have purchased for LabWindows/CVI, modules, and toolkits during installation. If you do not activate a valid license for LabWindows/CVI or any modules and toolkits that you install, the unlicensed product operates in evaluation mode. After you install the product, the evaluation begins the first time you launch the product and lasts 30 consecutive days. When the evaluation period expires, you must activate a valid license to continue using the product.

You can activate LabWindows/CVI or any module or toolkit in the following ways:

- During installation, as described in the *Installation Instructions* section of this document.
- After installation, by enabling the **Run License Manager to activate the product(s)** checkbox on the **Installation Summary** panel of the LabWindows/CVI Platform DVD installer.
- After you launch LabWindows/CVI for the first time with any product in evaluation mode, click the **Activate Products** button in the LabWindows/CVI Message dialog box.
- Select **Help»Activate LabWindows/CVI** while LabWindows/CVI is running in evaluation mode or select **Start»All Programs»National Instruments»NI License Manager** to launch the NI License Manager.

If you do not activate LabWindows/CVI or any modules and toolkits during installation, LabWindows/CVI prompts you to activate when you launch LabWindows/CVI. After you activate the licenses for all LabWindows/CVI products you installed, you no longer see this prompt.

Once you choose your activation method and launch the NI Activation Wizard, complete the following steps to activate LabWindows/CVI and any modules or toolkits:

1. Select the **Automatically activate through a secure Internet connection** option and click **Next**. Your computer must be connected to the Internet for this option to work. If you do not have Internet access, refer to the instructions following these steps.
2. Enter the serial numbers for the products you want to activate. Click **Next**.
3. Fill in the necessary information and click **Next**.
4. Check the option and enter an email address if you would like to receive a confirmation email of your activation and click **Next**.
5. After a brief moment, a message appears, indicating whether LabWindows/CVI has been activated. Click **Next**.
6. Continue to follow the instructions on the screen.
7. When you successfully activate LabWindows/CVI and any modules or toolkits, click **Finish**. LabWindows/CVI displays a window indicating when your license expires.

If you do not have Internet access, complete the following steps to activate LabWindows/CVI:

1. Select the **Use a web browser, email client, telephone, or fax machine to acquire an activation code** option to acquire an activation code. Click **Next**.
2. Select **Use a Web browser on this or another computer**. If you have multiple NI products installed on your computer, you may need to select the version of LabWindows/CVI and any modules or toolkits you want to activate. Click **Next**.
3. Verify the serial number and correct it as necessary, click **Next**, then click **Save this information** to save the serial number, computer ID, product, and version number in a text file. You will need this information for the following steps.
4. On a computer that has internet access, go to the NI License Activation Web page at ni.com/activate.
5. Select the product you want to activate and specify the version number. Then click the **GO** button.
6. Fill out the form with the information required and click **Continue**. This step generates the activation code for you.
7. Go back to the LabWindows/CVI activation dialog box and enter that activation code to activate LabWindows/CVI.
8. Complete steps 4 through 7 for each product you want to activate.



Note If you are unable to activate LabWindows/CVI, refer to the NI License Activation Web page at ni.com/activate.

What's New in LabWindows/CVI?



This section includes information about changes and enhancements in LabWindows/CVI 2009.

Note The Real-Time features require the LabWindows/CVI 2009 Real-Time Module. Additionally, the Execution Profiler features require the LabWindows/CVI Execution Profiler Toolkit.

Installing LabWindows/CVI

With LabWindows/CVI 2009 you can install LabWindows/CVI and select toolkits from the LabWindows/CVI Platform DVD.

Additionally, LabWindows/CVI ships both the Base Package and Full Development System on the same DVD. Depending on the serial number you enter during installation, the NI License Manager activates either the Base Package or the Full Development System.

LabWindows/CVI Execution Profiler Toolkit

The LabWindows/CVI Execution Profiler Toolkit is available with the LabWindows/CVI 2009 release of products. You must purchase the Execution Profiler Toolkit separately. Use the Execution Profiler Toolkit to analyze and optimize the run-time performance of your application.

If you install the Execution Profiler Toolkit, select **Start»All Programs»National Instruments»LabWindows CVI Execution Profiler Toolkit** to access the following toolkit documentation:

- *LabWindows/CVI Execution Profiler Toolkit Readme*—Contains important information about the toolkit, including installation and activation instructions and known issues.
- *LabWindows/CVI Execution Profiler Toolkit Help*—Describes how to use the toolkit to analyze code from your LabWindows/CVI application.

Creating 64-bit Applications

Use LabWindows/CVI to build and distribute executables and DLLs that take full advantage of 64-bit systems. 64-bit applications have more memory capacity, which might improve application performance because more data is loaded into memory.

To create a 64-bit application, select **Build»Configuration»Release x64** or **Build»Configuration»Debug x64**. To create a 64-bit distribution, select **64-bit Windows Installer** in the New Distribution dialog box. You can build 64-bit applications on any system, but you can only run or install 64-bit applications on Windows 7 64-bit or Windows Vista 64-bit.

You must make certain modifications to your existing code to ensure that it adheres to 64-bit programming guidelines. For more information about porting your code, refer to the *Programmer Reference»Creating 64-bit Applications Versus 32-bit Applications»Porting 32-bit Code to 64-bit Code* topic in the *LabWindows/CVI Help*.

For more information about creating 64-bit applications, refer to the *Programmer Reference»Creating 64-bit Applications Versus 32-bit Applications* book in the *LabWindows/CVI Help*.

Attribute Browser

Use the Attribute Browser to update panel and control attributes. The Attribute Browser contains a tree view of the attributes and values of the attributes related to the selected panels and controls in the active `.uir`. When you select or open a `.uir` file in the Window Confinement Region, the Attribute Browser appears in place of the Library Tree.

You can select and edit the attributes of multiple controls simultaneously; however, only the attributes that the controls have in common are available for edit in the Attribute Browser.

For more information about using the Attribute Browser, refer to the *Using LabWindows/CVI»LabWindows/CVI Workspace»Workspace Window Overview»Attribute Browser* topic in the *LabWindows/CVI Help*.

Progress Bar Control

Use the progress bar instrument driver, available in the Tools Library, to create and customize progress bars. The progress bar is also available as a custom control in the User Interface Editor. Select **Create»Custom Controls»Toolslib Controls»Progress Bar** to include a progress bar custom control on the GUI.

For more information about the progress bar, refer to the *Tools Library»Progress Bar Control* book in the *LabWindows/CVI Help*.

Extended Data in the Variables and Watch Windows

The Variables and Watch windows display extended information for certain data types that you can use when debugging your LabWindows/CVI application. Some LabWindows/CVI-defined data types automatically display extended data. For example, a variable of `ListType` displays the number of list items. You also can expand the variable to view the contained list items. For other data types, you can choose to interpret the variable as a specific data type. For example, to interpret a panel handle variable, which is an integer value, as a true panel handle, right-click the variable and select **Specific Type»Panel Handle** from the context menu. LabWindows/CVI then displays the title of the panel next to the integer value.

The context menu for the windows includes the following new options:

- **Specific Type**—Use this option to identify a variable as a conceptual type, like Panel Handle, that LabWindows/CVI cannot otherwise infer from the declared type.
- **Element Type**—Use this option to view contained elements for some aggregate data types, such as `ListType` and `CMTTSQHandle`, as typed objects rather than generic memory blocks.

You can disable the extended data display in the Variables and Watch windows by deselecting the **Enable extended Variables/Watch window displays** checkbox in the Environment dialog box. The **Enable extended Variables/Watch window displays** checkbox is enabled by default.

For more information about debugging techniques using the Variables and Watch windows, refer to the *Using LabWindows/CVI»Debugging Tools»Using the Variables and Watch Windows* book in the *LabWindows/CVI Help*.

Importing and Exporting LabWindows/CVI Preferences between Versions

Use the Import/Export Settings Wizard to transfer LabWindows/CVI environment settings to different installation versions of LabWindows/CVI, restore customized environment settings, or reset some or all of the environment settings to the default state. Select **Import/Export Settings** from the **Tools** menu or select **Start»All Programs»National Instruments»LabWindows CVI 2009»Tools»Import-Export Settings** to open the Import/Export Settings Wizard. You can transfer settings such as fonts, macros, colors, and shortcut keys, among others.

For more information about the Import/Export Settings Wizard, refer to the *Using LabWindows/CVI»Wizards and Tools»Importing and Exporting LabWindows/CVI Settings* topic in the *LabWindows/CVI Help*.

Generating Documentation from Code Comments

You can generate XML or HTML documentation from code comments in .c files while in debug configuration. To insert template comment tags you can edit and then use to generate documentation, place the cursor before a function definition in the Source window and select **Edit»Insert Construct»Function Documentation Tags** or use the <Ctrl-Shift-G> shortcut key.

The template tags inserted are `/// HIFN`, `/// HIRET`, and `///HIPAR`. LabWindows/CVI customizes the tags for the function.

To generate documentation from code comments, select one of the following from the **Generate help from source** pull-down menu in the Target Settings dialog box:

- **None** (default)
- **XML**
- **HTML**
- **HTML & XML**

For more information about generating documentation from code comments, refer to the *Using LabWindows/CVI»Writing Source Code»Editing a Source File»Documentation Tags for Source Code* topic in the *LabWindows/CVI Help*.

NI Distributed System Manager

LabWindows/CVI 2009 includes the NI Distributed System Manager that replaces the Variable Manager as the unified tool to manage network variables. Use the System Manager to create and monitor variables, processes, and I/O servers. Also, use the System Manager to interact with the Shared Variable Engine and to manage security and aliases.

TDMS Performance Improvements

LabWindows/CVI 2009 includes TDMS 2.0, which you can use to log data more quickly using NI-DAQ 9.0 and later. In addition, you can use new functions to create and open TDMS files with Windows system buffering disabled or enabled, to perform asynchronous writes, specify the byte order to use when you create new TDMS files, convert between TDMS 1.0 and 2.0 files, and more.

You also can use the following new functions:

- `TDMS_AppendDataValuesMultiChannel`
- `TDMS_AppendDataValuesMultiChannelTimestampComponents`
- `TDMS_CreateFileEx`
- `TDMS_ConvertFileFormat`
- `TDMS_GetChannelByName`
- `TDMS_GetChannelGroupAndChannelByName`
- `TDMS_GetChannelGroupByName`
- `TDMS_GetFileFormat`
- `TDMS_OpenFileEx`

UDP Multicast Support (Real-Time)

The LabWindows/CVI UDP Library multicast functions, `UDPMulticastSubscribe` and `UDPMulticastUnsubscribe`, are supported in RT applications.

Additional LabWindows/CVI Enhancements

LabWindows/CVI 2009 includes the following additional enhancements. Refer to the *LabWindows/CVI Help* for more information about these features.

Functions

The following functions are new in LabWindows/CVI 2009.

Advanced Analysis

- NonLinearFitWithWeight
- NormalizeCorrelate

Toolbar

- Toolbar_GetToolbarInItemEvent

Toolbox

- BinStrToUInt
- DelayWithEventProcessing
- GetDragAndDropData
- GetRoutedWinMsgParams
- ListApplyToEachEx
- StrToLongLong
- StrToULongLong
- SetRoutedWinMsgResult
- UIntToBinStr
- ULongLongToBinStr

User Interface

You can create string, ring, combo box, button, checkbox, color picker, and horizontal bar cell types in the Tree Control. Use the following functions to configure these cells:

- DeleteTreeCellRingItems
- GetActiveTreeCell
- GetNumTreeCellRingItems
- GetTreeCellRingIndexFromValue
- GetTreeCellRingValueFromIndex
- GetTreeCellRingValueLengthFromIndex
- InsertTreeCellRingItem

Additional User Interface Functions

- GetTimerTickData

Attributes

The following attributes are new in LabWindows/CVI 2009.

Network Variable Connection

- CNVVariableDescriptionAttribute
- CNVVariablePrototypeAttribute

User Interface

- ATTR_COLOR_PICKER_VALUE
- ATTR_HORIZONTAL_BAR_VALUE
- ATTR_MENU_WIDTH
- ATTR_USE_PROGRESS_BAR_VISUAL_STYLES
- ATTR_TREE_EDITABLE_CELLS

Toolslib

- ASYNC_ATTR_TIMER_TIME
- ASYNC_ATTR_DELTA_TIME
- ATTR_PATH_CTRL_AUTOCOMPLETE_PATH
- ATTR_PATH_CTRL_SHOW_HISTORIC_FILES
- ATTR_PATH_CTRL_TAB_COMPLETES_PATH

Events

The following events are new in LabWindows/CVI 2009.

User Interface

- EVENT_BEGIN_EDIT_TREE_CELL
- EVENT_TREE_CELL_ACTIVE_ITEM_CHANGE
- EVENT_TREE_CELL_BEGIN_MENU
- EVENT_TREE_CELL_COMMIT
- EVENT_TREE_CELL_VAL_CHANGED

Menus and Context Menu Changes

- The **All Installation Locations** context menu item on the **Files** tab of the Edit Installer directory includes two new options:
 - [Program Data]—On Windows XP/2000, a typical value for this directory is C:\Documents and Settings\All Users\Application Data. On Windows 7/Vista, a typical value for this directory is C:\ProgramData.
 - [Public Documents]—On Windows XP/2000, a typical value for this directory is C:\Documents and Settings\All Users\Documents. On Windows 7/Vista, a typical value for this directory is C:\Users\Public\Documents.
- The **All Installation Locations** context menu item on the **Files** tab of the Edit Installer directory includes two changed options:
 - [CVIPUBDOCSDIR] is [CVI Public Documents]
 - [CVISHAREDDIR] is [CVI Shared]
- The **Files** tab of the Edit Installer dialog box includes the **Make Writable for All Users** context menu option. Use this option to unlock subdirectories of the Program Files, Program Data, and Public Documents directories, excluding any National Instruments and Microsoft subdirectories.
- The **Registry Keys** tab of the Edit Installer dialog box includes the **Make Writable for All Users** context menu option. Use this option to unlock subkeys of the HKEY_CLASSES_ROOTS\Software and HKEY_LOCAL_MACHINE\Software keys, excluding any National Instruments and Microsoft subkeys.

- The Watch window includes the **Remove Watch Expression** and **Options** context menu options. Use these options to remove watch expressions from the window, specify data types for extended data display, and specify other configuration options, respectively.
- The Variables window includes the **Specific Type** and **Options** context menu options. Use these options to specify data types for extended data display and specify other configuration options respectively.
- In the Memory Display window, select a contiguous memory range, right-click and select **Add Memory Watch Expression** from the shortcut menu to add a memory-specific expression to the Watch window.
- Select a control then select **Edit>Delete** in the Function Panel Editor to delete a control from a function panel. You also can select the control and press the <Delete> key to remove the control. Undo is not available when you delete a control.
- Select **Test 32-bit IVI Specific Driver** or **Test 64-bit IVI Specific Driver** from the **Tools** Menu to test IVI drivers. These options are available only on 64-bit systems with the IVI Specific Driver Test Suite and IVI Installer Creator installed.
- To open the Find or Replace dialog boxes with the **Multiple files** checkbox enabled automatically, select **Find in Files** or **Replace in Files** from the **Edit** menu of the Source or Interactive Execution windows.
- In the Source window, you can close and open a currently selected block of code and its contained blocks of code by selecting from one of the following options:
 - Select **View>Collapsible Regions>Collapse/Expand Region and Subregions** in the Source window.
 - Right-click the plus/minus sign of the collapsible region and select **Collapse/Expand Region and Subregions**.

Dialog Box Changes

- Select **64-bit Windows Installer (.msi)** in the **Type** pull-down menu of the New Distributions dialog box to create an installer for 64-bit Windows systems.
- The **Windows Installer (.msi)** option in the **Type** pull-down menu of the New Distributions dialog box is renamed **32-bit Windows Installer (.msi)**.
- The **Advanced** tab of the Edit Installer dialog box includes the **Install custom Run-Time Engine message file** option. Use this option to install a custom run-time engine message file; for example, use this option to include a localized version of the run-time engine.
- The **Advanced** tab of the Edit Installer dialog box includes the **Sign Installer Executable** option. Use this option to sign an installer and configure options for the certificate.
- The **General** tab of the Edit Installer dialog box includes the **Allow installation directory selection** option. Disable this option to prevent the user from selecting an alternate installation directory.
- The **General** tab of the Edit Installer dialog box includes the **Upgrade Behavior** section. Select **Use Installer Version** or **Side-by-Side (Do Not Upgrade)** to set the upgrade behavior of the installer.
- General improvements to the Edit Installer dialog box, such as expanding the size, listing file types, and repositioning controls to allow for ease-of-use.
- The Environment Options dialog box includes the **Default to project directory when opening files** option. Use this option to set the current project directory as the directory location that LabWindows/CVI defaults to when looking for files to open.


- Use the **Find** or **Filter** text box in the Select Attribute Constant dialog box to search for text in the attribute name column and, depending on the setting, find the text in the tree or filter the results respectively. Click **Find** or **Filter** to change the functionality.
- Enable the **Show all control types** checkbox in the Select UIR Constant dialog box to view a list of all constant names in the selected .uir file. If the **Show all control types** checkbox is disabled, LabWindows/CVI displays only the constant names applicable to the function panel.
- When you select **Controls** from **Constant type** in the Select UIR Constant dialog box, you can enable the **Show all control types checkbox** to view a list of all constant names in the selected .uir file. If the **Show all control types** checkbox is disabled, LabWindows/CVI displays only the constant names applicable to the function panel.
- You can select **Vertical Bar** or **Base Zero Vertical Bar** from the **Trace Style** pull-down menu of the Edit Traces dialog box to create bar plots. You also can set the plot style attribute to VAL_VERTICAL_BAR or VAL_BASE_ZERO_VERTICAL_BAR.
- After you click **OK** in the main Create LabWindows/CVI .NET Controller dialog box, LabWindows/CVI launches a renaming dialog box. Remove the checkmark from a checkbox in the **.NET Identifier** column of the renaming dialog box to exclude the .NET identifier from the generated wrapper. LabWindows/CVI selects all identifiers by default.
- The **Text Information** section of the Version Info dialog box includes the following symbolic variables:
 - `%rel_dbg`—Expands to Release or Debug
 - `%arch`—Expands to x86 or x64

Additional Features

- Starting with this version of LabWindows/CVI, major versions align with the year in which they release. For example, this version of LabWindows/CVI is called LabWindows/CVI 2009. You can find installed files in the CVI2009 folder in the various locations where LabWindows/CVI installs files. The registry keys corresponding to this version of LabWindows/CVI are located in CVI\9.1 in the registry.
- The Variables and Watch windows preserve the format and expansion state of the variable in the window during the debugging session.
- The Variables and Watch windows display values in red text if the variable value changed from the last time the program was suspended.
- LabWindows/CVI defines the following predefined macros: CVI_Base if you activate the LabWindows/CVI Base package or CVI_FDS if you activate the LabWindows/CVI Full Development System.
- LabWindows/CVI defines the NDEBUG macro if you enable **Build»Configuration»Release** or **Release x64**.
- LabWindows/CVI recognizes the `extern "C"` keyword. LabWindows/CVI allows you to use `extern "C"` with blocks of code at file scope. LabWindows/CVI treats functions and variables using `extern "C"` as `extern` declarations.
- Use the `/// INCL file` comment tag in the .h file to include the specified header file when LabWindows/CVI generates the function tree.
- Use the `/// NUM` comment tag in the .h file to define a numerical control.
- Use the VAL_NON_LEAF mask in the **stateCriteria** parameter of the `GetNumTreeItems`, `GetTreeItem`, `GetTreeItemFromLabel`, `GetTreeItemFromValue` functions to search among items that have children.

- Strip charts support `ATTR_YLOOSE_FIT_AUTOSCALING` and `ATTR_YLOOSE_FIT_AUTOSCALING_UNIT` for the y axis.
- The Resource Tracking window supports tracking graph plot resources.
- Use the **Find** text box in the Library Tree to locate functions.
- LabWindows/CVI displays function prototypes when you hover the mouse cursor over a function in the Library Tree.
- The status bar in the Source window has moved to the bottom of the Workspace window. The status bar displays information including line number, column number, text selection mode, configuration mode, and so on.
- LabWindows/CVI supports the `_Pragma` keyword from the C99 specification.
- LabWindows/CVI supports Intel C++ 11.1 as an external compiler.
- LabWindows/CVI includes the following 64-bit data types:
 - `size_t`
 - `ssize_t`
 - `ptrdiff_t`
 - `uintprt_t`
 - `intprt_t`
- LabWindows/CVI supports the following format modifiers for formatting functions: `z`, `t`, and `b0`.
- You can create Microsoft Compiled Help files (`.chm`) from function trees, and then use the `.chm` file to link help topics to type libraries.

Launching Examples from the LabWindows/CVI Function Help

You can launch examples from LabWindows/CVI function topics in the *LabWindows/CVI Help* and the function panel help. Click the **Open example** button () to launch an example demonstrating the use of the function.

Deprecated Features

The following features are deprecated in LabWindows/CVI 2009.

- The **Options»Translate LW/DOS Program** options is deprecated.
- LabWindows/CVI no longer supports Borland C/C++ as an external compiler.
- Projects created from the **New»Project** option no longer include `_dbg` in the file name in debug configuration.

LabWindows/CVI Resources

How do I get started?

Read the *Getting Started with LabWindows/CVI* manual, which provides a tutorial for learning basic LabWindows/CVI program development techniques.

Are there known issues or late-breaking information?

Refer to the *LabWindows/CVI Readme*, which you can access from **Start»All Programs»National Instruments»LabWindows CVI 2009»LabWindows CVI 2009 Readme**. The readme file contains information about known issues.

Where can I find reference information?

The *LabWindows/CVI Help* contains complete reference information. The help file includes the following sections:

- *Using LabWindows/CVI* describes the LabWindows/CVI development environment and features.
- *Library Reference* provides information about functions you can call in LabWindows/CVI.
- *Programmer Reference* provides information to help you develop applications.
- *Tools Library* provides information about the LabWindows/CVI Toolslib controls.
- *LabWindows/CVI Real-Time Module Help* includes an introduction to the LabWindows/CVI Real-Time Module, programming considerations for RT applications, and function reference information for the LabWindows/CVI Real-Time Utility Library.
- *LabWindows/CVI Execution Profiler Toolkit Help* includes an introduction to the LabWindows/CVI Execution Profiler Toolkit and information about using the toolkit to profile your applications.

Use the **Search** tab in the *LabWindows/CVI Help* to quickly locate specific information. For information about how to use the search functionality, refer to the *Using Help»Searching Help* topic of the *LabWindows/CVI Help*.

Where can I find examples?

Find examples with the NI Example Finder, which you can access by selecting **Help»Find Examples**.

LabWindows/CVI example programs are located in the following location on Windows 7/Vista:

C:\Users\Public\Documents\National Instruments\CVI2009\samples.

On Windows XP/2000, example programs are located in the following location: C:\Documents and Settings\All Users\Documents\National Instruments\CVI2009\samples.

Is there a list of LabWindows/CVI documentation?

The *Guide to LabWindows/CVI Documentation* topic provides links to LabWindows/CVI documentation, including manuals, application notes, and white papers. You can access the *Guide to LabWindows/CVI Documentation* topic through the *LabWindows/CVI Help*.

Where else can I go for LabWindows/CVI information?

Visit the LabWindows/CVI Web site and NI Developer Zone at ni.com for the most up-to-date information about LabWindows/CVI.

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