LabWindows™/CVI™

Version 7.1

These release notes introduce LabWindows/CVI 7.1. Refer to this document for system requirements, installation and activation instructions, and information about new features in LabWindows/CVI.

Minimum System Requirements

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

- Personal computer using a Pentium 600 or higher microprocessor
- Windows 2000/NT Service Pack 6/XP
- 800 × 600 resolution (or higher) video adapter
- Minimum of 128 MB of RAM, 256 MB recommended
- 150 MB free hard disk space for full installation
- Microsoft-compatible mouse
- Microsoft Internet Explorer 5.0 or later, typical installation

Installation Instructions

Note If you have a previous version of LabWindows/CVI installed on your machine, be sure to install version 7.1 in a different directory or uninstall the older version before installing this version.

1. Insert the LabWindows/CVI CD into the CD drive. If the CD does not run automatically, open Windows Explorer, right-click the CD drive icon, and select **AutoPlay**.

2. Select **Install LabWindows/CVI** on the National Instruments LabWindows/CVI screen.

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3. In the User Information panel, enter the serial number found on your Certificate of Ownership card.

4. Continue to follow the instructions on the screen.

Activation Instructions

Complete the following steps to activate LabWindows/CVI:

1. Launch LabWindows/CVI.

2. The LabWindows/CVI – Unlicensed Version message box opens when you launch LabWindows/CVI for the first time. Click **Activate License**, which launches the NI Activation Wizard.

3. In the NI Activation Wizard, select a method to acquire the activation code and click **Next**:

   – **Automatically activate through a secure Internet connection**—Automatically receive an activation code.

   – **Use a Web browser, email client, telephone, or fax machine to acquire an activation code**—Contact National Instruments to obtain an activation code. You will then enter the code in the NI Activation Wizard to activate LabWindows/CVI.

   – **Apply a 20-character activation code previously acquired for this computer**—Enter a code you have obtained to activate LabWindows/CVI.

4. Enter or verify your serial number. Click **Next**.

5. Continue to follow the instructions on the screen.

6. When you successfully activate LabWindows/CVI, click **Finish**.

What's New in LabWindows/CVI 7.1?

This section includes information about changes and enhancements in LabWindows/CVI 7.1.

Digital Graph Control

Use the digital graph control to plot and display arrays of data as lines or buses. As with all other LabWindows/CVI controls, you can create a digital graph programmatically or in the User Interface Editor.

You can find examples for using the digital graph control in the `samples\newexamples.cws` workspace.

For more information about the digital graph control, refer to the *Library Reference»User Interface Library»Controls»Control Types»Digital Graph Control* section of the *LabWindows/CVI Help*.

Splitter Control

Use the splitter control to resize different components of your graphical user interface. You also can use the splitter control as a line decoration. You can create this control programmatically or in the User Interface Editor.

You can find examples for using the splitter control in the `samples\newexamples.cws` workspace.

For more information about the splitter control, refer to the *Library Reference»User Interface Library»Controls»Control Types»Splitter Control* section of the *LabWindows/CVI Help*.

Remote Debugging

With remote debugging, the LabWindows/CVI debugger and the program you are debugging can be on different computers. The debugger and debuggee communicate over a TCP/IP network connection. To configure remote debugging, select **Run»Configure Remote Debugging**.

For more information about remote debugging, refer to *Using LabWindows/CVI»Debugging Tools»Remote Debugging* in the *LabWindows/CVI Help*.

Debugging on RT Targets

Using remote debugging, you can debug LabWindows/CVI-built DLLs on a remote LabVIEW Real-Time system.

For more information about how to debug a DLL on an RT target, refer to the *Using LabWindows/CVI DLLs in LabVIEW Real-Time Applications* application note, available through the *LabWindows/CVI Bookshelf*.

Command Line Interface

Use the LabWindows/CVI command line compiler, `compile.exe`, to compile files and build projects from the command line. You can use this feature to automate builds. The command line compiler does not launch the LabWindows/CVI environment.

Try compiling a LabWindows/CVI sample project. `compile.exe` is located in the `National Instruments\CVI71` folder.

For more information about compiling from the command line, refer to **Command Line Compiler** in the *LabWindows/CVI Help* index.

Function Panels in Workspace

You can edit and operate function panels from within the Window Confinement Region of the Workspace window.

Variable and Watch Windows in Workspace

You can view the Variable and Watch windows from within the Debugging Region in the Workspace window.

Code Completion Enhancements

LabWindows/CVI includes the following enhancements in the Source window:

- Launch function panel customization dialog boxes. For example, type `LoadPanel` in a Source window. After you type the opening parentheses and the first parameter, notice the **...** button next to **Filename** in the function prototype tooltip. Click the button or press <Ctrl-Shift-Enter> to view the Open dialog box.

- Select constant values. Parameters with predefined values, attributes, and attribute values have a **...** button in the function prototype tooltip when they are active. For example, type `OpenComConfig` in a Source window. You can select a value for **COMPort** by clicking the **...** button or pressing <Ctrl-Shift-Enter>. To see an example of selecting an attribute, type `SetCtrlAttribute` in a Source window. You can select an attribute for the **ControlAttribute** parameter and select an attribute value.

- Declare variables. As you type values for the parameters, press <Ctrl-D> to declare a variable. LabWindows/CVI inserts the declaration code at the top of the function.

- View function and parameter help. As you type the function, you can press <F1> or click the question mark button in the function prototype to view help for the active function or parameter.

For more information about code completion enhancements, refer to **Source Code Completion Options** in the *LabWindows/CVI Help* index.

TCP/IP Enhancements

The LabWindows/CVI TCP Support Library contains several new functions:

- `RegisterTCPServerEx`—Includes a parameter in which you can specify the address of the localhost network interface to use for the connection.

- `UnregisterTCPServerEx`—Includes a parameter in which you can specify the address of the localhost network interface to use for the connection.

- `ConnectToTCPServerEx`—Includes a parameter in which you can specify the port number to use for the client on the localhost.

- `GetAllTCPHostAddresses`—Returns all of the network interface IP addresses of the computer on which your program is currently running.

For more information about the new functions in the TCP Support Library, refer to the function panel help.

Internet Library

The LabWindows/CVI Internet Toolkit is now a LabWindows/CVI library. Use this library to complete the following actions:

- Send and receive files to and from a remote FTP server

- Send commands to and get output from a remote Telnet server

- Send email to any internet email address

- Send commands to and retrieve email from POP3 servers

- Ping network machines to see if they are available

- Launch the default Web browser

You can find examples for using the Internet Library in the `samples\newexamples.cws` workspace.

For more information about the Internet Library, refer to the *Library Reference»Internet Library* section of the *LabWindows/CVI Help*.

DIAdem Connectivity Library

Use this library to save test data in National Instruments DIAdem file format. DIAdem is a powerful tool for interactive visualization, analysis, and management of test data. You also can use this library to programmatically read DIAdem files.

You can find examples for using the DIAdem Connectivity Library in the `samples\newexamples.cws` workspace.

For more information about this library, refer to the *Library Reference» DIAdem Connectivity Library* section of the *LabWindows/CVI Help*.

Pre- and Post-Build Steps

Specify actions to execute before and after you build a project in LabWindows/CVI. To add build steps to your project, select **Build»Build Steps**.

You can use build steps to remove manual steps from your build process. For example, if your build process consists of synching to the latest source files in your source code control program, running a batch file, building your project, and then checking the project back into your source code control program, you can add these items as build steps. When you build your project, LabWindows/CVI will complete these steps.

For more information about build steps, refer to **Build Steps** in the *LabWindows/CVI Help* index.

Event Interface for LabWindows/CVI COM Server

LabWindows/CVI 7.1 includes support for COM events in the LabWindows/CVI ActiveX server. This feature allows ActiveX clients that automate LabWindows/CVI to be notified about important state changes, completion of asynchronous tasks, and so on.

LabWindows/CVI Resources

How do I get started?

Read the *Getting Started with LabWindows/CVI* manual, which provides a tutorial of the LabWindows/CVI environment.

Are there known issues or late-breaking information?

Refer to the LabWindows/CVI ReadMe, which you can access from **Start»Programs»National Instruments»LabWindows CVI» LabWindows CVI ReadMe**. The ReadMe 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.

Where can I find examples?

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

Is there a list of LabWindows/CVI documentation?

The *LabWindows/CVI Bookshelf* contains all the LabWindows/CVI documentation, including manuals, application notes, and white papers, in electronic format. You can launch the Bookshelf from **Start»Programs» National Instruments»LabWindows CVI»LabWindows CVI Bookshelf**.

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.