

IMAQ™ VISION FOR LabWindows/CVI

Version 5.0

IMAQ Vision for LabWindows/CVI adds multipurpose image processing and machine vision capabilities to LabWindows/CVI and C programming environments. These release notes describe system requirements, provide installation instructions, and contain updated information about IMAQ Vision for LabWindows/CVI.

System Requirements

To run IMAQ Vision for LabWindows/CVI 5.0 on your machine, you must have the following minimum system requirements:

- Microsoft Windows 2000/NT or Windows 98/95
- 40 MB or more of free hard disk space
- At least 32 MB RAM for optimal performance
- NI-IMAQ 2.2 or higher if you use NI-IMAQ driver software.

Application Development Environments

This release of IMAQ Vision for LabWindows/CVI supports the following Application Development Environments (ADEs) for Windows 2000/NT/9x:

- LabWindows/CVI version 5.0.1 and higher
- Borland C/C++ version 5.0 and higher
- Borland C++ Builder 3.0 and higher
- Microsoft Visual C/C++ version 6.0 and higher

Although IMAQ Vision has been tested and found to work with these ADEs, other ADEs may also work.



Note Consult the LabWindows/CVI release notes for required system configurations.

Installation Instructions

Follow these instructions to install IMAQ Vision 5.0 on your Microsoft Windows 2000/NT/9x machine:

1. Insert the IMAQ Vision for LabWindows/CVI installation CD.
2. If you do not have autorun enabled, double-click on `setup.exe`. If you have autorun enabled, `setup.exe` will run automatically.
3. Follow the instructions on your screen.

Changes to IMAQ Vision Since Version 1.0

The IMAQ Vision for LabWindows/CVI application program interface (API) has changed. This new API increases usability and adds additional functionality. A compatibility library will be available that lets you run IMAQ Vision 1.0-based applications with IMAQ Vision 5.0 with minor changes. Please contact National Instruments technical support to obtain the compatibility library.

New Functionality

IMAQ Vision 5.0 has added functionality in the form of pattern matching, caliper tools, barcode tools, LCD tools, meter tools, enhanced color support, enhanced ROI support, and new file formats.

Pattern Matching

Pattern matching functions allow you to search for templates in images. For reference information about these functions, see Chapter 13, *Pattern Matching*, in the *IMAQ Vision for LabWindows/CVI Reference Manual*. For conceptual information, see Chapter 9, *Pattern Matching*, in the *IMAQ Vision User Manual*.

Color

IMAQ Vision 5.0 has added support for the Hue, Saturation and Luminance (HSL) color space. For reference information about this color space, see Chapter 12, *Color Processing*, of the *IMAQ Vision for LabWindows/CVI Reference Manual*.

IMAQ Vision 5.0 also has new functions for color matching. For information about these VIs, see Chapter 12, *Color Processing*, of the *IMAQ Vision for LabWindows/CVI Reference Manual*.

Caliper Tools

Caliper functions allow you to detect and measure features, such as edges and angles, along a path in an image. For reference information about these functions, see Chapter 14, *Caliper*, in the *IMAQ Vision for LabWindows/CVI Reference Manual*.

Barcode Tools

The barcode function, `imaqReadBarcode()`, allows you to read a barcode from an image. For reference information about this function, see Chapter 18, *Barcode*, in the *IMAQ Vision for LabWindows/CVI Reference Manual*.

LCD Tools

LCD functions allow you to isolate and read the value of a seven-segment LCD. For reference information about these functions, see Chapter 19, *LCD*, in the *IMAQ Vision for LabWindows/CVI Reference Manual*.

Meter Tools

Meter functions allow you to identify the arc information of and then read a meter. For reference information about these functions, see Chapter 20, *Meter*, in the *IMAQ Vision for LabWindows/CVI Reference Manual*.

ROI

IMAQ Vision 5.0 features enhanced region of interest (ROI) functionality. You can select and move ROIs in your image after creating them. To select an ROI, left click on the region. To move an ROI, left click on an edge of the region and drag it to its new location. You can also reshape many ROIs. To reshape an ROI, left click on a vertex and drag it into its new shape. To finish an ROI that you are creating with the polyline or polygon tools, double click at your last vertex.

File Formats

IMAQ Vision for LabWindows/CVI now has support for JPEG and PNG files. For more information about these file formats, see the *IMAQ Vision User Manual*.

Using IMAQ Vision for LabWindows/CVI

The following give you a few tips for using IMAQ Vision for LabWindows/CVI.

Creating Projects in LabWindows/CVI 5.0.1

When creating projects in LabWindows/CVI 5.0.1, `userint.h` must proceed `nivision.h` or the project will not compile. This issue is resolved in LabWindows/CVI 5.5.

Console Mode Applications

If you are writing an application in console mode, you can have IMAQ Vision process window events without a message pump by calling `imaqSetWindowThreadPolicy()`.

Asynchronous Event Processing

LabWindows/CVI 5.0.1 does not support asynchronous event processing. Use `imaqSetEventCallback()` in synchronous mode only.

Distributing IMAQ Vision Applications

If you want to distribute an application developed with IMAQ Vision, install `nivissvc.dll` and `nivision.dll` in the system directory of every target machine. These DLL files were installed in your system directory when you installed IMAQ Vision 5.0. Copy the DLL files from your system directory to the system directories of the target machines or to an installation CD.

Before distributing an application developed with IMAQ Vision, you must have an IMAQ Vision run-time license for each target machine. Contact National Instruments at 512 794 0100 to purchase run-time licenses.

