

# IMAQ™ Vision 7 for LabVIEW™ Release Notes

IMAQ Vision 7 for LabVIEW is for engineers and scientists who are developing machine vision and scientific imaging applications. IMAQ Vision 7 for LabVIEW is a library of powerful functions for image processing that adds multipurpose image processing and machine vision capabilities to LabVIEW.

This document outlines new functionality, system requirements, installation procedures, distribution information, and descriptions of the documentation included with IMAQ Vision 7 for LabVIEW. Refer to the `readme.wri` file, included with the software, for the most up-to-date information about IMAQ Vision 7 for LabVIEW.

## What's New in IMAQ Vision 7 for LabVIEW

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This section describes the new features available in IMAQ Vision 7 for LabVIEW.

### Image Display Control and Image Probe

The image display control and image probe features are available only in LabVIEW 7.0 or later.

IMAQ Vision 7 now includes a native LabVIEW image display control that you can drop onto a LabVIEW front panel as you would any other LabVIEW control or indicator. This feature is available from the LabVIEW controls menu.

Additionally, you can now probe an image wire in LabVIEW, making design and development quick and easy. To see the run-time value of an image in a probe window, right-click the image wire and select **Probe**. To change the palette on the probe, right-click the probe and select **Palette**.

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## Improved Particle Analysis

The particle analysis VIs provided with IMAQ Vision 7 for LabVIEW are two to ten times faster than those in previous versions of IMAQ Vision. These new VIs now support calibrated measurements. They are up to twice as fast as using uncalibrated measurements. Using the calibrated measurements feature of particle analysis yields results up to ten times faster than the previous method. The previous method required correcting the entire image before returning calibrated particle measurements.

IMAQ Vision 7 for LabVIEW features two new particle analysis VIs: IMAQ Particle Analysis and IMAQ Particle Analysis Report. Additionally, IMAQ Convex Hull, IMAQ Particle Filter 2, and IMAQ Label now use this improved particle analysis. For a demonstration of the new particle analysis functions, run the examples located in the <LabVIEW>\examples\Vision\2. Functions\Binary Analysis directory.

## AVI File Support

IMAQ Vision 7 for LabVIEW includes support for reading and writing multiple images to Audio Video Interleave (AVI) movie files. IMAQ Vision 7 for LabVIEW adds the ability to read AVI files, write compressed AVI files, and read and write additional data to the AVI file. To locate the AVI files, navigate to the **Vision»Vision Utilities»Files»AVI** palette in LabVIEW. AVI examples are located in the <LabVIEW>\examples\Vision\2. Functions\AVI directory.

## Enhanced Circle and Ellipse Fitting

IMAQ Vision 7 for LabVIEW contains new circle and ellipse fitting routines that ignore outliers, providing a more accurate circle and ellipse fit. The degree to which outliers are ignored is user configurable. IMAQ Fit Circle 2 and IMAQ Fit Ellipse 2 are available in the **Vision»Machine Vision»Analytic Geometry** palette in LabVIEW.

## Time-Bounded Algorithms for LabVIEW Real-Time

This feature is available only in LabVIEW Real-Time 7.0 or later.

You can use the new VIs in the IMAQ RT menu to ensure that a series of Vision VIs return within a certain amount of time, regardless of whether the image processing algorithm has completed. This feature is useful for time-critical applications in which regaining timely execution control is very important.

For more information about this feature, refer to Appendix A, *Vision for LabVIEW Real-Time*, of the *IMAQ Vision for LabVIEW User Manual*.

# Minimum System Requirements

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The development computer must meet the following minimum system requirements to run IMAQ Vision 7 for LabVIEW.

- Windows 2000/NT 4.0/XP/Me/98
- 233 MHz Pentium-class MMX processor or higher
- 800 × 600 (or higher) resolution video adapter, 16-bit color or higher
- Minimum of 64 MB RAM (128 MB recommended)
- Minimum of 50 MB of free hard disk space



**Note** If you want to take advantage of the LabVIEW Real-Time support, the remote system must meet additional system requirements. Refer to the *IMAQ Vision for LabVIEW User Manual* for information about remote system requirements.

## Installing IMAQ Vision 7 for LabVIEW

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Complete the following steps to install IMAQ Vision 7 for LabVIEW.

1. Insert the IMAQ Vision 7 for LabVIEW installation CD in the CD-ROM drive.
2. If you do not have autorun enabled, double-click `autorun.exe`. If you have autorun enabled, `autorun.exe` runs automatically.
3. Follow the onscreen instructions.

## Distributing Applications that Use IMAQ Vision

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Use the IMAQ Vision Deployment Engine to distribute an application developed with IMAQ Vision. The IMAQ Vision Deployment Engine is available separately. To distribute an application developed with IMAQ Vision, you must have the IMAQ Vision Deployment Engine installed on the development machine and you must have an IMAQ Vision deployment license for each target machine.

Contact a National Instruments sales representative or visit [ni.com](http://ni.com) to purchase the IMAQ Vision Deployment Engine and deployment licenses.

# About the IMAQ Vision Documentation Set

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In addition to these release notes, the IMAQ Vision documentation set includes the following documents:

- The *IMAQ Vision Concepts Manual* contains vision conceptual information. Read this document if you are new to vision.
- The *IMAQ Vision for LabVIEW User Manual* contains information about how to build vision applications using IMAQ Vision 7 for LabVIEW.
- The *IMAQ Vision for LabVIEW Help* contains reference information about IMAQ Vision VIs. In LabVIEW, select **Help»IMAQ Vision** to access this help.
- The *Search Vision Examples* contains links to all installed IMAQ Vision examples. In LabVIEW 6.1 and earlier, select **Help»Search Vision Examples** to access these example links. In LabVIEW 7.0 and later, select **Help»Find Examples** to browse or search installed IMAQ Vision example VIs.
- The `readme.wri` file, which is located on the IMAQ Vision installation CD, contains last-minute information concerning IMAQ Vision 7 for LabVIEW.

For your convenience, all printed IMAQ Vision documents also are available in Portable Document Format (PDF) form. Select **Start»Programs»National Instruments»Vision»Documentation** to access these documents.

