

# IMAQ Vision Builder

## Version 5.0

IMAQ Vision Builder is an interactive prototyping software package that you can use to quickly prototype vision applications or test and learn how various machine vision and image processing functions work.

These release notes describe what is new and what has changed in IMAQ Vision Builder 5.0, lists minimum requirements, and tells you how to install your software. Please also see the `readme.txt` file included with your software for the most up-to-date information about this release of IMAQ Vision Builder.

## What's New in IMAQ Vision Builder 5.0

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IMAQ Vision Builder 5.0 includes a number of major additions, as follows:

- **Image Acquisition Board Support**—IMAQ Vision Builder now supports the IMAQ PCI/PXI-1411 (color acquisition) and PCI/PXI-1422 (digital acquisition) boards.
- **Image Formats**—IMAQ Vision Builder now supports read/write operations for JPEG and PNG file formats and can read compressed TIFF and BMP files.
- **Color Processing**—New color processing functions include color operators (arithmetic and logical operations on color images) and color matching (comparing an image or regions of interest against a reference color set).
- **Pattern Matching**—IMAQ Vision Builder includes a new powerful pattern matching function. Based on two strategies—shift-invariant or rotation-invariant matching—the pattern matching function locates a template with sub-pixel accuracy in a complete image, regardless of perturbations, such as noise, lighting, rotation, and partial occlusions.
- **Solution Wizard**—IMAQ Vision Builder includes a Solution Wizard, which demonstrates machine vision and image processing techniques to solve typical vision problems in several areas.

- **Performance Meter**—A new Performance Meter helps you analyze your vision solution. Use the Performance Meter to estimate the amount of time required to apply your processing strategy to typical images.
- **Selection Tool**—A new Selection Tool, located in the IMAQ Vision Builder Tools palette, lets you move and resize regions of interest drawn on the image.

## Changes from Previous Versions

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IMAQ Vision Builder 5.0 includes several revisions, as follows:

- The new Color menu presents all the color processing functions in one location.
- The new Pattern Matching function replaces the Search–Correlate function in version 1.0 of IMAQ Vision Builder. When opening a script generated by version 1.0 that includes a Search–Correlate function, this step is automatically replaced by a Pattern Matching processing step. Edit the step to learn a new template.
- The Search–Shape Matching function has been renamed Shape Matching. Scripts generated with version 1.0 including a Search–Shape Matching processing step are automatically modified to reflect this change. No further configuration is required.
- The Binary»Threshold function has been split into two different user interfaces. One dedicated to grayscale images is now located in the **Grayscale** menu and a second one dedicated to color images is located in the **Color** menu. Scripts generated with version 1.0 including a Threshold processing step are automatically modified to reflect this change. No further configuration is required.
- When acquiring a sequence of images, a new user interface provides feedback on the status of the sequence acquisition. In manual mode (trigger mode disabled), a **Start Acquisition** button appears and enables you to start the acquisition when needed.

# Minimum Requirements

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To run IMAQ Vision Builder, your computer must meet the following minimum requirements:

- Personal computer using at least a 133 MHz Pentium or higher microprocessor (233 MHz Pentium MMX or higher microprocessor recommended)
- Microsoft Windows 2000/NT/9x
- 800 × 600 resolution (or higher) video adapter, 65536 colors (16-bit) or higher.
- National Instruments IMAQ hardware and NI-IMAQ 2.2 or later for Windows 2000/NT/9x (if you are acquiring images with National Instruments IMAQ hardware)
- Minimum of 32 MB RAM (64 MB recommended)
- Minimum of 30 MB of free hard disk space



**Note** You need Excel 97 installed on your computer to complete a few steps in the second tutorial.

## Installation Procedures

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Insert the IMAQ Vision Builder CD into your drive. An autorun screen should appear. If it does not, click on `setup.exe` to run the setup program.



**Note** You must have administrator access in Windows 2000/NT to perform the installation.

Click on **Install IMAQ Vision Builder** to launch the IMAQ Vision Builder installer. Follow the instructions on the installation screens.

## IMAQ Vision Builder Documentation

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IMAQ Vision Builder documentation includes these release notes, online help, the *IMAQ Vision Builder Tutorial* in both printed and portable document format (PDF), and a PDF version of the *IMAQ Vision User Manual*. You must install Adobe Acrobat Reader, which is included on your IMAQ Vision Builder CD, to access the PDF documents.



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