

# IMAQ VISION OCR FOR LABVIEW

Optical character recognition (OCR) is the process of extracting textual information from a digital image. IMAQ Vision OCR software is for industrial vision application developers using IMAQ Vision for LabVIEW who need reliable and accurate OCR capabilities. You can use IMAQ Vision OCR software in applications such as identifying serial numbers on CD-ROMs, automotive parts, electronic packaging, and disk heads.

## Introduction

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IMAQ Vision OCR software is a PC-based industrial character recognition tool for use with IMAQ Vision for LabVIEW. IMAQ Vision OCR is designed for high-speed and reliable reading performance, even with poor image quality resulting from varying lighting conditions and print quality. The software recognizes text in one of four recognition modes to optimize accuracy and/or speed, and can apply a variety of automatic correction methods to improve the recognition quality.

IMAQ Vision OCR recognizes characters produced by conventional typesetting, printing, and stamping techniques. In addition, the software recognizes common fonts used in electronics, semiconductor, automotive, and pharmaceutical identification applications. Furthermore, the software includes advanced functions for reading mixed fonts, characters not written on a straight line, and numbers and letters on the same line.

## IMAQ Vision OCR Highlights

The following are some of the IMAQ Vision OCR highlights:

- Reads a text image acquired directly from an image acquisition board
- Recognizes commonly used fonts
- Unwraps functions for characters not written on a line
- Performs preprocessing for noise filtering and line removal
- Reads characters even in poor lighting conditions
- Automatically detects and inverts image background color

- Automatically detects and adjusts image orientation
- Includes user-defined dictionary verification
- Produces an OCR report describing the recognized character, alternate characters, and confidence values
- Performs automatic correction for occluded characters
- Recognizes English, Spanish, and French characters

## Installation

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### System Requirements

To run IMAQ Vision OCR for LabVIEW, your computer must meet the following minimum system requirements:

- Microsoft Windows NT version 4.0 or Windows 2000/9x
- 18 MB or more of free hard disk space
- LabVIEW 5.0 or higher or BridgeVIEW 2.0 or higher
- IMAQ Vision 4.1.1 or higher (Base or Advanced version)

### Installation Instructions



**Note** To install IMAQ Vision OCR for LabVIEW on a Windows NT system, you must be logged in with administrator privileges.

Perform the following steps to install IMAQ Vision OCR for LabVIEW:

1. Insert the IMAQ Vision OCR for LabVIEW CD into your computer. If the CD startup screen does not appear, use Windows Explorer to run the `Setup.exe` program located in the `\Setup` folder on the CD.
2. Follow the setup instructions you see on your screen.

### Installed Files

IMAQ Vision OCR Setup installs the following files in your Windows system folder (usually `C:\Windows\System` or `C:\Winnt\System32`):

```
Imaqocr.dll  
Kitres.dll  
Neurokit.dll
```

The following files are installed in the LabVIEW folder you selected during setup:

- OCR VIs—Installed in the `<LabVIEW>\vi.lib\vision\addons` folder. You can access all OCR functions from the LabVIEW function palette. The OCR functions are located in the OCR subpalette. If you

have LabVIEW 5, the OCR subpalette is located in the top-level function palette. If you have LabVIEW 6, the OCR subpalette is located within the Motion & Vision function palette.

- OCR examples—Installed in the <LabVIEW>\Examples\Vision\OCR folder. The example VIs provided demonstrate the use of all IMAQ Vision OCR functions.
- OCR online help—Installed in the <LabVIEW>\Help folder. You can access IMAQ Vision OCR online help from the **Help** menu in LabVIEW. Use this online help to learn more about IMAQ Vision OCR for LabVIEW and the functions of the OCR VIs.

## IMAQ Vision 4.1.1 Information

When you install IMAQ Vision OCR for LabVIEW to use with IMAQ Vision 4.1.1 for LabVIEW, a new palette replaces the IMAQ Vision palette. This new palette is identical to the default IMAQ Vision 4.1.1 palette except that it includes the OCR subpalette. If you did not previously customize your IMAQ Vision function palette, you do not need to make any further changes to use IMAQ Vision OCR for LabVIEW.

If you did customize your IMAQ Vision function palette prior to installing IMAQ Vision OCR for LabVIEW, you can restore your changes after installation. IMAQ Vision OCR Setup copies the previous `Dir.mnu` file in the <LabVIEW>\Vi.lib\Vision folder to the file `Dir.old`. Follow these steps to restore your changes to the IMAQ Vision palette:

1. Delete the `Dir.mnu` file installed in your <LabVIEW>\Vi.lib\Vision folder.
2. Rename the file `Dir.old` to `Dir.mnu`.
3. Launch LabVIEW and select **Edit Control & Function Palettes** from the **Edit** menu.
4. Right-click on the IMAQ Vision palette and select **Synchronize with Directory**.
5. When prompted, browse to the folder <LabVIEW>\Vi.lib\Vision\addons and click **Select Cur Dir**.
6. Save your changes. The OCR subpalette should now appear in your IMAQ Vision function palette.

## Uninstallation Information

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To uninstall IMAQ Vision OCR for LabVIEW, open the **Add/Remove Programs** dialog box from the **Control Panel**. Select **NI IMAQ Vision OCR** and click **Add/Remove**.

# Technical Support Resources

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## NI Web Support

National Instruments Web support is your first stop for help in solving installation, configuration, and application problems and questions. Online problem-solving and diagnostic resources include frequently asked questions, knowledge bases, product-specific troubleshooting wizards, manuals, drivers, software updates, and more. Web support is available through the Technical Support section of [ni.com](http://ni.com)

## Worldwide Support

National Instruments has offices located around the world to help address your support needs. You can access our branch office Web sites from the Worldwide Offices section of [ni.com](http://ni.com). Branch office Web sites provide up-to-date contact information, support phone numbers, e-mail addresses, and current events.

If you have searched the technical support resources on our Web site and still cannot find the answers you need, contact your local office or National Instruments corporate. For telephone support in the United States, dial 512 795 8248. For telephone support outside the United States, contact your local branch office:

Australia 03 9879 5166, Austria 0662 45 79 90 0, Belgium 02 757 00 20,  
Brazil 011 284 5011, Canada (Calgary) 403 274 9391,  
Canada (Ottawa) 613 233 5949, Canada (Québec) 514 694 8521,  
China (Shanghai) 021 6555 7838, China (ShenZhen) 0755 3904939,  
Denmark 45 76 26 00, Finland 09 725 725 11, France 01 48 14 24 24,  
Germany 089 741 31 30, Greece 30 1 42 96 427, Hong Kong 2645 3186,  
India 91805275406, Israel 03 6120092, Italy 02 413091,  
Japan 03 5472 2970, Korea 02 596 7456, Mexico 5 280 7625,  
Netherlands 0348 433466, New Zealand 09 914 0488,  
Norway 32 27 73 00, Poland 0 22 528 94 06, Portugal 351 1 726 9011,  
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