

RELEASE NOTES

NI Display Test Software

Version 1.1

NI Display Test software provides predefined tests of common display inspection tasks that you can use to build test sequences within National Instruments TestStand. NI Display Test software includes TestStand, NI Display Test step types, NI Display Test function library, NI-OCR, and IMAQ Vision run-time DLLs. For more information about these components, refer to the *Getting Started with NI Display Test* manual.

This document lists the minimum system requirements, installation instructions, files and folders that NI Display Test installs, and technical support resources available to you.

What's New in Version 1.1

The following new step types have been added to Display Test:

- **Learn Calibration and Correct Image Distortion**—Enables the software to learn and correct perspective and lens distortion in the image of a display.
- **Fiducial Based Alignment**—Computes the location and orientation of the display unit using user specified fiducials on the display.
- **Display Geometry**—Computes the orientation and skew of the display. It also can compute the location of the housing that surrounds the display as well as the pixel gap between the display and the housing. Use this step to find information about the display when you use the Fiducial Based Alignment step to find the location of the display unit.

The following step types have been enhanced:

- **Alignment**—Includes a new control, **Search Direction**, that allows you to specify the direction used to search for the display edges.
- **Pixel Defect**—Includes a new mode, **Adaptive Threshold**, that is useful for situations where the lighting varies non-linearly across the display.
- **Contrast**—Allows you to specify the type of contrast measure the step should use: absolute or relative.
- **OCR**—Has been replaced by a trainable optical character recognition software. You can now teach the software the types of characters and/or patterns you want to read in the image.
- **Gross Defects**—Returns to TestStand measurements of all the defects in the image.

- **Color Illumination**—Supports measurements in the CIE XYZ color space.
- **Keypad Backlight**—Supports measurements in the CIE XYZ color space.

DTEExample5.seq illustrates how to use the **Fiducial Based Alignment** step in an inspection process.

Minimum System Requirements

To run TestStand and NI Display Test, your computer must meet the following minimum system requirements:

- 266 MHz Pentium class or higher microprocessor.
- Microsoft Windows 2000/NT/XP/Me/9x. For Windows NT 4.0, National Instruments recommends Service Pack 3 or later.
- 800 × 600 resolution video adapter or higher; 65,536 colors (16-bit) or higher.
- National Instruments IMAQ hardware and NI-IMAQ 2.5 or later for Windows 2000/NT/Me/9x (if you are acquiring images with National Instruments IMAQ image acquisition devices).
- 64 or greater MB of RAM (128 MB recommended).
- 100 or greater MB of free hard disk space (250 MB recommended).

Installing NI Display Test Software

Complete the following general steps to install individual components into a display inspection platform:

1. Install TestStand 2.0.1 before installing NI Display Test. Refer to the *TestStand Release Notes* for installation instructions.
2. Insert the NI Display Test CD into your CD-ROM drive. If the CD startup screen does not appear, use Windows Explorer to run the `setup.exe` program in the `Setup` directory on the CD.
3. Follow the setup instructions you see on your screen.



Note To install NI Display Test on a Windows NT or Windows 2000 system, you must be logged in with Administrator privileges.

By default, the NI Display Test installation program creates a new folder, `Program Files\National Instruments\Display Test`, that contains the following items:

- **Docs** folder—Contains the *NI Display Test User Guide* help file, *NI Display Test Function Reference* help file, and Portable Document Format (PDF) versions of *Getting Started with NI Display Test* and these release notes. You must have Adobe Acrobat Reader installed to access the PDF documents.
- **Examples** folder—Images and a TestStand sequence file that you need to complete the tutorial in *Getting Started with NI Display Test*. This folder also contains an example about creating a custom step type for generating patterns on your display device.
- **Images** folder—Default images that the NI Display Test software uses.

- Operator Interface folder—DisplayTestOperatorInterface.exe and other related operator interface files.
- readme.txt—Late-breaking information about NI Display Test.

NI Display Test also installs the following files in the <TestStand> directory:

- Cfg\TypePalettes\NI_DisplayTestTypes.ini—NI Display Test step types file.
- Components\User\Icons\NI_DisplayTest.ico—NI Display Test icon.
- Components\User\Language\English\DisplayTest.ini—Strings for all the messages that NI Display Test displays to the user.
- Components\User\StepTypes\DisplayTest folder—Contains the configuration library and other related files for the NI Display Test step types.

NI Display Test installs the following files in the <MeasurementStudio>\cvi directory:

- bin\NIDisplayTest.lib—Import library.
- bin\NIDisplayTest.lfp—CVI function panel.
- include\NIDisplayTest.h—Header file.

NI Display Test installs the following file in the Windows system directory (usually C:\Windows\System or C:\Winnt\System32):

- WINNT\system32\NIDisplayTest.dll—Contains the run-time library and other related files for the NI Display Test step types.

NI Display Test also installs a new folder, Program Files\National Instruments\Vision\OCR, that contains OCR documentation and the font training interface.

Support Information

For additional information about NI Display Test, refer to the following Web resources:

- **Support**—Visit ni.com/support for access to the following:
 - KnowledgeBase—Search a database of tips, common questions, and more.
 - Troubleshooting Wizards.
 - Application notes and white papers.
- **Training**—Visit ni.com/training for course schedules, descriptions, and registration information.
- **Developer Resources**—Visit zone.ni.com for access to the following:
 - **Resource Library**—View example programs, technical presentations, and tutorials.
 - **Developer Exchange**—Participate in discussion forums and exchange code with measurement and automation developers around the world.
 - **Product Advisor**—Find the sensors, motors, cameras, and more to complete your next system. Explore detailed technical specifications from over 800 suppliers.
 - **Measurement Encyclopedia**—Find information about measurement principles, standards organizations, and a wide range of technology and measurement terms.

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