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NI VideoMASTER

Installation Guide

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1 NI VideoMASTER Installation requirements

1.1 Installation for Windows XP

The software is distributed on CD-ROM. When the CD-ROM is inserted it will normally automatically start the setup.exe program, if that does not happen, perform the installation by running the setup.exe program.

The installation program will guide you through the required steps. In the following system requirements, the installation process and configuration is explained.

1.1.1 System Requirements

The following minimum requirements must be met to let NI VideoMASTER run:

Item	Requirement.
Operating System	Windows XP, Windows Vista not officially supported **Windows 2000, 95, 98, ME and NT 4.0 are not supported.**
CPU	Pentium IV, 1GHz or better.
Memory	1 Gbytes (less will work, but the program will run slower).
Monitor	1024x768. 1280x1024 or better recommended.
CD-ROM	For software installation. The CD-ROM does not have to be on the target computer, but then it must be accessible through a mapped network connection.
Graphic Adapter	Absolute minimum 256 colors; 16K colors are recommended as normal minimum. Note that the performance of the total system depends on the performance on the graphic adapter, so test programs runs faster with a good graphic adapter!
LabVIEW	NI VideoMASTER requires LabVIEW 8.2.1 engine[1] and to use the development system, a LabVIEW 8.2 FDS or later must be installed. NI VideoMASTER will install a minimum run-time environment if a LabVIEW 8.2 development system is not installed.
National Instruments packages	NI-Scope 3.4.0 or later. NI-HSDIO 1.6.0 or later. NI-Switch 3.70 or later

Table 1: Basic system requirements. The list of NI packages show the list used to verify the software bundle. Other version combinations might work depending on the choice of hardware, but this is not tested nor supported.

[1] The VideoMASTER installation will install the 8.2.1 run-time engine if needed.

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Using the System information application in NI-MAX the current software environment can be checked and verified. Press the help menu and select the item "System Information and Support". The System tab page will list all National Instruments packages and basic information about the operating system.

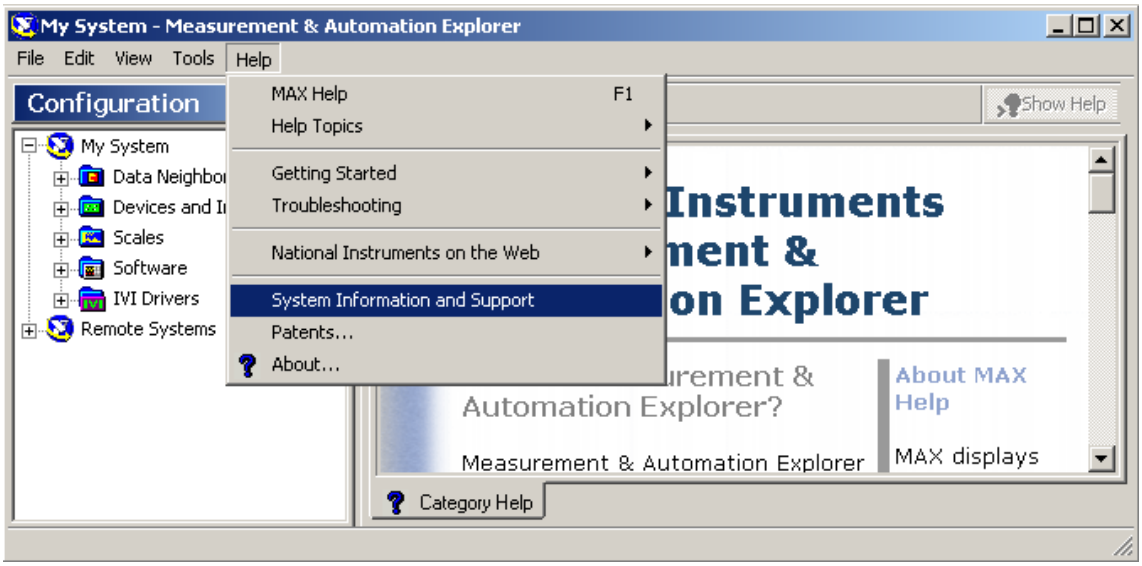


Figure 1: Locating the system information item in Measurement and Automation Explorer (MAX).

If the NI device drivers has been installed from the device driver CD's coming with LabVIEW 8.2, missing packages are installed by restarting the setup program from these CD's or by downloading individual packages from the NI web site www.ni.com (free of charge for registered users).

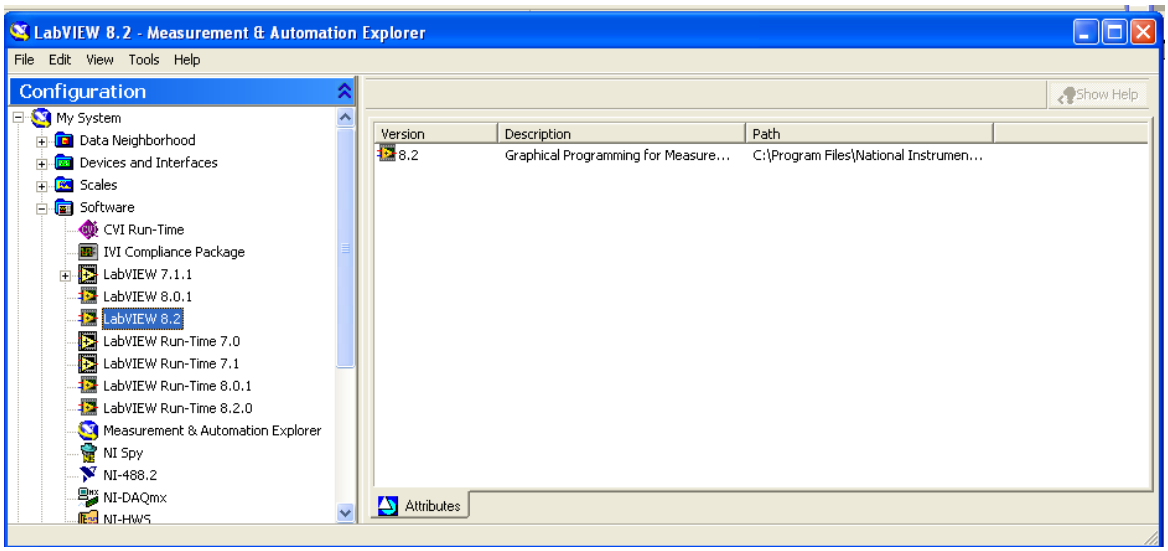


Figure 2: The software listing in MAX. Notice that a correct software listing can require a refresh operation in MAX (press the F5 key) if new software has been installed since max was initiated.

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1.2 Standard locations

A typical NI VideoMASTER installation will use the following installation paths and constants:

National Instruments products:

NI ROOT	=	C:\Program Files\National Instruments
LabVIEW	=	<NI ROOT>\LabVIEW 8.2

microLEX Systems ApS originated products:

MX ROOT	=	<ProgramFilesFolder>\microLEX Systems
VideoMASTER	=	<MX ROOT>\VideoMASTER
VideoMASTER InstruWARE	=	<MX ROOT>\InstruWARE\VideoMASTER
VideoMASTER TestStand	=	<TestStandUser>\Components
FLEXnet License Manager	=	<MX ROOT>\License Manager
FLEXnet License Files	=	<MX ROOT>\License Files

Notice that <ProgramFilesFolder> is a system directory and the actual name is read from the system during installation. The name depends on the current windows language localization. The present manual assumes that an English Microsoft Windows is in use, but the product can be installed on any language version.

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2 First time installation procedure

2.1 Preparing the system for installation

Before the installation is started be sure that:

1. Ensure that all required NI packages are installed on the system. Verify that MAX can detect the hardware and ensure that each card can pass its self-test (from the property menu in MAX). Check according to the requirement list in section 1.1.1 on page 8.
2. Test that the scope card is functional by starting the scope soft front panel (Windows menu Start\Programs\National Instruments\NI-SCOPE\SCOPE soft front panel) and make a simple measurement of a known signal. If other cards like multiplexers or generators are to be used, they must also be verified before installation. Use the appropriate soft-front panels from NI-HSDIO and NI-Switch for verification.
3. If the LabVIEW development system is to be used on the system, it must be installed prior to the NI VideoMASTER and driver installation. LabVIEW cannot be installed after the NI VideoMASTER installation without uninstalling NI VideoMASTER. If the standard LabVIEW installation is 8.2, please ensure that the LabVIEW installation is updated to 8.2 prior to the NI VideoMASTER installation.
4. Any pre 2.0 version of NI VideoMASTER must be uninstalled before the NI VideoMASTER is being installed. Make sure, that all remaining files from the former installation are removed manually. This is in particular the case if NI VideoMASTER has been updated using patches, which did not install as a normal installation. Parallel installation is not possible due to the nature of LabVIEW (in particular compiled-in search paths for sub-VIs and functions).
5. If the microLEX Systems VideoCTU is to be used, it may not be connected to the system before NI VideoMASTER has been properly installed, as the Windows devices driver will be installed during the NI VideoMASTER installation and the Windows Plug and Play driver installer requires access to these files.

2.2 Test sequencer support

NI VideoMASTER provides support for two different test sequencers:

1. TestStand 3.5 and 4.0.1 by National Instruments (4.0 is not supported, must be 4.0.1).
2. SequenTEST 4.1.x by microLEX Systems ApS.

If one or both test sequencers will be used on the system, they MUST be installed prior to the NI VideoMASTER installation, as several dependencies exists between these packages.

A. microLEX Systems SequenTEST version 4.1.x.
Run setup.exe in the SequenTEST directory on the installation media and follow

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the instructions given in the standard dialogue boxes. Further help can be found in the SequenTEST installation guide provided on the installation media.

Install using the license key found on the license agreement.

B) National Instruments TestStand version 3.5 and 4.0.1.
TestStand must be installed according to the instructions given in the TestStand install guide. NI VideoMASTER will detect the TestStand install location and install the TestStand support files according to this. The default location is given by section 1.2. NI VideoMASTER provides several additional utilities for TestStand that can be installed optionally. The install the add-on's, NI VideoMASTER must be installed using the custom type, where the desired add-ons can be selected on the TestStand node. Notice that all options require a specific license feature and will not be able to execute before the required feature has been added to the license file.

2.3 Installation step by step

1. Ensure that the requirements defined by sections 1.1.1, 2.1 and 2.2 are met.
2. Ensure that former versions of the NI VideoMASTER product has been backed up and firmly uninstalled and that the license file has been backed up[2]
3. Ensure that the VideoCTU is disconnected.
4. Ensure that LabVIEW 8.2.x is installed if the LabVIEW development system will be used. This requirement also implies a mass compilation of all LabVIEW code on the system.
5. Install the required test sequencers (TestStand 3.5/4.0.1 and/or SequenTEST 4.1). Mass compile any LabVIEW code installed by TestStand. SequenTEST 4.1 is mass compiled for LabVIEW 8.2.0.
6. Install NI VideoMASTER according to the instructions in section 3. If a license file can be found on the distribution media (in a License Files folder), the installer will prompt the user for permission to copy the file(s) to the systems license file folder. If the user copies a file, the default demo license file will be renamed to it does not conflict with the purchased license file.
7. Install the license file according to section 3.9. If the license files come on the distribution media, the NI VideoMASTER installer will offer the user to install these files to the standard license files folder.
8. Installation the VideoCTU if required. Connect the VideoCTU to a vacant USB connector. The system will detect a "VideoCTU" unit and will ask for a device driver. The driver configuration file MxVideoCTU.inf is installed in the folder

   C:\Program Files\microLEX Systems\VideoMASTER\VideoCTU

   That must be specified as the driver location in the dialog box.
9. Test the installation.
   Start the NI VideoMASTER stand alone application and check that it can find the attached hardware and check that the features licensed are enabled (press the icon in the upper left corner and notice the operation mode and feature list. If the mode

[2] License files are stored in C:\Program Files\microLEX Systems\License Files.

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is demonstration, it has not found the license file or the demo license file MxVideoApi.lic can be found in the "License Files" directory. The test procedure is described in section 3.10.1 on page 25

10. Test installed sequencer plug-ins according the procedures given in sections 3.10.2 and 3.10.3 starting on page 25 and by their respective user guides.

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3 Running the NI VideoMASTER installation

The NI VideoMASTER installation will scan the system during startup to validate the software requirements listed in section 1.1.1. If the test fails, a dialog box will list the missing components and the user will be given the option of continuing the installation or to abort in order to install the missing parts. It's strongly recommended to install all missing parts before the NI VideoMASTER installation is continued.

If the LabVIEW run-time engine is missing, it will optionally be installed during the system scan. The NI VideoMASTER installation can continue without the run-time engine, but the product will not be able to execute.

3.1 Install Startup and Welcome

The first dialog box encountered after the initial installer loading dialog is the welcome screen. During the initial setup phase, the installation will verify the presence of mandatory applications, such as LabVIEW.

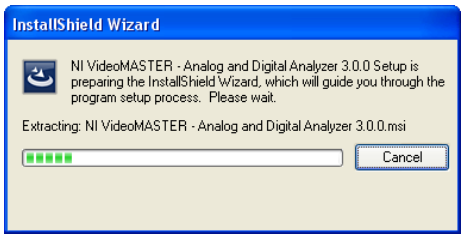


Figure 3: Installer load dialog

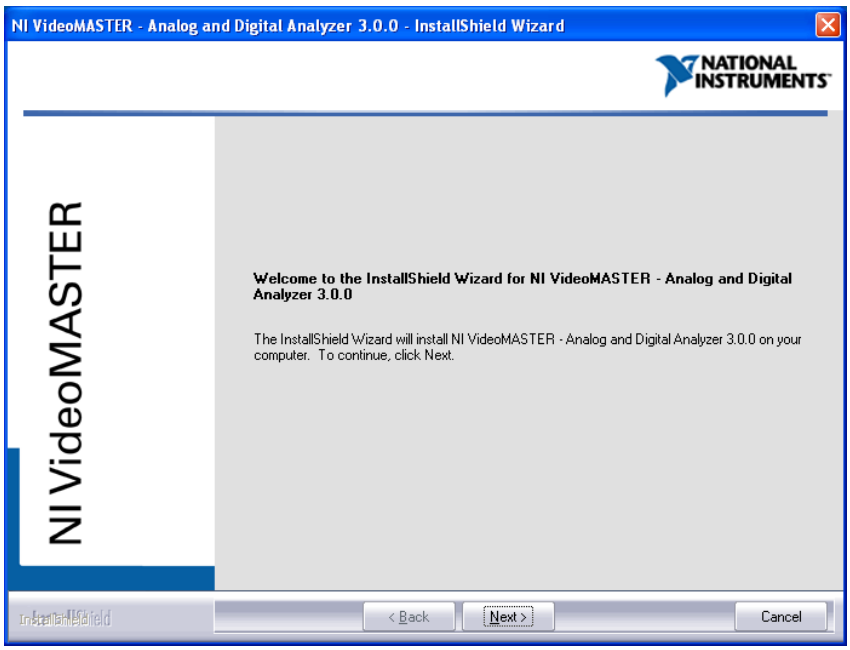


Figure 4: Welcome dialogue box.

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3.2 License Agreement

After this the user is informed of the license agreement.

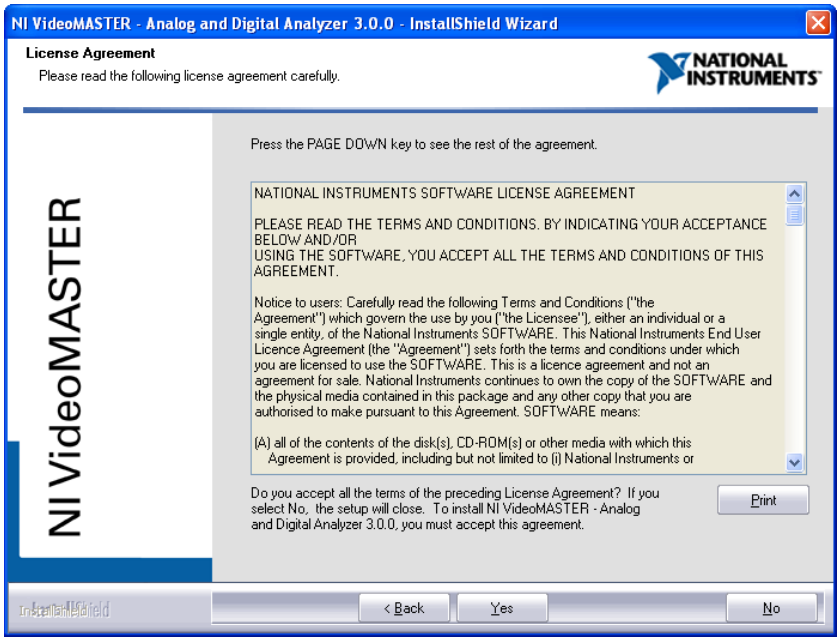


Figure 5: License agreement dialogue box.

3.3 Customer Information

After this the user is prompted for Name, Company name and license number. The license number is specific for the NI VideoMASTER package and is supplied with the license agreement.
When all fields have been filled out with correct data the Next button will be enabled.

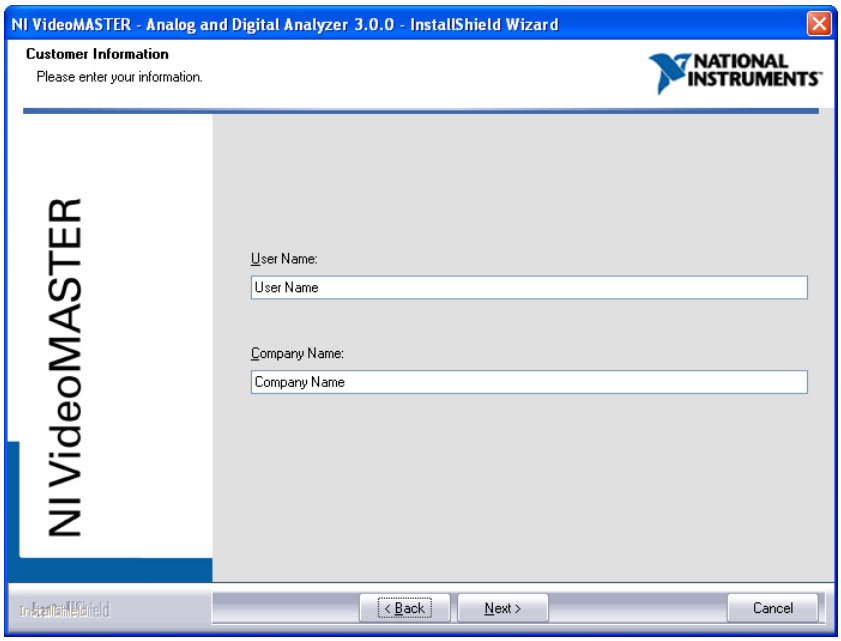


Figure 6: Customer information and license number dialog box

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3.4 Setup type

In the Setup Type dialog the user can select the type of installation to perform. Normally *Typical* should be selected and all the NI VideoMASTER Analyser components will be installed for the test sequencers detected on the system (SequenTEST or TestStand 3.5/4.0.1/4.1/4.1.1/4.2), no NI VideoMASTER Add-Ons.

Custom lets the user select which features to install.

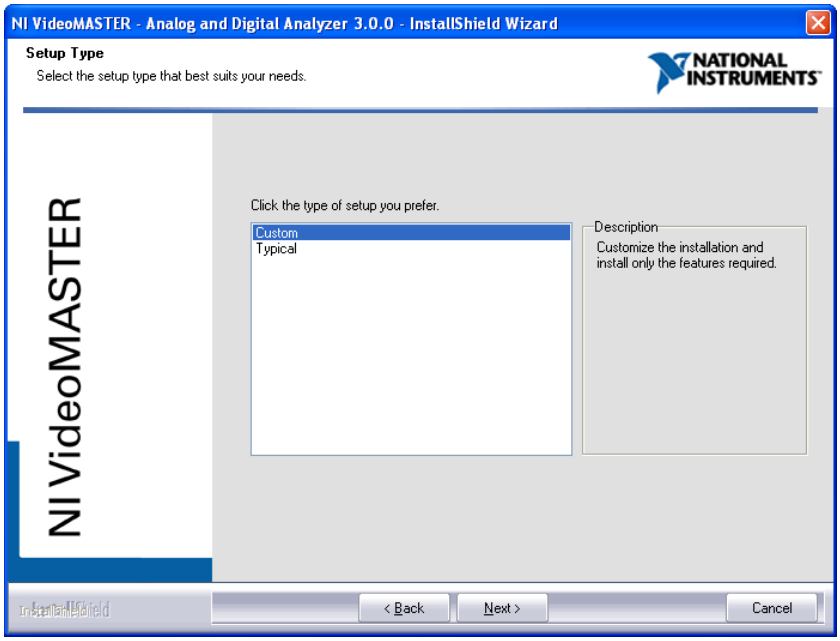


Figure 7: Setup type dialogue box.

3.5 Custom installation

If custom installation is selected in the Setup type the user will be prompted to select which components to install. Since some components can be dependant of other components, selecting a component may cause other components to be automatically selected.

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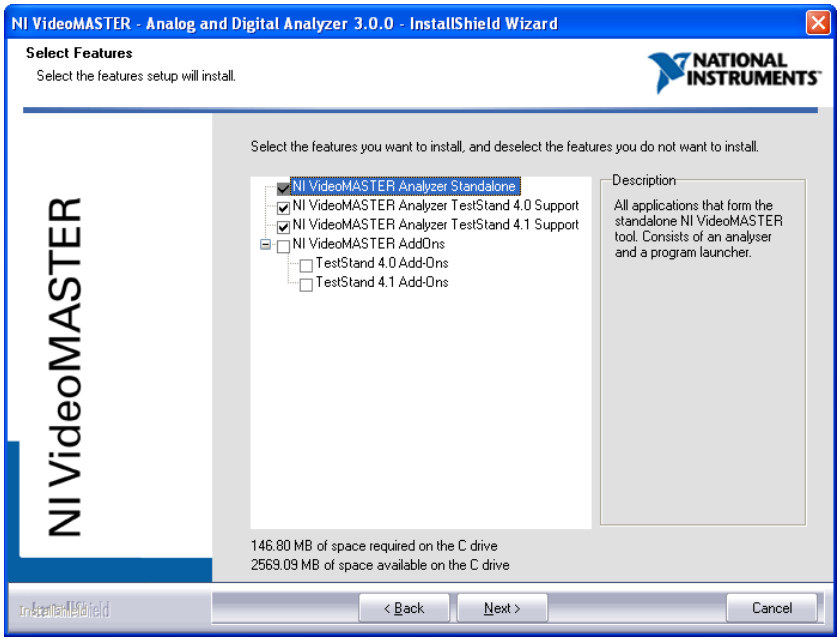


Figure 8: Feature selection dialogue box for the custom installation.

3.6 Files copying

The installation program has now enough information to do the installation. The following message will be shown.

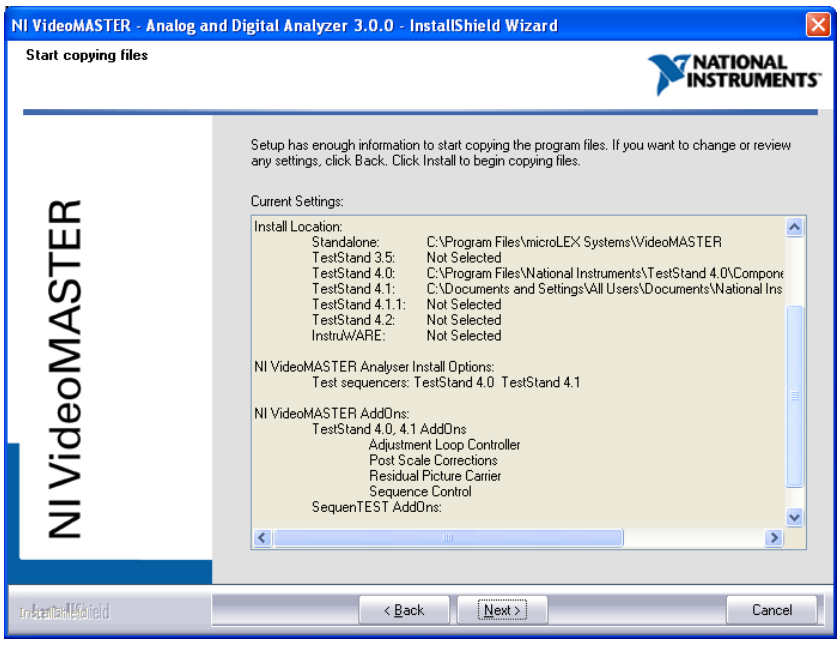


Figure 9: Start copy dialogue box, the last chance to cancel.

The dialogue box above lists the selected features, and is used to verify and accept the features to be installed. In particular verify that the installation program has detected the correct LabVIEW environment. If the installer for some reason fails to detect an installed LabVIEW 8.2.x development system and claims that the LabVIEW environment is “run-

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time”. The installation should be cancelled and the LabVIEW configuration checked to see if it is correctly configured. In this context, a LabVIEW system cannot be copied from one computer to another, but must be properly installed and upgraded according to NI specifications. If NI VideoMASTER TestStand components are selected a warning, see Figure 10: TestStand sequence file update warning, is shown.

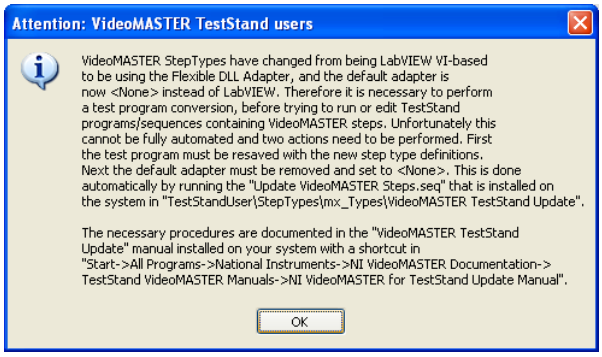


Figure 10: TestStand sequence file update warning

The setup program now installs the NI VideoMASTER files to the indicated locations.

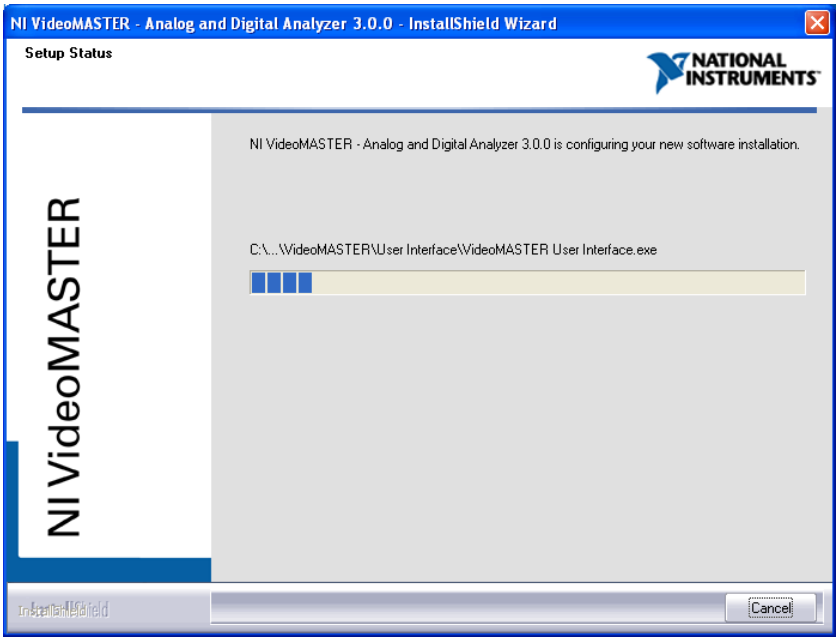


Figure 11: The status information box.

3.7 Hardware driver notice and installation complete



Figure 12: Hardware driver notification dialog

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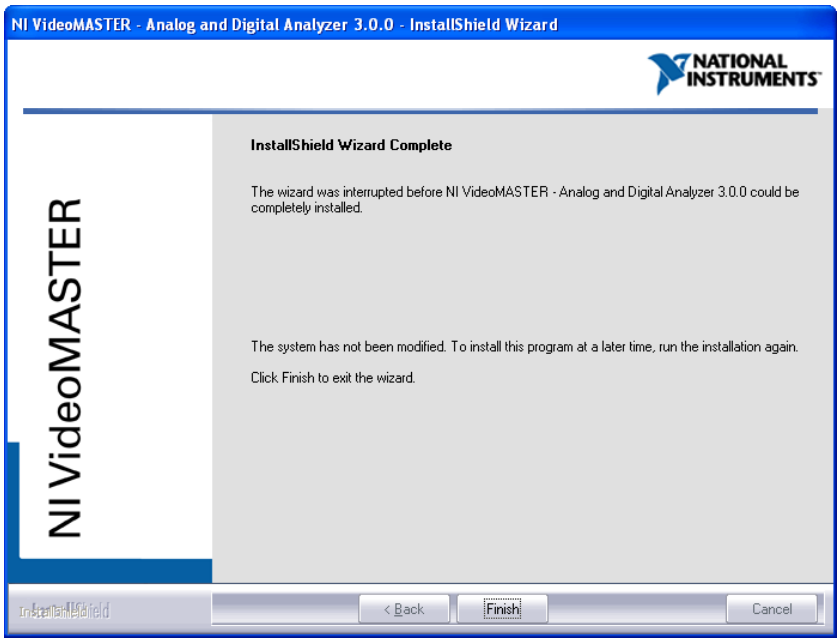


Figure 13: Installation completed dialogue box.

3.8 Adding the NI VideoMASTER API to the LabVIEW function palette.

NI VideoMASTER installs LabVIEW menu files in the same locations as the public LabVIEW API functions. A top-level menu file dir.mnu is installed in the VideoMASTER\API\LabVIEW folder. This file can be linked into the standard LabVIEW menu tree by using the LabVIEW customization function

3.8.1 The NI VideoMASTER LabVIEW API.

The NI VideoMASTER LabVIEW API may be added to the LabVIEW function palette to facilitate NI VideoMASTER development. When added a NI VideoMASTER icon will appear in the selected sub-palette (this will normally be the User Libraries sub-palette).

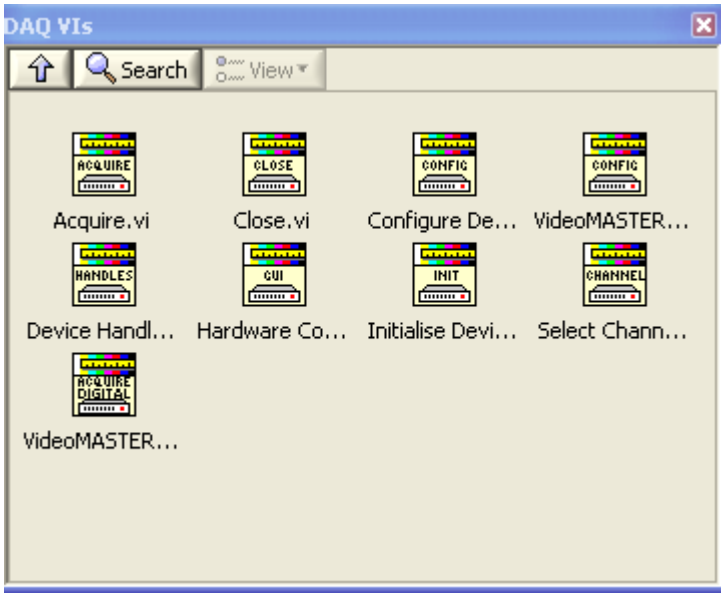


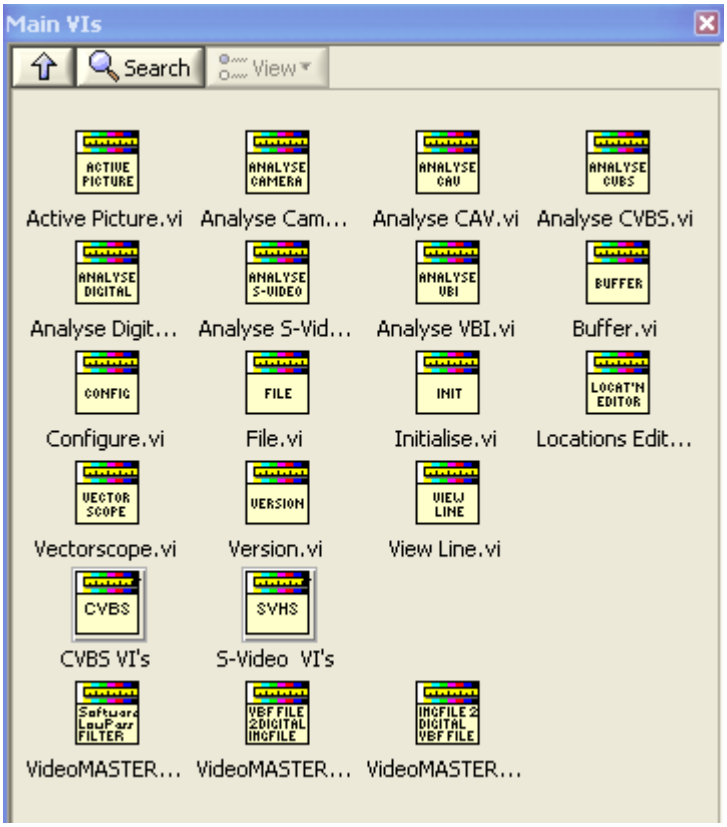
This palette contains hardware near (DAQ) palette and a hardware independent palette (Main).

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The hardware near palette contains all functionality that requires hardware, such as device configuration and signal acquisition, while the Main palette contains all hardware independent functionality such as measurement and analysis.





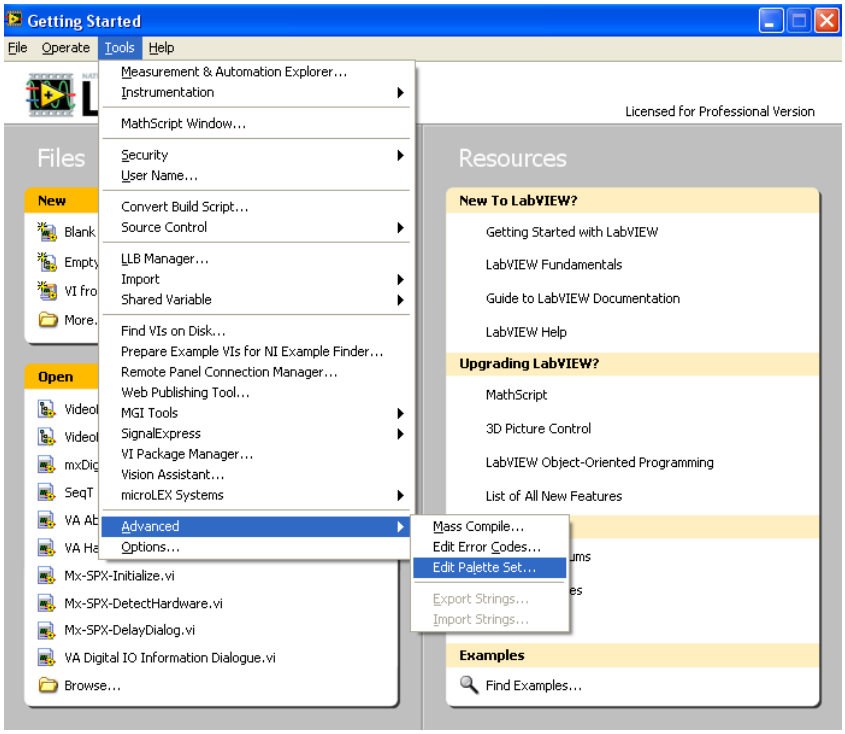
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3.8.2 Adding the NI VideoMASTER API to the function palette.

The NI VideoMASTER API sub-palettes are installed as part of the normal NI VideoMASTER installation, but the user must decide where in the LabVIEW palettes the NI VideoMASTER sub-palettes are to be added.

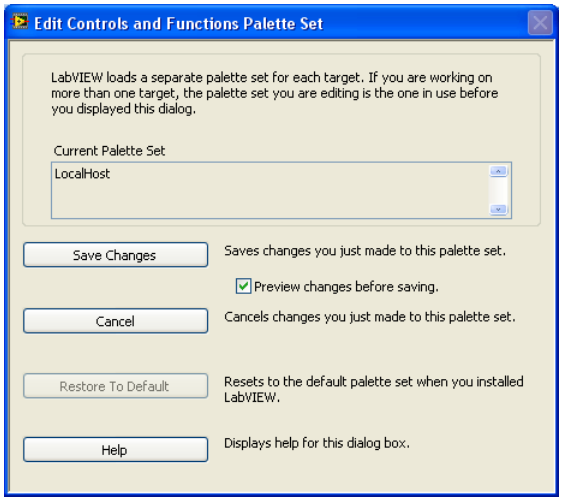
The following steps adds the sub-palettes to the LabVIEW “User Libraries” palette.

1. Select the Edit Palette Views… entry from the LabVIEW Tools menu:



The following window will pop up.

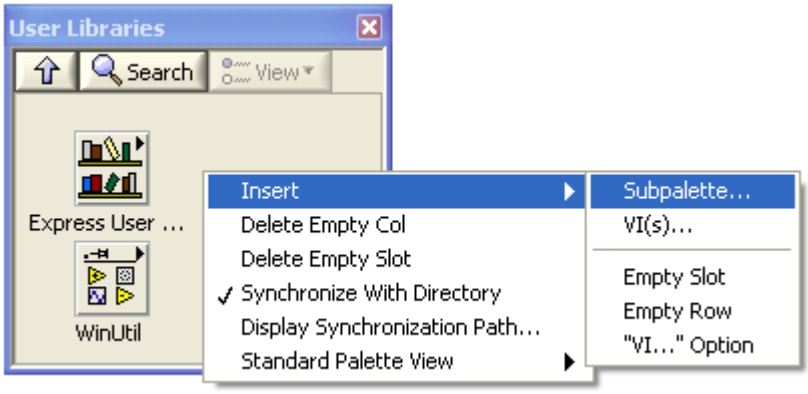
2. Select the palette to operate on.



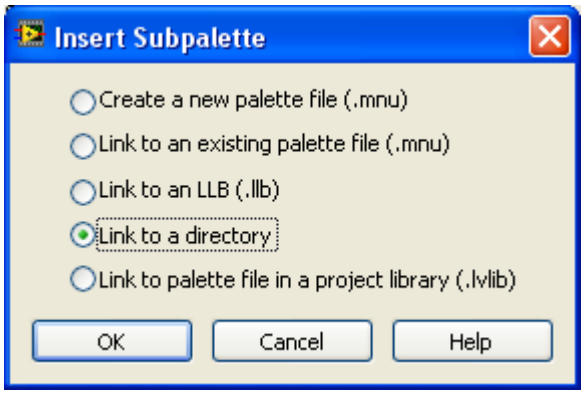
3. To add the NI VideoMASTER palette to the User Libraries palette, click on the User Libraries icon. This will display the User Libraries palette window.

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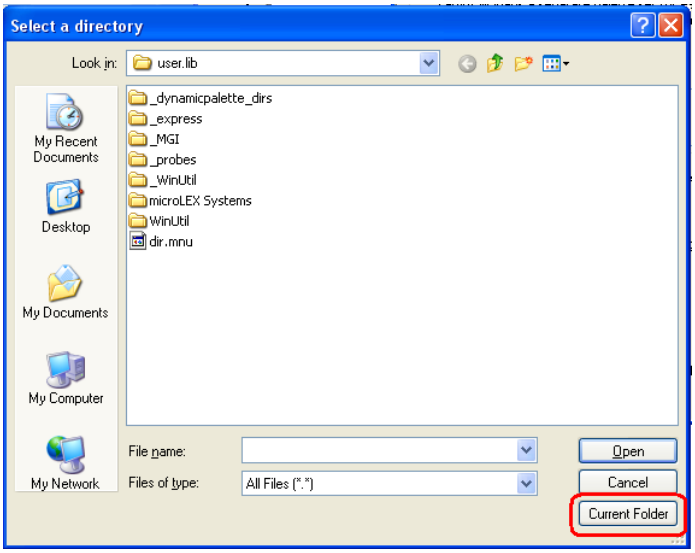
4. Now press the right mouse button on a vacant area of the window, and select the "Insert->Submenu..." item from the pop up menu that appears.



You will now be presented with a set of choices for the submenu.



5. Choose the "Link to a directory" choice and press OK. You will now be asked for the location of the LabVIEW API directory of the NI VideoMASTER installation.
6. Enter the location of the LabVIEW API directory



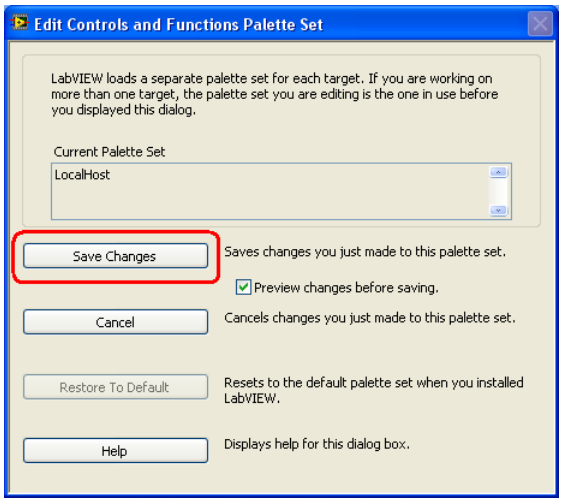
This will typically be

C:\Program Files\microLEX Systems\VideoMASTER\API\LabVIEW

7. Press "Select Cur Dir" to select the directory to link to.

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8. Press Save Changes to store the palette setup and return to normal LabVIEW mode.



3.9 Manual installation of the FLEXnet license files

The CD (or the license CD) might contain one or more .lic files with the purchased licenses. The will be located in a “License Files” folder on the distribution media. The installer will prompt the user to copy the found license files to the systems license files folder. If the license files are not installed together with the NI VideoMASTER installation, the following procedure can be used.

The correct license file can be identified by the hardware serial number, which is part of the filename. This file must be copied to the microLEX Systems License Files directory containing, which in a typical installation will be

C:\Program files\microLEX Systems\License Files

FLEXnet will search all files with a .lic extension for valid license features.

The FLEXnet end-users guide is installed as a PDF document in the License Manager directory, which in a standard installation will be

C:\Program Files\microLEX Systems\License Manager

This document explains in details how the license manager works and how the license files are organized. Furthermore there are several end-user tools available for running a License Server or using networked floating licenses. They are also located in the License Manager directory. The main application is called *lmtools* and provides a GUI configuration tool for FLEXnet servers and license files.

These tools and documentation can be found in the start menu as:

Start\Programs\microLEX Systems\License Manager

The described procedure covers a local installation, if a networked license installation will be applied; please refer to the installation procedure provided in the Macrovision FLEXnet end users guide installed as part of the NI VideoMASTER installation.

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3.10 Testing the new installation

3.10.1 Stand-alone analyzer

1. Start the analyzer from the icon installed on the desktop of from the Programs menu as \Start\Programs\microLEX Systems\VideoMASTER.
2. Open the about box by pressing the company icon in the upper left corner and check that the licenses features are available. The hardware is disabled and the program runs in demonstration mode, the license file might not be properly installed or NI VideoMASTER can find a feature called Fdemo in one of the files. See section 5.1 on page 31 for further details.
3. When all features are enabled, connect a proper video signal to the system and switch to the hardware configuration and press the Initialize button. NI VideoMASTER should now detect all supported hardware and it should be able to make the first measurement. Select the signal type according to the current input signal and press the measure once button. If NI VideoMASTER can record a signal, the installation is most likely valid. The measurement quality is not of interest at this point of time, it is to be adjusted according to the user manual, the scope of this test is to see if the product can configure the hardware and measure a signal.

   Should the hardware configuration dialog box not appear, something can be wrong with the LabVIEW run-time engine or a dependent VI is not compiled with the correct LabVIEW version (8.2). See section 5.2 on page 32 for more details.

3.10.2 Test sequencer support for SequenTEST

Assuming that the stand-alone analyzer runs as expected the next step is to check the InstruWARE component for SequenTEST. This part is also used by the TestStand component and must be able to run.

3.10.2.1 With SequenTEST installed

Start SequenTEST and open one of the installed demo programs from C:\Program Files\microLEX Systems\InstruWARE\VideoMASTER\Demo. These programs runs off-line and must be able to execute.

3.10.2.2 Without SequenTEST installed

Open the top-level VI C:\Program Files\microLEX Systems\InstruWARE\VideoMASTER\SeqT - VideoMASTER - Vector Res.vi and switch it to run mode. If no broken LabVIEW arrows appear, the VI will most likely be able to run. Check that the hardware configuration can detect the modules and that a simple measurement can be performed according to the configuration steps documented in the user guide.

3.10.3 Test sequencer support for TestStand

Start TestStand and load one of the demo sequences installed by NI VideoMASTER. The demos can be found in the directory

<TestStandUser>\Components\StepTypes\mx_Types\VideoMASTER\Demo

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4 Update and un-installation

NI VideoMASTER can be removed by opening the control panel applet “Add / Remove programs” and select the item “National Instruments NI VideoMASTER”. This will start the installation in maintenance mode, which will present three choices to the user (the same will happen if the installation is started a second time). The media, from which NI VideoMASTER was originally installed, must be available if the modify or repair actions are selected in the dialog box described in section 4.1.

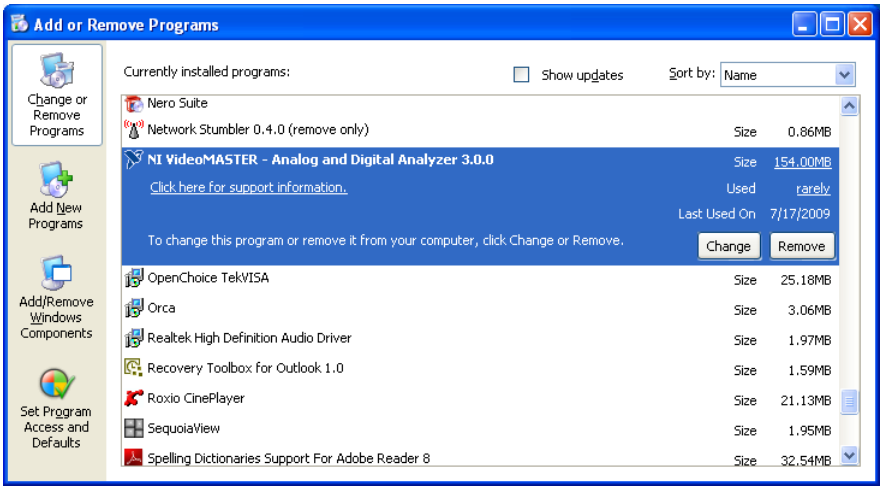


Figure 14: Add or remove programs control panel

4.1 The maintenance dialog box

During maintenance installations the following dialog box will appear:

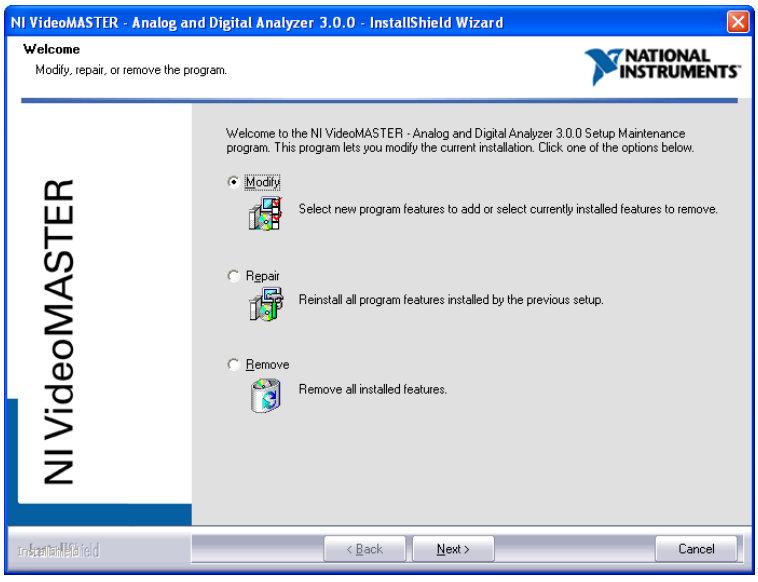


Figure 15: The maintenance dialogue box enables the user to select between feature modificaion, repair installation or removal of the product.

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There are three options:

A) Modify should be selected if you want to add or remove features to the installation. When next is pressed, a custom selection dialog box is displayed and the required changes can be made. Only differences to the current installation will be applied.

B) Repair, should be selected if the current installation is broken due to user edits or something has crashed the files. The repair option will reinstall all files originally installed.

C) Remove, will remove all files and configurations belonging to the current installation from the local computer.

Notice that, if the installation that is run in maintenance mode is a newer version than the one installed, then the installation will run in "Update Mode" which will install all necessary updates using the same feature selection as the original installation. New features will automatically be added if necessary.

The maintenance install method is determined as defined below:

Setup	=	Installed	➔	Run in normal maintenance mode
Setup	>	Installed	➔	Run in update mode with no or little user intervention.
Setup	<	Installed	➔	Installation will be aborted; the old installation must be un-installed before this version can be installed.

4.2 Updating from earlier versions

If the system contains another installed NI VideoMASTER version, this version must first be uninstalled.

The installation will detect that an older version is installed and issue a warning before the update to the current version is performed.

4.3 Moving the installation to a new location

The NI VideoMASTER tool suite cannot be moved to a new location without a complete un-installation. This is due to the numerous configurations in the registry and special file searches (in particular for the run-time system that cannot recompile or save the LabVIEW code)[3].

The preferred method is to uninstall the product and the reinstall using a new installation path.

4.4 Manual un-installation

Manual un-installation is a very complex task and should only be made if the system configuration is broken and a repair installation cannot solve the problem. The typical

[3] Advanced users can on their own risk try to move the installation to a different location if they also manually updates the registry according to the specification in section 6. Notice that this is an unsupported operation and cannot be recommended.

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problems are caused by faults in the Windows registry database, where some or all keys for the product are missing or corrupt. The most critical key is the uninstall information as a normal un-installation cannot be performed if this information is missing.

Please observe extreme caution, as a mistake can bring the system into an unstable state and result in boot failures.

The following procedure is described at InstallShields knowledgebase (Q106234).

4.4.1 MSI-Based Installations

To manually uninstall an MSI-based installation on your system, there are several things to do.

1) Download a copy of the Microsoft's Windows Installer Cleanup utility. This tool cleans up MSI-based installation packages on your system. Note that you do need administrative privileges to use this tool. Run this tool and use it to remove the MSI part of your installation.
2) Run regedit.exe, and delete the keys under:
   HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\InstallShield Uninstall Information\{GUID}
   and
   HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{GUID}
   The GUID will be replaced by a long number/letter combination for that particular installation. Selecting each item, and noting the “DisplayName” key can identify the specific entry. When that key value matches the product name that's the GUID that should be used.
3) If removing an InstallScript MSI setup, it may also be necessary to remove the following registry key:
   HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\InstallShield_{GUID}.
4) Run Windows Explorer, and go to the hidden directory:
   <ProgramFiles>\InstallShield Installation Information\{GUID} and make a backup copy of the folder then delete it.

   Warning: Deleting this folder may damage other installations on your machine; therefore, use caution when performing this step. It may be helpful to make a backup copy of this folder before deleting it entirely from the machine.
5) Delete all files, folders (for example C:\Program Files\Company Name\Product Name), registry entries and shortcuts installed by the installation.

4.4.2 InstallScript-Based Installations

1) Run regedit.exe, and delete the keys under:

   HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{GUID}

   The GUID will be replaced by a long number/letter combination for that

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particular installation. Selecting each item, and noting the “DisplayName” key can identify the specific entry. When that key value matches your product name that's the GUID that should be used.

2) Run Windows Explorer, and go to the hidden directory:

   <ProgramFiles>\InstallShield Installation Information\{GUID} and make a backup copy of the folder then delete it.

   Warning: Deleting this folder may damage other installations on your machine; therefore, use caution when performing this step. It may be helpful to make a backup copy of this folder before deleting it entirely from the machine.

3) Delete all files, folders (for example C:\Program Files\Company Name\Product Name), registry entries and shortcuts installed by the installation.

4.4.2.1 Additional Information

RegVac is a third-party utility for cleaning the registry. RegVac can be downloaded from http://www.regvac.com/fregvac.htm.

Please notice that a tool like RecVac can cause serious damage to the system if used thoughtlessness. Always create a registry backup before running the tool, and always store the rollback files in a safe location. RecVac can store all actions taken in text files and it can restore all deleted entries later on if it turns out to cause problems.

4.4.2.2 References

For more information on the Windows Installer, see the Windows Installer Help Library.

The Windows Installer CleanUp Utility is discussed in Microsoft article 290301 Description of the Windows Installer CleanUp Utility.

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5 Trouble shooting the installation

5.1 FLEXnet License Manager

NI VideoMASTER products use FLEXnet as license manager. The license system requires a valid license file to be installed in the folder

C:\Program Files\microLEX Systems\License Files

The license file can be obtained from National Instruments.

If the licensed products fail to locate a license file, FLEXnet will show the following dialog:

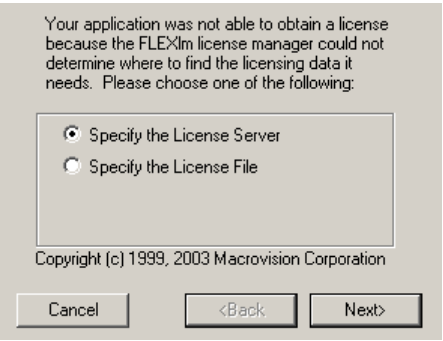


Figure 16: The FLEXnet license file finder.

If this dialog is shown select "Specify the License File" and press Next.

Now browse to the directory with the license file. For a default installation path this is:

C:\Program Files\microLEX Systems\License Files.

The license search path is stored in the registry at the key

HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License Manager

The value MXLM_LICENSE_FILE holds the path, which is a standard windows search path (semicolon separated list of directories). The default entry is:

C:\Program Files\microLEX Systems\License Files;C:\Program Files\microLEX Systems\License Files\MxFlexApi.lic;

5.1.1 Problems with DAQ node-lock

NI VideoMASTER can lock the license to a particular hardware component, which can be a NI-DAQ compatible device such as NI-PXI5122. If an error dialogue box from FLEXnet pops up with the message “Invalid hostid”, it-s most likely that the MxLoadDaq.dll can not be located or that the NI-DAQ/DAQmx is not correctly configured.

The feature option HOSTID defines how the feature is locked. The option value =MXID_5122=0X00ZZZZZZ define which DAQ device to use for the node lock.(replace ZZZZZZ with the current hardware serial number in upper case).

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The nodelock test can be verified by running a small test application, MxLoadDAQTest.exe, installed in the directory

C:\Program Files\microLEX Systems\common files\PrivateCommon\Bin

This program will scan the system for all DAQ and DAQmx compatible devices and list the serial numbers. If the program cannot find any devices, please check the DAQ configuration and ensure that NI-DAQ and DAQmx can locate the devices (use the MAX program for configuration and diagnostics).

If the test program can find the correct device, it's most likely that the application run path is wrong or missing. The application run path is described in section **Error! Reference source not found.**

5.2 NI VideoMASTER dialog boxes not appearing

Dialog boxes in NI VideoMASTER are loaded dynamically and requires that the VI are load correctly without info recompilation (critical problem on a run-time system).

If a development system is available on the current system, a mass-compilation if the files in the NI VideoMASTER tree can very often solve the problem.

Depending on the installed features, the following directory trees should be compiled (assuming default install location):

1) <ProgramFilesFolder>\microLEX Systems\VideoMASTER
2) <ProgramFilesFolder>\microLEX Systems\InstruWARE\VideoMASTER
3) <ProgramFilesFolder>\National Instruments\TestStand X.Y\Components\User\StepTypes\mx_Types (X.Y can be 3.5 or 4.0.1)
4) <SharedDocuments>\National Instruments\TestStand X.Y\Components\Step-Types\mx_Types (X.Y can be 4.1, 4.1.1 or 4.2)

5.3 Un-installation hangs after deleting files and directories

A problem with the install script in NI VideoMASTER version 1.3.2 and earlier has been located and solved in version 1.3.3 and later. If the installer gets stuck without any dialog boxes open and consumes all CPU resources on the system, it's most likely this bug that has been triggered. The application run path for LabVIEW and LabVIEW run-time is validated before the un-installation terminates and this procedure can end in a dead loop trying to access a directory that has been deleted.

Solution:

Leave the un-installation running and create the directories

<ProgramFilesFolder>[4]\microLEX Systems\VideoMASTER\bin;

<ProgramFilesFolder>\microLEX Systems\Common Files\PrivateCommon\bin;

<ProgramFilesFolder>\National Instruments\LabVIEW 8.2 (this is only if the LabVIEW runtime has been used, no FDS)

[4] Replace <ProgramFilesFolder> with install root, default C:\Program Files

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<ProgramFilesFolder>\microLEX Systems\tcl84\bin (only if SequenTEST has been installed)

The actual directory that the un-installation tries to access can be found by using a free-ware too from the company “System Internals, Inc.” called NT file monitor. Its available free-of-charge from their WEB page http://www.sysinternals.com/ (the direct link to product page is http://www.sysinternals.com/ntw2k/source/filemon.shtml). The site contain other very valuable tools for debugging a system, including very advanced process monitors, registry monitors etc.

5.4 LabVIEW problems

Several LabVIEW related problems could occur with the rather complex NI VideoMASTER and InstruWARE driver libraries. Most of them are due to bad installations, where two different versions of a package can be found in the LabVIEW search path. Notice also, that a VI that has been linked with a sub VI keeps an absolute path to the sub VI even if this one later on is outside the search path. So if an old version is kept on the local system, it is recommended to move to a place where no VIs can access it, or simply make a zip archive if the old VI’s and delete them.

5.4.1 Cannot detect a LabVIEW installation

The installer scans the registry database for a valid LabVIEW 8.2 installation and validates the version resource in the executable if found.

The following key is used to load data:

HKEY_LOCAL_MACHINE\SOFTWARE\National Instruments\LabVIEW\8.2

The installer uses the values Path and version. Path is used to locate the LabVIEW executable and Version is used as a preliminary check for the version number. Both must exist and the LabVIEW executable must have version 8.2.x.

If these constraints are not met, the installer will either:

1. Update LabVIEW files to 8.2 or
2. Abort the installation if the user refuses to update or
3. Install a run-time version of the VI libraries, instr.lib (fgen, niswitch, niscope) and associated files if any other LabVIEW is detected (or no labview is detected). **The run-time version will destroy any existing LabVIEW installation and will remove VI libraries etc when NI VideoMASTER is un-installed.**

5.4.2 Setup or measurement VI cannot be loaded by SequenTEST

There can be several causes to this problem.

1. The connector pane is wrong. Some old SequenTEST VI had a support connector, which is not support by SequenTEST 2.5 and later. If this is the case, simply remove the support connector.
2. The VI has not been compiled with the current LabVIEW version. Mass compile the drivers LabVIEW directory and other dependencies.

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3. If the VI can be loaded in the “normal” mode, but can not be loaded in “compatibility” mode, then verify that the connector / control names are the same as in the demo VIs distributed with SequenTEST (or use SequenTEST to create a new VI of the same type for comparison). In compatibility mode, SequenTEST scans the VI for known controls and indicators and uses the archived information to guess which type it is and send / receive data to and from the correct connectors. If the control and indicator names do not match the internal template in SequenTEST, the load will fail and the VI will be useless in compatibility mode.

5.5 Known issues for LabVIEW, SequenTEST and InstruWARE on Windows XP

5.5.1 File system security

A typical problem is caused by the Windows XP enhanced file security. When LabVIEW etc is installed using the Administrator account (mandatory), the install programs does not set the security flags, so ordinary users can read the files. Only users, which have administrative privileges, can read all the LabVIEW files.

In Windows XP the Program Files folder is locked for modifications by all other users than the administrator. NI VideoMASTER defines a user data folder where ordinary users can have read and write access and then modify the user code. Code installed in Program Files should normally not be modified by ordinary users as set by the operating system.

Installing the software using the following strategy can solve the access rights problem:

1. Install LabVIEW
2. Install SequenTEST + InstruWARE + WaveMAKE
3. Mass compile everything below:
   <Program Files>\National Instruments\LabVIEW 8.2
4. Mass compile everything below <Program Files>\microLEX Systems
5. Start SequenTEST and stop the running VI from the menu File\System\Stop. From the LabVIEW menu, save the top level VI and exit LabVIEW. If LabVIEW asks if you want to save some VI's, answer yes.
6. Change the file system security on the LabVIEW and microLEX Systems folders so you are sure that ordinary users can read and execute files in these hierarchies.
7. Make sure that the users can read and write the SeqTEST.ini found in the User data folder selected during installation.
8. Make sure that the users can read and write the InstruWARE.ini found in the <ProgramFiles>\microLEX Systems\InstruWARE directory.
9. Make sure that the users can read and write the LabVIEW.ini files, which can be found in the LabVIEW directory.
10. Exit the Administrator account and log on as an ordinary user. Verify that you can start SequenTEST and load the necessary instrument drivers. If LabVIEW halts or complains with a faulty VI, then check the security options for these VIs. The typical error is that the ordinary user cannot read the file.

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5.5.2 Access to measurement hardware (DAQ, VXI and GPIB)

In the default installation of the National Instruments drivers and tools for VXI, GPIB etc, you must have elevated privileges before you can access the hardware (instruments). That is, the must be member of "Power Users" or "Administrators" before the can operate the system. The exact requirements depend on local security profiles and you should start with the "Power User" and if it does not work, use the Administrator membership.

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6 Registry specification

All registry settings required for a successful NI VideoMASTER session are defined in this section. Some settings might not be relevant for the current system if the feature is not installed locally.

Registry data stored for maintenance are not required for running the NI VideoMASTER tools and are not documented here.

Registry data can be edited with one of two standard programs. Both must be started from the run menu and must be handled with care as wrong settings can cause a system malfunction. Consult the Microsoft Windows documentation for further instruction on these tools.

1. Regedit, This is an explorer look-a-like editor, which is rather easy to work with. Standard users should use this tool.
2. regedt32 uses an older interface type, but can configure advanced details in the registry. This is not required for the NI VideoMASTER product, but it can be used if security is to be applied on the registry (to remove write access for ordinary users). This tool is only recommended to advanced users.

6.1 NI VideoMASTER registry settings

Value name	Description
LicensePath	Absolute path to the directory in which the FLEXnet license files are stored (this is the default license directory, others can be used if they are added to the appropriate path variables in the FLEXnet key.
ConfigFile	Absolute path to the generic InstruWARE.ini configuration file.
InstallPath	Absolute path to the root of an installation.
UserData	Absolute path to the directory that will be used a prefix for user data directories.

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License Manager]
"MXLM_LICENSE_FILE"="C:\\Program Files\\microLEX Systems\\License Files"

[HKEY_LOCAL_MACHINE\SOFTWARE\microLEX Systems\InstruWARE]
"ConfigFile"="C:\\Program Files\\microLEX Systems\\InstruWARE\\InstruWARE.ini"

[HKEY_LOCAL_MACHINE\SOFTWARE\microLEX Systems\InstruWARE - VideoMASTER Support]
"Company"="myCompany"
"Version"="3.0.0.0"
"TimeStamp"="myTimeStamp"
"InstallPath"="C:\\Program Files\\microLEX Systems\\InstruWARE\\VideoMASTER"
"UserName"="MyName"


[HKEY_LOCAL_MACHINE\SOFTWARE\microLEX Systems\InstruWARE - VideoMASTER Support\3.0.0.0]

[HKEY_LOCAL_MACHINE\SOFTWARE\microLEX Systems\VideoMASTER]
```


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```
"UserName"="myName"
"CompanyName"="myCompany"
"TimeStamp"="myTimeStamp"
"InstallPath"="C:\\Program Files\\microLEX Systems\\VideoMASTER\\"
"UserData"="C:\\Program Files\\microLEX Systems\\VideoMASTER\\"
"Version"="3.0.0.0"
```

6.2 FLEXnet license manager

The default registry values for the FLEXnet license manager are shown below. Notice that this does not cover the license server, which is configured from the *lmtools* application from Macrovision.

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License Manager]
"MXLM_LICENSE_FILE"="C:\\Program Files\\microLEX Systems\\License Files;C:\\Program
Files\\microLEX Systems\\License Files\\MxFlexApi.lic;"
```

6.2.1 VideoMASTER Advanced Settings Editor.exe

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\VideoMASTER
Advanced Settings Editor.exe]
@="C:\\Program Files\\microLEX Systems\\VideoMASTER\\User Interface\\VideoMASTER Advanced
Settings Editor.exe"
"Path"="C:\\Program Files\\microLEX Systems\\VideoMASTER\\bin;C:\\Program Files\\microLEX
Systems\\VideoMASTER\\User Interface\\"
```

6.2.2 VideoMASTER Launcher.exe

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\VideoMASTER
Launcher.exe]
@="C:\\Program Files\\microLEX Systems\\VideoMASTER\\User Interface\\VideoMASTER
Launcher.exe"
"Path"="C:\\Program Files\\microLEX Systems\\VideoMASTER\\bin;C:\\Program Files\\microLEX
Systems\\VideoMASTER\\User Interface\\"
```

6.2.3 VideoMASTER User Interface.exe

```
REGEDIT4

[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\VideoMASTER User
Interface.exe]
@="C:\\Program Files\\microLEX Systems\\VideoMASTER\\User Interface\\VideoMASTER User
Interface.exe"
"Path"="C:\\Program Files\\microLEX Systems\\VideoMASTER\\bin;C:\\Program Files\\microLEX
Systems\\VideoMASTER\\User Interface\\"
```


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7 Support Information

Visit the following sections of the National Instruments Web site at ni.com for technical support and professional services:

- Support—Online technical support resources at ni.com/support include the following:
- Self-Help Resources—For answers and solutions, visit the award-winning National Instruments Web site for software drivers and updates, a searchable KnowledgeBase, product manuals, step-by-step troubleshooting wizards, thousands of example programs, tutorials, application notes, instrument drivers, and so on.
- Free Technical Support—All registered users receive free Basic Service, which includes access to hundreds of Applications Engineers worldwide in the NI Discussion Forums at ni.com/forums. National Instruments Applications Engineers make sure every question receives an answer.

For information about other technical support options in your area, visit ni.com/services or contact your local office at ni.com/contact.

- Training and Certification—Visit ni.com/training for self-paced training, eLearning virtual classrooms, interactive CDs, and Certification program information. You also can register for instructor-led, hands-on courses at locations around the world.
- System Integration—If you have time constraints, limited in-house technical resources, or other project challenges, National Instruments Alliance Partner members can help. To learn more, call your local NI office or visit ni.com/alliance.

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