

RELEASE NOTES

Measurement Studio™

These release notes introduce Measurement Studio 8.1.2. Refer to this document for installation requirements, deployment requirements, installation instructions, information about new features and functionality, and resources in Measurement Studio.

These release notes are a subset of the *Measurement Studio User Manual*, which has not been updated for Measurement Studio 8.1.2. Select **Start»All Programs»National Instruments»<Measurement Studio>>Measurement Studio User Manual** to access the *Measurement Studio 8.0.1 User Manual*.

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Installation Requirements

To use Measurement Studio, your computer must have the following:

- Microsoft Windows XP/2000 for Visual Studio .NET 2003 or Microsoft Windows Vista/XP/2000 for Visual Studio 2005



Note If you have Windows Vista installed, you must also have both Visual Studio 2005 Service Pack 1 and Visual Studio Service Pack 1 Update for Windows Vista installed on your machine for Measurement Studio to function properly.

- Microsoft .NET Framework 1.1 for Visual Studio .NET 2003 or Microsoft .NET Framework 2.0 for Visual Studio 2005 (required only for the Measurement Studio .NET class libraries)
- Standard, Professional, Enterprise Developer, Enterprise Architect, or Academic edition of Microsoft Visual Studio .NET 2003; Standard, Professional, or Team System edition of Microsoft Visual Studio 2005 (required to use the Measurement Studio integrated tools); or Visual C#, Visual Basic .NET, or Visual C++ Express Editions of Microsoft Visual Studio 2005
- Intel Pentium III class processor, 1 GHz or higher
- Video display—1024 × 768, 256 colors (16-bit color recommended for user interface controls)
- Minimum of 256 MB of RAM (512 MB or higher recommended)
- Minimum of 405 MB of free hard disk space for Visual Studio .NET 2003 support and minimum of 385 MB of free hard disk space for Visual Studio 2005 support
- Microsoft-compatible mouse
- Microsoft Internet Explorer 6.0 or later

Optional Installation—In order for links from Measurement Studio help topics to .NET Framework help topics to work, you must install the Microsoft .NET Framework SDK 1.1 or Microsoft .NET Framework SDK 2.0.

Deployment Requirements

To deploy an application built with Measurement Studio .NET class libraries, the target computer must have a Windows Vista/XP/2000 operating system and the .NET Framework version 1.1 for Visual Studio .NET 2003 or the .NET Framework version 2.0 for Visual Studio 2005.

To deploy an application built with Measurement Studio Visual C++ class libraries, the target computer must have a Windows Vista/XP/2000 operating system.

Installation Instructions

Complete the following steps to install Measurement Studio. These steps describe a typical installation. Please carefully review all additional licensing and warning dialog boxes.



Note There are separate installers for Measurement Studio support for Visual Studio .NET 2003 and Measurement Studio support for Visual Studio 2005. Repeat the installation instructions to install support for both. Also, if prompted, insert the Device Drivers CD and select **Rescan Drive** to install device drivers.

National Instruments recommends that you exit all programs before running the Measurement Studio installer. Applications that run in the background, such as virus scanning utilities, might cause the installer to take longer than average to complete.

Complete the following steps to install Measurement Studio:

1. Log on as an administrator or as a user with administrator privileges.
2. Insert the Measurement Studio 8.1.2 installation CD and follow the instructions that appear on the screen.

National Instruments recommends that you install the complete Measurement Studio program. If you perform a custom installation and do not install all the Measurement Studio features, you can run the installation program again later to install additional features.



Note The option to browse for an installation location is valid only if you have not already installed any Measurement Studio features for the version of Visual Studio or the .NET Framework that you are installing. If you have any Measurement Studio features installed, then Measurement Studio installs to the same root directory to which you installed other Measurement Studio features.

Installing the Current Version of Measurement Studio over Previous Versions of Measurement Studio

You can have only one version of Measurement Studio installed on a system for each version of Visual Studio or the .NET Framework installed on the system. For example, you can have Measurement Studio 8.1.1 for Visual Studio .NET 2003 installed on the same system as Measurement Studio 8.1.2 for Visual Studio 2005, but you cannot have Measurement Studio 8.1.1 for Visual Studio 2005 installed on the same system as Measurement Studio 8.1.2 for Visual Studio 2005.

If you install a newer version of Measurement Studio on a machine that has a prior version of Measurement Studio installed, the newer version installer replaces the prior version functionality, including class libraries. However, the prior version assemblies remain in the global assembly cache (GAC); therefore, applications that reference the prior version continue to use the prior version .NET assemblies.¹

The default directory for Measurement Studio 8.1 support for Visual Studio .NET 2003 (Program Files\NationalInstruments\MeasurementStudioVS2003) is different than the default directory for Measurement Studio 7.0 support for Visual Studio .NET 2003 (Program Files\NationalInstruments\MeasurementStudio70). If Measurement Studio 7.0 is installed on your machine when you install Measurement Studio 8.1, Measurement Studio 8.1 installs to the 7.0 directory. If you prefer to install Measurement Studio 8.1 to the default 8.1 directory, you must first uninstall all Measurement Studio class libraries, including class libraries installed with National Instruments driver software, such as NI-VISA, NI-488.2, and NI-DAQmx.

What's New in Measurement Studio 8.1.2

Measurement Studio includes support for Visual Studio 2005, Visual Studio .NET 2003, and Visual Studio 6.0. New features in Measurement Studio 8.1.2 include legend control scrollbars, WYSIWYG editing of labels with engineering formatting in Measurement Studio user interface controls, programmatic parsing of strings with engineering formatting, network variable library enhancements, an updated version of the Visual Studio 6.0 support, analysis code snippets, and NI-SCOPE .NET Driver Support.

¹ This does not apply to `NationalInstruments.Common.dll`. `NationalInstruments.Common.dll` uses a publisher policy file to redirect applications to always use the newest version of `NationalInstruments.Common.dll` installed on the system, for each version of the .NET Framework. `NationalInstruments.Common.dll` is backward-compatible.

Legend Control Scrollbars

You can use the Measurement Studio legend control scrollbar to scroll through the legend items at run time instead of having a fixed size for the control. This enables you to conserve valuable space in your application while still representing all the items necessary for a useful legend.

For more information, refer to *Using the Measurement Studio Windows Forms Legend .NET Control* or *Using the Measurement Studio Web Forms Legend .NET Control* topics in the *NI Measurement Studio Help*.

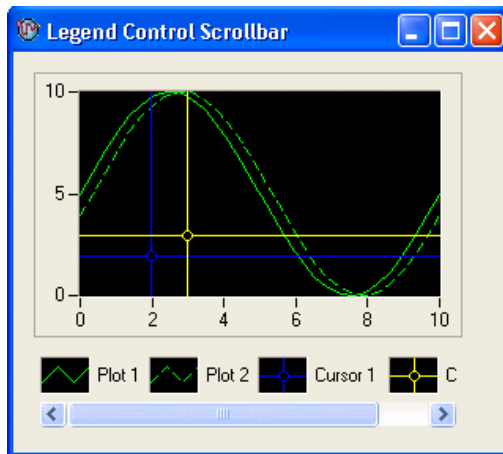


Figure 1. Legend Control with Horizontal Scrollbar

WYSIWYG Editing of Labels with Engineering Formatting in Measurement Studio User Interface Controls

Prior versions of Measurement Studio only support editing engineering formatted values at run time as basic numeric formatted strings. In Measurement Studio 8.1.2, you can edit engineering formatted values at run time as engineering formatted strings or as basic numeric formatted strings. Engineering formatted values are numeric values formatted with engineering notation and International System of Units (SI) prefixes and symbols. You can edit engineering formatted values for the Windows Forms and Web Forms numeric edit control and the Windows Forms numeric edit array control. You can edit engineering formatted ranges for the Windows Forms numeric pointer controls and the Windows Forms and Web Forms scatter, waveform, and complex graph axes.

This feature is enabled by default for new Measurement Studio controls you add to your project. You can enable this feature for existing Measurement Studio controls in your project by checking the **WYSIWYG Editing** check box in the Numeric Format Mode Editor dialog box. You access the Numeric Format Mode Editor dialog box for the numeric edit control and the numeric edit array control by selecting the **FormatMode** property on the Property Pages for the control. You access the Numeric Format Mode Editor dialog box for the numeric pointer controls and the axes of the graph controls by selecting the **EditRangeNumericFormatMode** property in the Property Pages for the control.

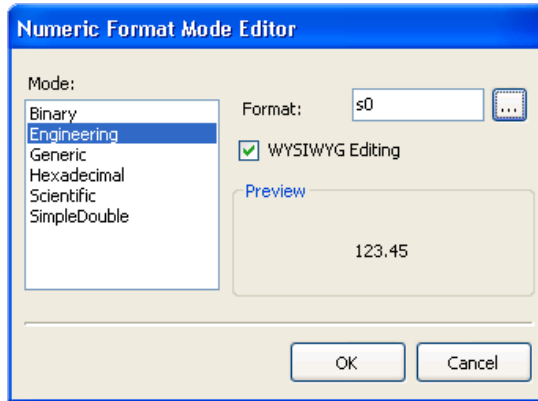


Figure 2. Numeric Format Mode Editor

Programmatic Parsing of Strings with Engineering Formatting

You can use the

`NationalInstruments.EngineeringFormatInfo.TryParse` method or the

`NationalInstruments.EngineeringFormatInfo.Parse` method to convert the engineering string representation of a number to its double-precision floating-point number equivalent based on the format you specify. You use `TryParse` or `Parse` to parse an engineering string representation of a value, such as a formatted string returned by `NationalInstruments.EngineeringFormatInfo.Format`, to obtain the actual value.

Network Variable Library Enhancements

In the Network Variable Browser dialog box, you can now select multiple network variable locations. To enable this feature, right-click the **NetworkVariableBrowserDialog** component and select **Properties**. In the Property Pages, set `MultipleSelect` to **True**. You can use the `SelectedLocations` property to return an array of the selected network variable locations.

Increased Performance with Network Variable

Logos is the underlying technology of the NI-Publish Subscribe Protocol (psp:), a National Instruments proprietary protocol for inter-process communication. Network variables in Measurement Studio 8.1.2, LabWindows/CVI 8.5, and LabVIEW 8.5 and later use a new implementation of Logos called LogosXT. You can use LogosXT to increase the speed of network variable data transfer—LogosXT is approximately 3.5 times faster when all host machines are running LogosXT instead of Logos. LogosXT is automatically installed when you install Measurement Studio 8.1.2.

Updated Visual Studio 6.0 Support

Measurement Studio Support for Visual Studio 6.0 will now require you to run only one installer instead of an initial installation and an updater installer. Measurement Studio Support for Visual Studio 6.0 also includes support for Microsoft Windows Vista.

As you work with Measurement Studio Support for Visual Studio 6.0, you might need to consult additional resources. For detailed Measurement Studio help, including function reference and in-depth documentation on developing with Measurement Studio, refer to the *Measurement Studio Reference* and *Measurement Studio Reference Addendum*. For a list of all Measurement Studio documentation in electronic format, refer to the *Measurement Studio Library*. To view the *Measurement Studio Reference*, *Reference Addendum*, and *Library*, select **Start»All Programs»National Instruments»Measurement Studio Support for Visual Studio 6»Help**. Refer to *Measurement Studio for Visual Basic Support* and *Measurement Studio for Visual C++ Support* on ni.com for additional information.

Analysis Code Snippets

Measurement Studio 8.1.2 includes analysis code snippets in the documentation that can be copied and pasted into an application and used immediately. The following classes include new example code snippets:

- CurveFit
- ArrayOperations
- Digital Filters—Bessel, Butterworth, and Chebyshev
- Statistics

For more information, refer to *Using the Measurement Studio Analysis .NET Library* in the *NI Measurement Studio Help*.

NI-SCOPE .NET Driver Support

The .NET class libraries for NI-SCOPE include .NET APIs for NI-SCOPE, NI-TC1k, and NI-ModInst instrument drivers. These class libraries provide a .NET interface to the underlying driver API. You can use the .NET class libraries to create and configure NI-SCOPE components programmatically and at design time.

For further information on NI-SCOPE .NET driver support and to download the NI-SCOPE .NET class libraries, refer to *NI-SCOPE .NET Driver Support* on ni.com.

Learning Measurement Studio

As you work with Measurement Studio, you might need to consult additional resources. For detailed Measurement Studio help, including function reference and in-depth documentation on developing with Measurement Studio, refer to the *NI Measurement Studio Help* within the Visual Studio environment. The *NI Measurement Studio Help* is fully integrated with the Visual Studio help. You must have Visual Studio installed to view the online help, and you must have the Microsoft .NET Framework SDK 1.1 for Visual Studio .NET 2003 or the Microsoft .NET Framework SDK 2.0 for Visual Studio 2005 installed in order for links from Measurement Studio help topics to .NET Framework help topics to work. You can launch the *NI Measurement Studio Help* in the following ways:

- From the Windows Start menu, select **Start»All Programs»National Instruments»<Measurement Studio>»Measurement Studio Documentation**. The help launches in a stand-alone help viewer.
- From Visual Studio, select **Help»Contents** to view the Visual Studio table of contents. The *NI Measurement Studio Help* is listed in the table of contents.

- From Visual Studio, select **Measurement Studio»NI Measurement Studio Help**. The help launches within the application.

The following resources also are available to provide you with information about Measurement Studio.

- Getting Started information—Refer to the *Measurement Studio Core Overview* topic and the *Getting Started with the Measurement Studio Class Libraries* section in the *NI Measurement Studio Help* for an introduction to Measurement Studio and for walkthroughs that guide you step-by-step in learning how to develop Measurement Studio applications.
- Examples—Measurement Studio installs examples organized by class library, depending on the component, the version of Visual Studio or the .NET Framework that the example supports, the version of Measurement Studio installed on the system, and the operating system. For more information on example locations, refer to *Where To Find Examples* in the *NI Measurement Studio Help*.
- Measurement Studio Web site, ni.com/mstudio—Contains Measurement Studio news, support, downloads, white papers, product tutorials, and purchasing information.
- NI Developer Zone, zone.ni.com—Provides access to online example programs, tutorials, technical news, and a Measurement Studio Discussion Forum where you can participate in discussion forums for Visual Basic 6.0, Visual C++, and .NET Languages.
- *Measurement Studio .NET Class Hierarchy Chart* and *Measurement Studio Visual C++ Class Hierarchy Chart*—Provide overviews of class relationships within class libraries. Charts are included with all Measurement Studio packages and are posted online at ni.com/manuals.
- Review the information from the Microsoft Web site on using Visual Studio.

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