DM280e

Installation Guide

Version 1.1, 05-2013

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Section 1: Introduction

This guide explains how to install and configure DM28oe PCIe modules. Additional information about the module, how to operate it and how it works, is given in the relevant user manual.

Section 2: System Requirements

Prior to any installation or configuration, ensure that the following system requirements are met:

Processor	Intel dual-core Core 2 Duo 1.5GHz or better
Memory	512 MB RAM
Display	1024 x 768 resolution
Free Recommended Hard Disk Space	1 GB
Operating Systems	Windows XP Professional Service Pack 2 Windows 7 Professional x86 and x64

Table 1: Development Computer Requirements

Note:

1. National Instruments NI-VISA 4.6.1 or later is required.
2. You must have administrator access to install the software.
3. For Agilent IO Library users, refer to section 3.2.2 for more installation details.

Section 3: Installation Process

3.1 General

In its default mode, the supplied PCIe module software installer automatically installs the following software drivers and instrument component:

- **Module Drivers**
  - DM28oe
- **32-bit and 64-bit Instrument Software Components**
  - DM28oe.dll (C++ Library Interface, Core Library)
  - Aemulus.Hardware.DM.PCIe.dll (.NET, Core Library)
  - Aemulus.Hardware.DM.dll (.NET, Wrapper Library)
- **Soft Front Panel**
  - DM28oe Soft Front Panel
- **32-bit and 64-bit Supporting Software Components**
  - Microsoft Visual C++ 2005 Redistributable
  - Microsoft Visual C++ 2008 Redistributable
  - .NET Framework 2.0
- **Example projects**

Note:
Refer to AppsNotes - Aemulus PXI PXIe Instrument Software Library.pdf for differences between .NET core and wrapper libraries.

3.2 Order of Installation

1. Install the software.
2. Install the hardware.
3. Verify module operation.

3.2.1 Install the Software

Steps:

1. Follow the installer prompts to install the software drivers and instrument component.

2. Default installation location:

    a. Instrument software components: C:\Aemulus\common\bin
    C:\Aemulus\common\bin\x64
    b. Soft front panel: C:\Aemulus\Tools
    c. Documentation: C:\Aemulus\Doc\DM\DM28oe
    d. Sample projects: C:\Aemulus\Samples\DM\DM28oe

3. When prompted to install Microsoft Visual C++ Redistributable package, click "Yes" to continue.

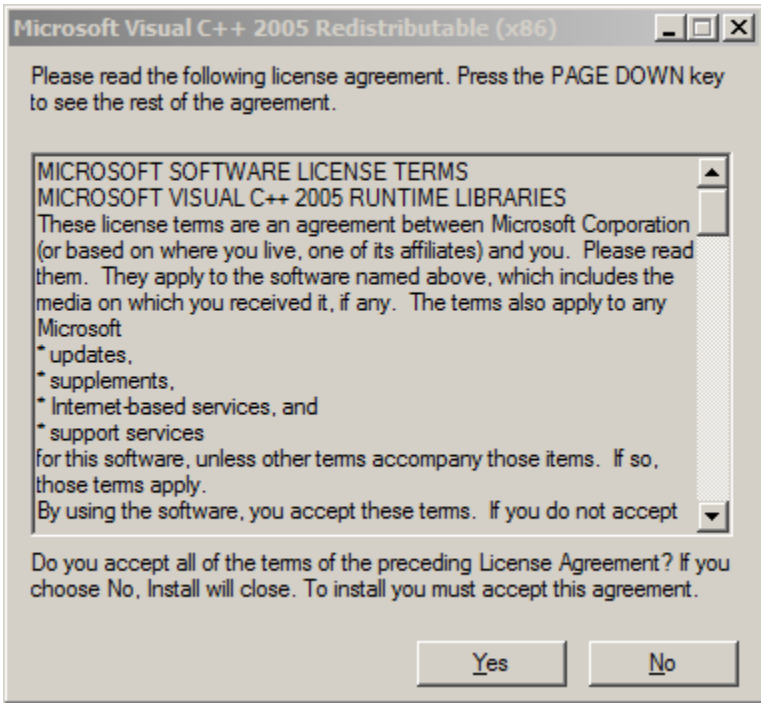

Figure 1: Installing VC++ Redistributable

4. If your computer is already installed with the Redistributable package, the following message about maintenance of Redistributable will appear. Click "Cancel" and confirm the cancellation to proceed.

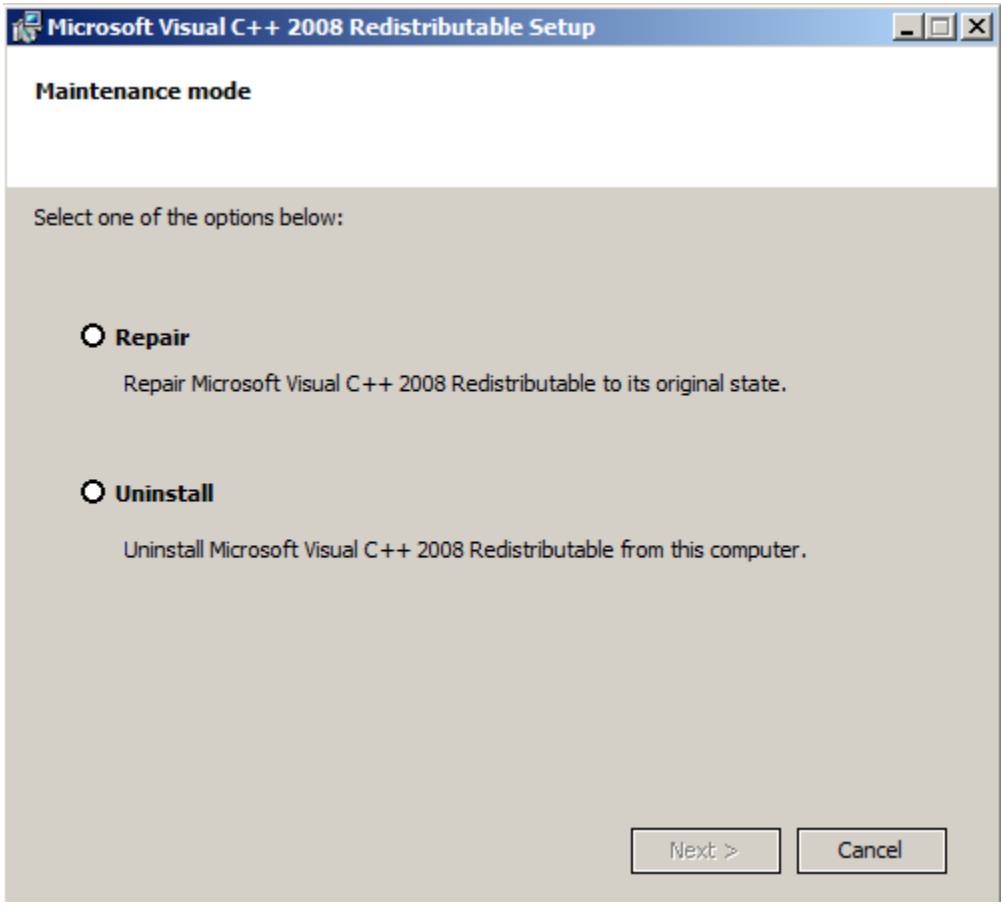

Figure 2: VC++ Redistributable Maintenance

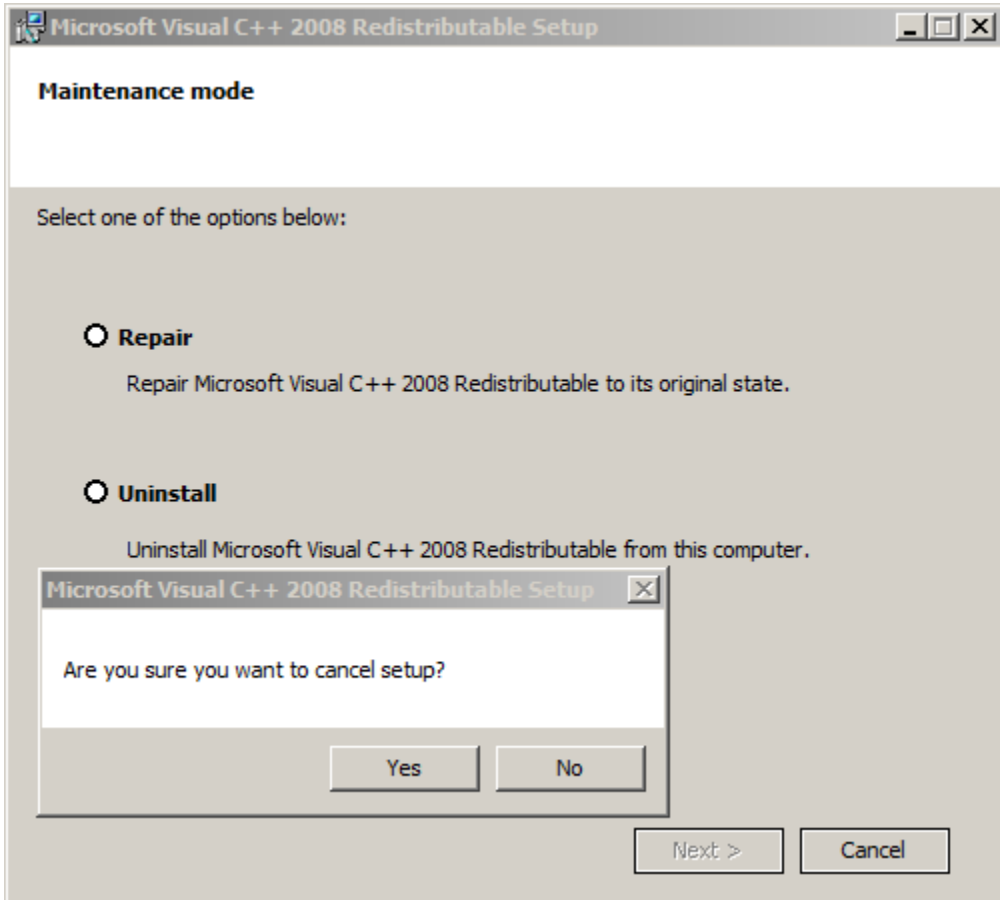

Figure 3: Canceling Redistributable Maintenance

5. During PCIe module driver installation, if you are warned by Windows that the publisher of the driver software cannot be verified, continue the installation by clicking "**Install this driver software anyway**".

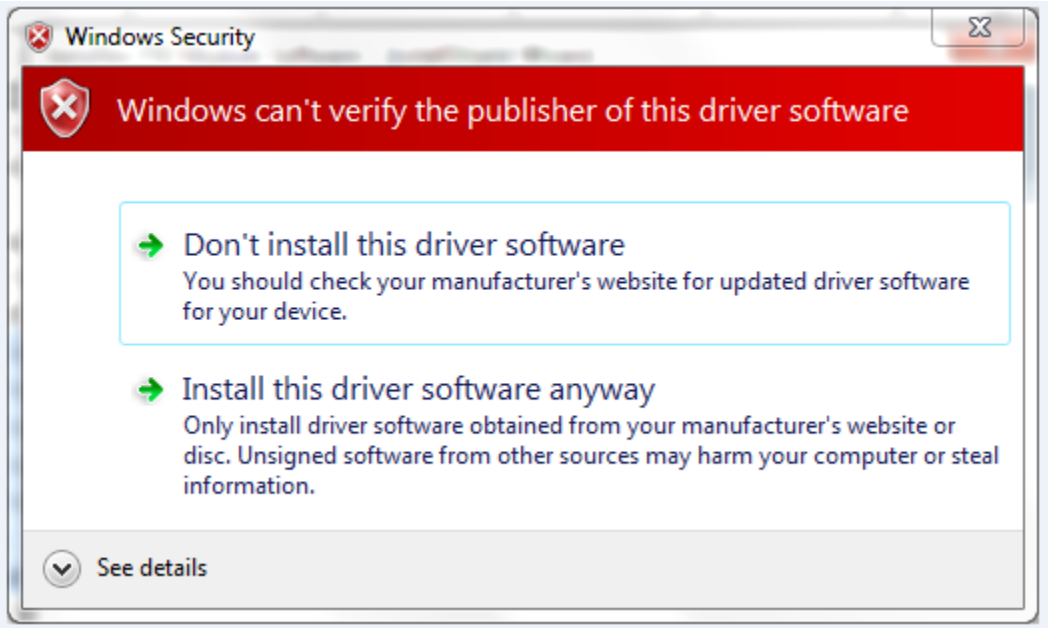

Figure 4: Windows Security Warning

6. After installation has completed, power down the host PC followed by the chassis if using a remote controller.

3.2.2 Agilent IO Library Installation

Note: This section only applies to Agilent IO Library users.

1. If your computer already installed with National Instrument's Measurement and Automation, it must be version 4.6.1 and above. Otherwise, uninstall it.

2. Install National Instrument's Measurement and Automation (version 4.6.1 and above).

3. Check Agilent IO Libraries Suite version. If it is below v16.2, then uninstall.

4. Install Agilent IO Libraries Suite version 16.2 or above.

5. Restart computer after completing installation.

3.2.3 Install the Hardware

Notes:

1. The module can be used in a chassis with a PCIe chassis peripheral slot.

2. The module does not support "hot-swap" capabilities (changing modules while power is applied to the chassis). Before installing a module into the chassis, the chassis must be powered off and unplugged to prevent damage to the module.

Steps:

1. Power down the CPU.

2. Remove the PCIe bracket from the CPU.

3. Slide the module carefully into its slot and secure it.

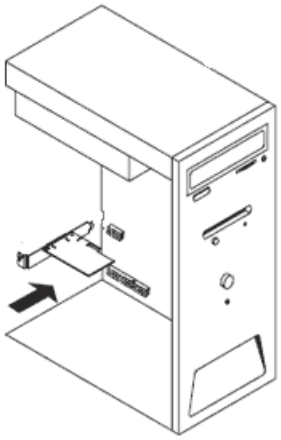

Figure 5: Installing Module into Chassis

4. Power up the host PC.

3.2.4 Verify Module Operation

Checking for Installed Modules in Microsoft Windows Device Manager

Device Manager allows users to view and control the hardware attached to the host computer. When the module is not working or has not been properly installed with the appropriate driver, device manager as appear as figure 6.

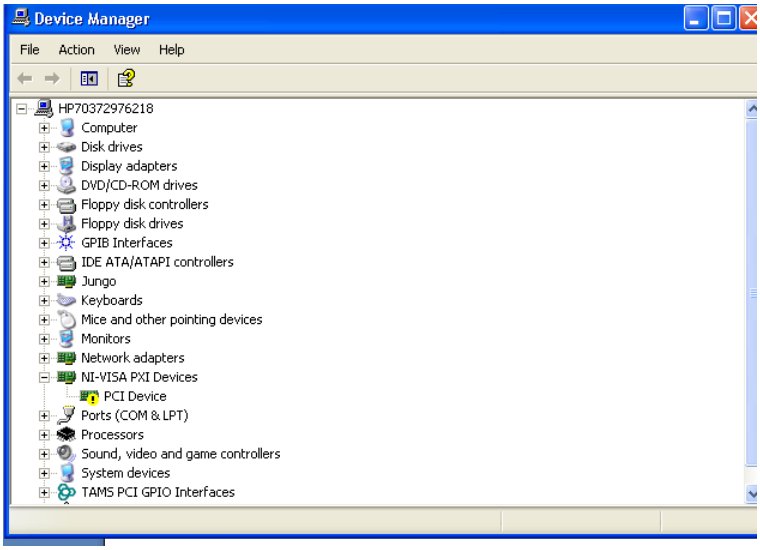

Figure 6: Device Manager

Restart your PC or embedded controller if the module does not appear on Device Manager.

Upon successful installation, the module will appear as "NI-VISA PXI Devices" in Device Manager.

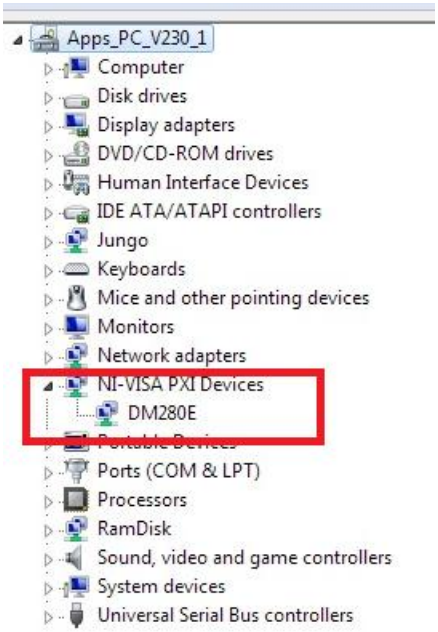

Figure 7: Looking for "NI-VISA PXI Devices" in device manager

Checking for Installed Modules in NI MAX (Measurement & Automation Explorer)

NI MAX is a program that can be used to manage hardware modules running on NI-VISA. MAX comes packaged with National Instruments drivers NI-VISA.

Upon successful installation, the module will be able to be detected by MAX. Users can extract information related to the module such as PCIe address, slot number of where the module is slotted into, status of the device, manufacturer as well as model number.

Restart your PC or embedded controller if the module does not appear on NI MAX.

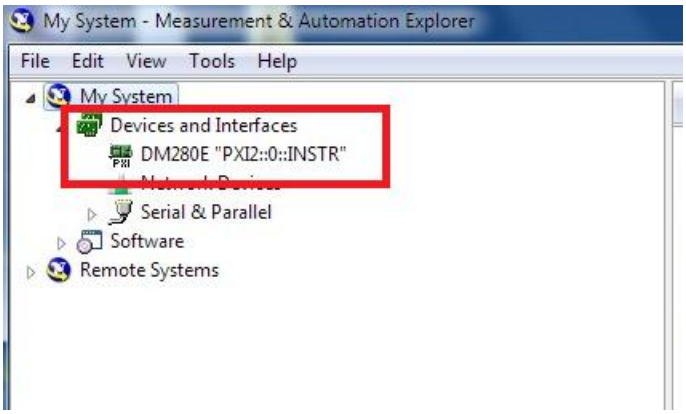

Figure 8: NI MAX Showing Detected Modules in a PCIe Chassis

Running Soft Front Panel

Quick steps to configure the module:

1. Select PCIe address of the module from the drop-down list.
2. Press "Initialize".
3. Set desired operation from DM28oe_MIPI_RFFE_WR, DM28oe_MIPI_RFFE_RD and DM28oe_MIPI_RFFE_RETRIEVE.
4. Set the desired operation command, for example, 0x0202.
5. Set the data that should be written to the module if applicable.
6. Press "Start" to execute the command.
7. Press "Un-Initialize" to turn off the whole module.

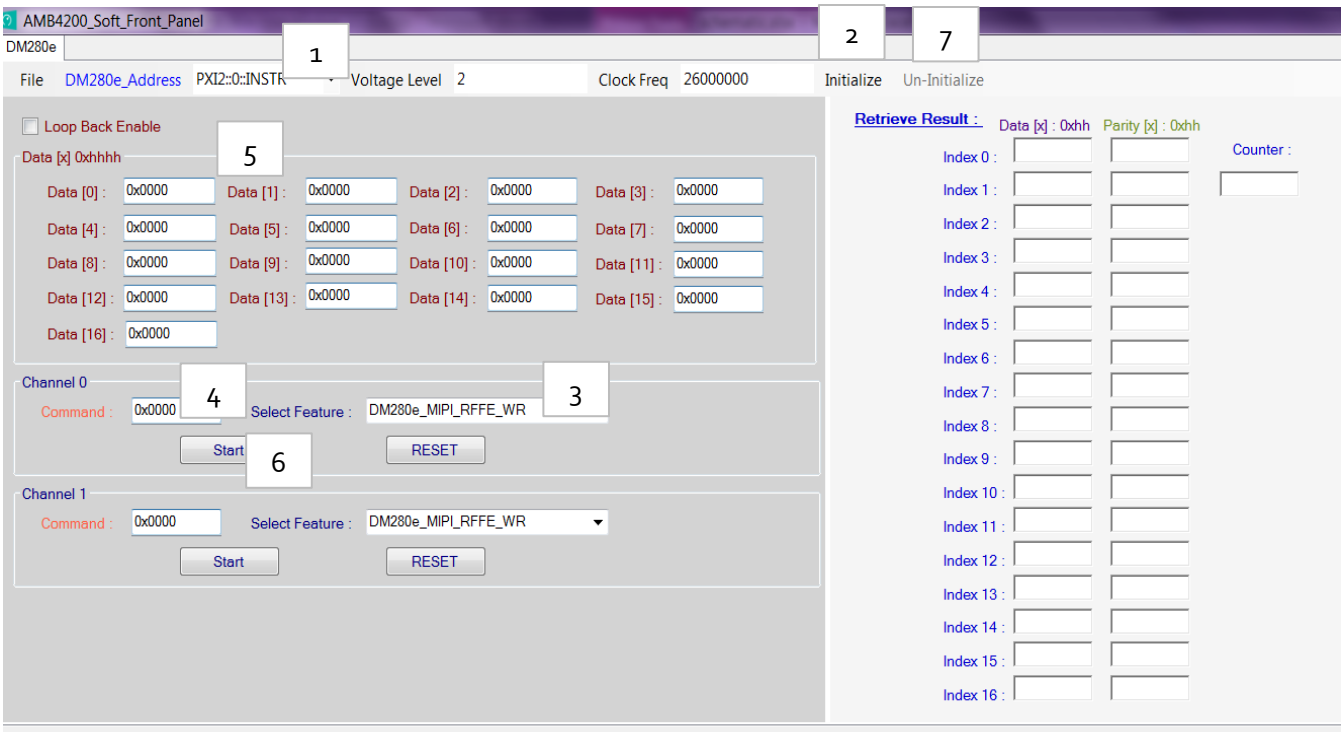

Figure 9: DM28oe SFP

Section 4: Example Projects

Example projects are created based on Microsoft Visual Studio 2005. Projects are upgradeable to version 2008 and 2012, by recompiling the projects.

Section 5: Revision History

1.2	MAY 2013	INITIAL RELEASE

Section 6: Contact Us

To obtain service, warranty or technical assistance, please contact Aemulus.

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Product specifications and descriptions in this document are subject to change without prior notice.