

IonWizard Technote # 103

Adding TIS Support to IonWizard

April 1, 2011

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1 Overview

In versions of IonWizard prior to 6.2, support for “The Imaging Source” (TIS) cameras and frame grabbers was provided by the “Generic DirectX Camera Windows Video Device” in the IonWizard acquisition hardware tree. This Windows DirectX interface only provided access to the video images using the configuration that was set in the separate TIS program “Capture.”

IonWizard 6.2 and above now support direct control of TIS devices using the TIS Image Capture library. This means that all parameters such as frame rate and exposure can be controlled within IonWizard. In addition IonWizard automatically disables automatic gain and exposure and supports variable exposure times. This removes the need to run IC Capture to disable these settings before running IonWizard.

To use these new capabilities you will need to

- Upgrade to IonWizard 6.2 or later
- Edit hardware tree
- Repair your affected tasks
- Review affected experiments

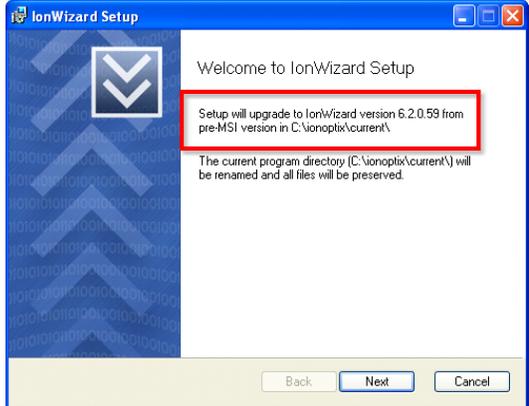
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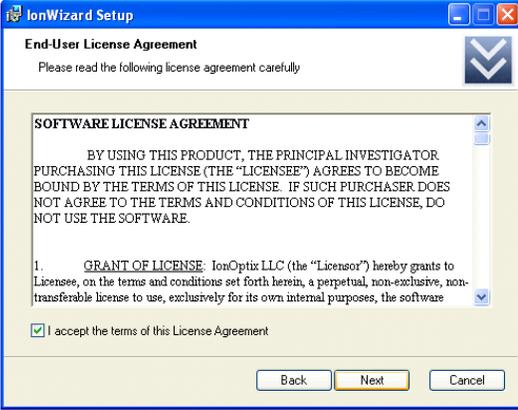
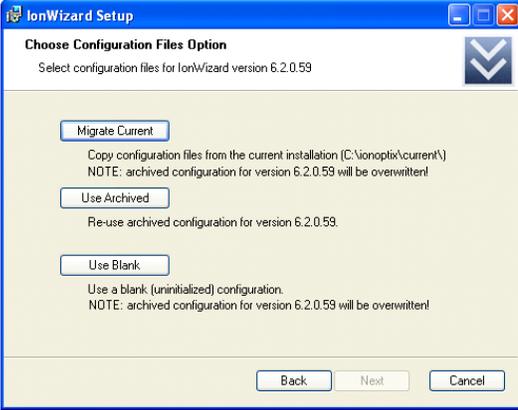
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2 Upgrade to IonWizard 6.2 or later

IonWizard versions 6.1 and later are installed using the Microsoft Windows Installer. All files needed to install IonWizard are included in a single file named “IonWizard-w_x_y_z.msi” where “w_x_y_z” is the version and build number of the version of IonWizard contained in the file. To start the upgrade/ process double-click on the installer file (for example IonWizard-6_2_0_59.msi) then follow these steps:

<p>1. When you start the installer it will display a welcome screen that indicates the operation that will be performed (highlighted in red)</p> <p>Here is a list of possible installer operations and the message that will be displayed...</p> <p>... For Regular Upgrade</p> <div style="border: 1px solid red; padding: 2px; margin: 5px 0;">Setup will upgrade to IonWizard version 6.2.0.59 from version 6.1.4.58</div> <p>... For Pre-MSI Upgrade</p> <div style="border: 1px solid red; padding: 2px; margin: 5px 0;">Setup will upgrade to IonWizard version 6.2.0.59 from pre-MSI version in C:\ionoptix\current\</div> <p>You will need to know the type of install that you are performing in a later step.</p>	
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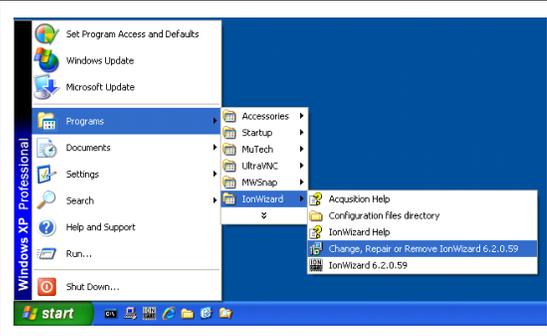
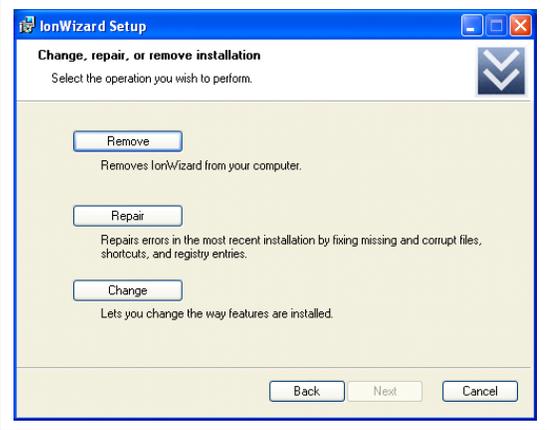
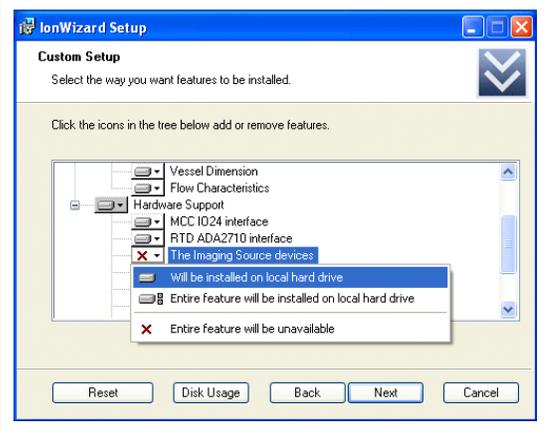
2.	<p>If you are doing a Pre-MSI Upgrade you will see this legal agreement screen. Check "I accept..." and click next</p>	
3.	<p>The next screen lets you choose the configuration files option for the upgraded version. Click the "Migrate Current" button to copy your current settings to the newly installed version.</p> <p>NOTE - The rest of the steps in the procedure assume that you are migrating your existing configuration - do not select any other option</p>	
4.	<p>If a "Software Installation" dialog appears that says "The software you are installing has not passed Windows Logo testing..." click on the "Continue Anyway" button.</p> <p>Repeat step 4 for all "Software Installation" dialogs that appear</p>	
4.	<p>Continue clicking next until installation is finished. You will have to restart the computer after installation is finished</p>	

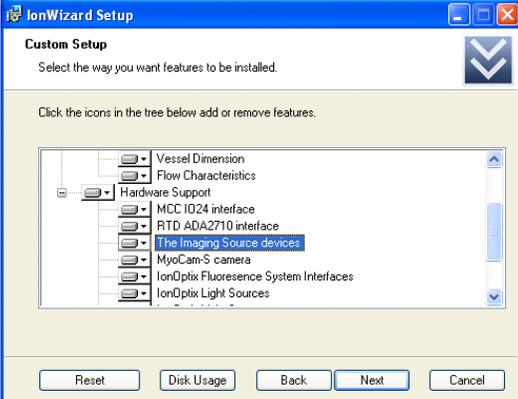
2.1 Changing the Installation (Regular Upgrade Only)

When you do a **Regular Upgrade** (see above) the Windows Installer will only upgrade the components that you previously had installed. Since the "The Imaging Source devices" feature did not exist in your previous installation it will not be installed when you upgrade. Thus you will need to manually change the installation to include this feature.

Note - This step is only required for a **Regular Upgrade**. Skip to **Section 3 - Edit Hardware Tree** if you are doing a **Pre-MSI Upgrade**.

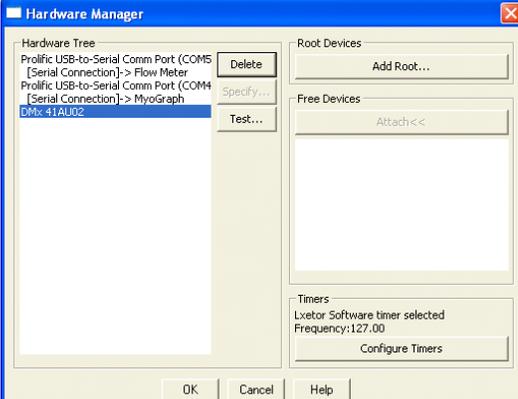
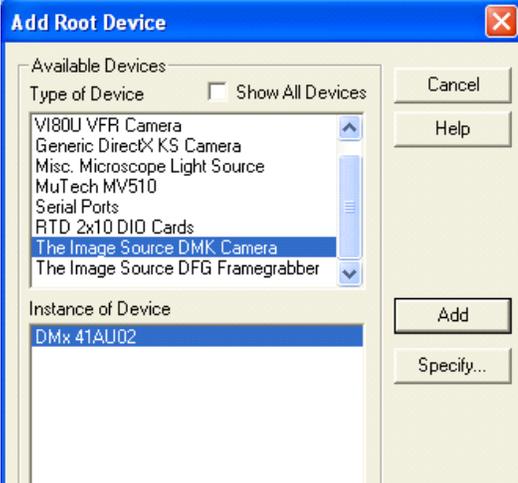
The following steps explain how to enable the new TIS Camera component in the newly upgraded version of IonWizard:

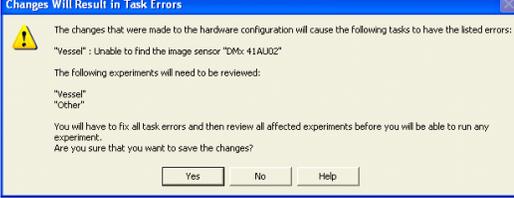
<p>1.</p>	<p>Pick "Change, Repair or Remove IonWizard w.x.y.z" in the IonWizard program group from the Windows Start menu.</p>	
<p>2.</p>	<p>Click next on the Welcome screen</p>	
<p>3.</p>	<p>Select Change to edit the list of installed features.</p>	
<p>4.</p>	<p>Click on the red "X" in front of the "The Imaging Source devices" then pick "Will be installed on the local hard drive"....</p>	

5.	Once selected the “The Imaging Source devices” feature should be selected as shown. Click next to continue	
6.	Click Next/Change/Finish to complete the installation.	

3 Edit Hardware Tree

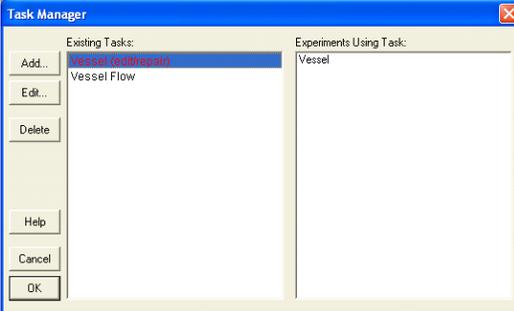
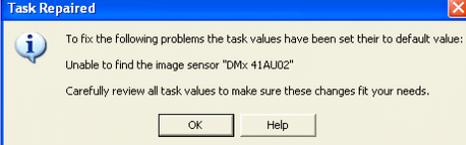
Now that you have installed (and enabled) the new “The Image Source devices” component you will have to edit your hardware configuration to remove the old “Generic DirectX Camera Windows Video Device” and then add in the new “The Image Source DMK Camera” device.

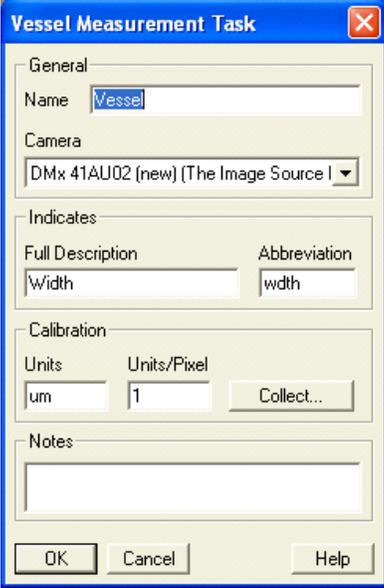
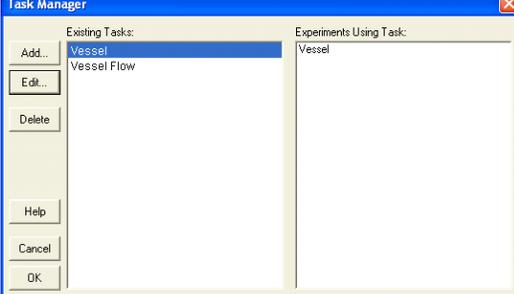
1.	Open the IonWizard hardware manager and highlight the “DMx 41AU02” device then click delete.	
2.	Click “Add Root” and then select “The Image Source DMK Camera” for the type of device and “DMx 41AU02” for the instance of the device and then click Add button.	

3.	<p>After you click the add button you will be taken to the specification dialog for the “The Image Source DMK Camera”.</p> <p>The default device description will be the camera model number, DMx 41AU02” in this example. Add the text “ (new)” to the end of the default description as shown at right.</p> <p>Click Ok to close the specification definition dialog.</p>	
4.	<p>Click Ok to close the hardware configuration dialog. You will see the following warning message that explains that they changes you made to the hardware tree will affect some tasks and experiments.</p> <p>In the next steps you will fix these task and experiment problems...</p>	

4 Repair Affected Tasks

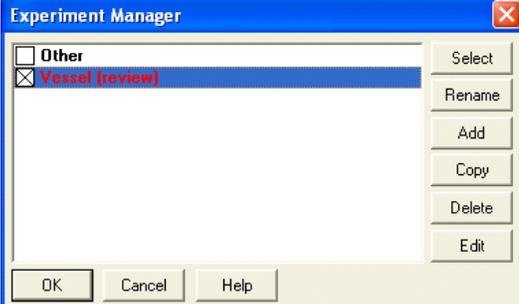
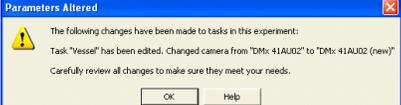
When you delete a device in the hardware manager all tasks that were using that device are marked as “needs review.” Follow these steps to repair the affected tasks:

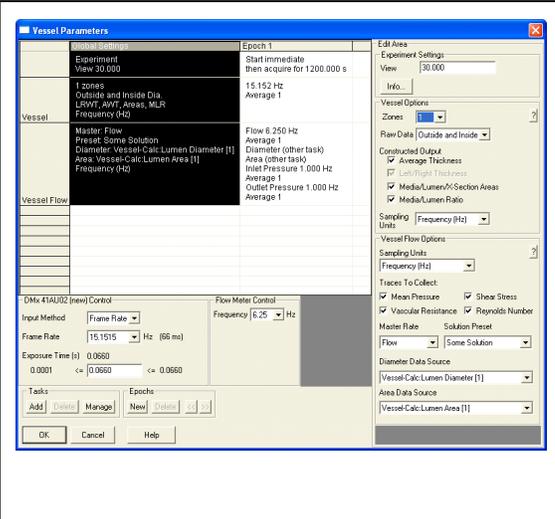
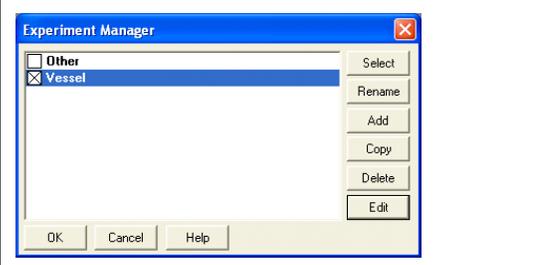
1.	<p>Open the Task Manager. All tasks that have been affected by the change in the hardware tree will be drawn in red followed by “(edit/repair)”</p> <p>Select one of the affected tasks and click on the “Edit...” button</p>	
2.	<p>Before the task editor is displayed a message describing how the task has been fixed and what caused the original error. Click ok</p>	

3.	<p>Check that the default value assigned for the camera is the same one that you specified in section 3 step 3. If it is not select it from the drop-down list.</p> <p>Click Ok when done...</p>	
4.	<p>Repeat steps 1-3 above for all tasks marked "(edit/repair)"</p>	

5 Review Affected Experiments

Each experiment that contains a task that was affected by the hardware changes will also have to be reviewed. The main thing to review are any "global settings" and the rates in each epoch.

1.	<p>Open the Experiments manager. Any experiment that used one of the repaired tasks will be listed in red followed by the text "(review)". Select the first marked experiment then click on the "Edit" button</p>	
2.	<p>A message listing all of the parameters that have been altered will be displayed so that you know what may need reviewing. Click Ok.</p>	

<p>3.</p>	<p>You will now be taken to the parameters dialog. Note that there is now a “DMx 41AU02 (new)” Control beneath the settings/epoch grid that allows you to set the camera parameters that you want to use for this experiment.</p> <p>Set the camera controls as desired then review the rates the vessel tasks for all epochs. Refer to the “The Imaging Source (TIS) Devices” section of the acquisition on-line help or manual for details on the setting available in the camera controls.</p> <p>Click Ok to save you changes and clear the “needs review” status for this experiment</p>	
<p>4.</p>	<p>Repeat steps 1-3 for any other experiment that needs review. When done, click Ok to close the Experiment Manager.</p>	

6 Notes

Please note the following:

- 1) Once you change the hardware used by any tasks all functions of the collect menu except task manager and hardware manager will be disabled until you have fixed ALL tasks
- 2) You must review ALL experiments before you can run any experiment
- 3) You must click Ok after reviewing parameters to clear the “needs review” status
- 4) Only the specific messages in the repair task/review experiments mechanism that appear when following the steps in this procedure are discussed in this tech note. For a full discussion of the repair task/review experiments mechanism please refer to the acquisition manual.