SOFTWARE UPDATE NOTIFICATION
HYDRO SIGHT SOFTWARE version 1.01: PSS0069-04

PARTICLE SIZE

PARTICLE SHAPE

Introduction

This document details the release of software PSS0069-04: Hydro Sight software version 1.01. It covers PC requirements and Installation instructions as well as known software issues or bugs. This information is required to perform a risk analysis to determine if the software should be installed, especially when installing it on the same computer as is used to operate a Malvern diffraction system. Installation instructions are provided.

Installation

It is assumed that you have authority to install or update software within your facility. It is also assumed that you have Administrator rights for the system upon which the software is installed, as this is a requirement of the installation process. If you do not have this authority please consult with your I.T. support department before proceeding.

Recommended System Requirements

The recommended requirements for running this software are highlighted in table 1 below. The software has been tested under Windows 7™ (64-bit), this is therefore the recommended operating system.

Note: Some 3rd party software or OS patches may prevent the Hydro Sight software from running correctly. It is not possible to test for compatibility with all windows programs.

Table 1: Recommended system requirements for the Hydro Sight software (see guidance section below).

Feature	Specification
Processor Type	Intel Core i7 3770 Processor
Memory	4GB
Hard Disk Storage	1Tb HDD
Additional Storage Media	DVD +/-R/RW drive
Display	1 x 22" Widescreen Flat Panel Monitor for software
Connectivity	2 USB 2 ports are required. These are in addition to any connections required for the laser diffraction system which is used with the Hydro Sight unit.
Operating System	Windows 7 (32 bit and 64 bit)

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Supported Languages

The Hydro Sight software suite is available as an English language application.

Installation Instructions

The software is provided on an auto-loading CD-ROM. Inserting the drive into a system configured to Auto-run a CD will run the installation program automatically. If your system does not support this feature, or you are installing the software from a downloaded set of installation files, run the 'Malvern Hydro Sight v1.01 PSS0069-04 EN.exe' program.

Once the software has installed, connect the Hydro Sight instrument to the computer (see User Manual) and switch the instrument on. The windows operating system will detect the instrument and will complete installation of any drivers required.

The activation screen shown below will appear when you first run the software. The Hydro Sight serial number is automatically obtained from the attached instrument. Fill the all of the other fields along with the activation key is provided to you with your instrument and then and press Submit.

Note: The activation key is specific to your laser diffraction and Hydro Sight systems. If you do not have the activation key please contact your local Malvern representative.

An Activation licence Key is required to enable the Software for use with your Hydro Sight accessory.
This can be found on a sticker on the software CD provided with the unit.
It is specific to your installation and should not be distributed.

Organisation:

Laser Diffraction Manufacturer:

Model: Serial No:

Activation Key: Hydro Sight Serial No:

MAL 001684

Submit

Uninstall Procedure

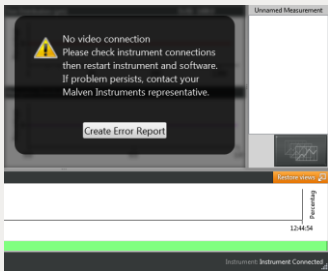The software can be uninstalled using the standard Add/Remove feature in the Windows 'Control panel'.

Fixed Issues

Details of issues that have been fixed in this release.

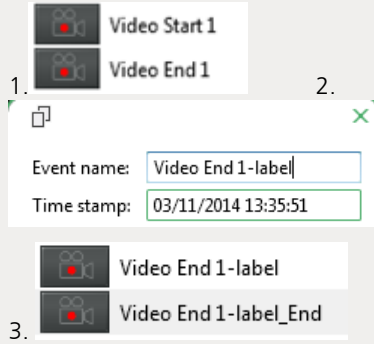| Issue |
| --- |
| Software may crash on pressing new sample button |
| Video recording is not stopped on selecting new sample |
| Use of commas in measurement name resulting in quick links to the result images and videos not working |

Known Issues

Details of known software bugs that have been discovered within the software are provided in the table below. These will be investigated as part of a future release. Please follow the suggested work-around if you encounter problems.

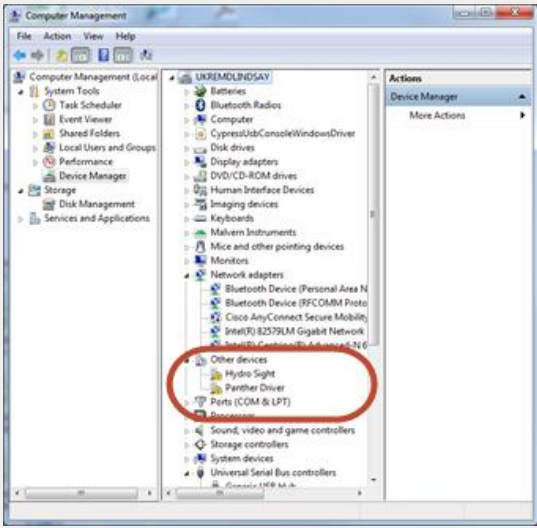| Issue	Description	Comment / Workaround
USB Driver slow to install on first use	The USB drivers may take minutes rather than seconds to install. Starting the software before the drivers have finished installing results in the software seeing the instrument but not the video camera. The software reports this as an error, and asks the user to restart their instrument but if they do so it will result in an installation failure of the driver and the error will continue to be reported. Note: the last step of the installer offers the option to start the software. The software then says "Initializing instrument and video feed. Please wait…". If the user connects and powers up the instrument for the first time at this point, it will exhibit this issue, and mistakenly ask the user to restart the instrument.	Wait for the installation of the drivers to complete then the software will connect to the instrument and video feed and work as intended. A user can tell if the device is still installing via the "Installing device driver software". If the install does fail it may install if the instrument is power-cycled. If this is not successful the user should start the installation again installing using a different USB port.
The Hydro Sight software fails to connect to the hardware	If the Hydro Sight instrument is connected and switched on at the time the computer is starting up, the instrument will not connect. The Hydro Sight software will report that it is "Looking For Instrument" within in the software status bar in the bottom right of the application. The Hydro Sight device part of the instrument will show up in the 'Devices and Printers' dialog as an unknown device with no warnings or errors associated.	We recommend the instrument is powered off when the PC is turned off and make sure that the PC is turned on before powering up the instrument. If this issue occurs, the instrument will need to be switched off and back on again, and the software restarted.
The Hydro Sight software fails to connect to the hardware	Communications issues may also be experience if adjacent USB ports are used for the two connections. We recommend using USB ports in separate banks for the two connections	We recommend connecting the Hydro Sight to USB ports which are not adjacent.

| Video event renaming	When renaming a video capture event, the software attempts to keep the names for the start and finish events consistent for ease of identification. If the user appends a label to end of one of the default names rather than renaming it entirely, both the resulting names will updated. For example: For events "Video Start 1" and "Video End 1" (see 1 below), appending "-label" to the end event (see 2 below), renames the video end event to read "Video End 1-label_end" and also changes the video start event to "Video End 1-label" (see 3 below).	If a video event name needs to be edited it is better to completely rename it rather than appending additional text to the existing name.

Guidance and good practice

The table below details issues you may experience when using the Hydro Sight system and provides guidance on how to resolve them. It also provides some good practice tips to help you get the most from your Hydro Sight system.

| Issue	Advice
The Hydro Sight device drivers are not installed	If the device drivers have not been installed correctly, the windows device manager will show the two parts of the instrument with a warning: The Panther Driver relates to the operation of the Hydro Sight camera. This device can use a generic windows driver, so it may be removed from the warning list. The Hydro Sight device requires a specific driver which is included as part of the Hydro Sight software installation.

To manually install the drivers, right click on the device in device manager and select "Update driver software" then "Browse my computer for driver software". Then enter "C:\Program Files (x86)\Malvern Instruments\Hydro Sight\Drivers" in the driver location box, or navigate to the location, and click next. The driver will install and the device should appear correctly in both device manager and control panel.

For reference, if the system is functioning normally, the control panel will look like this:
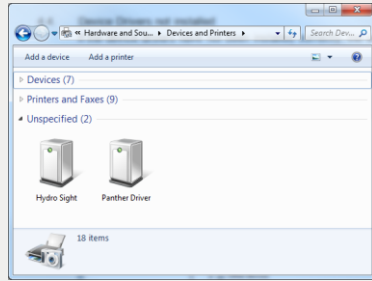
| Firmware download | Each version of the Hydro Sight software is configured to work with a specific version of firmware running on the instrument. If a different firmware version is detected, the correct version will be loaded onto the instrument. The following notification will be shown on the instrument status bar in the bottom right of the application during this update process:
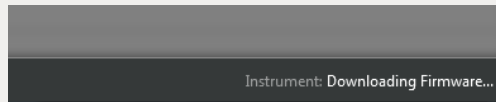
If this occurs, wait for the update to complete (it may take 1-2 minutes). **<u>Do not</u>** shut the software down during this process. |
| --- | --- |
| **File system management** | The event view option can be used to open the result folder directly from the software. This folder is viewed using Windows Explorer. If the user renames or deletes the result folder while the software is running, it will crash the software if an event is triggered. We therefore recommend that folders are not renamed or deleted when the software is active. |
| **CPU load/PC specification** | If using a PC below the recommended specification and if running other applications at the same time (such as the laser diffraction software), there is a risk of image tearing where the frames sent to Hydro Sight software from the camera sub-system are corrupted. This will not affect the overall PSD or elongation distribution results but may be detected by the anomaly detection feature and/or result in a 'blip' on the DI plot. An example of image tearing is shown below:

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Video playback tips	When playing recorded dispersion videos in Windows Media Player you can control the playback speed and use the single frame advance or review. While playing the video, right click on the playback area and select 'Enhancements > Play speed settings':
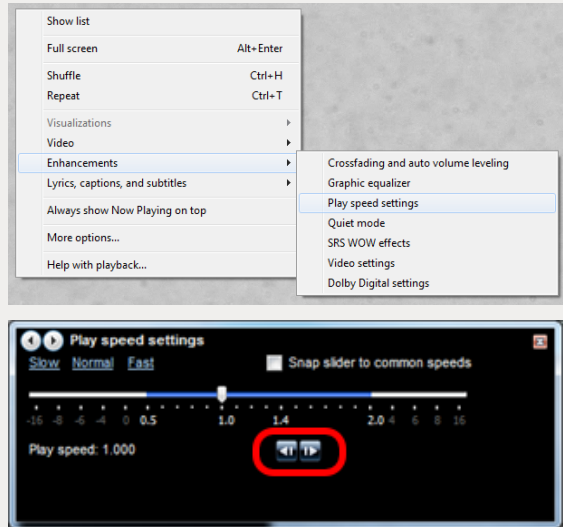
From the settings dialog, use the slider to adjust the playback speed and the forward/backward arrows (circled in red above) to step individual frames forward or backwards.

For best results, pause the video playback then open the play speed settings. If you are playing a short video, the end of the video may be reached and playback stopped before the playback speed can be adjusted.

Note: Windows update KB2670838 can interfere with video playback. If Windows Media Player crashes when trying to play videos recorded by the Hydro Sight software, uninstall windows update KB2670838. See http://answers.microsoft.com/en-us/windows/forum/windows_7-windows_update/windows-update-kb2670838-wmp-can-not-play-mp4/a71b106b-6615-483d-93b7-e25fea3c357e for more information on the problem and http://windows.microsoft.com/en-us/windows/remove-update#1TC=windows-7 for guidance on removing the update to enable video playback.

Zooming into live Dispersion Index chart during long measurement	If the software has been running continuously for some hours (>6 hours) it may become less responsive if a user zooms into the Dispersion Index chart in the live window. This is due to the number of data points being displayed. Clicking on the green zoom bar at the bottom of the chart will reset the zoom level and will cause the software to return to full speed.

We recommend saving an event and zooming into the Dispersion Index chart via the chart review function if long running times are required. Alternatively, the 'new sample' option should be used to reset all of the charts between different laser diffraction measurements. |

SOFTWARE UPDATE NOTIFICATION

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