

# SOFTWARE UPDATE NOTIFICATION (SUN)

## – Zetasizer Series of Instruments SOFTWARE: PSS0012-35



**PARTICLE SIZE**



**RHEOLOGICAL PROPERTIES**



**MOLECULAR WEIGHT**



**ZETA POTENTIAL**

### Introduction

This document details the release of software PSS0012-35. This is the Zetasizer software version 7.04.

It covers the additions and improvements as well as issues fixed in this release of the software.

**Note: If you are upgrading from any version before 7.01, you should also read the SUN documents issued with version 7.01, 7.02 and 7.03.**

### Installation

It is assumed that you have authority to install or update software within your company's SOPs. If you do not have this authority please consult with your I.T. support department before proceeding.

It is assumed that you have Administrator rights for the computer. This is required by the installation process.

**Installation of the software must be performed with the instrument switched off and disconnected from the USB connector of the PC.**

### Recommended System Requirements

Intel Core 2 Duo, 4GB RAM, 160GByte hard disk drive, 1024 x 768 screen resolution running in 32 bit color mode, CD-ROM drive, 1 free USB port, Windows 7 operating system.

### Supported Languages

- English
- Japanese

### Instructions

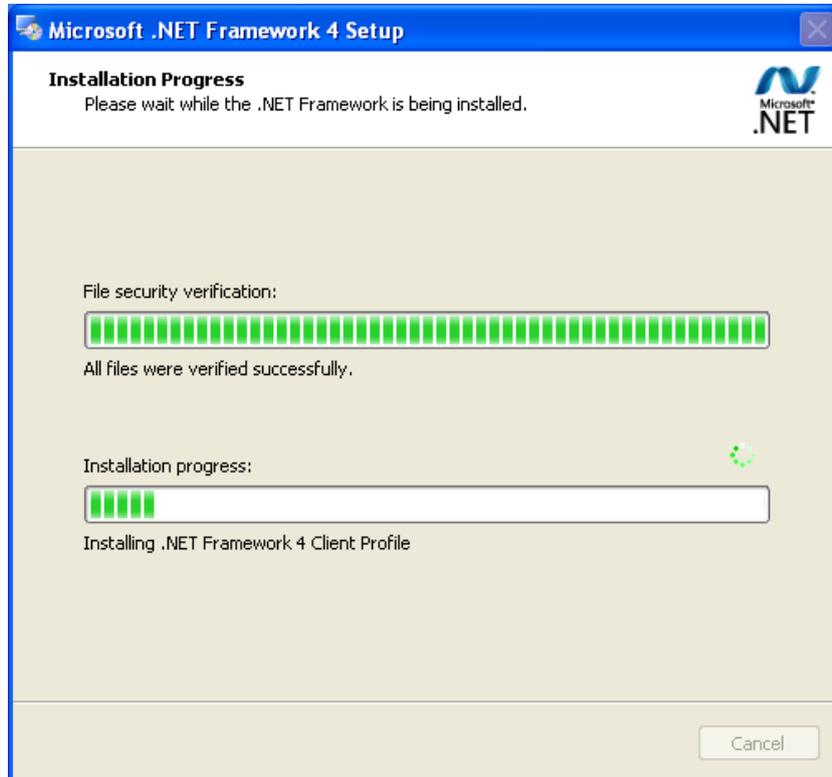
The software suite comes on an auto-loading CD-ROM. Inserting the CD into a system configured to Auto-run a CD will run the installation program automatically. If your system does not support this feature run the setup program from the root directory of your CD drive.

**Note:** For Zetasizer Series software, Windows 7 will not allow an installation if the user does not have administrator access. This is in line with Microsoft's Logo policy and is standard practice.

**Note:** You must switch-off the Zetasizer and unplug the USB cable from the PC or Zetasizer before installing the software.

## .Net Framework 4

The Microsoft .Net Framework 4 must be installed for the Zetasizer software to run. This is installed during the Zetasizer software installation progress. Completion of this stage of the installation can take a few minutes, and in the case of Windows 7 64 bit can take over 10 minutes. Whilst the .Net Framework is being installed the following window will be displayed:



## Connecting the Zetasizer to the PC

With the software installed the instrument should be connected via the USB port, and then switched on.

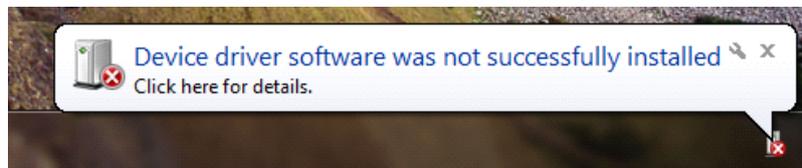


If you are connecting to a Zetasizer APS or Zetasizer  $\mu$ V, the name used to identify the hardware will be displayed as "Malvern Zetasizer" rather than "Malvern Instruments Nano".

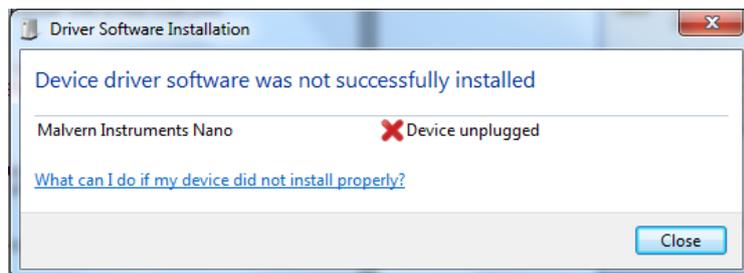
This should be left with the default selection of 'Install the software automatically' and the 'Next' button should be selected so that file transfer begins. Once file transfer has completed the 'Finish' button should be selected to complete the installation.

Windows will indicate that the new hardware is installed and ready to use.

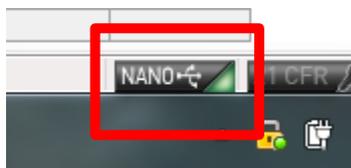
In Windows 7, when the Zetasizer Nano is installed, it is possible that the message 'Device driver software was not successfully installed' in the message in the bottom-right hand corner of the screen, as in the image below.



Alternatively, the following message may appear.



These messages can be safely ignored as long as, when the Zetasizer software is started, the 'Nano' icon is enabled as in the image below.



## Zetasizer APS and Zetasizer $\mu$ V users

The New Hardware Wizard will appear a second time as these instruments require two drivers to be installed. Use the steps described above to install the second driver.

## Running the software

When the software is started the first time, the following dialog box will appear. Click on the appropriate system to select it. This dialog will not appear the next time the software is started.



The instrument type can be changed at any point by selecting the menu item; 'Tools', 'Options', 'Instrument type'. Once the instrument type has been changed the software must be restarted for the change to take effect.

## Uninstall procedure

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

## New Features

No new features were added for this release.

## Fixed issues

The main issues fixed in 7.04 are:

Reference(s)	Issue	Comment
31193	An inability to save Measurement (.dts) and SOP (.sop) files to directories which have the delete file permission removed from the current user's list of Windows permissions.	Fixed
31305	An inability to display the results from wells which have more than 5 peaks in the APS Plate Navigator	Fixed
31312	A problem occurred which stopped users from using the export data functionality when the software was configured for a Japanese OS.	Fixed
31313	A problem occurred which was causing the analysis mode to be switched to "High Resolution" when the Huckel model was selected as the f(ka) model, when using the Dip Cell.	This has fixed so that the switch only happens if the user has selected "Auto" for analysis mode.

## Known Issues

The following issues have been discovered within the software, and will be investigated as part of a future release. Please follow the suggested work-around for each.

Issue	Work around	Comment
When running plates on the APS with large numbers of repeats (e.g. for Temperature Trend measurements), problems can be encountered with memory usage on the host PC which manifest themselves as the software aborting the plate before all of the measurements have been performed.	<p>It is recommended to not run more than 4000 measurements in total on one plate (equivalent to 41 repeat measurements for each well of a 96 well plate or 10 repeat measurements for each well on a 384 well plate).</p> <p>If you have a requirement to perform more measurements than this then please contact Product Management via the Helpdesk to discuss your options.</p>	Software Bug
Due to the way the software is updated, new workspaces may not appear if a current Zetasizer user is having their software upgraded.	<p>Workspaces are stored in the following directory:</p> <p>C:\Users\[username]\Documents\Malvern Instruments\Zetasizer\Export Data</p> <p>To simply update all workspaces in the Zetasizer software, navigate to the folder:</p> <p>C:\Users\[username]\Documents\Malvern Instruments\Zetasizer</p> <p>and delete all "EN-US File" file types.</p> <p>New workspaces can then be imported by selecting the 'import workspace' option in the workspace selection menu.</p>	Software Bug
Some PCs, running the Zetasizer software, may lock-up or freeze when connected to an APS or $\mu$ V.	The APS and $\mu$ V both require a PC with at least two cores or alternatively, a CPU that is Hyper-threading (HT) enabled. Therefore, it is advisable to run the software on a PC that meets the recommended specification detailed earlier in this document if the PC is to be connected to either a Zetasizer APS or Zetasizer $\mu$ V. The Zetasizer Nano is not affected by this issue.	Hardware requirement
USB detection occurs automatically on new computers. On older computers the instrument is not always detected automatically and the instrument icon in the bottom right-hand corner of the status bar will remain greyed-out	This is fixed by closing the application, restarting the computer and restarting the software.	Hardware
The parameter dictionary has been updated in version 7 of the software and some of the parameters have changed. For reports that the user may have created containing the affected parameters, the parameters will become undefined.	<p>This can be seen when a report is opened and the parameter displays the text 'No parameter has been selected' or if the nothing is shown next to the text label (i.e. the value appears blank). To fix this problem for each parameter carry out the following steps:-</p> <p>1) Double-click on the affected parameter to bring</p>	Software Update

	<p>up its property dialogue.</p> <p>2) Click the 'Select' button to display the 'Select a parameter' dialogue.</p> <p>3) Select the relevant parameter.</p> <p><b>N.B. Remember to correct the affected parameters on both the screen and page layout views</b></p>	
<p><b>SOP sample settings can be lost on software upgrade</b></p>	<p>The SOP sample settings will be copied to a backup location during the installation process. To maintain these settings with the new installation, the following process should be followed:</p> <p>Once the files have been backed up and the new software installed, to incorporate these settings, the relevant files need to be manually copied by the user to the correct location to replace the installed files.</p> <p>To do this the following steps need to be followed:</p> <ol style="list-style-type: none"> <li>1. Ensure that you are logged onto the computer as an administrative user</li> <li>2. Run the Zetasizer software once then close it down so there are no copies of it running.</li> <li>3. Use Windows Explorer to copy the files:</li> </ol> <p>SampleProperties.cfg</p> <p>CompoundProperties.cfg</p> <p>IonicSpecies.cfg</p> <p>to the relevant location. The locations of the files depend on the operating system:</p> <p>Windows XP</p> <p>Copy from C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer&lt;date/time of install&gt; to overwrite files in C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer</p> <p>Windows 7/8</p> <p>Copy from C:\ProgramData\Malvern Instruments\Zetasizer&lt;date/time of install&gt; to overwrite files in C:\ProgramData\Malvern Instruments\Zetasizer</p> <p>N.B. The Application Data folder is a hidden folder. To view it on Windows XP you need to access the Control Panel then select Folder options-&gt;View and then enable the option to Show hidden files and folders.</p>	<p>Software Update</p>

	<p>N.B. The ProgramData folder is a hidden folder. To view it on Windows 7 you need to access the Control Panel then select Appearance and Personalization-&gt;Folder Options-&gt;Show Hidden files and folders and then enable the option to Show hidden files, folders and drives.</p> <p>N.B. If the installation process is terminated prematurely, the backup from the last installation is maintained in the following directory:</p> <p>Windows XP - C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer_BACKUP</p> <p>Windows 7 - C:\ProgramData\Malvern Instruments\Zetasizer_BACKUP</p>	
<b>PC entering sleep mode can disconnect the Zetasizer</b>	It is recommended to disable the sleep function while the Zetasizer is being used.	Software Bug
<b>Occasionally, it has been observed that feature keys can be disabled after detaching one instrument and then attaching a different instrument.</b>	This problem can be resolved by restarting the Zetasizer software.	Software Bug
<b>If, during a measurement, the lid is opened, all of the safety cut offs will work as expected, but the measurement will continue to completion rather than aborting.</b>	No workaround available as instrument operation is not affected.	Software Bug
<b>The 21CFR audit trail does not update if the Windows user is changed from the original user that installed the 21-CFR key. This is the case in both Windows 7 and Windows XP.</b>	<p>The following procedure should be followed to enable the 21CFR Part 11 ER/ES audit trail for all users:</p> <ol style="list-style-type: none"> <li>1. Open Windows Explorer as an administrator to edit the file permissions.</li> <li>2. Windows 7/8: Type "%ProgramData%" into the address bar.</li> <li>Windows XP: Type "%ALLUSERSPROFILE%\Application Data" into the address bar.</li> <li>3. Hit Enter and open the [Malvern Instruments] folder from the folder list.</li> <li>4. Right click the [Zetasizer] folder and select [Properties] from the menu.</li> <li>5. Click on the [Security] tab.</li> <li>6. Windows 7/8 only: Click on the [Edit] button beneath the "Group or user names" list. The "Permissions for Zetasizer" window should be displayed.</li> <li>7. Under the "Group or user names" list, click on the [Add] button. The "Select Users or Groups"</li> </ol>	Software Bug

	<p>dialog should open.</p> <p>8. In the "Enter the object names to select" box, type in "Everyone" and click on the [Check Names] button. The word "Everyone" should become underlined.</p> <p>9. Click [OK] to accept and close the "Select Users or Groups" dialog. The group "Everyone" should be added to the "Group or user names" list.</p> <p>10. Select the [Everyone] item in the list and tick the [Allow] box for the "Full control" option in the "Permissions for Everyone" list below.</p> <p>11. Click [OK] to accept and close all properties windows.</p> <p>12. The audit trail should now work correctly for all user accounts on this computer.</p>	
<p>It is possible to create a High Temperature dispersant (temperature above 92 degrees), for use on the High Temperature model of the Zetasizer Nano, which can then be selected for use on the standard model. When the measurement is run, if the temperature is outside the range for the current model, a message will be printed in the log and the measurement will be performed at 25 degrees.</p>	<p>Ensure that any SOPs configured for a High Temperature Nano are not run on a standard Nano.</p>	<p>Software Bug</p>
<p>The following issues have been identified using the new HTML5 Help system in Internet Explorer with compatibility mode set to On.</p> <ul style="list-style-type: none"> <li>• Icons are tiled or not displayed correctly (see following image)</li> <li>• Search box text is not vertically centered (see following image)</li> <li>• Horizontal scroll bar is sometimes shown in the body area (see following image)</li> <li>• Vertical scroll bar is sometimes not right aligned correctly</li> <li>• Scroll bars do not work after a search</li> </ul>	<p>The workaround for this problem is to use Internet Explorer in non-compatibility mode.</p>	<p>Software Bug</p>
<p>When launching the Zetasizer software from a .dts file in Windows Explorer an error message will appear with the following txt:</p> <p><i>"There was a problem sending the command to the program"</i></p>	<p>This error message does not stop the file from loading and can be safely ignored.</p>	<p>Software Bug</p>
<p><b>Saving data to non-local fixed drives</b></p> <p>It should be noted that the software does not support saving directly onto non-local drives unless the drive can be guaranteed to be 100%</p>	<p>It is suggested that users interact with a local file and then save this file to a network location once the session has been completed.</p>	<p>Hardware</p>

available. This is because the software is continually reading and writing to the active measurement file and if the connection to the drive is lost then the file can become corrupted and measurement data lost.

## Other Issues of Note

### Records and Analysis

The analysis algorithms for the calculation of size, zeta potential and molecular weight, including data filtering, are being continually improved. The effect of this is that if data taken from a previous version of software is edited, the result may change, even if only the sample name is edited. This is because the algorithms themselves are not stored with the record. This does not apply to parameters stored with the record such as the viscosity, and refractive index etc. as the same parameters are always used in the recalculation of the edited result.

This does not of course change the result of the stored record, as after editing a new record is created. To tell if a record is the original or has been edited, the parameter 'Is edited' can be added to a report or the record view. This can be found in the measurement audit information section of the parameters list. It will display 'False' if the record has not been edited.

### Zetasizer APS and Zetasizer $\mu$ V driver issues (Does not affect Zetasizer Nano series)

#### Version 6.30 to Version 6.34

The drivers included with the software for the 6.3x releases for the Zetasizer APS and Zetasizer  $\mu$ V are incompatible with some of the earliest instruments. This is expected to affect only Zetasizer  $\mu$ V. This issue manifests as an inability to connect to the instrument. These issues will be handled on a case by case basis and if identified, should be referred to Product Management via the Helpdesk.

#### Version 6.34 to Version 7.01 (Windows XP only)

Version 6.34 of the Zetasizer software updated the USB driver for the Zetasizer APS and Zetasizer  $\mu$ V instruments to version 20.2.0.5. However it has been noticed that this new driver is not fully compatible with Windows XP. Shutting down the computer with the instrument on and connected will result in it restarting instead. The solution to this problem is to turn off or disconnect the instrument before shutting down the computer.

#### Version 7.02 and beyond (Windows XP only)

Version 7.02 of the Zetasizer software updated the firmware for the latest Zetasizer APS and  $\mu$ V instruments. However, there is an issue reconnecting to these instruments after a disconnection with the Windows XP operating system. If the instrument is unplugged from the PC whilst the software is running then when the USB cable is plugged back into the same port, the software will fail to reconnect. The solution to this problem is to plug the USB cable into a different port, this should then allow the software to detect the instrument and connect successfully.

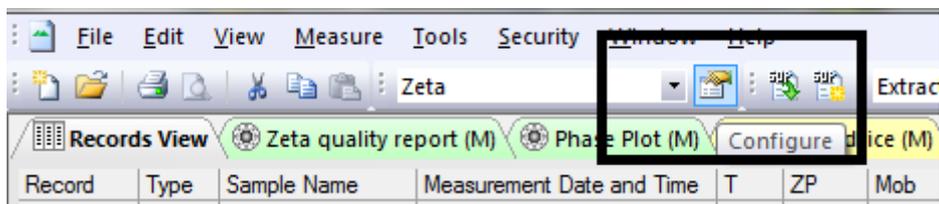
### Creating and Editing Results in the Report Designer

Version 6.21 of the Zetasizer software updated the way in which reports were generated. The following procedure should now be followed whenever creating a new report:

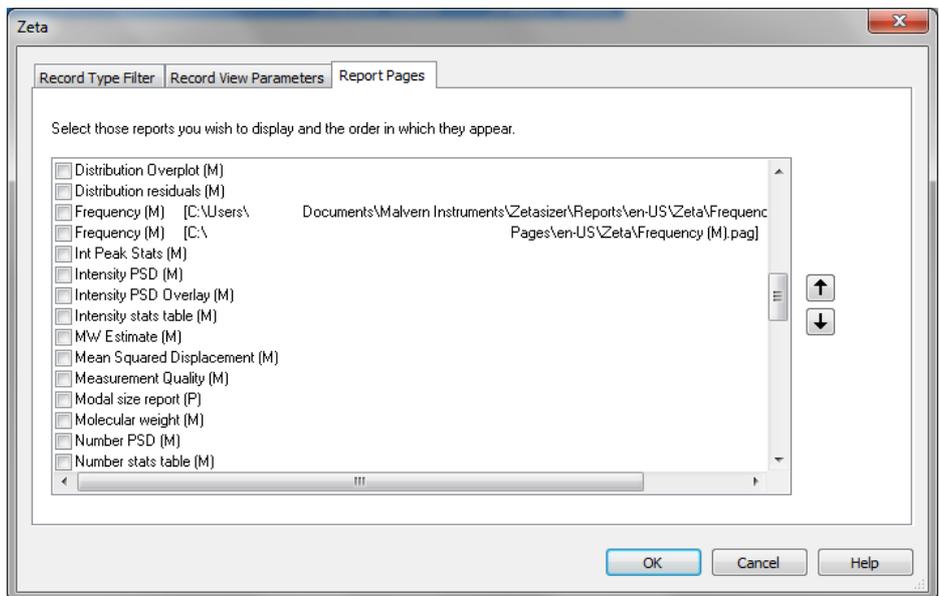
- 1) If creating a new report or editing an existing report, the report title must be changed and ideally should also be unique, as it is this title, not the filename, which is displayed inside the workspace editor. To change the report title, edit the field in the report designer as shown in the following figure.



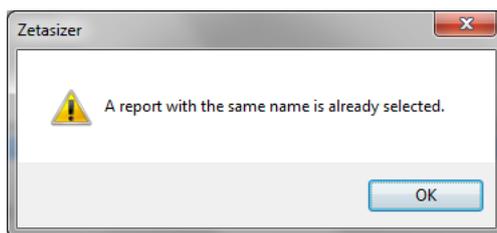
- 2) Once the report has been finished, in order for the software to load it, it needs to be saved into the Reports directory under the relevant language, i.e. it needs to be saved in the "Documents\Malvern Instruments\Zetasizer\Reports\en-US" or "Documents\Malvern Instruments\Zetasizer\Reports\ja-JP" directory depending on the language selected.
- 3) Once steps 1 and 2 are preformed then the new\updated report will be visible in the workspace editor inside the main Zetasizer software. Simply press the configure workspace button on the main toolbar and then go to the "Report Pages" tab.



- 4) If there are any reports with duplicate titles visible to the software then they will be listed in the Report Pages tab with their file location.



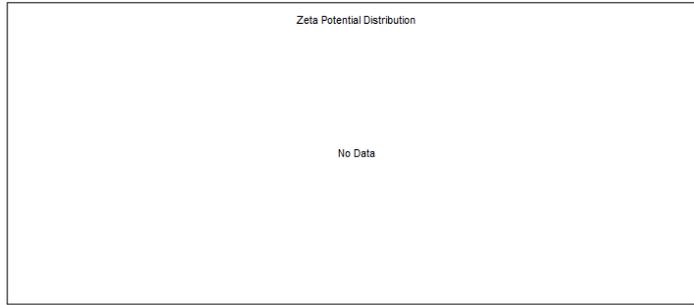
- 5) Only one duplicate report can be shown in the workspace at a time, if it is desirable to have both reports visible in the workspace then the title of one of the reports should be altered as outlined in step 1. If the user tries to select more than one report with the same title then the following warning will be displayed:



## Viewing monomodal Zeta records in the Report view

When viewing zeta records created with the monomodal data processing analysis model, in a report, "No Data" will be displayed in any Zeta Potential specific charts. The charts should say "Monomodal Measurement" as there is data available. See example below.

result quality : *Good*



## Customer deliverables

### Application software suite

The software is contained on one CD-ROM. The disk is labeled PSS0012/35

- Operating software
- Zetasizer User manual
- MPT-2 manual
- USB drivers
- Software Update Notification (SUN) with changes from previous software version (this document)
- Adobe Acrobat Reader

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