Software Update Notification

Zetasizer Software v 7.03

Product	Part No. - Issue
Software suite	PSS0012-34

Product	Part No. - Issue
Zetasizer series	PSW0085/7.03
Firmware	PFW0044/1.34.002

Manuals	Part No. - Issue
Zetasizer Nano series	MAN0485/1.1
MPT-2	MAN0318/4.0
Zetasizer APS	MAN0425/2.0
Zetasizer µV	MAN0428/1.0

Author: P. G. Clarke

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

Table of Contents

1. Overview

This document details the release of software PSS0012-34. This is the Zetasizer software version 7.03.

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 and 7.02.

2. Computer

2.1. Operating system support

Version 7.03 is compatible with Windows 7 and Windows 8. It is believed to be compatible with Windows XP Professional SP3 but note that it has not been fully tested with that operating system

Note: Windows XP 'Home' and Windows Vista versions are not supported

2.2. Recommended computer requirements

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

3. 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.

3.1. Windows 7

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.

Malvern

3.2. .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:
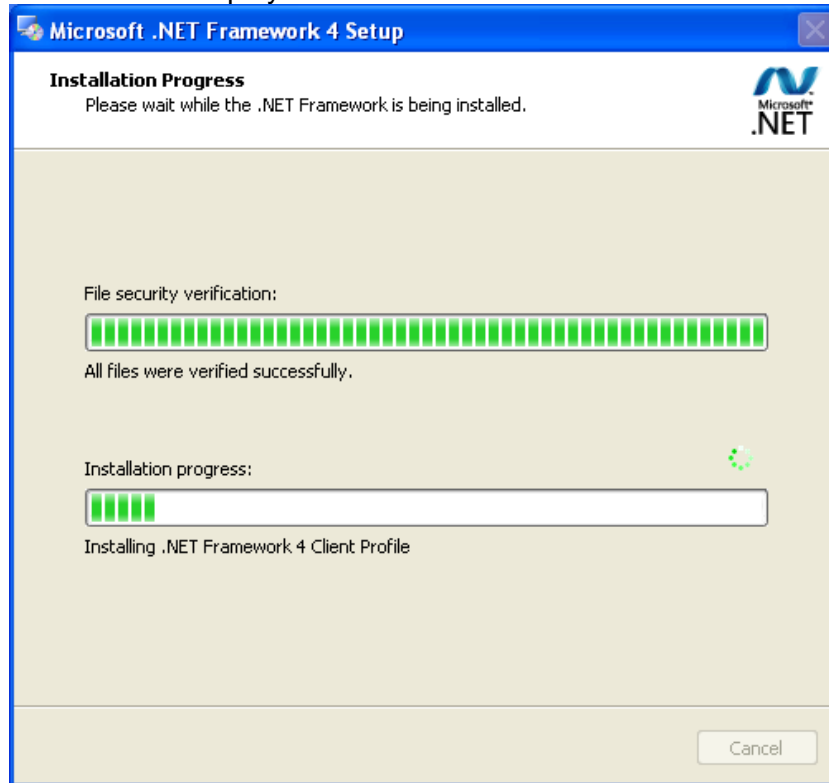
3.3. Connecting the Zetasizer to the PC

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

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

If you are connecting to a Zetasizer APS or Zetasizer µV, 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.
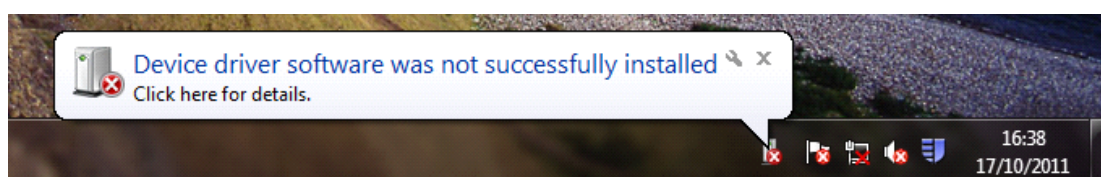
Alternatively, the following message may appear.
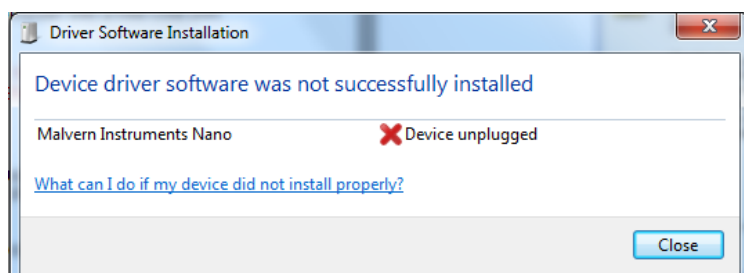
These messages can be safely ignored as long as, when the Zetasizer software is started, the 'Nano' icon is enabled as in the image below.

3.4. Zetasizer APS and Zetasizer µV 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.

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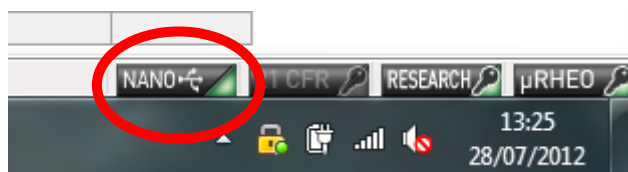
When the software is started the first time, the following dialog box will appear. Click on the appropriate system to select it. This dialog will not appear the next time the software is started.

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.

4. Uninstall procedure

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

5. Additions

5.1. Firmware update for Zetasizer APS and Zetasizer µV

The Zetasizer Software v7.03 includes additional software modifications to work with the latest firmware included with the Zetasizer APS and Zetasizer µV instruments.

Filename: Software Update Notification for DTS v7.03.doc

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

5.2. Windows 8 Compatibility

The Zetasizer Software v7.03 will now install and run on the Windows 8 Operating
System.

5.3. Improved Plate Scheduler

The plate scheduler has been enhanced to perform additional verification on any
SOPs added to ensure they are compatible with the APS instrument.

5.4. HTML 5 Help

The help system has been upgraded to use the latest HTML 5 help version.

6. Bug fixes

Numerous bug fixes have been implemented to improve software stability and
quality. These include but are not limited to those in the table below:

Double clicking on a DTS measurement file now launches the Zetasizer Software and displays the clicked on file.
It is no longer possible to delete the child record of a measurement collection without also deleting its parent and all of its siblings.
The plate scheduler now verifies SOPs before running a plate rather than waiting until the plate reaches the specified well and determining that the SOP is invalid.
When a SOP fails to export a report at the end of the measurement, the user is now informed where the Software was trying to save the report to.
The cell types listed in the Nano count rate form have now been made consistent with the currently available list of cells.
The High Concentration Zeta Cell is now visible on a ZS90 instrument.
Molecular Weight measurement on Zetasizer µV's fixed for when optional DLS size measurement selected.

7. Known Issues

7.1. Memory requirements for extended measurements (APS only)

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.
 It is therefore 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 repeats measurements for each well on a 384 well plate). If you have a
requirement to perform more measurements than this then please contact Product
Management via the Helpdesk to discuss your options.

7.2. Workspaces

For versions from 7.01 onwards, a selection of new workspaces have been created
for the new measurement types. A number of reports from other workspaces have
also been updated.

However, due to the way the software is updated, these may not appear if a current Zetasizer user is having their software upgraded.
New workspaces can be imported by selecting the 'import workspace' option in the workspace selection menu.

Workspaces are stored in the following directory:

C:\Users\[username]\Documents\Malvern Instruments\Zetasizer\Export Data

To simply update all workspaces in the Zetasizer software, navigate to the folder:

C:\Users\[username]\Documents\Malvern Instruments\Zetasizer

and delete all "EN-US File" file types.

7.3. PCs with single core CPUs may lock up when connected to an APS or µV

Some PCs, running the Zetasizer software, may lock-up or freeze when connected to an APS or µV. The APS and µV 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 µV. The Zetasizer Nano is not affected by this issue.

7.4. USB detection

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.

7.5. Missing parameters in user reports

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. 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:-

1) Double-click on the affected parameter to bring up its property dialogue.
2) Click the 'Select' button to display the 'Select a parameter' dialogue.
3) Select the relevant parameter.

N.B. Remember to correct the affected parameters on both the screen and page layout views

7.6. Results

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

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

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.

7.7. SOP sample settings can be lost on software upgrade

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:

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.

To do this the following steps need to be followed:

1. Ensure that you are logged onto the computer as an administrative user
2. Run the Zetasizer software once then close it down so there are no copies of it running.
3. Use Windows Explorer to copy the files:

SampleProperties.cfg
CompoundProperties.cfg
IonicSpecies.cfg

to the relevant location. The locations of the files depend on the operating system:

Windows XP
Copy from C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer<date/time of install> to overwrite files in C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer

Windows 7
Copy from C:\ProgramData\Malvern Instruments\Zetasizer<date/time of install> to overwrite files in C:\ProgramData\Malvern Instruments\Zetasizer

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->View and then enable the option to Show hidden files and folders.

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->Folder Options->Show Hidden files and folders and then enable the option to Show hidden files, folders and drives.

N.B. If the installation process is terminated prematurely, the backup from the last installation is maintained in the following directory:

Windows XP - C:\Documents and Settings\All Users\Application Data\Malvern Instruments\Zetasizer_BACKUP

 Windows 7 - C:\ProgramData\Malvern Instruments\Zetasizer_BACKUP

7.8. Zetasizer APS and Zetasizer µV 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 µV are incompatible with some of the earliest instruments. This is expected to affect only Zetasizer µV. 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 µV 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 µV 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.
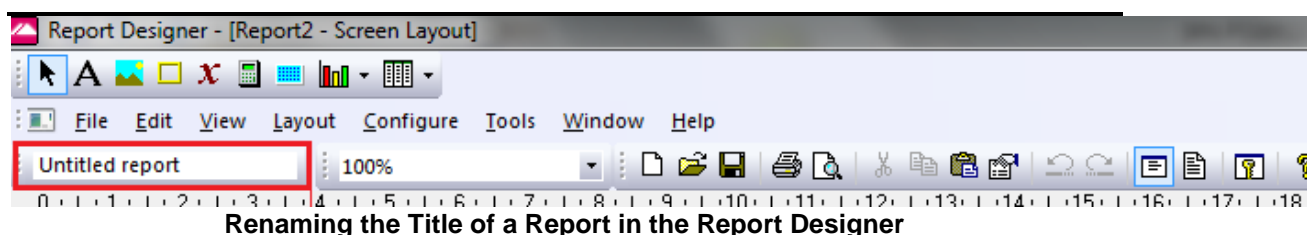
7.9. PC entering sleep mode can disconnect the Zetasizer

If the PC should enter sleep mode while the Zetasizer is connected and running, the connection will be lost and the measurement fail. It is recommended to disable the sleep function while the Zetasizer is being used.

7.10. 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:
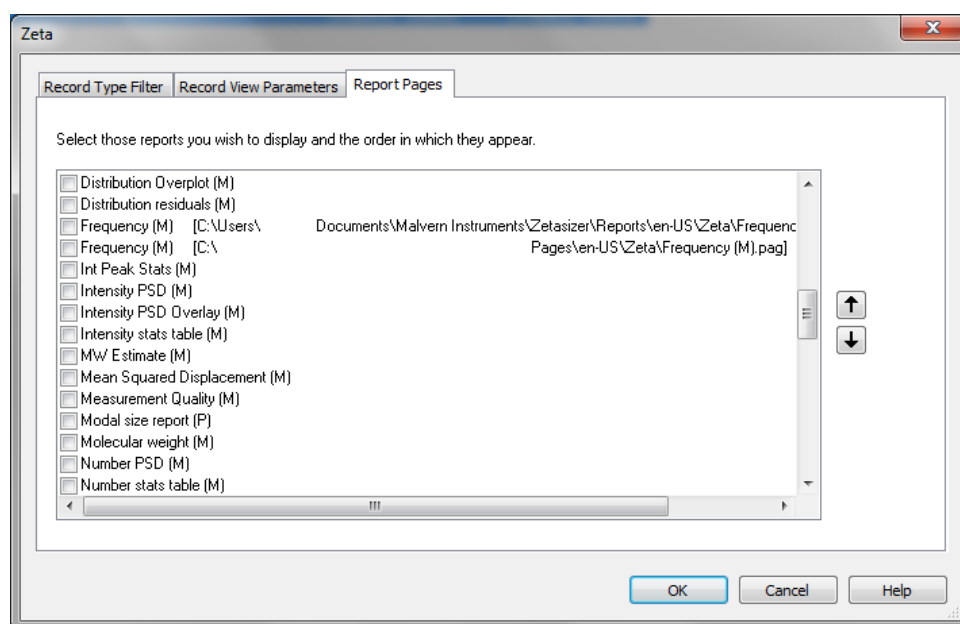
1) If creating a new report or editing an existing report, the report title must be changed and ideally should also be unique, as it is this title, not the filename, which is displayed inside the workspace editor. To change the report title, edit the field in the report designer as shown below.

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

Renaming the Title of a Report in the Report Designer

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.


Configure Workspace button
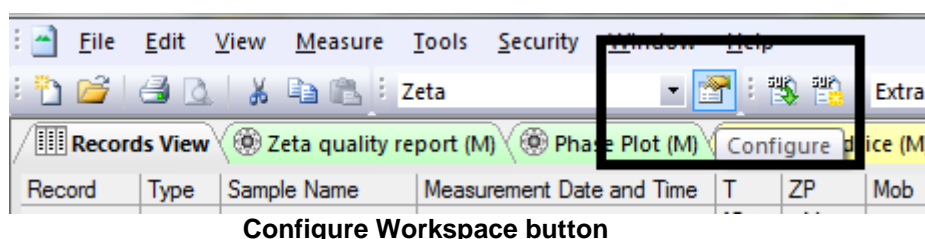
4) If there are any reports with duplicate titles visible to the software then they will be listed in the Report Pages tab with their file location (see below).

Duplicate Reports in the Workspace Editor

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

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:
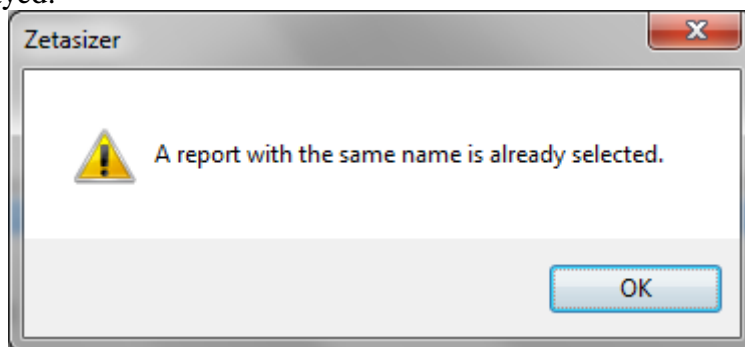
Duplicate Report Warning

7.11. 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.
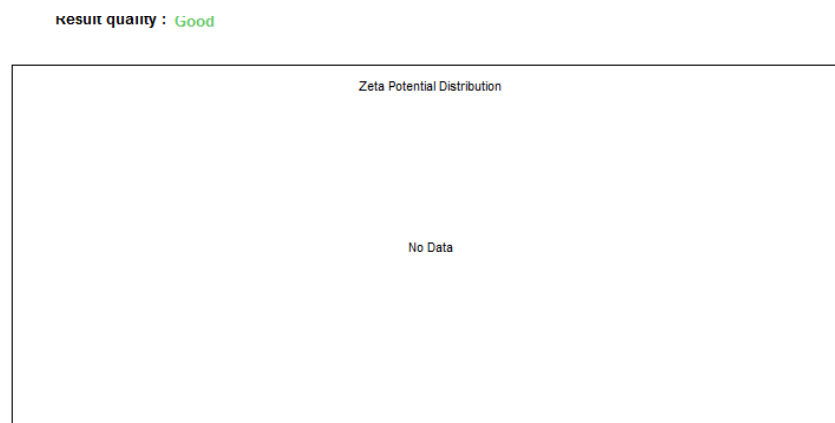
Example of a monomodal record being displayed in a Zeta Potential Distribution chart

7.12. Aborting measurements when lid is opened

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.

7.13. Enabling Feature keys when switching instruments

Occasionally, it has been observed that feature keys can be disabled after detaching one instrument and then attaching a different instrument. This problem can be resolved by restarting the Zetasizer software.

7.14. 21CFR audit trail update and link to Windows login

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. The following procedure should be followed to enable the 21CFR Part 11 ER/ES audit trail for all users:

1. Open Windows Explorer as an administrator to edit the file permissions.

2. **Windows 7/8:** Type "%ProgramData%" into the address bar.
   Windows XP: Type "%ALLUSERSPROFILE%\Application Data" into the address bar.

3. Hit Enter and open the [Malvern Instruments] folder from the folder list.

4. Right click the [Zetasizer] folder and select [Properties] from the menu.

5. Click on the [Security] tab.

6. **Windows 7 only:** Click on the [Edit] button beneath the "Group or user names" list. The "Permissions for Zetasizer" window should be displayed.

7. Under the "Group or user names" list, click on the [Add] button. The "Select Users or Groups" dialog should open.

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.

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.

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.

11. Click [OK] to accept and close all properties windows.

12. The audit trail should now work correctly for all user accounts on this computer.

7.15. Saving data to non-local fixed drives

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% 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.

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.

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

7.16. High Temperature dispersant on standard instrument

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,

7.17. Launching the Zetasizer Software from a .dts file in Windows Explorer

When launching the Zetasizer software from a .dts file in Windows Explorer the following error dialog will appear.
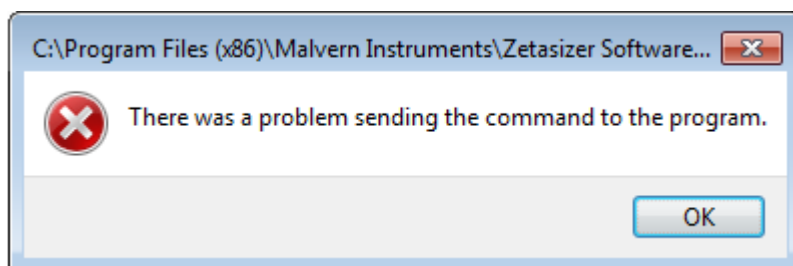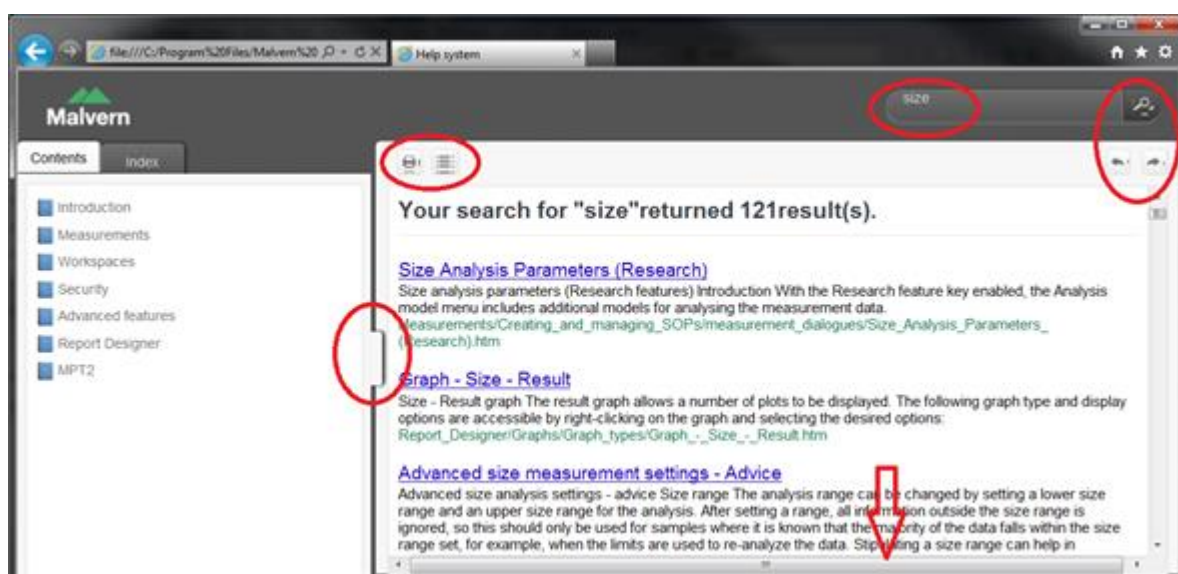

This error message does not stop the file from loading and can be safely ignored.

7.18. Opening Help within Internet Explorer Compatibility Mode

The following issues have been identified using the new HTML5 Help system in Internet Explorer 9 with compatibility mode set to On.

- Icons are tiled or not displayed correctly (see Figure 18)
- Search box text is not vertically centred (see Figure 18)
- Horizontal scroll bar is sometimes shown in the body area (see Figure 18)
- Vertical scroll bar is sometimes not right aligned correctly
- Scroll bars do not work after a search

HTML5 Help problems in IE9 Compatibility mode

SUN: Zetasizer series Application Software for use with
Microsoft Windows XP Pro and Windows 7 (English and
Japanese)

The workaround for this problem is to use Internet Explorer in non-compatibility mode.

8. Customer deliverables

8.1. Application software suite

The software is contained on one CD-ROM. The disk is labelled PSS0012/34

8.1.1. Disk contents

- 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