



## Sievers\* DataShare 500 Software

# Operation and Maintenance Manual

Software Version 1.02 and Later

# Identification Records

Date of receipt and installation of Analyzer:  
(this is the warranty start date)

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DataShare 500 Software Version Number:

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# Revision History

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US 6,271,043

US 6,228,325

US 5,976,468

US 5,902,751

US 5,837,203

US 5,820,823

US 5,798,271

US 5,750,073

US 5,443,991

US 5,132,094

EP 0 897 530

FR 0 897 530

GB 0 897 530

DE 697 02 516 0-08

and other patents pending

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# Chapter 1. Introduction and System Requirements

The Sievers<sup>®</sup> 500 RL On-Line TOC Analyzer from GE Analytical Instruments is a high-sensitivity Analyzer used to measure the concentration of total organic carbon (TOC), total inorganic carbon (TIC), and total carbon (TC = TOC + TIC) in water samples (for patent information, see the section called “Trademarks and Patents” on page 6.

The DataShare 500 software is used to view and print encrypted data exported from the Sievers 500 RL On-Line TOC Analyzer. DataShare 500 thus helps you manage your data while protecting data from being altered or modified. Encrypted data export must be enabled on the Analyzer.

**Table 1: Minimum Computer Requirements**

<b>System Component</b>	<b>Minimum Requirement</b>
Operating System	Windows 2000/XP
RAM	256 MB
CPU Speed	500 MHz
Available Hard Disk Space	75 MB
Screen Resolution	1024 X 768
Screen Color	65K (High Color)
Printer	Optional to run program; required to print reports
CD-ROM Drive	Required for installation



# Chapter 2. Installation

## Overview

This chapter provides installation instructions for DataShare 500 software. If you need additional assistance, contact GE Analytical Instruments Technical Support at 800.255.6964. Installation and training by a qualified service technician also can be provided.

## Running the Installer

1. Turn on power to the computer that will be running DataShare 500.
2. Insert the DataShare 500 software CD into your computer's CD-ROM drive.
3. If the installer does not automatically start, double-click on **My Computer** (if you are running Windows XP, you may need to select **Start → My Computer**) and double-click the icon for your CD drive.
4. Double-click the icon named **Install DataShare 500**.
5. Follow the on-screen installation instructions.

### **Warning**

Java is required to run DataShare 500. If the correct version of Java is not found on your computer, the DataShare 500 Installer will automatically install Java for you, and then continue with the DataShare 500 installation. If the Java installer runs, it will prompt you to restart your computer: when this happens, click **No** so as not to restart. Instead, restart your computer when prompted at the end of the DataShare 500 Installation.

**Note:** *In Windows 2000 and Windows XP, you will need to have installation privileges for the destination computer. If you are unable to install software on the computer, your network Administrator or Information Technology group may need to assist you.*



# Chapter 3. Basic DataShare 500 Operation

## Overview

DataShare 500 is able to open encrypted data history or calibration history files that have been exported from Sievers 500 RL On-Line TOC Analyzers. The program cannot open plain text (comma- or tab-delimited) files. For information on how to export data from the Analyzer, consult your Analyzer's *Operation and Maintenance Manual*. Encrypted data export must be enabled on the Analyzer. If you have not purchased certain Analyzer features, some corresponding reports may not be available in DataShare 500.

## Setting Preferences

Before opening a data file, you can set several DataShare 500 preferences to customize your work environment.

## Setting the Data and Time Format

DataShare 500 allows you to customize the way the date and time are formatted for the data files you open.

1. Select **Setup** → **Date/Time Format**.

2. In the **Date Format** window (see Figure 1), specify a time format (from the lefty column) and a date format (from the right column).
3. Click **OK** to apply the formats and continue.

Note that you can only change the date and time format before opening a file; if you want to change the date and time format after you have opened a file, first exit DataShare 500 (**File** → **Exit**) then launch the program again follow the steps above.

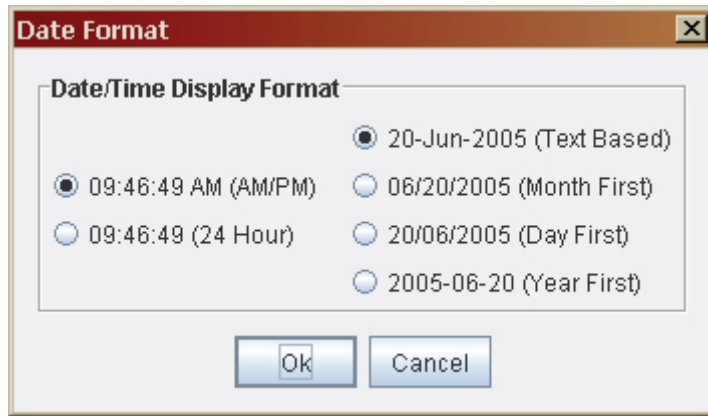


Figure 1: The Date Format Window

## Setting the Language

DataShare 500 allows you to select a language appropriate for your region. Changing the language does not affect basic program functionality or data in any way, but merely changes the way menus, dialog boxes, and column headings display. To change the program language, follow these steps:

1. Select **Setup** → **Select Language**.
2. In the **Select Language** window (see Figure 2), specify the program language.
3. Click **OK**.
4. A message displays, alerting you that you must re-start the program for the change in language to be applied. Click **OK**.
5. Exit the program by selecting **File** → **Exit**, and then launch the program again. When DataShare 500 starts, it will be in the language you have specified.

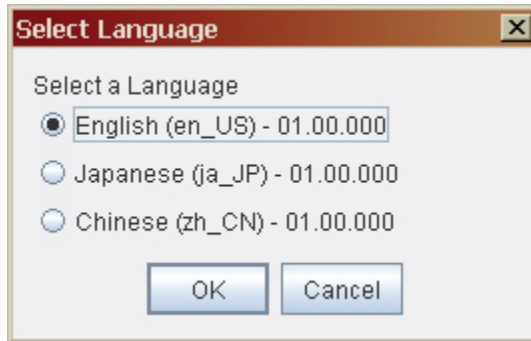


Figure 2: The Select Language Window

**Note:** *If you accidentally change the program language and cannot read the menus, you can switch back to your language as follows: select the second menu option from the left, then select the third menu item in the list.*

## Opening Files

DataShare 500 opens two types of encrypted files that have been exported from a Sievers 500 RL TOC Analyzer: data history files and calibration history files.

To open a data file, follow these steps:

1. Select **File** → **Open** or click the **Open** button.
2. Navigate to the directory where the data file has been saved, select the file, and click **Open**.

## Working with Data Files

After you have opened a data file, a report of the data displays on-screen. The display varies depending on the type of file you open.

## Working with Data History Files

When you open a data history file, a basic report displays on-screen (see Figure 3). Above the data, the **Report Summary** area displays, indicating information about the Analyzer from which the data was exported, including serial number, location name, and the date of export.

Analysis Mode	Date	Time	TOC (ppb)	IC (ppb)	TC (ppb)	Sample rCond (uS)	Sample Temp (C)	Sample tCond (uS)
Timed	02-Nov-2005	07:00:00 PM	41.3	49.4	90.7	1.24	36.9	0.960
Timed	02-Nov-2005	11:00:00 PM	43.8	50.2	94.0	1.25	38.4	0.942
Timed	03-Nov-2005	03:00:00 AM	41.7	56.3	98.0	1.29	37.9	0.982
Timed	03-Nov-2005	07:00:00 AM	40.3	72.2	112	1.34	37.5	1.03
Grab	03-Nov-2005	10:34:59 AM	41.0	69.3	110	1.32	37.1	1.02
Grab	03-Nov-2005	10:40:59 AM	41.2	69.5	111	1.32	37.2	1.02
Grab	03-Nov-2005	10:46:59 AM	41.3	69.4	111	1.32	37.3	1.02
Grab	03-Nov-2005	10:52:59 AM	41.0	69.4	110	1.33	37.3	1.02
On Line	03-Nov-2005	12:13:20 PM	41.5	70.1	112	1.32	36.9	1.03
On Line	03-Nov-2005	12:19:20 PM	40.6	69.2	110	1.32	37.0	1.02
On Line	03-Nov-2005	12:25:20 PM	40.6	67.7	108	1.32	37.1	1.02
On Line	03-Nov-2005	12:31:20 PM	40.9	67.2	108	1.32	37.1	1.02
On Line	03-Nov-2005	12:37:20 PM	41.3	66.8	108	1.33	37.2	1.03
On Line	03-Nov-2005	12:43:20 PM	41.6	68.8	110	1.33	37.3	1.03
On Line	03-Nov-2005	12:49:20 PM	41.0	69.8	111	1.33	37.4	1.02
On Line	03-Nov-2005	12:55:20 PM	41.0	69.8	111	1.33	37.4	1.02
On Line	03-Nov-2005	01:01:20 PM	41.4	69.1	110	1.33	37.4	1.02
On Line	03-Nov-2005	01:07:20 PM	42.9	70.5	113	1.35	37.5	1.04
On Line	03-Nov-2005	01:13:20 PM	41.7	75.4	117	1.36	37.5	1.04
On Line	03-Nov-2005	01:19:20 PM	41.3	77.7	119	1.35	37.5	1.04
On Line	03-Nov-2005	01:25:20 PM	41.4	75.2	117	1.35	37.6	1.04
On Line	03-Nov-2005	01:31:20 PM	40.6	75.3	116	1.35	37.6	1.03
On Line	03-Nov-2005	01:37:20 PM	41.0	72.5	114	1.35	37.6	1.03
On Line	03-Nov-2005	01:43:20 PM	42.2	72.3	115	1.36	37.6	1.05
On Line	03-Nov-2005	01:49:20 PM	42.0	77.6	120	1.37	37.6	1.05
On Line	03-Nov-2005	01:55:20 PM	41.1	79.5	121	1.36	37.6	1.05
On Line	03-Nov-2005	02:01:20 PM	41.5	78.4	120	1.37	37.6	1.05
On Line	03-Nov-2005	02:07:20 PM	41.8	79.8	122	1.38	37.7	1.05
On Line	03-Nov-2005	02:13:20 PM	40.9	81.2	122	1.37	37.7	1.05
On Line	03-Nov-2005	02:19:20 PM	41.4	77.7	119	1.36	37.8	1.04
On Line	03-Nov-2005	02:25:20 PM	41.5	75.9	117	1.37	37.8	1.05
On Line	03-Nov-2005	02:31:20 PM	42.7	79.1	122	1.38	37.8	1.06
On Line	03-Nov-2005	02:37:20 PM	41.3	83.4	125	1.38	37.7	1.06
On Line	03-Nov-2005	02:43:20 PM	41.6	82.6	124	1.39	37.7	1.06

Figure 3: Displaying a Data History Report

If you are interested in viewing a subset of the data, you can filter the data to include only a specific date range. Select **Setup** → **Date Range** or click the **Date Range** button, enter values in the **From Date** and **To Date** fields, and then click **OK**. The report will then only show the data from the date range you have specified. This date range filter also is in effect when you print or export the report.

To return to the full set of data, select **Date Range** again and click **OK**.

## Working with Calibration History Files

When you export the calibration history from the Analyzer, data is included for the most recent calibrations, system suitability verification, calibration verification, accuracy and precision, and linearity verification.

DataShare 500 displays the data from one system protocol at a time. To view data from a different protocol than the one currently displayed, select **Setup** → **Select** or click the **Select** button; a drop-down list of the available system protocols displays.

Figure 4 shows an example of a system protocol, in this case the results from a System Suitability verification. Above the data, the **Report Summary** area displays, indicating information about the Analyzer from which the data was exported, including serial number, location name, and the date of export. Below that, the **Protocol Summary** area displays, indicating the system protocol that is being displayed, the date on which it was run, and information about the standards used.

After the summary information, the report lists data for each vial that was analyzed, with measurement data for each repetition. Rows that are formatted with a gray background are rejects; rows formatted with a white background are repetitions used for calculations.

Below the measurement data, the **Results Summary** area provides calculated results and indicates whether the protocol passed or failed; this area generally reflects the Analyzer's summary screens, which are displayed at the end of every system protocol.

**500 Pharma**  
**Calibration History**  
 Serial Number = 0014  
 Location = PATRICK  
 File Date = 30-Sep-2005 12:59:55 PM

**Sys Suit**  
 Run Date = 07-Jul-2005 08:34:00 AM  
 User Id =  
 Firmware Version = 0.00\_Rev,082  
 Vial Set Name = System Suitability Set  
 Part Number = STD 74503  
 Set Lot Number = 05174-SSAX 001  
 Vial Set Expire Date = 21-Jul-2005 12:00:00 AM

**Reagent Water Blank (RW)**  
 Vial Expire Date: 21-Jul-2005 12:00:00 AM  
 Part Number: STD 74002  
 Lot Number: 05146-SSRW 426

Rep	Time	Reject	TOC	IC
1	07-Jul-2005 08:48:33 AM	Yes	27.2 ppb	237 ppb
2	07-Jul-2005 08:54:33 AM	Yes	28.3 ppb	234 ppb
3	07-Jul-2005 09:00:33 AM	Yes	31.2 ppb	233 ppb
4	07-Jul-2005 09:06:33 AM	Yes	31.3 ppb	232 ppb
5	07-Jul-2005 09:12:33 AM	Yes	29.0 ppb	231 ppb
6	07-Jul-2005 09:18:33 AM	Yes	29.0 ppb	229 ppb
7	07-Jul-2005 09:24:33 AM	Yes	29.1 ppb	227 ppb
8	07-Jul-2005 09:30:33 AM	No	30.3 ppb	224 ppb
9	07-Jul-2005 09:36:33 AM	No	29.7 ppb	223 ppb
10	07-Jul-2005 09:42:33 AM	No	29.6 ppb	221 ppb
Average			29.9 ppb	223 ppb
S.D.			0.4 ppb	1.5 ppb
R.S.D.			1.34 %	0.67 %

**Sucrose (Rs)**

Figure 4: Displaying a System Suitability Report

## Printing and Exporting Data

When a data history or calibration history file is displayed on-screen, you can print and export the current view. For example, if you have opened a data history file and selected a specific date range, only that range will be printed or exported. Similarly, if you have opened a calibration history file, only the protocol being displayed on-screen will print.

To print the report, select **File** → **Print** or click the **Print** button.

To export the report, select **File** → **Export** or click the **Export** button. The data is exported as a comma-separated text file. When saving the file, assign it a file name that ends with `.csv`. Most

spreadsheet programs, such as Microsoft Excel, can open the .CSV file without having to go through an import process.

## Protocol Calculations

For details on the way data from system protocols are calculated and various acceptance criteria, consult the Analyzer's *Operation and Maintenance Manual* or *Validation Support Package Volume I*.

Relevant equations for various protocols are listed below.

## System Suitability

$$\text{Response Efficiency} = \frac{(R_{ss} - R_w)}{(R_s - R_w)} \times 100$$

$$\text{Response Limit} = R_s - R_w$$

## Accuracy, Precision, and Verification

$$\text{Standard Deviation} = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}}$$

$\Sigma$  = Sum of

$x$  = Each Result

$n$  = Number of Measurements in a set  
(# of repetitions - # of rejections)

$$\% \text{ Diff} = \frac{\text{Measured Concentration} - \text{Expected Standard Concentration}}{\text{Expected Standard Concentration}} \times 100\%$$

## Linearity

$$R^2 = \left( \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum(x^2) - (\sum x)^2][n\sum(y^2) - (\sum y)^2]}} \right)^2$$

X = Certified values of TOC standards)

Y = Measured values of TOC standards (blank-corrected)





