Getting Started With DO Analyser
Software Version 4

Getting Started With The DO Analyser Sofware
Version 4

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1. System Requirements

1.1 Minimum System Requirements

Operating System:	Windows 98, 98 SE Windows ME Windows NT 4.0 with Service Pack 6A Windows 2000 with Service Pack 2 or later Windows XP Windows Vista
Software:	Internet Explorer 5.0 or later Microsoft DAO 3.6 (Data Access Objects) Microsoft Jet Engine Version 4.0 Adobe Acrobat Reader 5.0 or later for documentation
Free hard disk space:	10 MB (without data files)
RAM:	64 MB (128 MB with Windows XP)
Screen resolution:	800x600 or higher
Colour depth:	16 Bit or higher
Interfaces:	One serial port (optional by using an USB to serial converter)
DO Analyser:	Hardware Version 2.2 or later.

1.2 Recommended System Requirements

Operating System:	Windows 2000 SP4, Windows XP SP2, Windows Vista
Software:	Internet Explorer 6.0 SP1 or 7.0 Microsoft Jet Engine Version 4.0 SP8
RAM:	256 MB (512 MB with Windows XP, 1024 MB with Vista)
Screen resolution:	1024x768 or higher

Microsoft DAO 3.6 and Jet Engine 4.0 are included with Windows 2000 and later. However, update of the Jet Engine by the newest service pack is highly recommended. For Windows 9x and Windows NT they must be installed separately. See below for further instruction.

SiS O2plus 1-channel titrators are not supported. This software requires a DOA hardware version 2.2 or later. This applies to all systems since August 1994. Older systems must be send to SiS GmbH for service and upgrade. Systems which has been serviced after 1994 have already been upgraded.

2. Software Installation

2.1 Installation Program

The installation program is distributed on CD and for download in two versions:

- A Set-up (full) version containing all files,
- An Update version containing only changed and new files. The update version requires an already installed version and is usually only available on the SiS web site at http://www.sis-germany.com/download.htm#doa.

With Windows NT or later, the set-up program must be run with administrative or power user privileges. If the set-up program is executed with insufficient privileges it will terminate with an error message. When installing an update, it must be performed as administrator or the same (power) user that has installed the DOA software the first time.

2.2. Installation Progress

To start installation, execute the set-up or update program. When having an installation CD, the set-up program will be started automatically when inserting the CD, provided that the Windows auto start feature is enabled. In all other cases use the Windows Explorer to navigate to the location of the set-up or update program and start it by double-click.

2.2.1 Language

Select your language (Dansk, Deutsch, English, Francaise, Nederlands, or Espanol). This selection does not specify the language of the DOA program (currently only available in English), but the language used by the Set-up program itself and the language of the start menu entries. Additionally, when selecting 'Deutsch', some German documentation is installed. If the local system does not use code page 1252 only 'English' is available. See also section 4. 'Localization'.

2.2.2 Welcome Screen

Displays the name (DOA) and version of the software.

2.2.3 Information

Displays the contents of the INSTALL.TXT file (detailed installation notes).

2.2.3 Select Destination Location

Select the folder where the software should be installed. Default is 'C:\Program Files\Doa' (for English Windows versions; with other languages program folder may have a different name). This page is not displayed with the update package.

2.2.4 Select Components

Select the components you want to install.
Default: Install all files except the DOS version
Full: Install all files
Compact: Install only program and help files
Custom: Select components manually

Note:

When choosing the DOS version component, the DOS files are copied to the sub folder 'dos' in the destination location. The DOS version itself must be also installed before it can be used. This can be done manually after this set-up, or by checking the appropriate check box on the 'Additional Tasks' screen (see below). See the README.TXT in the dos folder for installation instructions.

2.2.5 Select Start Menu Folder

Select a folder name where short cuts are stored. Check the "Don't create a start menu folder" check box if you did not want to create a folder with short cuts. Default folder name is 'Doa'. This page is not displayed with the update package.

2.2.6 Select Additional Tasks

- Create a desktop icon for all users.
- Create a quick launch icon (Windows 9x/ME only).
- Associate files. Double-click on DOA database files loads the file with the DOA application.
- Create data directory. Creates a directory for DOA database files inside the common application data folder. A typical path is 'C:\Documents and Settings\All Users\Application Data\Doa'. It is recommended to use this or another global accessible folder to store the data files on multi user systems.
- Run the DOS version installation program (only for Windows 9x/ME and if DOS version component selected).

2.2.7 Check for Required Database Support

The Set-up Program will check if database support is installed on your system. If files are not installed or too old they must be installed or updated. See the file MDAC_ENU.TXT and section 5 'Installing Microsoft DAO and Jet Engine' for more information.

2.2.8 Ready to Install

Displays the current settings. Choose 'Install' to start the Installation or go back to change settings.

2.2.9 After Install

Additional options.
- View DOS version install instructions (Win 9x only if component selected) View the README.TXT file for the DOS version.
- Install DOS version (Win 9x only if component selected) Launches the install program of the DOS version.
- View the DOA README file
- View the MDAC README file
- Launch DOA software

3. Localization

The DOA software currently supports English language only. However, the program uses some localized Windows system files generating messages in the language of the installed Windows version. The text of start menu entries and desktop icons created during set-up depends on the language selected during set-up.

4. Uninstall

On Windows NT and later, uninstall can be only performed as local administrator.

There are three ways to uninstall the DOA software:
- Use the 'Uninstall' option in the DOA start menu folder, or
- select DOA from the Add/Remove Programs list in the control panel, or
- launch the unins000.exe program in the DOA program folder

Uninstall will only remove files that have been copied during install. Files created by the program or copied manually to the DOA folders will be left in place.

Shared system files installed or updated during installation are not removed.

If the DOS version has been installed it is not removed by the uninstall program. To uninstall the DOS version simply remove the directory containing the DOS software.

5. Installing Microsoft DAO and Jet Engine

All files are language dependent. Therefore, you have to download the specific versions for your Windows version and language. See the file MDAC_ENU.TXT for further information. This file is copied to the program directory during install. If these components are not present (with Windows 9x and NT 4), the DOA software will terminate with an error message.

6. Files That will be Installed

Components	Path	File(s)	Description
all	PF	Doa.exe	Main program
all	PF	Doa.chm	Help file
all	PF	Db-template.doa	Database template file
all	PF	INSTALL.TXT	Installation notes
all	PF	HISTORY.TXT	Change log
all	PF	README.TXT	Additional information
all	PF	MDAC_ENU.TXT	Data Access Files installation notes
all	PF	Getting_Started.pdf	This document
all	PF	Unicows.dll	Unicode support for Win 9x, Win 9x only
all	PF	Gdiplus.dll	Graphics Device Interfaces Library, Win 9x, NT, 2000 only
all	-	-	Folder is created optionally
all*	SYS	Shfolder.dll	Shell Folder Library, Win 9x only
all*	SYS	COMCTL32.DLL	Common Controls Library, Win 9x only
doc	PF\doc	*.pdf	Documentation
dos	PF\dos	*.*	DOA 3 DOS version install files

All*   = Installed if not already present or an older version
CA   = Common application data folder. A typical path is
              C:\Documents and Settings\All Users\Application Data
PF   = Program folder (destination location selected during set-up)

SYS   = Windows system folder

7. Using the Software the First Time

The information of this sentence is nearly identical to the "Getting Started" section of the DOA help file.

7.1 DOA Software Differences to Other Applications

The DOA software uses database files for storage. Therefore, some menu commands behave differently or do not exist as with applications using normal files. This applies especially to the *File* and *Edit* menus. The differences will be explained in detail later.

7.2 The Operator

All record sets stored in the database have a field called 'Operator'. Before any data can be saved, you must create operators. The intended use of this field is to know about the person who has performed titration and created or edited data. Even if there is only one person working with the analyser, or you don't want to use this feature, you must create at least one operator. This is discussed in this place, because you should decide now if you want to use this feature or not. If all users working with this software use their own Windows login accounts, we recommend to use the *System User* option which can be selected in the configuration (see next sentence). We also recommend to use this option if there is only person working with the analyser. When it is active, you do not have to select yourself as operator when opening an existing DOA database file.

7.3 Configuration

When starting the program the first time, you should go to the *Configuration* in the *Options* menu. For the first time it may be only necessary to select the serial port which is connected to your DO Analyser.

If you decided to use the *System User* option, check the appropriate check box in the *Database Tab* and optionally the check box to add users automatically.

To get help about the configuration options, just press *F1* or activate the *Help* button when in the configuration dialog.

NOTE:
The configuration settings are stored independently for each Windows user. If there are multiple users working with this software, each one has to set the configuration options.

7.4 Testing the Connection to DOA

After configuring the serial port you should check the communication with your DO Analyser. Power the analyser and select the *Test* command from the *Options* menu. In case of problems consult the hardware section of the troubleshooting page in the help file.

7.5 Creating a New Database File

Select *New* from the *File* menu or click on the *New* button in the tool bar (the left most tool bar button showing a white piece of paper). The *Create New DOA database* dialog is opened. The optional data import options are not of interest now; import may be also done later. There is an *Add*

me ... check box. Availability and pre-set may be (tested in this order):

Name	Available	Checked	System User Option	Remarks
System user	No	Yes	Yes	Adds system user.
Current operator	Yes	Yes	No	Only if there is a database file open with an selected operator. Uncheck if you don't want the current operator to be added.
System user	Yes	No	No	Suggested name, must be checked manually.
(None)	No	No	No	No adding possible.

Enter a file name for the new file (optional use the *Browse* button to select a different path) and select *OK*. If the *Add me ...* option is not active, the *Select Operator* dialog is displayed. You should read the next section even if the option is active. It contains some useful information.

7.6 Selecting and Adding Operators

The displayed list is empty because the newly created database contains no data. So you should use the *Add* button to create one or more new operator record sets. You may also discard the dialog without adding any record sets. This dialog can be activated at any time with the *Change User* command from the *File* menu or the corresponding button in the tool bar (showing a persons head). The *Add* commands opens the *New Operator* dialog box which contains three fields:

Field	Description
Name	Enter the operator's name. This name must not be empty and has to be unique among all existing operator names.
Comment	Optionally enter a comment.
Active	This option must be checked to allow selection of the operator. Its intended use is to exclude operators from selection when they no longer work with the analyser; e.g. when they left your organization or department.

7.6.1 Automatically Added Operators

Operators are added automatically when the *Add me ...* check box in the *Create New DOA database* dialog is checked. The comment field of these operators is set to 'System user (automatically added)' and the active field is checked.

7.6.2 Adding Operators From List of Operators

Operators can be also added with the *Add* command of the *Edit* menu when in the list of operators. Additional information follows in the *The Database menu* section.

7.7 Saving, Closing, and Opening DOA Database Files

7.7.1 Saving Files

You may have noticed that there is no *Save* command in the file menu. It's not necessary. Database

files are saved automatically when there are any modifications.

7.7.2 Closing Files

You may have noticed that there is no *Close* command in the file menu. It's not necessary. Database files are closed automatically when:

- Terminating the DOA program
- Opening an existing file
- Creating and opening a new file
- Closing all program sub windows

So close all windows (there should be only the log window open), by clicking on the close button (*X*) on the top right corner. You may also press *Ctrl-F4* to close sub windows. Alternatively, terminate the program with the *Exit* command from the *File* menu, the close button of the main window, the close option of the control menu (click on the DOA logo on the top left corner of the main window to open the control menu), by double clicking the control menu button, or by pressing *Alt-F4*.

7.7.3 Opening Files

There are three to four ways to open files:
- With the *Open* command of the *File* menu
- With the *Open* button in the tool bar (those showing a yellow open folder)
- From the *Recent File* list of the *File* menu.
- Automatically open the most recent file at program start when the corresponding option in the configuration is set

So choose one way to open the just created new file. If the *System User* option is not active, the *Select Operator* dialog box is displayed again. In this case, select yourself as operator.

7.8 The Database Menu

The Database menu provides access to all data tables stored in the database. The menu has two sections:
- Basic data. These must be entered manually or imported.
- Titration data. These are created by performing titration.

Each of the data options opens a view window containing a list of the selected type. There may be multiple views opened at the same time. Select the *Operators* command now to open the list view of operators. We will use this list to explain how to use the list views.

7.8.1 Database List Views

The list view itself contains three areas (one may be disabled):

- The filter area
- The list header
- The list itself

7.8.1.1 List Filter

The filters are displayed by default but may be shown or hidden with the *Filter* command of the *View* menu. The filters allow reducing the amount of data displayed in the list. Number and types of

filters depend on the type of list. The operators list contains only two filters: Available and Date. Detailed information on filtering can be found on the *Filter* page in the help file.

7.8.1.2 List Header

The list header contains the column labels and can be used to sort and format the list. Please refer to the *List Header* page in the help file for detailed information on sorting and formatting the list.

7.8.1.3 List

The list contains the record sets of the specific type. You may notice that the operators list contains one more operator named 'Imported' and one more column than input fields when creating an operator record set. The 'Imported' operator is a predefined record set used for data import. The *Date* column contains the date of creation. This field exists in all tables and is set automatically upon creation. And what about the time of creation? Click right on the list header and select the *Columns - Time* option to display also the time column.

List actions can be performed by using the commands from the *Edit* menu and with the context menu (right click inside the list). The availability of commands depends on the current selection of record sets. To select record sets use the cursor keys or the mouse. Use together with the *Shift* key to select a block of sets or the *Ctrl* key to select multiple individual record sets.

Available commands are:

Command	Selection	Description
Add	-	Create a new record set.
Add Copy	1	Create a copy of a record set. Like *Add* but pre-set fields with values from the selected record set.
Edit/View	1	Edit all fields of a single record set.
Edit/View	> 1	Edit specific fields of multiple record sets.
Delete	≥ 1	Delete the selected record sets.
Copy	≥ 1	Copy the content of the selected record sets to the clipboard.
Copy All	-	Copy the content of all record sets to the clipboard.
Copy Cell	-	Copy the content of the clicked cell to the clipboard.
Select All	-	Select all record sets.
Deselect	≥ 1	Deselect record sets.

Some of these commands differ from those found in other, non-database, applications.

Please refer to the *List Context* menu and the *Edit* menu pages in the help file for detailed information on the list commands.

To become familiar with the list commands, you should now use them.

7.9 Required Data for Titration

Before any kind of titration can be performed, you must enter data to the tables. Please use this order, because some tables depend on others:

Table	Required for	Remarks
Operators	creating record sets in other tables	
Exchange Units	titers, all kind of titration	
Dispensers	all kind of titration	
Titer	all kind of titration	
Standard Solution	standard and blank titration	
Bottle Groups	bottles, sample titration	
Bottles	sample titration	
Samplers	sample titration	The database already contains a predefined record set.
Parameter	all kind of titration	The database already contains a predefined record set.
Reagents (Acid, Iodide, $MnCl_2$)	no other tables	The database already contains a predefined record set.

If you are upgrading from the DOS software, you should now import your existing data. After import open each table to check and optional edit the imported data and optional add some new data.

Otherwise open each table and add at least one record set. Press *F1* when on the new record set dialog to get help about the input fields.

7.9.1 Add Operators

You already have at least one record set. Optionally add some of your colleagues.

7.9.2 Add Exchange Units

Add all of your exchange units used with the DO Analyser.

7.9.3 Add Dispensers

Add all of your dispensers used with the DO Analyser. There must be at least one dispenser for each kind of reagent.

7.9.4 Add Titers

Add all of your prepared titers.

7.9.5 Add Standard Solution

Add all of your prepared standard solutions.

7.9.6 Add Bottle Groups

Bottle groups are provided to allow usage of different bottle sets. If you do not have multiple groups of bottles, you must add at least one group. Simply name it 'Default Group'.

7.9.7 Add Bottles

This is the most lavish activity. Please note that all bottles belonging to the same group must have different names.

7.9.8 Add Samplers

Samplers are optional. However, there must be at least one entry in this table. If you don't want to track information about samplers, you may use the provided default set named 'No sampler'.

7.9.9 Add Parameter

Optional add a new parameter set or change the provided default set.

7.9.10 Add Reagents (Optional)

Optional add data for your reagents (iodide, $MnCl_2$, and acid). When not doing so, the predefined record sets are used.

7.10 Performing the First Titration

To become familiar with the DOA software we recommend to use the demo mode at this point. In demo mode, the titration process is simulated and runs about ten time times faster than real titration. To start in demo mode use the *DOA Demo* option from the DOA group in the start menu which has been created during installation. You may also use the command line options '-d', '-D', or '--demo' to start in demo mode.

7.10.1 Standard Determination

Before a sample titration can be performed, each titer must be standardized. To start a standard determination choose *Standard* from the *Titration* menu, or use the *Add* command when the Standardizations list view is the active window. Please use the specific help on all dialogs that appear during and after standard determination.

7.10.2 Blank Determination

Blank determinations are optional. They are not required (the database contains a not visible predefined blank record set with a blank value of zero). If you want to perform a blank determination, just choose the *Blank* option from the *Titration* menu.

7.10.3 Sample Titration

Now you are ready to perform the first sample titration.

8. Upgrading from the DOA 3 DOS Software

You should read this only if you are upgrading from the DOS software or used the DOS software in the past.

8.1 What Has Been Changed?

The windows software has a lot of modifications and enhancements.

8.1.1 Data Storage

The DOS software stores data in three kind of files: Bottles, configuration, and titration result. The Windows software uses only one kind of files: Database files holding all titration results and base

data like bottles and exchange units. These database files may be shared by multiple users. The general program configuration is stored separately in the Windows registry for each user.

8.1.2 Post Processing

The DOS software did not allow post processing of data (e.g. changing the bottle number, or entering the salinity after titration has been performed). The Windows software allows changing of nearly any values. However, some fixed values may not be changed (e.g. time stamps, titer amount of titration). To avoid loss of important data, changed values will not overwrite the original (first entered) data, but be stored in separate places.

8.1.3 Configuration

Some of the configuration options have been moved to the database:

8.1.3.1 Exchange Unit Volume and Fill Speed

The Windows software supports multiple exchange units. Therefore, the volume and fill speed has to be specified in the Exchange Unit table.

8.1.3.2 Titration Parameter

The Windows software supports multiple parameter settings. Therefore, the settings have to be specified in the Parameter table. This allows different settings for different types of titration like:

- Settings for standard determinations (clear water, high concentration)
- Settings for blank determinations (clear water, low concentration)
- Settings for turbid sample
- Settings for low concentration samples

8.2 Importing Data from the DOA 3 Software

There is an import option to read data stored in DOA 3 data files. These kind of data may be imported:

- Bottles
- Exchange unit (volume from last standardization)
- Standard dispenser (volume from last standardization)
- Reagent dispenser (volume from last sample titration)
- Recently used titer
- Recently used standard solution
- Recent standardization
- Recent blank determination
- Titration parameter

8.3 Other Enhancements

- The calibration program is now part of the software and no longer a stand-alone program.
- Data can be exported in various formats (Text, HTML, CSV, Excel).
- Support for USB to serial converters.
- Supports KIO_3 and $KH(IO_3)_2$ as standard solution reagent.
- Supports normality and weight input for standard solution concentration.

9. Further Information

The help file of the DOA software contains all necessary information. It can be accessed from within the DOA software or by an entry in the DOA group in the start menu which is created during install.

Besides the help file, there are some text files containing up-to-date information. These files are copied to the program directory during installation:

README.TXT
      General readme file (English).
INSTALL.TXT
      Detailed installation notes (English).
INST_DE.TXT
      Detailed installation notes (German).
HISTORY.TXT
      Change log
MDAC_ENU.TXT
      Data Access Files installation notes (English)
MDAC_DEU.TXT
      Data Access Files installation notes (German)

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