

# Memo Mouse / DataTrak



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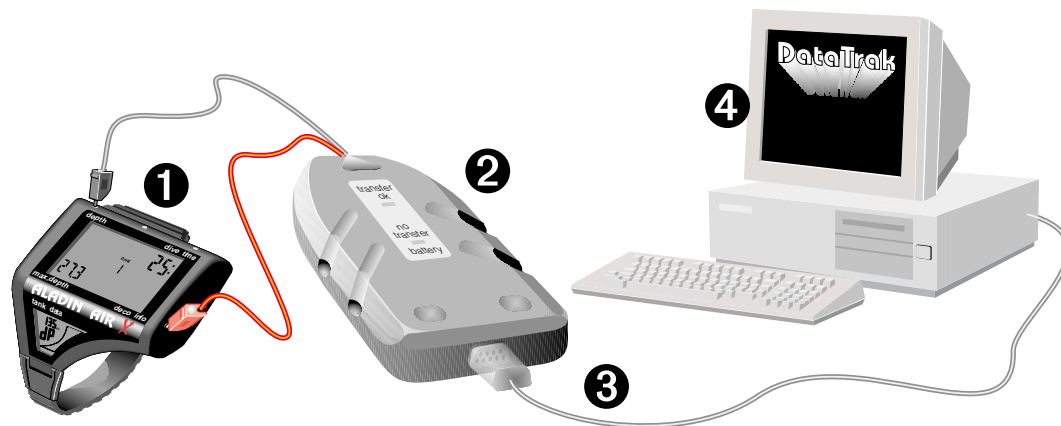
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# 1 Survey

## 1.1 The system

With the Memo Mouse and the **DataTrak/DataTalk** software for Windows<sup>®</sup>, you get a valuable addition to your Aladin<sup>®</sup> dive computer or compatible instrument.



- 1 Aladin<sup>®</sup> or compatible dive computer
- 2 Memo Mouse with transfer line and serial port
- 3 Serial cable to PC
- 4 PC with **DataTrak/DataTalk** software for Windows<sup>®</sup>

## Survey

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### 1.1.1 PC system requirements

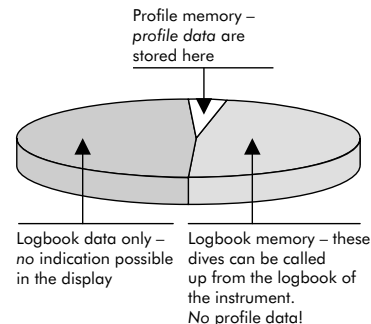
- ✗ PC with 386 CPU or higher
- ✗ Windows<sup>®</sup> 3.1x, Windows 95<sup>®</sup> or Windows NT<sup>®</sup> (3.51 or higher)
- ✗ 4 MB RAM minimum
- ✗ Hard disk with minimum 2 MB free memory
- ✗ Mouse or compatible pointing device

### 1.1.2 Scope of delivery

- ✗ Memo Mouse
- ✗ 3.5-inch floppy disk with **DataTrak/DataTalk** for Windows
- ✗ Serial line
- ✗ Operating manual

## 1.2 Dive computer

UWATEC dive computers of the Aladin family and compatible instruments save the logbook data of your dives in an internal logbook. More dives are saved than are displayed in the logbook of the instrument. In addition, the current dives are stored in detail with a dive profile in 20-seconds increments. When the profile memory is full, the oldest profile data are overwritten. Please consult your dive computer operating manual for detail edinformation he logbook and profile memories of your instrument.



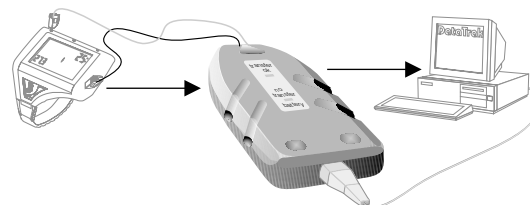
UWATEC dive computers of the Aladin family and compatible instruments save the logbook data of the last 37 dives. The most current dives up to a maximum of 200 dive minutes (e.g. 4 dives each of 50 minutes' duration) are saved in detail with a dive profile in 20-seconds increments. Air-integrated and Nitrox dive computers also save information about gas mixture, CNS activity and air consumption.

### 1.3 Memo Mouse

Memo Mouse is the link (interface) between dive computer and personal computer, and its integrated software allows the data transfer with **DataTrak** and **DataTalk**.

#### But Memo Mouse means a lot more

Memo Mouse is a temporal memory for your dive data which stores detailed data and dive profiles of up to 66 one hour dives. This allows you to store your dive data even if you have no access to your personal computer over a longer period of time. This is especially important for dive holidays.

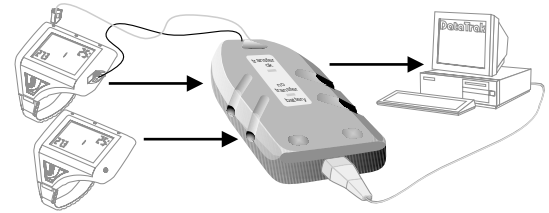


- The stored data are transferred from Memo Mouse to your personal computer.
- Memo Mouse recognizes all compatible dive computers. It also discriminates between individual dive computers and transfers this information to your logbook.
- You can store data of more than one dive computer in the same Memo Mouse. In order to transfer the contents of the memory from the Memo Mouse to your personal computer a dive computer must be connected. Memo Mouse only transfers the data of the connected dive computer.

## Survey

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- If data of different dive computers are stored in Memo Mouse, the data transfer procedure has to be carried out separately for each dive computer. This allows you to store the data of *different* dive computers in *different* logbooks.





## 1.4 DataTrak for Windows



- DataTrak** for Windows replaces your logbook and offers additional interesting possibilities.
- Page 33** With **DataTrak** you import dives from the dive computer and from a Memo Mouse
- Page 37** Manually enter in the logbook dives which are not stored in your dive computer.
- Page 30** You can keep more than one logbook with **DataTrak**. Each logbook is saved under a name of its own.
- Page 40** The dives are always listed correctly in respect of date and time.
- Page 38** You can select your dives in respect of certain criteria.
- Page 37** **DataTrak** keeps statistics of your dives.
- Page 41** Your dives are represented graphically in the form of dive profiles if they are imported from the dive computer regularly. In addition, the display indications, physiological data and tissue data of the whole dive are displayed.
- Page 48** These instruments of analysis are especially suited for training purposes and for the improvement of the personal diving technique, since the exact reconstruction of dives allows conclusions about the individual actions in specific situations. **DataTrak** also offers an important and helpful means for the investigation of diving incidents.
- Page 31** Have of surveys dive data and dive profiles printed out in a very simple manner.

## 1.5 DataTalk for Windows

**DataTalk** is a service programme allowing you to adjust the basic settings of your dive computer to your personal needs. The adjustable settings depend on the type of dive computer you use.

Air-integrated computers also have adjustable reserve pressure settings and sensitivity control for the overexertion warning.

Nitrox computers also have an adjustable maximum oxygen partial pressure value.



All dive computers can be switched from the display of metric units (metre/bar) to imperial units (feet/psi). All instruments that have acoustic warnings as well as visual warnings can have the acoustic warnings switched off.

## 1.6 Older versions of DataTrak and Memo Mouse

### 1.6.1 What's new?

**DataTrak** for Windows now offers, as opposed to the previous DOS versions, all the advantages of Windows applications. In addition to the considerably simpler operation and the windows style, there are also set-up advantages:

- ✘ The programme ought to recognise automatically the serial port where the Memo Mouse is connected. There is no need to input settings concerning the port. Only connect the Memo Mouse to an available port, and on you go!
- ✘ Any kind of printer supported by Windows prints out logbook data.
- ✘ Compared to previous versions of **DataTrak**, additional functions have been installed: Dives of other **DataTrak** logbooks may be imported. You also choose and export dives from your logbooks.

- ✘ You can select several dives in the dive list. Printing, export of dives and statistics are then limited to this selection.

### 1.6.2 Taking over logbooks from older versions of DataTrak

Logbooks which were written in **DataTrak** for DOS can be imported into **DataTrak** for Windows.

### 1.6.3 Older Memo Mouse versions

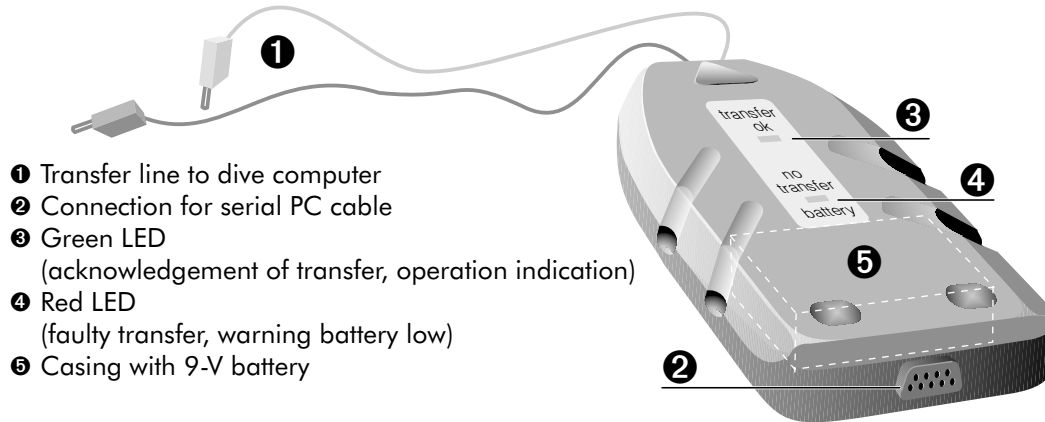
The newly developed Memo Mouse and the software package **DataTrak/DataTalk** for Windows are an integrated package.



No data can be transferred to **DataTrak** for Windows with the previous DOS version of Memo Mouse. Equally, the DOS versions of **DataTrak/DataTalk** cannot process data from the new Memo Mouse.

## 2 Memo Mouse

### 2.1 Survey



- ❶ Transfer line to dive computer
- ❷ Connection for serial PC cable
- ❸ Green LED  
(acknowledgement of transfer, operation indication)
- ❹ Red LED  
(faulty transfer, warning battery low)
- ❺ Casing with 9-V battery

#### 2.1.1 Switching on Memo Mouse

If Memo Mouse is connected correctly to a compatible dive computer the green LED (operation indication) will flash. The device will have been activated automatically and is ready to receive data.

## Memo Mouse

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### 2.1.2 Displays

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#### Green LED

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**Operation indication** If the dive computer is connected correctly to the Memo Mouse, the green LED is flashing.

**Acknowledgement** After the data transfer from dive computer to Memo Mouse, the green LED lights up for 4 seconds.

#### Red LED

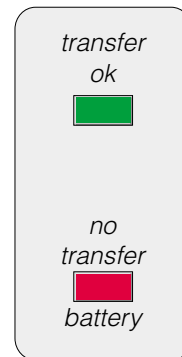
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**Warning battery low** If the dive computer is connected to the Memo Mouse and the red LED is flashing, battery voltage has dropped to a critical level.

 After the first appearance of the warning battery low, Memo Mouse remains functional for at least 50 more transfers. Change the battery as soon as possible.

**Faulty transfer** Two different kinds of transfer faults may occur:

1. The dive computer can no longer be operated after the fault. The red LED of the Memo Mouse is flashing for 5 minutes maximum.
  - Remove the reason of the fault as quickly as possible (reinsert the plug)
  - If the plug is fitted correctly, the red LED stops flashing after a few seconds, and the green LED lights up for 4 seconds.
  - Repeat the transfer of data.
2. Your dive computer can still be operated after the fault. The red LED of the Memo Mouse is flashing for about 6 seconds.
  - Remove the reason of the fault (reinsert the plug)
  - Repeat the data transfer.



### 2.1.3 Change of battery

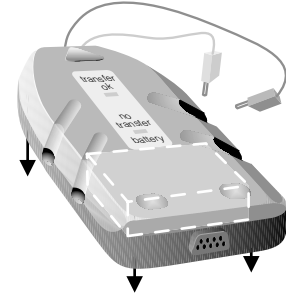
To change the battery loosen the 4 screws in the bottom of the casing.

The battery (9-V alkaline cell) is replaced without loss of data if you observe the following rules:

1. During the change of battery, Memo Mouse must not be connected to a dive computer. Also make sure that the plugs are not in contact with any other object.
2. After removing the used battery, the new one must be fitted within 15 seconds.



It is advisable in any case to transfer all stored data to a personal computer before changing the battery.



### 2.2 Saving dives in Memo Mouse

After diving, you transfer the new dives from your dive computer to the storage unit of Memo Mouse.

Proceed as follows:

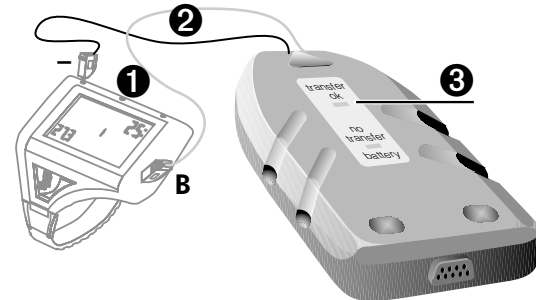
1. Switch on dive computer
2. Connect dive computer  
Insert the terminals of the transfer line of the Memo Mouse to the seats provided in the operating contacts of the dive computer:

Red terminal: contact **B**

Black terminal: contact –





Check that there is positive contact with the terminals before starting the data transfer!

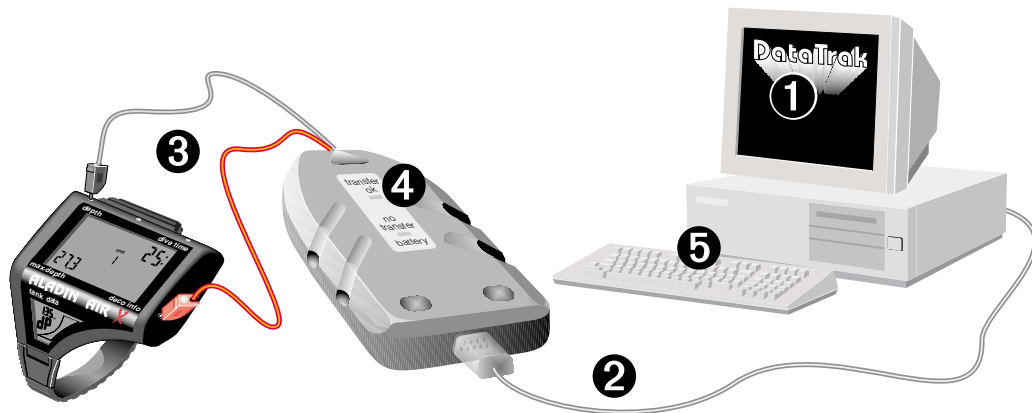


## Memo Mouse

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3. Function check.  
Green LED must be flashing.
4. Start data transfer.  
Switch your dive computer to its logbook mode.  
Then enter the dive computer's logbook. When activating the logbook function, your dive computer first sends his identification and then the dive data to the Memo Mouse.
-  The terminals of the transfer line have contacts on their upper side which you use like the contacts of the dive computer.
5. Check the data transfer.  
 The green LED must be permanently on for at least 4 seconds.  
If the red LED is flashing, proceed as described on page 14 (faulty transfer).

### 2.3 Transferring dives to the personal computer





If you wish to transfer the stored dive data from the Memo Mouse or from the dive computer to your PC, proceed as follows:

1. Start **DataTrak** on your personal computer: p. 21.



Make sure that the system time of your personal computer is correct!

2. Connect Memo Mouse with PC. Connect the transfer cable to the connection of the Memo Mouse and to a free serial PC port (COM port).
3. Connect dive computer with Memo Mouse: p. 15, point 2.  
Red terminal: contact **B**  
Black terminal: contact –
4. Function check. Green LED must be flashing.
5. Select the function TRANSFER in **DataTrak** (page 34).
6. Data transfer. Proceed as described under point 4–5 on page 16.
7. Check data.



Even if you only want to transfer the data from Memo Mouse to the personal computer, the dive computer has to be connected. The transfer is started and controlled by the dive computer. In addition, in every transfer process, the first information is an identification of the dive computer. If data of several dive computers are stored in Memo Mouse, only the data of the *connected* dive computer are transferred to **DataTrak** for Windows.

### 2.4 Changing standard settings of the dive computer with DataTalk

Communication between your dive computer and the service programme **DataTalk** for Windows is also realised via Memo Mouse. In chapter **DataTalk** (p. 61 ff.), you will find a detailed description of how to call up and alter the standard settings of your dive computer. Basically, proceed as follows:

1. Start **DataTalk** for Windows on the personal computer: p. 61.
2. Set up the connections between dive computer, Memo Mouse and personal computer as described on page 17 (points 2–4).
3. Read the current settings. The current settings of your dive computer are read and displayed by **DataTalk**: p. 61.
4. Alter settings: p. 64.
5. Transmit the new settings back to the dive computer: p. 62. The altered settings are transferred to your dive computer.

### 2.5 Warranty

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We warrant the Memo Mouse subject to the following conditions:

- Damages and defects which probably originate from faults in production are mended free of charge within the first 12 months after the delivery to the end user.
- The warranty period is not extended in consequence of accepted warranty claims.
- In order to put forward a warranty claim, send the unit together with your receipt to an authorised retailer or an authorised servicing point.
- Warranty is excluded if the damage has been caused by exterior influences or if operations have been carried out on the unit by persons not authorised by the manufacturer or national importers.
- The manufacturer does not have to accept extensions of the warranty granted by national importers.

## 3 Set-up of DataTrak and DataTalk

In order to set up the software **DataTrak/DataTalk** for Windows, the operating system Windows (version 3.1x), Windows 95 or Windows NT must be installed on your personal computer.

1. Insert the programme disk (or a copy) into the floppy disk drive (A or B).
2. Choose the function RUN in the programme manager (Windows 3.1x) or in the start-up menu (Windows 95).
3. Enter **A:\setup** and confirm with [ENTER]. The installation of the programme is now carried out automatically.

The following information has to be entered during the installation process:

### 3.1 Language

Select the language in which you want to work with the programme. The language can be changed again later (Menu Options, p. 25).



## Set-up of DataTrak and DataTalk

### 3.2 Programme directory

The installation application asks you for the name of the directory in which **DataTrak/DataTalk** should be installed. As a default C:\DTRAKWIN is suggested. Choose another directory or confirm with Install.

Windows 3.1x creates a new group **DataTrak** in the programme manager. Windows 95 inserts a group **DataTrak** in the start-up menu. These groups contain the following four icons:

Logbook programme **DataTrak**  
Service programme **DataTalk**  
Logbook file with examples of dives  
Latest information about the programme



## 4 DataTrak

### 4.1 Introduction

#### 4.1.1 Starting DataTrak

In order to start the programme open the group DTRAKWIN.

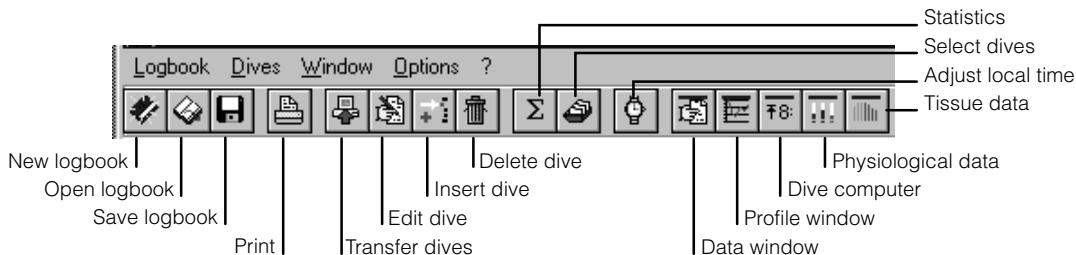
Start the programme with a double click on the icon **DataTrak**. If you start the programme for the first time, an empty logbook with the name EXAMPLE.LOG will be opened. It contains examples of dives with which you do your first steps with the programme. Some of the dives from this logbook are used as examples in this manual.

#### 4.1.2 Remarks on the operation

Operation is similar to other applications under Windows.

#### Operation with mouse

By means of a mouse you select and execute all menu items or functions and choose dives from the list. The most important menu items are displayed in the icons panel as icons. Move the arrow of the mouse to the desired place and click with the left mouse key.



## DataTrak

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### Operation from keyboard

All menu items can be called up by means of shortcuts. Press key ALT and the underscored letter of the menu or the menu item.

### Function keys

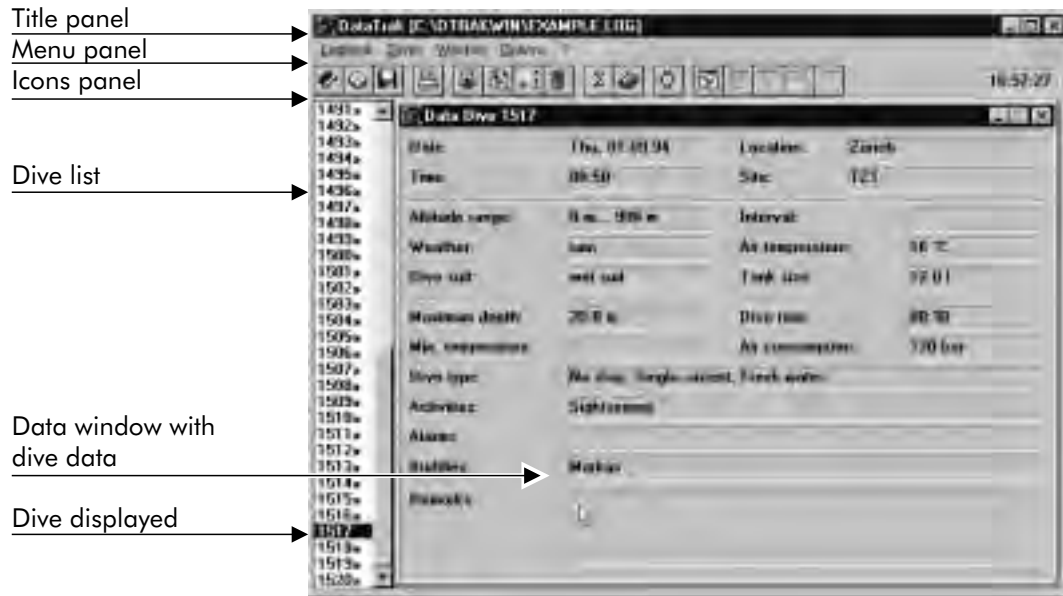
A number of important and frequently used functions can be called up by means of function keys.

- F2** Save logbook
- F3** Open logbook
- F5** Receive data from dive computer (transfer)
- F7** Insert dive in list
- F8** Delete dive from list

<u>T</u> ransfer	F5	Alt+T
<u>I</u> nsert	F7	Alt+I
<u>D</u> elete	F8	Alt+D
<u>E</u> dit		Alt+E
Statistics		Alt+A
<u>S</u> elect		Alt+S
Adjust <u>l</u> ocal time		Alt+L

## 4.2 Screen design

### 4.2.1 Dive without profile data



The printed screen displays in this manual were made by a PC under Windows 95. They might differ slightly if you work under Windows 3.1x.

## 4.2.2 Dive with profile data

**DataTrak** represents your dives as dive profiles if the dive data have been transferred from the dive computer regularly. If you value the dive profiles and the multiple possibilities of analysis, carry out the data transfer frequently enough to assure that the data are available for the graphical representation (see operating manual of your Aladin dive computer).

The screenshot shows the DataTrak software interface with a central graph of a dive profile. The y-axis represents depth in meters (5m to 40m) and the x-axis represents time in minutes (0 to 30). The profile shows a descent to approximately 35m, a bottom time around 15-20 minutes, and an ascent. Several data windows are overlaid on the graph, including a 'Tissue data' window, a 'Physiological data' window, a 'Dive data' window, and a 'Dive computer' window. The 'Dive computer' window displays parameters such as 27.3, 20, 40.2, 3, and 7. On the left side, a 'Dive list' shows a series of time stamps from 1487 to 1520. The interface includes a title panel, menu panel, icons panel, and a window title bar.

Title panel →

Menu panel →

Icons panel →

Dive list →

Window Tissue data →

Window Physiological data →

Data window with dive data →

Window Dive computer →


Displayed dive →



Dives of which dive profiles exist can be recognised in the list by the mark following the dive number.

### 4.2.3 Menu Window

The menu items of the menu Window and the respective icons in the icons panel serve to activate, minimise and restore the different displays.

 The windows *Profile*, *Dive computer*, *Physiological data* and *Tissue data* can only be activated if the profile data for the displayed dive have been stored. Menu items and icons not to be activated are represented in grey.



### 4.2.4 Menu Options (standard settings)

Select the language and the measurement units to be displayed in **DataTrak** in the menu Options under Country settings.



	Metric	Imperial
Dive depth or altitude above sea level	m (metre)	ft (feet)
Temperature	°C (Celsius)	°F (Fahrenheit)
Tank consumption	l (litre)	cft (cubicfeet)
Air consumption	bar	psi



### 4.3 Leaving the programme

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To leave the programme open the menu Logbook in the title panel and choose menu item Exit.



## 5 Managing Dives and Logbooks

### 5.1 Menu Logbook

The logbook programme **DataTrak** allows you to store dives in one or several logbooks. This means that several people can manage their dives with the same programme, dive clubs can record and manage the dives of all members, dive schools can record all instructional dives of the trainees, or you can create separate logbooks for different types of dives or per year. This chapter tells you,

- ✘ how to open, create, and store logbooks;
- ✘ how to export dives from one logbook and to reimport them into other logbooks (p. 30);
- ✘ how to number your dives (p. 31);
- ✘ how to print out your dive data in a great variety of ways (s. 31).

#### 5.1.1 Create a new logbook



- Choose New in order to create a new logbook.

The screen shows an empty logbook. The new logbook still has no name. The title panel says NONAME.LOG.

- Now, you enter data manually or import data from the dive computer.



## Managing Dives and Logbooks

### 5.1.2 Open an existing logbook



If you start **DataTrak**, the logbook last been worked with is opened automatically. Check the name of the logbook in the title panel.

In order to open another logbook proceed as follows:

- Select Open.
- Select the desired logbook in the dialogue box (e.g. EXAMPLE.LOG).

The last dive of the newly opened logbook is displayed on the screen.



### 5.1.3 Save



- Select Save to store alterations or additions in an existing logbook. The entries and alterations are saved in the logbook under the existing name.

If you select this function as long as the logbook has no name (NONAME.LOG), you are prompted to enter a name (e.g. MARTIN.LOG). In this case, the function Save has the same effect as the function Save as ...

### 5.1.4 Save as ...

- Select Save as ... to save a new or an unknown logbook or an existing logbook under a new name.

You are prompted to enter a name. The name may consist of 8 digits maximum. You need not enter the extension “.LOG”.

### 5.1.5 Importing a logbook

If you want to insert the dives of another logbook into the currently open logbook, proceed as follows:

- Select Import from the menu Logbook.
- In the dialogue box, select the logbook containing the dives to be inserted.

**DataTrak** takes over the dives and inserts them in the dive list of your logbook according to date and time.

- 👉 If the inserted dives are older, the more recent dives receive new dive numbers automatically.



### 5.1.6 Exporting dives

**DataTrak** allows you to export selected dives from your logbook and to store them under a new name. Proceed as follows:

- Mark the dives to be exported.
  - With function Select from the menu Dives (p. 38).
  - Manually with the mouse from the dive list of the open logbook.
    - <1470> clicking on a dive number marks this dive;
    - <1472–1475> clicking and dragging marks several consecutive dives;
    - <1478, 1480, 1483> keeping key Ctrl pressed and clicking on different numbers marks the selected dives.
- Select Export from the menu Logbook. Enter a name for the logbook with the exported dives.



### 5.1.7 Renumbering

If you open a new logbook, the numbering of the dives starts with 0001. When dives are exported they keep their initial number in the new logbook. You can change this by means of function Renumber by entering the dive number by which the numbering in this logbook ought to begin.



### 5.1.8 Print-out options



If you select the function Print you get a dialogue box which offers you several possibilities for printing logbook data with the printer defined in the Windows system.

#### Type of print out

**Text only** Prints the dive data of the dive displayed in the window Data.

**Profile only** Only prints the dive profiles. Two profiles are printed per page.

**Text and Profile** Prints dive data and profile on the same page.

**Summary** Prints a summary of the dives (1 line per dive).

**Statistics** Prints the statistics of the open logbook.

## Managing Dives and Logbooks

### Range

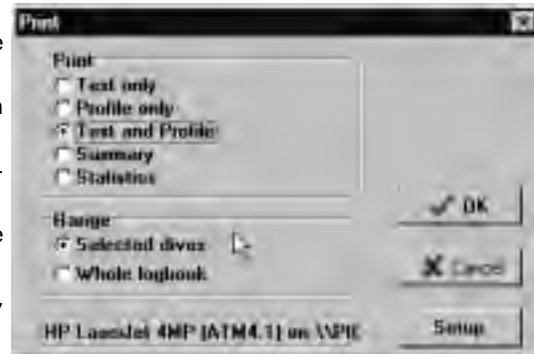
In the field Range, you select which dives are to be printed.


**Selected dives** Only prints the marked dives in the chosen print-out option.

Selecting dives is accomplished by two methods.

- Manually by clicking in the list of dives, see p. 30.
- With the function Select in the menu Dives, see p. 38.

**Whole logbook** Prints all the dives of the logbook in the chosen print-out option.



 There is a purpose designed divers' logbook with transparent sleeves for **DataTrak**. The print-outs are put into these sleeves. If you use normal printer paper, cut the print-outs to the correct size and put them into the sleeves. It is much easier with the special, perforated papers where there is no need of cutting. Ask your retailer!



## 5.2 Menu Dives

Dives are either transferred from the dive computer or the Memo Mouse to the personal computer, or entered manually.

Dives	
Transfer	F5
Insert	F7
Delete	F8
Edit	
Statistics	
Select	
Adjust local time	

### This chapter tells you ...

- ✘ how to import data from the dive computer,
  - ✘ how to enter, delete, complete or alter dives manually,
  - ✘ how to select dives according to certain criteria,
  - ✘ how **DataTrak** evaluates your dives statistically.
- Also how to use the supplied example file if you are new to **DataTrak**.

### 5.2.1 Transferring data from dive computer or from Memo Mouse



In order to receive dive data from a dive computer or from Memo Mouse proceed as follows: Before transferring data, make sure that the time and date of your personal computer are correct! This is important since time and date of the dives are calculated by **DataTrak** using the system time of your PC.

Wrong system time and date have the consequence that time and date of your dive are entered wrongly. Connect the line to a free serial port of your PC and establish the connection between Memo Mouse and dive computer (see p. 15).


- In the **DataTrak** software, open the logbook to which you want to transfer the dive data.
- Select function Transfer. The programme advises you that it is ready to receive data, and the timer starts counting backwards from 60 seconds. The data transfer has to be started within this period of time.

Check or alter the transfer options (see Tips and tricks, p. 57).

**Only new dive** Only dives are transferred which have been carried out after the last logbook entry (date and time).

**All dives** All the dives of the connected dive computer and the dives of this dive computer stored in the Memo Mouse are transferred.

- Activate the logbook mode of the dive computer.  
This effects that the data of the connected dive computer and the dives of this computer stored in the Memo Mouse are transferred to your **DataTrak** logbook in the correct order.

 If your logbook is still empty you will be asked for the initial number (number of the first dive) after the data transfer so that you can continue with your personal current dive number. Each dive is allocated a continuous number in the logbook. You will find these numbers in the list of dives on the left hand side of the screen. The dives are ordered chronologically according to date and time.

**DataTrak** creates a graphical representation of dives which are marked beside the number and shows further data of the dive (p. 41ff., Profiles/Dive analysis). These data are only available for a limited number of dives in the dive computer (see operating manual of your dive computer). If the profile memory of your dive computer is full, the profile information of older dives is deleted automatically. Therefore, you should transfer your dives regularly from the dive computer to your **DataTrak** logbook or to the Memo Mouse.



After importing data, complete the entries with the information not to be imported by the dive computer (dive site, weather, type of dive, activity, etc.). Use function Edit for these entries (p. 37). The statistical functions of **DataTrak** only make sense with complete dive data.



When using dive computers with integrated air information, the size of the tank is especially important, since the air consumption is only be calculated if this information is available.



If your dive computer is in the SOS mode, you can still transfer the data to your personal computer. Proceed in the same manner as described above. Only the activation of the logbook is not applicable (the dive computer is blocked). The data are automatically transferred within 1 minute.

### 5.2.2 Insert dives (manual input)



Select function Insert if you want to manually add a dive to a logbook, without using the **DataTrak** transfer system.

**DataTrak** opens an empty data sheet where you enter your dive data. The cursor is placed in the field Date where the current date and time of the system are indicated. You can immediately start with your entry. All the entering positions may be edited. Enter the dive date completely and confirm your entry by OK. **DataTrak** inserts the new dive, according to date and time, in the appropriate position in your logbook. If necessary, more recent dives are renumbered automatically.

### 5.2.3 Delete dives



If you want to delete one or several dives from your logbook, proceed as follows:

➤ Mark the dive or dives you want to delete from your logbook.

➤ Select function Delete or press key [Delete].

**DataTrak** asks you if you really want to delete the dive.

NO closes the dialogue box without deleting the dive.

If you choose YES, the dive is deleted.



Deleting dives means definitive deleting of all data (incl. dive profile). Restoring is only possible by reimporting the data from the dive computer if they are still stored in the logbook memory of the dive computer or the Memo Mouse (the dive computer logbook saves more dives than those which can be called up in its display).

In order to reimport data older than the last (most recent) dive, activate the option ALL DIVES in the dialogue box Import dives. If you now import data from the dive computer, all the dives are inserted which are no longer (or not yet) stored in the logbook.

### 5.2.4 Edit dives



This function allows you to alter, add to and remove information. Select the dive you wish to edit from the list of dives. Select Edit or doubleclick on the dive number in the list. Enter the alterations in the respective fields. To save the alterations press key OK; if the alterations are not to be saved, leave the entry box with Cancel.



Entries imported by the dive computer automatically are represented in grey and cannot be altered.



If you have imported your data from the dive computer you will use the function Edit frequently, since you ought to make additional entries to all the imported dives. Especially with dive computers with integrated air information the size of the tank must always be entered to allow the calculation of air consumption.

### 5.2.5 Statistics of your dives



**DataTrak** gives you the opportunity to keep statistics about various criteria of your dives.

- ▶ Select function Statistics.

The screen displays the statistics of the dives of the current logbook. The evaluation shows in absolute figures and in percent:

- number of dives (=100%)
- number of repetitive dives
- number of dives in depth ranges (10-m increments)

## Managing Dives and Logbooks

- number of dives for each type of dive
- number of dives for each type of activity
- total dive time of all dives
- average dive time (average dive time of a dive).

If you have selected a certain number of dives manually or with the function Select, the statistics only refers to these dives!

The last line of the statistics window gives you the opportunity to choose between the statistics of the whole logbook or of selected dives only.

Category	Value	Percentage	Category	Value	Percentage
Number of Dives	64	(100 %)	Total Dive Time	147:54	
Positive Dives	21	(34 %)	Average Dive Time	2:24	
0 - 10m	3	(5 %)	Apnea Diving	24	(37 %)
10 - 20m	5	(8 %)	Charters	9	(14 %)
20 - 30m	16	(25 %)	Education	2	(3 %)
30 - 40m	11	(17 %)	Indivision	26	(40 %)
40 - 50m	22	(34 %)	Night Dives	8	(12 %)
>50m	1	(2 %)	Cave Dives	1	(2 %)
White	1	(2 %)	Ice Dives	1	(2 %)
No flag	26	(41 %)	Search Dives	1	(2 %)
Threats/Probs	26	(41 %)	Water Dives	1	(2 %)
Multiple ascent	19	(30 %)	Reel Dives	1	(2 %)
Single ascent	45	(70 %)	Free Dives	1	(2 %)
Fresh water	71	(110 %)	Photo Dives	1	(2 %)
Sea water	75	(116 %)	Other	14	(22 %)

- ☞ Type of dive and activity have to be entered manually when data are imported from the dive computer (menu Dive, Edit, p. 37).

### 5.2.6 Selecting dives



When entering dive data in the logbook you can select various predetermined criteria to classify your dives. Here, you use these criteria to mark and select certain dives of the open logbook.

- Choose the function Select.
- Choose the criteria on which you want to select the dives.

**Date** If you want to select dives which were made during a certain time span, enter the dates of beginning and end of the desired period. If you make no alteration here, the whole time span of the dates of all dives of this logbook is considered.


**Depth range** If you want to select dives of a certain depth zone, enter the desired depth zone (e.g. 0–20 m, in order to display dives down to 20 m only).

**Dive type** When entering dives, you can classify dives into types according to certain criteria. Click on the hand icon on the right of the entering line and select a type of dive.

The present entry selects no-stop dives in the sea.

**Activities** On entering dives you can allocate them certain activities. For example, you only have photo dives displayed by selecting this criterion (procedure as with dive type).

- If you have entered all selection criteria press OK.

 In the dive list, all the dives conforming to the desired criteria are marked. The selection of dives has an influence on the functions Print, Export, Statistics, Delete and Adjust local time.



### 5.2.7 Adjust local time

Date and time of a dive are calculated and entered basing on the system time of your personal computer when importing the dive to the PC. If you want to import dives of places with another time zone than the one of the system time of your PC you have to make up for the time difference in order to get the correct time in your dive data.

**Example** If you have imported the dives of a place with a time shift of +4 hours, proceed as follows after importing the dives from your dive computer:

- Select or mark the dives the time of which is to be altered.
- Select the function Adjust local time.
- Enter the difference of time (04:00) and the sign for the direction of the shift (+).
- Press OK.



The conversion of dive time and date for the selected dives is carried out automatically. Before importing data, make sure that the system time of your PC is correct to assure the correct calculation of dive time and date.



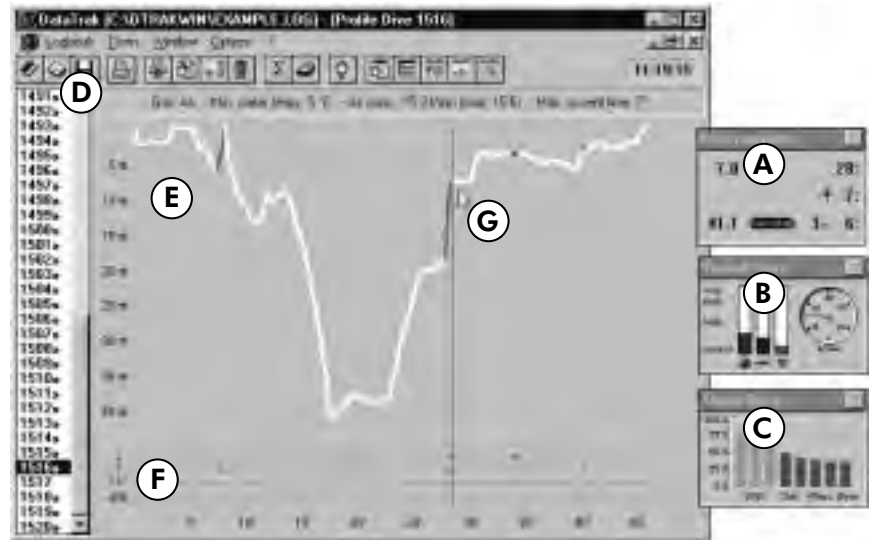
## 6 Profiles / Dive Analysis

**DataTrak** represents your dives graphically as dive profiles if the dive data have been transferred from the dive computer regularly. If you value the dive profiles and the multiple possibilities of analysis, carry out the data transfer frequently enough to assure that the data are available for the graphical representation (see operating manual of your Aladin dive computer). You will recognise dives with dive profiles by the marks behind the dive number in the list of dives.

- 👉 In case you do not have the possibility to directly input data into **DataTrak** for a longer period of time (e.g. diving holiday), you should have your Memo Mouse with you to store the dive data with all the relevant information for the graphical representation of up to 66 hours of diving.
- 👉 The graphics window is called up by clicking on the icon **Profile**. You can alternate between graphics window and data window with keys [Ctrl] and [Tab] (tabulator) quickly.
- 👉 The graphical representation and informations vary depending on the dive computer used. In this manual, data of an Aladin Air X are represented.

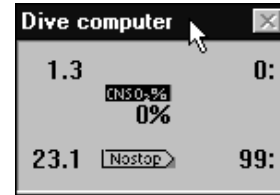
### 6.1 Screen design

- A** Window Dive computer
- B** Window Physiological data
- C** Window Tissue data
- D** Title panel and information line with general dive data
- E** Dive profile
- F** Alarms
- G** Current position



**A Dive computer**

This window shows the most important display information of your dive computer at a certain time during your dive.

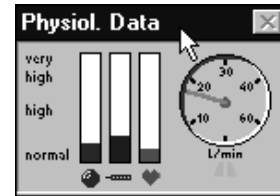


**B Physiological data**

- the estimated effect of microbubbles in the arterial blood circulation and in the tissue.
- ▬ the estimated cooling of the skin based on the water temperature and the dive time.
- ♥ the activity of the diver by measuring the breathing pattern (only with dive computers with integrated air information).
- ▲ the estimated air consumption at the moment in l/min (at 1 bar and 37°C).



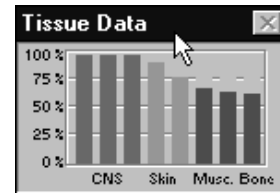
This information is only available with dive computers with integrated air or gas information and only if the size of the tank has been manually added to the dive log!



**C Tissue data**

Each of the eight tissues considered by the calculation model is represented by a bar. The height of the bar represents the nitrogen saturation of the different tissues in percent of the tolerable value determined by the calculation model. The highest bar indicates the leading tissue at the current moment.

- Red** bars show that the *tissue is saturating*
- Green** bars show that the *tissue is desaturating*
- Purple** bars show that the tolerable saturation is exceeded and that the tissue might be damaged.



## Profiles / Dive Analysis

### D General dive information

Title panel with dive number and information line with general dive data.

Gas: Nitrox 50/50 - Min. water temp.: 5 °C - Gas cons: 3.6 l/min (max. 3.6) - Min. no stop time: 99'

The information line shows for all dives the type of gas used, the lowest water temperature measured and the average gas consumption of the whole dive. In addition for no-stop dives it shows the minimum remaining no-stop time at the end of the dive, and for decompression stop dives the longest time to surface indicated during the dive.

### E Dive profile

Graphical representation of the dive profile.

Y-axis (left): dive depth in m (or feet).

X-axis (below): dive time in minutes.

### F Alarms

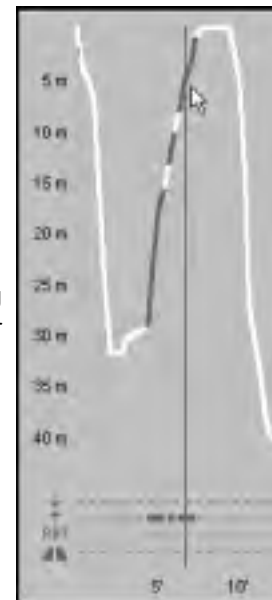
Type, time and duration of alarms. The following alarms given during a dive are represented in light colour in the profile and as a wide bar on the time axis with time and duration:

↓ ignoring the prescribed decompression stop

↑ ascending too fast, ascent alarm

**RBT** Remaining Bottom Time used up, RBT alarm

▲ out-of-breath alarm



## **G** Current position

The vertical line indicates the current position in the dive displayed. You can move the marked position across the profile by means of the mouse or the arrow keys ← and →. The data displayed in windows A, B and C refer to this current position.

## **6.2** Operation

The graphics window is operated by means of the mouse or with keys.

- ← move back current position in the dive by 20-seconds increments.
- Ctrl** ← back in 1-minute increments.
- Home** directly back to the start of the dive.
- move forward current position in the dive by 20-seconds increments.
- Ctrl** → forward in 1-minute increments.
- End** directly to the end of the dive.

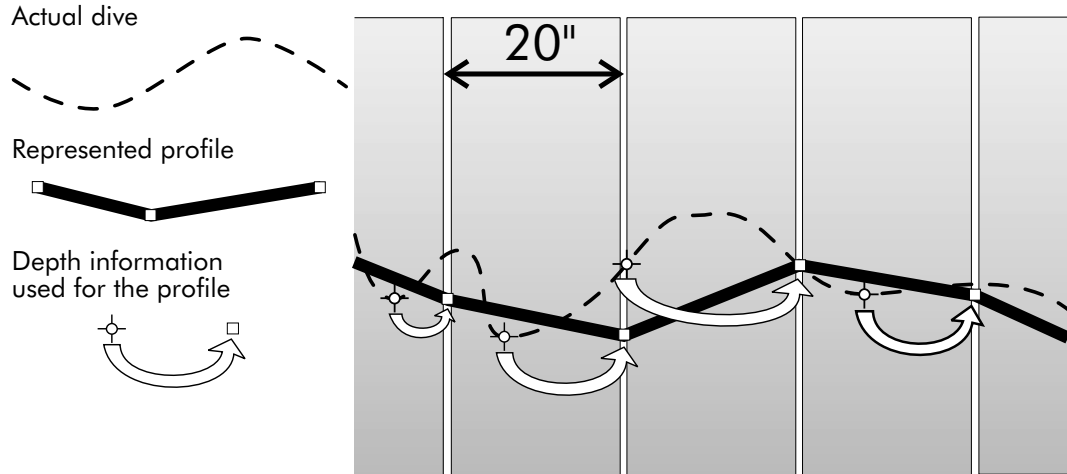
### 6.3 Analysing dives

The profile mode of your **DataTrak** software is an excellent training aid and tool, for the analysis of dives and the improvement of your own diving technique.

- ✘ By means of the dive profiles physiological processes in the body can be reconstructed and visualised which otherwise could only be represented in an abstract manner.
- ✘ The analysis of your dives allows you to reconstruct dives and to check your actions in certain situations.
- ✘ The profile addition to the dive data sheet allows a more detailed description of dive sites by allocating “sights” to certain parts of the profile.

### 6.3.1 Increments of registration

The dive profiles represent the depth information in 20-seconds increments. The greatest depth within the 20-seconds increment is entered in the profile.

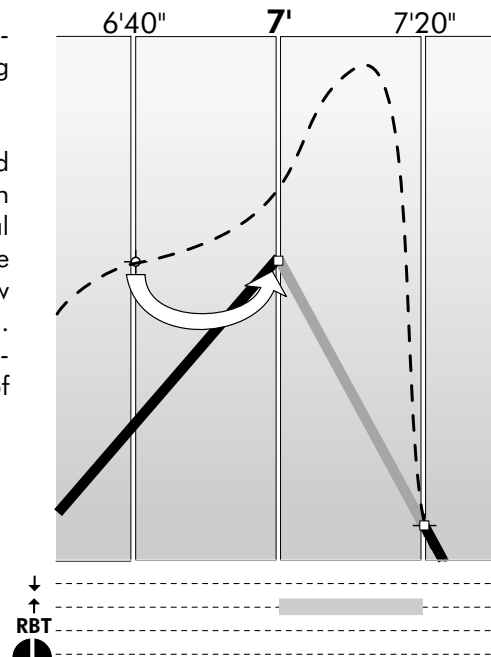


### Special cases

The 20-seconds grid may lead to contradictory indications in certain cases. You will find an example in the supplied logbook file EXAMPLE.LOG (dive no. 1489).

At dive time of 7 minutes an ascent alarm is indicated although the profile shows a descending course.

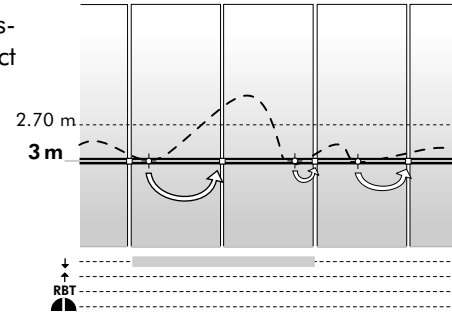
Explanation: The excess ascent rate was detected within the 20-seconds increment between 7 min and 7 min 20 s (the broken line shows the actual course of the dive). Within the same interval, the ascent had been stopped and a fast descent below maximum depth of the preceding interval started. The alarm given by the Aladin dive computer appears in connection with the descending course of the profile.



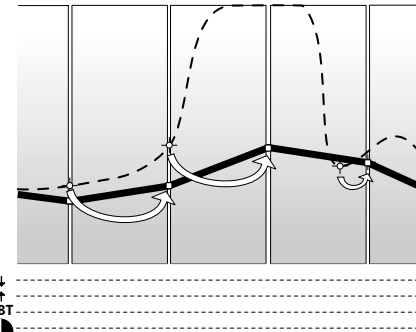


Other contradictory cases may occur for the same reasons:

**DataTrak** indicates the alarm “ignoring decompression stop” – however, the profile shows the correct depth.



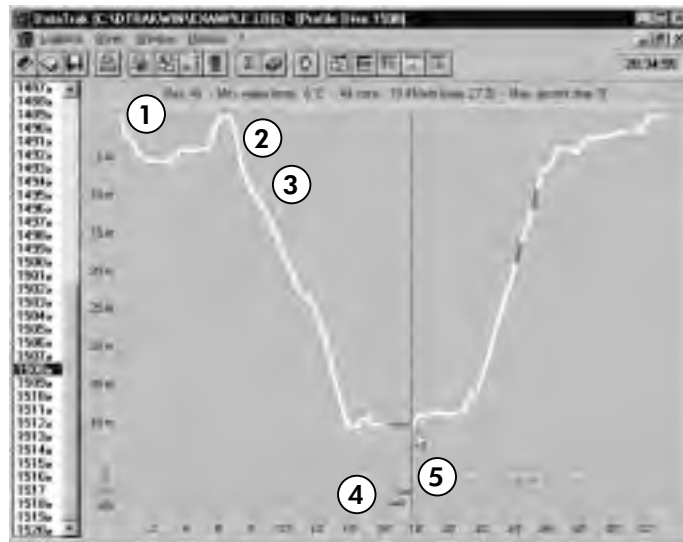
The profile does not reach the surface although the diver knows that he has ascended to the surface for orientation towards the end of the dive.



These are special cases which are an inevitable consequence of the registration interval of 20 seconds.

### 6.3.2 Example of a dive

With the example dive (No. 1508 from the example file EX-AMPLE.LOG) from Lake Zurich (Küsnacht) we will illustrate the analysis of dives. Minimum water temperature during the dive was 6°C, average air consumption was 13.5 l/min. Maximum depth of 40.8 m was reached after 14 minutes, total dive time was approximately ½ hour.

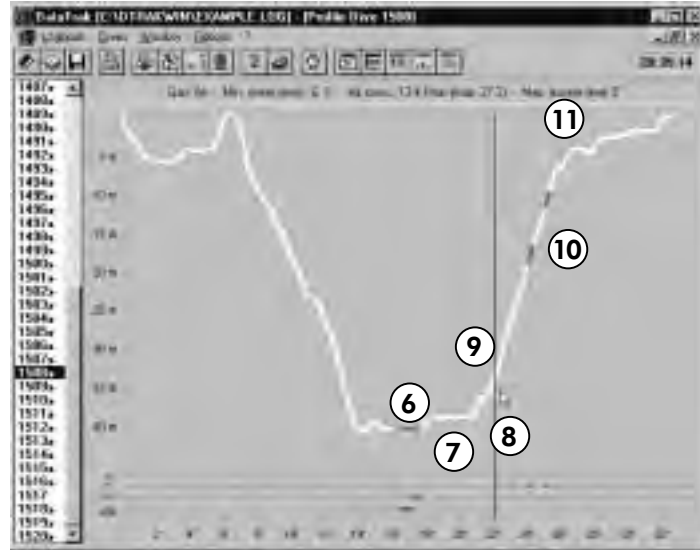


#### The single stages

- 1 Immediately after starting the descent, the tissues start saturating due to the rising pressure (the bars are red).
- 2 During the descent, the absolute gas saturation rises slowly. Due to the higher pressure more nitrogen is dissolved in the tissues. In a parallel effect, the tolerated nitrogen pressure rises quickly. Since the height of the bar represents the relation of absolute to tolerated saturation, the height of the bar decreases.
- 3 After about a depth of 14 m, no-stop time drops below 99 minutes and is only 6 minutes at the deepest point of the dive.

**4** After 16 minutes, the cooling of the skin starts to show effects – increasing activity and the indicated out-of-breath alarm may be connected with it. Current air consumption rises to 25 l/min.

**5** Due to the heightened breathing rate, RBT decreases quickly to zero. At this moment, the diver is warned by an acoustic and optical signal about the used up RBT. The diver reacts correctly and relaxes. The RBT alarm stops (RBT rises above zero) although dive depth was reduced only little.



**6** The diver now heeds the RBT and diminishes dive depth.

**7** Tissue saturation rises continuously.

**8** The diver does not react to the attention message that no-stop time is running out. The Aladin dive computer switches into decompression calculation.

**9** The diver has started his ascent. Already from a depth of approximately 30 m, the first tissue starts desaturation – however, the height of the bar increases, since nitrogen tolerance drops faster than the absolute nitrogen saturation due to decreasing ambient pressure (see also point 2).

- 10 The allowed ascent rate is exceeded. An acoustic and optical alarm is given by the Aladin dive computer.
- 11 The decompression stop at 3 m must be observed since the diver exceeded the no-stop time.

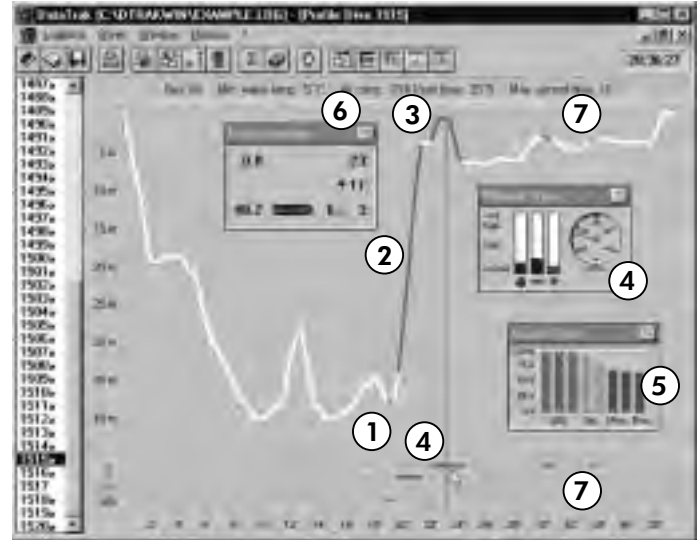
### 6.3.3 Examples of special dives

There are two dives supplied in logbook file EXAMPLE.LOG which impressively demonstrate the effects of wrong reactions of divers.

#### Dive 1515

The profile shows the consequences of ignoring a decompression stop and of ascending too fast.

- 1 After 19 minutes dive time, an out-of-breath alarm is given at a depth of 38 m. A check of the air consumption display shows a greatly increased breathing rate. Possibly, the diver was in trouble at this time.
- 2 The immediate ascent is initiated and carried out at an excess rate (approx. 35 m in 2 minutes). As a result the decompression time rises slightly from 3 to 4 minutes. The Aladin dive computer gives the appropriate alarm.



- 3** Problems apparently remain even at the prescribed decompression stop. The diver ascends to the surface for 1 minute after a brief stop. The Aladin dive computer warns because of the ignored decompression stop.
- 4** Due to the ignored decompression stop there is an increase of microbubbles.
- 5** The tissues of the central nervous system (CNS) reach or exceed the tolerated saturation values (purple bars).
- 6** The decompression stop switches from 3 to 6 m, and the total time of ascent increases to 14 minutes.
- 7** After 30 and after 33 minutes alarms for ignoring the decompression stop appear. However, they are not represented in the dive profile. This is a consequence of the registration increments of 20 seconds explained in detail on p. 47.

### Dive 1516

This example shows the effects of ascending far too fast.

- 1 After 27 minutes of diving, the diver is at a depth of 18.1 m. No-stop time is still 21 minutes.
- 2 The diver ascends nearly to the surface within 40 seconds.
- 3 Due to this ascent, microbubble concentration leaps up.
- 4 At the same time, the Aladin dive computer switches to decompression calculation and prescribes a decompression of 6 minutes at 3 metres.

👉 According to the profile, the diver interrupts his ascent at a depth of 7 metres. However the warning “ignoring decompression stop” was given which indicates that the ascent led up to a depth of less than 3 metres.

👉 The examples show that two dive buddies may easily get considerably differing decompression prescriptions on the same dive. If the buddy of our diver in the second example has interrupted the very fast ascent in due time, he will not have exceeded the no-stop time and will have to observe the decompression stops of his buddy only as a companion.





Both examples show the direct effects of the divers' actions on the decompression prescription. The profile does not tell us about the effects on possible dives in the future. The divers in our examples will notice a substantial extension of the *no-fly time* and a massive shortening of the no-stop times for repetitive dives.

#### 6.3.4 Further possibilities of analysis

- ▲ Out-of-breath alarm occurs regularly in greater depths.
  - the depth does not correspond to the ability of the diver.
- ▲ Out-of-breath alarm occurs during most of the dive.
  - if air consumption is a *high average* – then a possible interpretation is: an uneconomical diving technique (beginner, too hasty, too much lead, bad buoyancy control).
  - if air consumption is a *low average* – a possible interpretation is: very shallow breathing (bad breathing technique, suit too tight).
  - if the sensitivity of the out-of-breath alarm has been set wrongly (**DataTalk** p. 65).
- ↑ • Frequently exceeding the ascent rate, uneven dive profile in general.
  - bad buoyancy control, deficient diving technique.
- RBT** alarm despite small differences in pressure in the dive data sheet.
  - tank was not full.



Because of differences in decompression obligations a relaxed diver also has an easier and more comfortable time on both the current and repeat dives.





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## 7 Tips and Tricks

### Data for the statistics

The function Statistics (menu Logbook) can only provide sensible data if the necessary criteria are consistently entered for all the dives. If the information for individual dives is missing, the statistics will be incomplete!

### Memory for holidays

If it is important for you to have saved all your dives with profiles, you have to transfer them regularly to your PC. In order to have your holiday dives available with all their information, the Memo Mouse must travel with you. The Memo Mouse stores up to 66 hours of dives with all the necessary profile data.

### Benefit of the dive profiles

The dive profile is an excellent analytical instrument for the tuition of beginners and advanced divers to explain the conduct of the diver and the effects of the dive on his body. This requires the data being transferred regularly from the dive computer to the **DataTrak** logbook or to the Memo Mouse.

### Import all / only more recent dives

Before the data transfer you can choose the options "import all dives" or "import only newer dives" in the dialogue box Import dives. Normally, if you regularly transfer your dive data to your PC you only need the option "newer ones". Only those dives are imported which were carried out after the latest logbook entry (date and time).

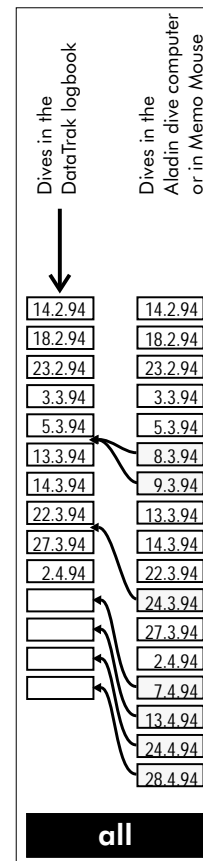
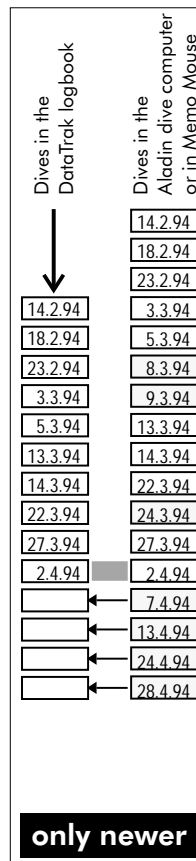
## Tips and Tricks

You need the option “all” if:

- ✘ you want to import dives into a **DataTrak** logbook already containing more recent dives (e.g. if more recent dives were entered manually or if you want to import data from a second dive computer).
- ✘ you have deleted dives from your **DataTrak** logbook and want to import them again (this is only possible as long as the dives are still stored in the logbook of the dive computer or in the Memo Mouse).



If older dives are inserted later on, the dive numbers of the more recent dives are adapted automatically.



## 8 Problems, Reasons, Solutions

### Data transfer from dive computer to PC does not work properly

Check the following points:

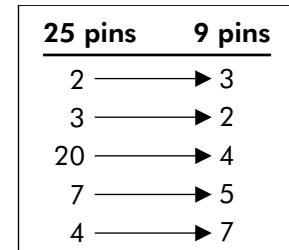
- Is the green light on the Memo Mouse *flashing* when the dive computer is connected to it? If not, please check all connections.
- After a successful transfer, the green light on the Memo Mouse must be permanently on for about 4 seconds! If not, please check all connections.
- If you get the message "Memo Mouse not found", check the Windows settings of the serial port.

**Win 3.1** Main group/System control/Connections/Further settings/Interruption requirements (IRQ): IRQ must not be in conflict with other connections.

**Win 95** Work place/System control/System/Hardware manager/Connections (COM and LPT)/Resources:

Interrupt must not be in conflict with other connections.

- If you use a 25-to-9-pin adaptor for your serial port (especially the one supplied with your mouse), check the completeness of the connections. Minimum connections is:



## **Problems, Reasons, Solutions**

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### **Other instruments connected to a serial port do not work if the Memo Mouse is connected.**

Change the port in **DataTalk** manually, menu Options, Serial port.

### **When using notebook or laptop computers with power saving installations, there may occur malfunctions after a timed switch-off.**

Deactivate the power saving function (power down). If necessary, ask your PC retailer.

### **Printing quality of profile print-outs unsatisfactory.**

Set the printing options (menu File/Print/Settings) to your requirement.

## 9 DataTalk

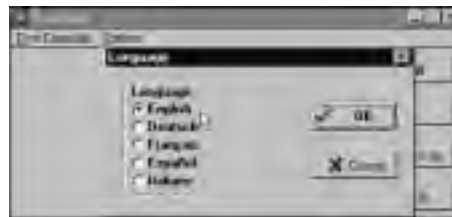
### 9.1 Starting the programme

Open the the group DTRAKWIN to start **DataTalk**. Start the programme with a double click on the icon **DataTalk** (Windows 3.1x) or a single click (Windows 95).

#### 9.1.1 Options

**Language** Choose the language for working with **DataTalk** here, if you want to alter the setting defined in the set-up procedure. This language option has nothing to do with the settings of the dive computer.

**Ports** The setting AUTO should normally be kept. It should only be altered if there are difficulties with other hardware components also connected to serial ports.



### 9.2 Operation

**DataTalk** is basically operated according to the following scheme:

1. reading the current settings of your dive computer.
2. checking and adjusting the settings.
3. writing (transferring) the new settings to the dive computer.

#### 9.2.1 Read

The reading of data from the dive computer is carried out in the same manner as when transferring data to the **DataTrak** logbook:

## DataTalk

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- Connect the cable to a free serial port of your PC and establish the connections with Memo Mouse and dive computer (see p. 15).
- Start **DataTalk**.
- Select the function Read.  
The programme indicates readiness for importing data, and the timer starts counting down from 60 seconds. The data transfer has to be started within this time span.
- Switch your dive computer into logbook mode. Then enter the logbook.



After activating the logbook, the data of the settings are transferred from the dive computer to **DataTalk**.

The alterable settings are displayed in the **DataTalk** window. Now, adjust the settings to your needs.



### 9.2.2 Write

If you have adjusted the settings, these have to be transmitted back to the dive computer:

- 
- Select the function Write. The programme indicates readiness for transferring data.



Check the correct seat of all connections before starting the data transfer. Faulty transfer may lock up your dive computer (Wake up).

- If the dive computer is still displaying a logbook dive then exit from its logbook. Then reenter the logbook mode and enter the logbook.

After activating the logbook, the data of the settings are transferred from **DataTalk** to your dive computer.

### **9.3 Wake up**

---

If a transmission error occurs during the data transfer to your dive computer (e.g. if one of the plugs is removed or disconnected), the dive computer may get stuck in the set-up mode and no longer be operable.

In this case, proceed as follows:

- Remove the reason of the error at once (reconnect plug).
- Activate the function Wake up as quickly as possible. This ends the set-up mode. Your dive computer can be operated again.
- Check the settings (Read) and repeat the desired adjustments if necessary.

## DataTalk

### Error messages

If you get an error message after using Wake up (battery empty, servicing necessary), repeat the procedure. If the same message appears again, take your dive computer to your retailer.

**Battery empty** tells you that the dive computer battery ought to be changed.

**Servicing necessary** Check and clean contacts and plugs and repeat the function Wake up. If the servicing message reappears the dive computer and the Memo Mouse have to be taken to the servicing point.

### 9.4 Adjustable standard settings

Depending on the type of dive computer used, various settings can be altered by means of **DataTalk**. **DataTalk** recognises the type of dive computer in the function Read and displays the settings to be altered.

#### 9.4.1 For all compatible dive computers

**Measurement units** The measurement units of your dive computer can be switched from metric to imperial.

	Metric	Imperial
Dive depth	m (metre)	ft (feet)
Air consumption	bar	psi





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### 9.4.2 For all dive computers with acoustic messages

The acoustic signals attached to attention messages can be suppressed (see operating manual of your dive computer). This does not affect the optical display. Acoustic alarms and their optical displays cannot be suppressed.

### 9.4.3 For dive computers with air-pressure information

**Remaining pressure** The standard setting of dive computers like Aladin is at the surface such that a dive is terminated with a remaining pressure of 40 bar. This safety pressure can be altered between 30–100 bar.



A minimum safety pressure of 30 bar is advisable in any case. In addition, pressure should not be lower than 30 bar because of the formation of condensation liquid in the diving equipment.

### Sensitivity of the out-of-breath alarm

If you find your Aladin Air X gives an out-of-breath alarm too frequently, you may adjust the sensitivity to your needs. An average sensitivity is set as a standard. First alter the sensitivity on large scale (3 steps). On your next dive, you test the alteration and adjust the setting more finely if necessary.

### 9.4.4 For Nitrox dive computers

**Partial pressure** Maximum partial pressure of oxygen can be adjusted of oxygen between 1.20 and 1.95 bar. Standard value is 1.5 bar.  $\text{ppO}_2^{\text{max}}$  of more than 1.6 bar should not be set for safety reasons.



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## 10 Terms of Licence

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### **Publisher**

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UWATEC AG  
Engenbühl 130  
CH-5705 Hallwil

**Memo Mouse / DataTrak**

**English**

