

# PeriTrend

## Instruction Manual

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# 1 GETTING STARTED

PeriTrend is the OCTOPUS software program with the following functions:

- ◆ Import visual field data from all OCTOPUS perimeter models.
- ◆ Store patient examinations in files.
- ◆ Display and print visual field reports.
- ◆ Calculate statistical reports in 'Sequence', 'Series' and 'Trend' format.

## 1.1 Disclaimer

We thoroughly test software for its function. However, we do not warrant for any complications or data loss caused by download or installation of software. By downloading and/or installing the software you agree with this disclaimer.

Haag-Streit AG recommends daily backups of patient data files as usual in networked environments. Default directories for patient data files are "c:\program files\ExDat" and "c:\program files\KinDat". Media suited for backups are for example Memory Sticks, CD-R, Backup Tapes or ZIP drives.

All HAAG-STREIT AG software as PeriTrend and OCTOPUS firmware and software is copyright protected by HAAG-STREIT AG.

In general we recommend installing new software releases only if you experience problems with your current software or if you need some of the new functionality.

## 1.2 Safety Tips

To avoid any risks to the patient, special messages appear.

**CAUTION:** Instructions that must be followed to avoid risk to the patient and / or the operator.

**ATTENTION:** Instructions that must be followed to prevent damage to the perimeter.

**NOTE:** Hints for guaranteeing error-free functioning.

**ATTENTION:** The ON/OFF switch does not fully disconnect the perimeter from the power lines.

**CAUTION:** Arrange the power cords and connecting wire in such a way that they do not present any danger.

**ATTENTION:** Components of all OCTOPUS Products have to be replaced by original HAAG-STREIT components.

**NOTE:** HAAG-STREIT is not responsible for damages occurred from the interpretation of examination-data.

HAAG-STREIT is not responsible for any data (Patient examinations) being lost.

## 1.3 Installation

Please also refer to the operating manual provided with the Windows software for general operating instructions.

### 1.3.1 Install the PeriTrend Software

- ◆ Insert the program CD in drive (mostly) D:
- ◆ The program will automatically start and display the following:

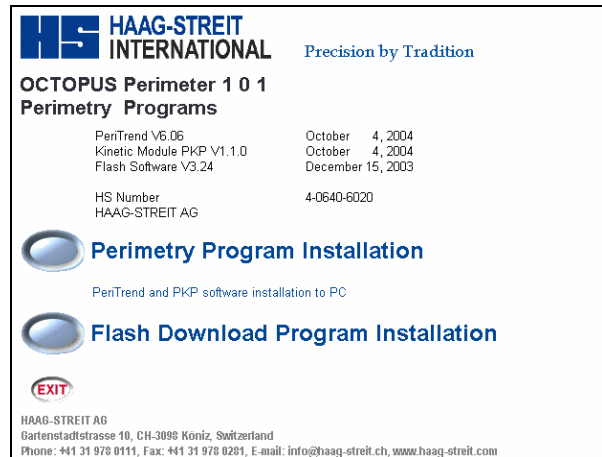


Figure 1-1

- ◆ Press the 'Perimetry Program Installation' button.
- ◆ Choose the destination location for the installation. Usually C:\Program Files\Octopus\ and press 'Next'.
- ◆ Press 'Finish'

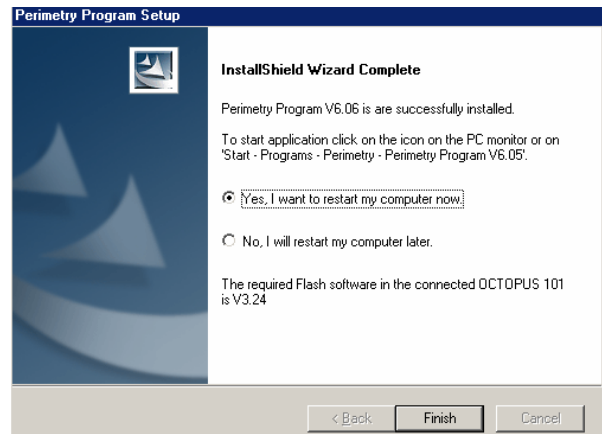


Figure 1-3

PeriTrend is now installed under a special OCTOPUS icon. For working with PeriTrend it is convenient to pull the icon onto the working surface if it has not automatically already done so. You should restart the PC.

### 1.3.2 Install the Software Key (Dongle)

The hardware key (dongle) protects the software to be used by unauthorized persons.

Install the dongle on the parallel (printer) port on the PC. The printer connector fits on top of the PeriTrend dongle. If no parallel port is available then a dongle code can be entered. See Figure 1-4.

To receive your dongle code, proceed as follows:

1. Install PeriTrend V6.07
2. Open the menu "Definitions", "Dongle"
3. Report the "System ID" to your Octopus dealer
4. Enter the "Dongle code" you receive in return into the respective field and click "OK"
5. The type of your dongle will show up in the title line of the PeriTrend Window, like "V6.07c" where "c" is the type of dongle, here meaning "full data import capability".

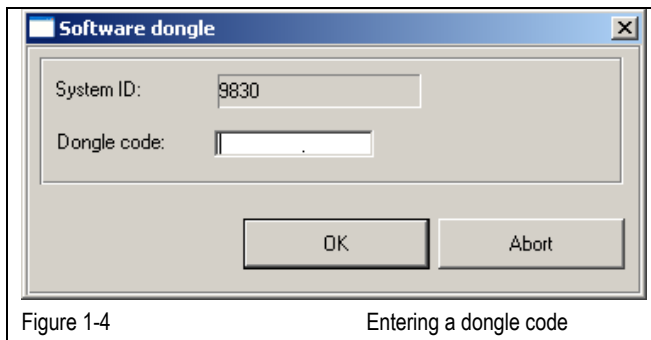


Figure 1-4 Entering a dongle code

### 1.3.3 Start the Program

Double-click on the icon "Perimetry Program Vx.y" to start PeriTrend.



## 1.4 Main Screen

The main screen (Figure 1-5) shows six 'bars' from top (A) to bottom (F).

### 1.4.1 Title Bar (A)

Perimeter model, software version and dongle identification.

### 1.4.2 Menu Bar (B)

The drop-down menus are explained:

- File: Section 1.5
- Edit: Chapter 4
- Definitions Section 1.4

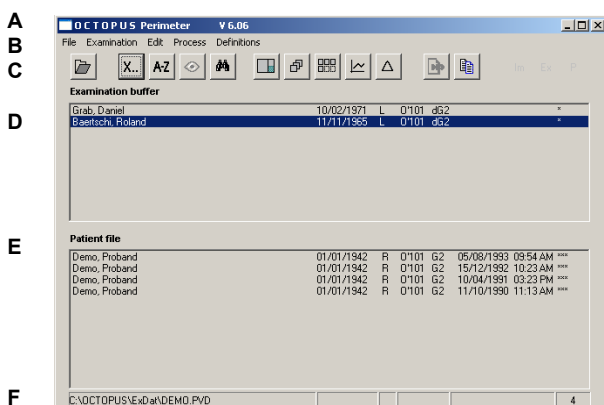


Figure 1-5

### 1.4.3 Tool Bar (C)

The following icons are presented for simple and quick operation partly replacing the pull down menus:

- Open an existing examination file
- Open a window for entering new patient data
- Open a window with the patient data of the selected examination
- For use in connection with the OCTOPUS 101
- Search for an examination
- Evaluation / printing of the selected examination
- 'Sequence': maximum of 6 examinations
- 'Series': maximum of 6 examinations
- 'Trend': maximum of 6 examinations
- 'Delta': maximum of 6 examinations
- Export key (PeriData, XML Format)
- Patient List function for OCTOPUS 300 Series

### 1.4.4 Examination Buffer (D)

The buffer serves as a temporary storage for unlabeled examinations received from the OCTOPUS 201, 500EZ, 2000R, 1-2-3 and 300 Series.

These examinations must first be labeled (see section 2.2) before they are moved to the patient file (E).

#### 1.4.4.1 Tags in the examination buffer

- R / L examined eye (right / left)
- t / d TOP - / dynamic strategy

### 1.4.5 Patient File (E)

Permanent storage for all patient examinations.

**NOTE:** Avoid to have more than 1000 examinations in one file. The total number of examinations is displayed on the right side of the footer bar (F). PeriTrend V5.00 and higher can store up to 5000 examinations in a single file.

#### 1.4.5.1 Tags in the patient file

- \*\*c completed examination (blue / yellow)
- \*\*\* completed examination (normal)
- R / L examined eye (right / left)
- G2, ... selected standard programs



## 2 IMPORT VISUAL FIELD DATA

### 2.1 Import Data

The OCTOPUS software is capable to import visual field data from other OCTOPUS perimeters.

The following dongles support data import:

Dongle B	Import from Octopus 1-2-3, 500, 2000
Dongle C	Import from all Octopus perimeters
Dongle F	(201, 2000, 500, 1-2-3, 101, 300series)
Dongle G	
Dongle H	
Dongle P	
Dongle Q	

**ATTENTION:** Trying to import visual fields from an Octopus 301 or 311 with Dongle B may result in data loss.

#### 2.1.1 Linking an OCTOPUS Perimeter

- ◆ Click on 'serial interface' to 'not used' via 'Definitions' - 'Basic setup'. This is only used in connection with the OCTOPUS 101. See figure 1-6. press the ok button.
- ◆ Click on the 'Data import' function via 'Definitions' - 'Data management'.

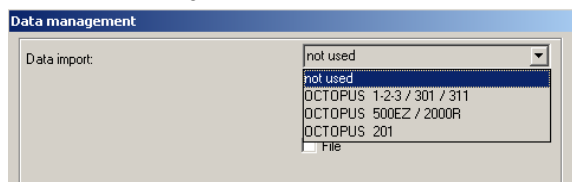


Figure 2-1

- ◆ Select the OCTOPUS model and the PC serial port to which the perimeter has been connected.
- ◆ The baudrate value of 9600 should not be changed.

#### 2.1.2 Prepare the PC for Reception

- ◆ Click on 'Import' under 'Edit' to receive data; a red 'Im' mark (Figure 2-2) indicates that import is active. The 'Import' function stays active until the program is terminated.

### 2.1.3 Data Transmission

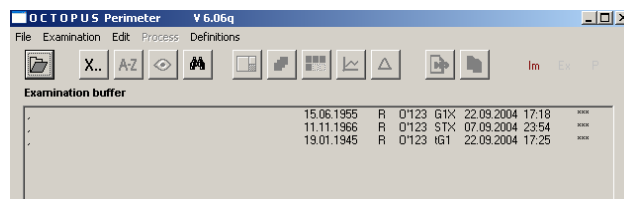


Figure 2-2

Several examinations can be transmitted one after the other and stored in the examination buffer in case the unlabeled fields (as shown in Figure 2-2) come from an OCTOPUS 1-2-3 or OCTOPUS 500.

Labeled examinations (from an OCTOPUS 300 Series, OCTOPUS 2000 or OCTOPUS 201) are stored directly in the patient file.

### 2.1.4 Reading Octopus 1-2-3 DSA disks

To import Octopus 1-2-3 DSA disks proceed as follows:



Perimetry Program V6.07

Copy the existing shortcut and paste it to the desktop

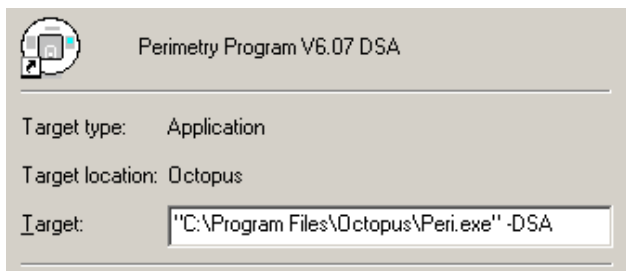


Perimetry Program V6.07 DSA

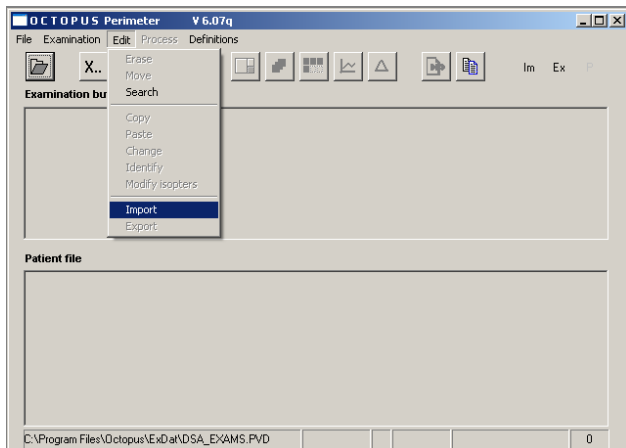
Click into the text of the shortcut and change it to identify the shortcut with the special settings.

Right click on the shortcut and select "Properties"

Add the desired parameter(s) to the "Target" entry (-DSA) – as shown in the example below.



Opening PeriTrend with this shortcut will show the characters IM on the top right side in black and will enable the "Edit", "Import" menu.



Insert a DSA disk into drive A: of your computer and click "Edit", "Import".

All examinations on the disk will now be imported and copied into the currently open PeriTrend file.

**NOTE:** The import of DSA disks may take some time. To speed up the process, experienced Windows users may copy the DSA disk content on a flashstick memory and assign it the drive letter A:  
PeriTrend will only read DSA disks from drive letter A:

### 2.2 Labeling the Examination

Using the 'Copy', 'Paste' and 'Change' functions, unlabeled examinations can be edited and labeled with the patient data.

'Copy' and 'Paste' permit to take over the patient data directly from the patient files.

#### 2.2.1 Labeling Using 'Change'

- ◆ Select the examinations to be labeled in the examination buffer.

**NOTE:** When several examinations for the same patient have been transmitted, they can be selected together.

- ◆ Click on 'Edit' - 'Change'.
- ◆ Surname, first name, date of birth and sex must be entered in order to label the examination.
- ◆ Confirm with 'OK' when all entries are correct. The examination will then be moved to the patient file and deleted from the examination buffer.

#### 2.2.2 Labeling Using the 'Copy' and 'Paste' Functions


'Copy' and 'Paste' are used for labeling examinations if the patient already exists in the examination file.

- ◆ Select the patient in the patient file.
- ◆ Go to 'Edit' and click 'Copy'.
- ◆ Highlight the examination(s) which is (are) to be labeled in the buffer.
- ◆ Using 'Edit' - 'Paste', the patient data will be copied and the examination will then be moved to the patient file and deleted from the examination buffer.

**NOTE:** When 'Copy' - 'Paste' are used for labeling, the eye-specific data (visual acuity and refraction) are taken over from the same eye when no other values are entered.

### 3 EVALUATION OF THE EXAMINATION RESULTS

#### 3.1 Display and Print of Single Results

- ◆ Select a patient examination.
- ◆ Click on  to obtain the standard OCTOPUS 101 display (Figure 3-1).

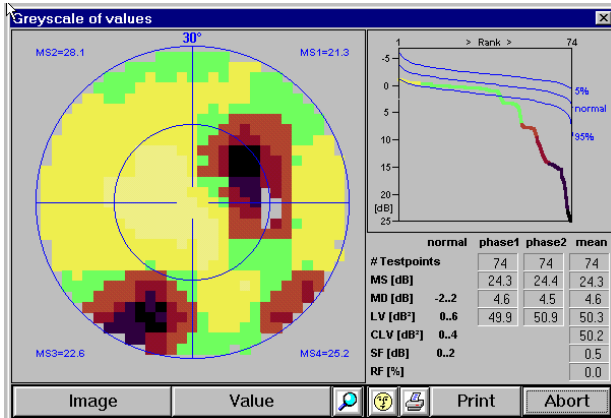



Figure 3-1

- ◆ Click on  to display the personal and test data (Figure 3-2). With 'Image' and 'Value' the display modes can be changed.

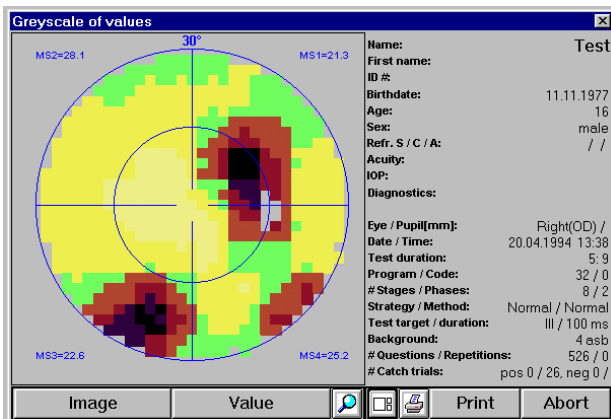


Figure 3-2

For an explanation on the various display modes, please consult the 'Automated Perimetry Visual Field Digest' (Fifth Edition, 2004). Can be purchased through Haag-Streit AG or your local distributor.

#### 3.2 Print Reports

##### 3.2.1 Printers

A black/white or color printer should be connected to the PC and installed following the Windows setup functions.

##### 3.2.2 Initiate Printing

- ◆ Go to display and open the printer menu (Figure 3-3) to access different print formats.

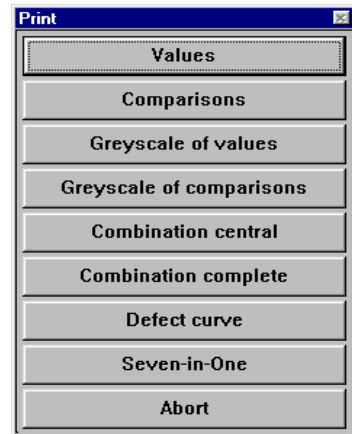


Figure 3-3

#### 3.3 Display and Print of Multiple Results

After selecting up to six examinations four additional icons on the function bar are active for 'Sequence', 'Series', 'Trend' and 'Delta' evaluation.


##### 3.3.1 Criteria for Selecting Examinations

- ◆ Mark the examinations (Figure 3-4), for example by mouse dragging or using the 'Ctrl' key (Windows technology).
  - Same patient, same eye.
  - 1 to 6 visual fields for the 'Sequence' and 'Series' functions.
  - 3 to 6 visual fields for the 'Trend' analysis and display.
  - 2 to 6 visual fields for the 'Delta' analysis and display.

Patient file:					
Patient 01	08.08.1951	R	O*101	G2	25.04.1994 10:29 ***
Patient 01	08.08.1951	R	O*101	G2	20.04.1994 12:15 ***
Patient 01	08.08.1951	R	O*101	G2	20.04.1994 12:07 ***
Patient 02	05.07.1934	R	O*101	32	20.04.1994 13:38 ***
Patient 03	02.11.1954	R	O*101	M2	20.04.1994 12:43 ***
Patient 04	25.06.1944	R	O*101	LVC	20.04.1994 12:59 ***
Patient 05	12.04.1966	R	O*101	LVP	20.04.1994 13:04 ***
Patient 06	28.09.1962	R	O*101	D1	20.04.1994 14:10 ***
Patient 07	03.05.1977	R	O*101	N1	09.02.1995 09:08 ***

Figure 3-4

##### 3.3.2 Sequence

- ◆ Click on  to display the selected examination(s) one after the other (Figure 3-5).

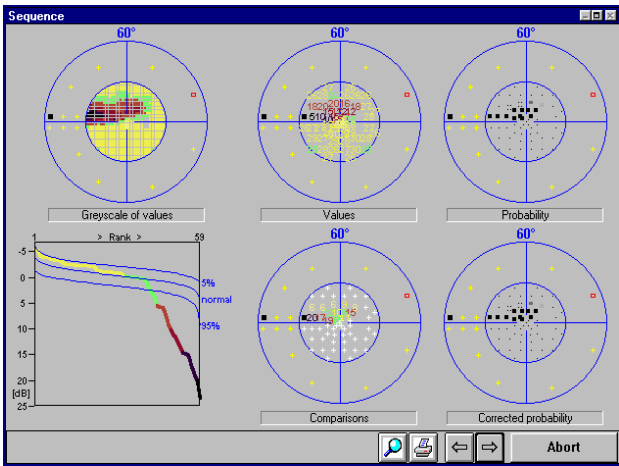


Figure 3-5  
The individual visual fields can be reviewed forwards and backwards by clicking on the arrows.

- ◆ Click on the printer icon to obtain the 'Seven-in-One' report.

### 3.3.3 Series

- ◆ Click on to display the selected examination(s) in one format (Figure 3-6).
- ◆ Click on 'Representation' to find a drop-down menu of several other display formats.
- ◆ Printing of the 'Series' display with up to three examinations per page is initiated by clicking on the printer icon.

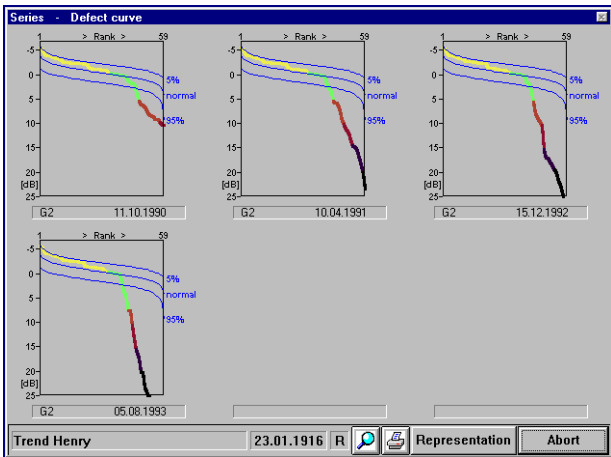


Figure 3-6

### 3.3.4 Trend (Statistical Analysis)

- ◆ Click on to display the regression line (trend) of the selected examinations (Figure 3-7).

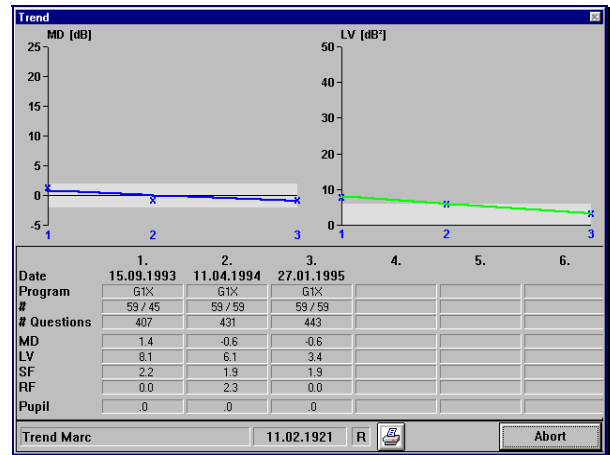


Figure 3-7  
The program computes the regression curves of the MD and sLV indices from the selected examinations. If a significant trend in the visual field is present, the regression curves are shown in green for improvements and in red for deterioration. A trend which is not significant is shown as blue.

- ◆ A trend printout is produced by clicking on

### 3.4 Delta Report

Delta Report , Icon , is an additional feature to compare 2 groups A and B of patient results.

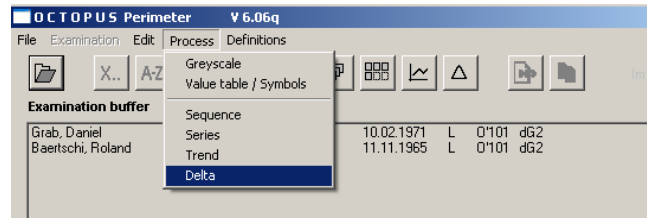


Figure 3-8, Menu 'Process' - 'Delta'

#### 3.4.1 Grouping

The selected examinations are automatically divided into 2 groups A and B.

# sel. exams	Exam(s) group A	Exam(s) group B
2	1	2
3	1 and 2	3
4	1 and 2	3 and 4
5	1, 2 and 3	4 and 5
6	1, 2 and 3	4, 5 and 6
	Nr. 1 is the first, Nr. 6 the last of the selected examinations	

#### 3.4.2 Display

- ◆ Select 2 – 6 examinations of the same eye of one patient and click on Icon 'Delta' or 'Process' - 'Delta'.
- ◆ If only one or more than 6 examinations are selected the error message 'Select 2..6 examinations' is

displayed on screen.

- ◆ If examinations of different eyes or different patients are selected the error message 'Selection not possible' is displayed on screen.

### 3.4.2.1 1st example

Demo, Proband	01.01.1942	R	O*101	d32k	13.10.1997	18:34	***
Demo, Proband	01.01.1942	R	O*101	G2	05.08.1993	09:54	***
Demo, Proband	01.01.1942	R	O*101	G2	15.12.1992	10:23	***
Demo, Proband	01.01.1942	R	O*101	G2	10.04.1991	15:23	***
Demo, Proband	01.01.1942	R	O*101	G2	11.10.1990	11:13	***

Figure 3-9, Selected examinations

#### Calculation:

- Comparison of all examinations in group A.
- Comparison of all examinations in group B.
- Averaging of comparisons of group A and B.
- Differences of averaged comparisons of group B – A.

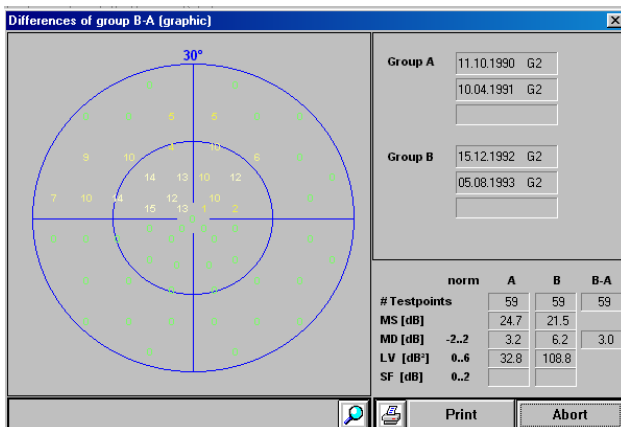


Figure 3-10, Differences of group B - A

#### Interpretation

- Locations with difference = 0dB did not change.
- Defects increased in locations with difference > 0dB.

$MD_{B-A} = 3.0$

### 3.4.2.2 2nd example

Demo, Proband	01.01.1942	R	O*101	d32k	13.10.1997	18:34	***
Demo, Proband	01.01.1942	R	O*101	G2	11.10.1996	11:13	***
Demo, Proband	01.01.1942	R	O*101	G2	05.08.1993	09:54	***
Demo, Proband	01.01.1942	R	O*101	G2	15.12.1992	10:23	***
Demo, Proband	01.01.1942	R	O*101	G2	10.04.1991	15:23	***

Figure 3-11, Selected examinations

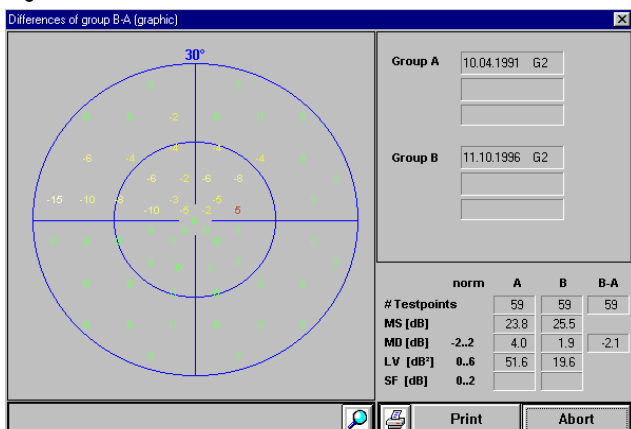


Figure 3-12, Differences of group B – A

#### Interpretation

- Locations with difference = 0dB did not change.
- Defects decreased in locations with difference < 0dB.

$MD_{B-A} = -2.1dB$

### 3.4.3 Printout

Two different printouts are available. To start printout function click on button 'Print' and then either on button 'Group B – A (numerical)' or 'Group B – A (graphic)'.



Figure 3-13, Menu 'Print'

#### Information on printouts

- Group B – A (numerical):*
- Patient information
  - Examination information
  - Information about groups A and B
  - Differences between averaged comparisons of group B minus averaged comparisons of group A
  - Visual field indices
- Group B – A (graphic):*
- Patient information
  - Examination information
  - Information about groups A and B
  - Indices list of different visual field areas of averaged groups A and B

**4 DATA MANAGEMENT**

**4.1 Managing Data Files**

To manage data, look at the functions in the drop down menu 'Edit'.

Some of the functions are only active when a test has been selected or the necessary settings under 'Definitions' – 'Data management' have been made.

**4.1.1 Erasing Examinations**

Examinations can be deleted from the selected patient file or from the examination buffer.

**NOTE:** Erased examinations are definitively removed from the file and cannot be recovered afterwards.

**4.1.2 Adding and Modifying Entries**

'Change' (Figure 4-1) is used to amend, correct or modify data and for labeling examinations when the patient does not exist in the patient file.

- ◆ Select the examination(s).
- ◆ Click on 'Edit' and then on 'Change'.

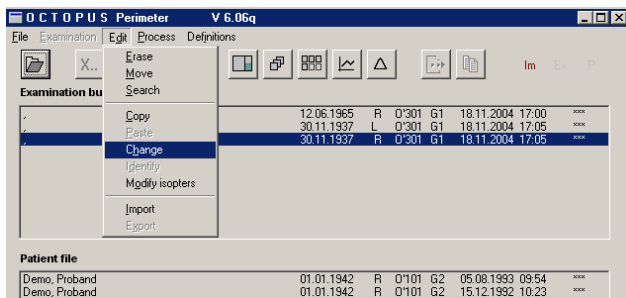


Figure 4-1

The 'Change' function permits multiple examination selection, but only the personal patient data can be modified in this case.


**4.1.3 Moving Examinations**

Use the 'Move' function when examinations need to be transferred to another file.

- a) From the examination buffer to the patient file, or
  - b) From one file into another file
- ◆ Click on 'Edit' and 'Move'.
  - ◆ Select the file in which the examination(s) needs to be transferred.
  - ◆ Answer the message whether the data from the source file should be deleted (move) or not (copy).

**4.2 Search for an Examination**

In order to quickly find a patient / examination:

- ◆ Click on 'Search' in 'Edit' or click on 
- ◆ Type surname, first name of the patient.
- ◆ Type ID Number (or part thereof) if examinations are stored in order of ID numbers.

**4.3 Backup Copies**

**NOTE:** It is recommended to make a backup copy of the patient files (pvd) usually stored in the 'exdat' folder at least once a week. Use several memory sticks, CDs, backup tapes or diskettes (backup hardware) and never use the same backup hardware again immediately. Make a note on the backup hardware with the date of the backup.

**Procedure:**

Use a Windows backup system and copy the files in the same way as you would backup other data.

**4.4 Restoring Data**

In case data is lost on the hard drive, the data can be restored from the most recent backup.

**NOTE:** The backup copy will overwrite existing files in the data directory if the name of the file is the same. Call your local PC supplier for assistance.

**4.5 Exporting data into PeriData or XML format**

The PeriTrend examinations can be exported into PeriData or XML format.

**4.5.1 Exporting to PeriData**

- ◆ In the main menu go into 'Definitions' – 'Data Management' and select 'PeriData for Windows' (see Figure 4-2). Press the OK button.

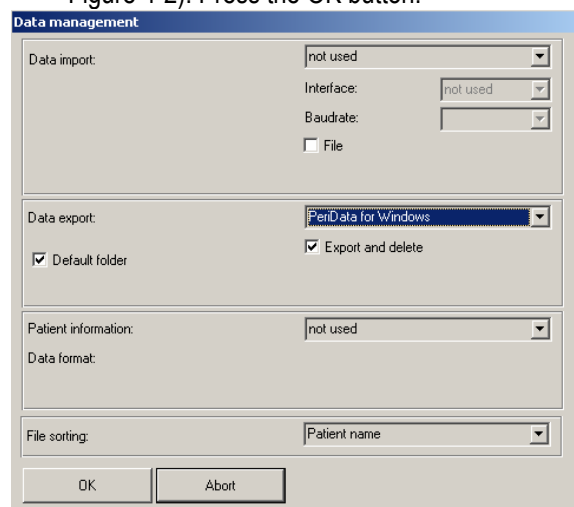


Figure 4-2

- ◆ Answer the message whether the data from the

source file should be deleted (move) or not (copy).

- ◆ Select whether you want to export and delete the examination in the PeriTrend program and select the default folder if you will always export to the same PeriData file. See Figure 4-3. More information in regard to the PeriData program can be obtained by PeriData GmbH.

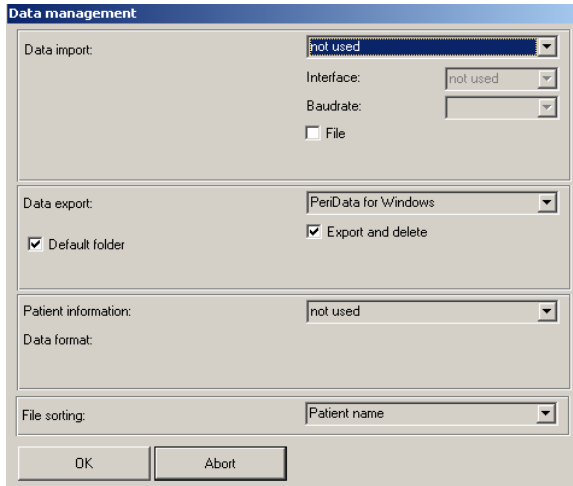



Figure 4-3

- ◆ Make sure that the PeriData export sign  is marked red, only then is PeriTrend ready to export the data. All other settings need to be done in the PeriData program.

#### 4.5.2 Exporting to XML format

- ◆ In the main menu go into 'Definitions' – 'Data Management' and select 'XML Format'.
- ◆ Proceed in a similar way as with exporting to PeriData

## 4.6 LAN Integration – OCTOPUS 300 Series

The PeriTrend program can also be used to connect the OCTOPUS 300 series to a PC via a ethernet cable. The setting up of the ethernet (OCTOPUS 300) is described in a separate documentation 'LAN Integration' which can be obtained through Haag-Streit AG or your local dealer.

#### 4.6.1 Setting up the LAN in the PeriTrend program

- ◆ Click on 'Definitions' – 'Data Management' to set up the PeriTrend to be able to create a 'Patient List' (which will then automatically be seen in the OCTOPUS 300). See Figure 4-4.
- ◆ The OCTOPUS supplier will set this up for you. More details can be obtained in the 'LAN Integration' documentation .

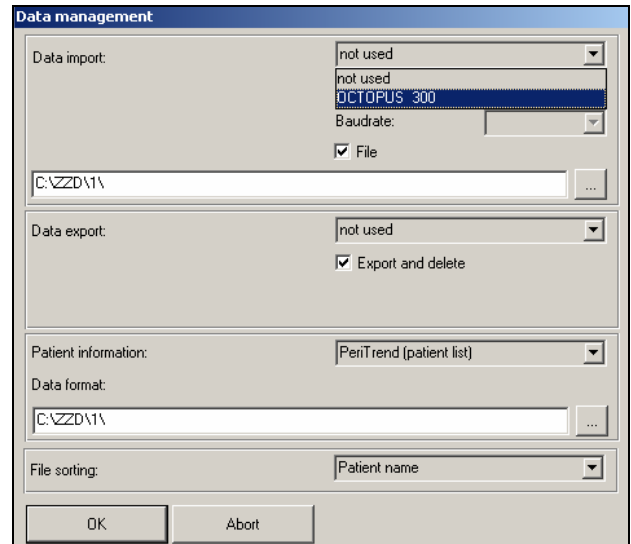



Figure 4-4

#### 4.6.2 Using the 'Patient list'

- ◆ The symbol 'Patient list' , furthest to the right in the tool bar is to create a patient list. This function is only used in connection with the OCTOPUS 300 LAN integration.

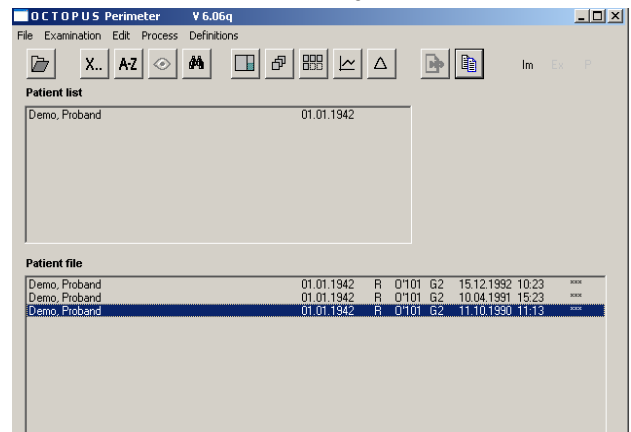



Figure 4-5

The symbol 'Patient list'  will be outlined blue when active.

- ◆ Select patient in examination buffer or in patient file (multiple selection not supported).
- ◆ Click with **left** mouse key on symbol 'Patient list', to add patient information to the patient list.
- ◆ Click with **right** mouse key on symbol 'Patient list' to switch between examination buffer and patient list. See Figure 4-5
- ◆ The patient list offers space for 48 patient names. Names used to prepare examinations with the OCTOPUS 300 remain in the patient list. They can be deleted by selecting the patient name (multiple selection is possible). Click on the menu 'Edit' – 'Erase'. All patient information entered into the 'Patient list' will automatically be seen in the 'Patient list' on the OCTOPUS 300.

## **4.7 Using PeriTrend with the OCTOPUS 101**

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Using the PeriTrend Program in connection with the OCTOPUS 101 is described in the OCTOPUS 101 Instruction Manual.

## 5 CERTIFICATIONS AND CE MARKING

QM System in accordance with: SN EN ISO 9001 and EN 46001

Certified by: Bureau Veritas Quality International

This product is in conformity with the following directives and standards:

### Directives

- 93/42/EWG Medical Devices
- 89/336/EWG Electromagnetic Compatibility (EMC)

### Standards

- EN 60601-1:1990
- EN 60601-1/A1: 1993
- EN 60601-1/A2: 1995
- EN 60601-1/A13: 1996
- EN 60601-1-2:1993

### CE Marking

