

Introduction

HFA_Import permits semi-automatic download to an Excel file of test data stored on HFA II (Carl Zeiss Meditec) perimeters. The program uses serial port connection between host computer and the perimeter. Due to the limitations imposed by Carl Zeiss Meditec only 'raw' sensitivity (threshold) values for the visual field may be imported. The processed data such as standard deviation and standard pattern deviation are not available.

Presently, only test points corresponding to 24-2 test locations are imported. 30-2 tests can be imported, but only 24-2 test points will be stored.

The program runs on a personal computer under any version of MS Windows® operating system. The computer must be equipped with a serial port.

MATLAB Compiler Runtime (MCR) is required to run the program. It is included in the installation package.

Installing the program

1. Download the installation package
2. Unzip the download folder
3. Double-click on INSTALL_HFA_IMPORT.BAT to start installation
4. Follow the MATLAB Component installation prompts. This is the longest part of the installation and usually takes 5-10 minutes.

The program icon (shortcut) will show up on computer desktop. Double click to start HFA_Import. Command (DOS) window will appear first. The program may take a short while to start (especially, the first time). Be patient!

If the shortcut is not produced on the desktop, the program must be started by clicking **HFA_Import.exe** icon or **HFA_Import** shortcut in directory C:\HFA_Import. For convenience, the program shortcut may be moved manually to 'Desktop' or other directory.

NOTE: Besides the program window, the command (DOS) window is also displayed. Closing the command window will cause HFA_Import to close!

Once the program runs under permanent license (see below), the command window may be permanently minimized. Right-click on the HFA_Import shortcut icon and select *Properties*. Under *Shortcut* tab select *Run: Minimized*. Select *Apply* and *OK*.

License

HFA_Import is licensed for a single machine – a separate license (unlock code) is required for every machine on which the program is installed.

The program is delivered with a 10 day 'trial' license. Every time the program is run, a splash screen will appear reminding the user of the temporary nature of this license.

In order to switch to permanent license:

1. Copy the registration number that appears on the splash screen: right-click on registration number and select 'Copy'.

2. Send the registration number (and optionally, the user name) to support@bioformatix.com or use Web form accessible through Order button.
3. You will receive UnLock Code and UserName by e-mail.
4. Next time you start the program go to Register tab on the splash screen and input the UnLock Code and UserName information received from BioFormatix. This one-time operation will produce a permanent license for the given machine.

Setting the serial port name

The serial port name is set by default to 'COM1'. It can be modified through *ComPort* menu to correspond to your computer configuration.

Importing HFA II data

To initiate the data download, click on 'Import HFA data' button. A dialog box appears with instructions for the download.

The direct download process requires the following steps:

- (1) Connect the serial port on computer with the serial port (COM1) on the HFA device.

***Null modem serial cable (or null modem adapter) is required.
The connection will not work if a standard cable is used.***

- (2) On HFA II, select from the main menu:

File functions -> Transfer tests

Source: HARD DRIVE, Destination: HFA Serial Cable,

Export format: HFA II Serial Cable

Select PROCEED

ENTER NAME TO FIND -> press ENTER, you may select multiple tests for export

select PROCEED

select YES in answer to "Are you sure?"

- (3) Only AFTER the test selection and transfer setup is completed on the HFA II, select OK on the "Download of HFA data" dialog box. (Otherwise, the serial port connection may close before the HFA setup is completed – the timeout for the serial port connection is set by default to 30 seconds).

Storing imported HFA II data

Excel files

The imported data are stored in Excel file **HFA_ 'current date'.xls** in the program directory (C:\HFA_Import), for example: **HFA_15-Nov-2009.xls**.

If multiple import operations are performed on a single day, the files names will include consecutive numerals, for example:

HFA_15-Nov-2009(0).xls, HFA_15-Nov-2009(1).xls, HFA_15-Nov-2009(2).xls, etc.

File Template.xls in the program directory maybe edited (with Excel) to change **only** the appearance of the *.xls file. Such changes may include column widths, cell colors, etc. The order of data fields must not be changed.

Data mapping

The measured visual field data (sensitivity or, threshold values in dB) are stored as 54 element vector, labeled in the Excel file as VF-1 through VF-54.

The mapping between the data vector indices and spatial locations of the test points is shown in Table 1 (left eye) and Table 2 (right eye) – for 24-2 test. Positions 18 and 31 correspond to the location of blind spot. Right eye mapping is obtained by mirror reflection of left eye mapping

Table 1. Indexing of Visual Field (VF) data. 24-2 test, LEFT eye.

		27	26	13	14			
	25	24	23	10	11	12		
22	21	15	20	7	1	8	9	
19	18	17	16	2	3	4	5	6
32	31	30	29	42	43	44	45	46
35	34	28	33	47	41	48	49	
	38	37	36	50	51	52		
	40	39	53	54				

Table 2. Indexing of Visual Field (VF) data, 24-2 test, RIGHT eye.

			14	13	26	27		
		12	11	10	23	24	25	
	9	8	1	7	20	15	21	22
6	5	4	3	2	16	17	18	19
46	45	44	43	42	29	30	31	32
	49	48	41	47	33	28	34	35
		52	51	50	36	37	38	
			54	53	39	40		

Support

This manual is available through the help menu of the program. Adobe Reader is required (should be installed on the host computer) to read it.

For additional technical support contact support@bioformatix.com.