

APHAB

The Abbreviated Profile for Hearing Aid Benefit

Program for Windows

For scoring and administering the APHAB questionnaire.



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Table of Contents

	<u>page</u>
Software License Agreement.....	2
• Technical Support.....	4
System Requirements & Installation.....	5
Running the Program.....	6
Main Menu.....	7
• File.....	7
• Test.....	7
Configure Patient.....	7
Dispenser Entered Responses.....	8
Patient Response Form.....	8
• Graph.....	9
• Print.....	10
References.....	11
Appendix: About instructions for the APHAB.....	12

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SYSTEM REQUIREMENTS AND INSTALLATION

APHAB for Windows is a 32-bit Microsoft Windows^{®1} application that can run on most systems with Microsoft Windows[®] 98 or later. APHAB for Windows needs at least 1 MB of hard disk space for the program and associated files. A laser printer is recommended for printouts of APHAB data in graphical form.

To install the software, run SETUP.EXE from the disk or directory that contains the APHAB setup program.

THE APHAB SOFTWARE PROGRAM

The APHAB (Abbreviated Profile of Hearing Aid Benefit) is a self-assessment instrument for determining the subjective benefit a person receives from amplification in everyday life. It is a 24-item disability-based inventory that can be used to document the outcome of a hearing aid fitting, to compare several fittings, or to evaluate the same fitting over time. The APHAB is scored in four 6-item subscales: Ease of Communication, Reverberation, Background Noise, and Aversiveness of Sounds. The first three subscales address speech understanding in various environments. The fourth subscale quantifies negative reactions to environmental sounds. The APHAB typically requires about 10 minutes to complete and produces scores for unaided and aided performance as well as hearing aid benefit.

The APHAB software program provides a way to administer the questionnaire using a computer, and/or an easy method for scoring the questionnaires and examining the results using a graphical output. The results might be used to modify the dispenser's fitting strategy or for counseling the client. In addition to providing a means to look at unaided versus aided experience, this software version, APHAB for Windows, includes a Hearing Aid 1 versus Hearing Aid 2 mode for comparing the differences in benefit between two different hearing aid conditions.

References on development and use of the APHAB is included in this documentation.

¹ Windows is a registered trademark of Microsoft Corporation.

RUNNING THE PROGRAM

The Main Menu displays the available program options. To select a menu item either click on it with the mouse or press the Alt key and the underlined letter of the menu selection simultaneously. For example, <Alt+F> selects the “File” submenu, while <Alt+A> selects “Save as...” in the “File” submenu. To move about the menu levels, you can use the mouse or the cursor keys. On any data entry screen, moving around the various fields is done with the mouse or with the Tab key. Moving within a field is done with the mouse or the cursor keys. Pressing a button is done by clicking on it with the mouse or pressing the Alt key and the highlighted letter on the button. Throughout the remainder of these instructions, the Tab key will be referred to by <Tab>, the Enter key by <Enter>, etc. The combination of <Alt> plus the highlighted letter of a command will be referred to by <Alt+“highlighted letter”>.

MAIN MENU

The Main Menu has available selections for (information on each will follow):

File contains the selections:

1. New
2. Load
3. Save
4. Save as...
5. Exit

Test contains the selections:

1. Configure Patient
2. Dispenser-Entered Responses
3. Patient Response Form

Graph

Print

Help

Below the Main Menu items on the screen is a toolbar providing icons for quick access to certain program functions. These include New file, Load, Save, Dispenser-Entered Responses, Patient Response Form, Graph, and Print. If the cursor pauses on one of these icons a message will appear identifying the function of the particular icon.

FILE: From this menu, the user can load an existing file, start a new file, save files, and exit and close the program.

New: When the program is first opened, it is ready to take edits for a new file. This menu option is primarily used when you are finished with an already loaded file and you wish to create a new file.

Load: Selecting this option allows the user to load a previously stored data file. Use the window to access the appropriate subdirectory (folder) and select a file as you would with any other Windows-based program.

Save: This option saves the current file and any edits without exiting the program. Data files are automatically given an .APB extension.

Save as...: This option is used to save a copy of a data file under a different name. There will then be two copies of the data file under two different filenames. Type in the new filename and then select "OK".

Exit: Select this or type <Alt +X> to exit the APHAB program.

TEST: From this menu, the user can enter demographic information about the patient, make selections for set-up of the questionnaire, and access the dispenser or patient response screens for entering responses to the questionnaire items.

Configure Patient: This item produces a screen to enter certain information about the patient and his/her hearing aid use and about setting up the questionnaire.

- Name - enter the name of the patient as it will appear in printouts.
- Form - Select A or B. Forms A or B are simply different scramblings of the same questionnaire items.
- Comments – an open 140-character field is provided to enter optional comments regarding the patient.
- Hearing Aid Experience - enter the length of time the patient has worn this or any hearing aid. This would be the lifetime total hearing aid experience.
- Daily Hearing Aid Use - the average hours of hearing aid use per day.
- Age - the age category of the patient
- Type of Test - choose either unaided/aided (to determine aided benefit) or H. Aid 1 versus H. Aid 2 (to examine differences between two hearing aids).

- Conditions to Test - whether in unaided/aided mode or Hearing Aid 1/Hearing Aid 2 mode, select either or both test conditions. These selections affect which response columns are available for editing. If a condition is not selected here, it is "locked out" and cannot be edited either in Dispenser-Entered mode or in Patient Response mode.

When finished editing the fields, press OK to accept the information or Cancel to ignore any changes.

Dispenser-Entered Responses²: Selecting this option allows the dispenser to record the patient's answers. This would be used when a printed questionnaire has been completed by the patient and the program is used to score the responses.

This screen provides a 2-column grid on which to enter questionnaire answers. To move around the grid, use the cursor or Tab keys or the mouse. Select the patient's chosen response for an item. If using the keyboard, <Enter> toggles the selection on or off. If using the mouse, clicking on the chosen response toggles the selection on or off. Leave any unanswered item blank (no response selected). The "Next" and "Previous" buttons move the user back and forth between page 1 and page 2 of the response grids.

Patient Response Form²: Selecting this option allows the patient to complete the questionnaire directly on the computer. On this screen, a single questionnaire item is displayed. The "Previous" and "Next" buttons allow movement back and forth among items. The current item must be answered before moving to the next one. Whether or not a column can be edited depends on which selections were made in the "Configure Patient" screen.

After the Patient Response screen is opened, the dispenser can "lock" the program so that the patient is able only to access the items in the form. This is intended to prevent the patient from accidentally exiting the program. The lock can be toggled off and on by pressing <Ctrl+Alt+L>. When the program is in locked mode, the word "Locked" appears on the title bar at the top of the Patient Response Form window.

² Before administering the questionnaire using the paper/pencil method or the on-screen method, please consult the Appendix to this manual about the standard instructions.

GRAPH: The Graph menu item lets you display the graphed results on the screen. The subscales are:

- (a) **EC** = ease of communication (speech understanding under relatively favorable conditions).
- (b) **RV** = reverberation (communication in reverberant conditions).
- (c) **BN** = background noise (communication in noisy settings).
- (d) **AV** = aversiveness (unpleasantness of environmental sounds)

The buttons which appear on the right side of the graph allow the user to choose to view the patient's results against normative profiles on the APHAB subscales for:

- Linear – regular wearers of linear hearing aids
- WDRC – regular wearers of WDRC hearing aids
- Elderly – elderly listeners with few or no hearing problems
- Young – young, normal hearing listeners

In the case of the unaided/aided format for the questionnaire, three screens (unaided, aided, or benefit) are displayed by pressing the corresponding button.

Screens for Unaided or Aided display (clockwise from top left):

- (a) A graph of subscale scores (frequency of problems) compared with the 5th to 95th percentile profiles of the chosen comparison group (linear, WDRC, elderly, or young).
- (b) A pie chart showing the number of times each different response was selected. Usually a patient will select a variety of responses.
- (c) A display of the responses to each of the 24 items. This should be checked to make sure that the patient's pattern of responses appears valid. Responses to reversed items appear as red x's.
- (d) A table comparing the patient's subscale scores to those of the chosen comparison group.

The screen for Benefit displays (clockwise from top left):

- (a) A bar chart of subscale scores (frequency of problems), comparing unaided and aided scores.
- (b) A graph of the benefit scores for the four subscales (compared with equal-percentile profiles from regular wearers of linear hearing aids if "linear" was the chosen comparison group, etc.).
- (c) A table of the aided, unaided, and benefit subscale scores. "GBL" is the global score, which is the average of the scores of the EC, RV, and BN subscales.

In the case of the H. Aid 1/ H. Aid 2 comparison mode for the questionnaire, the three available screens display results for H. Aid 1, H. Aid 2, and the difference between the two.

PRINT: Selecting "Print" enables the user to print the contents of the current data file. A "Print" dialog box pops up showing the selected printer and allowing selections for print range, print quality (resolution), and number of copies. This dialog box also provides access to a typical Windows printer setup screen for selecting a different printer, paper size and orientation, printer options, etc.

The resulting printout shows patient information and subscale scores as well as graphs displaying:

- (a) The response pattern for the 24 items for each response mode that has been edited.
- (b) Whether aided/unaided mode or H. Aid 1/H. Aid 2 mode was used, there are graphs for each condition comparing the patient's subscale scores to equal-percentile profiles obtained from the comparison group (linear, WDRC, elderly, or young). The comparison group is selected while in the Graph screen.
- (c) If aided/unaided mode was used, there is a graph of the Benefit scores (unaided % of problems minus the aided % of problems) for each subscale. In addition, if regular users of linear or WDRC hearing aids was the chosen comparison group, these Benefit scores are graphed in comparison to the equal-percentile profiles for the Linear group. There are no similar data for the other two comparison groups. If H. Aid 1/H. Aid 2 mode was used, a graph of the Difference scores (H. Aid 1 % of problems minus H. Aid 2 % of problems) for each subscale is produced. There is no data for equal-percentile profiles of the comparison groups in this analysis of the difference in benefit between two hearing aids.
- (d) The pie chart displayed to the screen is not included on the printout.

The date printed at the top of the page is the date that the page is printed. If you wish to store the date of the administration of the APHAB, that date can be recorded in the comments field (see "Configure Patient") and would appear in the printout.

References that provide background about the development and use of the APHAB:

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APPENDIX: About the instructions for the APHAB

Be aware that the printed instructions on some versions of the questionnaire are actually a shortened form of the standard instructions. These brief instructions should be thought of as a reminder for the patient about how to proceed. Before you administer the inventory, you should read or say the full and complete set of instructions to the patient. The complete written instructions are:

“Please circle the answers that come closest to your everyday experience. Notice that each choice includes a percentage. You can use this to help you decide on your answer. For example, if a statement is true about 75% of the time, circle “C” for that item. If you have not experienced the situation we describe, try to think of a similar situation that you have been in and respond for that situation. If you have no idea, leave that item blank.”

In addition, it is important to tell the patient that each item must be read carefully because sometimes a response of “always” means a lot of problems and sometimes it means few or no problems. The items were written this way to make sure that patients pay close attention to their content. Otherwise, some patients will read only the first item or two and then just give the same answer to all the rest, which defeats the analytic purpose of the inventory. In our experience, if you tell patients about this feature of the questionnaire, and perhaps even show them some items that demonstrate the point, the great majority of people will complete the questionnaire successfully. However, a certain proportion of patients, especially very elderly ones, find this aspect of the inventory confusing. The extent of this problem depends very largely on your patient population.

One form of the questionnaire (Form A–revised) supplements the standard instructions with an explicit example to demonstrate this aspect of the items, as shown in the box below:

For some items, an answer of “Always (99%)” indicates few problems. Other items are written so that an answer of “Always (99%)” indicates a lot of problems. Here is an example. In item (a), below, an answer of “Always (99%)” means that you often have problems. In item (b), below, the same answer means that you seldom have problems.

		Without Hearing Aids	With Hearing Aids
(a)	When I’m talking with a friend outdoors on a windy day, I miss a lot of the conversation.	A B C D E F G	A B C D E F G
(b)	When I am in a meeting with several other people, I can comprehend speech.	A B C D E F G	A B C D E F G

APHAB Form A-revised is available for download on www.HARLmemphis.org.



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