

# **EXCALIBUR Audiometer**

## **File Creation and Editing by Text**

### **The Problem**

It often happens that companies have been performing audiometric tests for some time using an audiometer other than the EXCALIBUR. They now wish to use the EXCALIBUR and to take advantage of its ability to load previous audiometric files for comparison with the recent test performed on the EXCALIBUR and for trend analysis. To do this it is necessary to create an EXCALIBUR formatted file of the previous data.

### **Using the Audiometer Program**

The normal audiometer program, which drives the EXCALIBUR audiometer, can be used to create EXCALIBUR compatible files of the previous data.

The Audiometer program should be put into manual mode, say by pressing function key F3, the up/down and left/right arrow keys are used to move the cursor successively to the threshold value on each frequency on each ear, and each point is plotted using the <ctrl>p key combination. The employee's name, works number, date of birth and sex are entered in the Details box. Audiometric categories and the audiogram date are determined and entered automatically by the program.

This procedure has one main disadvantage, namely that the audiogram date is automatically set to the date of the creation of the EXCALIBUR file i.e. the date which is provided by the computer operating system. However the audiogram must actually relate to the date on which the test was conducted using the non-EXCALIBUR equipment.

It is possible to change the date using any text editor, but this is dangerous, especially for users who are not entirely familiar with the procedures, since an unintentional change to the EXCALIBUR file may alter its essential format and make it unusable by the EXCALIBUR programs.

### **File Creation Program**

A program is provided which can create an EXCALIBUR compatible data file, by typing threshold values and all other information as responses to a series of questions displayed on the computer screen. This is a simple program which will run on any computer, without special library files as are required for the other EXCALIBUR programs. We believe it is also suitable for use by office staff who have no experience of audiometric testing by EXCALIBUR or by any other equipment.

The program has three main branches, giving effectively three modes or uses.

1. It allows the creation of an EXCALIBUR file from scratch, without any previous data file.
2. It allows the loading, editing and re-saving of an existing EXCALIBUR file.
3. It allows the loading of an existing EXCALIBUR file with subsequent editing of only the audiogram date. This is useful if the user opts to use the audiometer program in manual mode to create the file, and hence simply needs at this stage to edit the audiogram date.

## **Description of the File Creation Program**

The program first requests the user to type the path to the directory which will be used for loading and/or saving of EXCALIBUR files throughout the current run of the program.

The only way in which the user can subsequently change this directory is to terminate the current run of the program and restart the File Creation Program.

The user is then asked if he/she wishes to load an existing EXCALIBUR file. The user may respond with 'y' followed by <return> or simply by <return> preceded by no other key, to say 'yes', or by 'n' or any other character key followed by <return> to say 'no'.

If the user selects to load an existing file, then he/she is asked if it is required to edit ONLY the audiogram date, or if all items are to be editable.

### **Edit ONLY the Audiogram Date**

The existing audiogram date is displayed on the screen and the user is requested to type a new audiogram date in the format dd/mm/yyyy, where dd is a one or two digit day of the month in the range 1 to 31, mm is a one or two digit month of the year in the range 1 to 12, and yyyy is always a four digit year (say for instance 1998 or 2001). If the user types a character other than a decimal digit, or a '/', ':', or '.' character, then a message will be displayed on the screen stating that a character was not a decimal digit. If the user types a value for any of the three fields which is outside the specified range, then a message will be displayed on the screen stating which field is out of range and requesting again that the audiogram date be entered. When a correctly formatted date has been entered, all the data will be re-stored in the file from which it was read, with the audiogram date changed to the new value.

### **Edit All Fields**

Each threshold value is displayed on the screen in turn, and the user is requested to type a new value. If the response is to type <return> not preceded by any other character, then the existing value of the threshold is left unchanged and the next threshold is displayed. If the user types a character which is not a decimal digit, or if he/she types more than 4 characters, or if the resulting decimal number is outside the range -20 to 120 dB, then a message is displayed stating the error and the user is prompted to retype that threshold.

The employee's name is displayed and the user is requested to type another name. If the user responds by typing <return> not preceded by any other character, then the existing name is left unchanged and the employee's works number is requested, otherwise the new name is accepted with no further checking.

The employee's works number is processed in the same way as the employee's name.

The employee's date of birth and the audiogram date are each requested and processed as described above for the audiogram date, in the section describing Editing ONLY the Audiogram Date.

The employee's gender is requested. If the employee is male then the user may respond by typing either m<return> or simply <return>.

### **Create a New File**

The sequence through the program is the same as described above for the Edit All Fields option, except that there are no existing values to display and the associated text is therefore not displayed.

