Otodynamics
Audiology Systems

Otolink software

Otolink software
Issue 21

User Manual for Otolink software

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Otolink V2.25.0.0 onwards

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Contents

1 Introduction

All references in this manual to ‘Otoport’ refer to all Otoport family models, including Otocheck.

Otolink is a software package designed to get the most out of your Otoport.

The easy to use interface enables you to:

- Download test data
- View and manage test data
- Export test data in a range of formats
- Print test data
- Upload worklists to your Otoport
- Update your Otoport with new firmware releases

On advanced Otoport models you may also:

- Configure your Otoport
- Transfer Otoport data into Otodynamics ILO V6 software

2 Installing PC software

2.1 Introduction

There are several stages to Otolink installation and they should be conducted in the order detailed below. Prior to the installation close all programs running on your PC.

Note:

You will require Windows Administrator privileges to complete this installation. Please contact your IT administrator if you do not have this level of PC access.

To ensure smooth Otolink installation and operation, it is recommended that User account control (UAC) is turned off, or set to the lowest level on Windows Vista, W7 and W8.

2.2 Minimum PC specifications

Processor
Pentium III 1GHz

Operating System
Windows 10, 8, 7 and Vista

RAM
1024 MB minimum

Otolink installation
Hard disk: 50MB min free

V6 installation
Hard disk: 50MB min free

CDR / DVDR
Recommended for database archiving and backup

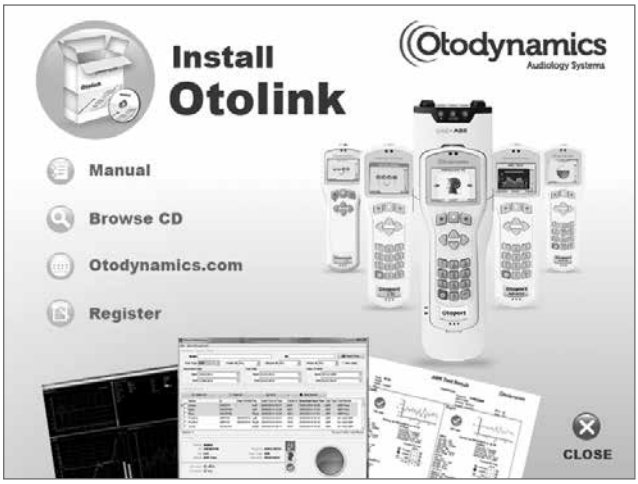
2.3 Installing ILO V6

The Otoport you have purchased may be supplied with ILO V6 software as standard. This software is also available as an option. For most data types, ILO V6 is not essential for review of data on the PC as data can be viewed in Otolink. Otoport Advance TEOAE tests that include 6KHz band data and DP Growth tests can only be viewed in ILO V6. ILO V6 software can be used for clinical data review and data management.

If you are going to use ILO V6, it should be installed before Otolink is installed. Refer to the ILO V6 manual for installation instructions. If the installation is solely for viewing Otoport data, ensure that ILO V6 is installed with the **OAE instrument type** set to **Otoport Viewer / Training mode**.

2.4 Otolink CD menu

Insert the Otolink CD into your CD-ROM drive. The menu below will be displayed.



Select the various options using a left mouse click.

Install Otolink

This will begin the Otolink software installation.

Manual

This opens the Manual, for on-screen viewing.

Browse CD

This allows the contents of the CD to be viewed.

Otodynamics.com

This will open the Otodynamics website on your web browser (your PC will need to be connected to the internet).

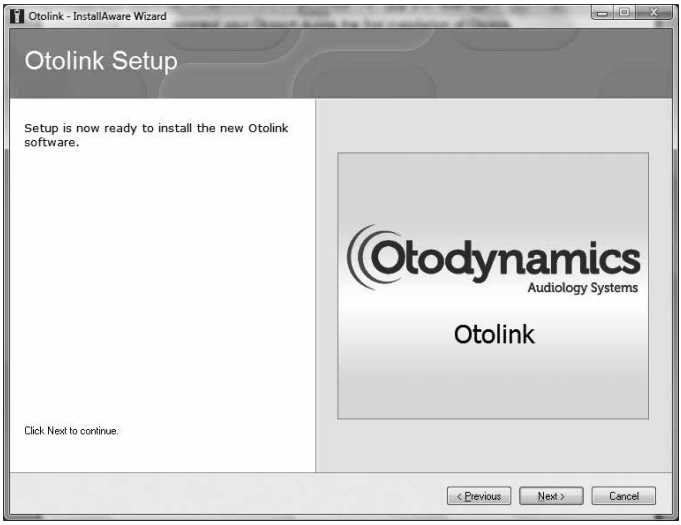
Register

Select this option to register your software with Otodynamics.

2.5 Install Otolink

Select **Install Otolink** from the CD menu.

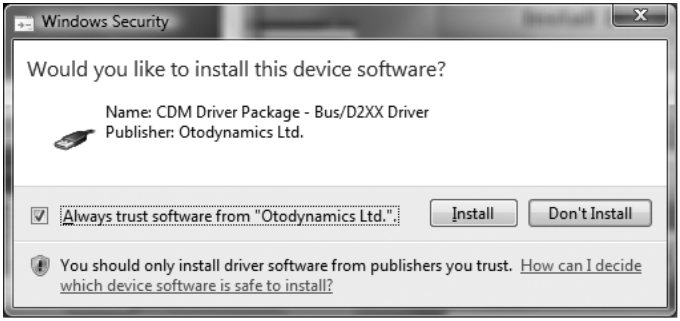
Otolink installation comprises a number of stages which vary according to whether Otolink has previously been installed on your PC. The installation process also installs the USB drivers required for the Otoport to communicate with the PC.



Follow the on-screen instructions, selecting **Next** when necessary.

Select the tick/check box to 'Always trust software from Otodynamics Ltd' and then click **Install**.

During installation, you may see the following message:



A message is displayed when installation is complete. Before pressing the **Finish** button, it is recommended that your Otoport is connected to the PC using the cable provided. Otolink will then automatically be configured for your Otoport type and where necessary drivers will be updated or installed.

Select **Finish**.

Following the installation, Otolink will automatically run. Shortcuts to the Otolink Suite and Otolink Data Viewer will be placed on your PC desktop. To start Otolink manually, double-click either icon.

Note:

If it is necessary to uninstall Otolink, re-start your PC following this process prior to reinstallation of the software.

2.6 Completing Otoport driver installation

Otoport drivers were loaded onto your PC during the Otolink installation. To complete the driver installation, follow the instructions below.

2.6.1 For Windows 10, 8, 7 and Vista

Connect the Otoport to the PC (see section 3.1) and Windows will automatically complete the driver installation process.

3 Getting started

3.1 Connecting the Otoport

Plug the Otoport into the PC using the PC download cable provided. Do not connect more than one Otoport to the same PC at any one time.

The end with USB symbol (fig 1) should be connected to a USB socket on the PC (fig 2).

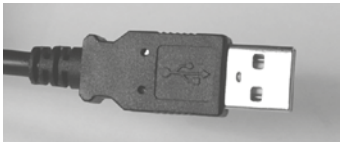


Fig 1

Fig 2

The Otoport connector should be plugged into the bottom of the Otoport with the arrow facing upwards (fig 3).

If the cables provided with your Otoport have a locking connector (fig 4), squeeze the release keys at the sides of the connector when inserting or removing the plug.

Fig 3

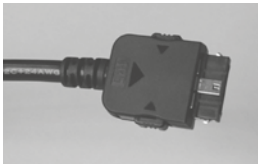


Fig 4

If the Otoport is off when connected, a battery charge graphic will be displayed on the Otoport screen, indicating the current battery level.

If the Otoport is on when connected to the PC and Otolink software is running, the Otoport will continue to display the screen shown at the time of connection. It is not possible to control the Otoport until disconnected from the PC.

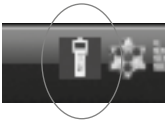
Once connected, Otolink will automatically detect the Otoport. After a few seconds a window will appear on your PC screen stating ‘Talking to Otoport’.

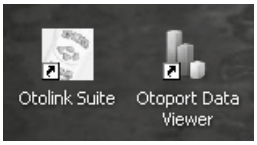
When the Otoport is connected, Otolink will automatically open to the download screen (see section 3.2). If this does not happen, then there may be a problem with your Otolink or USB driver installation. Try reinstalling Otolink from the CD (section 2.4). If this does not resolve the problem, refer to the troubleshooting guide (chapter 16).

3.2 Opening Otolink

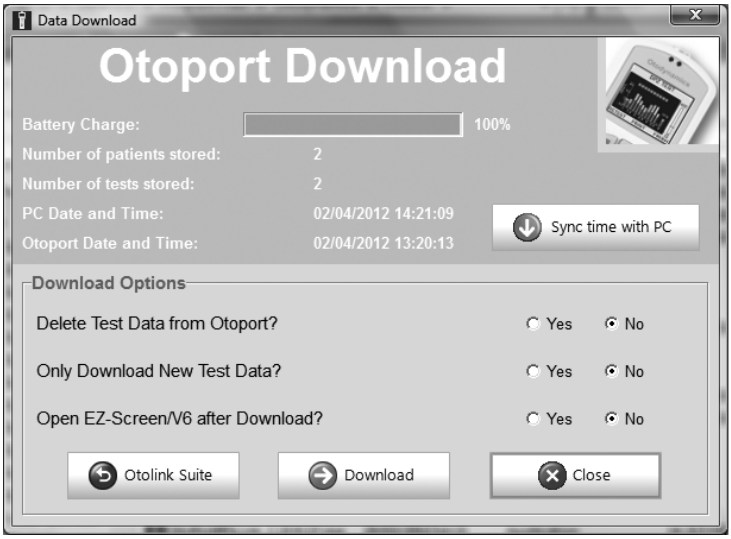
Otolink will automatically start each time your PC is started. The software will run in low PC memory usage mode until an Otoport is detected. The shortcut icons on the PC desktop will manually start Otolink if necessary.

There are three routes for accessing Otolink functions - the **Data Download** window, the **tray icon** and the **shortcut icons.**





3.2.1 Data Download window



When the PC first detects an Otoport, the **Data Download** window is automatically opened.

Note:

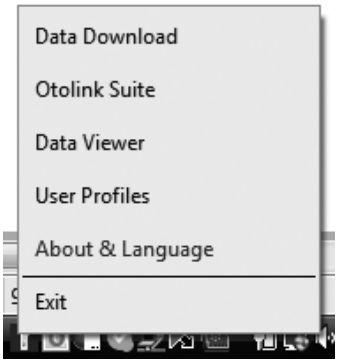
The **Data Download** window area of the Otolink software will only open when an Otoport is connected to the PC. If there is no Otoport connected, the software will display the message **No Otoport connected. Please check connection from PC to Otoport and retry**. Ensure the Otoport is connected correctly and retry.

3.2.2 Otolink tray icon

An **Otolink tray icon** will be placed in your system tray on the bottom right of your PC screen.

Left-click on the **Otolink tray icon** to open the **Data Download** window.

Right-click on the **Otolink tray icon** to open a pop-up menu:



Data Download - Data Download window.

Otolink Suite - Central control area.

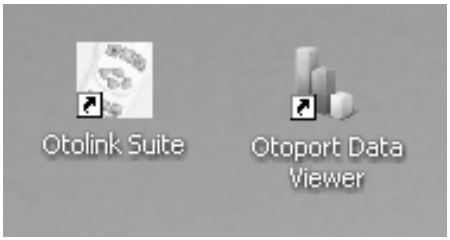
Data Viewer - View downloaded test data.

User Profiles - Turn on Otolink user security.

About & Language - Information about Otolink, the Otoport connected and language selection.

Exit - Close Otolink.

3.2.3 Shortcut icons



Shortcut icons are placed on the desktop. Double-click on either icon to open the relevant area of Otolink as described in the following sections.

The shortcuts may not function on Windows 7 or Vista operating systems if **User account control** is active.

3.2.4 Otolink Suite

Otolink Suite is the central control area for the Otolink package. The functions that are available depend on the Otoport model in use. Functions available are also controlled by two levels of Otolink user. Administrators will have access to all areas. Users without admin rights will only have access to the **Data Viewer**, **Data Download**, **Patient Worklist** and **About & Language** areas. Select each icon with the mouse, or scroll through them using the tab key and press Enter.

The top area of the screen has an Otoport **Battery Charge** indicator showing the Otoport battery level. The charge percentage is given adjacent to the graphic. This area also displays the three character GSN (unique machine ID) of the Otoport connected.

If Otolink Suite is opened when an Otoport is not connected, the GSN will read 'No otoport connected' and the Battery Charge indicator will be empty.

Firmware Updates
Enables the Otoport to be updated with files supplied by Otodynamics.

Data Viewer
Allows downloaded data to be viewed.

User Profiles
Enables Login to be turned on and off and user accounts to be set up.

About & Language
Information about Otolink, the Otoport connected and language selection.

Data Download
Opens the data download window.

Patient Worklist
Enables lists of patients for testing to be entered on the PC before upload to the Otoport.

Custom Settings
Sets auto download and auto start up options.

Otoport Configuration
Enables test parameters to be set and saved on the PC before upload to the Otoport.

Manuals
Provides access to Otoport and Otolink manuals.

On the right are scrolling icons that provide links to the Otodynamics website, giving product related information that may be of interest, i.e. NOAH 4 compatibility.

3.3 Otolink for the Otocheck LE

Otolink functions for the Otocheck LE are more limited than for the other products in the Otoport range.

Data download is not available and the download window will not automatically appear on connection. The worklist function is also unavailable. The Config function is limited to turning configurability on the unit on or off (see section 16.7).

3.4 Otolink for the OtoNova and Nova-Link

Data download is available for Otolink tests and the download window will automatically appear on connection. Before tests are available for download they must be exported in Nova-Link. See the OtoNova manual for full details. The Worklist function and Configuration functions are not available.

4 Data download

The **Otoport Download** screen provides download options and Otoport information.

It is possible to skip this step and download tests automatically as soon as the Otoport is connected. See chapter 15 **Custom settings** for details.

An Otoport **Battery Charge** indicator provides information on the Otoport battery level and the charge percentage is given adjacent to the graphic.

The number of patients and number of tests stored on the Otoport are displayed for information.

The PC and Otoport dates and times are displayed. Select **Sync time with PC** to synchronise the Otoport date and time with the PC's.

A shortcut to the Otolink suite area is provided.

Note:

Ensure the PC date and time are correct before you synchronise the date and time.

DO NOT set to an earlier date if there is data on the Otoport.

4.1 Otoport download options

Download Options are provided in the bottom half of the screen.

4.1.1 Delete Test Data from Otoport?

This option enables the deletion of Otoport data following successful download.

Select **Yes** to delete the data or **No** to leave the data stored on the Otoport. If **Yes** is selected a confirmation message will appear after the download is complete.

4.1.2 Only Download New Test Data?

If **Yes** is selected, then Otolink will only download tests which were recorded after the latest test for that unit in the Otolink Data Viewer.

If **No** is selected, then Otolink will download all the tests on the Otoport.

It may be useful to select **No** in order to retrieve tests which have been deleted from the Data Viewer but are still on the Otoport.

Test records which are currently in the Otolink database will not be duplicated in either case.

Note:

If a patient name and/or ID is edited in V6 software and the same data is downloaded again with the original patient details, the edited and unedited patient will then be present in the V6 database.

4.1.3 Open EZ•Screen/V6 after Download?

This function provides the option to automatically open V6 software following download of data (if V6 is installed). This is useful if you wish to review the Otoport data at the time of download. Alternatively V6 can be opened using the shortcut provided on your PC desktop.

Select **Yes** to open V6 or select **No** if you do not wish to open V6. If you choose to open V6, see the V6 manual for more information.

V6 download is not available for all Otoport models. The download function is greyed out and inactive if the function is not provided with the Otoport connected or if V6 is not installed.

4.2 Downloading test data

Once you have chosen your desired download options, select **Download** to initiate the download. Select **Close** to exit the **Download Options** screen.

During the download process a sequence of **Otoport download** screens will appear. Each screen has a progress bar, which indicates progress of each sub task. When the progress bar is full the sub task is 100% complete.

As standard there are three sub-tasks. First, the required Otoport configuration data is downloaded. The software then builds a list of patients to download. The sub task states **Building download list**. Finally, the data is downloaded and the sub task states **Downloading data**.

When the download is complete the **Download data** screens will close. If you have selected to delete the Otoport data, the delete confirmation screen will appear. Select **Yes** to delete the data or **No** to leave the data stored on the Otoport.

All the Otoport data has been downloaded and is available for viewing in a **Data Viewer**, which will automatically open (see use with V6 below).

If V6 is installed, all the data will be transferred to this software for review. An additional subtask progress bar is displayed during the download process and states **Importing data**. A confirmation message appears at the end of the process to confirm the data has been transferred to V6. See the appropriate manual for details. The data is also available via the **Data viewer**, which will automatically be shown if V6 isn't running or set to open when data is downloaded.

4.2.1 V6 data notes

The OAE waveform response from the Otoport is reprocessed in V6 and

all of the OAE data is recalculated from this waveform. You may notice up to 0.2dB difference in signal and noise values. The total noise is 3dB different. The test outcome and band passes will not be affected as these are imported directly from the Otoport.

The stimulus level is recalculated from the stimulus waveform and a variation of a few dB may be observed.

The units for noise reject reported in V6 are in mPa. The Otoport units are in dB SPL.

Data that has the ‘Noisy’ or ‘Poor probe fit’ stop reasons may have incorrect NLo/NHi values in V6.

Total DPOAE level in DP Zoom and DP 12 frequency tests:

ILOV6 uses a different method to calculate the DPOAE level from the Otoport. Otolink displays the level recorded on the Otoport. So the total DPOAE level shown in ILOV6 and Otolink will be different. Other DPOAE test types (which test in half octave steps) are unaffected.

4.3 Wireless data download (Bluetooth)

If your Otoport and PC are Bluetooth enabled you can download test data wirelessly. The download is initiated from the Otoport (see your Otoport manual for details).

The following screen is displayed when Otolink is processing tests wirelessly downloaded, which are then available in the Dataviewer

See section 15 **Custom settings** for how to setup Bluetooth data download.

Notes & trouble shooting:

If the Otolink Suite and sub-modules are in use then Otolink will wait before adding any new data downloaded wirelessly from the Otoport. A message is displayed in the Otolink suite to indicating new data is available to auto import. If the Dataviewer is open this will automatically be closed to allow new data to be processed.

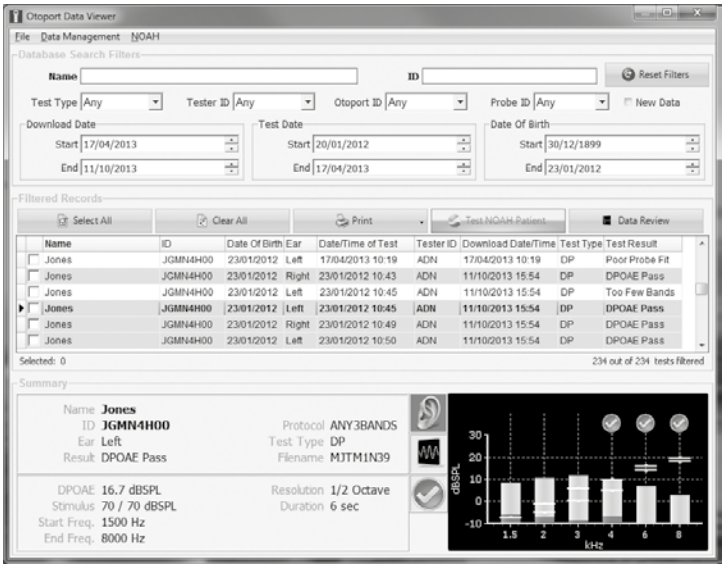
If the Otoport fails to connect to Otolink or data fails to download, try each of the following points and see if the problem is resolved.

1. Turn the Otoport off and then on.

2. Switch the Otopot on and select Config > System > Setup and change the Bluetooth option to Print and press save. Then switch the Bluetooth option back to ‘PC-Load’ and press save again.

e and then re-enable the PC Bluetooth module.

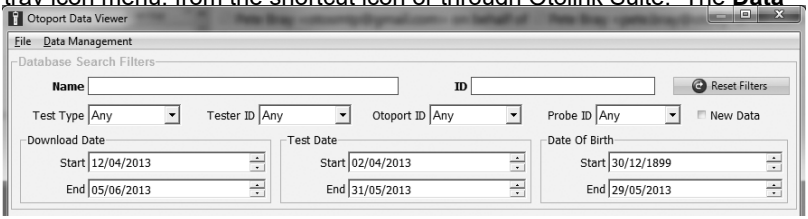
ve the Otoport from the device and printers list and pair the device with the PC again.



5. Reinstall the drivers for the Bluetooth module on the PC.

5 Data viewer

The **Data Viewer** opens automatically following data download unless used with V6 (see section 4.2. for use with V6). It can also be accessed from the tray icon menu, from the shortcut icon or through Otolink Suite. The **Data**



Viewer displays and manages downloaded Otoport data. Records are shown alphabetically by name.

Summary shows information for the test highlighted.

5.1

Finding test records

Name or **ID** fields may be partially entered providing partial entry filter functions. If the complete **Name** or **ID** is entered, only exact matches will be displayed. The **Filtered Records** list will be updated so that it displays only those tests which match the data entered. Deleting the contents of these fields will remove the filtering.

You can filter records by **Test type**, **Tester ID**, **Otoport ID** or **Probe ID**.

The **Download Date**, **Test Date** and **Date of Birth** fields enable date ranges to be selected. The default settings for these fields include all records in the database. Date format is Day / Month / Year. Dates may be selected by highlighting the day, month or year. Changes can be made either by entering values on the keyboard or by scrolling up and down with the mouse or keypad arrow keys. The records list will be automatically updated to show only results filtered by this criteria.

If the **New Data** button is selected, then only the most recently downloaded tests are displayed. The **New Data** button is selected as default when the

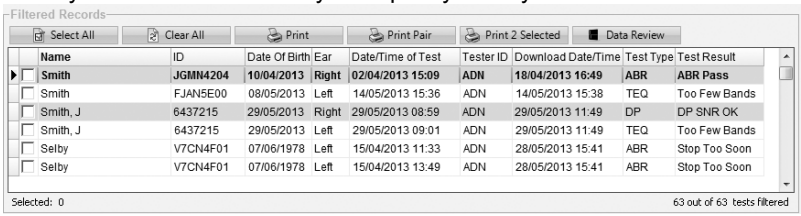
Data Viewer automatically opens after data download to make the finding of new tests easier.

Filter fields are shaded when that filter is in use.

The **Reset Filters** button resets all filters so that all of the records are displayed.

5.1.1 Selecting a record to view

When you have set the filters you require you may view the results in



the **Filtered Records** section. If no filters have been set all downloaded records will be available.

The bottom right of the filtered records area reports the number of tests filtered compared to the total number of tests in the database.

5.1.2 Selecting individual tests

Use the up and down arrows on your PC keyboard or your mouse to select an individual test.

Clicking on any of the column titles will sort the data by that field. Clicking a second time will reverse the sort order.

Tests which met the pass criteria set on the Otoport will be highlighted in green.

The currently selected test will appear in bold type and an arrow will be shown beside the record on the left margin.

The details for the selected test are available in the **Summary** section and in **Data review** (see chapter 6).

5.1.3 Selecting multiple tests

In order that a number of tests may be processed (printed, deleted etc.) in a batch, it is possible to select multiple tests. Tests can be selected by clicking on the check box on the left of the table. A check mark indicates that the test has been selected. To deselect a test, click on the check mark

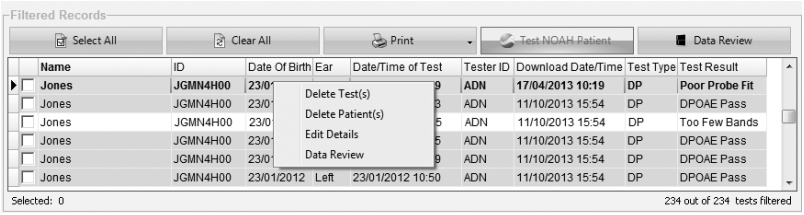
again.

Alternatively, all of the filtered records can be selected using the **Select All** button.

The currently selected records can be cleared by clicking the **Clear All** button.

The number of records currently selected is shown at the bottom of the table.

The selected tests can be processed using the options in the **File** or **Data Management** menus or the **Print** shortcuts (see chapter 8 **Printing**).



If no tests have been selected using the check boxes and Export, Transfer or Archive are chosen from the Data Management menu, then the user has the option to process all of the currently filtered tests.

5.1.4 Right-click menu

If a test in the Filtered Records is selected using a right-click, the options

Delete Test(s), **Delete Patient(s)**, **Edit Details** and **Data Review** can be selected.

See chapters 6 and 8 for **Data review** and **Data management**.

5.2 Summary

The **Summary** area shows the patient name and ID of the selected test, as well as the **Test type**, **Ear** tested and the test **File name**. Icons also provide a graphic representation of the test type, result and ear.

Summary data for different test types are also shown, which is explained in the following sections. A test result graph is displayed that includes valid band/test point indicators.

For ABR results a circle is shown that represents test progress towards a pass when it was stopped. A full circle is shown in green if the test met the pass criteria and partially filled circles are shown in amber that didn't pass, with the level of circle fill representing how close the data was to reaching the pass criteria.

The data available depends on the Otoport model used and on the type of test performed. The fields for the different test types are explained in the **Data review** section that follows.

Note:

Valid bands are not shown for Otocheck, Otoport Lite or Otoport DP+TE models on tests where the pass criterion is judged on total OAE rather than on individual bands (Wide Band or Narrow modes).

6 Data review

Click on the **Data review** button or the test result graph to show the **Data review** module, which provides detailed graphical and numerical test and patient data.

The screen is made up of various sections, which can be expanded or reduced using the blue and yellow arrows.

There are labelled tabs in some sections, which reveal additional information.

If normative data limits were set on the Otoport, they will be displayed in **Data review**.

Data is highlighted in yellow (or in bold on the printouts) to draw attention to test quality issues. Stimulus level achieved, stimulus stability/percentage

OK, waveform reproducibility, rejected data percentage and duration are included.

ABR specific test quality alerts include the Fsp and ABR noise levels.

It is possible to enable or disable the **Test data quality alerts** in the **Configuration** area.

It is also possible to open Datareview for individual test results by double clicking on the test result file. By default files are saved to C:\Program files\ Otodynamics and stored in sub folders of Dtafiles (TEOAE data), DPGfiles (DPOAE data) or ABRfiles (ABR data). But files can be opened from any location and this could be useful when reviewing archived files. Supported file name extensions are .otoTE, .otoDPG, .otoDPZ, .otoABR and also .Dta.

Note:

Otoport Lite and Otocheck models show the **Patient details** and **Test details** sections and do not include the graphs or numerical tables for OAE tests, but these are included for ABR results.

6.1 Patient details

The **Patient Details** tab displays detailed biographical information. Not all of the displayed fields are available on the Otoport, but they can be entered

in **Edit Details** (see section 7.7)

The patient name and ID are also displayed in the window header for quick reference.

6.2 TEOAE results

6.2.1 Test details

Result
The outcome of the test.

Ear
The Left or Right ear tested.

Target stim
The target stimulus level set for the test.

Protocol
The test mode set on the Otoport when the test was performed.

Noise reject
The noise reject level as it was set at the end of the test.

TEOAE
Displays the total TEOAE across a wide frequency range.

Noise
Displays the total noise across a wide frequency range.

Reproducibility
Measure of the reproducibility (correlation) between the two waveforms recorded during a TEOAE test.

Duration
The duration of the test in seconds.

Fit Size (0-9)
The size of the ear canal, on a scale of 1 (small) to 9 (large), indicated by the stimulus intensity recorded during Checkfit.

Achieved stim
The stimulus level achieved at the Checkfit stage of the test.

Stim. Stability
The % correlation between the stimulus recorded at the beginning of the test and that present at the end of the test. A high level indicates that test conditions were good and there was little probe movement. A low level indicates significant probe movement.

Rejected Data
The percentage of data rejected. NHi - The amount of data rejected due to noise being above the noise reject level. NLo - The amount of data accepted due to noise being below the noise reject level.

Otoport ID

The GSN (unique machine ID) of the machine used for the test.

ABR Module ID
The identification number of the ABR module if used during the TEOAE test. A dash is shown if no ABR module was used.

Tester ID
The ID of the tester who performed the test. If Otoport login is not turned on, this field will always show ADN. This is the Otoport default Admin account.

Probe ID
The serial number of the probe used in the test.

File name
The name of the data file created for the test.

Firmware
The revision of Otoport firmware used during the test.

6.2.2 Checkfit stimulus

All the stimulus data is collected during the **Checkfit** period before the test starts.

A numerical level of the achieved stimulus is displayed.

A stimulus waveform graph shows a time based (ms) view. With a good probe fit the waveform should have an initial large positive and then negative peak followed by a flat line response.

A spectrum shows how the energy in the stimulus waveform is distributed over frequencies (kHz). This distribution is dependent on the fit of the probe and the geometry of the individual ear canal.

Note:

On Otoport DP+TE devices, to optimise speed of testing, a low cut filter is used during Checkfit. The stimulus display therefore doesn't show low frequency energy, as this has been filtered out, but the stimulus delivered will contain a broad frequency spectrum.

6.2.3 Response

Waveform
The response waveform displays the two interleaved OAE waveforms (named A and B). Waveform A is shown in white and waveform B in yellow.

Frequency spectrum
The response spectrum screen shows the signal and noise levels recorded in 80Hz frequency bands. This is the information which is summarised by the half-octave histogram but the response spectrum displays the data at a much higher frequency resolution.

Graph
Test data is displayed graphically on the histogram screen in ½ octave bands: 1k, 1.5k, 2k, 3k, 4k and 6kHz (optional for Otoport Advance only). The blue section of each band represents the OAE signal level within each band and the red section represents the noise level at that frequency.

A band indicator is shown above the graph if the band meets the set criteria.

Table
Displays the signal and noise sound levels at the specified half octave frequencies and the Signal-to-Noise Ratio (signal minus noise). If the OAE at this frequency has met the set criteria then the SNR value is shown on a green background.

6.3 DPOAE results

6.3.1 Test details

Result
The outcome of the test.

Ear
The Left or Right ear tested.

Target stim
The target intensities for the primary stimulus levels L1 and L2.

Protocol
The test mode set on the Otoport when the test was performed.

Start Freq.
The lowest frequency tested.

End Freq.
The highest frequency tested.

Resolution
The number of frequencies to be tested per octave.

Noise mode
Noise mode reports the method by which the noise floor in DP tests was calculated. Rapid is the mean of the frequency bins close to the DP frequency and is most suitable for screening. Standard is the mean + 2 standard deviations and is more suitable for clinical diagnostics.

Noise reject
The noise reject level as it was set at the end of the test.

DPOAE
Displays the total DPOAE summed over the tested frequencies.

Duration
The duration of the test in seconds.

Fit Size (0-9)
The size of the ear canal, on a scale of 1 (small) to 9 (large), indicated by the stimulus intensity recorded during Checkfit.

Stim OK
The percentage of the presented stimuli that were within 1dB of the levels achieved during calibration.

Rejected Data
The percentage of data rejected NHi - The amount of data rejected due to noise being above the noise reject level. NLo - The amount of data accepted due to noise being below the noise reject level.

Otoport ID
The GSN (unique machine ID) of the machine used for the test.

ABR Module ID
The identification number of the ABR module if used during the DPOAE test. A dash is shown if no ABR module was used.

Tester ID
The ID of the tester who performed the test. If Otoport login is not turned

on, this field will always show ADN. This is the Otoport default Admin account.

Probe ID
The serial number of the probe used in the test.

File name
The name of the data file created for the test.

Firmware
The revision of Otoport firmware used during the test.

6.3.2 Checkfit stimulus

All the stimulus data is collected during the **Checkfit** period before the test starts. DPOAE testing requires two stimulus channels and channel A is shown in white and channel B in yellow.

A numerical level of the achieved stimulus is displayed for each channel.

A stimulus waveform graph shows a time based (ms) view produced by each of the stimulus channels. With a good probe fit the waveform should have an initial large positive and then negative peak followed by a flat line response.

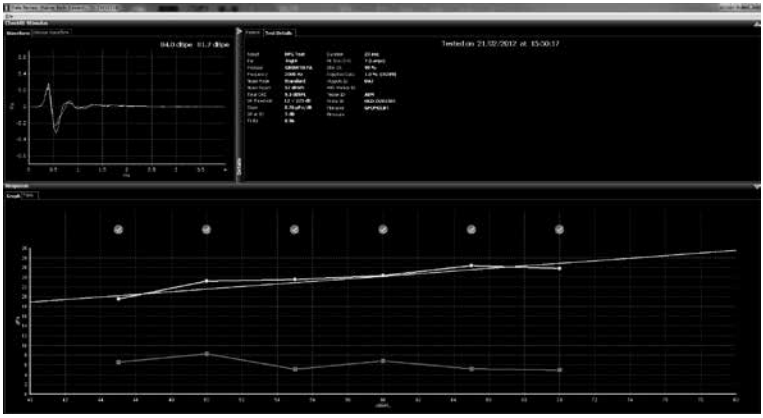
A spectrum shows how the energy in the stimuli waveforms are distributed over frequencies (kHz). This distribution is dependent on the fit of the probe and the geometry of the individual ear canal.

6.3.3 Response

Graph
Test data is displayed graphically on the graph screen at the frequency points tested. The blue section of each band represents the OAE signal level within each band and the red section represents the noise level at that frequency.

A test point indicator is shown above the graph if the test point meets the

set criteria.



There is an option to view a DP bar or line graph.

Table
Displays the DP stimulus frequencies (F1 and F2) tested and the DP stimulus levels (L1 and L2) achieved. The signal and noise sound levels at the specified half octave frequencies and the Signal-to-Noise Ratio (signal minus noise). If the OAE at this frequency has met the set criteria then the SNR value is shown on a green background.

6.4 DP Growth (Otoport Advance only)

6.4.1 Test details

Result
The outcome of the test.

Ear
The Left or Right ear tested.

Protocol
The test mode set on the Otoport when the test was performed.

Frequency
The frequency of the F2 stimulus at which the test was conducted.

Noise mode

Noise mode reports the method by which the noise floor in DP tests was calculated. Rapid is the mean of the frequency bins close to the DP frequency and is most suitable for screening. Standard is the mean + 2 standard deviations and is more suitable for clinical diagnostics.

Noise reject
The noise reject level as it was set at the end of the test.

Total OAE
Displays the total OAE summed across all the test points at the different stimulus intensities.

DP threshold
This is the predicted level of L2 stimulus where no measurable DPOAE will be produced. Only available for DP Growth uPa tests.

Slope
This is the rate of growth of DPOAE with increase in L2.

DP at 80
This is a predicted level of DPOAE obtained by extrapolating the data to L2=80dBSPL.

Fit R^2
A measure of the quality of the fit of the best fitting line to the data.

Duration
The duration of the test in seconds.

Fit Size (0-9)
The size of the ear canal, on a scale of 1 (small) to 9 (large), indicated by the stimulus intensity recorded during Checkfit.

Stim OK
The percentage of the presented stimuli that were within 1dB of the levels achieved during calibration.

Rejected Data
The percentage of data rejected NHi - The amount of data rejected due to noise being above the noise reject level. NLo - The amount of data accepted due to noise being below the noise reject level.

ABR Module ID
The identification number of the ABR module if used during the DPOAE test. A dash is shown if no ABR module was used.

Otoport ID
The GSN (unique machine ID) of the machine used for the test.

Tester ID
The ID of the tester who performed the test. If Otoport login is not turned

on, this field will always show ADN. This is the Otoport default Admin account.

Probe ID
The serial number of the probe used in the test.

File name
The name of the data file created for the test.

Firmware
The revision of Otoport firmware used during the test.

6.4.2 Checkfit stimulus

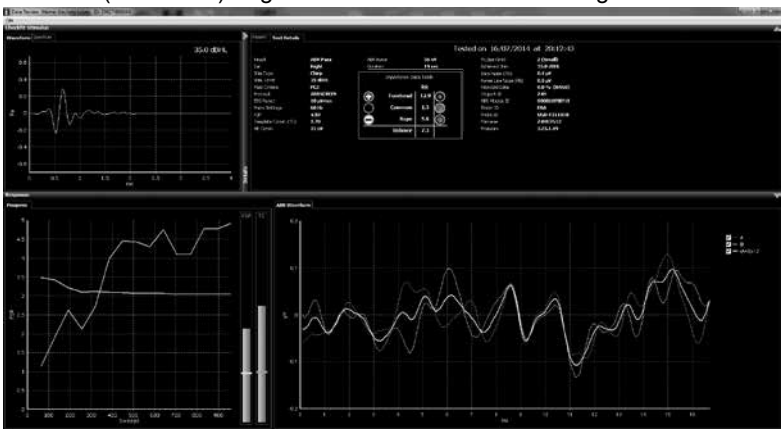
The displays are the same as the DPOAE section above.

6.4.3 Response

Graph
The DPG graph shows the DPOAE levels recorded at each of the six intensity levels presented. The x-axis shows the target L2 levels (45-70dBSPL). The y-axis shows the DPOAE level recorded in uPa or dBSPL depending on the test setting. If the line fit criteria are met then the best fit line is plotted in yellow on the graph.

A test point indicator is shown above the graph if the test point meets the set criteria.

Table
Displays the DP stimulus frequencies (F1 and F2) tested and the DP stimulus (L1 and L2) target and achieved levels. The signal and noise



sound levels and the Signal-to-Noise Ratio (signal minus noise) at the frequency tested.

If the OAE at this frequency has met the set criteria then the SNR value is shown on a green background.

6.5 ABR results

6.5.1 Test details

Result
The outcome of the test.

Ear
The left of right ear tested.

Stim Type
The stimulus type used during the test (Click or Short chirp).

Stim Level
The stimulus level set for the test in dB HL.

Pass Criteria
The pass criteria mode used during the test.

Protocol
The test mode used during recording.

EEG Reject
The electrical noise rejection level, above which data is rejected from the measurement averaging process.

Mains Settings
The mains electricity frequency setting used during the test, which is important to match to the mains supply frequency in the region the test was conducted.

Fsp
A statistical measure that shows the confidence in an ABR response being present, looking at the variance of the waveform compared with the back ground noise.

Template correl. (TC)
The level to which the ABR response waveform matches the built in normative template. Values over 1.3 show a good correlation.

AB correl.
The correlation between the A and B waveforms recorded in nano volts. The better the correlation, the higher the confidence in there being a real ABR signal.

ABR Noise
Shows the estimate of residual noise in the averaged response that is used in the Fsp calculation.

Duration
The test time in seconds.

Fit Size (0-9)
The size of the ear canal, on a scale of 1 (small) to 9 (large), indicated by the stimulus intensity recorded during Checkft.

Achieved Stim
The stimulus level achieved at the Checkfit stage of the test.

Total Noise (TN)
A measure of the electrical noise recorded during the impedance measurement in micro volts.

Power Line Noise (PN)
A measure of the noise caused by the mains power supply recorded during the impedance measurement in micro volts.

Rejected Data

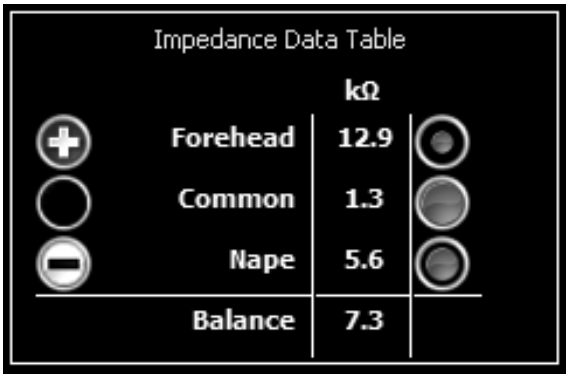
The percentage of rejected data during the test. In brackets is the rejected and accepted data (rejected:accepted).

Otoport ID
The GSN (unique machine ID) of the machine used for the test.

ABR Module ID
The identification number of the ABR module if used during the DPOAE test. A dash is shown if no ABR module was used.

Tester ID
The ID of the tester who performed the test. If Otoport login is not turned on, this feld will always show ADN. This is the Otoport default Admin account.

Probe ID
The serial number of the probe used in the test.



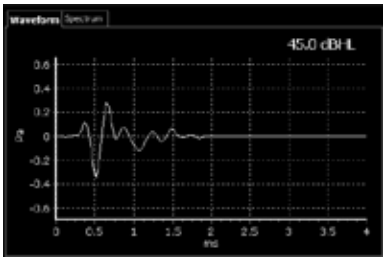
File name
The name of the data file created for the test.

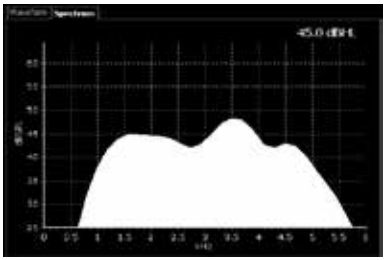
Firmware
The revision of Otoport firmware used during the test.

6.5.2 Impedance

Shows the impedance levels recorded on the Otoport ABR for this test. This represents the levels recorded before the test, or the last levels

measured if another impedance measurement was made during the test.





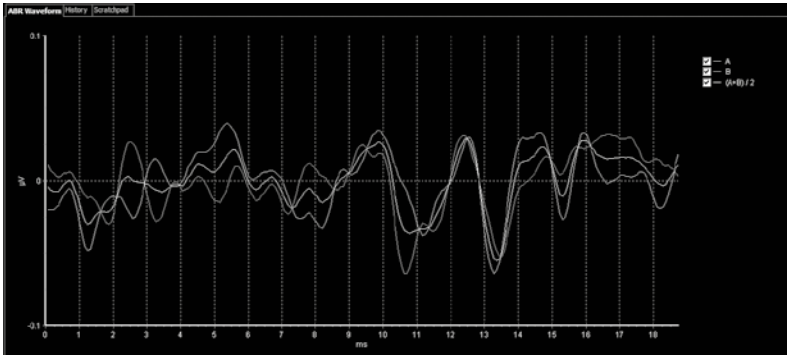
The results for the 3 electrodes are shown, along with the Balance between the positive and negative, which is important to be low.

The green circles indicate the quality of the connection of each electrode to the patient during the test. A larger circle indicates a lower impedance and a better connection. A full circle indicates optimum connection.

6.5.3 Checkfit stimulus

The target stimulus in dB HL (decibel hearing level) is shown.

A stimulus waveform graph is shown in the time domain and the spectrum of the stimulus is show across frequency by clicking on the Waveform tab.

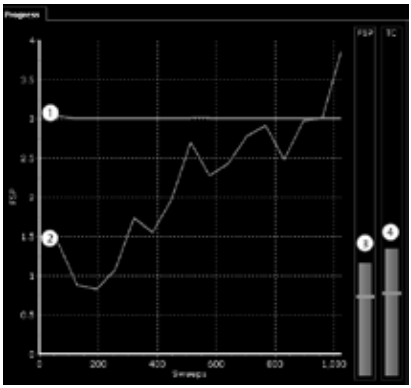


The stimuli shown is recorded is the click from the pre-test Checkfit phase by clicking on the Spectrum tab. The stimuli used in test is not shown, so if a chirp stimuli is used it will not be displayed on this screen.

6.5.4 ABR waveform

The waveform is shown in the time domain. Two interleaved measurements (waveform A and B) are displayed in orange and yellow. The average of the two measurements (A+B)/2 is displayed in white.

6.5.5 Fsp Progress



Fsp Progress shows the change in Fsp over the course of the test. The x axis represents the number of sweeps (i.e. data collected) and the y axis represents the Fsp value.

Line 1 represents the dynamic Fsp threshold. This threshold is raised if there is high mains powerline noise during the test to account for any contribution of the powerline noise to Fsp result.

Line 2 represents the Fsp progress during the test.

Pass criteria PC1 & PC2 require the Fsp to exceed the dynamic Fsp threshold) for a Pass result.

Result analysis

Bar graphs show the levels of Fsp and TC at the end of the test in relation to the pass criteria set for the test.

Bar graph 3 represents the Fsp level achieved at the end of the test with the blue horizontal line representing the dynamic Fsp threshold.

If PC3 and PC4 are used a minimum Fsp threshold (amber line) will also be shown representing the lowest Fsp level that could result in a pass.

Bar graph 4 represents the Template Correlation (TC) achieved at the end of the test, with the amber horizontal line representing the minimum TC requirement necessary for a pass.

If PC3 and PC4 are used the strict TC threshold (blue line) will also be shown representing the higher threshold for TC required in high powerline noise environments.

PC1 requires that:

Fsp exceed the dynamic Fsp threshold (blue line Fsp bar).

PC2 requires that:

Fsp exceed the dynamic Fsp and TC exceeds the minimum TC requirement (amber line TC bar).

PC3 requires that:

Fsp exceed the dynamic Fsp and TC exceeds the minimum TC threshold.

OR

Fsp exceed the minimum Fsp threshold (amber line Fsp bar) and TC exceeds the strict TC threshold (blue line TC bar)

PC4 requires that:

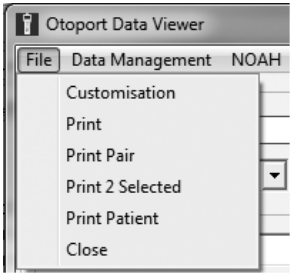
Fsp exceed the dynamic Fsp threshold

OR

Fsp exceed the minimum Fsp) and TC exceeds the strict TC threshold)

See your Otoport manual for a full explanation of the pass criteria.

The checkboxes on the right of the graph control which waveforms are shown.

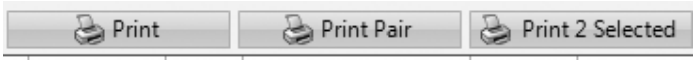


7 Printing

Printing of tests selected in **Data Viewer** can be initiated from the options in the **File** menu or from the **Print** button.

Note:

Test results can also be automatically printed when they are



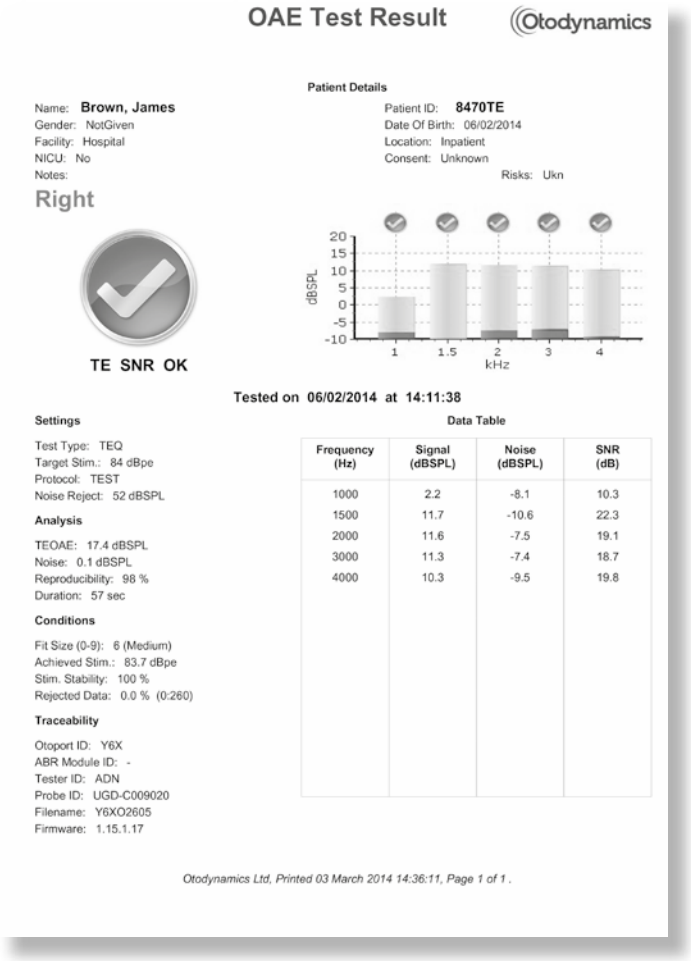
downloaded from the Otoport. See chapter 15 **Custom settings** for details.

7.1 Print button

When the **Print** button is selected, test results will be printed directly, using the default print options, with no further dialogue. The default options are described in section 7.3 **Customisation**.

The small arrow at the right-hand end of the **Print** button gives access to a drop-down list. Use the list to change the type of print created by the button. Choose from **Print** (single test), **Print Pair**, **Print 2 Selected** and **Print Patient**. Each of these options is described in detail below.

The **Print** button will print all the tests selected with the tick/check boxes or just the test currently highlighted (if no tests have been selected). The



OAE Test Result

Otodynamics

Patient Details

Name: **Brown, James**
Gender: NotGiven
Facility: Hospital
NICU: No
Notes:

Patient ID: **8470TE**
Date Of Birth: 06/02/2014
Location: Inpatient
Consent: Unknown
Risks: Ukn

Right

TE SNR OK

dBSPL: 20, 15, 10, 5, 0, -5, -10
kHz: 1, 1.5, 2, 3, 4

Tested on 06/02/2014 at 14:11:38

Settings

Test Type: TEQ
Target Stim.: 84 dBpe
Protocol: TEST
Noise Reject: 52 dBSPL

Analysis

TEOAE: 17.4 dBSPL
Noise: 0.1 dBSPL
Reproducibility: 98 %
Duration: 57 sec

Conditions

Fit Size (0-9): 6 (Medium)
Achieved Stim.: 83.7 dBpe
Stim. Stability: 100 %
Rejected Data: 0.0 % (0:260)

Traceability

Otoport ID: Y6X
ABR Module ID: -
Tester ID: ADN
Probe ID: UGD-C009020
Filename: Y6XO2605
Firmware: 1.15.1.17

Data Table

Frequency (Hz)	Signal (dBSPL)	Noise (dBSPL)	SNR (dB)
1000	2.2	-8.1	10.3
1500	11.7	-10.6	22.3
2000	11.6	-7.5	19.1
3000	11.3	-7.4	18.7
4000	10.3	-9.5	19.8

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exception is the **Print 2 Selected** option, which is restricted to the two tests selected.

7.1.1 Print (single test)

When the **Print** option is selected a page will be printed for each test result selected.

7.1.2 Print Pair

The **Print Pair** function finds an opposite ear test which best matches the test selected and prints both test results together. The criteria for selecting the second test are: the test was for the same patient, the same test type and the opposite ear and was performed within 24 hours.

For TE and DP tests, if more than one test meets this criteria then preference is given to pass results, results with more band passes, or the result with the larger total OAE.

DP tests also consider the target stimulus level.

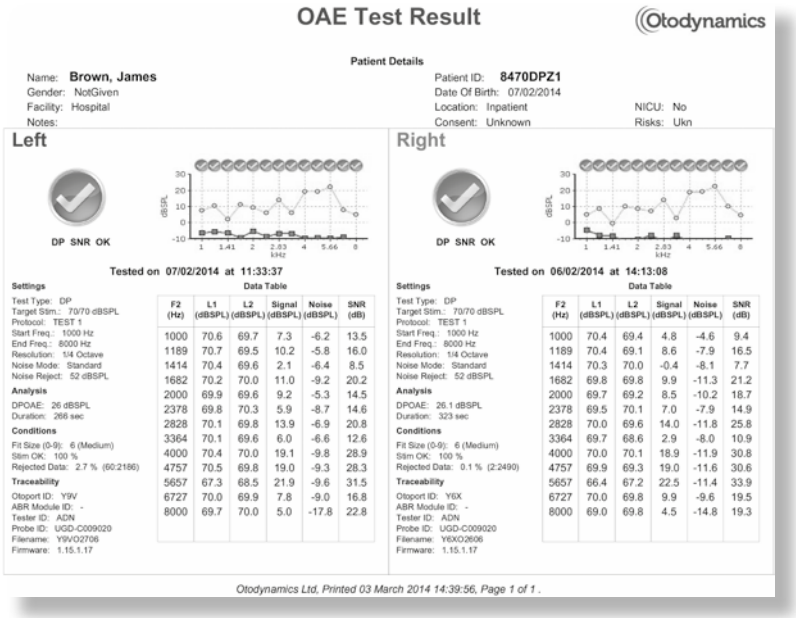
DP Growth tests are only paired if the tests have the same starting stimulus

level and test frequency.

If no matching test is found, the user will be warned and given the option to print the single test in the two ear format.

The test data printed in two ear format is identical to that in single ear format.

7.1.3 Print 2 Selected



OAE Test Result

Otodynamics

Patient Details

Name: Brown, James
Gender: NotGiven
Facility: Hospital
Notes:

Patient ID: 8470DPZ1
Date Of Birth: 07/02/2014
Location: Inpatient
Consent: Unknown
NICU: No
Risks: Ukn

Left

DP SNR OK

Tested on 07/02/2014 at 11:33:37

Settings
Test Type: DP
Target Stim.: 70/70 dBSPL
Protocol: TEST 1
Start Freq.: 1000 Hz
End Freq.: 8000 Hz
Resolution: 1/4 Octave
Noise Mode: Standard
Noise Reject: 52 dBSPL

Analysis
DPOAE: 26 dBSPL
Duration: 266 sec

Conditions
Fit Size (0-9): 6 (Medium)
Stim OK: 100 %
Rejected Data: 2.7 % (60:2186)

Traceability
Otoport ID: Y9V
ABR Module ID: -
Tester ID: ADN
Probe ID: UGD-C009020
Filename: Y9VO2706
Firmware: 1.15.1.17

Data Table

F2 (Hz)	L1 (dBSPL)	L2 (dBSPL)	Signal (dBSPL)	Noise (dBSPL)	SNR (dB)
1000	70.6	69.7	7.3	-6.2	13.5
1189	70.7	69.5	10.2	-5.8	16.0
1414	70.4	69.6	2.1	-6.4	8.5
1682	70.2	70.0	11.0	-9.2	20.2
2000	69.9	69.6	9.2	-5.3	14.5
2378	69.8	70.3	5.9	-8.7	14.6
2828	70.1	69.8	13.9	-6.9	20.8
3364	70.1	69.6	6.0	-6.6	12.6
4000	70.4	70.0	19.1	-9.8	28.9
4757	70.5	69.8	19.0	-9.3	28.3
5657	67.3	68.5	21.9	-9.6	31.5
6727	70.0	69.9	7.8	-9.0	16.8
8000	69.7	70.0	5.0	-17.8	22.8

Right

DP SNR OK

Tested on 06/02/2014 at 14:13:08

Settings
Test Type: DP
Target Stim.: 70/70 dBSPL
Protocol: TEST 1
Start Freq.: 1000 Hz
End Freq.: 8000 Hz
Resolution: 1/4 Octave
Noise Mode: Standard
Noise Reject: 52 dBSPL

Analysis
DPOAE: 26.1 dBSPL
Duration: 323 sec

Conditions
Fit Size (0-9): 6 (Medium)
Stim OK: 100 %
Rejected Data: 0.1 % (2:2490)

Traceability
Otoport ID: Y6X
ABR Module ID: -
Tester ID: ADN
Probe ID: UGD-C009020
Filename: Y6XO2606
Firmware: 1.15.1.17

Data Table

F2 (Hz)	L1 (dBSPL)	L2 (dBSPL)	Signal (dBSPL)	Noise (dBSPL)	SNR (dB)
1000	70.4	69.4	4.8	-4.6	9.4
1189	70.4	69.1	8.6	-7.9	16.5
1414	70.3	70.0	-0.4	-8.1	7.7
1682	69.8	69.8	9.9	-11.3	21.2
2000	69.7	69.2	8.5	-10.2	18.7
2378	69.5	70.1	7.0	-7.9	14.9
2828	70.0	69.6	14.0	-11.8	25.8
3364	69.7	68.6	2.9	-8.0	10.9
4000	70.0	70.1	18.9	-11.9	30.8
4757	69.9	69.3	19.0	-11.6	30.6
5657	66.4	67.2	22.5	-11.4	33.9
6727	70.0	69.8	9.9	-9.6	19.5
8000	69.0	69.8	4.5	-14.8	19.3

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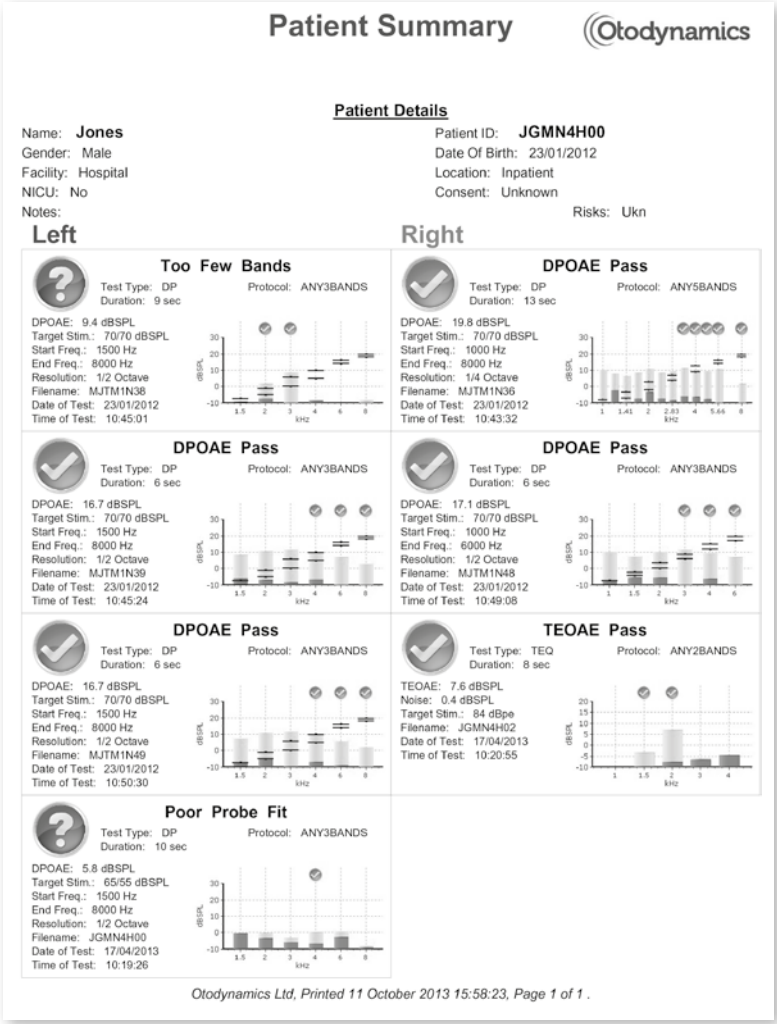
The **Print 2 Selected** function will print two tests manually selected on the same page. Choose the two tests using the tick/check boxes.

The tests must be for the same patient and test type.

Sample print (Print 2 Selected):

7.1.4 Print Patient



Patient Summary

Otodynamics

Patient Details

Name: **Jones**
Gender: Male
Facility: Hospital
NICU: No
Notes:

Patient ID: **JGMN4H00**
Date Of Birth: 23/01/2012
Location: Inpatient
Consent: Unknown
Risks: Ukn

Left

Too Few Bands
Test Type: DP Protocol: ANY3BANDS
Duration: 9 sec
DPOAE: 9.4 dBSPL
Target Stim.: 70/70 dBSPL
Start Freq.: 1500 Hz
End Freq.: 8000 Hz
Resolution: 1/2 Octave
Filename: MJTM1N38
Date of Test: 23/01/2012
Time of Test: 10:45:01

DPOAE Pass
Test Type: DP Protocol: ANY3BANDS
Duration: 6 sec
DPOAE: 16.7 dBSPL
Target Stim.: 70/70 dBSPL
Start Freq.: 1500 Hz
End Freq.: 8000 Hz
Resolution: 1/2 Octave
Filename: MJTM1N39
Date of Test: 23/01/2012
Time of Test: 10:45:24

DPOAE Pass
Test Type: DP Protocol: ANY3BANDS
Duration: 6 sec
DPOAE: 16.7 dBSPL
Target Stim.: 70/70 dBSPL
Start Freq.: 1500 Hz
End Freq.: 8000 Hz
Resolution: 1/2 Octave
Filename: MJTM1N49
Date of Test: 23/01/2012
Time of Test: 10:50:30

Poor Probe Fit
Test Type: DP Protocol: ANY3BANDS
Duration: 10 sec
DPOAE: 5.8 dBSPL
Target Stim.: 65/55 dBSPL
Start Freq.: 1500 Hz
End Freq.: 8000 Hz
Resolution: 1/2 Octave
Filename: JGMN4H00
Date of Test: 17/04/2013
Time of Test: 10:19:26

Right

DPOAE Pass
Test Type: DP Protocol: ANY5BANDS
Duration: 13 sec
DPOAE: 19.8 dBSPL
Target Stim.: 70/70 dBSPL
Start Freq.: 1000 Hz
End Freq.: 8000 Hz
Resolution: 1/4 Octave
Filename: MJTM1N36
Date of Test: 23/01/2012
Time of Test: 10:43:32

DPOAE Pass
Test Type: DP Protocol: ANY3BANDS
Duration: 6 sec
DPOAE: 17.1 dBSPL
Target Stim.: 70/70 dBSPL
Start Freq.: 1000 Hz
End Freq.: 6000 Hz
Resolution: 1/2 Octave
Filename: MJTM1N48
Date of Test: 23/01/2012
Time of Test: 10:49:08

TEOAE Pass
Test Type: TEQ Protocol: ANY2BANDS
Duration: 8 sec
TEOAE: 7.6 dBSPL
Noise: 0.4 dBSPL
Target Stim.: 84 dBpe
Filename: JGMN4H02
Date of Test: 17/04/2013
Time of Test: 10:20:55

Otodynamics Ltd, Printed 11 October 2013 15:58:23, Page 1 of 1 .

This prints a summary of all the tests for the selected patient, separated into left and right ears. The oldest test is shown at the top and up to four left and four right tests are shown per page. Multiple pages are printed if required.

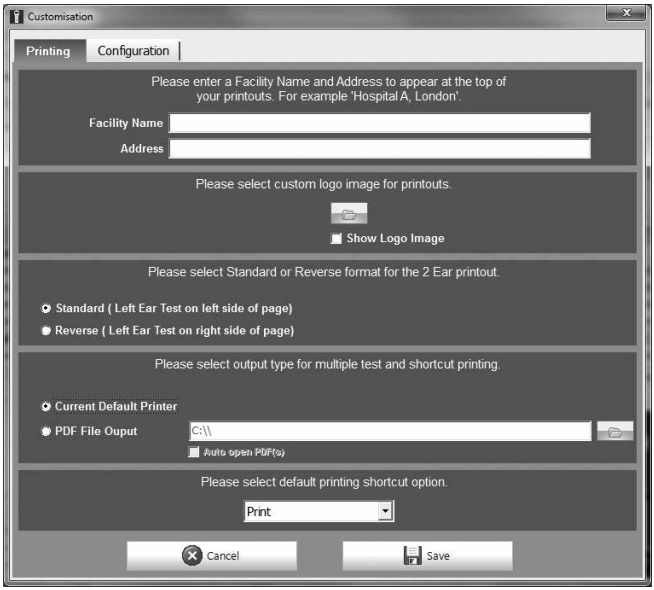
Sample print (Print Patient):

7.2 Print format

The format of the test printout depends upon the Otoport model used in

the test; Otocheck and Otoport Lite printouts do not include data tables or response bar graphs.

TE and DP tests have some different fields in the **Test Details** and **Technical Details** sections.



7.3 Customisation

This area allows the user to change the appearance of the printout and the dataviewer.

7.3.1 Printing tab

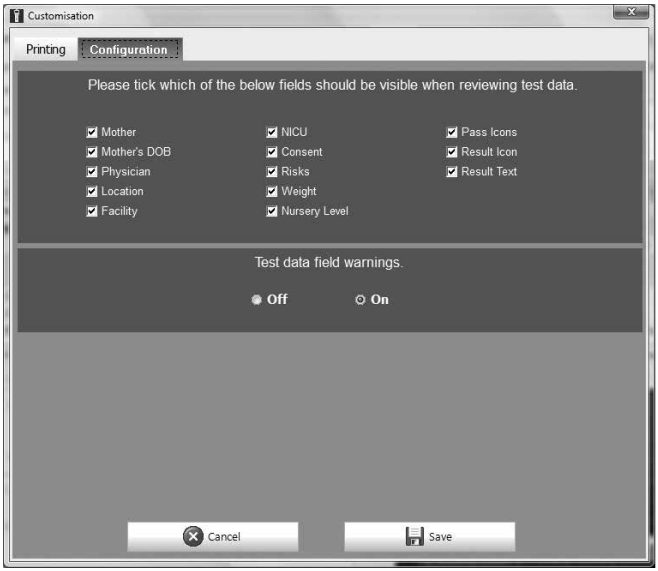
Customising **Printing** allows the user to add the name and address of their organisation to the top of the Otolink printout, add a custom logo, change the layout of the two ear print (standard or reversed format), or setup printing to PDF file.

To load a custom logo, select **Show Logo Image** and use the browse button to select the image to add, which needs to be in bitmap (.bmp)

format.

If files are printed to PDF, each print will be saved with a unique filename with the format:

For single ear prints:
*PatientName_PatientID_TestDataFilename_*1Ear*_Date_Time*



For two ear prints:
*PatientName_PatientID_TestDataFilename_*2Ear*_Date_Time*

Select the **Auto open PDF(s)** box to open and display PDF files when they are created.

Use the drop-down list to select the default option for the **Print** button.

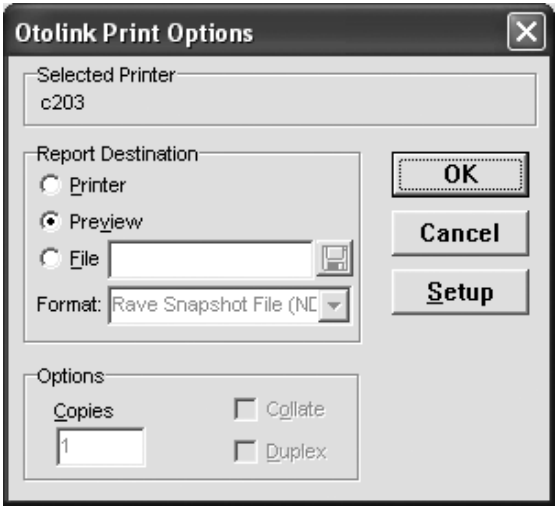
7.3.2 Configuration tab

It is possible to configure which screening fields are displayed in **Dataviewer**, **Data review** and the printouts. These include patient details and test result information. If using your Otoport in a clinical environment, you may wish to turn off these fields.

7.3.3 Test data quality alerts

By default, data is highlighted in yellow (or in bold on the printouts) to draw attention to test quality issues. Fields are highlighted when they are outside the range expected in good test conditions. Stimulus level

achieved, stimulus stability/percentage OK, waveform reproducibility, noise reject percentage and duration are included.



ABR specific test quality alerts include the Fsp and ABR noise levels.

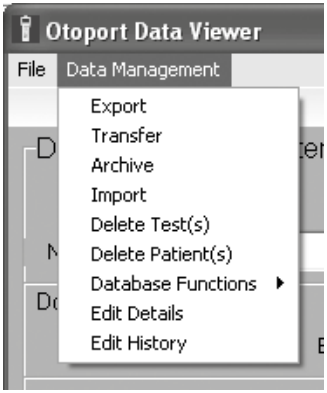
It is possible to enable or disable the **Test data quality alerts** in the **Configuration** area.

7.4 Print from File menu

Selecting **Print** in the File menu provides a Print Options screen before printing, with facilities for printer selection via the **Setup** button, print preview, printing to file and printing multiple copies.

Note:

If more than one test is selected using the test check boxes, printing begins immediately without the print options being available.

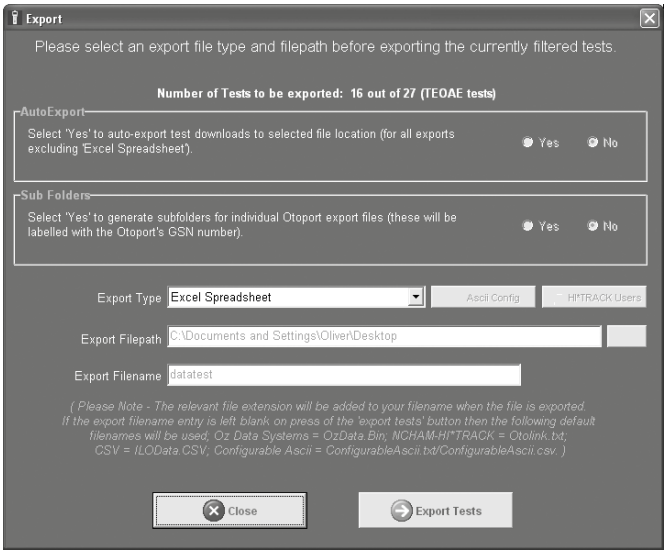


8 Data management

The data management area provides facilities for selected data to be exported, edited, deleted, transferred, archived or imported and allows the entire database to be backed up or restored.

Otoport data is stored by Otolink in two forms - a single database file containing all the data on all of the tests and an individual file containing detailed results from each test. The individual files have the suffix OtoTE for TEOAE, OtoDP for DPOAE, OtoDPZ for DP Zoom and OtoDPG for DP

Growth tests. DTA (TEOAE) and DPG (DPOAE) files are also created for compatibility with Otodynamics ILO V6 software.



Data in both forms is stored when data is archived or backed up.

8.1

Export

Export allows the user to export all the tests in the filtered record list, or any selected test(s). The number of tests to be exported is displayed at the top of the screen. The **Export Types** supported are OZ Data Systems,

NCHAM Hi•Track and Configurable Ascii.

Default filenames are provided but can be changed by adding a new name to the **Export Filename** field.

The directory where the export file will be saved can be changed by clicking on the folder icon on the right of the **Export Filepath** window.

8.1.1 Export options

AutoExport enables new data downloaded from the Otoport to be automatically added to the chosen export file. Additional downloads append tests to the file if the file is present. Tip - To avoid duplication in the export file created, set **Only Download New Test Data?** to **YES** on the **Otoport Download** screen. A new file is generated on download if no file exists. (Not available for Excel export).

You may also choose to have separate result folders created for future downloads from different Otoports. The **Sub Folders** will be identified by the GSN (machine ID) of the Otoport. Note that **Sub Folders** will only be created for new downloads. Data already downloaded to the **Data Viewer** will not be separated into subfolders.

When you configure the **Export** area and **Close**, all settings are saved.

Note:

If **AutoExport** is selected, test results are exported when data is downloaded from the Otoport. Only data entered on the Otoport will be exported and any additional fields added or edited in Otolink will not be included. Tests that have been auto-exported can be re-exported after they have been edited, but doing so will result in multiple copies of the same test result in the export file, unless a new export file is started. It is recommended that **AutoExport** is turned off if you plan to edit patient details within Otolink. Tests can then be exported manually after edits have been made.

8.1.2 NCHAM, Hi*Track

If the **Export Type** is set to **NCHAM Hi*Track**, the test results are exported to the file Otolink.txt ready for import to Hi*Track.

A number of features have been incorporated in order to make import to Hi*Track as simple as possible.

Required Fields

Hi*Track requires that Date of Birth is provided. Any record which does not have a date of birth will not be exported and the user will be advised to add a date of birth.

Not all of the patient data accepted by Hi*Track can be entered on your Otoport. The additional information can be added by using the **Edit Details** function in Otolink (see section 8.7 and **Hi*Track pick lists** below).

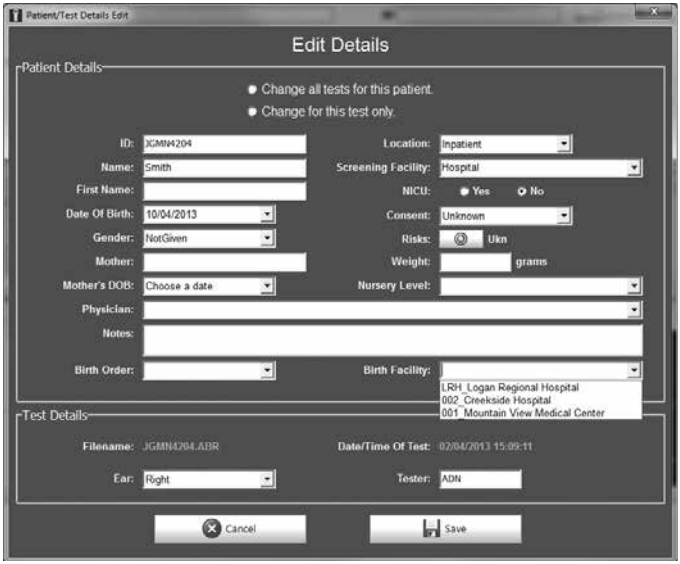
Hi*Track pick lists

Hi*Track pick lists are generated by Hi*Track software. They can be used by Otolink to improve the transfer of data between the programs.

If **NCHAM Hi*Track** export is selected, Otolink looks for pick list files in the directory Otolink\Hi Track in order to provide drop-down lists to help fill out the fields in the **Edit Details** area. If the files are not found, the pick list information is not available.

If you have any of the Hi*Track pick list files below:

Hospital.txt



Nur_Type.txt
Pednames.txt
Screener.txt

Then copy or move them to the directory:

C:\Program Files\Otodynamics\Otolink\Hi Track

This makes the lists available within Otolink's **Edit Details** function.

If Pednames.txt file is available, **Physician** can be chosen from a drop-down list of the Physicians listed in the file. If the file is not present then a physician name can be typed (50 characters maximum).

If Nur_Type.txt is available then the **Nursery Level** can be chosen from a drop down list of the options listed in that file. If the file is not present then nursery is chosen from a default drop-down list.

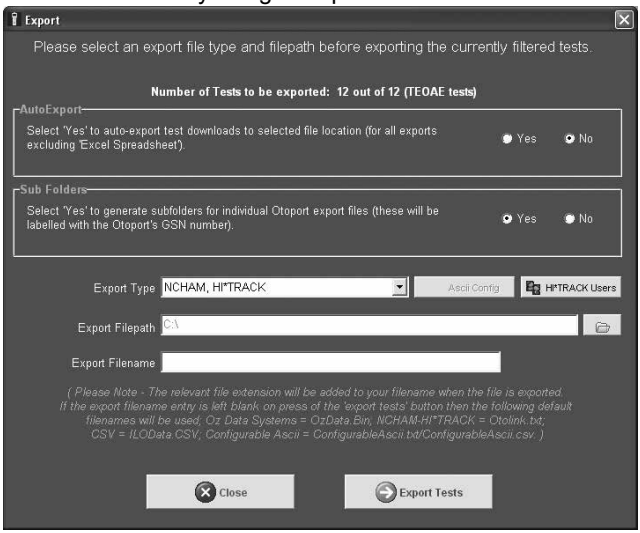
If Hospital.txt is available, then the **Screening Facility** and **Birth Facility** show the contents of the file for selection. If there is no file, the fields are free entry up to 50 characters.

Note:

If NICU is set to **Yes**, this will override any selection made in the Nursery level field and the Hi Track export file will show a Nursery level of 2.

Setting up users

The Otoport and Hi*Track use different methods for identifying users. In order to correctly assign Otoport test results to Hi*Track users it is



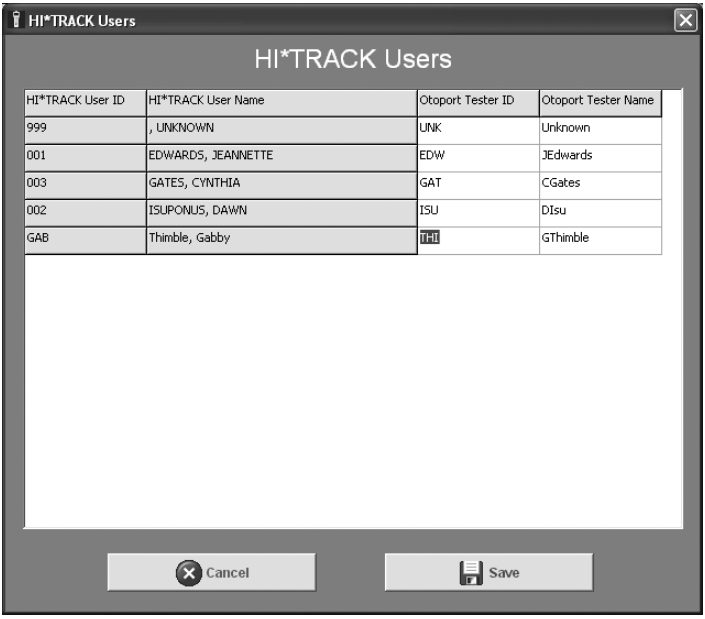
necessary to match each Hi*Track user with the appropriate Otoport user.

On your Otoport note the **Name** and **User ID** for each user. If you have not yet set up users on your Otoport then refer to the Otoport manual for instructions.

On your PC, open the **Otolink Data Viewer**. Select **Data Management**, then **Export**.

Select **NCHAM, Hi*TRACK** as the Export Type, if it is not already selected.

Then select the **Hi*TRACK Users** button.



If Otolink cannot find a screener.txt file in C:\Program Files\Otodynamics\Otolink\Hi Track, the **Hi*TRACK Users** button will be greyed-out and will not function. Check that you have copied your screener.txt file to the correct location.

The **Hi*TRACK Users** window will show the Hi*TRACK User ID and User Name for all of the users listed in the screener.txt file.

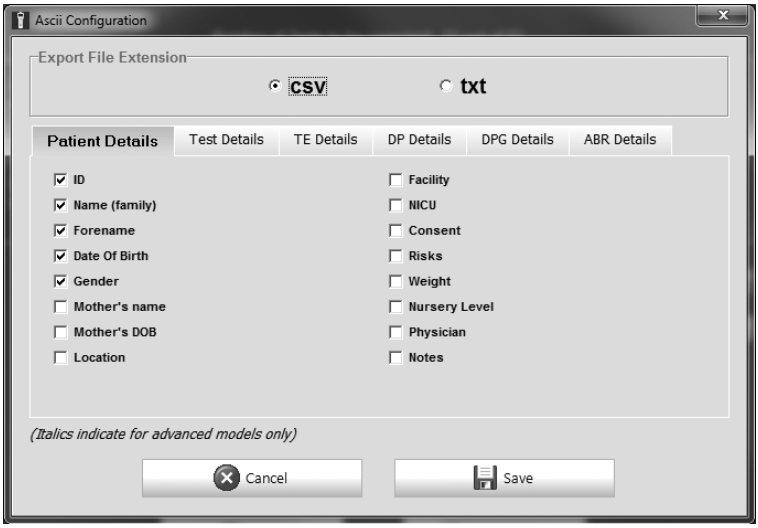
For each **Hi*TRACK User** enter the matching **Otoport Tester ID** and **Otoport Tester Name** in the adjacent field. When all of the users have been correctly matched select **Save**.

Otoport Tester records will be exported to the Hi*Track file with the matching **Hi*TRACK User ID** instead of the **Otoport Tester ID**.

Alternatively, set up your users on the Otoport using the same 3 character

ID that is used in Hi*Track.

8.1.3 Ascii export



The fields exported in an Ascii export may be selected by using the **Ascii Config** button.

Select the fields required in the **Export** and choose the **File Extension** type. Note that not all of the fields are available for all Otoport models. When you are satisfied with your selection, select **Save**. Select **Cancel** to discard your selection.

Separate Ascii export files are created for different test types.

Note:

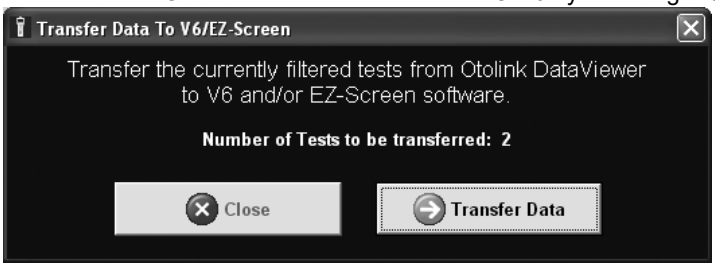
The **Ascii Config** button will not be available unless **Configurable Ascii** is selected as the **Export Type**.

8.2 Export to PDF

It is possible to setup Otolink so that tests results are automatically exported on download as pdf files. To do so set **Auto Print** in the **Custom Settings** area (see chapter 15 **Custom settings**) and set **PDF file output** in the **Data viewer print customisation** area (see section 7.2 **Customise printout**).

8.3 Transfer

Tests stored in Otolink can be transferred to ILO V6 by selecting **Transfer**



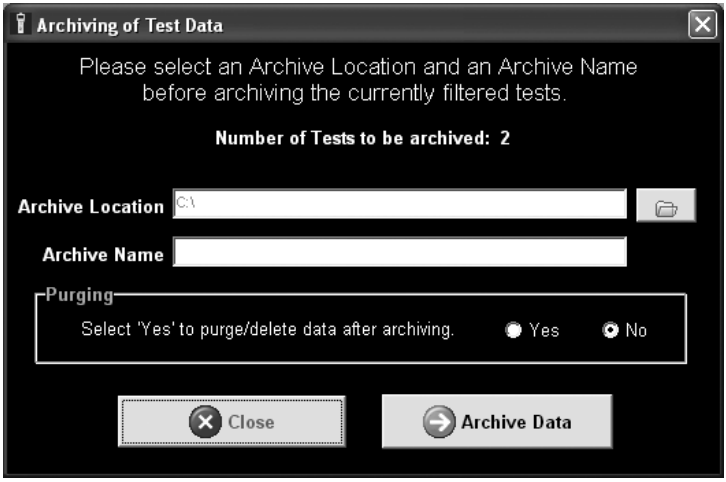
from the Data Viewer menu. All the filtered records or any selected tests will be transferred.

Tests are automatically transferred by Otolink if V6 is installed when the tests are downloaded from the Otoport. This function enables data to be transferred if V6 has been installed after data has been downloaded.

Select **Transfer Data** to import the selected data to V6.

Note:

It is not be possible to transfer data to V6 for all Otoport types. A warning message will be displayed if the data for transfer was



collected on an Otoport type where V6 is not possible.

8.4 Archive

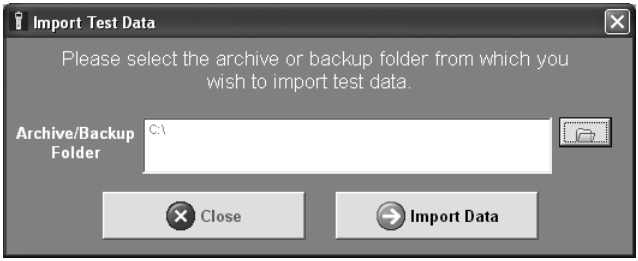
The **Archive** function allows selected tests to be stored in a separate location and purged from the Otolink database if required.

It is necessary to perform separate operations to archive TE and DP data.

Select **Yes** in the **Purging** box to delete the data from the Data Viewer database after it has been archived. Select **No** to retain the data in the Data Viewer.

Select **Archive Data** to begin the archiving process. Select **Close** to return

to Data Viewer.



8.5 Import

The **Import** function allows archived or backed up data to be incorporated into the Data Viewer database. This enables archived data to be viewed and data downloaded to different PCs to be merged into a single database.

Browse to the Otolink database file location and select **Import Data**. The **Close** button exits this area.

8.6 Delete

Select **Delete Test(s)** to delete tests from the Data Viewer database. Test details transferred to ILO V6 or exported to another format will not be deleted.

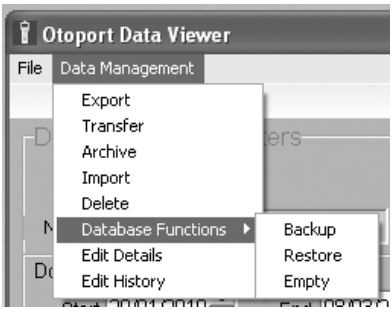
A highlighted test, or multiple tests selected using the check boxes, can be deleted. The user is required to confirm the deletion before it takes place.

To delete all tests, use **Data Management > Database functions > Empty** (see section 8.6).

Select **Delete Patient(s)** to delete one or more patients from the Data Viewer database. Delete Patient removes all the individual test results for the selected patient from the Data Viewer.

The patient for deletion is chosen by selecting an individual test for that patient. Other test results for that patient are automatically located and

deleted. Multiple patient records can be deleted using the check boxes to select a single test for each patient. The user is required to confirm the



deletion before it takes place.

8.7 Database functions

Database Functions provides options to **Backup**, **Restore** and **Empty** the database.

8.7.1 Backup

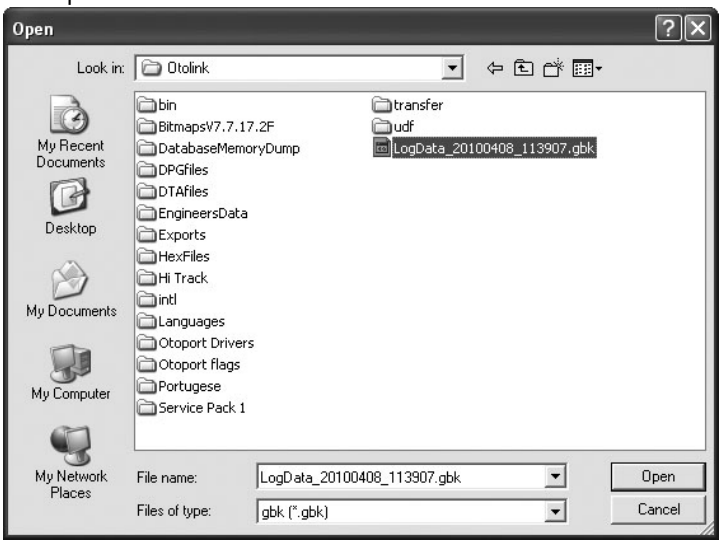
The **Backup** function enables the entire database to be backed up to the chosen location. Browse to the folder C:\Program files\Otodynamics\Otolink and select **OK**.

The function creates a file with a date and time stamp in the form:

LogData_yyyymmdd_hhmmss.gbk

For example: **LogData_20090302_123530.gbk** is the backup file made on 3rd March 2009 at 12:35:30.

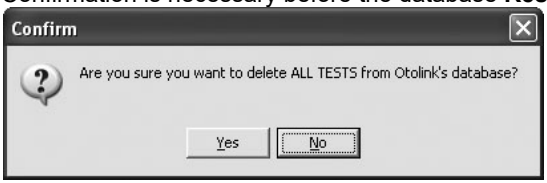
The DTA and DPG files are copied to the appropriate sub folder within the backup location.



8.7.2 Restore

The **Restore** function takes the files stored by the database **Backup** and restores them to the Data Viewer database.

Confirmation is necessary before the database **Restore** as this function will

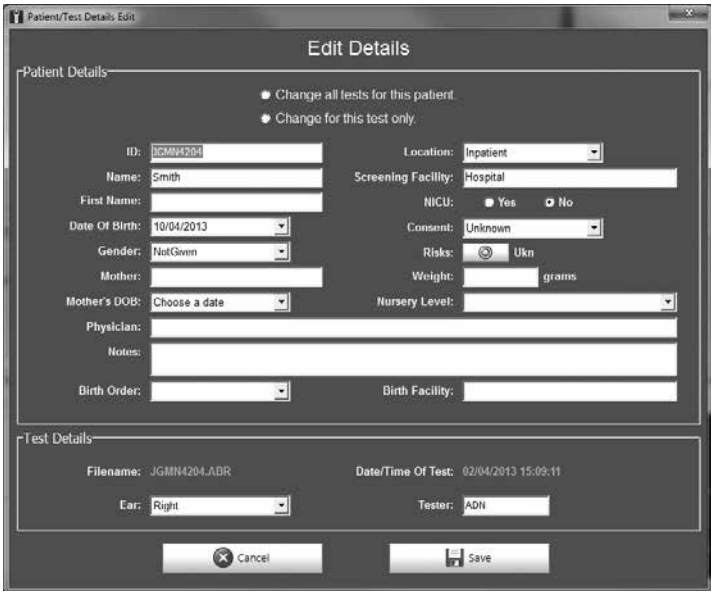


over-write the existing database.

8.7.3 Empty

Empty removes all tests from the Data Viewer database. The user is

required to confirm the deletion before it takes place.



8.8 Edit details

The **Edit Details** function allows patient and test details to be amended and further information to be added. **Edit Details** is selected from a right-click on the test in **Dataviewer** or from the **Data Management** menu.

It is possile to edit one test a at a time, but changes made to the patient details can be copied to the other tests held for that patient.

The **Edit Details** screen is divided into two sections - **Patient Details** and **Test Details**. Changed fields are highlighted.

Note:

If **User Profiles** is turned on, **Edit** is only available to users with

Admin rights (see section 2.1).

8.8.1 Patient Details

The **Patient Details** section lists all of the data that is common to all of the tests for this patient.

Select **Change all tests for this patient** to copy the changes or additions made to all of the test records held for this patient (all tests with the same ID and Name). Select **Change for this test only** if you wish to amend details for this record alone. You may need to do this if, for example, a test had been mistakenly saved to the wrong patient record.

There are a number of fields listed in this area which are not available on the Otoport, but can be added here.

Users of Hi*Track will be able to select entry to some of these fields via drop down lists (see section 8.1).

8.8.2 Test Details

The fields **Ear** and **Tester** can be edited. Changes made in this area will apply only to the selected test.

The test date and time and the DTA filename for the selected test are also displayed.

8.8.3 Saving edits

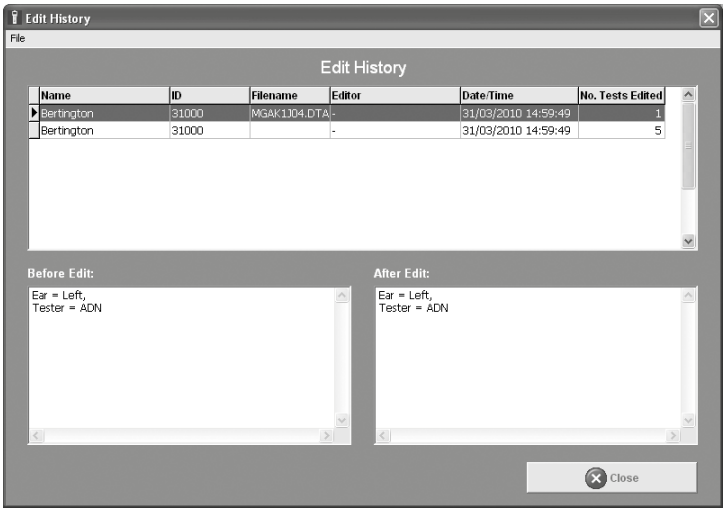
When you have completed your editing, select **Save** to confirm your edits, or **Cancel** to discard them.

A message stating how many test records have been changed will be displayed.

If you have changed the ID or Name fields and your new details match other tests in the database, you will be asked if you wish to continue. If you do continue, the patient details for the existing tests in the database will be changed to match the new details you have entered.

After editing, the edited test will be highlighted unless the changes made mean it is not available due to the current filters set.

A record of edits is available from **Edit History** in the **Data Management** area.



8.9

Edit History

The **Edit History** table shows all the edits made to the database. The columns of the table show:

Name - Patient name prior to the edit.

ID - Patient ID prior to the edit.

Filename - Shows the filename of the test edited if changes were made in the **Test Details** section or if **Change for this test only** was selected.

Editor - If User Profiles was on when the edit was made, the name of the user who made the edit is stored.

Date/Time - Shows the date and time when the edit was made.

No. Tests Edited - Shows the number of test records changed by this edit.

The table is ordered by Date/Time with newest edit first.

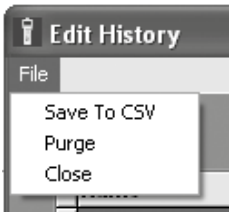
Click on a row in the table to select an edit and show the details of it in the boxes below the table.

Before Edit: Shows the names of all edited fields and the details of those fields prior to the edit for the currently selected test.

After Edit: Shows the names of all fields and the details of those fields after the edit for the currently selected test.

Note:

If **User Profiles** are turned on, **Edit History** is only available to users with Admin rights (see section 2.1).



8.9.1 File Menu

The file menu provides three options:

Save to CSV - This creates a CSV (comma separated value) file containing the whole edit history.

Purge - Asks the user to select a date and then deletes all of edit history prior to that date.

Close - Closes the Edit History window.

9 Otolink NOAH 4 module

9.1 Installing the Otolink NOAH module

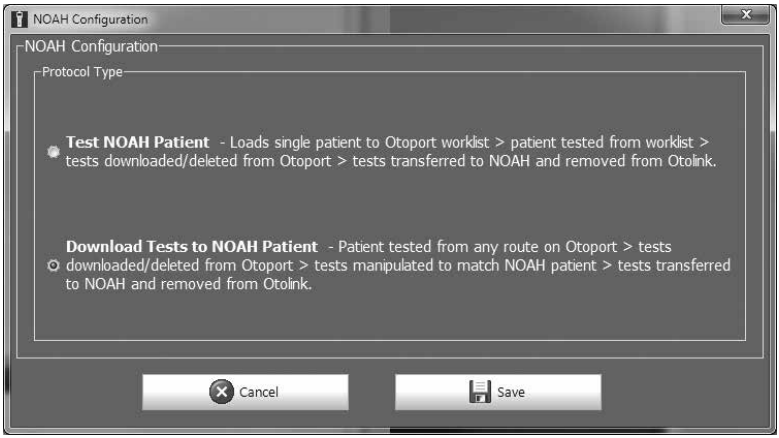
If NOAH 4 is installed on the PC, Otolink will automatically detect this and, when it starts, the message below will be displayed. Click **OK** to register and install the Otolink NOAH module in the NOAH 4 system.

9.2 Otoport use with NOAH 4

To use the Otolink NOAH module, your Otoport will need to be enabled for NOAH use. Otoports can be NOAH enabled at the time of purchase or upgraded at a later date.

In order to use the Otolink NOAH module, the Otoport database needs to be empty, so any existing data should first be downloaded and deleted from the Otoport.

9.3 NOAH configuration



Otolink allows NOAH use with two different protocols.

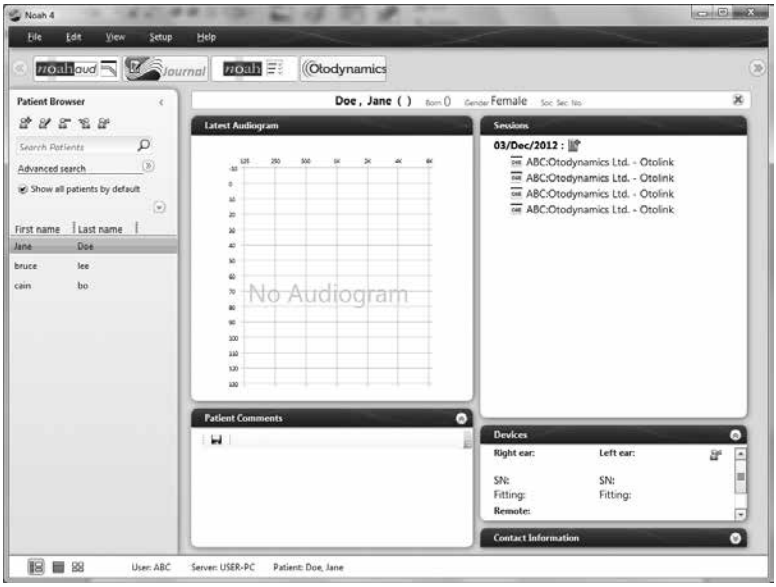
Test NOAH patient requires the Otoport to be connected to the PC twice – once to download the selected patient to the Otoport worklist and once to upload the Otoport tests to that patient.

Download Tests to NOAH Patient requires only a single connection to download all of test data on the Otoport to the patient selected in NOAH.

Each protocol is described in detail below.

Select between these options using the radio buttons.

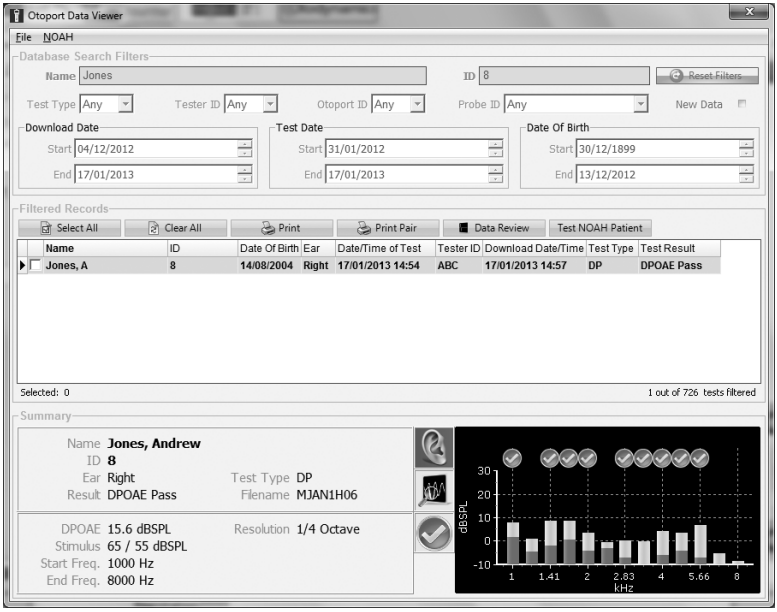
9.4 Test NOAH patient



The Otoport should be turned off for use with Otolink NOAH and colour Otoports are turned off automatically. Connect the Otoport to the PC.

Open NOAH, select a patient from the NOAH database and click on the **Otodynamics** button (Otolink NOAH module).

The Otolink NOAH module will open and display the patient details. If previous tests have been conducted for the selected patient, the last test completed is also displayed.



To load the NOAH patient to your Otoport, select **NOAH** and then **Test NOAH patient** from the drop down list.

Important Note:

If you run the tests under a patient name not loaded from NOAH, it will not be possible to save that data back to the NOAH database, but the tests will be downloaded to the standard Otolink database.

Once you have finished testing the NOAH patient, re-connect the Otoport and the test data will be automatically loaded into the NOAH database.

The data is deleted automatically from the Otoport ready for the next NOAH patient to be loaded.

Tests can be reviewed in the Otolink NOAH module, printed from the file menu or buttons and reviewed in detail in the **Data Review** area. See **Dataviewer** (chapter 5) for more details, which provides the NOAH module functions.

Note:

The **Data Viewer Data management** functions are not available in the Otolink NOAH module. Patient data management should be conducted in NOAH 4 software.

9.5 Download Tests to NOAH Patient

Select patient from NOAH patient browser then select the **Otodynamics** button.

Otolink will open the **Waiting for Download** screen shown below.

Connect the Otoport to your PC using the download lead or download data via Bluetooth. The data from the Otoport tests will be automatically downloaded to the patient management software and assigned to the selected patient.

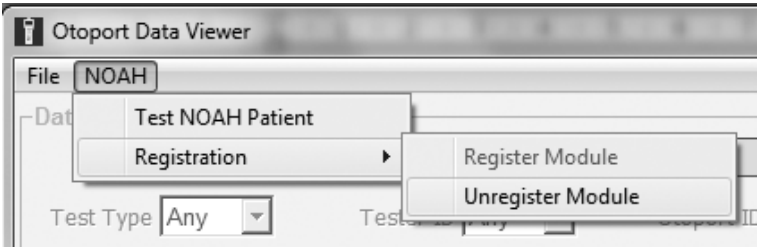
Note:

All tests on the Otoport will be downloaded to the selected patient regardless of whether the tests were downloads to separate patients on the Otoport.

For wired download, when download is complete, all tests will be deleted from the Otoport. Tests are not deleted for Bluetooth download, and must be deleted manually before further NOAH tests are run. Not deleting data will result in the old test data being assigned to later patients.

9.6 Registration

The Otolink NOAH module can be registered and unregistered from the NOAH menu. Unregistering the module will remove it from NOAH 4 software.



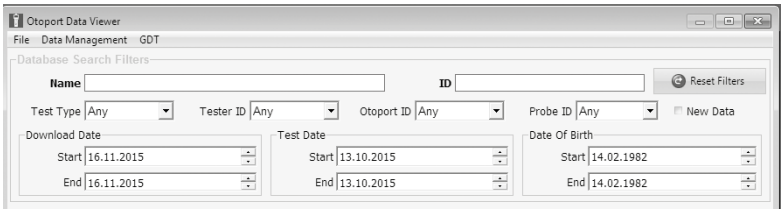
If Otolink is un-installed from the PC, it will also remove the NOAH module.

10 GDT

10.1 Using GDT with Otolink

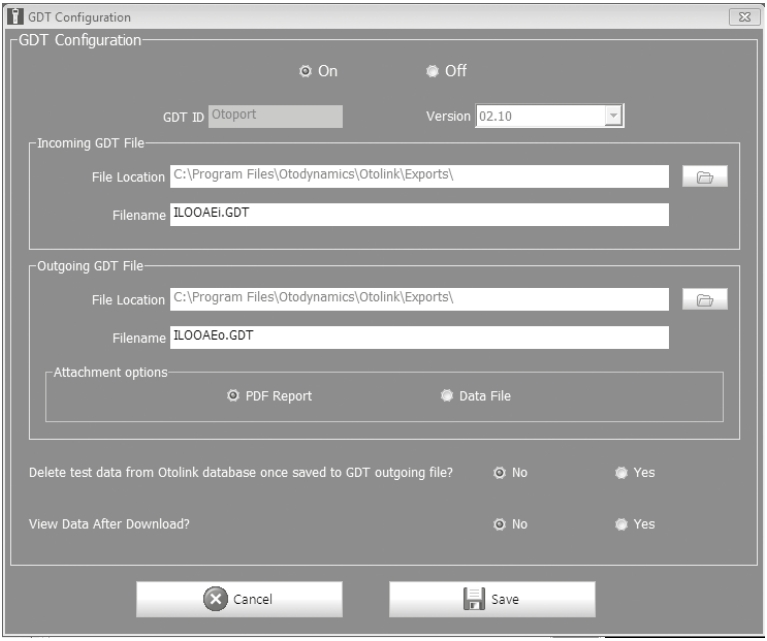
Otolink can be configured with the patient management system GDT. Using Otolink with GDT requires Otoport and Otolink to be configured for this purpose. Contact Otodynamics or your dealer for further details if you wish to use your equipment with GDT and it is not already configured to do so. The instructions below describe the configuration options for GDT in Otolink. You will also need to configure your patient management software (e.g. Turbomed). Some guidance is included below but the detailed setup will depend on your local systems. Contact Otodynamics or your dealer for further details if you wish to use your equipment with GDT and you are unable to do so with the guidance here.

10.2 Configuring Otolink for GDT



Open the Otolink DataViewer and select **GDT** from the top menu and then select **Configuration**.

The GDT configuration window will be shown. If it is not already selected then select the **On** radio button.



Select the required options for your patient management system. Select **Save** to retain your changes, or **Cancel** to discard them.

10.3 Using your Otoport with GDT

Run tests on a single patient on your Otoport.

Open your patient management software and select the patient who has been tested. Now select **Otoport** in your patient management software. Otolink will open the **Waiting for Download** screen shown below.

Connect the Otoport to your PC using the download lead or download data via Bluetooth. The data from the Otoport tests will be automatically downloaded to the patient management software and assigned to the selected patient.

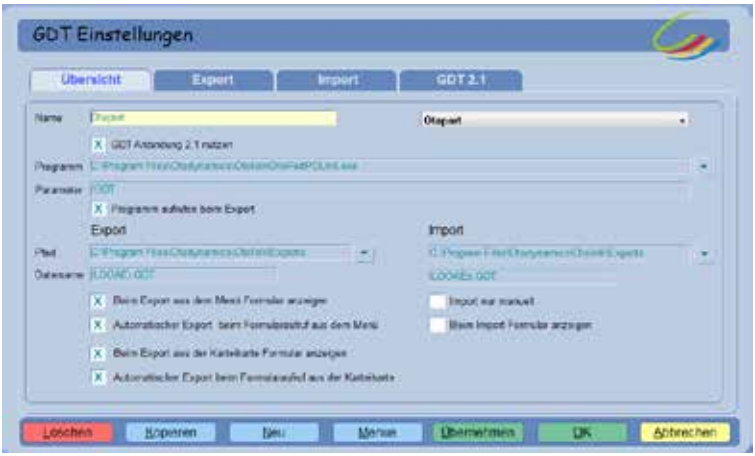
Note:

All tests on the Otoport will be downloaded to the selected patient regardless of whether the tests were downloads to separate patients on the Otoport.

For wired download, when download is complete, all tests will be deleted from the Otoport. Tests are not deleted for Bluetooth download, and must be deleted manually before further GDT tests are run. Not deleting data will result in the old test data being assigned to later patients.

10.4 Configuring GDT software (Turbomed)

The GDT software must be configured to call our Otolink with the parameter **/GDT**. Other suggested setup parameters in the Turbomed GDT setup are shown in the following screenshots:




GDT Einstellungen
Übersicht
Export
Import
GDT 2.1
Übernehmen
OK
Abbrechen


GDT Einstellungen
Übersicht
Export
Import
GDT 2.1
Übernehmen
OK
Abbrechen

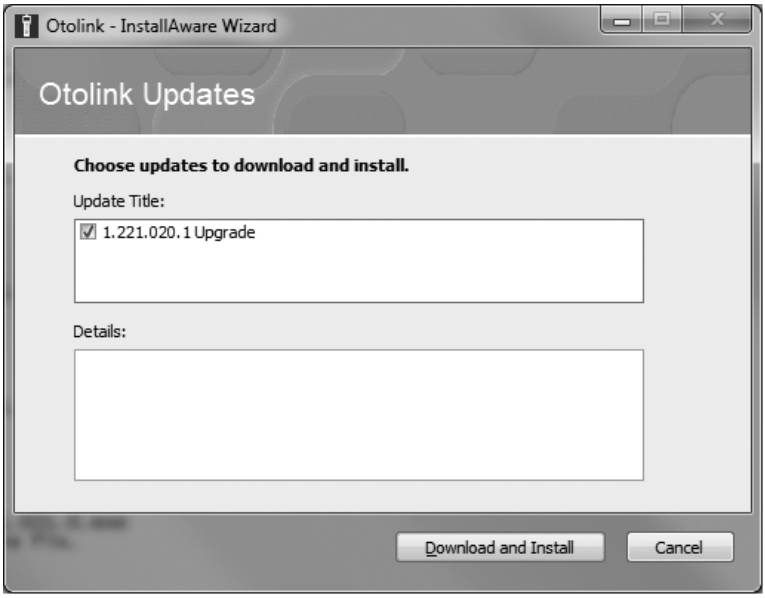
11 About & Language

The **About & Language** screen lists details of Otolink and Otoport versions and settings. If no Otoport is connected then only Otolink details will be displayed.

11.1 Bluetooth device status

Click on **Bluetooth device status** to review the connection status of detected Bluetooth Otoport devices used for wireless data download. (See section 15.3 for details)

11.2 Automatic updates



Otolink can automatically check for new updates from the Otodynamics website, which can then be downloaded and installed. By default a weekly automatic check is made, which can be turned on or off by using the tick/check box. Or use the **Check for available updates** button to see if a new version is currently available.

If a new version is found, the update process will initiate. Select **Download and Install** and then follow the on-screen instructions to complete the update.

New Otoport firmware can also be delivered in this way, which will be loaded into the Otolink directory ready for upgrade. See 12.1.1 **Updates Available**.

Note:

The **Firmware update** icon in the Otolink suite will also show if there is an update available.

11.3 Language

Select the language you require from those available on the drop-down list. Otolink will then be converted to the language chosen.

Note:

Due to the length of some translated phrases, a minimum screen resolution of 1280 x 960 is recommended.

12 Firmware updates

This area enables the Otoport to be updated with files supplied by Otodynamics and provides service functions for the Otoport database.

Note:

This area is available only to users with Otolink Admin rights.

12.1 Updates

Important Notes:

1 Only select **Update Firmware** or **Updates Available!** if it is necessary to re-install or upgrade the Otoport firmware. Your dealer or Otodynamics will provide you with the necessary files in order to do this.

2 DO NOT disconnect the Otoport during this process. A confirmation message appears at the end, stating the process has completed.

3 When performing firmware updates, connect the Otoport to the PC directly, using the PC cable provided. DO NOT connect the Otoport via a hub, as this can cause intermittency in the firmware update process.

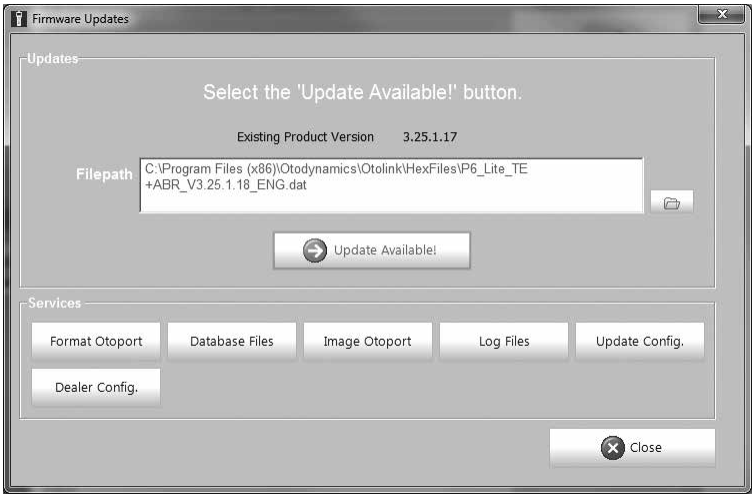
4 If you print directly from the Otoport using Bluetooth (wirelessly), please ensure that the mini printer is turned off before starting the firmware update. You may have problems connecting to the printer after updating if it is turned on during the update process.

The button in the **Updates** area shows **Updates Available!** if Otolink detects a new firmware file relevant to your device. **Update Firmware** is shown otherwise.

Prior to firmware update, test data should be downloaded to Otolink and deleted from the Otoport database and the unit should be turned off.

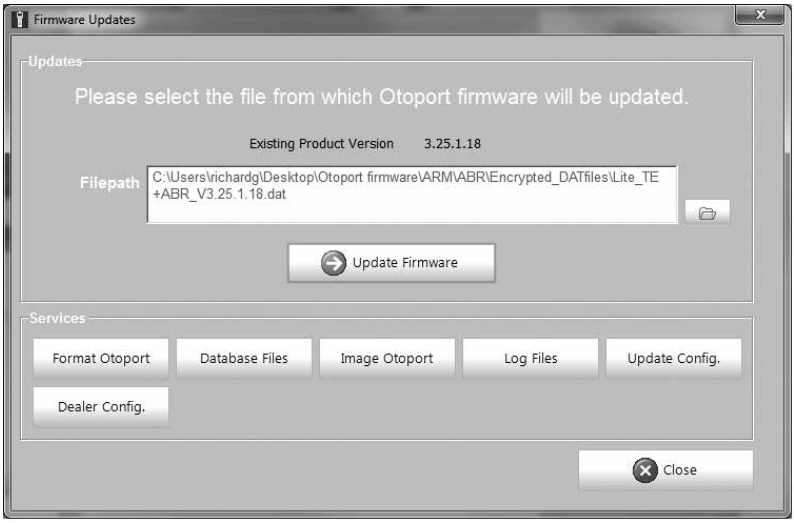
12.1.1 Updates Available

If **Updates Available** is shown, then select this to begin the update.



A confirmation message will appear upon successful completion of the firmware update.

12.1.2 Update Firmware



The firmware file will be provided by Otodynamics or your dealer. Copy it onto your PC and note the location.

When **Update Firmware** is shown, click on the filepath folder icon, navigate to the location of your update file and select the file.

The **Existing Product version** of the Otoport is shown.

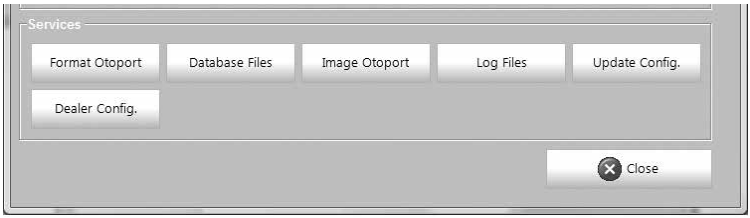
Select **Update Firmware** to update the Otoport firmware. The new version is displayed in a pop-up window before the update begins. Ensure the new product version is the correct version supplied by Otodynamics or your dealer. Select **OK** to continue. A confirmation message will appear upon successful completion of the firmware update.

If you do not wish to update, select **Cancel** to exit the firmware area.

Note:

If the firmware update fails and subsequent attempts are required, it is recommended that you **Reset** your Otoport to factory settings (see your Otoport manual for details).

12.2 Services



The **Services** functions are for technical support use only. There is no need to use these functions unless you are explicitly requested to do so.

Format Otoport reformats the Otoport database permanently, deleting any data held in the database. Data cannot be recovered after a format has been performed. Format takes around three minutes to complete for black and white Otoports, but a matter of seconds for the colour device.

Database files downloads the entire database content to PC. This process takes around 10 minutes.

Image Otoport downloads a complete copy of the internal memory of the Otoport.

Log Files downloads a copy of data files containing information about the use of the Otoport.

Update Config enables Otoports to be configured for different functions.

Dealer Config enables Otoports to be setup for use by different Otodynamics dealers.

13 User profiles

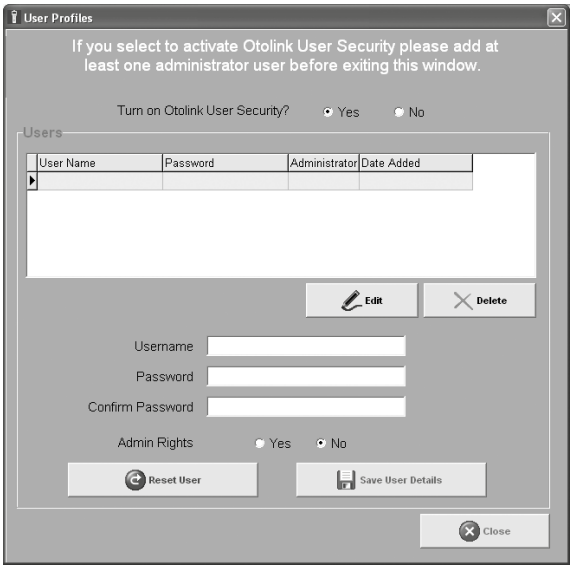
Otolink can be set up so that important areas can be made secure by user login and password protection. The downloading data function is available to all users. The **User Profiles** area controls login security. Select **User Profiles** to turn this function on or off or to add or edit user details.

Note:

This area is available to users with Otolink Admin rights only.

13.1 Otolink user security

Click on the **Yes** or **No** radio buttons at the top of the screen to turn user security on or off.



13.2 Adding and editing users

If User security is turned on the full **User Profiles** window will open.

To add a user enter a **User Name** and **Password** and select whether or not the user will have **Admin Rights**.

Users who have **Admin Rights** will have access to all areas within Otolink.

Users who do not have **Admin Rights** will only have access to the **Data viewer**, **About & Language** and **Worklist** (if available) areas of Otolink.

When the details are complete select **Save User Details**.

To edit a user click on the **User Name** in the table and then on the **Edit** button. Then alter the fields below the table as necessary. When the details are complete select **Save User Details**.

Reset User will undo edits made to the selected user.

Note that at least one user account must have administrator privileges.

When all users are complete **Close** the window.

13.3 Otolink Login

When **Otolink User Security** is switched on, the user will be required to login to Otolink with their user name and password. Login is required to access the **Otolink Suite**, **Data Viewer** and the **User Profiles**.

Select the correct **Username** from the drop-down list and type the password into the **Password** field.

Select **Login to Otolink** to enter the software. Select **Cancel Login** to exit this screen.

14 Worklist

Patient Worklist enables lists of patients to be entered on a PC before uploading them to the Otoport. Partial or full patient details can be entered in the worklist.

The format of the worklist will depend on the type of Otoport connected to Otolink (some Otoports allow fuller patient details to be entered than others). The formats have either a row per patient (fig 1) or a column per patient (fig 2), as illustrated below.

Fig 1

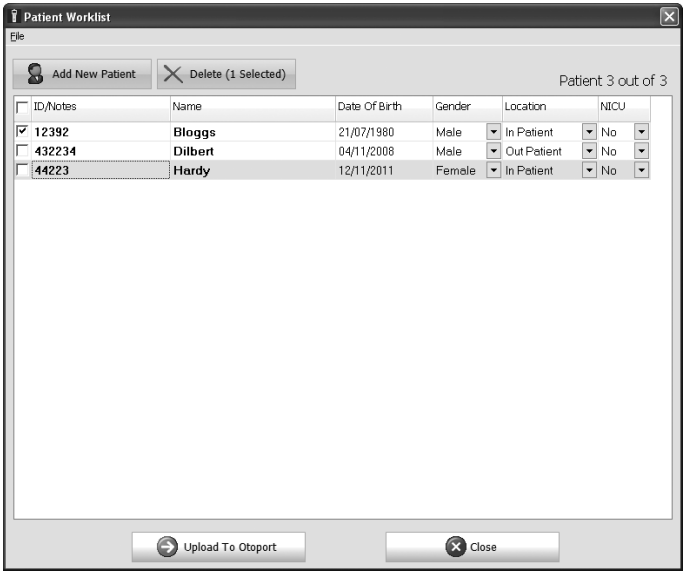


Fig 2

Entering data on a PC keyboard prior to a clinic can save time spent entering details on the Otoport in the presence of the patient.

If there is an Otoport connected to the PC when the worklist area is opened then any patients on the worklist held on the Otoport will be downloaded to the PC. This list can then be edited and appended before being uploaded back to the Otoport.

The worklist area can be opened without an Otoport connected. New lists can be compiled and previously saved lists can be edited.

If an Otoport is connected to the PC after the worklist area has been opened then the user has the option to merge the list on the Otoport with the list on the PC (see **Merge Selection** below).

14.1 Add a new patient

To add a new patient to the worklist select **Add New Patient** then enter the details in the boxes on the right hand column (or bottom row). The current selected and total number of patients in the worklist are shown above the patient table.

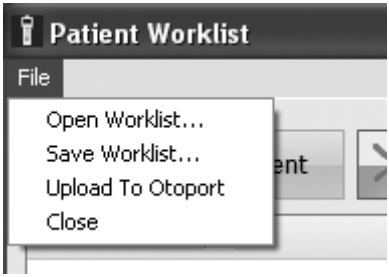
Note:

The items in the pull down menus such as **Risks** and **Facility** (when available) cannot be edited from within the worklist area. These options can be changed in the **Otoport Configuration** area (see chapter 16).

To edit a patient's details select the patient in the list (using the scroll bar to locate the record if necessary). Then edit the required fields.

To delete a patient from the worklist select the patient from the list by checking the box at the top of the column. Then select **Delete**. Checking the box at the top of the first column showing the header details will select all the patients for deletion. The number of patients selected is shown on the **Delete** button.

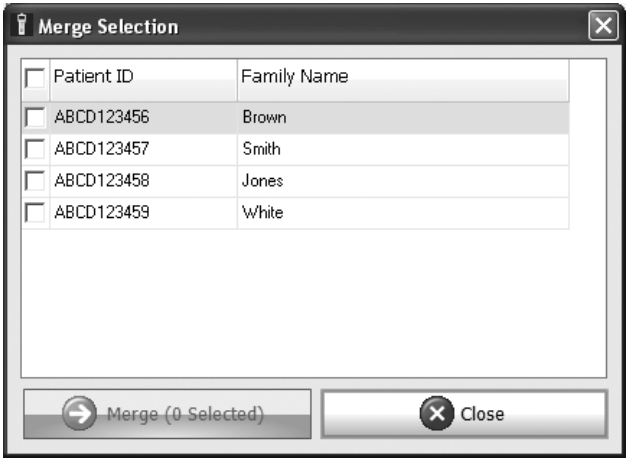
14.2 Worklist file management



Worklists may be saved to a file and uploaded later.

Open Worklist... recalls a file containing a previously saved worklist. You will be prompted to locate and open an existing worklist file. The **Merge Selection** window will be displayed.

The **Merge Selection** area controls which patients from a saved list are included in the current worklist. The **Merge Selection** function is also used if you connect an Otoport with the worklist open. You then select which patients from the Otoport worklist should be merged with the current worklist.



Select which entries from the worklist file you wish to import to the current worklist by checking the box beside the Patient ID. Alternatively, check the box in the top left corner of the list to select all the patients for import.

The number of patients selected is shown on the **Merge** button. When you have selected the patients you wish to import click **Merge**.

Save Worklist... saves the whole worklist to a file in CSV (Comma Separated Value) format. You will be prompted to choose a filename and location. CSV files can be opened and edited in other applications such as Excel and Notepad. It is therefore possible to create worklists independently of Otolink in this file format, but the patient details need to be in the same order as the file created by Otolink.

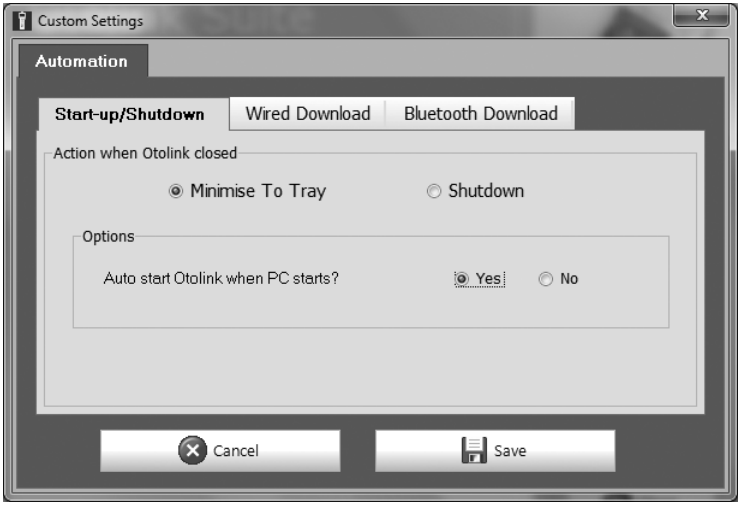
When you are happy with the changes you have made to the worklist, selecting **Upload to Otoport** sends the worklist to the Otoport connected. A window with a progress bar will be displayed while the worklist is uploaded.

If you do not wish to save the changes you have made to the Otoport click on **Close**. A prompt requires confirmation that changes should not be uploaded.

15 Custom settings

In **Custom Settings** it is possible to configure various automation preferences.

15.1 Start-up/Shutdown



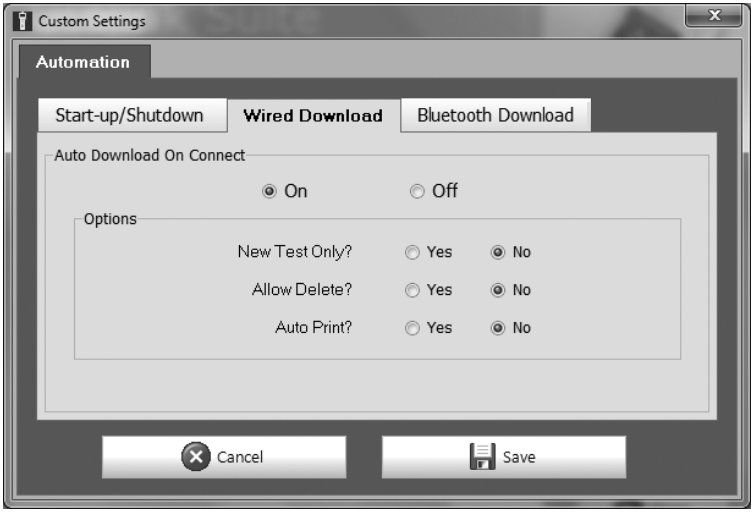
15.1.1 Action when Otolink closed

When Otolink is closed, it is possible to configure whether to completely **Shutdown** the software, or to **Minimise To Tray**, so Otolink will be running ready for an Otoport to be connected. If **Shutdown** is selected, Otolink will need to be started by one of the Desktop shortcuts.

A further option is to configure whether Otolink automatically starts when your PC starts. Following automatic Otolink configuration, after connecting your Otoport for the first time, the setting is **On** by default. If set to **Off**, Otolink will not autostart and should be started with the desktop shortcuts. This setting is Windows user specific.

This option is not available if **Shutdown** is the action selected when Otolink is closed.

15.2 Wired Download



15.2.1 Auto download On Connect

Turn on **Auto download On Connect** and when you connect your Otoport any data on the device will automatically be downloaded to the Otolink database, without the **Data Download** window appearing.

There are three options available to further customise this process. Switch the settings to **Yes** to turn them on or **No** to turn them off.

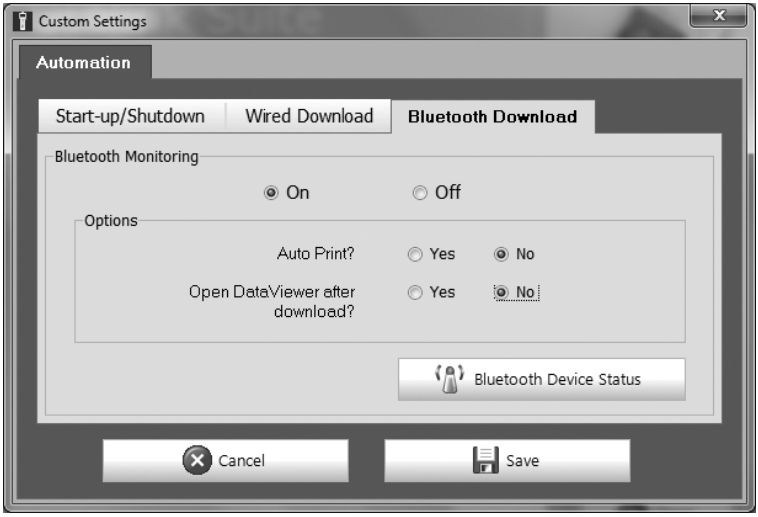
Switch on **New Test Only** to download new data only to the Otolink database.

Switch on **Allow Delete** to be given the option to erase your Otoport data following download to Otolink.

Setting **Auto Print** to on will automatically print all the tests downloaded to your configured printer or PDF output. Set print options to **Customise printouts** (section 7.2).

Press **Save** to keep your changes or **Cancel** to discard them.

15.3 Bluetooth Download



15.3.1 Bluetooth monitoring

If you have a colour Otoport Lite, Otocheck or Otoport DP+TE, and it is fitted with a Bluetooth module, it is possible to download test data wirelessly using Bluetooth. You can tell if a Bluetooth module is fitted, as a 'T' is included at the end of the serial number on the rear of the Otoport.

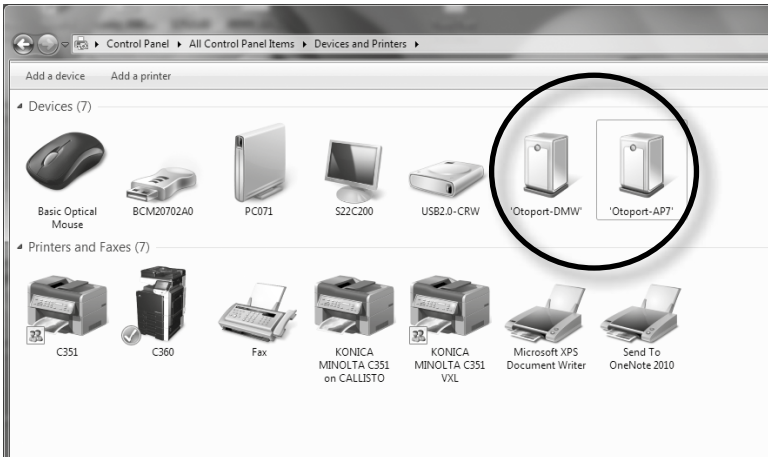
It is also necessary for the PC to have a Bluetooth module installed. Laptops often come with Bluetooth included, but in most cases for desktop PCs a module will need to be added and are commonly in 'USB dongle' form.

Steps to set up Bluetooth communication

Ensure the Bluetooth device on your PC has the drivers installed correctly and is enabled.

Check that the Otoport has a Bluetooth module fitted and the PC-Load option is available on the main Records menu on the Otoport. Otherwise, change this via the Config>Setup>Bluetooth option.

The next step below is to pair the Otoport Bluetooth module with the module on your PC or laptop. It is recommended that Otolink is not running during this process, so **Exit** the program.



With the Otoport turned ON, pair the Otoport's Bluetooth module with the PC's by adding the Otoport as a device in Windows 'Devices and printers' area in the Control panel, or use any custom Bluetooth software that maybe pre-installed on the PC. The Otoport will be listed as Otoport-GSN, where GSN will be the code specific to your Otoport. You will need the password **4679** to complete the connection.

Start Otolink, go to the **Otolink Suite** and turn on Bluetooth monitoring in **Custom settings**.

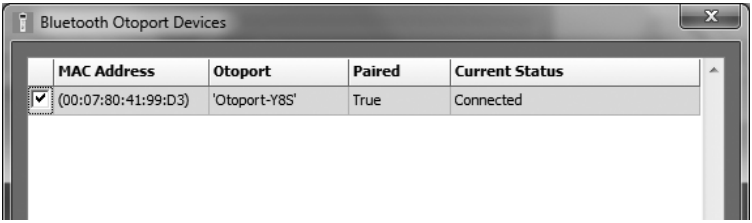
Here you can also configure whether to automatically **Print** and/or **Automatically open the dataviewer** after download.

Save the settings or use cancel to discard them.

After a short while Otolink icons should turn green to indicate a connection is established and your Otoport will indicate this too with **PC-Load** turning green.

The Bluetooth download is initiated using the **PC-Load** function on the Otoport. See the Otoport manual for more detail.

You can check the connection status of all Otoports via the Bluetooth device status button in **Custom settings** and **About&Language**.



The tick/check box enables or disables the selected device from being connected to Otolink.

Mac address lists the unique address of the Otoport's Bluetooth module.

Otoport lists the Otoport devices detected and their GSN code.

Paired shows whether the detected device has been paired with the Bluetooth module on the PC.

Current status provides information on the connection status with Otolink.

A successfully connected device is listed with a green background.

16 Otoport configuration

The **Otoport Config** area allows test parameters to be set on a PC before upload to the Otoport. Test set-ups can be saved on the PC enabling other Otoports to be rapidly set up, or restored to the saved settings.

The **Otoport Config** area is divided into four sub areas: **Test Modes**, **Users**, **Facility & Risk** and **Other Options**. Each area may be selected by clicking on the relevant title at the top left of the screen.

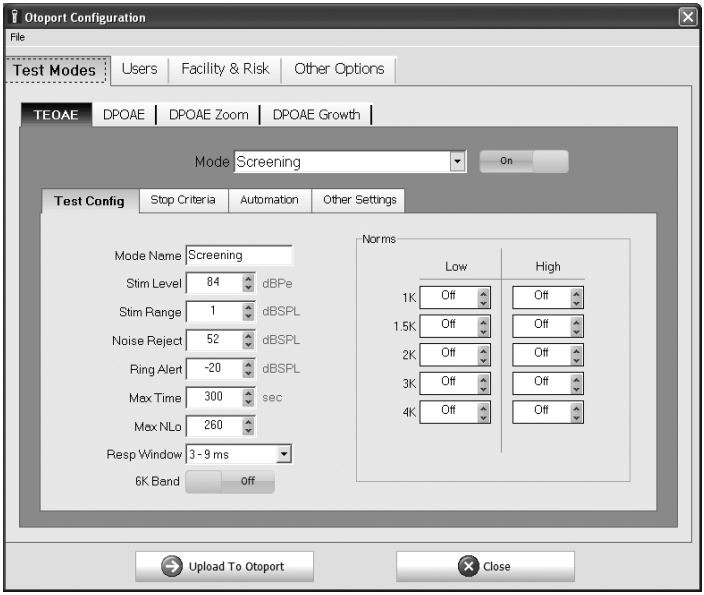
When changes are complete you can **Upload to Otoport**, save the configuration to a **File** or discard the changes by selecting **Close**.

Notes:

1 **Otoport Config** is only available on higher level Otoport models and is not available to Otolink users without **Admin Rights**.

2 Some areas of the Otoport configuration cannot be changed if there are records in the database or the worklist.

16.1 Test modes



The **Test Modes** area allows the user to set the parameters which are set in the **Test Setup** area on the Otoport.

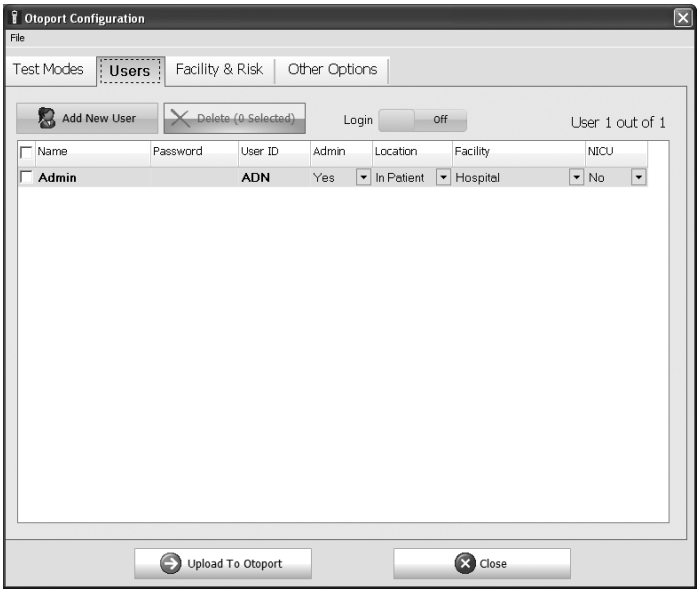
The test types available on your Otoport are displayed as tabs below the Test Modes title. Click on the test type you wish to edit.

The modes available on the Otoport for this test type are displayed below the test type tabs. Select a mode to edit from the pull down menu. A switch next to the Mode menu allows each mode to be turned On or Off. Modes which are On are available for selection at the start of a test. Modes which are switched Off are not available for test.

Tabs for each of the configuration areas for the selected mode are displayed below the mode menu.

See your Otoport manual for more details on the configuration areas. Each parameter may be edited as required within the permitted range. The configuration areas are set out in the same order as the Otoport test setup area. See the **Test Setup** section in your Otoport manual.

16.2 Users



The **Users** area controls who can use the Otoport and what functions they can use. The Login switch in the top centre of the tab turns the Otoport Login function On and Off.

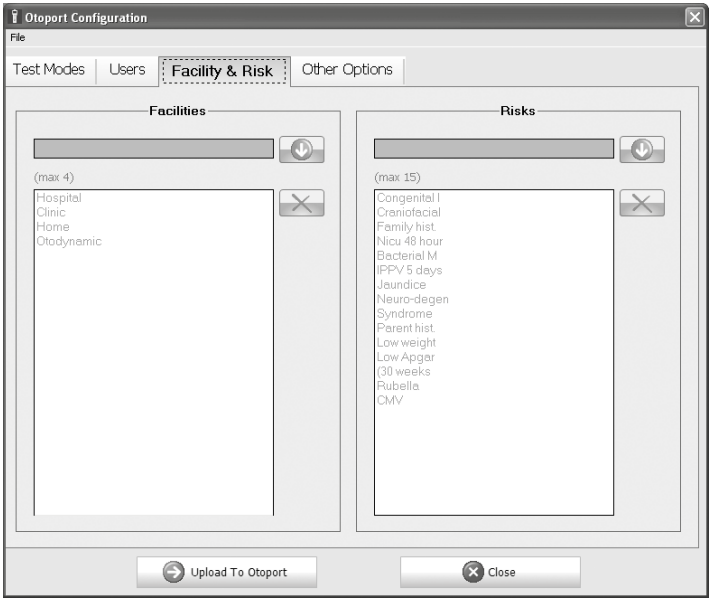
To add a user select **Add New User**. Enter a **Name**, **Password** and three-character **User ID**. Select whether or not the user will have **Admin Rights** on the Otoport. Choose a default **Location**, **Facility** and **NICU** status for the user.

To edit a user click on that user in the table and make changes to each field as necessary.

To delete a user from the list select the user by checking the box at the left of the row. Then select **Delete**. Checking the box at the top of the first row will select all users for deletion.

Note that at least one Otoport user account must have Admin rights.

16.3 Facility & Risk



This area sets up the facility and risk factors that are available on the Otoport. See the Otoport manual **Management** section for more details. You will not be able to edit this area if there are patients in the Otoport database or Worklist.

Facilities are set on the left of the screen.

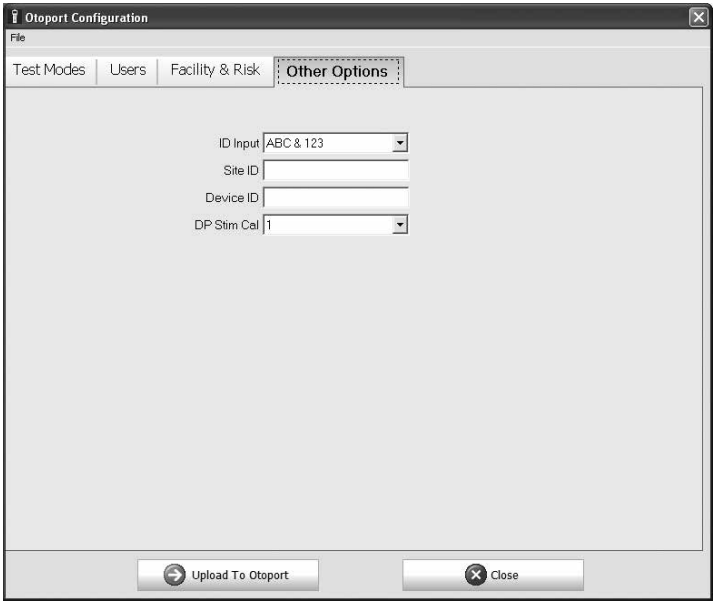
Delete existing facilities by selecting the facility in the table and then clicking the **Delete** (red X) button. Note that default facilities are included in **User** details so deleting facilities may require user details to be edited.

Add facilities by entering the new **Facility** name and then clicking the **Add** (green arrow) button. A maximum of four facilities can be listed on the Otoport.

Risk factors are displayed on the right of the screen. Risk factors are added and removed from the list in the same manner as Facilities. A maximum of 15 risks can be listed on the Otoport.

16.4

Other Options



The **ID input** sets the characters available when IDs are entered on the Otoport. When adding Patient Details characters will be restricted for Patient ID input according to the chosen format.

The **Site ID** is a three-letter site identifer and will be saved to each test record. The ID cannot be changed until all data has been downloaded from the database and the database has been cleared.

The **Device ID** is a six-letter device identifer and will be saved to each test record. This could be used to give simple identification of a unit if multiple units are used in one site.

16.4.1 DP stim cal

The calibration method used for DP stimuli above 5kHz has been enhanced in later versions of Otoport firmware (versions 1.14.0.0 onwards and 3.18.0.0 onwards). This enhanced calibration is on by default and **DP stim cal** will show **1**.

If necessary for comparison with old recorded data, the Otoport software can be switched to use the old calibration method by setting **DP stim cal** to **Off**. We do not recommend permanently setting the Otoport to the old calibration method, as dBSPL values will be less accurate.

Note:

This option is only available for Otoports with DPOAE facilities.

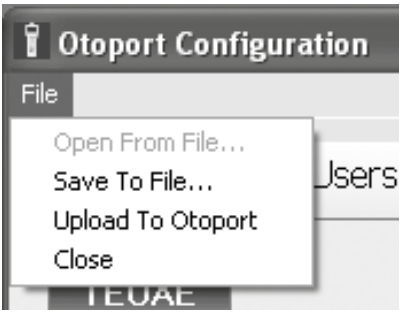
16.5 Saving configuration changes

To upload all changes made to the Otoport configuration, select the **Upload to Otoport** button at the bottom of the window. A window will indicate progress as the new configuration is loaded.

When this window closes configuration of the Otoport is complete.

If you do not wish to save the changes you have made to the Otoport, click on **Close**. A prompt requires confirmation before changes are discarded.

16.6 Configuration File menu



The Configuration **File** menu is available from the top left corner of the Otoport Configuration window.

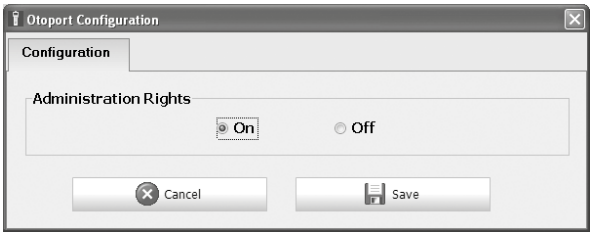
Open From File will load an Otoport configuration file (.EEPROM) from a location on the PC. This may then be uploaded to an Otoport.

Save to File will save an Otoport configuration to a location on the PC. This can be reloaded to an Otoport at a later date.

Upload To Otoport will upload the configuration changes.

Close will exit the **Otoport Config** area. Changes to configuration will not be loaded to the Otoport.

16.7 Configuration for Otocheck LE



The configuration section for the Otocheck LE controls access to the configuration section on the Otocheck device. Select **Off** to lock access to settings. Select **On** to allow users to make changes.

17 Troubleshooting

17.1 Otolink communication problems

If Windows starts the New Hardware Wizard, or indicates that Otoport drivers are not present, then manually install the USB drivers by following the instructions in section 2.6.2.

Otolink installation problems can arise from a number of different areas. A good starting point is to examine the status of the USB controllers using the windows Device Manager with the Otoport plugged into the PC (accessed from My Computer>Properties).

If the Otoport is not listed in Device Manager then Microsoft Windows has not detected the Otoport hardware. USB devices are dynamically detected each time they are connected to a PC, not just the first time of connection.

Some of the reasons that the Otoport USB will not be detected include:

Otoport is not connected to the user's PC

Connect to the PC and check to see if Windows now detects new hardware following the installation instructions in the Otoport manual.

The USB socket on the PC is faulty

Try another USB socket on the PC and check to see if Windows now detects new hardware following the installation instructions in the Otoport manual.

The USB cable being used to connect the Otoport is faulty

Try another USB cable to connect the Otoport to the PC and check to see if Windows now detects new hardware following the installation instructions in the Otoport manual.

User's PC is faulty or incorrectly set up

A good check would be to connect the Otoport to another PC (ideally a different make/brand of PC) and start the installation process from the beginning.

Fault with the Otoport USB

A good check would be to connect the Otoport to another PC (ideally a different make/brand of PC) and start the installation process from the beginning. If the device is still not detected there may be an issue with the Otoport system.

If the Otoport is listed on the Device Manager next to a yellow question mark, it means the device drivers have not been installed properly. Ensure the Otolink CD is placed in your CD-ROM drive then right click on the listed Otoport device and select Update Driver. The New Hardware Wizard will be initiated. Follow the instructions in section 2.6 to progress through the driver installation.

If the Otoport is listed correctly on the Device Manager but does not function then some part of the driver or Otolink software may not have installed correctly. Try removing and then reinstalling the software drivers or Otolink software.

Connectivity break during use

If the software loses connectivity with the Otoport, it will be necessary to exit the program, disconnect the Otoport and wait five seconds before reconnecting. After this, restart the program and follow the on screen instructions.

If your problems persist, please contact your local IT Support, your Otodynamics distributor or Otodynamics Support.

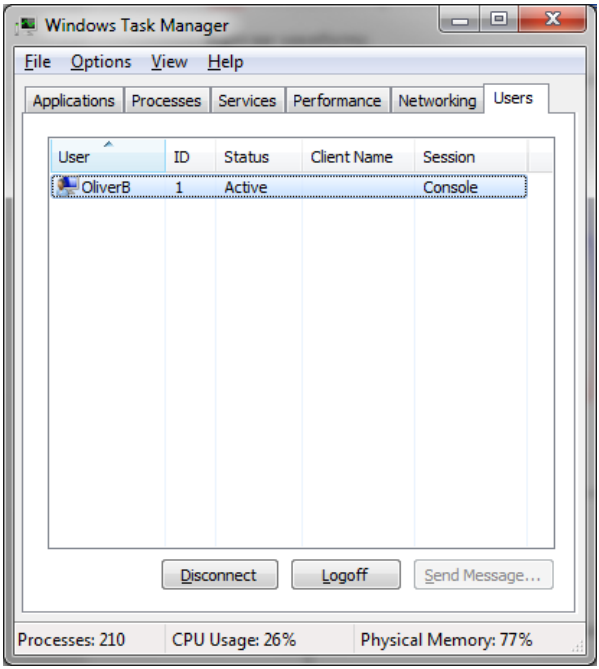
17.2 Cannot access Otolink database and Otoport not recognised when connected via USB

Check to see if there are any other users logged onto your PC. If there are, then either ask them to log off, or ask them to close down Otolink in their account.

Otolink can only be accessed by one user at a time. If there are other users logged in that are using Otolink then their account will prevent you from using Otolink.

This situation most often arises if you have intentionally switched users or if the PC has gone into ‘sleep’ mode and a new user logged in when it was woken up.

An easy way to check if other users are logged into your PC is to open the **Windows Task Manager** (right click on the task bar at the bottom of your screen and select **Start the Task Manager**). Select the **Users** tab and check if more than one user is listed. The screenshot below shows a single listed user.



18 Symbol explanations

Training required

Otodynamics' factory address

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