MED●EL

Fitting Guide
SAMBA™

hearLIFE

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I. Introduction

The new SAMBA, with its key features **Automatic/Ambient Sound, Intelligent Sound Adapter** and **Remote Control,** sees the beginning of a new era for VIBRANT MED-EL's audio processors. The Vibrogram function, integrated within the SYMFIT software, is now available for all SAMBA variants and for both the Vibrant Soundbridge and Bonebridge implant systems. Its sleek design allows for easier handling, and gives users the option of personalizing their SAMBA, by choosing from the wide selection of cover colours and designs. The SAMBA Fitting Guide enables the professional to follow a straightforward fitting workflow which will lead to an efficient fitting session and successful outcome for each patient. It provides step-by-step instructions and describes how the new features of the SAMBA function

II. Setting up Hardware and Software

For hardware and software requirements, please refer to the SYMFIT 7.0 IFU and the SAMBA IFU. In addition, you can find videos which demonstrate how to use the SAMBA audio processor. They can be found by clicking on the demo tab within the "Hearing Instruments" section of the Connexx software.

III. Explaining the SAMBA™'s features and functions

Take your time to explain to the user, how the SAMBA and the Remote Control function. For a more detailed instruction, please refer to the **SAMBA IFU.** In addition, you can find videos which demonstrate how to use the SAMBA audio processor. They can be found by clicking on the demo tab within the "Hearing Instruments" section of the Connexx software.

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IV. First FIT of the SAMBA™

audio processor

The aim of this chapter is to offer you a simple, yet efficient workflow for the initial fitting of the SAMBA audio processor. It will direct you through the necessary steps in order to achieve a good First Fit with the aim of returning audibility with comfort and to eventually restore normal loudness perception. This chapter is based on the Vibrogram fitting method which helps you to acquire an ideal foundation for the initial fitting process.

THE VIBROGRAM THRESHOLDS ARE RECOMMENDED
TO BE USED AS A STARTING POINT FOR THE FITTING
PROCESS

Starting the fitting session – entering client data

After starting up the Connexx software the **Client List and Data** window appears (figure x). Depending on whether the session is a first fit session or a follow-up fitting, a new client can be created. Whereas the fields Last Name, First Name and the Date of Birth must be filled in for a new client, the data from an existing client can simply be retrieved.

Step 1

Detecting that the SAMBA™ audio processor is connected

The first step is the detection of the hearing instrument via the **"detect connected instruments"** button on the toolbar (figure x).
It is not necessary to select the audio processor variant at this point. The detection function automatically recognizes which audio processor is connected. Select

"Follow-Up fitting (go to Fine Tuning)" and click on **"Ok"**. You will be forwarded to the **"Fine Tuning"** tab.

Step 2

The Vibrogram

The Vibrogram is a pure tone audiogram received by direct stimulation of the inner ear through the Vibrant Soundbridge (VSB) or the Bonebridge (BB) implant system. By measuring the Vibrogram you are able to evaluate the appropriate levels of vibratory energy for each patient, which can then be applied to the inner ear via the FMT (VSB), and BC-FMT (BB) respectively. This innovative approach will give you a response of hearing thresholds at each measured frequency by directly driving the inner ear with the implant. The levels obtained result in a specific, individual dynamic range which allows you to create the most precise fitting to optimize the hearing benefit for each patient. This method is applicable for both, VSB and BB users, independent from HL, surgical technique, and placement. It can be performed with all versions of the SAMBA audio processor as well as for the Amadé audio processors.

Loading the Vibrogram settings

In order to obtain proper Vibrogram thresholds, the necessary calibration settings are temporarily loaded into the audio processor. Therefore, in the Connexx main menu bar, **"Fitting" > "Test Settings"** should be selected and the corresponding **"Test settings"** window (see Fig. x) will appear. Now select **"Vibrogram Settings"** to load the calibrated test settings. *The audio processor is now placed over the implant coil on the patient's head.*

DO NOT CLOSE THE TEST SETTINGS WINDOW UNTIL YOU HAVE PERFORMED THE VIBROGRAM.

Measuring the Vibrogram

As you are already in the "Fine Tuning" section, select the Vibrogram tab from the six tabs available. The Vibrogram table will appear (figure x).

THE SAMBA AUDIO PROCESSOR MICROPHONES WILL BE AUTOMATICALLY DEACTIVATED DURING THE MEASUREMENT AND ARE REACTIVATED WHEN CLOSING THE "TEST SETTINGS" WINDOW. PLEASE NOTE: NEVER MUTE THE MICROPHONES MANUALLY DURING THIS PROCEDURE.

The method of obtaining a Vibrogram is the same as obtaining an audiogram. Please advise the patient accordingly. It is recommended to start the measurement at 1 kHz and 30 dB above the patient's bone conduction threshold, conditioning them to the stimulus.
Click on the corresponding symbol to activate the tone and start the measurement. The tone will remain active until either another test tone is activated or the stop button is used. Please note down the individual Vibrogram thresholds obtained for the whole frequency range, since they won't be stored automatically.

Remark:
In cases where the dynamic range of the user is limited, it might also be useful to obtain uncomfortable loudness levels (UCL values) with the Vibrogram tab and then transfer them into the Connexx audiogram.
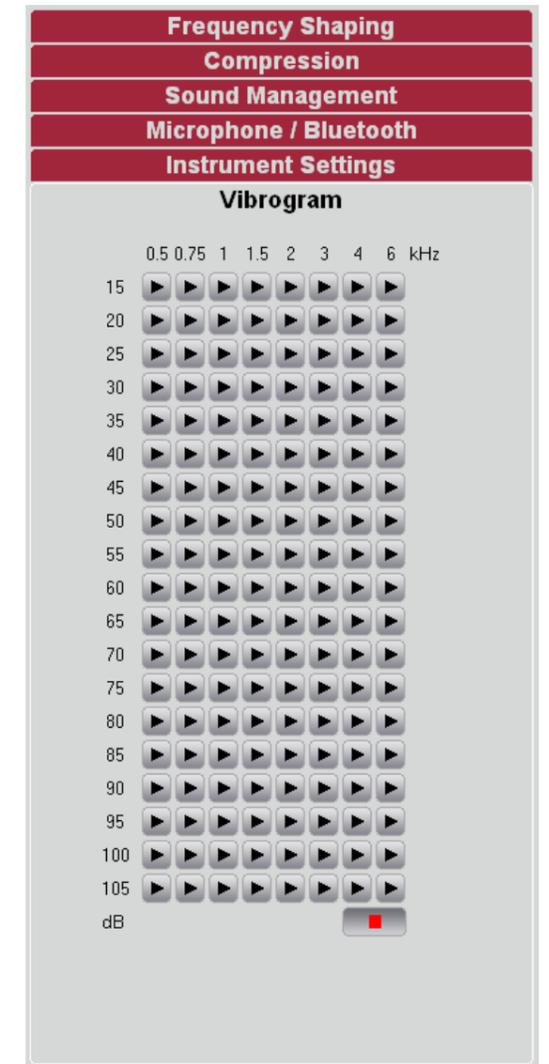
Completing the Vibrogram measurement

When the measurement is finished, you can **close** the **"Test Settings"** window. The following message will appear (figure x).
Always select **Yes** in order to reprogram the previous settings, as it is not the intention to leave the calibrated test settings in the SAMBA.
The Vibrogram thresholds obtained can now be entered in the **Audiogram** tab.

Entering the Vibrogram thresholds in the Audiogram Tab

Open the Audiogram tab which is the first of five tabs in the Connexx software and insert the Vibrogram thresholds obtained. This data will be used by Connexx to calculate the target gains for the audio processors.

THE VIBROGRAM THRESHOLDS MUST BE ENTERED USING THE AIR CONDUCTION (AC) SYMBOLS (SEE ARROW). PLEASE EXTRAPOLATE THE VALUES AT 125 Hz AND 250 Hz; AS MARKED IN THE AUDIOGRAM ABOVE:

Step 3

Begin with the actual First Fit of the SAMBA™ audio processor

After entering the Vibrogram thresholds, click on **"detect connected instruments"** in the Audiogram tab. The **"Detect hearing instruments"** window will open.

Select **"New fitting (go to FirstFit configurator)"** and click on **"Ok"**. You will be prompted in the **"Save session"** window to store changes from the previous session. The audio processor will be detected and the **"Remote control configuration"** window will appear. Select the **"Remote Control"** tab, activate the MED-EL remote control via the **checkbox** and click on **"Ok"**.

The remote control allows the user to switch between the different fitting programs as well as to change the overall volume in each of these programs (refer to "volume control range" on page xxx). At this stage, it is also possible to register an alternative remote control e.g. the miniTek™* if available.
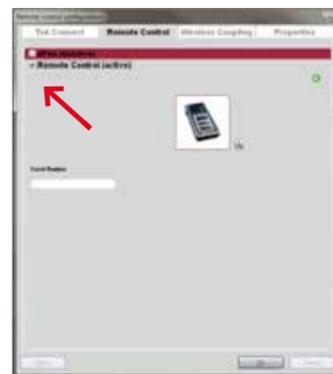
*The miniTek™ remote control is property of Siemens Audiologische Technik GmbH, 91058 Erlangen, Germany and issold separately. For further information and availability, please contact ...???

For technical details about the remote control please refer to the corresponding section in the SAMBA Instructions for Use (IFU).

IF NO REMOTE CONTROL IS SELECTED ONLY ONE PROGRAM IS AVAILABLE IN THE SAMBA AUDIO PROCESSOR.

Step 4

The First FIT Navigator

After registering the remote control, the **"The First FIT Navigator"** is started. Click on **"Next"** to reach the **"Fitting Method"** screen.

The "Fitting Method" screen

Acclimatization level and Fitting formula
For the Bonebridge, the fitting formulas **DSL I/O**, or **NAL–NL1** can be used., In addition, for the Vibrant Soundbridge NAL-NL2 is also available. When using DSL I/O or NAL-NL1, the setting of the **Acclimatization Level** reflects the user's experience with amplification from conventional hearing aid systems. Please set accordingly.

Volume Control Range
The volume control range (figure x), defined by the shaded area around the 65 dB gain curve, allows you to select the amount of overall gain the user is able to set via the remote control (from 0 dB up to 32 dB). It is recommended to leave the pre-defined 8 dB range as it stands.

Number of Programs
The number of programs in the first fit can be chosen if the remote control has been previously selected (see step 3). By default, three programs are selected but you can choose up to five programs for the SAMBA audio processor. Each program contains presets which are automatically optimized for different listening situations by the Connexx fitting software.
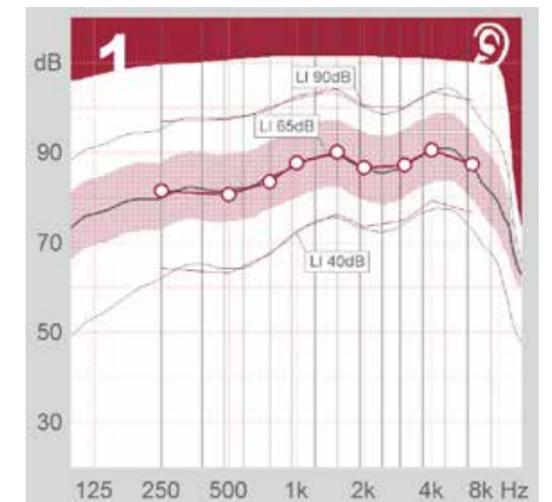
AT THE FIRST FIT IT IS RECOMMENDED TO ACTIVATE ONLY THE FIRST, UNIVERSAL PROGRAM. BY ACHIEVING A SATISFACTORY BASIC FITTING IN PROGRAM 1, YOU MAY ADD ADDITIONAL PROGRAMS ACCORDING TO THE USER'S NEEDS, AT A LATER STAGE. HOWEVER, IT IS ADVISABLE TO LET THE USER ACCLIMATIZE TO THE FIRST PROGRAM DURING THE FIRST WEEKS OF USING THE IMPLANT SYSTEM.

Apply First FIT

By clicking on **"Apply First Fit"**, the first fit configuration is completed and you will be automatically forwarded to the **Basic Tuning** tab.

Basic Tuning

V. The Basic Tuning

The Basic Tuning screen enables you to set the most important parameters for an appropriate First Fit. It facilitates user interaction on the basis of only a few fundamental adjustment options. Simple questions about the hearing impression with the SAMBA can be immediately responded to in this section.

FOR AN APPROPRIATE VIEW OF THE CURVE DISPLAY, PLEASE REFER TO APPENDIX I

Adjust the First FIT

Master gain

If the overall volume of the system is reported by the user as being too loud or too soft, it can be changed with the **Master gain.**

Loudness

To improve the fitting it is also possible to adjust only the volume of loud sounds, speech, soft sounds, and the volume of the user's own voice.

Sound Quality

According to the information given by the user, the sound quality can be changed by clicking on **"too sharp"** or **"too muffled".** The button "too sharp" will reduce the gain in the high frequencies and simultaneously increase the gain in the low frequencies, making the sound more muffled. The opposite effect will be achieved by clicking on "too muffled".

ALL FREQUENCY DEPENDENT CHANGES CAN BE IMMEDIATELY SEEN IN THE GRAPHICAL DISPLAY

Remark:

The VSB is able to provide high frequency amplification, which the user might not be used to in the beginning. It may be necessary to reduce the gain in the high frequencies at the first fit. However, the user may benefit from more gain in the high frequencies at a later stage.

SAMBA™ BB in Single-Sided Deafness (SSD)

If the user is implanted with a Bonebridge and is suffering from single-sided sensorineural deafness, the SYMFIT software offers an additional feature in the basic tuning tab. The target curves of the SAMBA BB will be automatically adapted to the special needs of SSD users, by clicking the SSD checkbox.
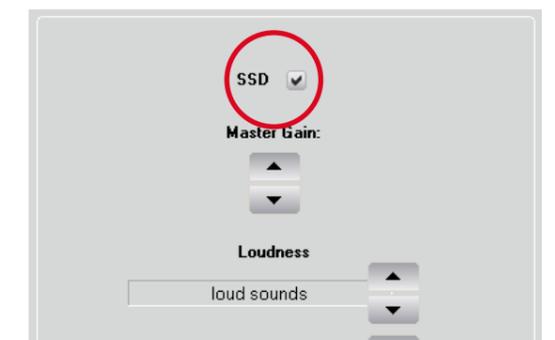
AFTER ADJUSTING THE FIRST FIT VIA THE BASIC TUNING SCREEN, THE USER CAN BE DISCHARGED TO GAIN EXPERIENCE WITH THE DEVICE AND THE NEW HEARING SITUATION. IT IS RECOMMENDED THAT THE USER MAKES A WRITTEN NOTE ABOUT HIS/HER FIRST EXPERIENCES FOR USE IN THE FOLLOW-UP FITTING SESSION.

VI. Follow-up fitting

Fine tuning for an ideal fitting is more relevant at a subsequent follow-up visit, after appropriate listening experiences have been obtained by the VSB or Bonebridge user, after their first fit session. Fine tuning after 4 weeks of listening experience is an essential second stage of any fitting strategy and should include formal assessment. As mentioned in the first fit chapter, the user should be able to provide you with good information about the hearing experience for the follow-up fitting.

AS WITH EVERY APPOINTMENT, PLEASE CHECK THE MAGNET STRENGTH, ASK ABOUT THE OVERALL FEELING WITH THE SAMBA AND THE AVERAGE DAILY WEARING TIME.

Fitting assistant

In addition to the information found in this fitting guide, the **"Fitting Assistant"** contained within the SYMFIT software (Figure x), provides fitting and troubleshooting suggestions for immediate adjustment during the actual fitting session. Fitting adjustments in accordance to the user's feedback can be directly addressed with the suggestions made by the assistant. Start the assistant by selecting **"Fitting Assistant"** from the **"Fitting menu"**.
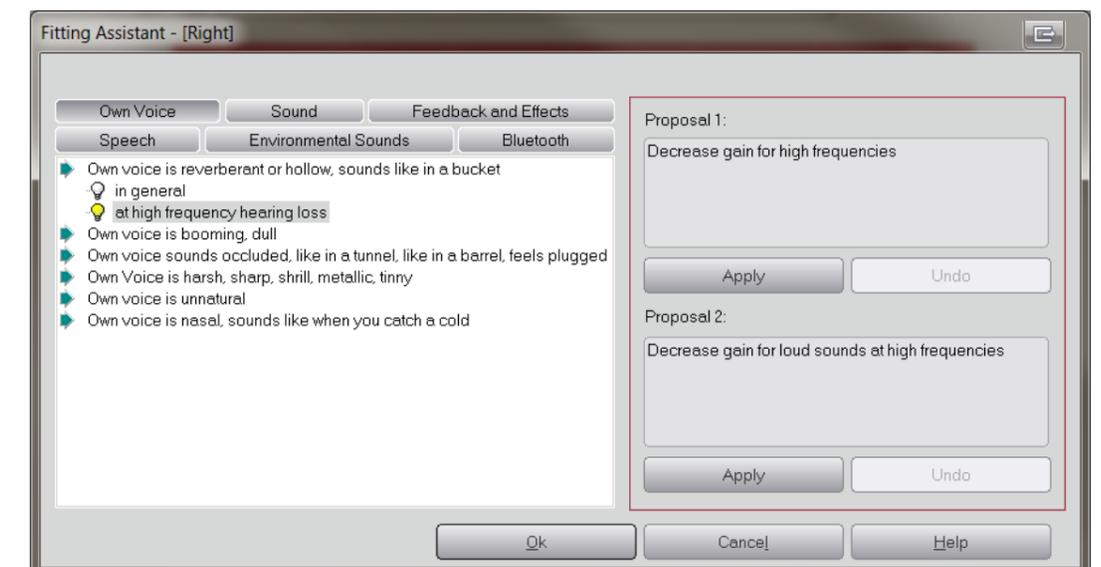
The Fine Tuning

The **"Fine Tuning"** tab within the Connexx software allows the professional to further optimize the basic fitting according to the user's feedback. In this tab, the fine adjustments for the fitting of the SAMBA can be made. Changes in specific Frequency Gain settings, Maximum Power Output as well as Compression, Sound management, Microphone/Bluetooth adjustments, Instrument Settings and Vibrogram values can be made in this tab. Proceed as shown in the steps below:

1. Load client data (either via CONNEXX or Noah).
2. Select **Fitting → Detect**... to enable stored settings to be read out. Or click on the **"detect connected instruments"** button.
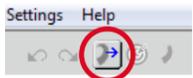
3. Select the option **"Follow-Up fitting (go to Fine Tuning)"**, and click **"OK"**.
4. The Fine Tuning tab will open.
5. Fine tune the audio processor in accordance to the user's needs.

Frequency Shaping

In the first tab within the Fine Tuning screen, the gain for each of the 16 individual frequency bands can be adjusted separately using a drag and drop method (see figure x). By marking several frequency bands with the mouse, the gain in the user-defined frequency areas can be changed quickly and easily.

The Maximum Power Output (MPO)
The output limiter in the SAMBA can be modified in different frequency ranges (Multichannel), if the user experiences uncomfortably loud inputs in these frequencies.
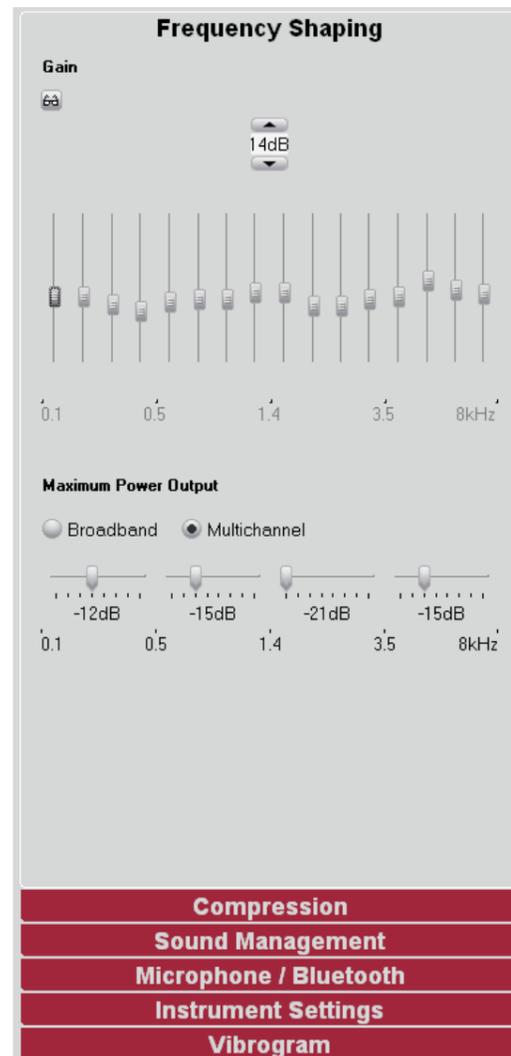
Compression gain controls

Frequency dependent amplification for loud and soft input sounds

It is possible to independently adjust the gain for soft sounds (40 dB), the conversational level (master gain) and loud sounds (90 dB) in up to 16 channels. These settings will also result in automatically matched values of Compression Kneepoint and Compression Ratio as well as the gain in the respective equalizer bands. Click the view options "eyeglass button" and select the number of channels you want to display for Frequency Shaping as well as for Compression settings.

Compression kneepoints, ratio and time constant (CK, CR)

By clicking on "show kneepoints", individual adjustments to the compression kneepoints, compression ratio and time constant may be carried out by double-clicking on the related box. You can go back by clicking on "show gain controls"
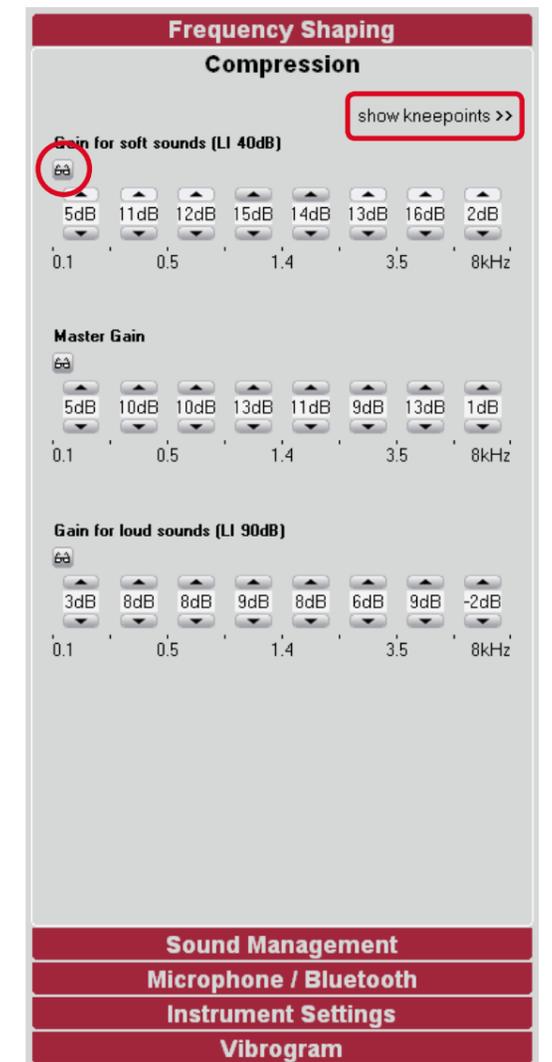
Sound Management

With the tools in this tab the **"Speech and Noise Management", "Sound Smoothing", "Wind-Noise reduction",** and **"FeedbackStopper"** can be set. These settings can support the user's hearing experience in different environmental situations (figure x).

Speech and Noise Management
This feature evaluates the noise currently detected by the SAMBA and maximizes both, the hearing comfort and the speech intelligibility for each acoustical situation. Multichannel, allows noise attenuation in four frequency channels, independently. If the checkbox "Speech in noise only" is selected the "speech and noise management" is activated only if speech in noise is detected.

Sound Smoothing
If activated the SAMBA detects loud and sudden sounds (such as clattering dishes, rustling paper, or slamming doors) which can be disturbing for hearing impaired people. Sound Smoothing eliminates these sounds, but does not affect speech intelligibility or soft impulsive sounds. The recommended and default setting is "Med".

Wind-noise Reduction
This feature is useful for outdoor use, where wind generates unwanted noise in the audio processor's microphones. This noise will be detected and selectively reduced, whilst increasing the user's listening comfort. Besides certain programs such as "Music", Wind-noise Reduction is activated in most programs by default.

FeedbackStopper
This technology achieves effective feedback suppression. Please set one of the following options if feedback occurs.
- Slow setting: Feedback is only mildly reduced by keeping the sound quality constant. This is ideal for users who are less bothered by occasional feedback.

| Frequency Shaping |
| Compression |
| **Sound Management** |

Sound Management

☑ Speech and Noise Management

   ◉ Broadband   ○ Multichannel

min   max

☐ Speech in noise only

☑ Sound Smoothing

min   med   max

☑ Wind-noise Reduction

☐ FeedbackStopper
   ○ Slow   ○ Med   ○ Fast

| Microphone / Bluetooth |
| Instrument Settings |
| Vibrogram |
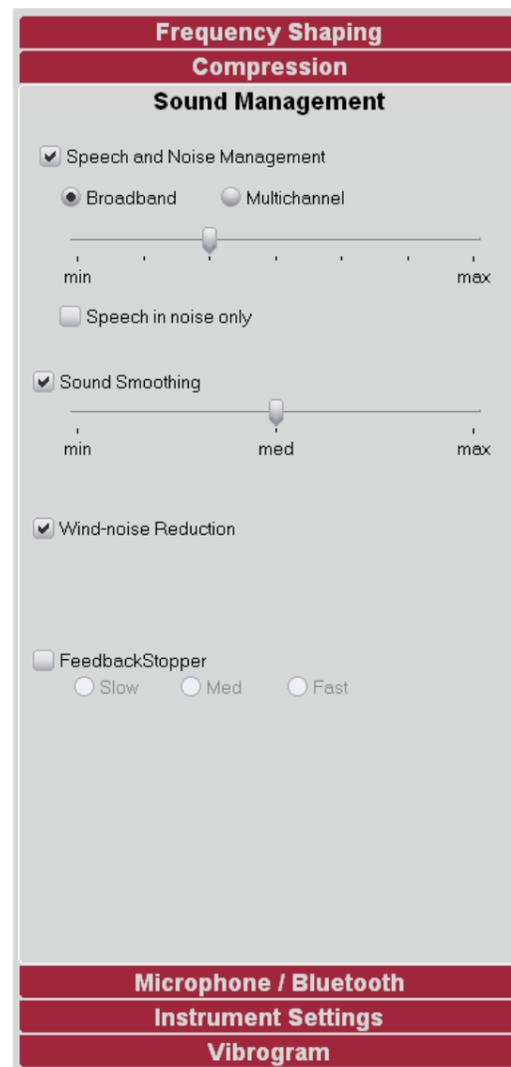
- Medium setting: More effective feedback suppression with minor changes in sound quality.
- Fast setting: Fast feedback suppression should be used for individuals more prone to feedback interference.

Microphone / Bluetooth

Automatic/Ambient Sound
This mode is the default option in Program 1 (Universal). To take full advantage of this microphone setting, and to fine-tune its function, it is possible to adjust the **"Activation Threshold"** at which the microphone switches from the omnidirectional to directional mode (default is 54 dB). This is the level that the environmental noise has to reach before the directional microphone is activated.
By selecting **"Speech in noise only"** the directional microphone will be activated only when speech in noise is detected. When music or speech in quiet is detected, the omnidirectional microphone is activated.

Speech Tracking
Speech Tracking continuously scans sounds in the listening environment for speech patterns and sets the microphones maximum directivity towards speech, regardless from which direction it originates. With Speech Tracking, the user can hear speech well in the presence of background noise, even when it comes from behind or from the side. This is ideal when driving a car or the user cannot look at the person he or she is speaking to.

Directional (Adaptive)
Directional adaptive microphones are focusing on sounds that originate in front of the user, while they follow and reduce noises from other directions as they move - for example, if a truck drives by the window during a conversation or conference - making it much easier to listen in noise.

Omnidirectional
The omnidirectional microphone should be used for music and outdoor programs.

| Frequency Shaping |
| Compression |
| Sound Management |
| **Microphone / Bluetooth** |

Microphone System
◉ Automatic / Ambient Sound
   ☐ Speech in noise only
   Activation Threshold [54dB ▼]
○ Speech Tracking
○ Directional (Adaptive)
○ Omnidirectional

Input mode
[Microphone   ▼]

| Instrument Settings |
| Vibrogram |
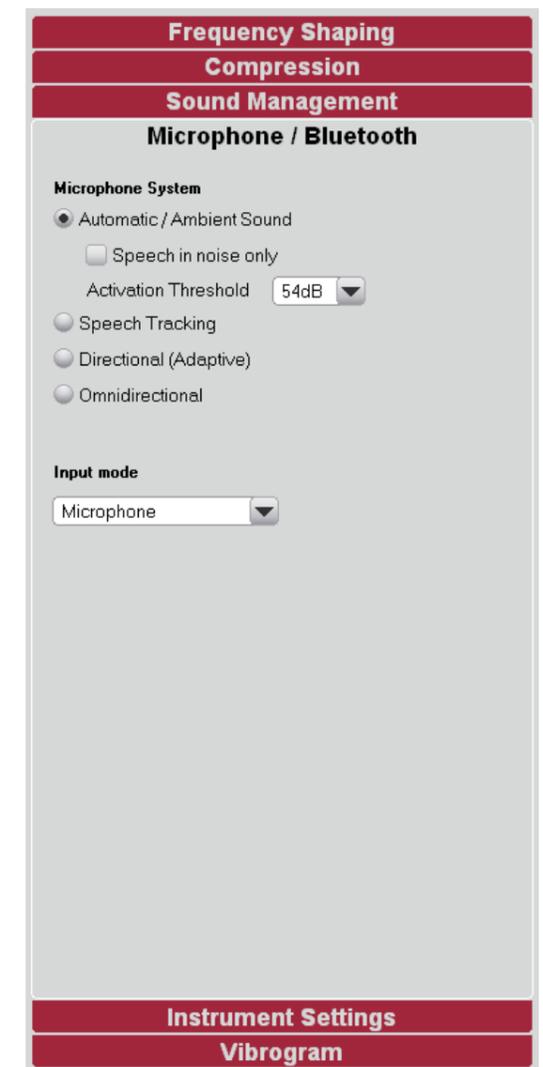
Input Mode
The Input Mode is automatically set to "Microphone" when using the MED-EL remote control. Other choices will only be available if a miniTek™* is registered within Connexx.

Instrument settings

In the Instrument Settings tab it is possible to enable or disable melody beeps which indicate the following situations:

- Program change: Plays a melody beep when switching through programs.
- Power-on / off: To play a melody beep when the audio processor is switched on or off.
- VC (volume control change): To indicate when the volume is changed.
- VC limit: To indicate that the upper or lower limit of the volume control range is reached.
- VC Power-on Position: To indicate that the starting point (power-on position) of the audio processor is reached while adjusting the volume.
- Low battery: Plays a melody beep when the battery power is low.

ENABLING THE CHECKBOX OF AN ALERT TONE IN ONE PROGRAM AFFECTS ALL ACTIVATED LISTENING PROGRAMS. WITHOUT AN ACTIVATED REMOTE CONTROL, SOME OPTIONS MAY BE DISABLED. THE DEFAULT SETTINGS ARE SHOWN IN FIGURE X.

The "Alert profile" can be selected between "Basic" and "Advanced". The loudness of the alert tones can be set in 10 dB steps from 55 dB to 85 dB. When the alert profile "Basic" is selected, the frequency of the alert tones can be set to 500, 750, 1250, or 1500 Hz. When the alert profile "Advanced" is selected, the frequency of the beep is set automatically.

Frequency Shaping
Compression
Sound Management
Microphone / Bluetooth
Instrument Settings

Melody Beeps
- ☑ Program change ◀
- ☑ Power-on/off ◀
- ☐ VC ◀
- ☑ VC limit ◀
- ☑ VC Power-on Position ◀
- ☑ Low Battery ◀

Alert profile   Advanced ▼
Loudness   loud 75dB ▼
Frequency   ▼

Vibrogram

VII. Listening programs in the SAMBA™

In general, up to five programs can be activated in the SSAMBA for different listening situations. If the MED-EL remote control is registered in Connexx, three out of five programs are activated by default. When a Siemens miniTek™* remote is registered, five programs will be activated in the SAMBA automatically, including two special programs: P2 [Bluetooth Phone] and P4 [Tek™/miniTek™* (Audio/TV)]. All the parameters within the SAMBA can be modified and individually adjusted in each listening program.

*The miniTek™ remote is property of Siemens Audiologische Technik GmbH, 91058 Erlangen, Germany and are sold separately. For further information and availability, please contact …???

Key functions in the SAMBA™ programs

Universal
The 'Universal' program is stored under slot 1. It incorporates the **Intelligent Sound Adapter** with a specific evaluation of the user's listening behavior in the three sub-sets: Speech, Noise, and Music.

Noisy Environment
Here, the **Directional (Adaptive)** microphone is activated and the **Speech and Noise Management** is set towards the maximum.

Music
The Music program is primarily intended for listening to music in situations without background noise. It aims to provide a natural, wideband sound for the SAMBA user. All **Sound Management** features are deactivated and the microphones are set to **Omnidirectional.**

TV
The TV program is primarily intended for listening to TV applications. It aims to provide a natural, wide- band sound for the Samba user. The microphone system is

set to **Omnidirectional** mode, **Wind-noise Reduction** is turned off, whilst **Speech and Noise Management** as well as **Sound Smoothing** are both set to medium.

Phone Acoustically
This program is intended for telephone applications. It is aimed to provide speech intelligibility for the narrowband telephone signal. The microphone system is set to **Omnidirectional** mode, **Wind-noise Reduction** is turned off, whilst **Speech and Noise Management** as well as **Sound Smoothing** are both set to medium. The **FeedbackStopper** is automatically set to Fast.

Outdoor/Sports
The program 'Outdoor/Sports' is predominately intended for outdoor activities such as cycling or jogging. **Wind-noise Reduction** is activated and the microphone system is set with **Omnidirectional** characteristics. The amplification in the lower frequency range is reduced and both, **Speech and Noise Management** and **Sound Smoothing** are set to a minimum.

Privacy
This program is intended for all applications where the SAMBA user does not wish to be disturbed by environmental sounds. Hence, the amplification is decreased by 10 dB for the whole frequency range. The microphone system is set to **Omnidirectional, Speech and Noise Management** is on minimum and **Wind-Noise reduction** is deactivated. The **Sound Smoothing** algorithm is set to its maximum in this program.

VIII. Further Information

If you need assistance regarding the Connexx Soft-ware, please refer to the Connexx Help via the **Help Menu → Connexx Help** or simply by pressing **F1** on your keyboard.

If you need any further information regarding the fit-ting of the SAMBA audio processor, please refer to the Instructions for Use (IFU).

For further information on our products, please visit the MED-EL website: www.medel.com

or contact us via email: vibrant@medel.com

Bild IFU

NOTE: Troubleshooting → ???
If the Samba is not recognized correctly, it might be due to one of the following reasons:
1) The wrong SYMFIT version is installed
You can check which version of the VIBRANT MED-EL SYMFIT database you have installed via Settings → Info about Database
Please refer to the Samba IFU to check which version of the SYMFIT database is required for the Samba to be programmed correctly.
2) The Samba Battery Pill is not properly inserted into the processor.
Please refer to the Samba IFU to learn how to connect the Battery Pill correctly.
3) The hardware is not installed correctly.
Please refer to the user manual of the HI-PRO box (or NOAHLink) for further advice.
Make sure that the HI-PRO box is set up on a serial port of COM1 to COM4.

Appendix I – The Curve Display

In order to have the most intuitive view of the applied fitting strategy, it is recommended to set a suitable input/output (Gain) **Curve Display** (figure x) in the Connexx software before carrying out the next steps.

In the curve display, the relation between the following axes can be seen:
- x-axis: the **Frequencies** from 125 Hz to 8 kHz
- y-axis **Gain** or **Output** (depending on the curve display visualization)

Three black lines and three coloured lines (cherry red or teal, depending on side) can be seen in the curve display. The **coloured lines** represent the **target gain/output** that Connexx calculated in the first fit according to the audiogram for inputs of 40 dB (soft sounds), 65 dB (conversational level) and 90 dB (loud sounds). The black lines represent the current settings that are

stored in the SAMBA and therefore the **actual gain/output** of the system for the same input levels.
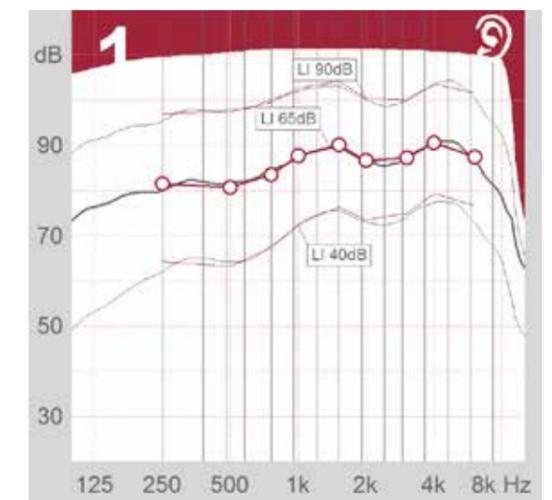
Setting the desired curve display
To display the correct values for the Vibrant Soundbridge and Bonebridge systems, we recommend changing the default settings from the Connexx software in the curve display. This can be achieved by selecting **Settings → Preferences** in the menu bar. The first tab shown is the **Curve Display** tab where the following settings have to be selected.

The change of curve display visualization only needs to be done **once.** In following Connexx sessions, these settings will be shown by default.

1. **Gain (G) or Output (LO):** This defines whether the gain or the output of the system is displayed. The output level for the Vibrant Soundbridge is given in db SPL (sound pressure level). The output level for the Bonebridge is given in db FL (force level).

2. **Coupler Type:** Set to **Ear Simulator**
3. **Stimulus:** Set to **Pure Tone**

Appendix II – Intelligent Sound Adapter

With the Intelligent Sound Adapter, the SAMBA can "learn" how the user likes to hear in different situations within just a few weeks. When enabled, this technology improves listening performance by automatically adjusting acoustic parameters to an individual's listening preference for different environments. The result is an intuitive audio processor that automatically adjusts itself to suit user's listening preferences, eliminating the need for manually changing the volume after the learning period.

Intelligent Sound Adapter is accessible under the DataLearning/-Logging... dialog*. It is only available in Program 1 (Universal), Programs 2 and 3. It is only in Program 1, that the Intelligent Sound Adapter allows for a more specific evaluation of the user's listening behavior, where it shows independent setting preferences for Speech, Noise and Music. Programs 2 and 3 support regular learning capabilities.

The **Usage Analysis** dialog shows logged information such as Wearing Time and Microphone Modes for each listening program. Acoustical environment shows the percentage of times the user has been hearing speech, noise, and music. This percentage is also reflected in the Usage Analysis pie chart.

By clicking the **Gain Preferences** tab you see learned gain settings for each of the three situations or classes under the Universal program. When learning has occurred for one of the three situations, an exclamation mark (!) will be displayed in the respective situation on the pie chart.

THE AUDIO PROCESSOR SHOULD BE WORN FOR AT LEAST ONE WEEK BEFORE ANALYSIS OF LOGGED DATA. OPTIMAL LEARNED SETTINGS FOR ALL THREE CLASSES SHOULD BE OBTAINED AFTER APPROXIMATELY TWO WEEKS.

*

Appendix III – miniTek™

The SAMBA is equipped with a wireless connection which enables the user to connect to the Siemens miniTek™.

Due to the wireless connection of this remote control, it is able to bypass ambient noise by picking up the "clean" target signal (e.g. from a Bluetooth enabled source like a Phone, TV or Music player, Telecoil or a FM signal) and transmitting it directly into the SAMBA audio processor without audible delay.

PRIOR TO FITTING THE CONNECTED AUDIO PROCESSOR TOGETHER WITH THE MINITEK™ REMOTE CONTROL IN CONNEXX, PLEASE ATTACH THE REMOTE TO THE PC VIA USB (USB TYPE A > USB TYPE MINI-B).

You can register the Siemens miniTek™ remote instead of the MED-EL Remote Control at the stage of first fit, as described in chapter IV. By doing so, please choose at least 4 hearing programs in the First Fit Navigator which should then be stored in the SAMBA, as with the Siemens miniTek remote there will be two of these programs especially assigned with the features in the Siemens remote. P2 will be automatically set to **Bluetooth Phone** and P4 will be set as the **Tek/miniTek (Audio/TV)** program.

If you want to add a Siemens miniTek™ remote at a follow-up fitting appointment, this can be done by clicking the **Wireless Settings and Accessories button** in Connexx and the Wireless dialogue will open.

The two miniTek™ remote related programs mentioned above, must then be set manually after registering the Siemens remote, whereas the **Bluetooth Phone** program can only be chosen in program slot #2. For the **Tek/miniTek (Audio/TV)** program you can choose slot #3, #4 or #5.

Only if a Siemens miniTek™ remote has been selected, will the additional Input modes become available in the **Microphone / Bluetooth** tab under **Fine Tuning** for the following Programs:
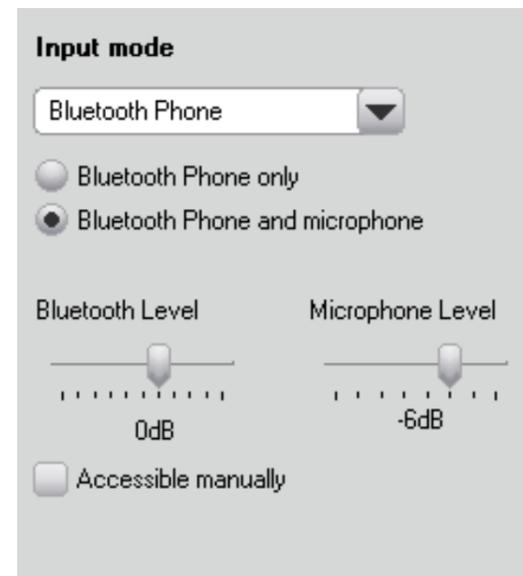
Bluetooth Phone (P2)

Tek/miniTek (Audio/TV)

If you want to add a Siemens miniTek™ remote at a follow-up fitting appointment, this can be done by clicking the **Wireless Settings and Accessories button** in Connexx and the Wireless dialogue will open.

The two miniTek™ remote related programs mentioned above, must then be set manually after registering the Siemens remote, whereas the **Bluetooth Phone** program can only be chosen in program slot #2. For the **Tek/miniTek (Audio/TV)** program you can choose slot #3, #4 or #5.

Only if a Siemens miniTek™ remote has been selected, will the additional Input modes become available in the **Microphone / Bluetooth** tab under **Fine Tuning** for the following Programs:
For a detailed description of all Siemens miniTek™ remote functions and capabilities, please refer to the corresponding user manual.

*The miniTek™ remote is property of Siemens Audiologische Technik GmbH, 91058 Erlangen, Germany and is sold separately. For further information and availability, please contact ...???

Appendix IV – Useful Connexx Tools

Store and recall hearing instrument settings
To **store SAMBA settings** for quick access and later use, press the highlighted icon in the toolbar (Figure x).

The following dialog box appears: (Figure x)
The hearing instrument type and date/time are automatically entered and cannot be altered.
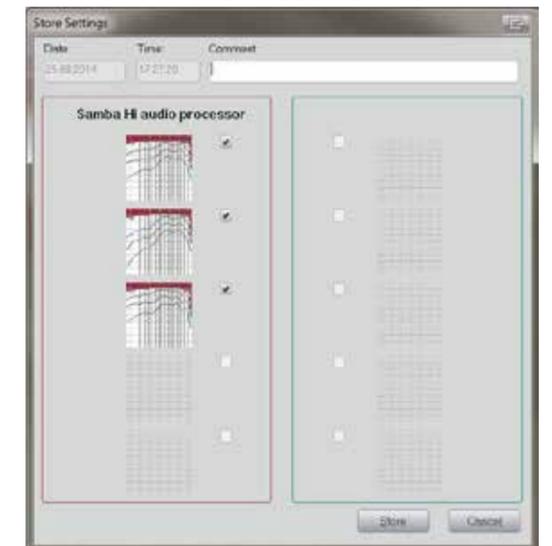
Activate the checkboxes for the program settings, which are to be stored for the SAMBA displayed.

A **Comment** can be added to the text field at the top of the menu, which relates to this setting.

Click on the **Store** button to acknowledge the hearing instrument setting has been stored. The hearing instrument setting shown on the screen is stored permanently in the client's data form. If the setting is not to be stored, click on the **Cancel** button to return to the main CONNEXX window.

For evaluation purposes, it may prove useful to compare the current settings with a previous fitting. To recall previously stored SAMBA settings, select **Recall Settings...** in the **Edit** menu or click on the icon in the toolbar.

Remark:
Please note that everything stored here is not stored in the user database. It is only stored on your local Connexx installation and these settings cannot be exported.

Save a complete fitting session
To save a completed hearing instrument fitting and all associated data, select **Save Session...** in the File menu, or click the highlighted icon in the toolbar (Figure x).
The dialog box for saving a session will appear: (Figure x)
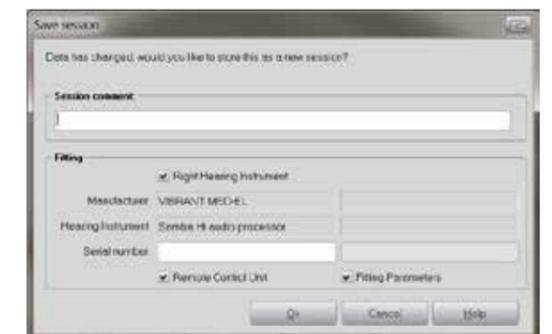
Session Comment: Enter a comment for this fitting. This comment will appear later in the session list.

Completion of this field is optional. Fitting: Select the data to be stored for this fitting by checking Audiogram, right hearing instrument and/or left hearing instrument. The input fields **Manufacturer** and **Hearing Instrument** are automatically filled in and cannot be changed. Enter the serial numbers of the hearing instruments in the input field **Serial Number,** if desired. By clicking **Ok,** the selected fitting data is stored and is available for later use. The **Ok** button cannot be chosen if no data has been selected. By clicking **Cancel,** the dialog box is closed and data is not saved.

Mute button

Click on the **loudspeaker symbol** (Figure x) in the lower toolbar to mute the SAMBA. Click on the symbol a second time to unmute the SAMBA.

Program link

When a change in one program is made it can be applied to all the programs by clicking on the marked symbols (Figure x).

Binaural link

For bilateral SAMBA users, a setting for both audio processors can be changed simultaneously. To apply a change to one program for the respective program on the contralateral side, click on the marked symbols (Figure x).

Critical Gain Measurement

If feedback occurs after activation, the **Feedback Cancellation** system can be activated within the Speech/Sound settings. Furthermore, programming adjustments can be made to eliminate the feedback. A suggested adjustment strategy is as follows: start by increasing the compression kneepoint by a few increments in compression band no.8. If the feedback level stays the same, bring it back to the initial position and try the same strategy with the next compression band, no.7. Continue until you have identified which band creates the feedback.

Note that this is the recommended manual procedure. In addition, an automated Anti-Feedback analyzer is available by selecting **Critical Gain Measurement** in the **Fitting** menu (Figure x).
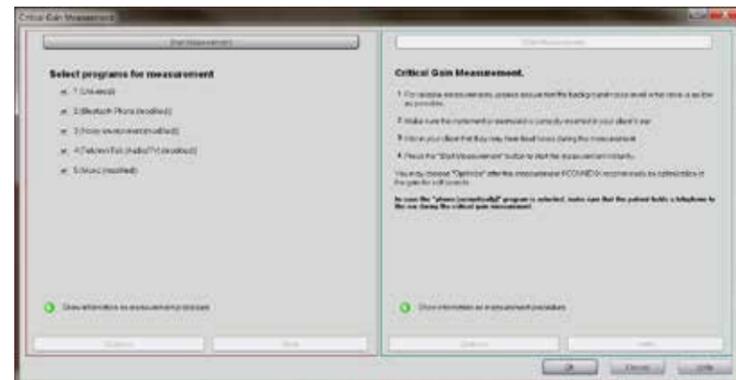
When selecting **Start Measurement** the hearing implant generates an impulse sound across the whole frequency range for the programs that have been selected. This impulse sound is ciphered and analyzed by the microphones. Select Optimise to apply the recommended settings.

Import and export of client data

With the help of this tool, client data can be imported and exported. Start the tool by selecting **Client DB Import/Export** … from the **file** menu.

Exporting client data

The saved client data can be exported by choosing between one, several or all entries (Figure x). With the **Show all** button all the clients saved on the current workstation are displayed. Entries can be selected from this list. To define the location as to where the exported data should be saved, insert the corresponding file path and file name in the field **Export client data to file**. After you have selected at least one entry, the export process can be started by clicking on the **Export** button.

In a subsequent step, the type of export has to be defined:
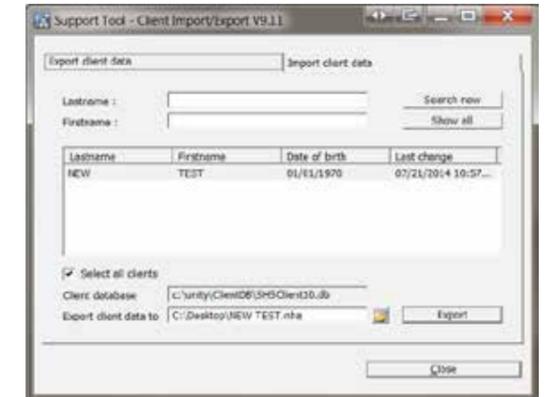
Export data for standalone use: SHS compatible data will be exported. NOAH import is not possible with this format. **Export data for use in NOAH:** NOAH compatible data will be exported. Here your NOAH user ID has to be entered.

Importing client data

Client data can be added to the database via the import function (Figure x) by clicking on **Import client data from file,** navigating to the file's location, and selecting the appropriate file. The **Client database location** displays the database, to which the new data will be added. If an NHA file is selected the whole list of clients, which will be added during the import process, is shown in the list field. Click the import button to start the import process.
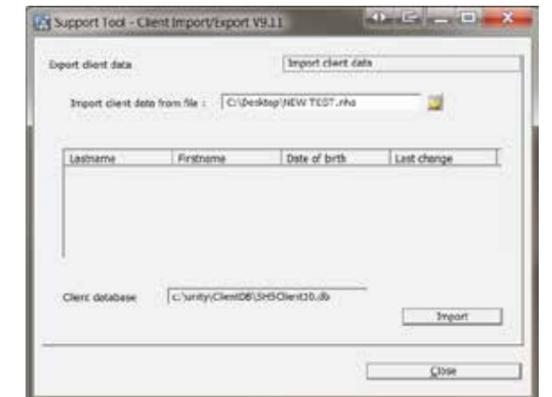
Remark:

Please be aware that importing client data is only possible with the identical version of the Import/Export tool that you used for exporting the client data. The client database is not compatible with earlier versions of Connexx.

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