ReSound LiNX Quattro First Fitting with ReSound Smart Fit™

This fitting guide gives an overview of how to fit ReSound LiNX Quattro wireless hearing instruments with ReSound Smart Fit. A ReSound LiNX Quattro rechargeable 61 wireless binaural fitting is depicted. Not all features described in this fitting guide are applicable for all ReSound LiNX Quattro fittings.

Prior to connecting to ReSound Smart Fit

ReSound LiNX Quattro 61
Rechargeable ReSound LiNX Quattro hearing instruments can only be connected through a Noahlink Wireless interface and cannot be connected with cables.   Ensure that the instruments are charged prior to connection. Note that instruments cannot be connected while in the charger.

Insert Noahlink Wireless in a USB slot on the fitting PC and wait for the message that new hardware has been found. Then open ReSound Smart Fit.

ReSound LiNX Quattro 62
ReSound LiNX Quattro 62 hearing instruments require fresh batteries when fitting. Remove the stickers from the batteries to activate. Wait for two minutes before using the batteries for best results.
Wireless fittings: Insert a Noahlink Wireless in a USB slot on the fitting PC.
Wired fittings: Ensure that the programming interface (Speedlink, Hi-PRO USB or NOAHlink) is connected.

Launch ReSound Smart Fit. For new fittings, ReSound Smart Fit begins in the Smart Launcher.

Smart Launcher

Both ReSound Aventa and ReSound Smart Fit are contained within one software installation. The Smart Launcher will detect ReSound LiNX Quattro, LiNX 3D and ENZO 3D hearing instruments as well as ReSound Aventa legacy instruments, and then retrieve the software appropriate for the connected device(s).

1. For ReSound LiNX Quattro rechargeable 61, reboot the devices by placing them in the charger and removing them. Or, reboot by pressing and holding the push button for 5 seconds until the LED light flashes 3 times. This indicates the instrument is 'off'. Press and hold again until the LED lights up indicating the device is in the 'on' position.

2. Click 'Connect' in the upper right of the Smart Launcher screen.

Select instruments

The hearing instruments will appear in the 'Select Instruments' section.
1. When the hearing instruments to be programmed have been identified, select them by checking the box to the left of each instrument.
2. Assign the hearing instruments to the right and left ears by choosing the correct radio button for the right and left sides. When pressing 'Beep Instrument', an audio signal will be played and the LED will flash. It is recommended to beep the instrument to verify that side designation is accurate.
3. Select 'Continue' in the lower right of the screen once the hearing instruments have been selected and assigned.
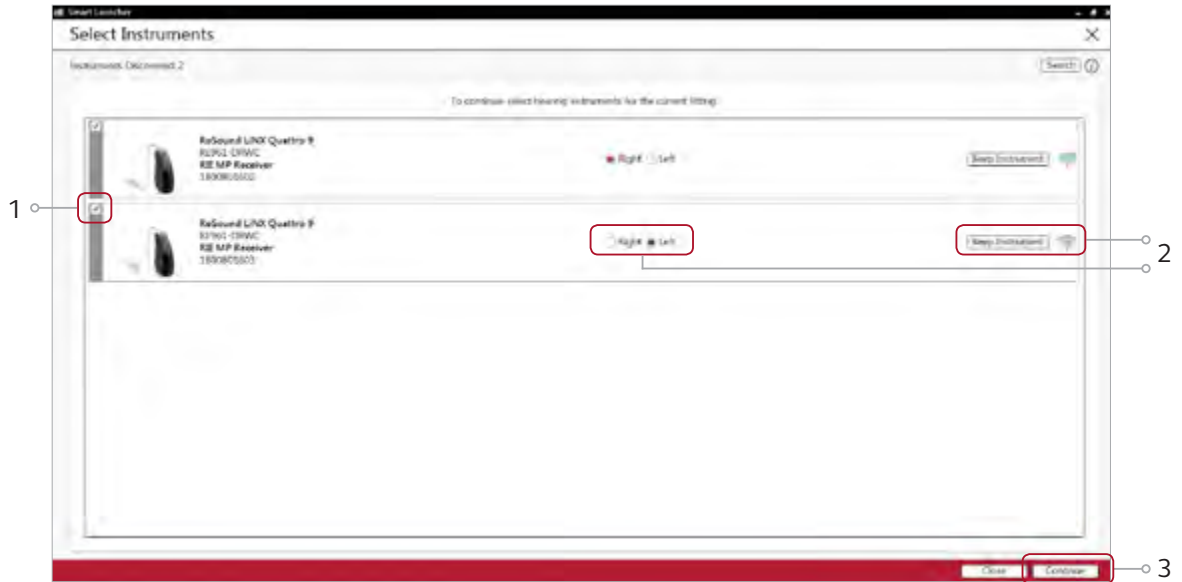
Connection process will land the software in Patient profile screen

4. Select Patient Experience Level based on the patient's amplification history.

4 ○————
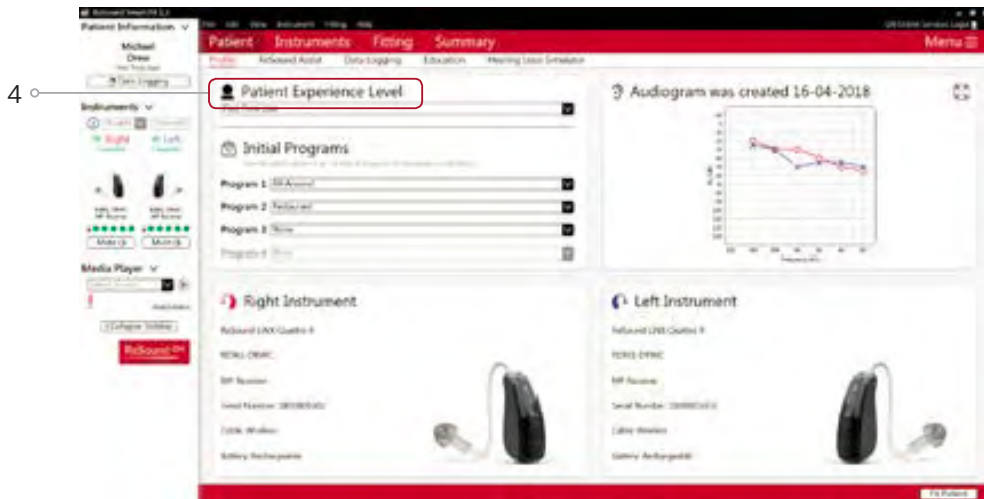
5. Verify that Physical Properties set in the software match the ones on the hearing instruments. Physical Properties screen can be accessed as follows:
   - Click on Instruments under the red ribbon
   - Click on Physical Properties under the white ribbon.
   - Select the Earpiece from the dropdown menu.
   Note: Other Physical Properties (such as tube length or dome size) can be set for documentation purposes.

5 ○———— ————○ 5
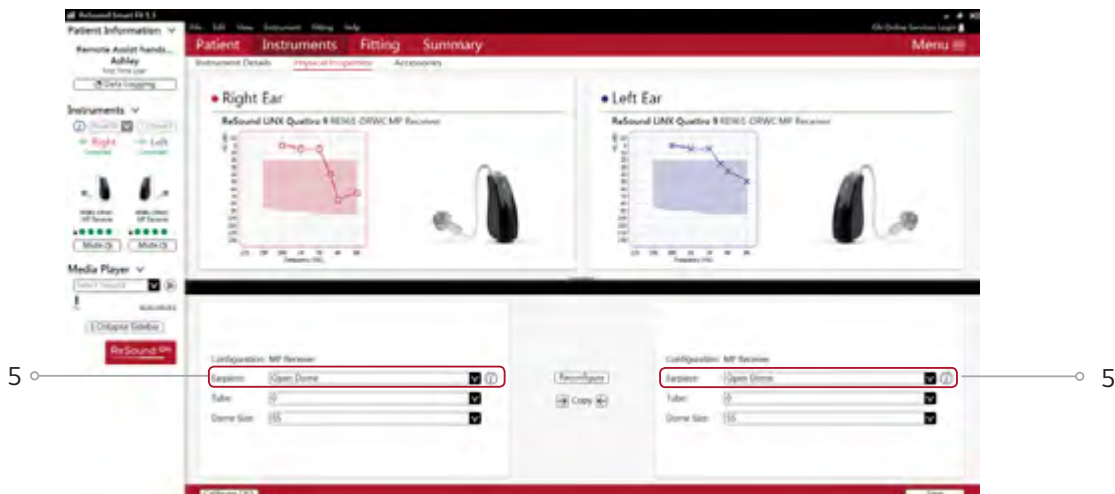
6. It is very important that device calibration is performed for each patient for each hearing aid. Patient Calibration screen can be accessed as follows:
   - Select Fitting from the red ribbon
   - Click 'Calibrate DFS', from the bottom left of the Fitting Screen
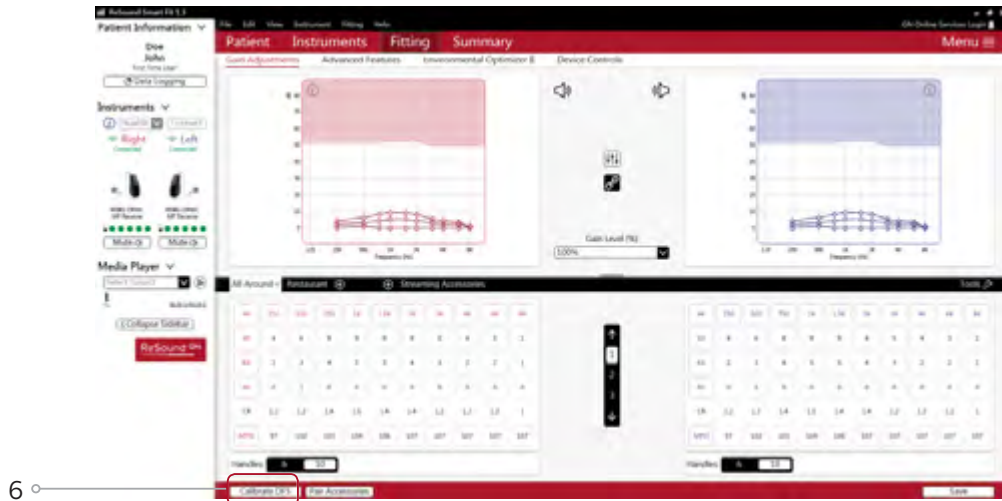
7. Calibration of the hearing instruments will activate DFS Ultra II. Inform your patient that he or she will hear a buzzing sound and should sit still and quiet during calibration. Click 'Calibrate' in the lower right corner. When calibration is complete, click 'Close'.
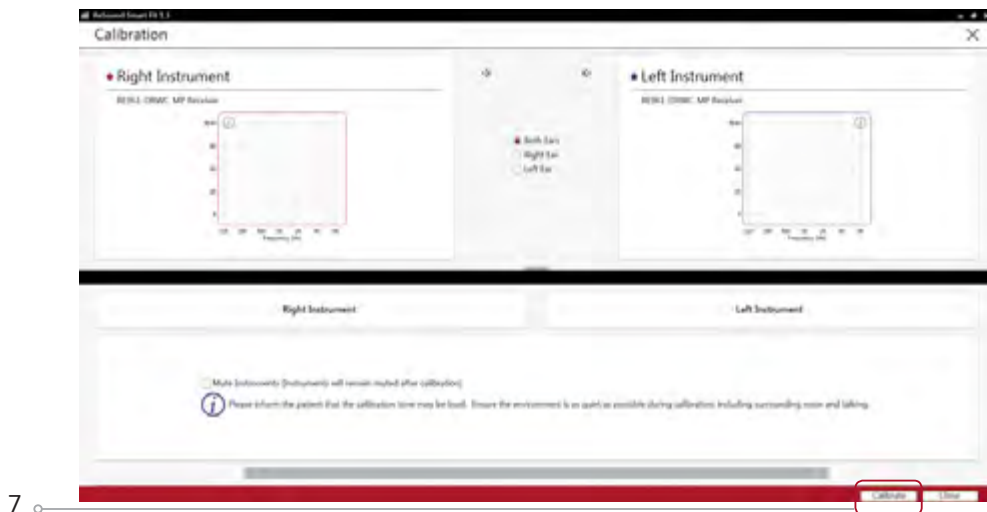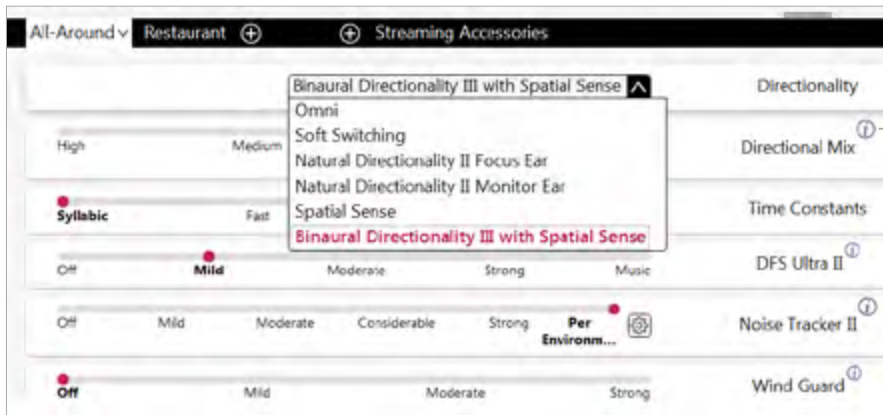
Fitting software screen with calibration completed.
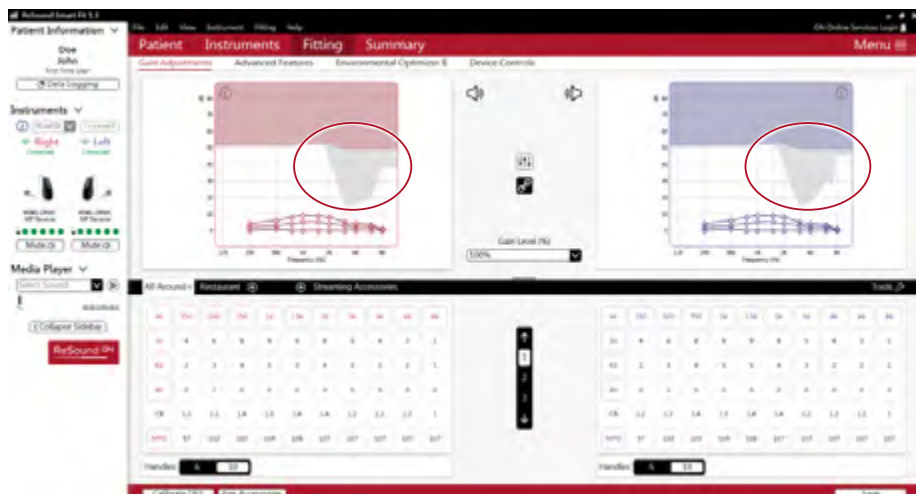
Advanced features

Advanced feature settings can be modified by selecting the appropriate drop down menu or by moving the slider to the desired level. These feature settings apply only to the currently selected program.

> **Note:** Click the information icons for a short explanation of the feature. Some information text may be clickable and redirect to an in depth explanation and video.

Directionality

Binaural Directionality III: Leverages ReSound's 2.4 GHz wireless technology to allow the hearing instruments to work together, dynamically selecting the best microphone response for the listening environment. Possible configurations are bilateral omnidirectional, bilateral directional or an asymmetric omnidirectional and directional response, depending on the analysis of speech and noise detectors from both hearing instruments. This provides the optimal combination of speech understanding in noise plus a more natural sense of surroundings.

Natural Directionality II: The Focus (directional) ear and Monitor (omnidirectional) ear are prescribed based on the audiogram and any speech audiometry data that may be available.

Spatial Sense: An omnidirectional microphone response which mimics the human ear's natural response to sound, which preserves spatial cues and helps with the localization of sound sources.

Soft Switching: Seamlessly enables and disables AutoScope/MultiScope Adaptive Directionality™ depending on the listening environment. The response can be either omnidirectional or directional, based on whether noise is present and the direction of speech in the listening situation.

Auto Scope: Adaptive Directionality enables the beam width to automatically widen or narrow depending on the acoustic surroundings.

Directional Mix

All directional microphone modes have both omnidirectional and directional processing through the frequency spectrum. The setting determines the degree of directionality in the output of the hearing instrument(s). Directional Mix applies omnidirectional processing below a crossover frequency and directional processing above that frequency. The default setting is prescribed depending on the hearing instrument model selected and the degree of low frequency hearing loss. If the patient is still experiencing difficulty hearing in noise increasing the directional mix may help.
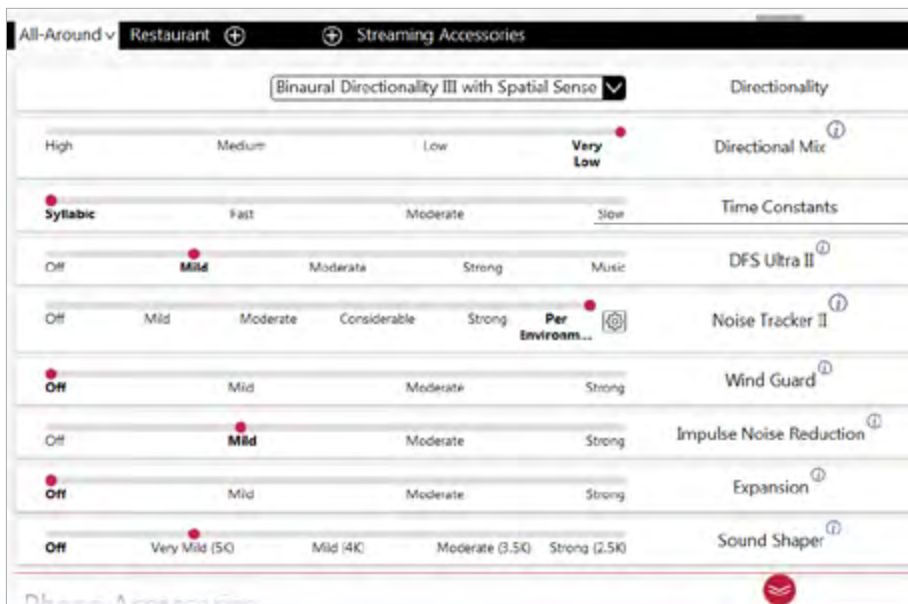
By scrolling down or pulling up the lower part of the Advanced Features screen, all the features available for the connected hearing aid can be viewed.

DFS Ultra II

This is the feedback control. It is activated when the devices have been calibrated for DFS Ultra II. The default setting is Mild. Adjust the setting to a stronger level (Moderate or Strong) if concerns for feedback arise. The Music Mode setting is a Mild setting, typically used for music programs or if the patient experiences feedback only when tonal sounds occur (for example, from a musical instrument).

Auto DFS

Auto DFS is a feedback control setting that is activated automatically before the hearing instrument has been calibrated for DFS Ultra II. Once DFS Ultra II has been calibrated, this setting is grayed out, and cannot be reselected unless the hearing instrument has been restored to factory settings. Auto DFS is designed for use when a patient is unable to return to the clinic for the fitting, and the hearing instrument is instead shipped to the patient from the hearing care professional. It applies a mild level of feedback cancellation, but as the feedback system has not been calibrated for the patient's ear, Auto DFS may not be as effective at controlling feedback as a Mild setting of DFS Ultra II.
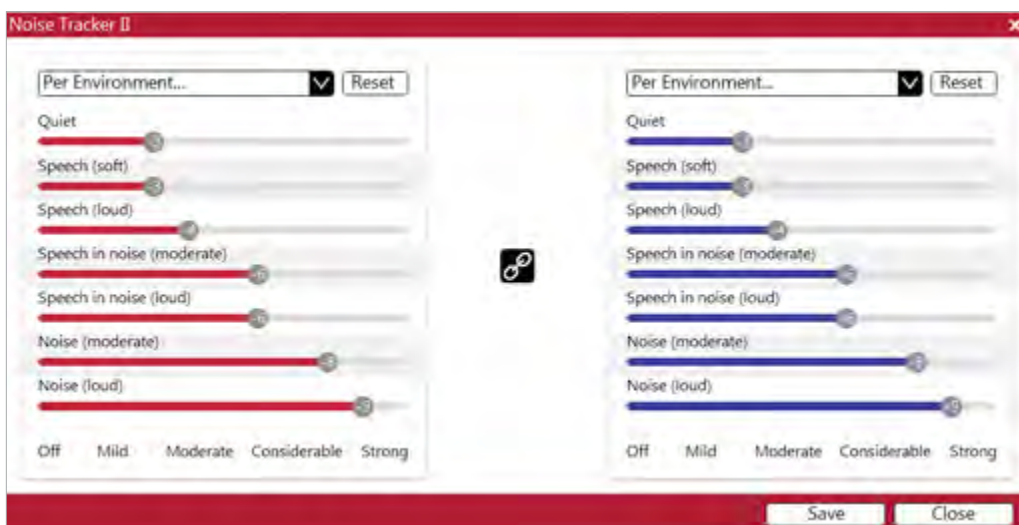
Noise Tracker II

Noise Tracker II noise reduction uses spectral subtraction to reduce noise between words and syllables in many real-world noisy environments. The Per Environment setting allows for personalized noise reduction settings in seven environments. The environments include Quiet, Soft Speech, Loud Speech, Moderate Speech in Noise, Loud Speech in Noise, Moderate Noise and Loud Noise, and classification is performed on a continuum if the listening situation has characteristics of more than one listening environment. If a patient is reporting specific issues such as hearing conversation in restaurants, for example, the hearing care professional can precisely increase the Noise Tracker II setting only for restaurant-like environments, including Moderate Speech in Noise or Loud Speech in Noise. This maintains the setting for other environments, permitting a great amount of fitting precision and personalization. Alternately, the Mild, Moderate and Strong settings of Noise Tracker II apply the same level of noise reduction for all listening environments, when noise is present.

Impulse Noise Reduction

Sudden impulse sounds can be uncomfortable for those using hearing instruments. Impulse Noise Reduction detects the loud impulse sound and attentuates it instantaneously. The feature can be set to three different degrees, with mild as the default setting. Increasing the setting will decrease the threshold to which the feature will react, or in other words, increase the aggressiveness. Stronger setting will also increase the amount of attenuation.

Wind Guard

Wind Guard applies noise reduction specifically for windy situations. The default setting is off. If a patient is experiencing too much wind noise, increase the setting to a stronger level. If the patient experiences the hearing aid becoming quiet occasionally in outdoor situations, reduce the setting to a milder level.

Sound Shaper

Sound Shaper applies proportional frequency compression to the fitting. Higher frequencies are lowered to a more usable or audible range for the patient. As patient candidacy criteria for the use of frequency lowering is based on many factors, the default setting is off. However, if the hearing care professional perceives the patient could benefit from frequency lowering, in the case of continued difficulties with speech recognition or previous success with frequency lowering features, Sound Shaper can be activated.

Low Frequency Boost

Should a patient fitted with an Ultra Power device feel that the sound is not full enough or loud enough, low frequency boost is a quick way to increase the low frequency gain from 250 – 1000Hz.
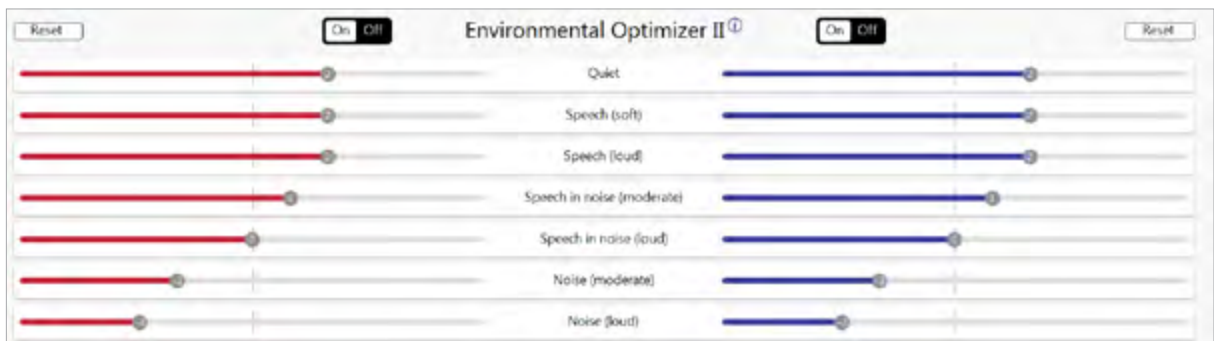
Phone Accessories

Features related to the streamed sound from a Phone Clip+, or a smart device that is capable of direct streaming, are located at the lower portion of each environmental program tab. Streamed sound will inherit the gain settings of the environmental program that is being used during the time of streaming. While the phone accessory features can be adjusted within the individual program tabs, it is important to note that settings are applied across programs, therefore phone accessory features changes made in one program will also be reflected in others. Please note when viewing Data Logging the time spent streaming from the phone will be collected within the manual program that is being used during streaming.

Environmental Optimizer II

Environmental Optimizer II allows specific gain adjustments for seven different environments, ensuring the user receives optimal gain and noise reduction settings as the acoustic environment changes. Classification is performed on a continuum if the listening situation has characteristics of more than one listening environment. With binaurally fit wireless devices the hearing instruments will optimize and synchronize the Environmental Optimizer II settings for a binaural fitting. If a patient experiences difficulty in a particular listening environment adjust the sliders to assign environment specific gains without requiring a manual program change.

Pairing wireless accessories

The Accessories screen can be accessed in the final step of the connection flow at the bottom of the fitting screen, or in the Accessories tab of the Instruments navigation item. All accessories must be charged or plugged in, and turned on during the pairing process.

1. Click 'Add' beneath the accessory to be paired.

2. Once the searching pop-up appears, press the pairing button on the accessory with a small pointed object such as a pen tip or paper clip. Follow the pairing instructions displayed.
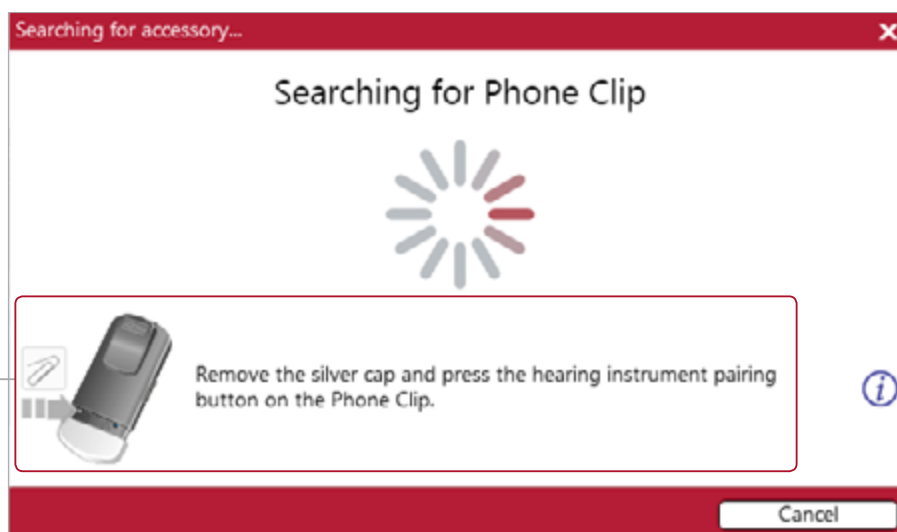
3. When the accessory is successfully paired, the accessory image will appear in color. The 'Add' button will change to a 'Remove' button.

Fitting screen

On the Fitting screen, adjustments can be made to gain, advanced features, and more.

1. Access to advanced features and instrument controls is also found on the Fitting screen. The tabs below the red navigation bar will provide access these tools.

2. Gain adjustments can be made to one or several frequencies by selecting frequencies between 250 Hz and 8,000 Hz on the gain grid and then by clicking the up and down arrows found between the right and left ear grids. Gain can be adjusted for soft, average, and loud input levels which alters the average compression ratios noted above the MPO.

    Gain adjustments can also be undone and redone within the same program. These changes can then be applied to other programs using Autorelate. After using the Autorelate function in one program, you can continue to undo and redo within that same program, however, you will no longer be able to undo and redo changes in other programs. Similarly, if you use Autorelate in one program and select another program, undo and redo will no longer be available to make additional changes in any program.

3. Additional tools and features can be found in the upper right menu.

4. Programs are listed in the program tabs. Select the '+' to add additional programs. Program tools can be found in the tab on the far right.

5. Click the 'Save' button to save the fitting to hearing instruments and in the software.

6. Wireless accessories can be paired both outside and inside the software. To pair inside the software select 'Pair Accessories' to access the accessories screen. Be sure that the accessory is charged or plugged in, and turned on during the pairing process.

7. For LiNX Quattro Rechargeable RIE 61, the power level of the hearing instrument batteries is displayed in the collapsible sidebar. The green dots indicate the amount of charge left in the devices, as is also shown on the charger itself.

Completing a follow-up fit
with ReSound Smart Fit

Prior to connecting to ReSound Smart Fit

ReSound LiNX Quattro rechargeable hearing instruments can only be connected through wireless interface and cannot be connected with cables. Ensure that the instruments are charged prior to connection.

Insert Noahlink Wireless in a USB slot on the fitting PC and wait for the message that new hardware has been found. Then open ReSound Smart Fit. It is not possible for Noahlink Wireless to connect to hearing instruments that are actively connected to a smart device via Bluetooth. Ensure that the hearing instruments do not have an active Bluetooth connection to a smart device. This can be done by having the user turn off their smart device or disable the Bluetooth during the visit. If an active connection to Bluetooth is detected, ReSound Smart Fit will provide a reminder to deactivate the connection with the smart device.

Launch ReSound Smart Fit. For follow up fittings, the software that was used in the previous fitting will launch.

Upgrading a patient from legacy hearing instruments to ReSound LiNX Quattro

ReSound Aventa

If the patient has a legacy hearing instrument fit in the latest version of ReSound Aventa, then ReSound Aventa will open when you begin a new fitting.

1. Click the 'Go to Smart Fit' button in the left navigation panel to close ReSound Aventa and arrive at the Smart Fit Launcher.

2. Follow steps in the 'First Fitting' section of this guide.

ReSound LiNX Quattro hearing instruments cannot be fit using ReSound Aventa software.
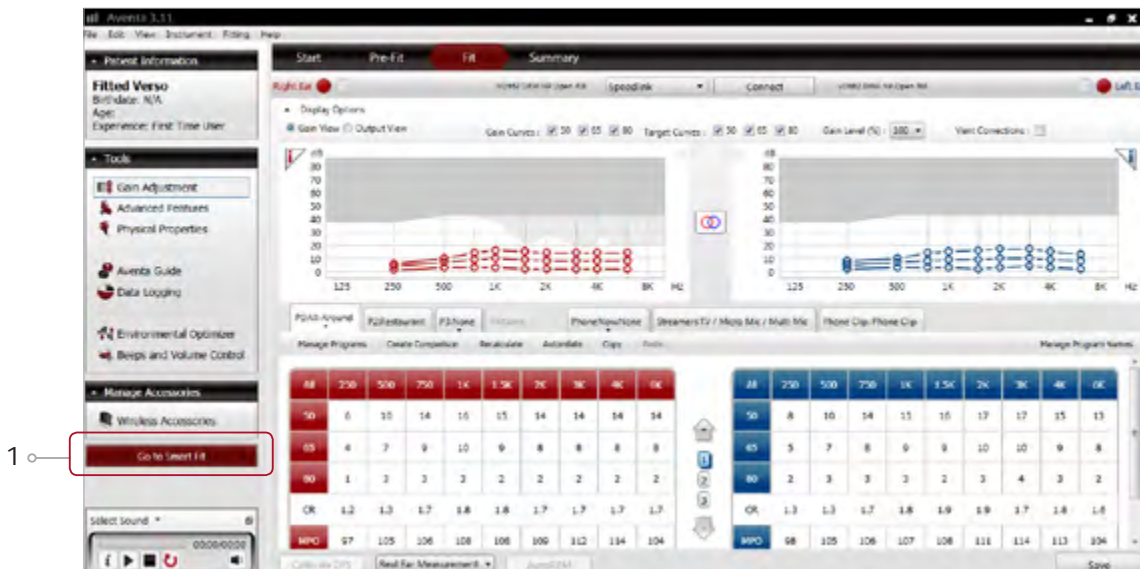
Note: To transfer from a previous fitting to a ReSound LiNX Quattro fitting, select 'Use Session' in the fitting data mismatch screen of the connection flow. To start a new fitting choose 'Reset to Initial Fit'.

Replacing one instrument in a pair

1. Open the saved session from Noah.
2. Select 'Connect' under Instruments in the collapsible side bar panel.

3. Place the original device and the replacement device in discovery mode by placing them in the charger and removing them.

    Alternatively, you can reboot the devices by pressing and holding the push button for 5 seconds until the LED light flashes 3 times. This indicates that the instrument is 'off'. Press and hold again until the LED lights up indicating the instrument is 'on'.

    Once both devices are 'on' and selected, click 'Continue'.
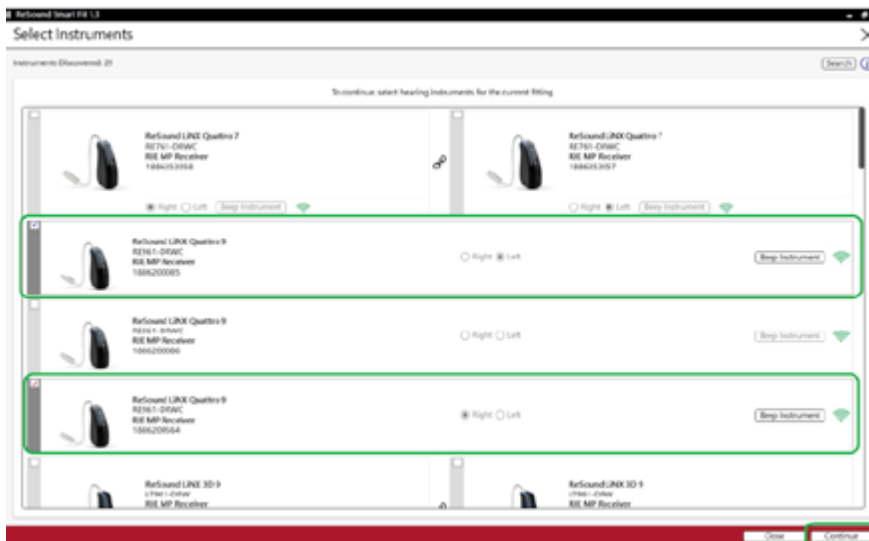
4. Follow the connection flow to the fitting screen.