

Say Hello to ReSound LiNX



ReSound LiNX

ReSound LiNX™: Introducing a Game Changer



- The world's first **Made for iPhone** hearing aid with direct stereo sound streaming
- Taking **Surround Sound by ReSound™** to an unprecedented level with new premium audiological features
- Powered by **SmartRange™** - our new chip with 3rd generation 2.4 GHz wireless technology
- ReSound's smallest wireless RIE ever



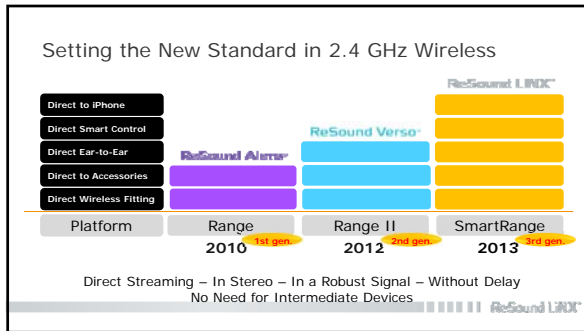
ReSound LiNX

Setting the New Standard: 2.4 GHz Wireless Leading the Wireless Revolution



Direct Streaming – In Stereo – In a Robust Signal – Without Delay
No Need for Intermediate Devices

ReSound LiNX



New SmartRange Chip Platform: The Powerful Engine of ReSound LINX™

- Dual-core DSP and wireless platform in one with direct 2.4 GHz technology
- Fastest hearing aid platform in the world
- Wireless Ear-to-Ear processing in real time
- 3rd generation 2.4 GHz with Made for iPhone taking the wireless user experience to a whole new level

ReSound LINX

Surround Sound by ReSound


MODEL	CLEAN	BALANCE	STABILIZE
<ul style="list-style-type: none"> • WARP • Classifier 	<ul style="list-style-type: none"> • NoiseTracker II • Personalized Noise Reduction • Wind Guard • Expansion 	<ul style="list-style-type: none"> • Directionality – multiple options including Binaural Directionality • Environmental Optimizer 	<ul style="list-style-type: none"> • DFS Ultra with Whistle-Control • Music Mode

Advanced technologies Model, Clean, Balance and Stabilize the signal

ReSound LINX

ReSound LINK™

Top-Rated Sound Quality



DELTA SenseLab

Sound Quality That's Second to None

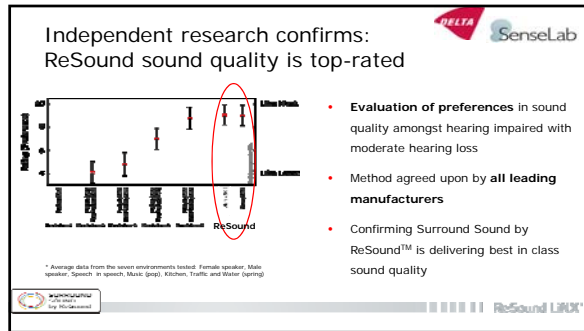
- Research Site: Delta / Sense Lab, an independent research laboratory located in Denmark
- Objective: Evaluation of sound quality preferences
- Subjects: Individuals with mild-to-moderate sloping hearing losses with age ranging from 64-80 years
- Products: Premium technology instruments from top six hearing instrument manufacturers

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Sound Quality That's Second to None

- Listening Situations: Seven Listening Scenarios
 1. Female Speaker
 2. Male Speaker
 3. Speech Babble
 4. Pop Music
 5. Kitchen Work
 6. Moderate Traffic Noise
 7. Small Spring in Forest
- Ratings: Like-Least to Like-Most Scaling for preference ranking on bass, treble, naturalness, reverberation, loudness, dynamics, artifacts/distortion

ReSound LINK™



...and the best just got even better
ReSound LINX™ takes Surround Sound by ReSound™ to an unprecedented level

- **Synchronized Acceptance Manager** for easy adaptation
- **Sound Shaper** – frequency compression makes the inaudible audible with less distortion

ReSound LINX™

Synchronized Acceptance Manager

- Set the aid such that a final target fitting is reached after the specified time.
 - Initial and final gain targets
 - Duration of time to reach final gain targets by setting hours of use per day and number of days/weeks for total duration. These properties can also be used to speed up the progress of the algorithm.
- The algorithm then increments the gains in a linear fashion with a speed that is based on the duration selected.
- What is new compared to before is that this algorithm now has e2e capability such that, when synchronized, the adaptation progress will be kept the same between the two devices.

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Synchronized Acceptance Manager

Gradual and automatic increase of gain in the hearing aid over time.

2.4 GHz ear-to-ear communication ensures synchronized adaptation progress.

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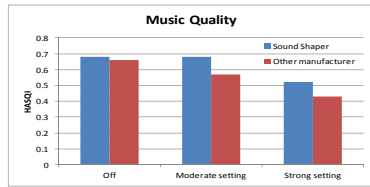
ReSound Sound Shaper™

More speech cues with less distortion

- ReSound's new **frequency compression** algorithm
- Provides audibility of important **high frequency speech cues** to people with high frequency losses or dead zones
- Distortion is significantly lower giving an audible difference

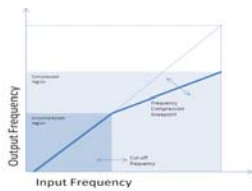
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Comparison to other approaches



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ReSound Sound Shaper™ Details

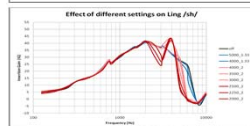
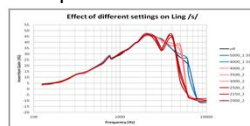


- Move high frequency sounds that may not be audible due to high frequency losses or dead zones and move these down in the frequency spectrum where audibility might be better
- This is implemented via controls for two key parameters in Aventa: Frequency Compression Kneepoint and Ratio

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Development of Sound Shaper™

Setting(s)	Cut-off (Hz)	CR
100%	400	1.0
1 (default)	5000	1.13
2	1000	1.13
3	4000	2
4	1000	2
5	4000	2
6	1000	2
7	1000	2
8 (default)	2000	2



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Applying Sound Shaper™

- It is difficult to determine who might be a candidate for frequency lowering thus, Aventa will always default for Sound Shaper to be off
- If the fitting professional decides to activate Sound Shaper, Aventa will recommend a setting when the hearing loss is significant.

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Applying Sound Shaper™

- If the audiogram has a slope of 10dB or greater per octave and the slope begins a 4000Hz or higher, a "Mild" setting is recommended.
- If the audiogram has a slope of 10dB or greater and the slope begins at 3500Hz, a "Moderate" setting is recommended
- If the audiogram has a slope of 10dB or greater and the slope ends at 2000Hz, a "Strong" setting is recommended



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Sound Shaper™: Specifics for Each Setting

Sound Shaper Setting	Cut-off frequency and Compression Ratio
Mild	4000Hz, CR 1.33: 1
Moderate	3500Hz, CR 2.0: 1
Strong	2500Hz, CR 2.0: 1

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Aventa: Sound Shaper



When Sound Shaper is activated a grey area in the gain graph will appear indicating the cut-off frequency and the frequency range that is compressed.

ReSound LUX

Hardware - Cosmetics and Size

Battery size

- 312

Controls

- PB on device
- VC functionality through RC accessory or apps only

Isolate Nanotech

Small size

- Maximum flexibility in the smallest package
- Discrete behind the ear design for minimum visibility

Replaceable Housings



ReSound LUX

Hardware: Receiver Portfolio

- S Receiver – 50 dB
- NP Receiver – 55 dB
- HP Receiver – 65 dB
- UP Receiver – 75 dB
- Power fitting via new **Ultra Power (UP) receiver**
 - Addition of the new UP receiver along with the current receivers allow us to fit 95+% of all hearing losses offering more flexibility than previous products
 - SPBTE fitting options are also available specifically for this UP receiver (Compressor Types, AGCO settings, Low Frequency Boost)



ReSound LUX

Compressor Types

Which compression mode and output limiting should you choose?

- Linear compression mode with "Soft" peak clipping is advised to use with mixed hearing losses and severe-to-profound hearing losses with linear amplification experience.
- Change to "Hard" peak clipping in case of a profound hearing loss with previous linear amplification experience or in case of a profound hearing aid user who wants more power. Hard peak clipping allows maximum output, but introduces some distortion.
- WDRC can be used with any type of severe to profound hearing loss.

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Ultra Power (UP) Receiver: Low Frequency Boost

- Allows more perceived loudness by increasing the low frequency gains
- Provides more options to the fitting in terms of fitting closer to profound hearing losses
- Implemented as a few simple options in the fitting software for allowing various levels of predefined low frequency gain increases (off, low, medium, and high).
- As in the previous features, this is not available outside of UP receiver fittings.

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ReSound LINX

**Easy, Direct Access to Sound,
Entertainment and Communication**



ReSound LiNX: Fully Compatible with All ReSound Unite
2.4 GHz accessories



ReSound Unite™



DIGITAL

ReSound LiNX™

...and it's more than just an exceptional hearing aid

- Offering benefits for the hearing impaired exceeding those of people with normal hearing...



"...with the help of wireless stereo headphones that just happens to be your hearing aids – requiring no additional hardware."

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ReSound LiNX

+1 million

ReSound LiNX

The ReSound Smart App: Full control and personalization at your fingertips




- Control the hearing aids directly from the iPhone
- Adjust all sounds streamed to the hearing aids
- Discreet program and volume change
- Match individual sound preferences for treble and bass
- Geo-tagging: associate a program to a favorite location
- And much more

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The ReSound Smart app




Full control and personalization at your fingertips

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