

WIDEX ALLURE™ AI RIC WITH CLARITY BOOST SPEECH INTELLIGIBILITY BENEFITS IN HIGHLY REALISTIC SOUND ENVIRONMENTS

Widex Allure AI RIC aims to deliver the best of both worlds: natural hearing for everyday use with the Universal program and superior speech clarity in noisy environments with the AI-powered Clarity Boost program. This study evaluated the user benefits of Widex Allure AI RIC in listening situations that closely resemble the real world, by reproducing a 3D sound field in a laboratory setting. Significantly better speech intelligibility was achieved with the Clarity Boost program than with the Universal program when speech was coming from either the front or side. Additionally, significantly better speech intelligibility was achieved with both Clarity Boost and Universal programs than with another leading manufacturer with AI-based denoising. These results confirm and further strengthen the superior speech clarity achieved with Clarity Boost in noisy sound environments.

Key findings

- Allure AI RIC with Clarity Boost significantly improves speech understanding over Universal in highly realistic sound environments when speech is coming either from the front or side.
- Allure AI RIC with Clarity Boost achieves, on average, 9.6% better speech intelligibility than another leading manufacturer with AI-based denoising when speech is coming from the front in realistic sound environments.

Method

- 30 adult listeners with mild to moderately severe sensorineural hearing loss.
- Speech intelligibility was measured in a highly realistic 3D sound field (Figure 1) with three hearing aid conditions (Universal, Clarity Boost, and one other manufacturer).
- Four listening conditions were tested:
 - Challenging listening condition (50% correct threshold, SRT50), with target speech from either the front or side.
 - More manageable listening condition (SRT50 + 3 dB SNR), with target speech from either the front or side.



Figure 1: The speech-in-noise test was performed in the Spatial Audio Laboratory, consisting of 45 loudspeakers placed on 4 rings.

Results

In challenging listening conditions (SRT50), participants achieved:

- Significantly better speech intelligibility with Clarity Boost than with Universal and the other manufacturer for side targets.

In more manageable listening conditions (SRT50 + 3 dB SNR, Fig.2), participants achieved:

- Significantly better speech intelligibility with Clarity Boost than with Universal for target speech from either the front or side.

In both listening conditions with frontal targets, significantly better speech intelligibility was obtained with Clarity Boost and Universal compared to the other manufacturer.

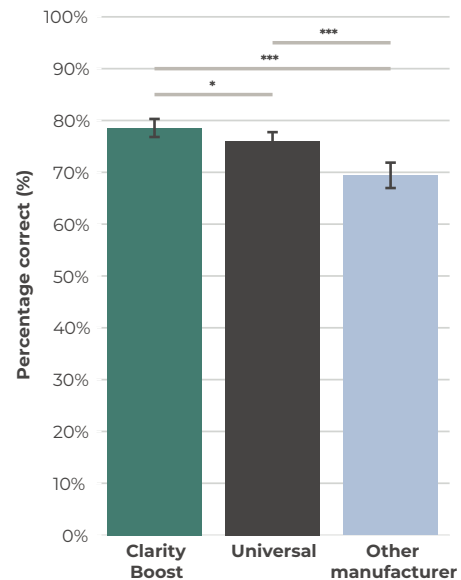


Figure 2: Mean speech-in-noise performance measured at SRT50 + 3 dB SNR (frontal target) for Widex Allure AI RIC (Clarity Boost; Universal) and another manufacturer.

Clinical implications

Widex Allure AI RIC with Clarity Boost empowers users with the option of enhancing speech understanding in noise when speech is presented from either the front or side.