

## Spatial Sound 2.0 organizes the sound environment and maximizes intelligibility

Spatial Sound is designed to improve speech understanding in complex environments by maintaining the natural auditory cues the brain uses to organize the sound scene.

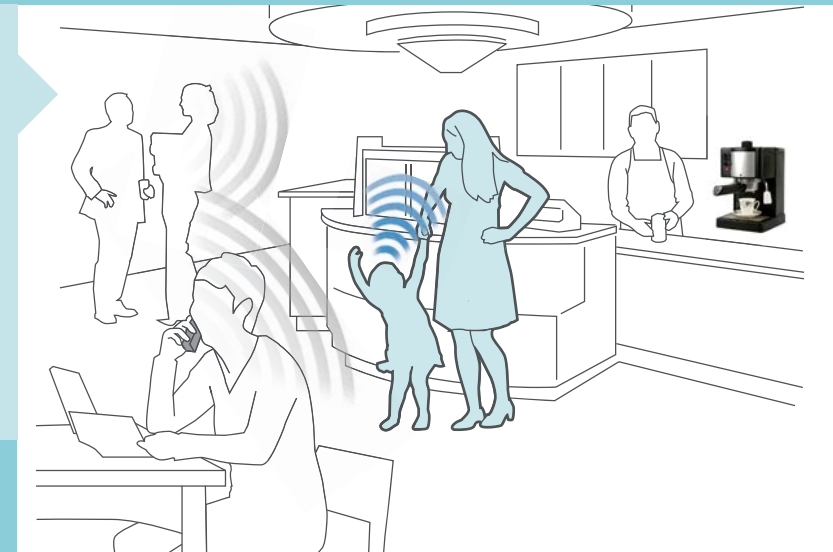
The majority of listening situations encountered by hearing instrument users have signal conditions that tend to be similar on either side of the head. In these situations Spatial Sound helps to ensure the natural auditory cues are preserved. The three components of Spatial Sound: binaural compression, extended bandwidth and RITE (Open) fittings work together to facilitate the preservation of the fine differences between the ears which are key to organizing where the various sound sources in our environment are coming from.

However there are times when people encounter asymmetric situations (the signal-to-noise ratio is significantly different on either side of the head). In asymmetric listening situations the auditory system naturally directs our attention to the side of the head with the better signal-to-noise ratio. Hearing aids can potentially disrupt this natural process by overemphasizing the signal on the side with the poorer signal-to-noise ratio. In Oticon Agil, a new technology,

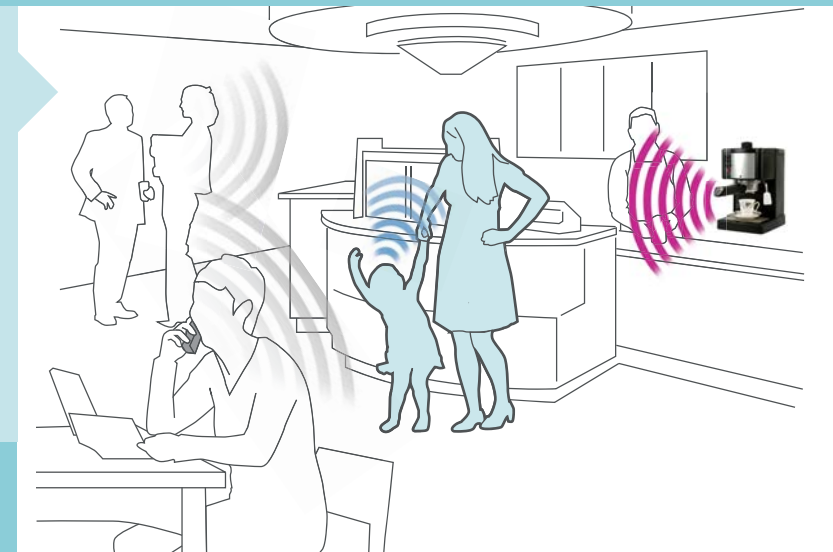
Binaural Noise Management, has been added to the Spatial Sound system to assist Agil users in these situations. When binaural noise management is determined to be appropriate, a series of adjustments are made to maximize the audibility in the ear with the better signal-to-noise ratio and to suppress the noise in the ear with the poorer signal-to-noise ratio.

### Spatial Sound 2

Spatial Sound 2 in Agil preserves spatial cues and supports the process of organizing various sound sources as illustrated in this coffee shop.



The coffee machine to the listener's left is producing excessive noise as compared to the child's voice. The wireless Binaural Noise Management system detects the dramatic change in the SNR between the ears.



### Binaural Noise Management

The Binaural Noise Management System in Spatial Sound 2 attenuates the noise signal on the left ear and adds gain to the right to enhance the speech signal.

