

ReSound Develops *WindGuard* Dual-Microphone Wind Noise Reduction

New wind noise protection feature provides improved listening comfort for hearing aid users.

Bloomington, MN, July 20, 2011 - <http://www.gnresound.com> - ReSound, the technology leader in hearing aid solutions, has developed *WindGuard*, a dual-microphone signal processing technology designed to effectively reduce the level of wind noise in hearing devices.

Since wind noise is predominantly low-frequency and typically a greater problem for directional hearing aids, a significant amount of the wind noise problem is alleviated by ReSound's [Surround Sound Processor](#) because low-frequency sound inputs are processed omnidirectionally. However, wind noise still remains an issue for some users. *WindGuard* acts as a second line of defense against wind noise in both directional and omnidirectional microphone modes.

"Wind noise can create a frustrating listening experience for hearing aid users," said Tammara Stender, Senior Audiologist, ReSound. "Even at low wind speeds, high levels of turbulent noise can be created at the hearing aid microphones, adding significant noise that distorts the signal of interest."

[WindGuard](#) works by applying enough gain reduction in the frequency bands where wind is detected to provide listening comfort without disrupting the gain levels of the frequency bands that are unaffected by wind. The amount of gain reduction applied varies with the environment and the level of the wind noise, making the reduction as personalized as possible to the situation - without sacrificing audibility for other sounds.

WindGuard consists of two components: a wind detection module and a wind reduction module. In the detection component, only sounds below 3000 Hz are considered, since wind noise typically has a spectral peak around 100 Hz at high wind speeds. The amount of wind noise with respect to other sounds is calculated across both microphones by correlating the filtered outputs of each microphone. The wind reduction module's primary function is to apply gain reduction to specific frequency bands when wind noise is present and greater than 70 dB SPL.

"We conducted research trials to derive optimal settings for *WindGuard*," said Stender. "Users' comments were helpful in preserving good sound quality and audibility."

WindGuard will be available in September 2011 with the release of upgraded Aventa fitting software. For more information, visit <http://gnresoundblog.com/2011/07/20/windguard/>