

Active Noise Equalizer (ANE) technology on offer through a license agreement.

- **SCHEDA**
- **APPROFONDIMENTI**

Identificativo proposta: TOES20210727004

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A consortium of Spanish and Belgian researchers has developed a technology called Active Noise Equalizer (ANE). The technology has been developed for enhancing the noise control or mitigation experience in premium personal seats, with application in vehicles (train, aircraft, cars, boats, etc.) and home seats. The owners of the technology offer license agreement and technical cooperation.

Modern life is full of noise. Different sources of noise disturb interpersonal communications, concentration, and comfort. Being exposed to loud noise can even affect health. Environmental noise reduction using ANC (Active Noise Control / Cancellation) technology is well established in several industries. ANC headphones are succeeding in the market. However, ANC solutions for more than one user in open spaces remains a challenge. Active Noise Equalization (ANE) solves some of these challenges by shaping the perceived noise frequency spectrum according to the user's comfort, creating a personal noise profile at each seat. Therefore, less acoustic power is needed for a superior result. The technology has been developed by a consortium of Spanish and Belgian researchers. The invention uses extensively digital signal processing technologies by designing adaptive filters that shape the different frequency bands of the noise, in a manner similar to audio equalization. Active Noise Equalization (ANE) is a more refined technique than the complete cancellation used by ANC. ANE provides smart noise reduction when other audio signals (speech, music) are present in the same space. Multiple noise profiles with different equalizations per seat are collaboratively solved, improving the experience of every passenger. Adaptive filters are configured based in: • Reference of the noise acoustic signal (external). • Measured acoustic signal at every seat. • At least one parameter from adjacent seats. • Associated target spectral noise profile for the seat. Industrial applications: • Active Noise Equalization can be applied with advantages in the applications where ANC could be used, plus: • Open seats in trains, aircraft, boats dwelling homes. • Premium cars, hybrid, electric vehicle (EV). • Cabins in industrial, logistics, machinery, trucks. • Optimal for any professional audio company in leisure, comfort or safety applications. The owners of the technology look for industrial partners interested in acquiring this technology, which is on offer under a license agreement. Technical cooperation for further development or/and integration in seats or other products is also possible. For both types of agreement, the ideal partner would be an industry providing seats to all types of vehicles constructors (train, aircraft, boats, premium cars, hybrid cars, trucks, etc.). Also companies in the field of the optimal audio for leisure, comfort or safety applications, as well as premium furniture manufacturers (dwelling home audio).

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