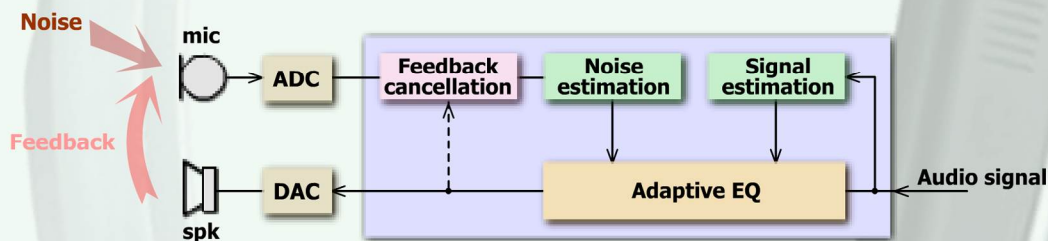


## Automatic Volume and eQualization control for Music and Entertainment

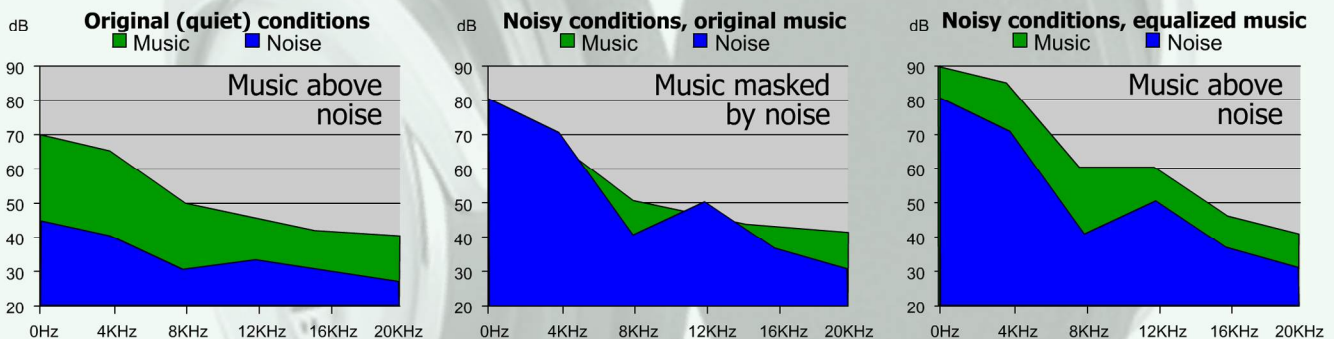
Comfortable reproduction of music in conditions with varying ambient noises requires constant changes in sound volume (with changes in noise level) and equalization (with changes in noise spectrum). Typical examples are listening music with portable digital audio player on-the-go and music reproduction in car environment. Today the listener is forced to tune the volume and equalizer manually which is at least not convenient but sometimes even dangerous.

Automatic Volume and Equalization control for Music and Entertainment (AVQ-Me) technology, being an extension of AVQ technology, amplifies and equalizes musical content according to ambient noise characteristics providing equal perceptual loudness, intelligibility and sound coloration in conditions where noise level and spectrum are changing dynamically. The technology is suitable for high quality music, audio devices of the "Hi-Fi" class and actually every application where sound and music are important such as modern mobile phones, digital audio players and portable gaming consoles. The technology greatly improves listener experience in mobile conditions.



AVQ-Me operation principle

AVQ-Me can be easily implemented into devices which have standard microphone input. The microphone is used to monitor the current noise conditions. Its signal is analyzed and the ambient noise parameters are extracted. A special Voice Detector is used to avoid user's own speech having influence on sound volume and equalization parameters. Simultaneously, the current signal parameters are analyzed and fed into the equalization block. This block dynamically amplifies parts of the signal spectrum masked by noise ensuring equal intelligibility and perceptual loudness in variable noise environments.



Principals of AVQ-Me technology

In spite of broad frequency range and high quality output, the technology is very compact having low MIPS and memory requirements. This makes it ideal for portable battery powered applications.