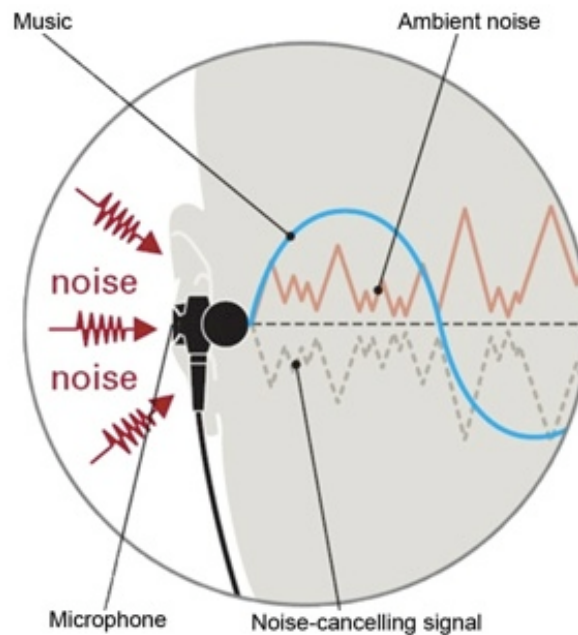


Active noise cancelling technology occurs when a microphone fitted on each side of your headphones records the background sound. This recorded signal is processed and played through the headphones in reverse phase. As $+1$ and -1 will make 0 , the ambient noise along with the reverse phase recording reduces the background sound. This leaves the listener to play music at a quieter volume and protects the ears from high sound pressure levels.



Effective noise cancellation makes the modern environment more pleasant and improves the audio experience in noisy places, or when travelling or commuting. Also more seriously, we tend to turn up the volume on our music devices in noisy environments to compensate, and prolonged exposure to loud noise can lead to hearing problems later in life.

We do not tend to think about ourselves as exposed to loud noise in our everyday life, but something as simple as turning up the volume of our music players to drown out the noise on the underground or a busy street may damage our hearing.