



NEXEO NOISE ABATEMENT FUNCTIONALITY

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Summary

HME's Nexeo Drive-thru communications platform is equipped with a feature known as Automatic Volume Control or "AVC" which can be used to reduce the outbound sound pressure level (SPL) based on ambient noise. When AVC is active (turned on), the microphone in the speaker post is used to measure the ambient noise level outside and adjusted the outbound (speaker) level to approximately 6 - 12 dB **above** the ambient noise, This feature will reduce the speaker level during quiet periods helping to satisfy local requirements.

- Basic Audio Measurements Terms
 - SPL – Sound Pressure Level
 - dBa – Measurement of audio in decibels A-weighted
 - Zero dBa – The lowest level a typical ear can hear

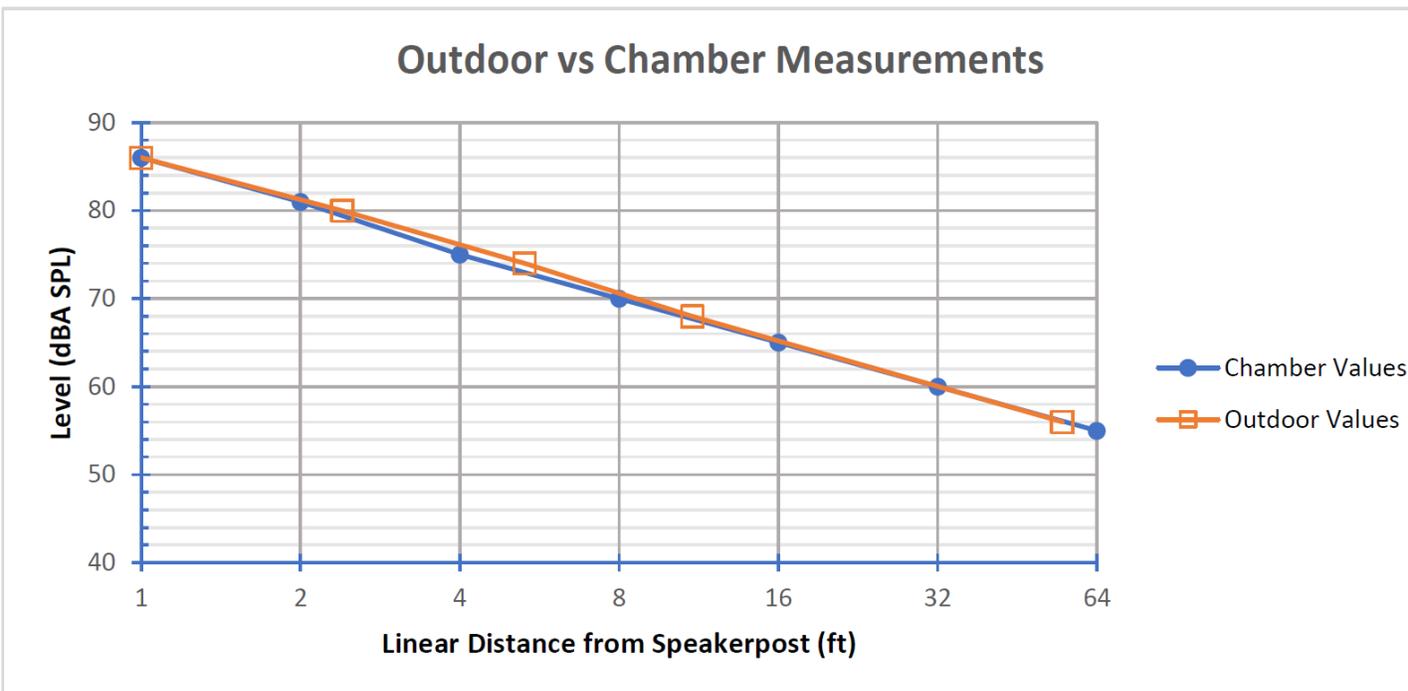


Figure 2 – Plots of SPL Measured Outdoors and in Anechoic Chamber

AVC Functionality

- AVC is calibrated to adjust the SPL measured at a point where the customer would order (speaker post). Since AVC adjusts based on the noise level measured at the speaker post, a noisy vehicle will drive the outbound level up. While a quiet car will drive the volume down.
- The AVC and Volume controls are password protected to prevent inadvertent changes.

Figure 3 is a graph of the relative difference between various outbound SPL levels from the speaker and the ambient noise level at different distances from the speaker.

- If the ambient noise level is 58 dBA, the Nexeo Audio system with AVC turned on would be 69 dBA at 1ft from the speaker.
- At 30ft the audio from the speaker would be at the same level as compared to ambient noise.

Each curve represents a different ambient noise level, and these curves assume that the ambient level is consistent throughout the measurement area. In the tested configuration, the outbound SPL was always less than the ambient level at distances greater than 30 ft from the speaker.

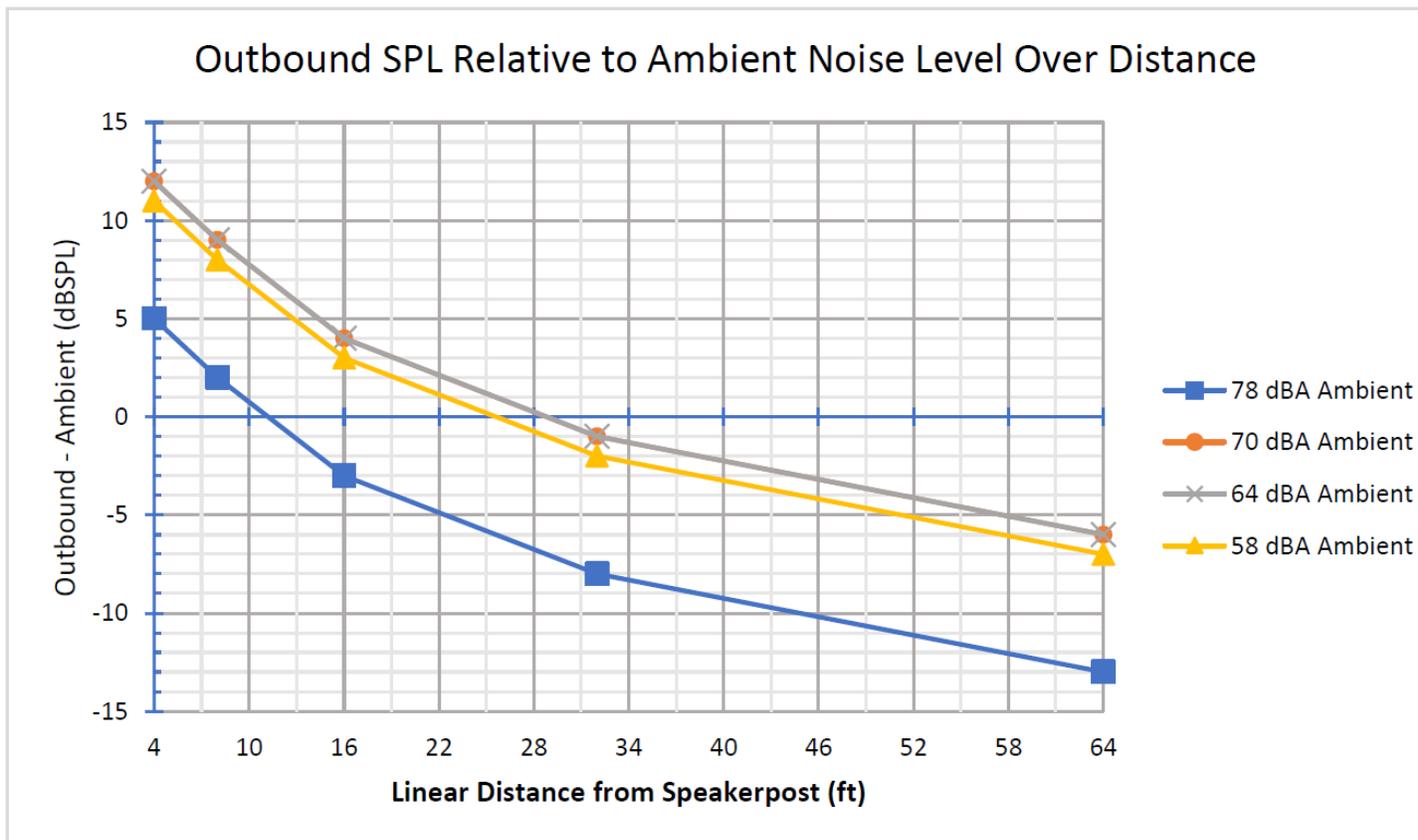


Figure 3 – Outbound Level Relative to Ambient for Various Ambient Noise Levels