



Designed to Perfection

NXT® DML Technology

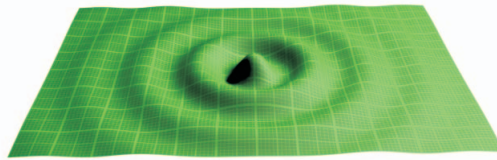
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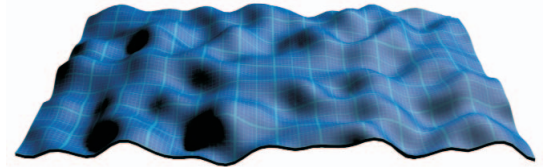
An Introduction to NXT® DML Technology

What is a DML? (Disributed Mode Loudspeaker)

Whereas a conventional loudspeaker uses a cone or dome diaphragm to produce sound, a DML uses a flat, lightweight panel. A conventional loudspeaker moves pistonicly, with the entire surface of the diaphragm moving in unison. A DML, on the other hand, has a very complex vibration pattern over its entire surface. DML's were invented and refined by NXT®, who patent and license this technology.



Propagation of pressure wave in air from conventional speaker

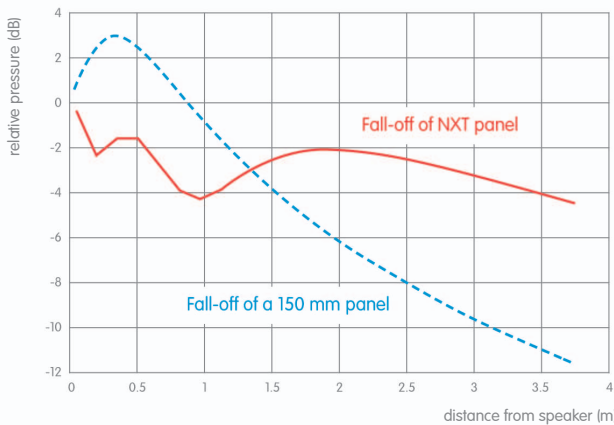


Propagation of pressure wave in air from DML speaker

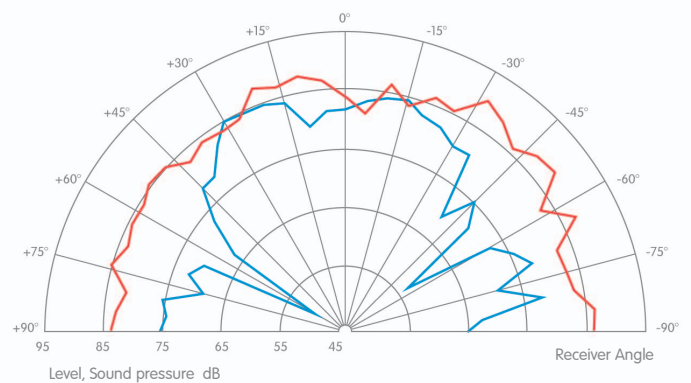
What are the characteristics of a DML?

A DML has some very useful and unique characteristics when compared to a conventional pistonic speaker:

- Very wide dispersion at all frequencies
- Reduced SPL drop-off with distance
- Reduced negative interference with room boundaries
- Predominantly resistive electrical impedance



Comparison of SPL drop-off with distance:
Conventional speaker (blue) DML (red)

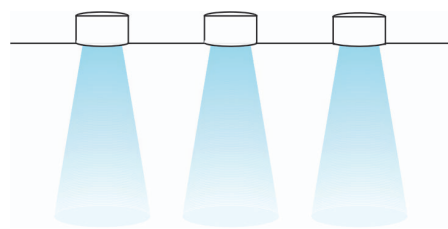


Comparison of polar responses at 4 kHz:
Conventional speaker (blue) DML (red)

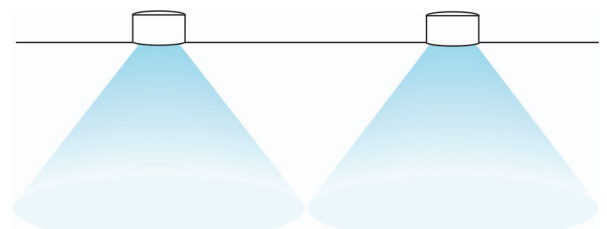
What are the benefits of a DML?

Whereas a conventional speaker tends to 'beam' at higher frequencies, a DML distributes sound energy over a very wide angle at all frequencies. This means that very high intelligibility and clarity are maintained over much wider angles than can be achieved with conventional technology.

- Hi-Fi quality sound can be achieved over wide listening angles whilst maintaining a good stereo image
- The thin physical profile of a DML can offer discreet and elegant installation solutions
- The acoustic radiation from a DML excites the reverberant field in a positive manner, giving higher SPLs in the far field
- Room reflections sum positively with a DML's output, allowing speakers to be placed virtually anywhere
- A DML's electrical impedance provides an easy load for amplifiers to drive
- Commercial installations can use less speakers due to the improved coverage



Conventional ceiling speakers showing beaming at high frequencies



DML ceiling speakers showing broader dispersion at high frequencies - less speakers can be used