

PERIPHERAL VISION

The Future Is Flat.

DML500 Speaker Info Sheet



Exclusive Distributor of

FlatPanel
AUDIO

What is DML?

- DML is a **revolutionary loudspeaker technology** that **embraces diaphragm resonance** instead of suppressing it, contrary to traditional loudspeaker design principles.
- It is based on **Distributed Mode Loudspeaker (DML)** technology, where the panel vibrates in a complex, pseudo-random manner over its surface.

Problems with Conventional Loudspeakers

- Rely on **pistonic motion**, meaning the diaphragm moves as a rigid unit.

This leads to:

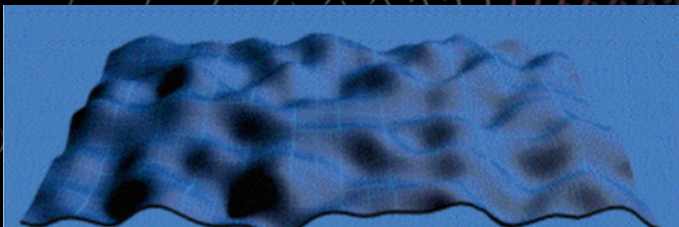
- Narrow sound dispersion (beaming) at high frequencies.
- Frequency-dependent directionality.
- Need for multiple drivers and crossover networks, introducing distortions and phase issues.
- Uneven room interaction and listener experience.

How DML Works

- Abandons pistonic motion for **distributed bending waves** across a flat panel.
- Generates sound using **multiple, overlapping resonant modes**, creating a random like motion.

Results in:

- **Omnidirectional radiation**, even from large panels.
- **Consistent sound** across different listener positions.



FlatPanel Audio

DML500



Years of R&D birthed a new loudspeaker technology systemintegrators are now using to solve room problems old-school loudspeakers worsen.

The resulting DML500 eschews pumping focused air pressure waves that point-source cone loudspeakers employ to create ear-fatiguing sound. Instead, non-destructive waves emerge wide and diffuse to more gently bathe the ear in pleasing, super-intelligible sound over almost eight octaves.

Even kinder on the ears: the DML500 measures 6dB lower despite perceived loudness equal to point-source. Especially noticeable in highly reverberant spaces, DML sound waves provide non-destructive room interactions, so free of room echo and comb filtering that one customer referred to the intelligibility improvement over their old church system as “mind boggling.”

Floor-to-balcony, stereo-stable imaging in every seat is another performance “wow,” making the DML500 the top choice for immersive audio. Superb power handling plus 165° conical coverage allowed an American airport to replace 104 traditional speakers with six DML flat panels.

Unmatched placement flexibility also optimizes aesthetic choices and quicker installations. Rugged construction includes a powder coated die cast aluminum enclosure with multiple VESA mounting points.

Applications

Churches, Educational facilities, Gymnasiums
Airports and transit, Performing arts centers,
Government facilities, Portable audio systems and
Immersive venues.

DML500 specifications

Frequency range (–10dB)	75Hz-20kHz
Frequency response (±6dB)	85Hz-20kHz
Horizontal/vertical coverage	165°
System sensitivity	92 dB
Rated maximum SPL	SPL 123 dB
System nominal impedance	8 ohms

Power handling

Continuous / program / peak	200W/300W/600W
Suggested high pass filter	90Hz Butterworth 2nd order

Drivers

FlatPanel transducer	4 x DML exciter
Voice coil diameter	32 mm
Voice coil winding wire	Copper-clad aluminum
Suspension design	Standard spider

Diaphragm design

Design principle	Bending wave modal
Radiator surface area	400 x 575 mm
Material	Carbon fiber honeycomb
Input connection	Neutrik Speakon® NL4 +1 /–1 Input, +2 /–2 Loop out

Physical

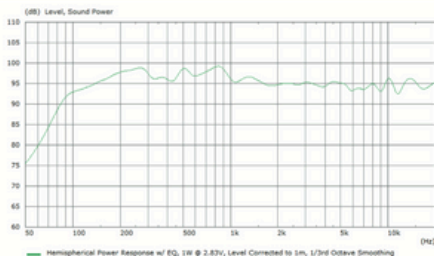
Outer dimensions (H x W x D)	21.6 in x 31.5 in x 3.5 in 550 mm x 800 mm x 90 mm
Outer frame	4 x MB 15.5 in x 19.13 in 395 mm x 486.5 mm
Rear grill	4 x MB 9.13 in x 7.95 in 292 mm x 202 mm
Weight	44 lbs / 20.3 kg
Shipping dimensions	27 in x 37 in x 8 in 650 mm x 800 mm x 250 mm
Shipping weight	51 lbs / 23.2 kg

FlatPanel Audio

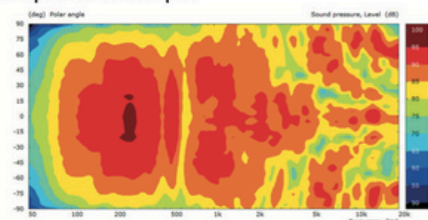
DML500

Hemispherical power response

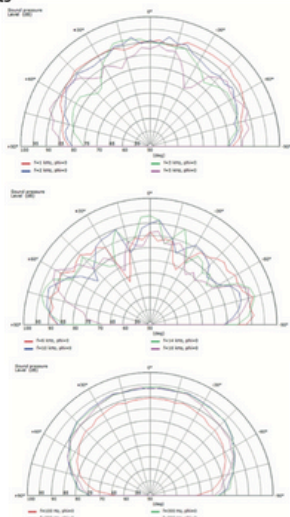
Due to the modal nature of DML loudspeakers, the best way to represent their acoustic characteristics is to measure their power response. Measurements are made at 5° intervals in both the vertical and horizontal axes, and averaging a total of 1349 measurements.



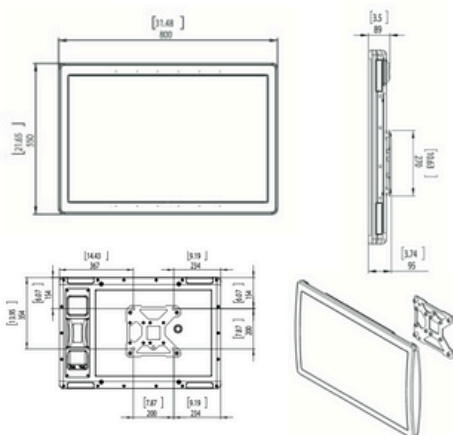
Hemispherical contour plot



Polar plots



High output Distributed Mode Loudspeaker (DML)



Accessories

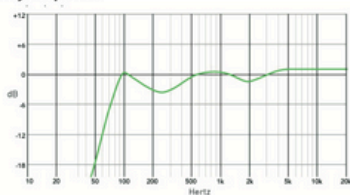
The DML500 includes an integrated VESA mount with a 200 x 200 mounting pattern suitable for M8 bolts. More information about mounting accessories and hardware is provided in the installation documentation.

Recommended filtering/crossover

The following are the initial recommended acoustic filters as implemented in all DML acoustic measurements. They also represent an EQ starting point for all field applications.

- High Pass - Butterworth 4th order (24 dB) @ 90Hz
- Peaking Filter - 95Hz / Q of 3 / Gain of 3 dB
- Peaking Filter - 265Hz / Q of 0.7 / Gain of -4 dB
- High Shelving Filter - 400Hz / Q of 0.5 / Gain of 2 dB
- Peaking Filter - 2800Hz / Q of 0.9 / Gain of -3 dB

Frequency response



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