

FlatPanel Audio

DML500

High output Distributed Mode Loudspeaker (DML)

Years of R&D birthed a new loudspeaker technology system integrators 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	Airports and transit	Portable audio systems
Educational facilities	Performing arts centers	Immersive venues
Gymnasiums	Government facilities	



DML500 specifications

Frequency range (-10dB) 75Hz-20kHz

Frequency response (± 6 dB) 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

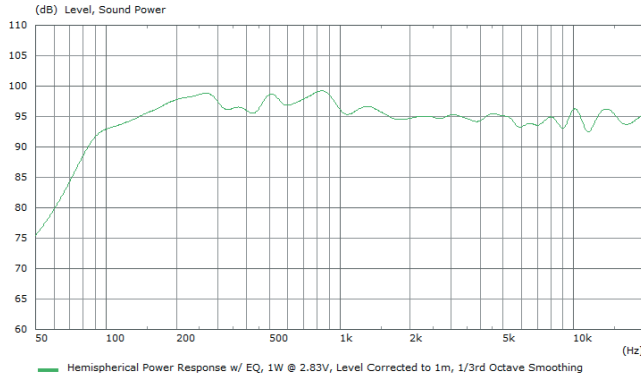
Shipping weight 51 lbs / 23.2 kg

FlatPanel Audio continually engages in research related to product improvement. Specifications are subject to change without notification.

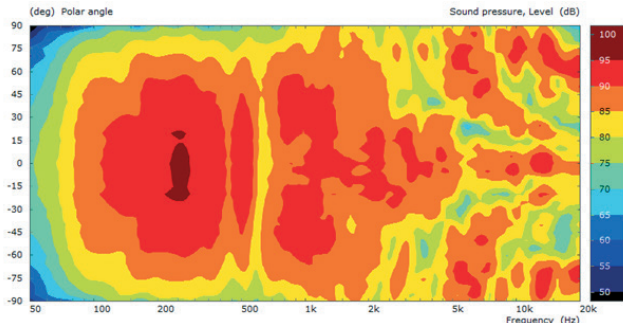
DML500

Hemispherical power response

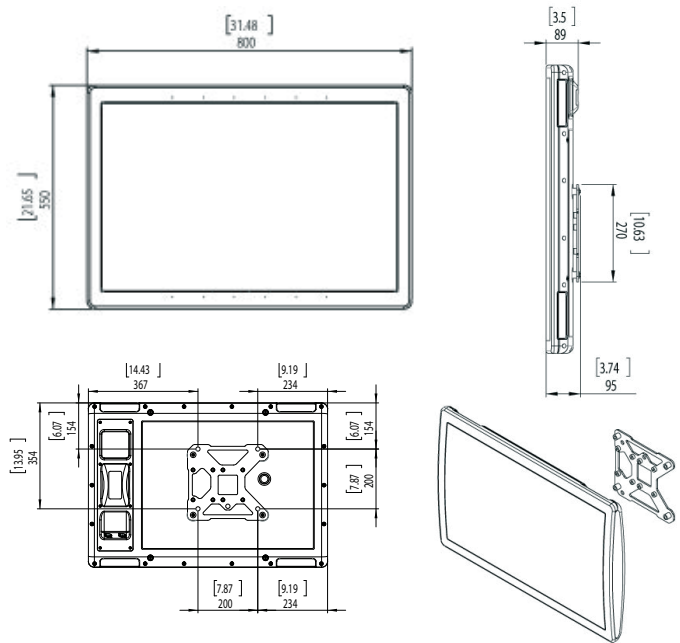
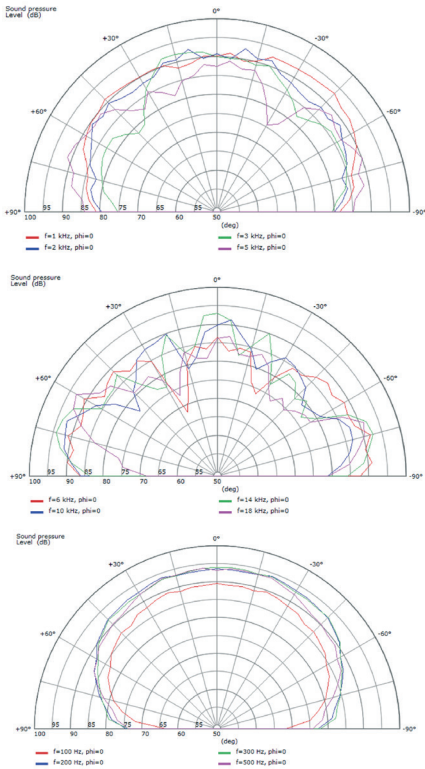
Due to the modal nature of DML loudspeakers, the best way to represent their acoustic characteristics is to measure their power response. Measurements are made at 5° intervals in both the vertical and horizontal axes, and averaging a total of 1349 measurements.



Hemispherical contour plot



Polar plots



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

