

# Tectonic DML500R High Output Distributed Mode Loudspeaker

## Features:

- High output distributed mode loudspeaker
- Large format carbon fiber acoustic panel
- Four high power exciter motor structures
- Operates on bending wave physics principles providing excellent diffuse acoustic performance and high intelligibility in challenging architectural environments
- Integrated multi use hardware with VESA mounting pattern
- Product is an acoustic module which can be integrated into a variety physical structures

## Applications:

- Houses of Worship
- Performing Arts Centers
- Sports Facilities
- Airports
- Retail Spaces
- Educational and Conferencing Facilities

The DML500R is a versatile sound reinforcement loudspeaker module which can be used in a variety of applications. The unit can be installed using the included VESA hardware or it can be integrated into custom metal or wood structures.

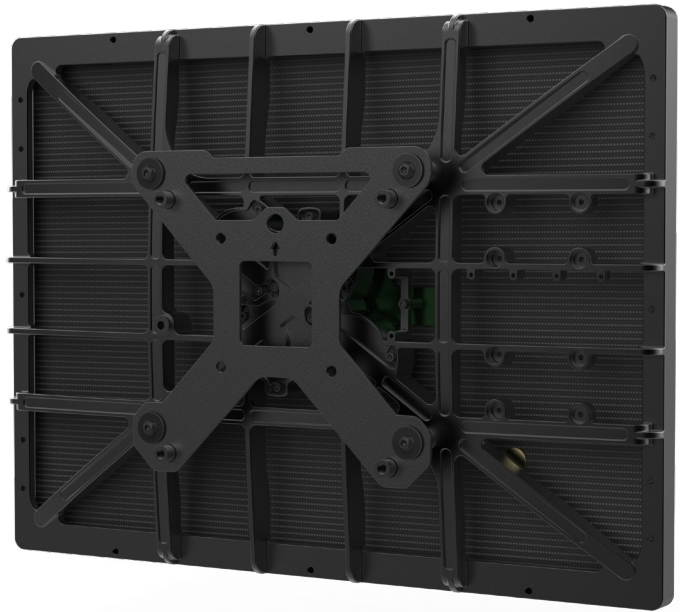
The DML500R delivers highly intelligible and immersive audio performance in even the most challenging architectural environments. Bending wave technology provides diffuse loudspeaker behavior that generates 165° of wide band acoustic coverage and excellent results in the reverberant audio field.

The main acoustical element is constructed of a multilayer honeycomb carbon fiber panel. The panel is driven by four high power, neodymium motor structures with 32mm voice coils.

The resulting DML panel uses bending wave modal physics to radiate audio over almost eight octaves over a wide audio band and with a distinctive diffuse behavior. These characteristics provide unparalleled audio performance when experienced in the reverberant audio field.

Additionally, the DML500R exhibits superb power response, which is the sum of the total radiated acoustic output of a loudspeaker as measured in a sphere around the speaker at incremental intervals on, and off, axis in the far (reverberant) field. Excellent off-axis performance results in a loudspeaker that delivers excellent 165° coverage.

The DML500R's physical construction features a powder coated die cast aluminum frame with multiple mounting points with a flexible mounting points and an included VESA bracket.



## Specifications:

### System

Frequency Range (-10dB)	75Hz-28kHz
Frequency Response (+/-6dB)	85Hz-24kHz
Horizontal/Vertical Coverage:	165 degrees
System Sensitivity:	92dB
Rated Maximum SPL (peak):	123dB
System Nominal Impedance:	8 Ohms

### Power Handling

(Continuous/Program/Peak)	(200W/300W/600W)
Recommended High Pass Filter (min):	90Hz (Butterworth, 4th Order)

### Drivers

Flat Panel Transducer:	4 x DML Exciter
Voice Coil Diameter:	32mm
Voice Coil Winding Wire Material:	Copper Clad Aluminum
Suspension Design:	Standard Spider

### Diaphragm Design:

Design Principle :	Bending Wave Modal
Radiator Surface Area:	400 x 575mm
Material:	Carbon Fiber Honeycomb
Input Connector:	Pigtail 18 AWG

### Physical

Outer Dimensions (W x H x D):	596 x 437 x 56mm (23.4 x 17.2 x 2.2in)
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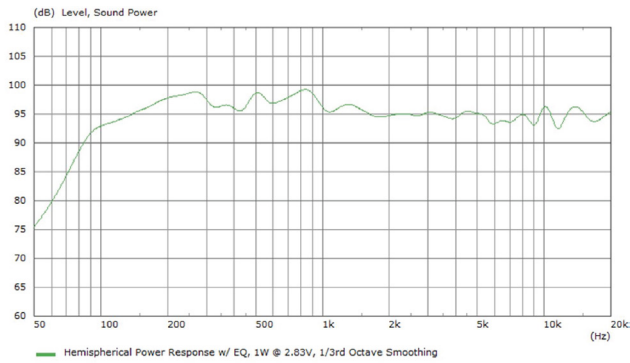
### Suspension Attachment

VESA Mount :	100 x 100 200 x 200.
Net Weight:	7.72kg (17lbs)
Shipping Dimensions:	800 x 650 x 250mm (31.5 x 25.6 x 9.8in)
Shipping Weight:	10.45 Kg (23lbs)

Tectonic Audio Labs continually engages in research related to product improvement. Specifications subject to change without notification

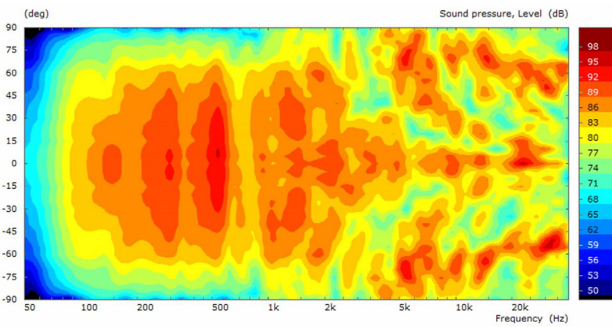
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## Hemispherical Power Response

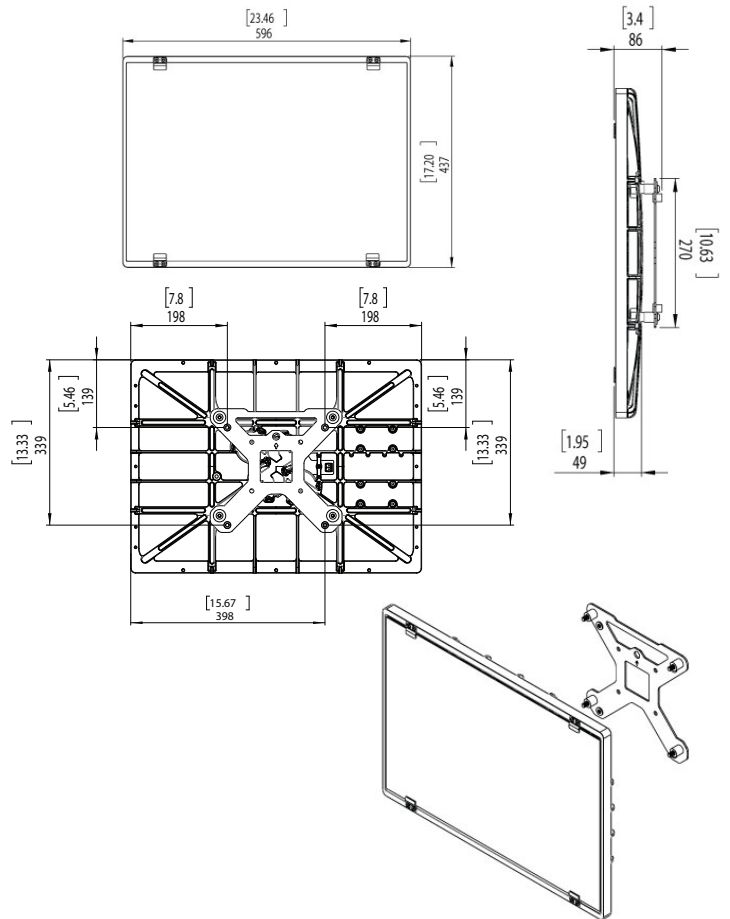
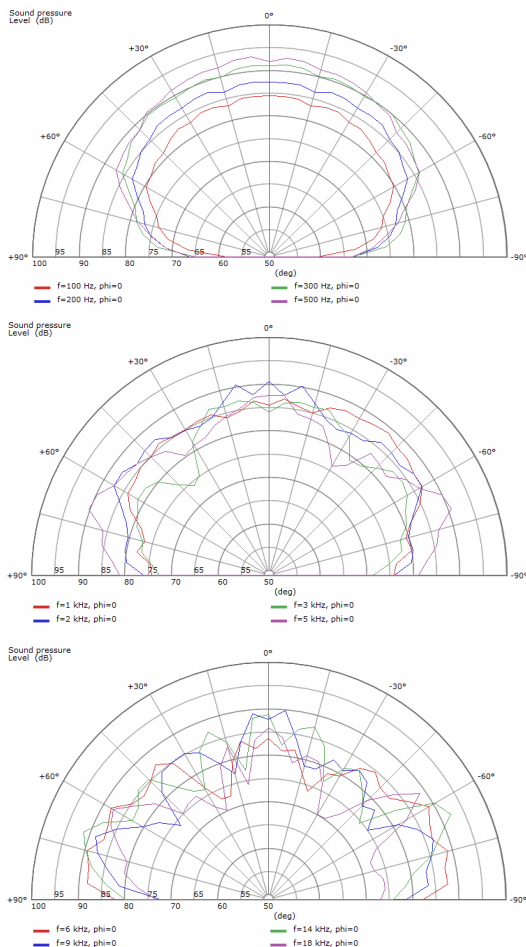


Due to the modal nature of DML loudspeakers, the best way to represent their acoustic characteristics is to measure their power response. Measurements are made at 5° intervals in both the vertical and horizontal axis and averaging a total of 1349 measurements. Please refer to our "Sound Power Response" application notes for further information.

## Hemispherical Contour Plot



## Polar Plots

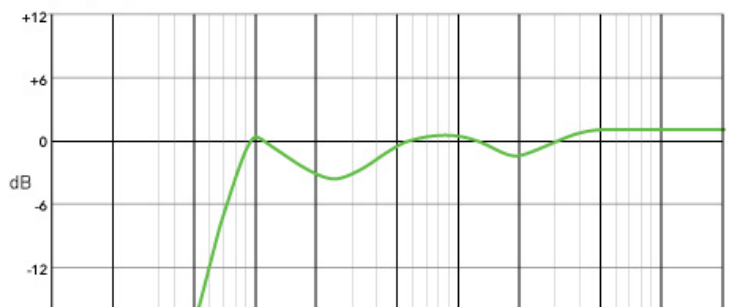


## Accessories -

The DML500 comes with an integrated VESA mount with a 200 x 200 mounting pattern suitable for M8 bolts. Please refer to additional installation information regarding additional mounting accessories and hardware.

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.

## Frequency Response



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



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