Elevation Series EL208

Synergy Horn Line Array Loudspeaker Enclosure

Features:

- Paraline High Frequency Horn Element (*patent pending*)
- Highly efficient Synergy Horn Design (*patent pending*)
- 15° Vertical Directivity (*flyware adjustable In 1° Steps*)
- 110° Horizontal Directivity
- Adaptive Flyware Bumper Adds Cabinets Below EL210T Array for Downfill
- System Bumper Available for Flying EL208T Arrays
- Designed and Manufactured by Yorkville Sound

Description:

The VTC Elevation Series EL208T line array cabinet uses proven Synergy Horn technology and VTC Pro Audio's patented Paraline Lens design to deliver an exceptionally flat frequency response and excellent directivity control in the most compact Elevation Series cabinet in the series.

Designed to be the ideal downfill cabinet for large-scale VTC Elevation Series concert systems, the EL208T can also act as a compact vertical line array enclosure for smaller venues or medium sized installations.

Two 8-inch low/mid frequency drivers are mounted to the Synergy Horn along with one 1-inch compression driver mounted on a Paraline horn element in the EL208T. This driver / horn arrangement uses the entire front area of the enclosure as the horn mouth for both mid and high frequencies maximizing horn size, and improving directional control at lower frequencies (longer wavelengths) while maintaining reasonable overall enclosure size.

Elevation Series enclosures are built in North America and use B&C 8-inch drivers, and BMS compression drivers mounted to the patented Paraline horn lens and 5/8-inch Baltic birch plywood cabinet construction.

Specifications:

Configuration	Passive Bi-amplified (processor controlled)
Driver Components (HF)	80 watt, 16 ohm driver - 1.75-inch annular polyester diaphragm w/1-inch exit - Neodymium magnet assembly
Driver Components (LF/MF)	400 watt, 16 ohm 8-inch woofer Neodymium magnet assembly (x2)
Continuous Power	HF: 80 Watts LF: 800 Watts
Nominal Impedance	HF: 16 ohms
	LF: 8 ohms
Frequency Response	65 Hz - 20 KHz (*with recommended DSP processing*)
Sensitivity (measured 1w/1m)	HF: 110 (*single cabinet measured in free space*)
	LF: 95 (*single cabinet measured in free space*) *(LF drivers connected in parallel)*
Calculated Max Output (Average)	HF=129
	LF=124
Nominal Coverage	Horizontal: 110° / Vertical: 15°
Vertical:	15° per cabinet, (total system vertical coverage dependent on number of elements used and configuration *(Recommended 3 box minimum)*
Enclosure Material	5/8-inch 11-ply Baltic birch plywood
Finish	Black ultrathane paint
Grille	Perforated, formed powder coated steel
Connectors:	Neutrik Speakon® NL4 in parallel (x2)
Pin Configuration:	Bi-Amp LF: 1+/1 / HF: 2+/2-
Attachment Points:	Integral, adjustable rigging system, vertical splay adjustable in 1° increments from 0° to 15°
Dimensions (DWH x backW, inches)	12.9 x 28.4 x 11.3 x 8.13
Dimensions (DWH xbackW, cm)	32.8 x 72.1 x 28.7 x 20.7
Weight (lbs/kg)	55 / 25

Specifications subject to change without notice.

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Technology Overview

Paraline Element

The Paraline element is a horn configuration that provides an effective impedance transformation while at the same time providing a way to adjust the path length in a continuously variable way, such that the high frequency dispersion pattern produced has the same characteristics as that of a much deeper conventional horn.

In order to have dispersion from two separate sources combine without interference, it is necessary to have each source produce a very specific radiation pattern. This is particularity true in a line array where the vertical dispersion angle of the high frequencies must be MUCH narrower and where a conventional horn design would be physically far too deep to be practical.

The Paraline element eliminates the impractical depth needed to make an array of conventional horns that would sum into a non-interfering source. In the case of the EL208T, a vertical dispersion pattern of 15° is achieved with a Paraline element less than one inch deep, where a conventional horn would be several metres in length.

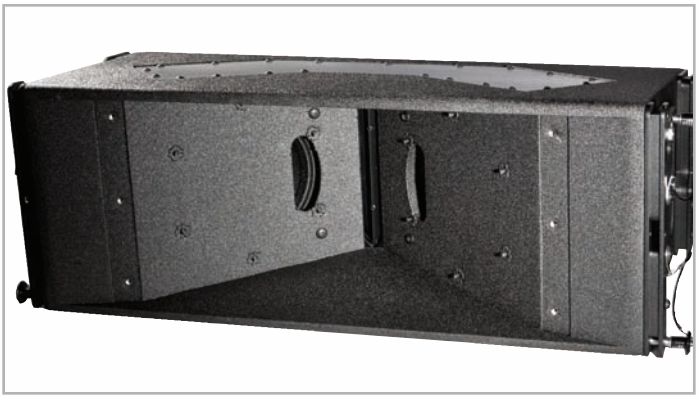
To control and maintain a well-defined horizontal dispersion pattern, the Paraline element is mounted on a conical horn.

Note: Technical Diagram is Elevation EL210 Paraline Lens

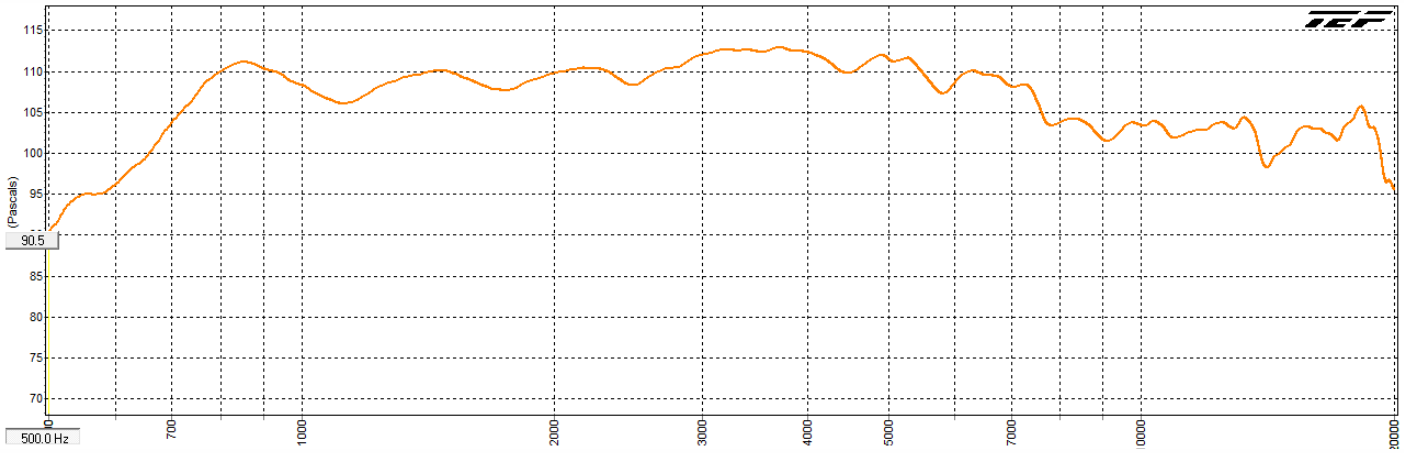
Synergy Horn

The Synergy Horn successfully couples the radiation from multiple drivers into a single horn configuration.

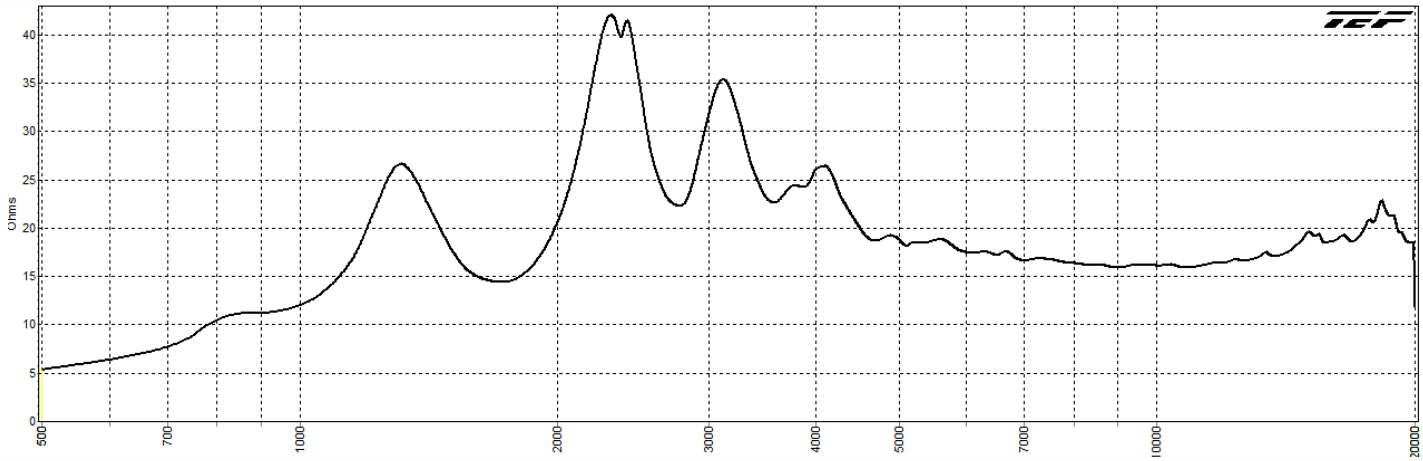
In the EL208, two 8-inch low /mid frequency drivers are mounted to the Synergy Horn along with two compression drivers mounted on a Paraline horn element. This coaxial horn arrangement uses the entire front area of the enclosure as the horn mouth for both mid and high frequencies. This maximizes the horn size, improving directional control at lower frequencies (longer wavelengths) while maintaining reasonable overall enclosure size.



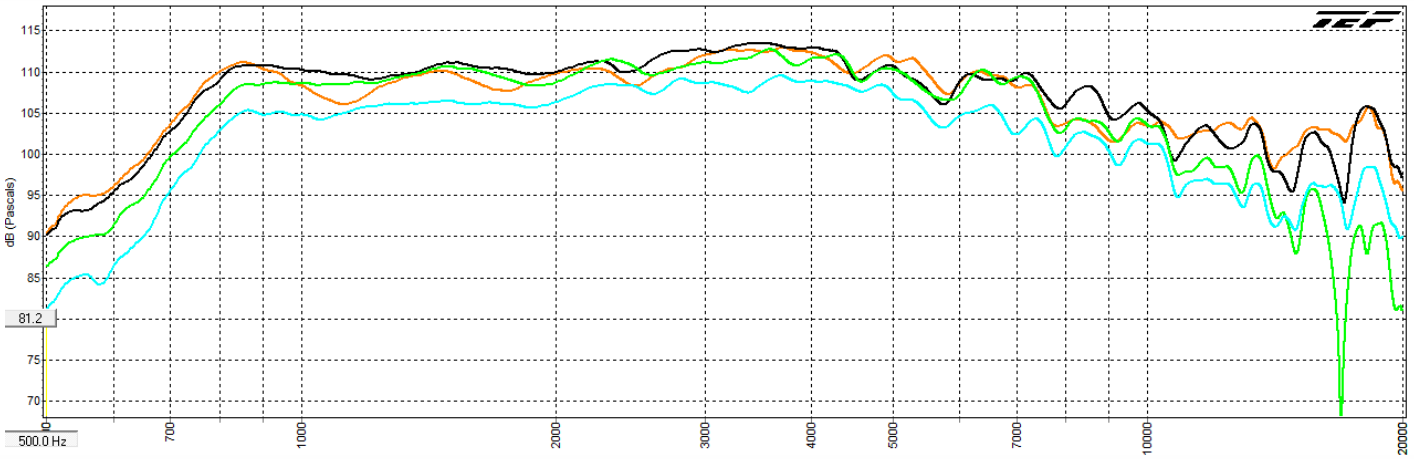
H.F Response Unprocessed
1w (4V) 1m Free Space



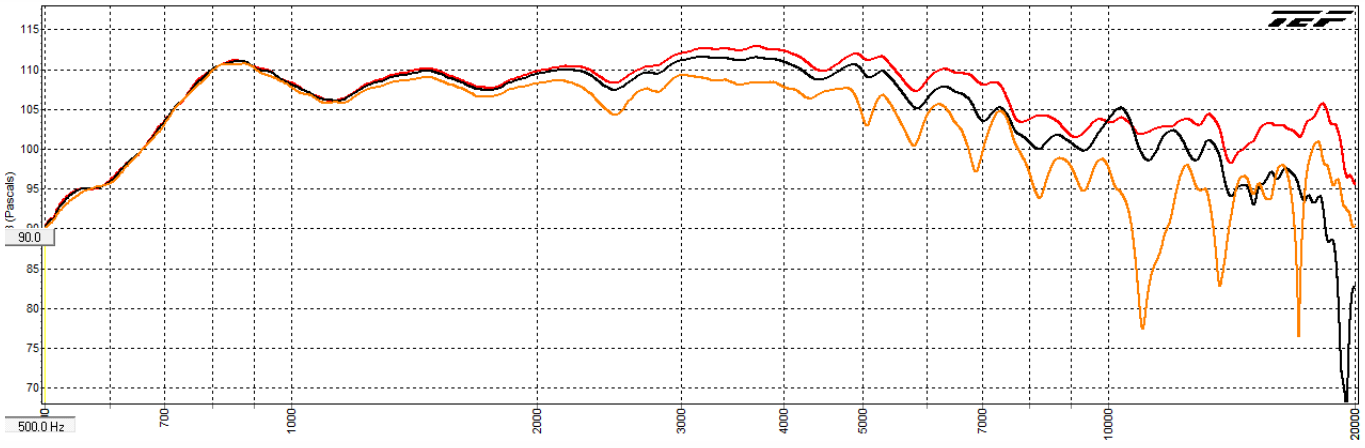
H.F Impedance
Magnitude



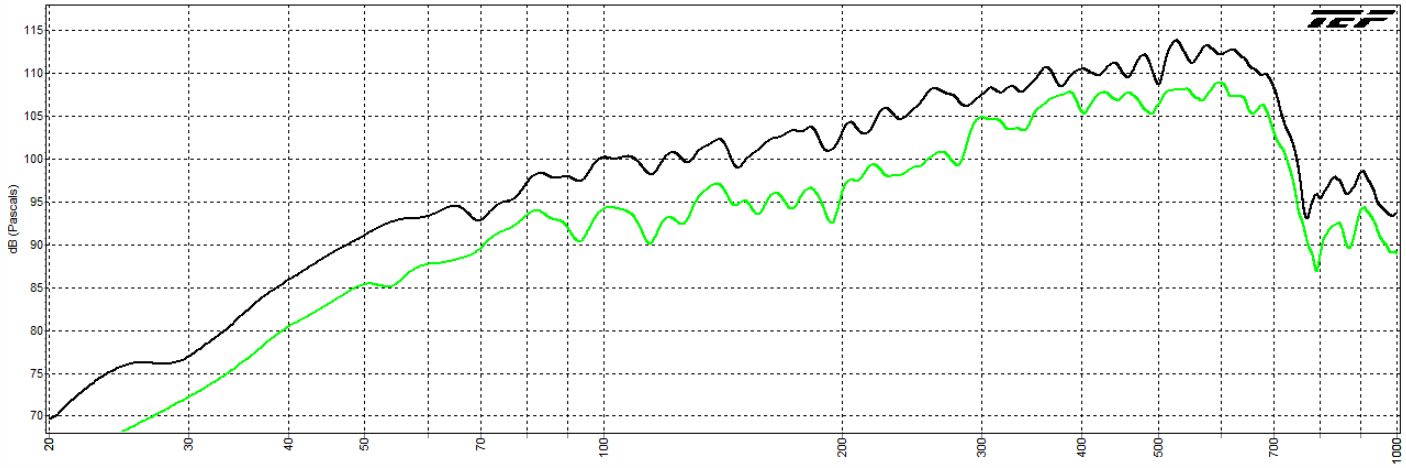
H.F Horizontal Response
Unprocessed Free Space
Black=0°, Orange=20°, Green=40°, Blue=55°



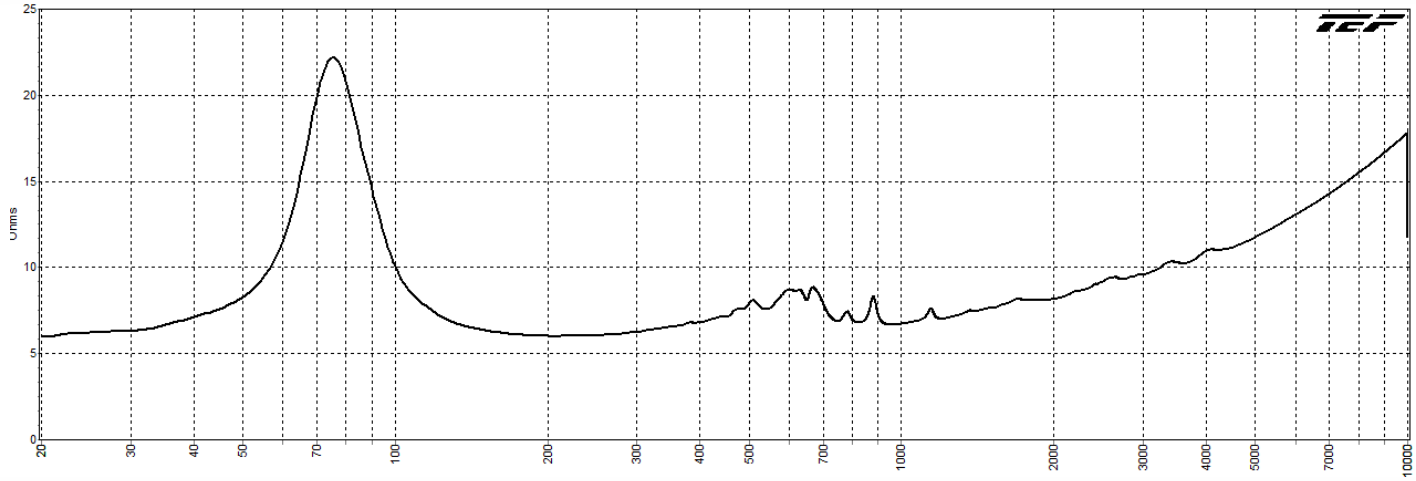
H.F Vertical Response
Unprocessed Free Space
Red=0°, Black=7.5°, Orange=15°



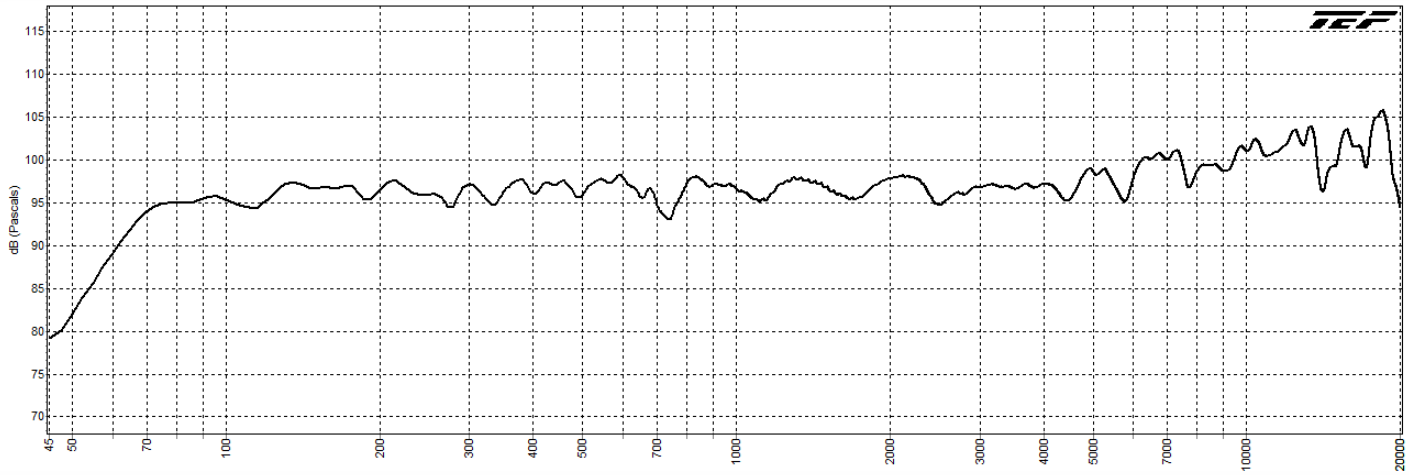
L.F Response Unprocessed
1w (2.8V) 1m Free Space (Green) & Ground Plane (Black)



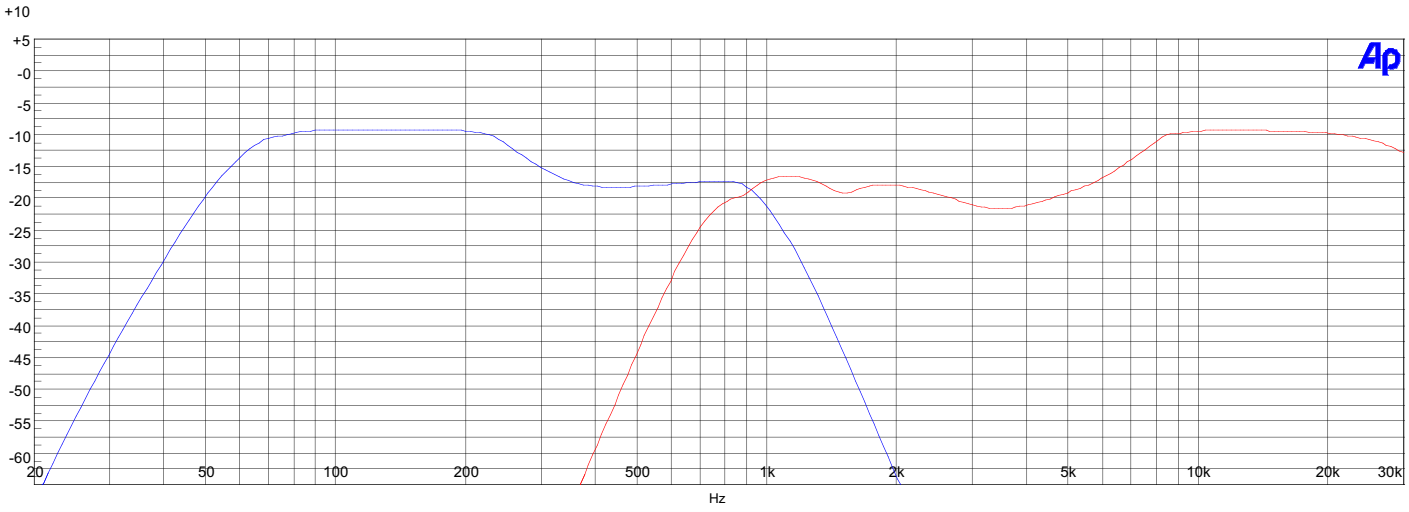
L.F Impedance
Magnitude

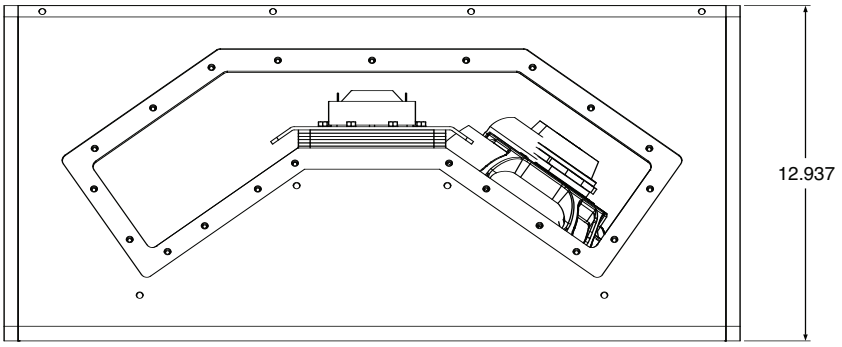


Processed Frequency Response
1 Cabinet Free Space



DLMS4080 Response
Red Curve "EL208 Hi, Two-way full range"
Blue Curve "EL208 Low, Two-way full range"

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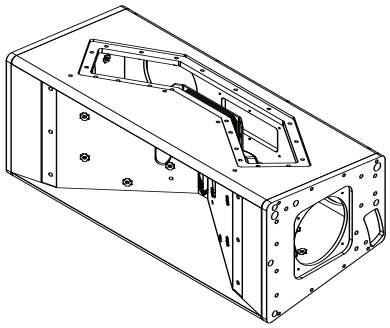

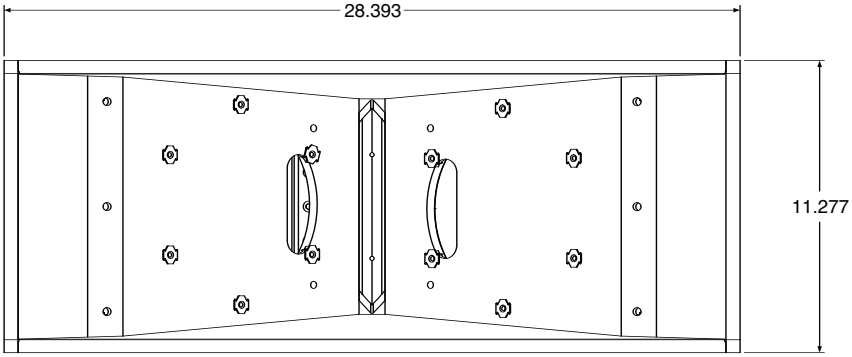
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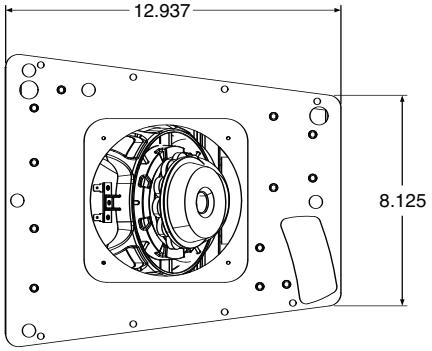
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