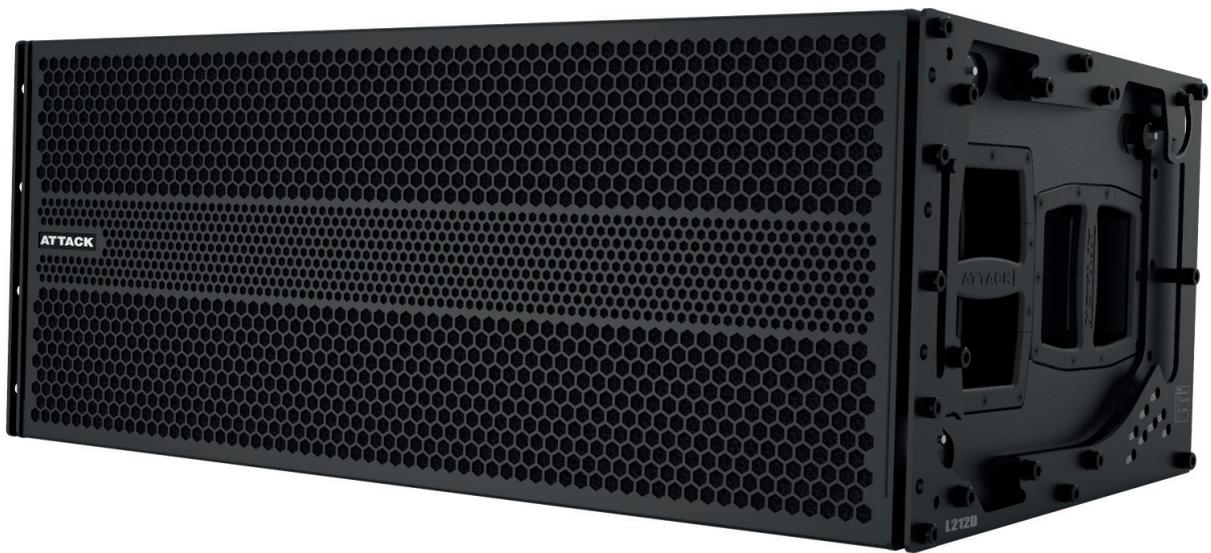


# VERTCON SERIES

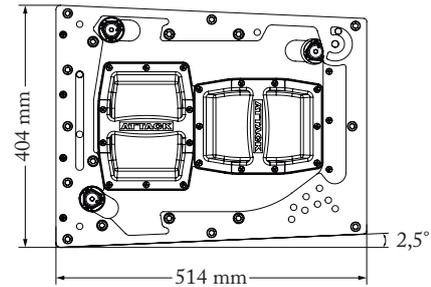
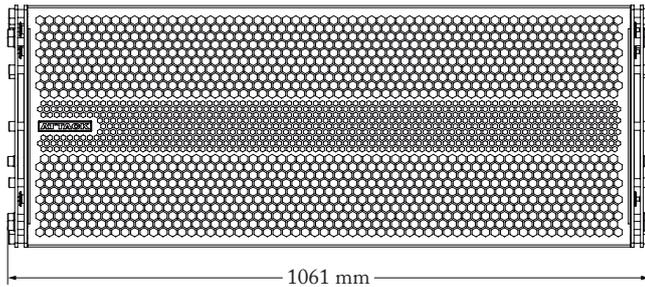
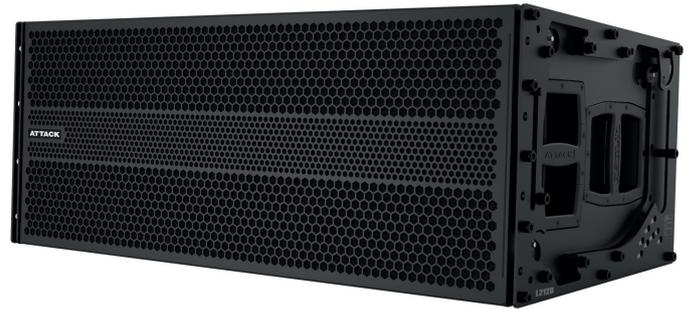


## DATASHEET

**L212D** High Power Vertical  
Array Loudspeaker

**ATTACK**  
AUDIO SYSTEM  
#HEARTHEDIFFERENCE#

<b>Dimensions</b>	404mm x 1061mm x 514mm (HxWxD)
<b>Weight</b>	82.5kg
<b>Enclosure</b>	MadeFibra®
<b>Finish</b>	Textured black polyester
<b>Protective Grille</b>	Hex-stamped steel
	Black textured paint coating
<b>Audio connection</b>	Female XLR and Male XLR Loop Thru
<b>AC connection</b>	IP65-3P with Looping Output NBR14.136 - 20A Output



The L212D is a self powered, high performance three-way loudspeaker designed for medium and large areas with high performance and exceptional coverage. Ideal for long-range applications in large environments, their size and weight also enables the use in more compact locations.

The combination of 100° horizontal coverage with the high headroom factor provides detailed resolution for signals with delicate transients throughout the coverage area.

The L212D was designed to easily integrate with other Vertcon models, particularly the L208D and S218D. Flexibility and practicality in the assembly of the system are guaranteed by the use of materials of high safety standard and mechanical resistance. The Flown mode system is made of steel and is laser cut ensuring maximum precision in the fittings and the possibility of stacking up to 20 units in a single Bumper.

The high frequency section is composed of two compression drivers with an 1.4-inch throat, a 3-inch voice coil with a titanium diaphragm, coupled to a waveguide and this assembly coupled to a constant directivity horn with 100° horizontal coverage. It uses a dedicated amplification channel and a digital signal processing system that corrects the frequency and phase response in order to perfectly match the mid section.

The mid frequency section has a loudspeaker with a 12-inch cone and a 3-inch voice coil coupled to a phase plug capable of creating two acoustic centers, thus simulating the acoustic operation of two 7-inch loudspeakers by the displacement of the acoustic center, ensuring perfect coupling at the highest frequencies of the actuation range. It has a

dedicated amplification channel and a proper digital processing system with specific adjustments that enable an extended frequency response in this section.

The low frequency section has a loudspeaker with a 12-inch cone and a 3-inch voice coil mounted in bass reflex enclosure, built with specific characteristics for low frequency operation with high linearity and low distortion, even with large displacement. It has a dedicated amplification channel and a system for processing specific signals such as mid and high sections ones.

Being a self powered three-way system, the L212D incorporates three high-power class-D amplification channels, with a dedicated limiter that protects and extends transducers life at very high power levels and prevents non-linear operating situations. The amplification and processing system is mounted in an individual unit that allows for an extremely easy in-field exchange. The amplifier and processor are powered by a switching mode supply that boasts a PFC circuit capable of providing constant power from 100 to 240 V AC.

Coupled to the L212D system it is possible to use the L208D as downfill with the use of the BUMPER L212D, since the architecture of this loudspeaker was designed for perfect phase response coherence between all Vertcon line models.

Options for the L212D include white polyester paint (custom-made) and the EMV-L212D which is a structure for stacking and transporting multiple units.

## KEY FEATURES

- Exceptional relationship between power, efficiency, size.
- Wide horizontal coverage and good polar pattern.
- Compact and low profile front view.
- Perfect integration with the L208D system.
- Practical and versatile connection hardware system with possibility of mounting in line arrays, frontfill, sidefill and downfill.
- Perfect phase coherence enabling coupling with other Vertcon line products.

## APPLICATIONS

- Shows.
- Corporate events.
- Sports centers, theaters, churches and clubs.
- Frontfill.
- Sonorization of large areas in general.

**Acoustical**

Operating frequency range <sup>1</sup>	70 Hz - 18 kHz
Frequency response <sup>2</sup>	80 Hz - 18 kHz -6 dB
Phase response	150 Hz - 12 kHz $\pm 45^\circ$
Maximum linear average SPL <sup>3</sup>	
Free field	118 dB (Z) / 116 dB (A) @ 1m
Ground plane	123 dB (Z) / 121 dB (A) @ 1m
Maximum linear peak SPL <sup>4</sup>	
Free field	130 dB (Z) / 128 dB (A) @ 1m
Ground plane	135 dB (Z) / 133 dB (A) @ 1m

**Coverage**

Horizontal	100°
Vertical	Variable, dependent on stacking height and configuration

**Transducers**

LOW frequency	12" Speaker/Nominal impedance 4 $\Omega$ /Voice coil diameter 3"
MID frequency	12" Speaker/Nominal impedance 4 $\Omega$ /Voice coil diameter 3"
HIGH frequency	Two compression drivers/Nominal impedance 4 $\Omega$ /Voice coil diameter 3"/Diaphragm diameter 3"/Throat 1.4"

**Audio input**

Type	Differential, electronically balanced
Connectors	Female XLR and Male XLR loop thru
Input impedance	10 k $\Omega$ Unbal and 20 k $\Omega$ Bal
Connection	Pin 2: signal +/Pin 3: signal -/Pin 1: ground
CMRR	>50 dB, typically 70 dB (50 Hz - 500 Hz)
Nominal input sensitivity	+4 dBu (1.23 V rms - 1.74 V <sub>p</sub> ) constant is typically the beginning of signal limitation with noise or music
Maximum input level	+20 dBu

**Amplifier**

Type	Class D
THD - IMD	<0.07%

**AC Power**

Power supply type	PFC pre-regulator and Half-bridge converter
Connectors	IP65-3P with Looping Output, NBR14.136-20A Output
Operating range	100-240 V AC rms, maximum 275 V AC rms, minimum starting voltage 100 V AC rms
Standby current consumption (mA rms)	360mA@100Vac / 280mA@127Vac / 180mA@220Vac
Maximum continuous current consumption for long periods (A rms)(>10seg) <sup>5</sup>	3.5A@100Vac / 2.7A@127Vac / 1.5A@220Vac

**General information**

Indicators	Led Power/Led Signal/Led Limiter/Led CSD/Led TC/Led DC/Led PS
Protections	Overvoltage, undervoltage, short-circuit, temperature, DC, individual limiter per channel, audio starting fader
Ventilation	Micro ultra silent fan with speed control as a function of the temperature

**NOTAS**

<sup>1</sup> Recommended maximum operating frequency response. The frequency response depends on the acoustics conditions of the environment.

<sup>2</sup> Measured with 1/3 octave frequency resolution in semi-anechoic chamber at four meters of distance. Frequency response with maximum variation of  $\pm 3$ dB.

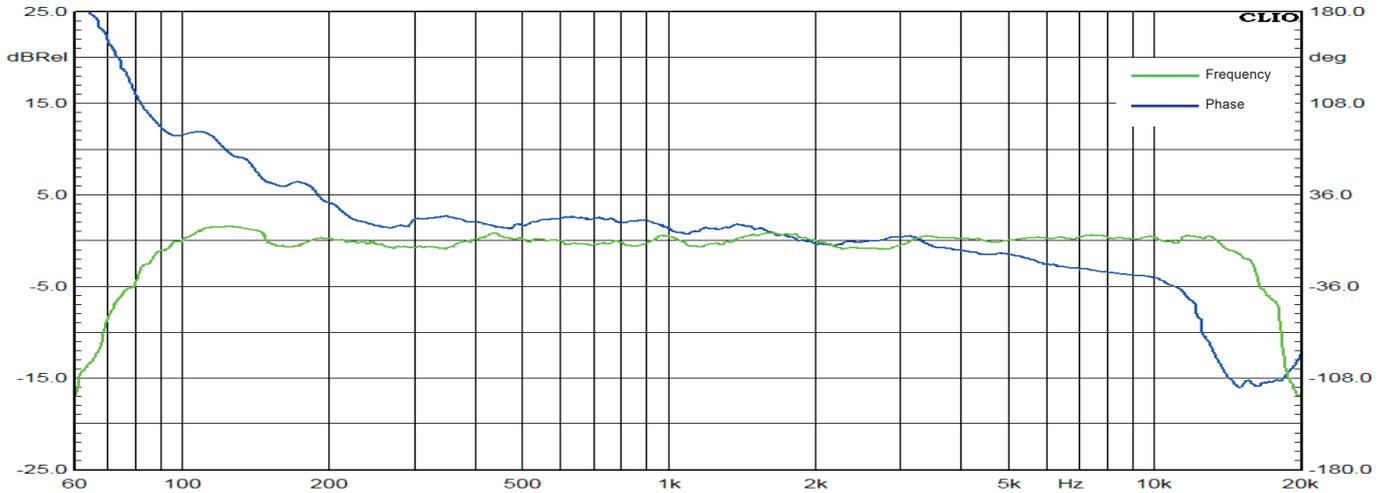
<sup>3</sup> Measured with pink noise (FC=12dB), linear average SPL maintained for at least one hour, microphone on the axis. The average SPL value (measured with Z-weighted curve) in free field is used in the GLL file for use in prediction in the Ease Focus and Ease softwares.

<sup>4</sup> Measured with pink noise (FC=12dB), linear peak SPL maintained for at least one hour, microphone on the axis.

<sup>5</sup> The AC power cable must have a gauge compatible with the current transmission capacity required by the loudspeaker in continuous current consumption regime, otherwise it will not deliver the specified power to the transducers. Maximum current value measured with pink noise (FC=12dB).

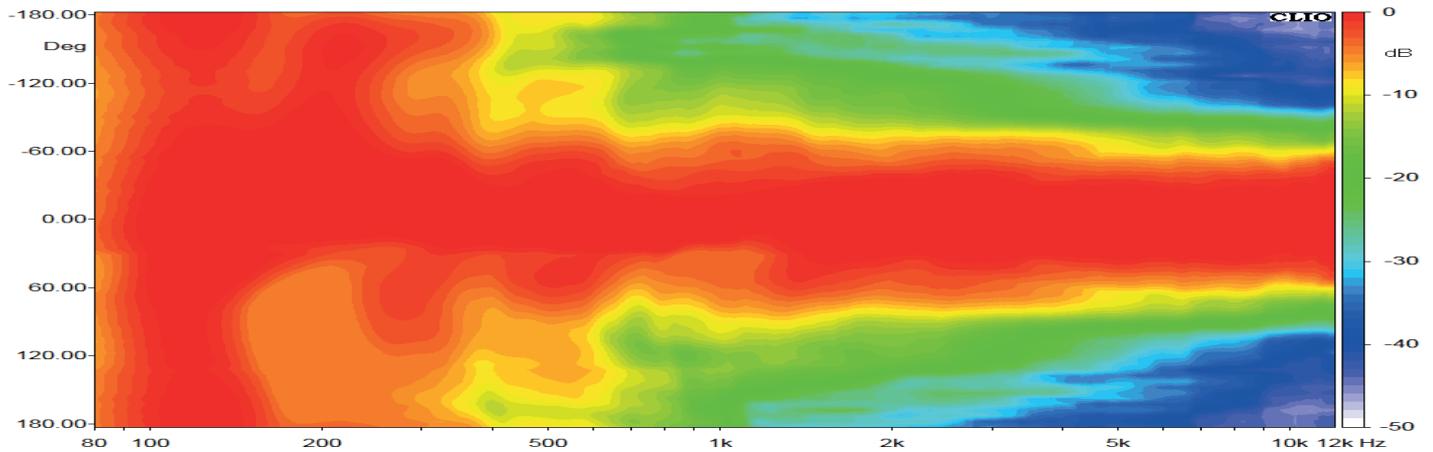
**ACOUSTIC CHARACTERISTICS**

**Frequency and phase response**



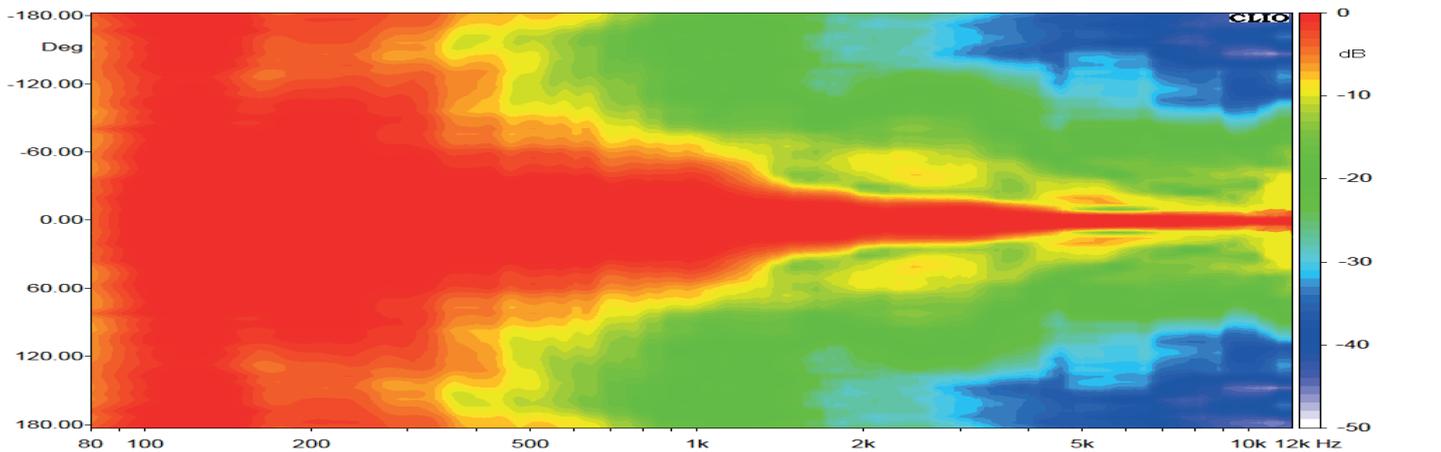
Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

**Horizontal directivity**



Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

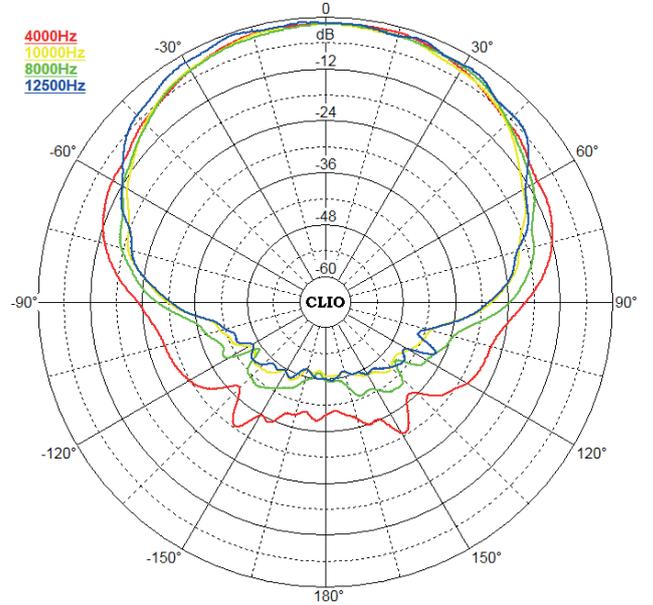
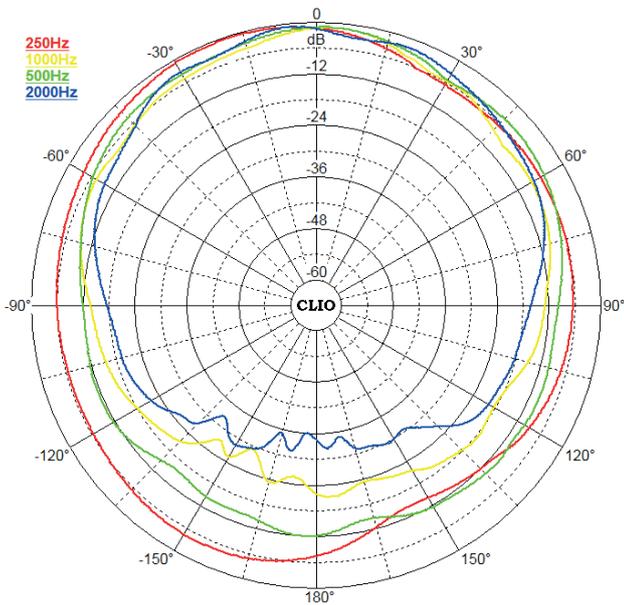
**Vertical directivity**



Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

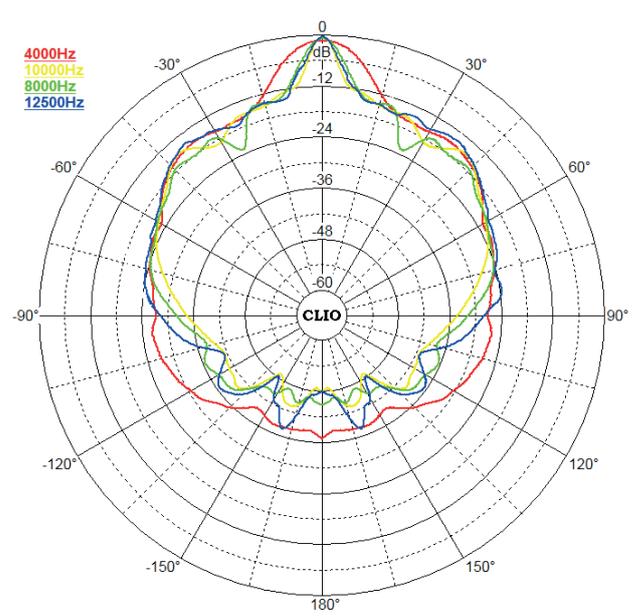
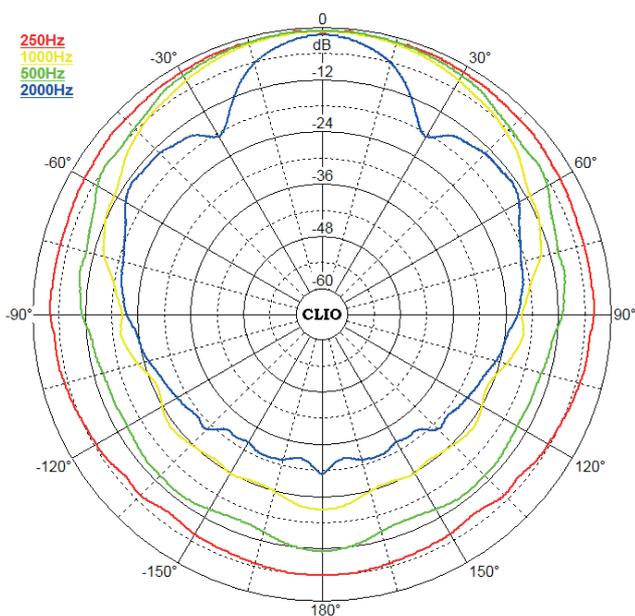
**ACOUSTIC CHARACTERISTICS**

**Polar diagram - Horizontal**



Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

**Polar diagram - Vertical**



Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

**CONNECTION DIAGRAM OF A TYPICAL SOUND SYSTEM**

