

VERTCON

SERIES

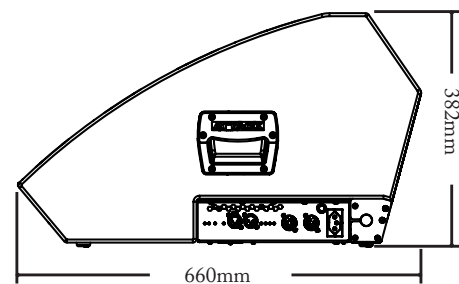
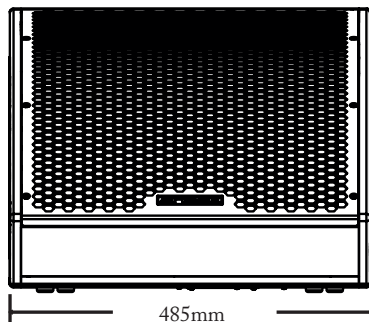


DATASHEET

M112D High Power
Stage Monitor

ATTACK
AUDIO SYSTEM
| HEARTHEDIFFERENCE |

Dimensions	382mm x 485mm x 660mm (HxWxD)
Weight	36 kg
Enclosure	MadeFibra®
Finish	Textured black polyester
Protective Grille	Hex-stamped steel Black textured paint coating
Audio connection	Female XLR and Male XLR loop thru Connectors on both sides of the monitor
AC connection	IP65-3P with Looping Output NBR14.136 - 20A Output Connectors on both sides of the monitor



The M112D is a self powered, compact, high performance two-way stage monitor. Member of the Vertcon family, it was designed for frequency response, flat phase and optimum impulse response, ensuring excellent performance for the most critical applications. The extended headroom for high frequency ensures flat response for a wide range from 60 Hz to 18 kHz. The use of the self powered system offers simplicity in assembly and operation.

The flat response over the entire range of operation and phase correction allows the use of the M112D in applications for monitoring vocals or instruments with wide gain before feedbacks, excellent intelligibility and high sound pressure with low distortion.

The relationship between power, efficiency, size and ease of use makes the M112D monitor a surprising and remarkable experience in performance, and it can be used in theaters, churches, clubs, sports gyms and shows.

The high frequency section is composed of a compression driver with an 1.4-inch throat, 3-inch voice coil with a titanium diaphragm, coupled to a waveguide and this assembly coupled to a constant directivity horn with 50° horizontal coverage and 70° vertical coverage. It uses a dedicated amplification channel and a signal processing system that corrects the

frequency and phase response in order to perfectly match the bass section.

The low frequency section has a loudspeaker with a 12-inch cone and a 3-inch voice coil assembled in a bass reflex enclosure. It has a dedicated amplification channel and a proper processing system with specific adjustments that enable an extended frequency response in this section.

Being a self powered system, the M112D incorporates two 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.

The enclosure is built with a special humidity resistant fiberboard "MadeFibra®" coated with highly robust polyester painting that ensures great durability. A hex-stamped steel protective grille, coated with electrostatic paint, protects the transducers. Rubber feet at the inferior side protect the monitor against damage as well as on the stage where it's mounted.

KEY FEATURES

- Exceptional relationship between power, efficiency, size.
- Frequency response and flat phase provides high level of SPL before feedbacks.
- Ultracompact and low profile front view.
- High power level ensuring excellent response to transients.

APPLICATIONS

- Monitor for voice.
- Monitor for drums and percussion.
- Instrument monitor in general.

Acoustical

Operating frequency range ¹	60 Hz - 18 kHz
Frequency response ²	70 Hz - 18 kHz -6 dB
Phase response	150 Hz - 12 kHz $\pm 40^\circ$
Maximum linear average SPL ³	
Free field	116 dB (Z) / 114 dB (A) @ 1m
Ground plane	121 dB (Z) / 119 dB (A) @ 1m
Maximum linear peak SPL ⁴	
Free field	128 dB (Z) / 126 dB (A) @ 1m
Ground plane	133 dB (Z) / 131 dB (A) @ 1m

Coverage

Horizontal	50°
Vertical	70°

Transducers

LOW frequency	12" Speaker/Nominal impedance 4 Ω /Voice coil diameter 3"
HIGH frequency	Compression driver/Nominal impedance 8 Ω /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 Ω Unbal and 20 k Ω 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 Vp) constant is typically the beginning of signal limitation with noise or music
Maximum input level	+20 dBu

Amplifier

Type	Class D
THD - IMD	<0.05%

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)	250mA@100 V AC / 200mA@127 V AC / 130mA@220 V AC
Maximum continuous current consumption for long periods (A rms)(>10seg) ⁵	1.75A@100 V AC / 1.3A@127 V AC / 0.8A@220 V AC

General information

Indicators	Led Power/Led Signal/Led Limiter/Led CSD/LedTC/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

NOTES

¹ Recommended maximum operating frequency response. The frequency response depends on the acoustics conditions of the environment.

² Measured with 1/3 octave frequency resolution in semi-anechoic chamber at four meters of distance. Frequency response with maximum variation of ± 3 dB.

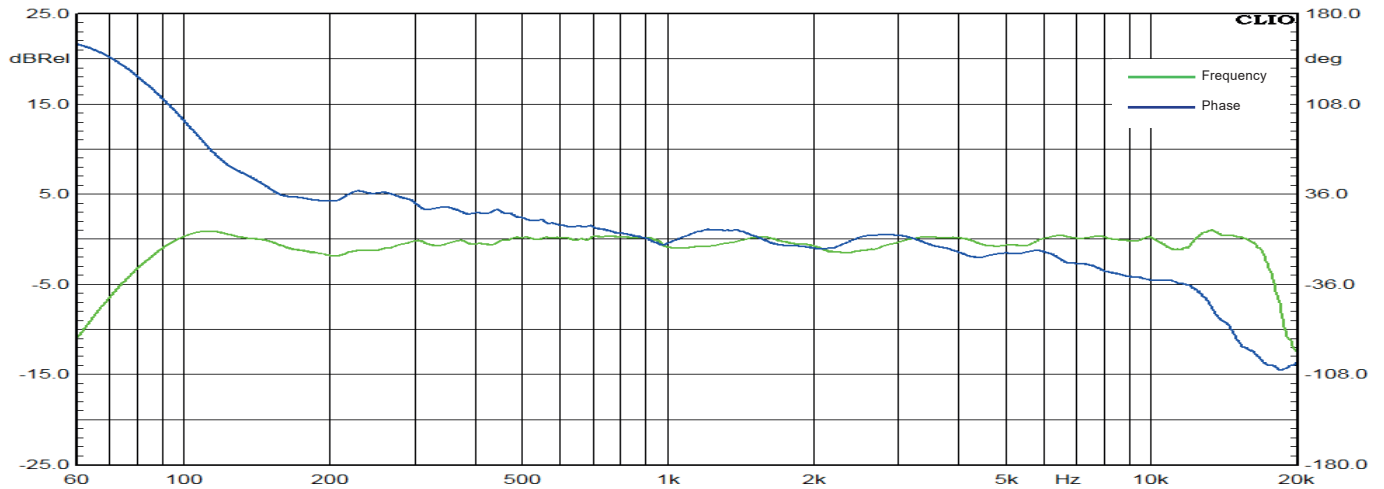
³ Measured with pink noise (FC=12dB), linear average SPL maintained for at least one hour, microphone on the axis. The average SPL value (measured with Z-weighted curve) in free field is used in the GLL file for use in prediction in the Ease Focus and Ease softwares.

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

⁵ The AC power cable must have a gauge compatible with the current transmission capacity required by the monitor 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).

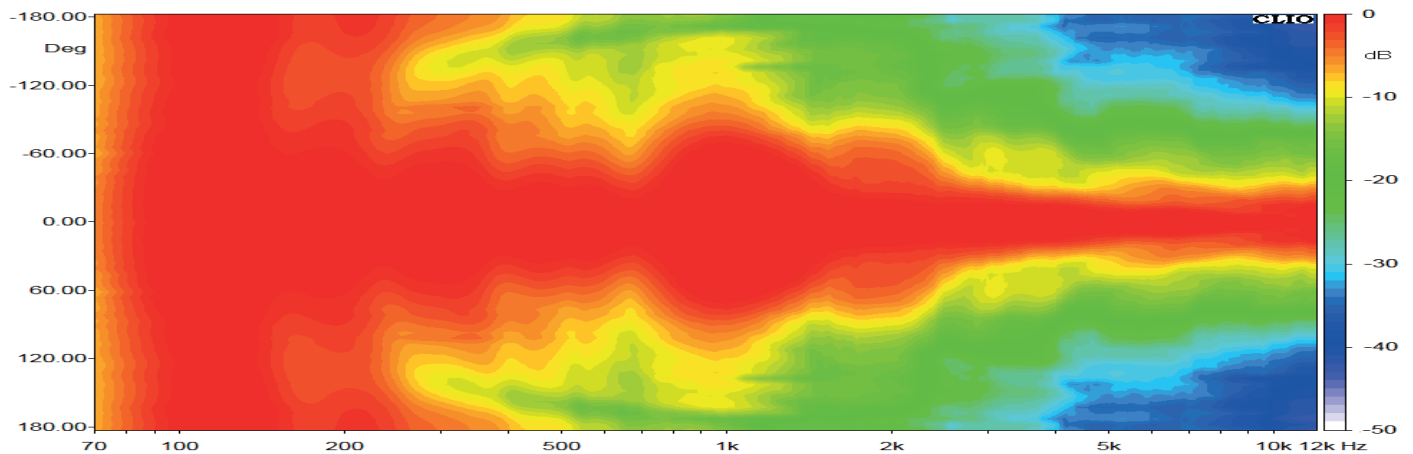
ACOUSTIC CHARACTERISTICS

Frequency and phase response



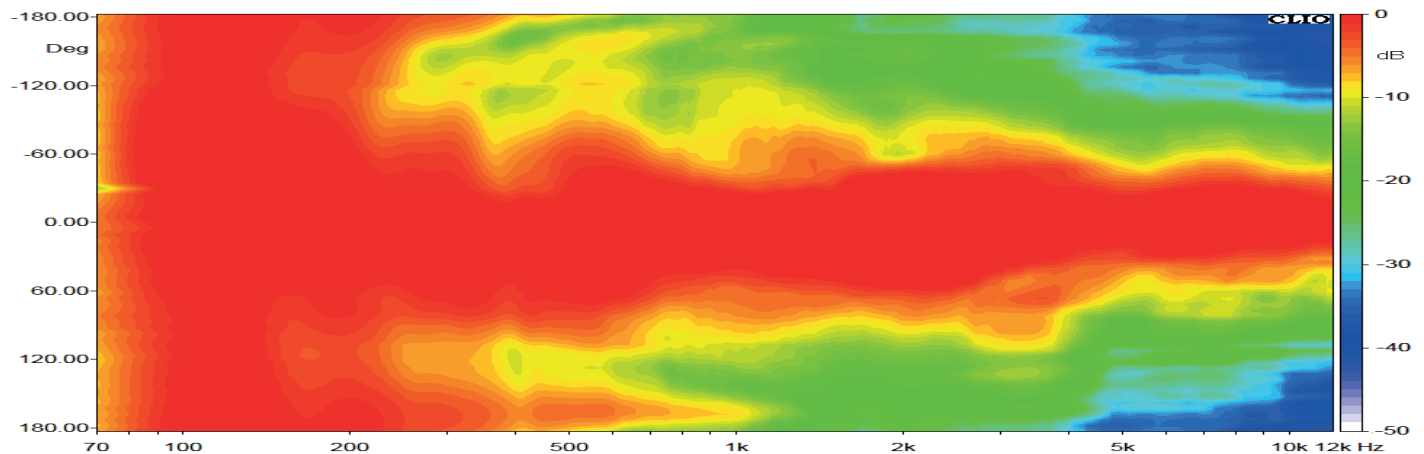
Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

Horizontal directivity



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

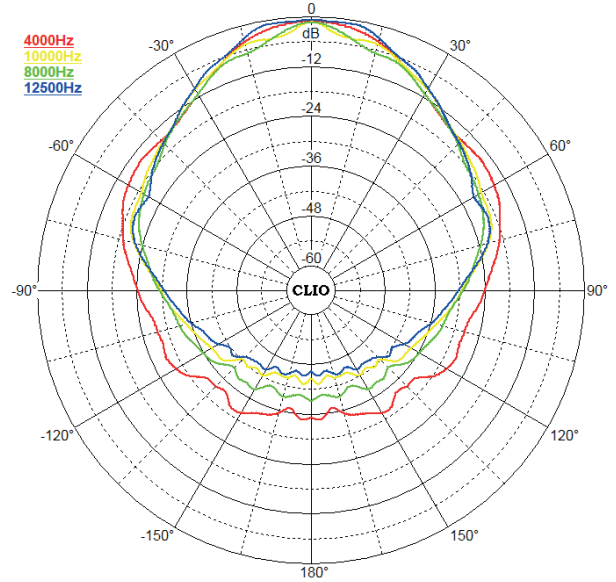
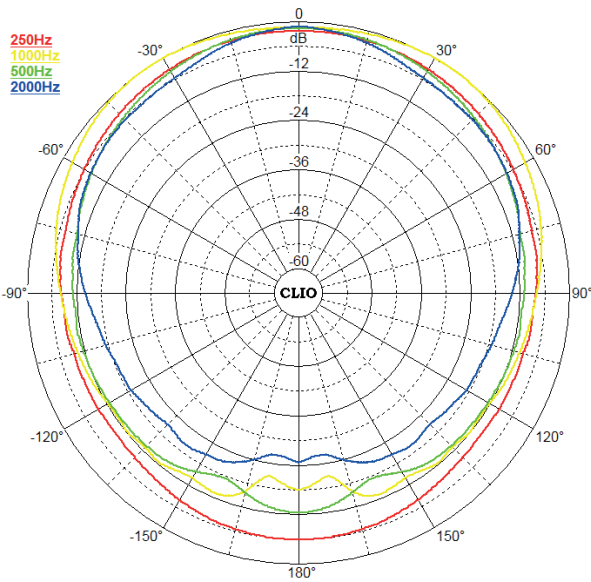
Vertical directivity



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

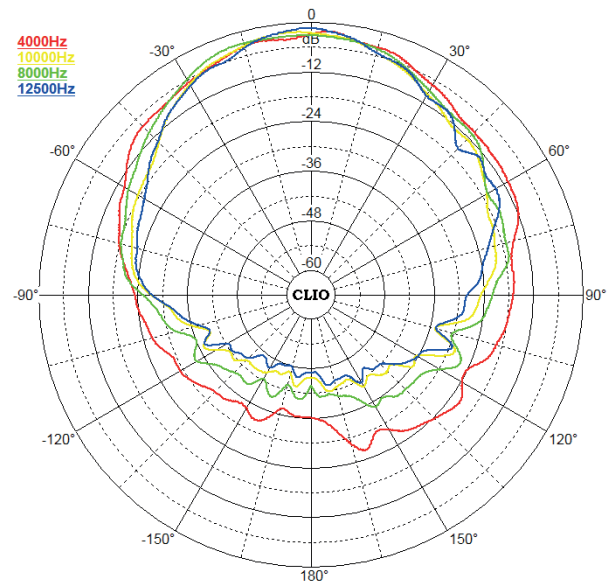
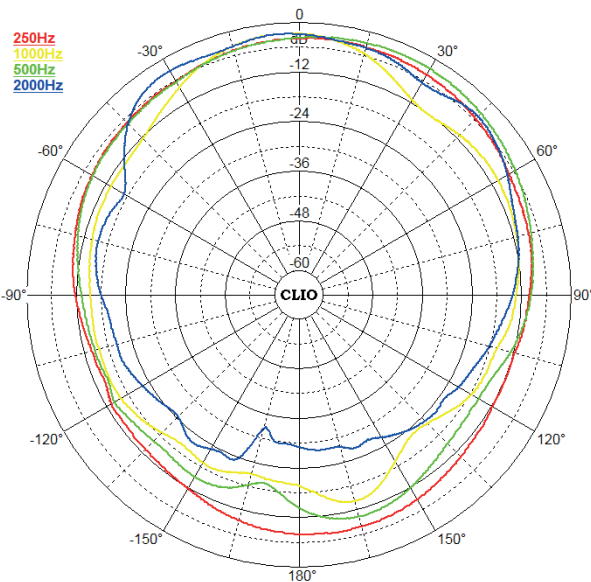
ACOUSTIC CHARACTERISTICS

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