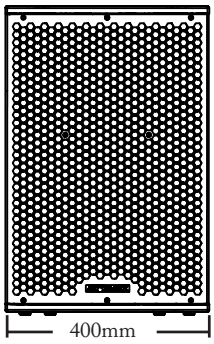
VERTCON
SERIES

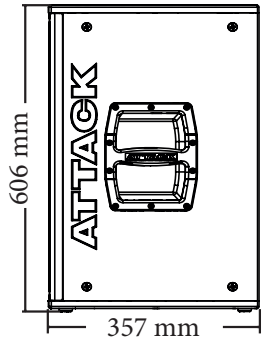
DATASHEET

F112D Compact High Power Loudspeaker

ATTACK
AUDIO SYSTEM
HEARTHEDIFFERENCE

Dimensions	606mm x 400mm x 357mm (HxWxD)
Weight	31.5kg
Enclosure	MadeFibra®
Finish	Textured black polyester
Protective Grille	Hex-stamped steel Black textured paint coating
Audio connection	Female XLR and Male XLR loop thru
AC connection	IP65-3P with Looping Output NBR14.136 - 20A Output





The F112D is a self powered, compact and high performance two-way loudspeaker. It provides high power, low distortion and consistent polar response. The extended headroom for high frequency ensures flat response for a wide range from 65 Hz to 18 kHz. The high headroom factor provides detailed resolution for signals with delicate transients throughout the coverage area. They are ideal as the front loudspeakers in small to mid-size areas.

The relationship between power, efficiency, size and ease of use makes the F112D a surprising and remarkable experience in performance, and it can be used in theaters, churches, clubs, sports gyms and shows. The extraordinary softness in the sound dispersion behavior of the horn is a fact that draws attention, making the bandwidth remain constant within small tolerances for both horizontal and vertical coverage.

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 constant directivity horn with 70º horizontal coverage and 50º vertical 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 bass section.

The low frequency section has a loudspeaker with an 8-inch cone and a 3-inch voice coil assembled in a bass reflex enclosure. It has a dedicated amplification channel and a proper digital processing system with specific adjustments that enable an extended frequency response in this section.

Being a self powered system, the F112D 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 enclosure against damage. It has a support for 1.5-inch (38 millimeter) diameter tripod pedestal and points for flown mode installation.

The SPM F112D, that is a multiple function support with mobility for many angles of installation, and SPY F112D, that is a flown mode installation accessory, are available. Up to 4 units are allowed in the flown mode installation.

KEY FEATURES

- Exceptional relationship between power, efficiency, size.
- Exceptional fidelity.
- Extraordinary flat frequency and phase response, with greater tonal precision and image.
- Horn with constant directivity providing uniform response throughout the coverage area.

APPLICATIONS

- Concert halls.
- Theatrical sound reinforcement.
- Portable and installed AV systems.
- Corporate events.
- Churches and clubs.
- Installation in cinemas.
- Frontfill and under galleries.

Acoustical

Operating frequency range[1]	65 Hz - 18 kHz
Frequency response[2]	75 Hz - 18 kHz -6 dB
Phase response	200 Hz - 12 kHz ±40º
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	70º
Vertical	50º

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 kΩ Unbal and 20 kΩ 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]	3.0A@100 V AC / 2.3A@127 V AC / 1.3A@220 V AC

General information

Indicators	Led On/Led Signal/Led Limiter/Led CSD
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 ±3dB.

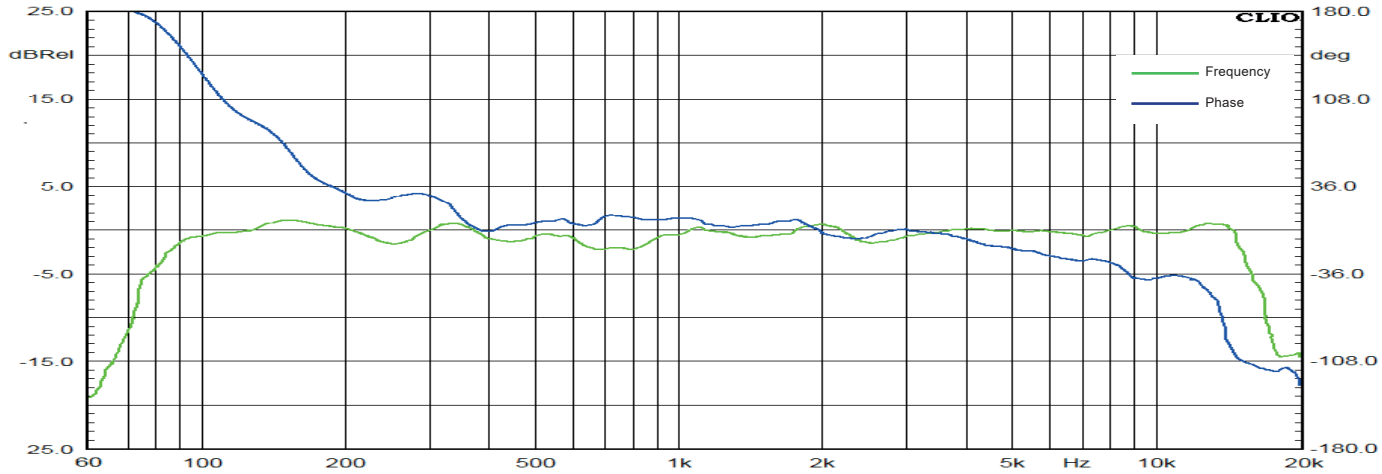
[3] Measured with pink noise (FC=12dB), linear average SPL maintained for at least one hour, microphone on the axis.
The average SPL value (measured with Z-weighted curve) in free field is used in the GLL file for use in prediction in the Ease Focus and Ease softwares.

[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 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).

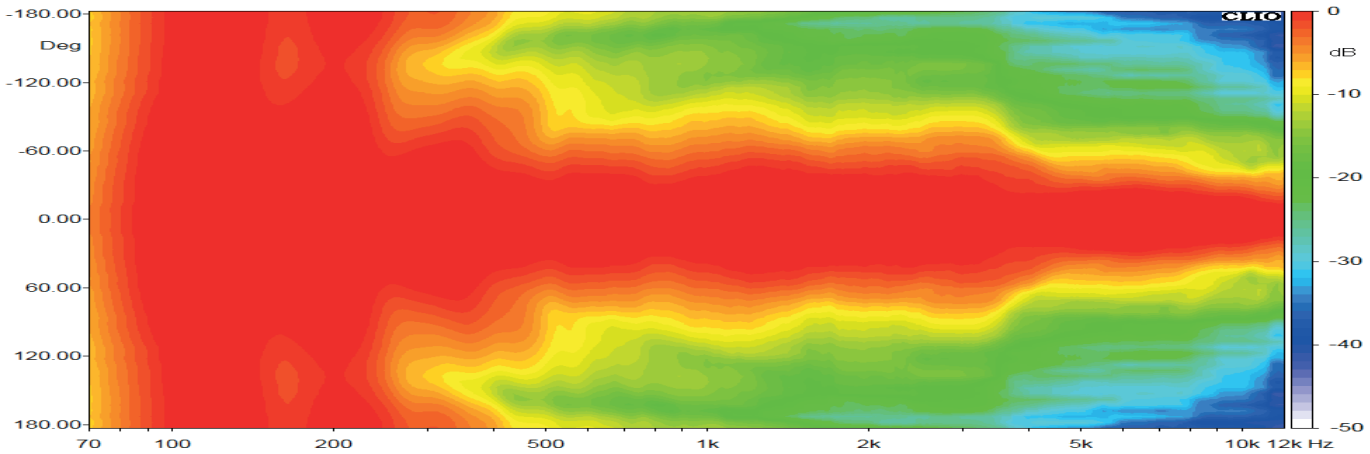
ACOUSTIC CHARACTERISTICS

Frequency and phase response



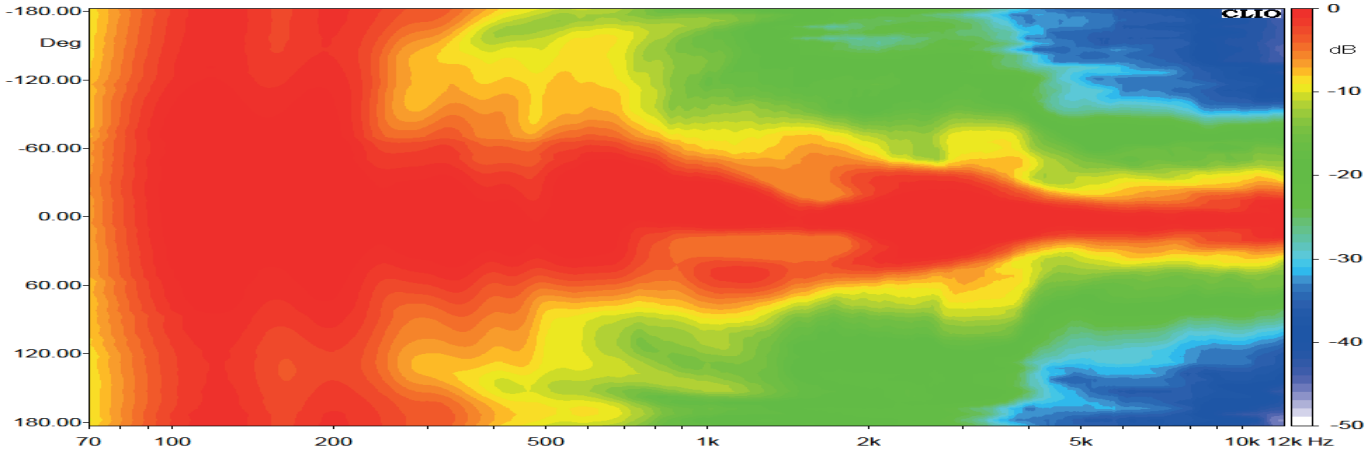
Measured in semi-anechoic chamber, on axis and 1/3 octave resolution

Horizontal directivity



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

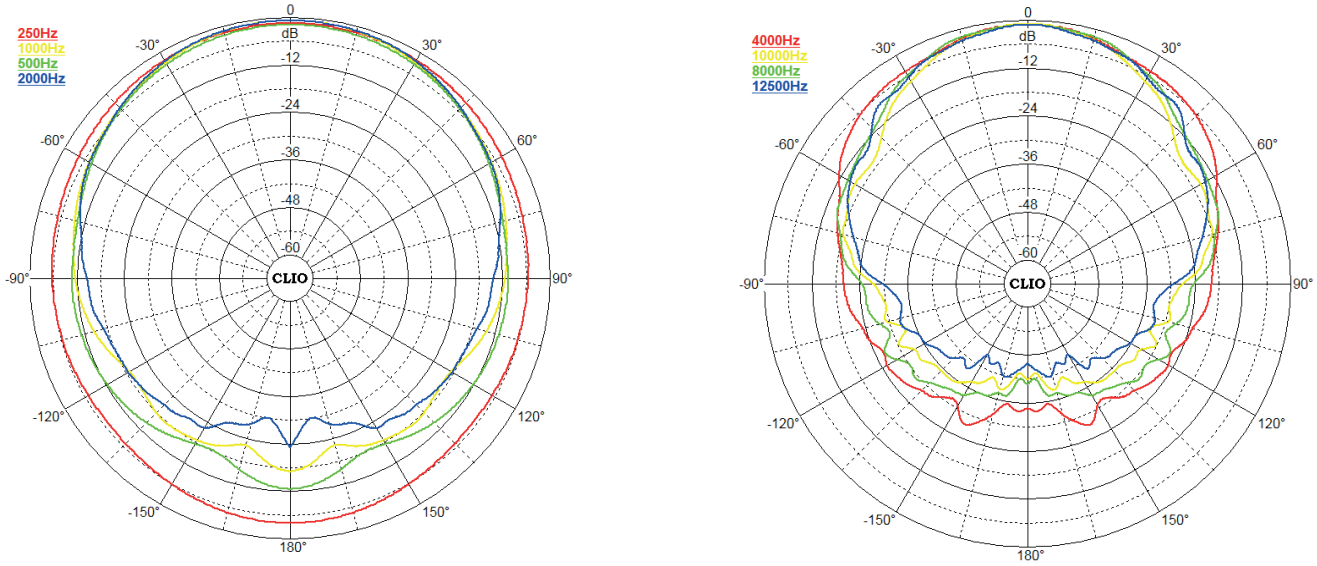
Vertical directivity



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

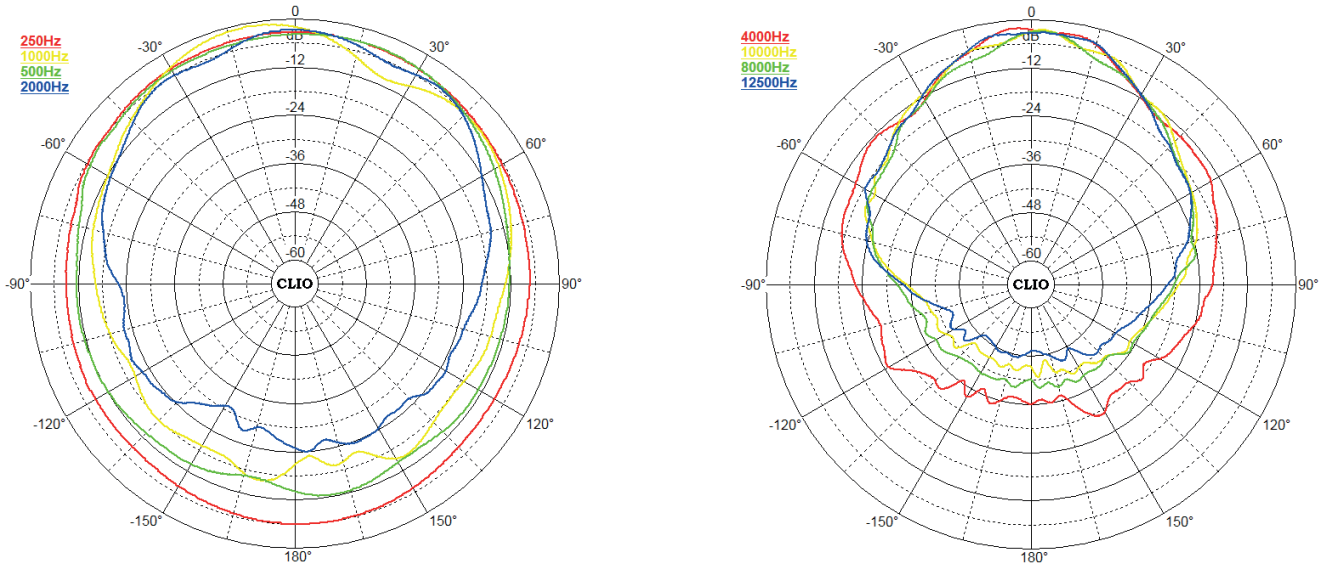
ACOUSTIC CHARACTERISTICS

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

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