



## KEY FEATURES

- High output Line Array element
- Compact size, very good output-to-weight ratio
- High quality, low compression, low distortion HF driver with Titanium Diaphragm and new suspension design
- Very stable horizontal coverage
- Transmission Line back loading for clean mid-bass reproduction and natural cardioid behavior
- Natural sound Transmission Line HF projection wave-forming device
- 40 bit floating point CORE2 processing with PRONET AX remote control
- Digitally controlled Class D amplifier module with SMPS and PFC

## APPLICATIONS

The AX2065AV2 Vertical Line Array element is designed for a wide range of sound reinforcement applications where a flexible and easy to use vertical array system is needed.

It represents the evolution of AX2065A, with which it maintains full electroacoustic and mechanical compatibility.

## TECHNICAL SPECIFICATIONS

### SYSTEM

System's Acoustic Principle	Line Array Element Short Transmission Line LF Back Loading Acoustic Transmission Line HF Waveguide
Frequency Response ( $\pm 3\text{dB}$ )	80 Hz – 18kHz (Processed)
Horizontal / Vertical Coverage Angle	110° (-6dB) / 12° (-6dB)
Maximum Peak SPL @ 1m	129 dB

### TRANSDUCERS

LF	Two 6.5" (165mm), 1.5" (38mm) aluminum voice coil, 16 $\Omega$ each, paralleled
HF	One 1.4" driver, 2.5" (64mm) edgewound voice coil, titanium diaphragm, 8 $\Omega$

### ELECTRICAL

Input Impedance	20 k $\Omega$ balanced, 10 k $\Omega$ unbalanced
Input Sensitivity	+4dBu / 1.25 V
Signal Processing	CORE2 processing, 40bit floating point SHARC DSP, 24 bit AD/DA converters
Direct access Controls	4 Presets (Standard/Long Throw/Down Fill-Single Box, User), Network Termination, GND Link
Remote Controls	PRONET AX control software
Network protocol	CANBUS
Amplifier Type	Class D with SMPS and PFC
Output Power	1400W + 1400W
Mains Voltage Range (Vac)	100 - 240 V ~ $\pm 10\%$ 50/60 Hz
IN / OUT Connectors	Neutrik XLR-M / XLR-F
IN / OUT Network Connectors	ETHERCON® (NE8FAV)
Mains Connector	PowerCon® (NAC3MPA)
Mains Link Connector	PowerCon® (NAC3MPB)
Cooling	Variable speed DC fan

### ENCLOSURE & CONSTRUCTION

Physical Dimensions	W x H x D	583 mm (22.95") x 244 mm (9.60") x 481 mm (18.93")
Enclosure Material		15mm, reinforced Phenolic Birch
Paint		High resistance, water based paint
Suspension system		
Front Suspension		Aluminum Fast Link structure
Back Suspension		High Strength Steel with 1/4 Fast Pin
Net Weight		23.2 Kg (51.2 lbs.)

## DESCRIPTION

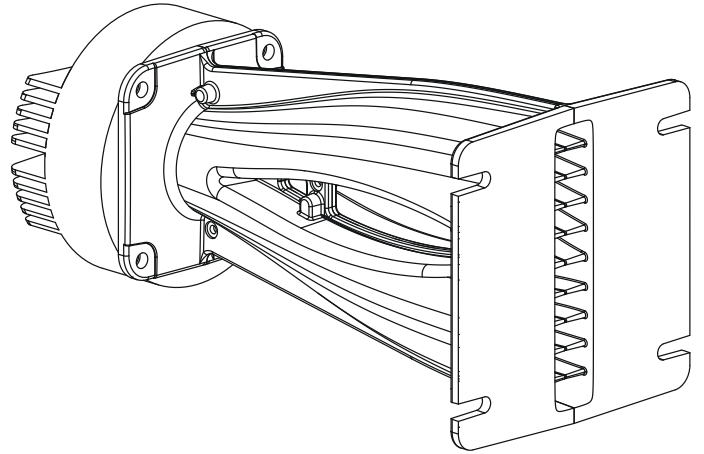
The AX2065AV2 is a new powered line array element that combines superior sound quality with easiness and flexibility in a simple system with a very convenient price-to-performance ratio.

The AX2065AV2 has been designed both for rental live sound applications and for fixed installations and has been engineered for the simplest use possible but without sacrificing anything in sound quality and performance.

## TRANSDUCERS

The high frequency range is reproduced by a low-distortion compression drive, equipped with very lightweight Titanium diaphragm and a special new suspension design for very natural sound. A transmission line wave-forming waveguide have been used to load the HF driver, in order to provide a detailed and natural sound and to achieve a long-distance HF projecting capacity.

The two 6.5" woofers employed in the reproduction of the mid-bass range are equipped with very lightweight cones and rubber suspension to extend the low frequency response. The lightness of the diaphragm is furthermore improved by the use of aluminum voice coil instead of conventional copper. This ensure a fast reproduction of the mid range and mid-bass musical passages, improving also the thermal capacity of the voice coil and, consequently, controlling the overall power compression. The two 6.5" woofers are back loaded by a short hybrid transmission line that minimizes the effect of the box resonances and eliminates the "boxy" mid-bass sound commonly obtained from regular bass-reflex enclosures, giving to this module a natural cardioid directivity dispersion at the upper bass and mid low region.

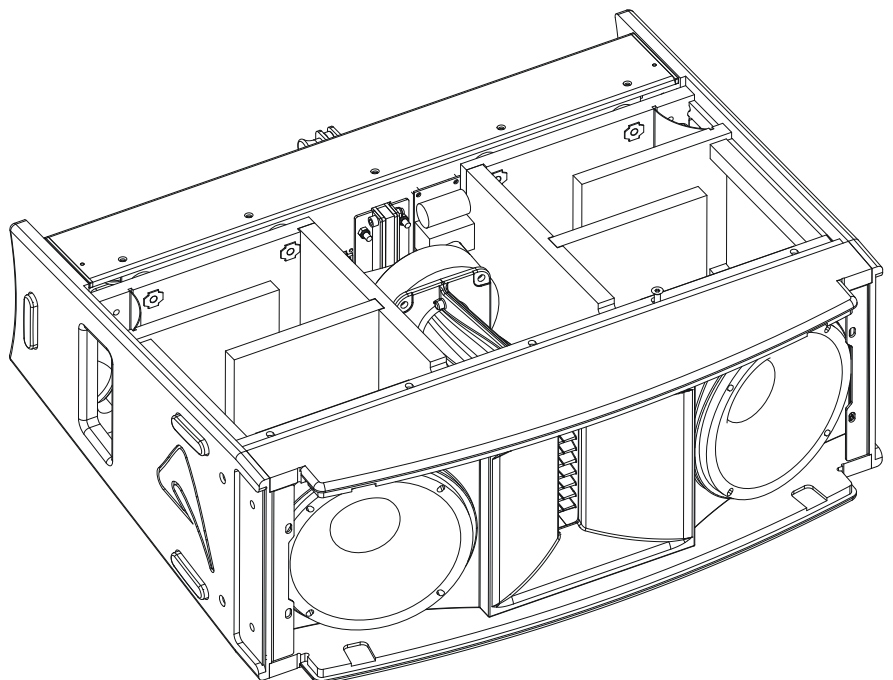


## SYSTEM CONCEPT AND SONIC PERFORMANCES

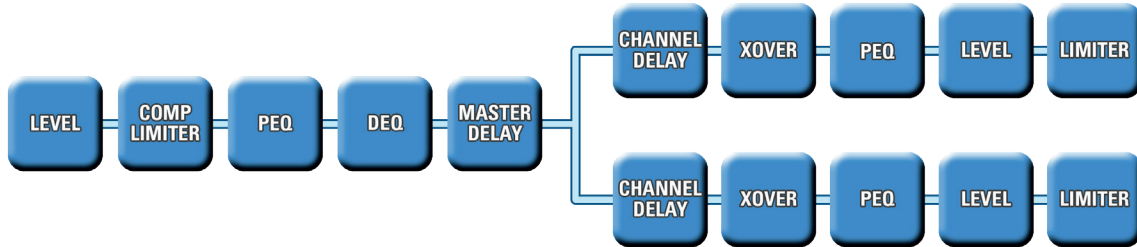
The AX2065AV2 offers a simple but innovative design in line array elements. The simple concept of the WTW symmetrical design is implemented in an effective way in order to minimize the effects of potential beaming phenomena around the crossover frequency. In order to minimize these effects, many different details have been carefully engineered, the first of them being the choice of the HF driver unit. The special light-weight diaphragm used in this driver features a very low mechanical resonance, thus allowing a relatively low crossover frequency point that is placed in the 900Hz range.

Moreover, the orientation of the two woofers allows to minimize the interference effect between them, while the use of a mechanical-acoustic polyurethane filter represents a further help in minimizing the midrange beaming.

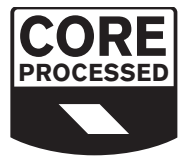
The crossover filter approach is based on a "Constant Power" technique. Thanks to a particular phase combination between the two ways around the crossover frequency, this approach is able to provide a very stable horizontal coverage and a very stable off-axis sound image, also minimizing unwanted effects around the crossover frequency. The further application of phase linearization techniques, combined to constant power crossover, yield a linear phase response and a coherent time response. This allows for a natural perception of acoustic instruments and voices and for an improved depth of the sound image.



## SIGNAL PROCESSING and POWER AMPLIFIERS



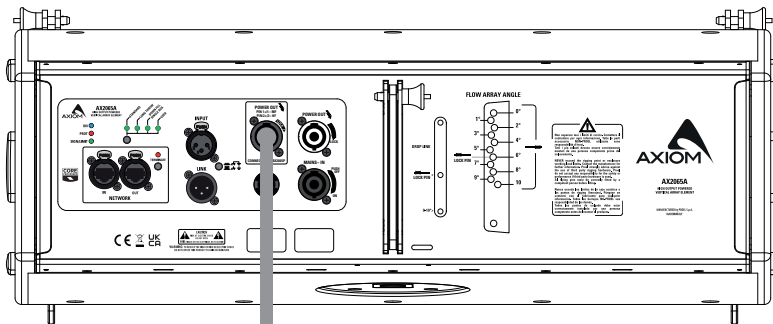
The system processing is based on the CORE2 DSP platform designed by the PROEL R&D Laboratories using one of the most advanced SHARC DSP for audio application. It features 40bit floating point resolution and top-quality 24bit AD/DA converters, for a perfect signal integrity, a dynamic range in excess of 110dB and a superior sonic performance. Thanks to its massive processing power, the CORE2 platform is capable of providing the most sophisticated algorithms for speaker processing, together with remote control and networking capability.



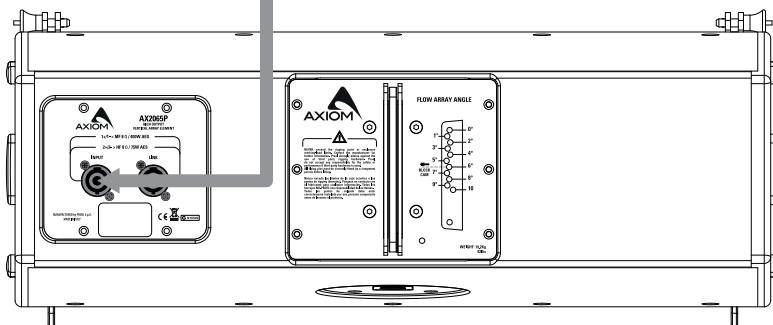
The PRONET AX control software, working on a solid and reliable CANBUS based network protocol, provides an intuitive interface for the remote control of the whole system, with the possibility of eqing, delaying, increasing the protections and monitoring the status of the amplifier.

The AX2065AV2 is powered by a new generation of CLASS D power amplifiers with digitally-controlled SMPS and latest generation single-stage PFC. The innovative technology used for these amplifiers offers performances at the top of the range, such as a superior sound definition at any audio frequency, very high dynamics also for low level signals and very low distortion even at the maximum power. The superior sound quality can be compared with top-of-the-range AB-class analog systems, while the AX2065AV2 power modules feature a higher dynamics, very compact size and light weight and efficiency above 90%.

### AX2065AV2



POWER LINK



### AX2065P

The module employed for powering the AX2065AV2 delivers in an ultra-compact package a maximum power of 2800W. Moreover, each AX2065AV2 is able to power an additional passive AX2065P module through the available power output on the back panel. This feature will allow to assemble very competitive system solutions both for rental and installation applications.

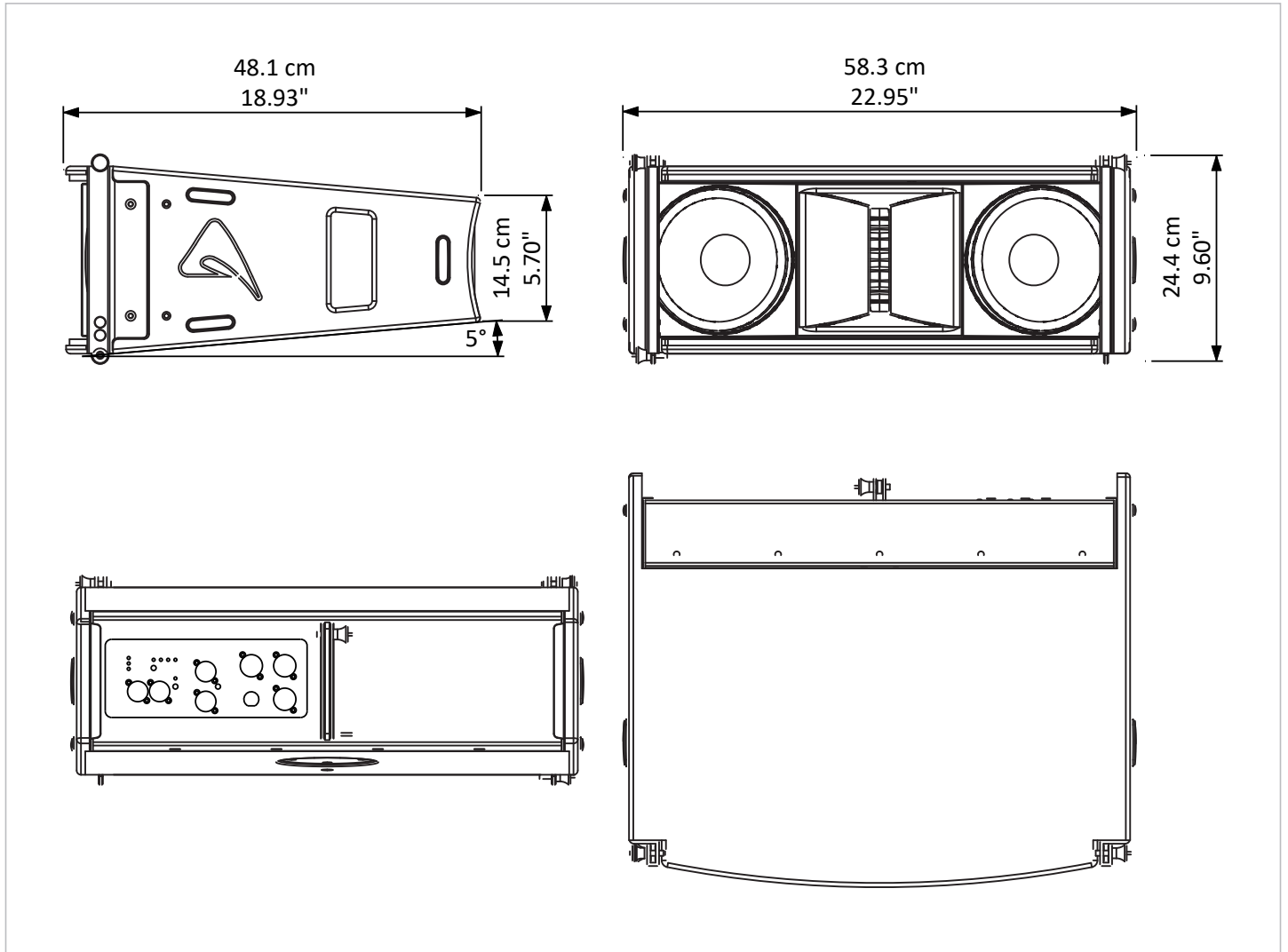
### HARDWARE

The AX2065AV2 includes as an integral part of the cabinet a built-in FLYING HARDWARE that provides an easy and fast installation together with an excellent load-bearing capacity.

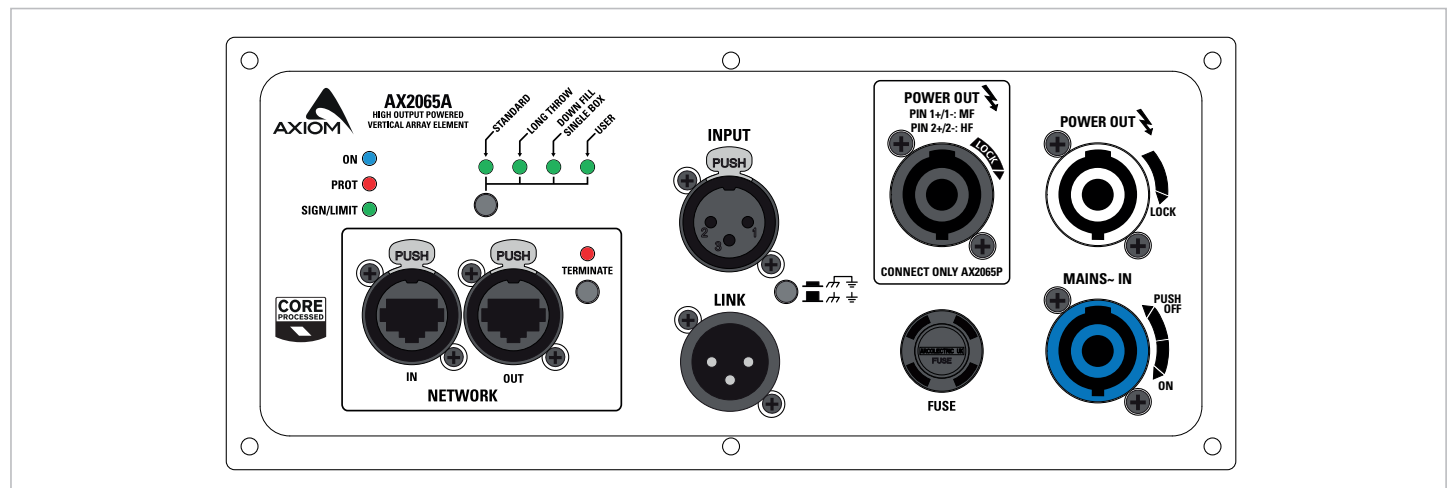
In addition, each module features on the bottom panel a metal plate with a M20 thread for installing one or more modules on standard speaker stand.



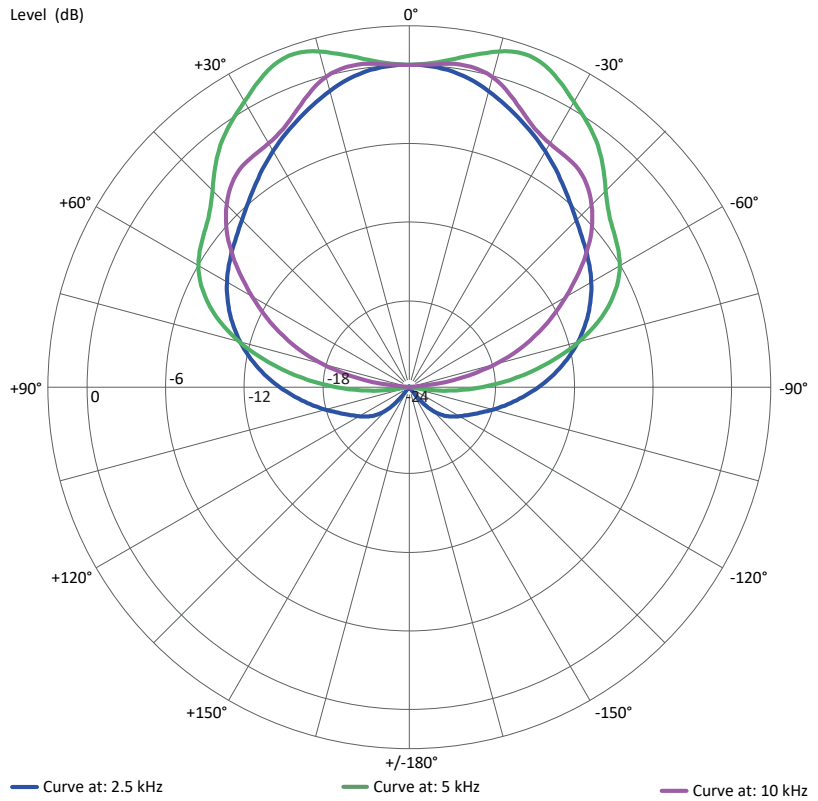
## PHYSICAL DIMENSIONS



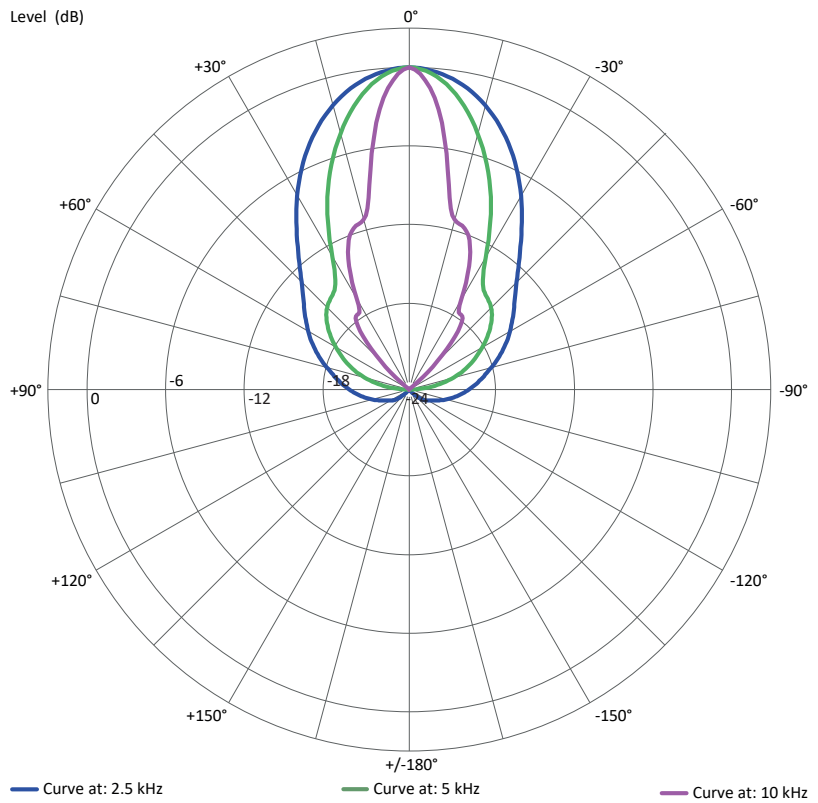
## POWER MODULE CONTROL & CONNECTION PANEL



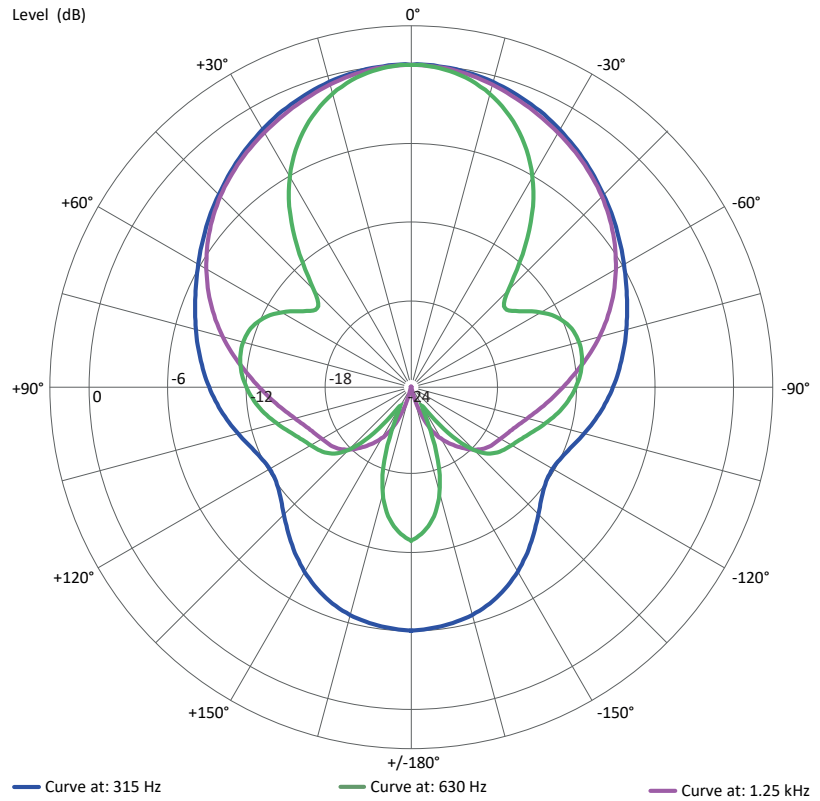
## AX2065AV2 HF HORIZONTAL polar diagram



## AX2065AV2 HF VERTICAL polar diagram



## AX2065AV2 LF HORIZONTAL polar diagram



## AX2065AV2 LF VERTICAL polar diagram

