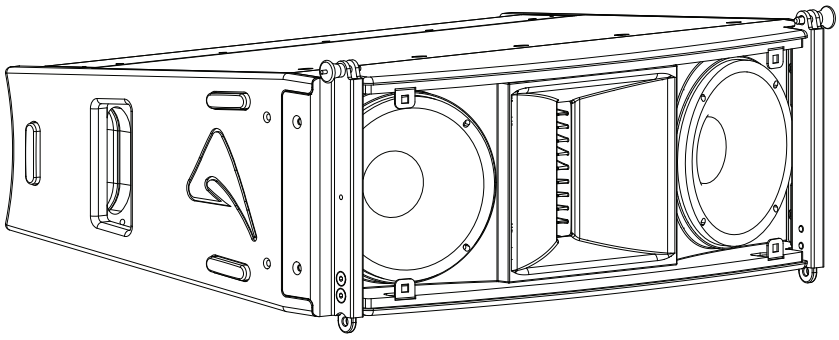
AX2065P

Dual 6.5" (165mm), High Output, Vertical Array Element



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

APPLICATIONS

The AX2065P Vertical Line Array element is designed for a wide range of sound reinforcement applications where a flexible and easy to use vertical array systems is needed.

THE AX2065P LINE ARRAY MODULE

The AX2065P is a new 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 AX2065P 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.

SYSTEM SPECIFICATIONS

SYSTEM

System's Acoustic Principle	Line Array Element Short Transmission Line LF Back Loading Acoustic Transmission Line HF Waveguide
Frequency Response (±3dB)	80 Hz – 18kHz (Processed)
Nominal Impedance	8Ω (LF) + 8Ω (HF)
Minimum Impedance	7.2 Ω @ 340Hz (LF); 7Ω @ 2.5kHz (HF)
Sensitivity (2.83V @ 1m, 2Pi)	99dBSPL (LF); 108dBSPL (HF)
Horizontal Coverage Angle	110° (-6dB)
Vertical Coverage Angle	12° (-6dB)
Maximum Peak SPL @ 1m	129 dB

TRANSDUCERS

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

INPUT CONNECTIONS

Connector Type	Neutrik® Speakon® NL4 x 2
Input Wiring	LF = Pin 1+/-; HF = Pin 2+/-)

POWER HANDLING

Continuous AES Pink Noise Power	400W + 75W
Program Power	800W + 150W
LF Power Compression	
@ -10dB Power (70W)	0.7dB
@ -3dB Power (350W)	1.8dB
@ 0dB Power (700W)	3.5dB

ENCLOSURE & CONSTRUCTION

Physical Dimensions	
Width	583 mm (22.95")
Height	244 mm (9.60")
Depth	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 ¼ Fast Pin
Net Weight	19.2 Kg (42.32 lbs.)

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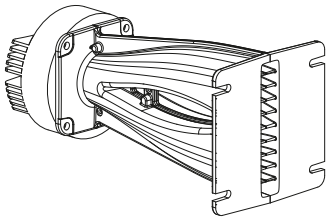

The high frequency range is reproduced by a low-distortion compression drive, equipped with very lightweight Titanium diaphragm and a special new suspension design for very natural sound. A transmission line wave-forming waveguide have been used to load the HF driver, in order to provide a detailed and 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 AX2065P 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-axys 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.