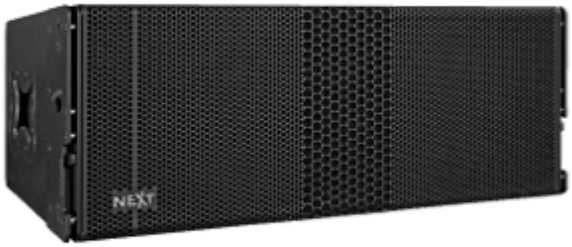
LA212X

3-Way Fully Horn Loaded Line Array Element



- Fully horn-loaded, axially symmetric, Line array
- Extreme SPL and throw capability
- Uniform dispersion and great coverage control
- Horizontal Coverage maintained down to 280 Hz
- Easy and fast rigging system with variable splay

OVERVIEW

The Bass Section
Two 12" (3 inch voice coil), high Bl (Force factor), neodymium low frequency drivers are loaded by two proprietary Hybrid-Horns. The horn mouths are horizontally separated by a "tuned" distance that uses the Tuned Dipolar Array effect to achieve exceptional low frequency horizontal dispersion control with the nominal angle being maintained down to 280Hz. In a live situation, the low frequencies optimal directional control provided by this technology will prevent LF signals from the sound reinforcement system to reenter the live stage leaving it much “cleaner”.

The Mid Section
The mid-frequency section is equipped with one high-performance 10 inch speaker (3 inch voice coil), mounted coaxially behind the HF drivers, loaded by a, mathematically complex, directivity control device that cleverly eliminates the HF section acoustic “shadow”. Due to the physical diameter of 10 inch driver it is impossible to achieve interference-free, close coupling of wavesources at the frequencies necessary to crossover with HF drivers, so a proprietary WAVE SPLITER device was developed. This device causes the 10 inch driver to behave as twin adjacent 5 inch drivers mounted at half the physical distance. The distance between these adjacent virtual drivers is close enough to couple coherently in the vertical plane extending the upper frequency limit for line source behavior, projecting sound waves farther than traditional systems with a more evenly distributed sound output pattern. In addition, the LA212X mid-frequency section employs a Correction Phase Device which equalizes speakers cone acoustical path lengths and thereby minimizes high-frequency cancelations and distortion caused by phase differences, greatly increasing the speakers ability to produce clear, accurate and “vocals-in-the-face” realistic sound. This device and the associated

horn are optimized to create a high compression ratio which rises conversion efficiency to reach an incredible sensitivity of 115 dB at 1W@1m in full space.

The High Section
Knowing that is in the mid/high frequencies that our ear is particularly sensitive to detail, our engineers dedicated much care and attention in the design and development of this unit, deeply optimizing its performance. This High Frequency section is composed by two 1.4 inch exit HF neodymium compression drivers with 3 inch voice coils mounted on a dedicated wave shaping device. This unit is carefully designed so that each path-lengh from the throat to any part of the mouth is precisely identical, which provides accurate high frequency summing and the generation of a flat, isophasic wavefront. The wave then exits by a diffraction slot to a constant directivity wave guide that spreads out evenly across the horizontal plane, producing a cylindrical wave that couples coherently, with minimal lobing, in the vertical plane while uniformly disperses on the, non-coupling, horizontal plane.

TECHNICAL SPECIFICATIONS

Technical Data	
Speaker Type:	Horn-Loaded 3-Way Line Array Element
Acoustical Data	
Frequency Response (-6dB):	60Hz - 19.000Hz
Low Frequency Extension (-10dB):	52HZ
Sensitivity (1W@1m) LF:	106dB (Full-Space)
Sensitivity (1W@1m) MF:	112dB (Full-Space)
Sensitivity (1W@1m) HF:	114.5dB (Full-Space)
Calculated Max. SPL (Cont/Peak):	138dB/144dB (Full-Space)
Calculated Max. SPL (Cont/Peak) LF:	138dB/144dB (Full-Space)
Calculated Max. SPL (Cont/Peak) MF:	139dB/145dB (Full-Space)
Calculated Max. SPL (Cont/Peak) HF:	138dB/144dB (Full-Space)
Coverage Angle -6dB (HxV):	90° (Down to 280Hz) x 8°
Drivers	
Low Frequency:	2 x 12" (300mm)/3" (76mm) VC, Neodymium, B&C custom speaker
Mid Frequency:	1 x 10" (250mm)/2.5" (65mm) VC, B&C custom speaker
High Frequency:	2 x 1.4" (36mm) exit/3" (75mm) VC, B&C custom compression driver
Electrical Data	
Program/Peak Power LF:	1600W/3200W (10ms)
Program Power/Peak MF:	500W/1000W (10ms)
Program/Peak Power HF:	440W/880W (10ms)
Nominal Impedance LF:	2 x 8
Nominal Impedance MF:	16
Nominal Impedance HF:	16
Recommended Amplifier:	LA RACK
Crossover frequency/Type (LF to MF):	350Hz Linkwitz-Riley 24dB/oct
Crossover frequency/Type (MF to HF):	1050Hz, 48dB/oct Linkwitz-Riley
Recommended High-Pass Filter:	75Hz, 24dB/oct Linkwitz-Riley
Connectors:	2 x Neutrik NL8
Enclosure	
Construction:	15mm multi-laminate birch plywood
Finish:	Textured black semi-matte coating
Protective grill:	Black perforated steel
Fittings:	Adjustable (0° to 8°) rigging system
Handles:	1 on each side, 2 on the back
Dimensions (WxHxD):	1020 x 380 x 501 mm
Net Weight:	66 kg
Shipping Weight:	69.1 kg