

VP LINE VALTEC™



- ✓ **KS AUDIO VALTEC™**
Variable Acoustic Lens Technology
- ✓ 0° - 10° adjustable vertical coverage
- ✓ 90° horizontal coverage
- ✓ Two 10" neodymium Cone woofers
- ✓ 4" diaphragm compression driver
- ✓ 1840W continuous program power handling
- ✓ 143dB max SPL



Powerful. Precise. Exceptionally Flexible.

KS AUDIO has built a strong reputation for professional line array systems that combine outstanding sound quality with precise directivity and practical system design. The VP LINE takes this philosophy to the next level: a powerful 2 x 10" line array system engineered for applications where high output, exceptional clarity and maximum flexibility are essential.

Powerful 2 x 10" Line Array Design

The **VP LINE** is based around two high-performance 10" low/mid-frequency drivers, providing considerably more output and low-frequency authority while retaining the accuracy required of a modern professional line array.

For the high frequencies, the **VP LINE** features an exceptionally powerful yet highly neutral sounding 4" HF driver with titanium diaphragm. This combination delivers high headroom, excellent transient response and detailed reproduction, even at demanding sound pressure levels.

VALTEC™ – Variable Acoustic Lens Technology

The defining technology of the VP LINE is VALTEC™ – Variable Acoustic Lens Technology, a patented technology developed by KS AUDIO to achieve exceptionally precise and consistent vertical sound projection in a line array.



“Listening to the VALTEC LINE array, I noticed that the comb filter effect was completely absent, no phasing could be heard. The sound in the nearfield and farfield was exactly the same. The sound was completely neutral, transparent and clear.

Howard Heckers

Former FOH technician; Liza Minnelli, James Taylor, Roger Hodgson, Art Garfunkel, Cristopher Cross and many more!

The result is a high-frequency wavefront that can be precisely adapted to the required vertical coverage while maintaining exceptional coherence throughout the array.

This is where VALTEC™ makes the decisive difference. In conventional line arrays, the interaction between adjacent high-frequency sources can create unwanted interference, particularly when different splay angles are required. These interference effects compromise the integrity of the wavefront and can result in a less defined, more diffuse sound image.

The VALTEC™ waveguide is designed to prevent these unwanted interferences, allowing the individual elements to form a coherent and precisely controlled vertical wavefront even when the array is barely curved or not curved at all.

The audible result goes far beyond what is normally expected from a professional line array: exceptional clarity, definition and spatial precision, without the loss of detail and diffuse character typically associated with HF interference.

NO CERTIFIED TRAINING is required to align and adjust the VP LINE

The VP LINE Array is uniquely easy to use. The precisely calculated presets of KS AUDIO in combination with the easy to operate VALTEC™ system makes it possible for personnel without special "Line Array" training to work very successfully with the VP LINE. KS AUDIO made the use of VP LINE Array self-explanatory.

Watch the VALTEC™ explanation video at our YouTube channel:

<https://youtu.be/QEGm9pWsqJI>

“ *Measurements and listening sessions have proven that the VALTEC™ principle results in a huge improvement in Line Array performance.* ”

This gives the **VP LINE** its most important quality: not simply the ability to play louder or project further, but to preserve the purity, neutrality and precision of the original sound throughout the listening area.

It is this combination of the powerful 4" titanium diaphragm HF driver and the VALTEC™ waveguide that makes the **VP LINE** an uncompromising reference for line array sound quality.

Maximum Flexibility within the C RIG System

The **VP LINE** has been designed as an integral part of the KS AUDIO C RIG system and is fully compatible with the established C RIG format.

This makes it particularly easy to combine the **VP LINE** with the VC LINE, as well as with the C WH and C SUB subwoofer systems. Together, these four loudspeaker types — two line-array top systems and two complementary subwoofer systems — provide an exceptionally flexible platform capable of covering virtually every professional sound-reinforcement requirement.

All combinations are supported by precisely matched active crossover configurations, allowing the individual components to be combined freely while maintaining optimum acoustic integration and system performance.

For rental companies, this creates a highly versatile inventory. Individual systems can be used as compact stand-alone solutions, stacked directly on the subwoofers, mounted on speaker stands or flown where required.

VP LINE VALTEC™

The same components can subsequently be combined into much larger and extremely powerful line-array systems for concerts and large-scale events.

This modular approach means that a rental company does not need completely different loudspeaker systems for different applications. The same C RIG components can be configured and reconfigured according to the requirements of each production.

From compact mobile systems to powerful flown concert arrays, the C RIG platform offers exceptional scalability with a comparatively small and efficient inventory.

The resulting flexibility — combined with limited transport volume and the ability to use the same components across a wide range of applications — makes the C RIG concept particularly attractive for professional rental companies.

Precision amplification

Anyone familiar with Line Arrays knows that the frequency characteristics of the array change with different lengths - more cabinets, especially at low frequencies. Changing the Splay affects the frequency response at high frequencies. With the latter phenomenon, the change already takes place at minimal changes in the angle of two elements to each other.

This was the reason for KS AUDIO to carry out very extensive measurements and for each change in the array. Even the minute differences that arise from a small change in the Splay between two elements were measured. The resulting data was converted into accurate presets for our DSP software.

If adjacent elements are at the same angle, they can be driven by one bi-amp channel, and up to 2 elements can be driven this way. So one amplifier is two bi-amp channels are a maximum of 4 **VP LINE** elements. However, since line arrays rarely, if ever, hang at a 0° angle, KS AUDIO recommends using one amplifier bi-amp channel for each differently set splay angle to achieve the best result.

Incidentally, the differences in the adjustment of the equalisation become smaller with larger opening angles. Therefore, with larger opening angles - usually at the bottom of the array - the need for separation between channels is less significant.

In practice, this means that a line array with approximately 8 to 10 elements can be driven by three CA 4D or TA 4D, i.e. six bi-amp channels, perfectly well. The TA 4D of the two has more power, which results in an increase of approx. 3dB SPL max.

Acoustic Engineering Instead of Correction

As with other KS AUDIO developments, the philosophy behind the **VP LINE** is to solve acoustic problems acoustically wherever possible.

Rather than attempting to correct fundamental radiation behaviour afterwards using extensive electronic processing, KS AUDIO develops the loudspeaker, driver arrangement and acoustic waveguide as one integrated system.

VALTEC™ is another example of this philosophy.

By controlling the wavefront directly at the high-frequency source, the **VP LINE** achieves the required dispersion behaviour before electronic optimisation is applied.

DSP and FIRTEC™ processing can subsequently refine the system further, but the fundamental performance originates in the acoustic design itself.

A Major Step Beyond the P LINE

The **VP LINE** should not be regarded simply as an updated P LINE.

The new, more powerful 10" drivers, 4" high-frequency driver and VALTEC™ technology fundamentally change the system's acoustic behaviour. Compared with the previous P LINE, the **VP LINE** offers improved HF performance, greater headroom and a more refined sonic character.

The result is a system that sounds much closer to the latest generation of KS AUDIO systems while retaining the practical advantages of a powerful 2 × 10" line-array format.

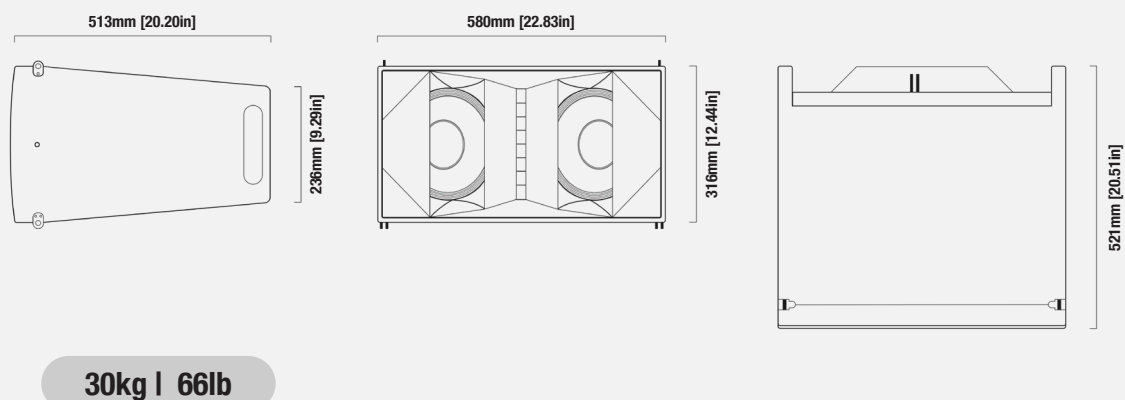
Built to last

The cabinet is made of multi-layered, waterproof glued birch multiplex and has a structured polyurethane coating. A steel grille, covered with acoustic fleece, protects the high-quality components.

SPECIFICATIONS

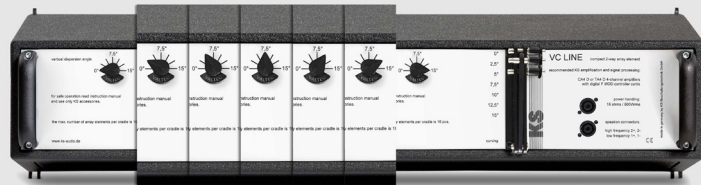
Frequency response	50 - 20.000Hz ±3dB
F MOD / D MOD low cut modes	OFF / 70 / 100 / 120Hz
Max. SPL (1m, free field) with TA 4D	143dB - single element
Nominal horizontal dispersion	90°
Nominal vertical dispersion	VALTEC™ stepless adjustable between 0° and 10°
Transducers	LF: Two 10" neodymium Cone HF: One 4" titanium diaphragm compression driver
Power handling AES RMS/peak	LF: 800W / 1600W HF: 140W / 280W
Acoustic principle	LF: Bass-reflex HF: VALTEC™ Variable Acoustic Lens Technology waveguide
Nominal impedance	LF: 4 Ω HF: 16 Ω
Splay angle increments	0 - 10° stepless
Connectors	Two speakON NL4

DIMENSIONS AND WEIGHTS



VP LINE VALTEC™

On the back of the VP LINE there is a rotatable knob with which the vertical beam angle can be easily adjusted. The only thing the user has to do is to set the VALTEC™ setting equal to the mechanical curvature of the element. Adjusting the mechanical angle is done by the guide rail mounted in the middle of the back of the VP LINE element.

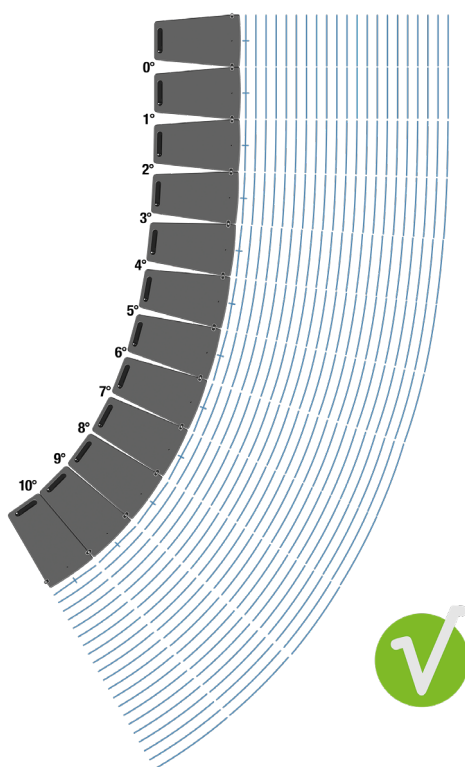


*The picture above is of the VC LINE and for illustration purposes only.
The VALTEC™ system can be stepless adjusted*

VP LINE VALTEC™

Line array

V = 0° - 10° variable

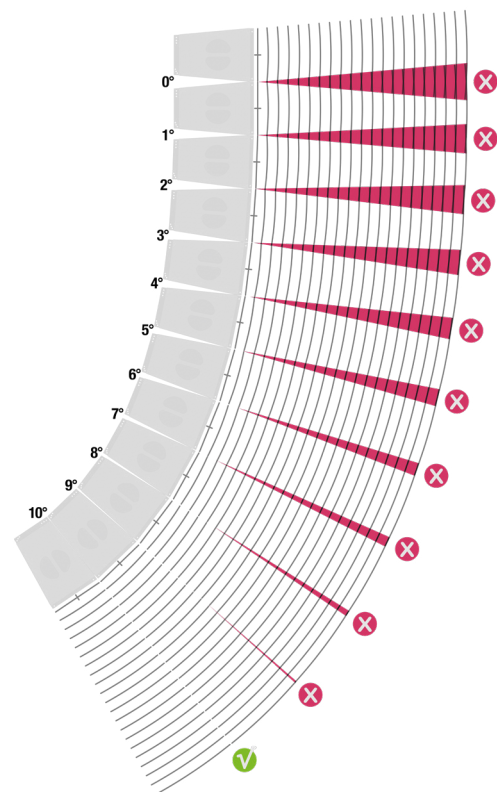


With the **VP LINE**, the vertical dispersion can be adjusted to match the splay angle between the individual elements, allowing the wavefronts to connect seamlessly. This results in a smooth, homogeneous wavefront with significantly reduced interference and virtually no comb-filtering effects.

EVERY OTHER

Line array

V = 10°



With conventional line arrays, the fixed vertical dispersion causes wavefront overlap at all splay angles other than the angle corresponding to the nominal vertical dispersion — 10° in this example. This overlap introduces phase differences within the combined wavefront, which can result in the well-known comb-filtering effect. The greater the deviation from the nominal angle, the more pronounced these interference effects may become.