VIDA

VERSATILE INTELLIGENT DIGITAL ARRAY

KLING & FREITAG

SOUND SYSTEMS


PASS
ION.

VIDA

VERSATILE INTELLIGENT DIGITAL ARRAY

Full-range capable

Beam steering in real time

48 DSP and amplifier channels

Artifact-free tweeter resolution of up to 10 kHz

Scalable up to eight elements

Mechanical tilting

VIDA App

Dante™

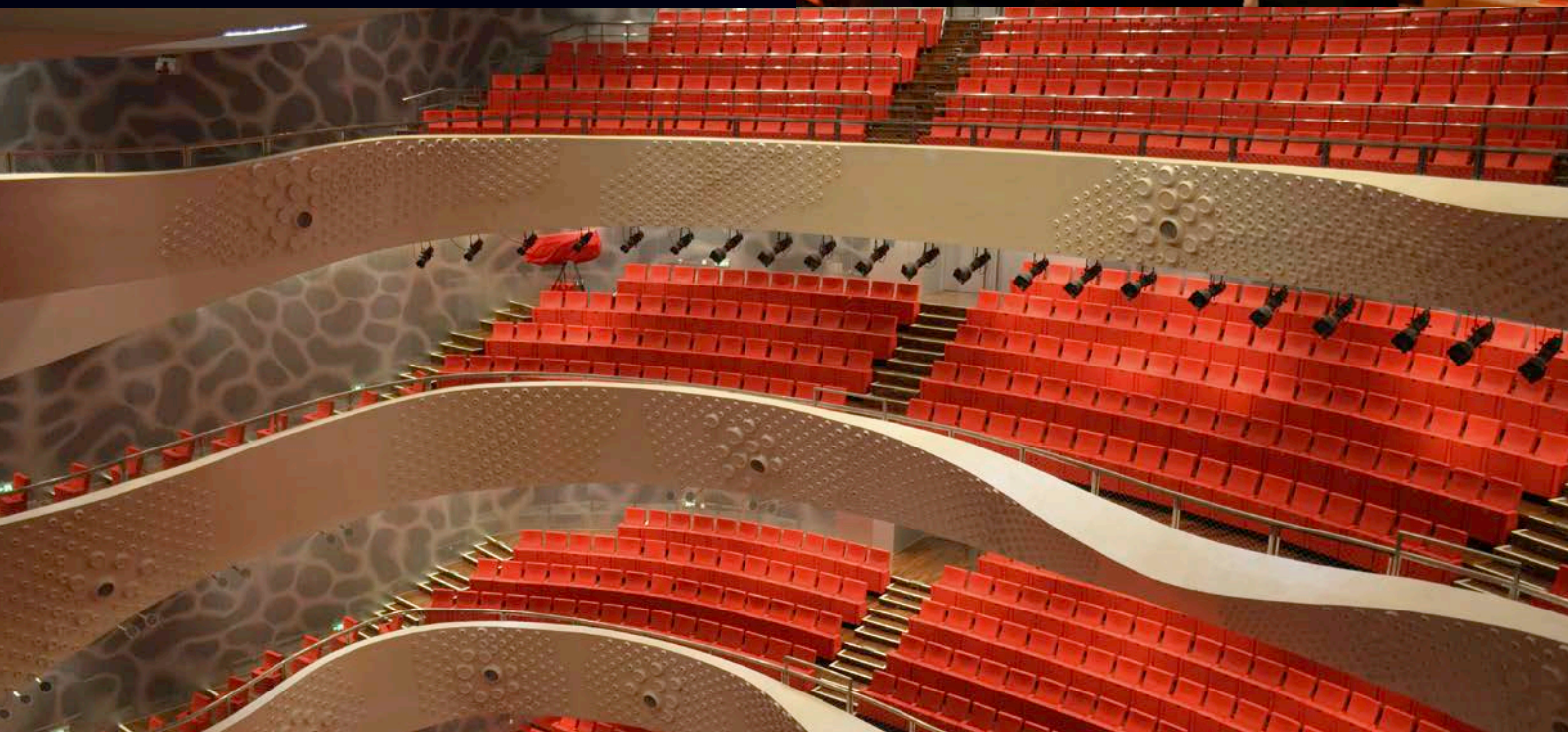
Optional cardioid module

... controllable, loud, audiophile

ENJOY


LANDESPARTEITAG DER
CDU IN NIEDERSACHSEN
LINGEN · 27./28. AUGUST 2010
MUT ZUR

PASSION



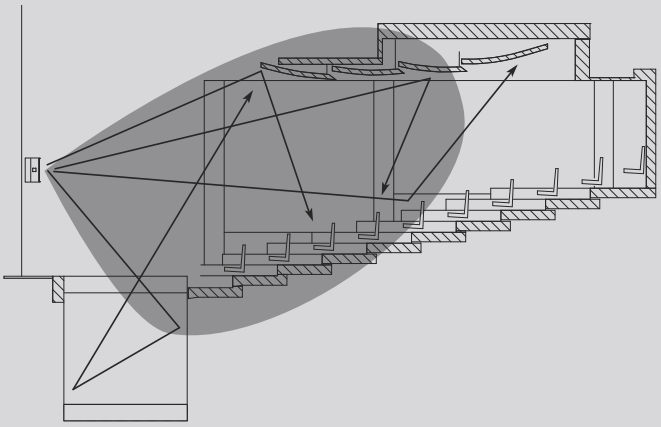
BEAM-STEERING

Achieving what is technically feasible in all relevant disciplines is the maxim of VIDA, in order to get the best performance in controllability, full-range capability, sound pressure, latency, ease of use, and, ultimately, sound quality. This requires a willingness to make an enormous investment in technology and time to finally bring even live experiences to the highest level for the first time with line array technology – electronically targeted and controllable in real-time.

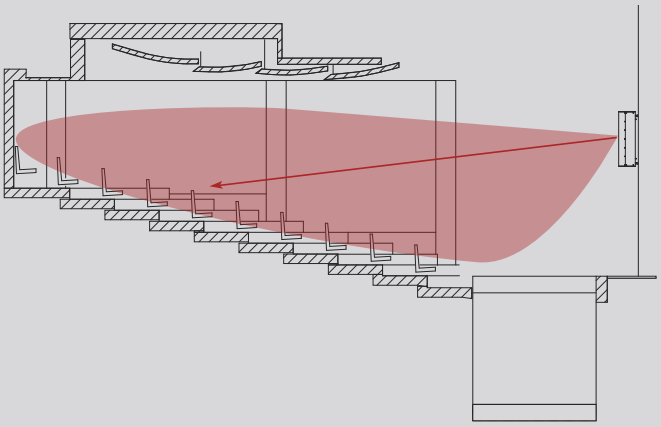
The beam steering options make a significant contribution towards improving sound quality. Especially in acoustically problematic surroundings, space-related reflections can be reduced to a minimum. With the VIDA App, the beam can be focused precisely on the audience area. The result is improved speech intelligibility and an optimum listening experience from the first to the last row. The radiation characteristics of conventional loudspeaker systems are inflexible and can only be adjusted through physical orientation of the space. This is unlike beam steering with VIDA. In this case, the vertical opening angle in adjusted in real time in the VIDA App. Asymmetric beams can also be configured for rising positions.

The electronic controller of the VIDA enables discreet positioning, also in non-optimum positions, and highly variable adjustment to different acoustic situations.

Coverage
Conventional speakers



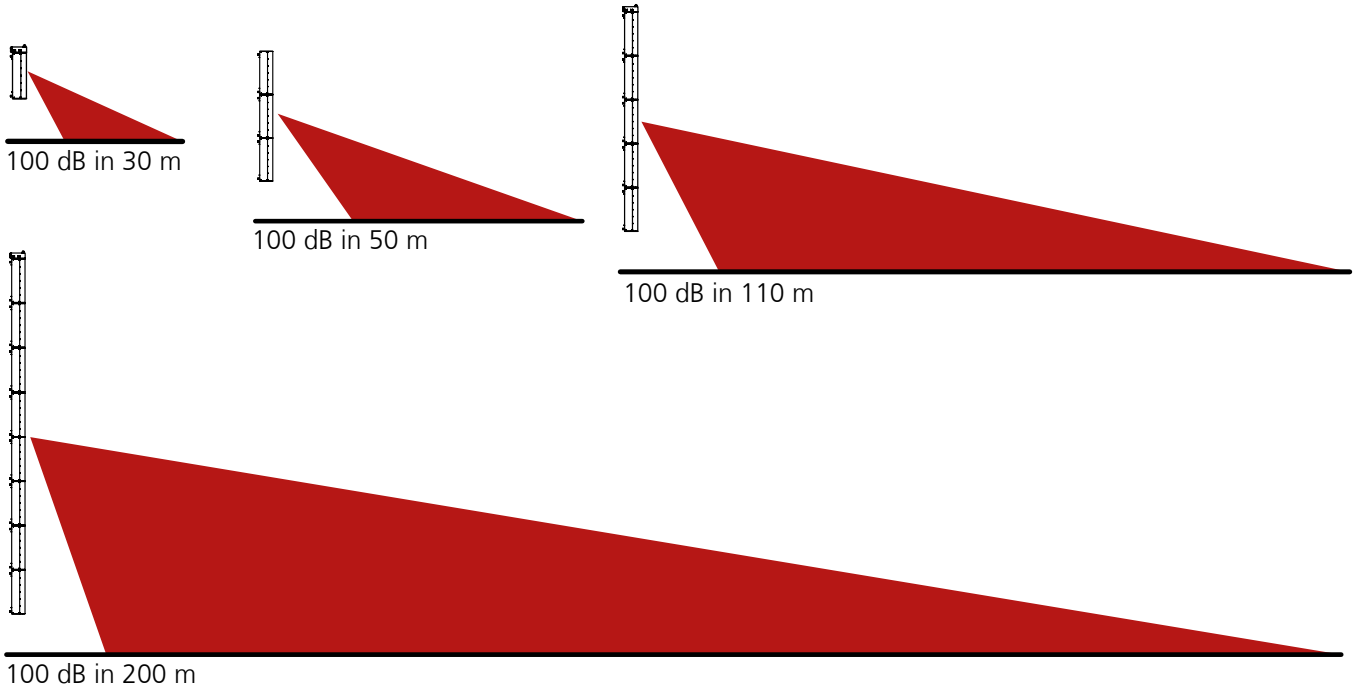
Coverage
VIDA L

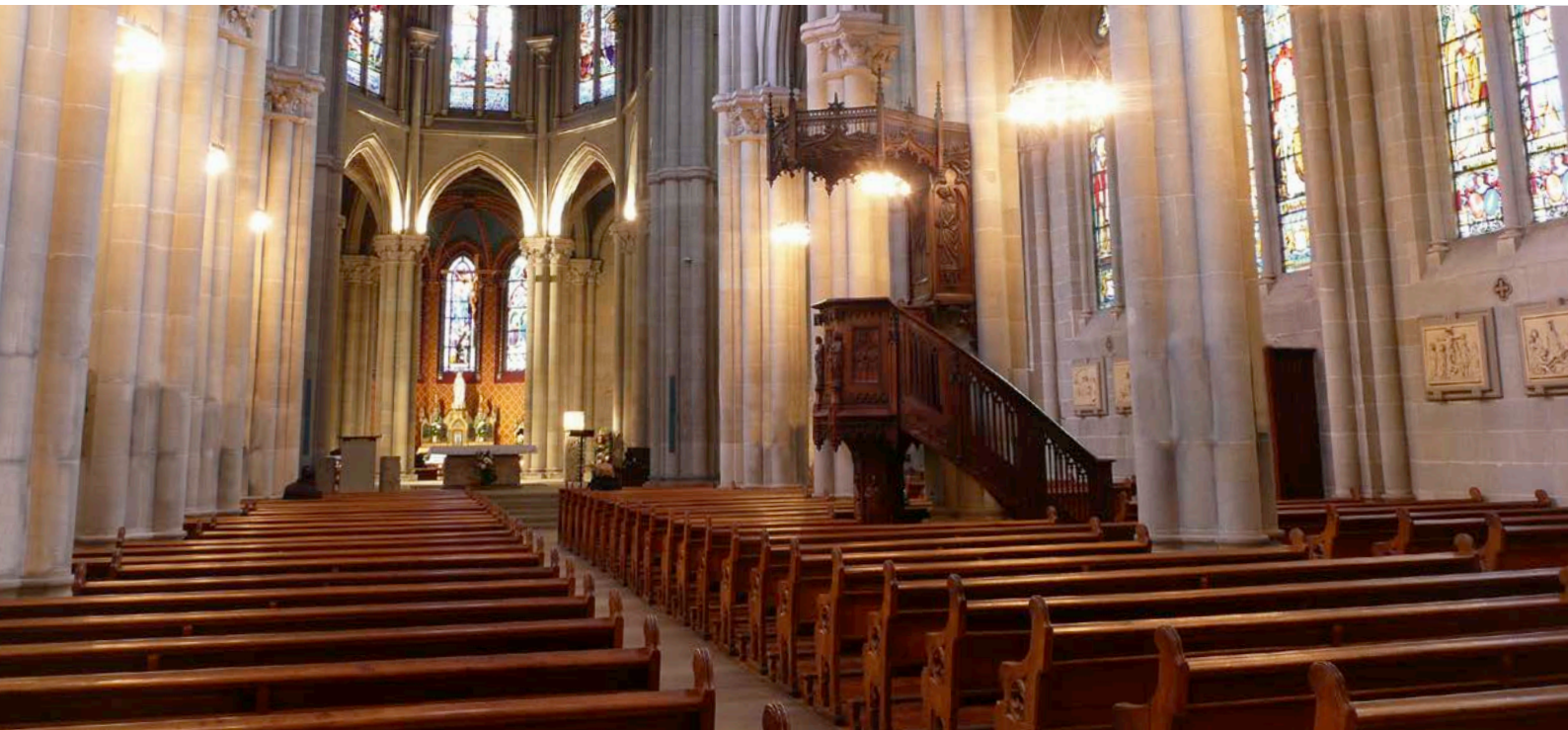


SOUND PRESSURE AND COVERAGE

With the loudspeaker configuration, the powerful drive with 48 separate amplifier channels and 3 kW of total power per box delivers a maximum sound pressure level of over 134 dB with just one element. The integrated mechanics of the individual modules allow the formation of arrays of up to a maximum length of 8.9 m (8 x VIDA L) on a single flying frame.

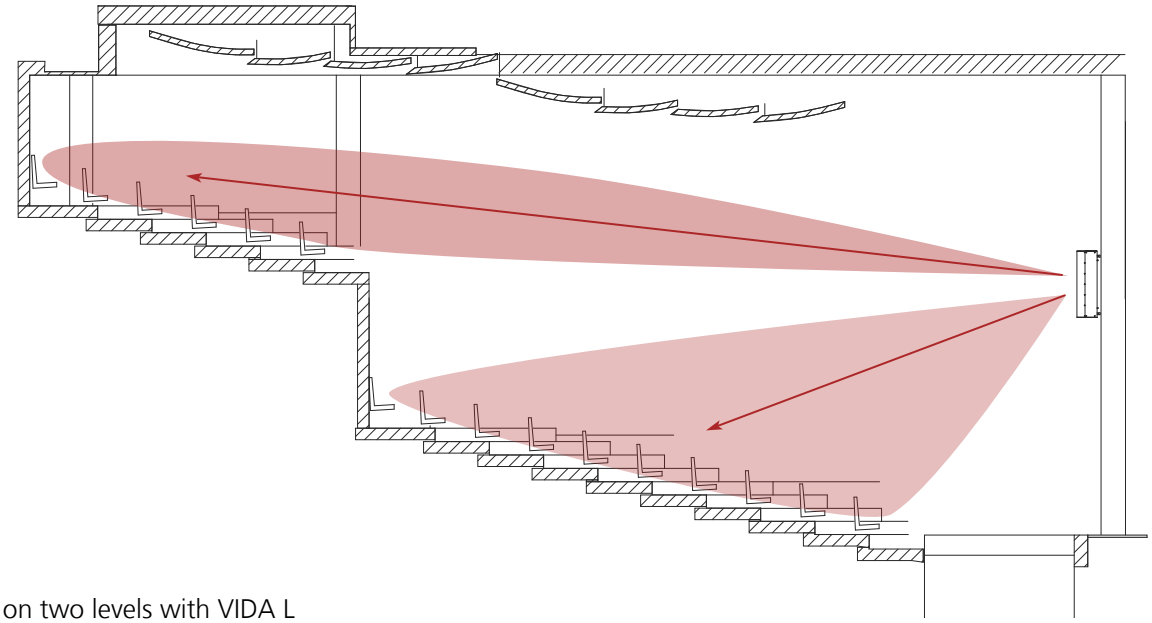
Another positive aspect of the line source is that the the sound energy decreases over distance significantly less than it does with conventional speaker systems.



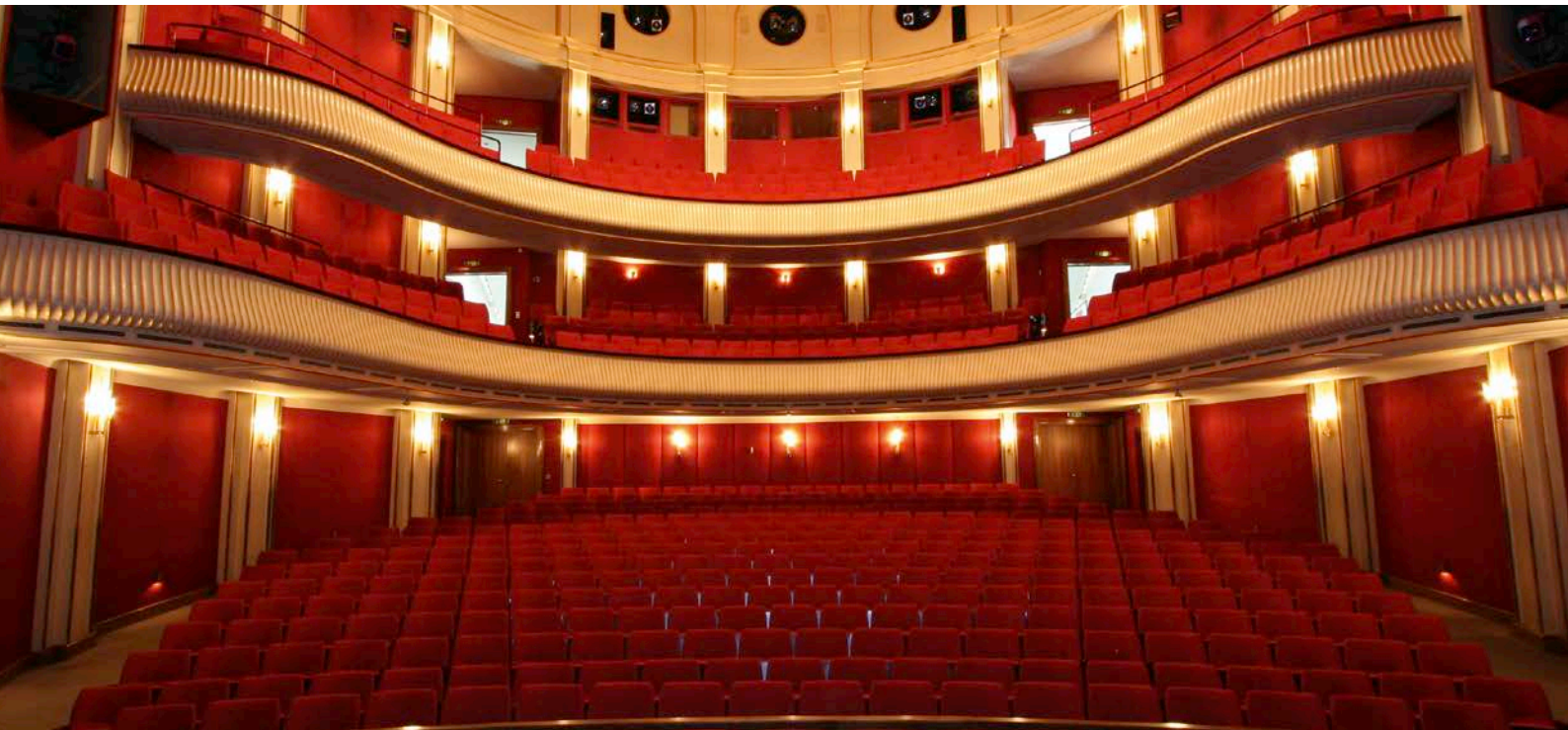


SPLIT-BEAM

Even scenarios with two different listener levels can be filled with sound using a single VIDA L unit. For this purpose, there are two independent beams for the respective audience area. It is possible to switch between one and two beams, according to the seating layout. This can be done either directly in the VIDA App or by using an external media controller. The orientation and level of both beams can be set independently from each other.



Split beam on two levels with VIDA L



VIDA C - CARDIOID MODUL

The advantage of a line source's lean design is that energy in the low and lowmarke.ting

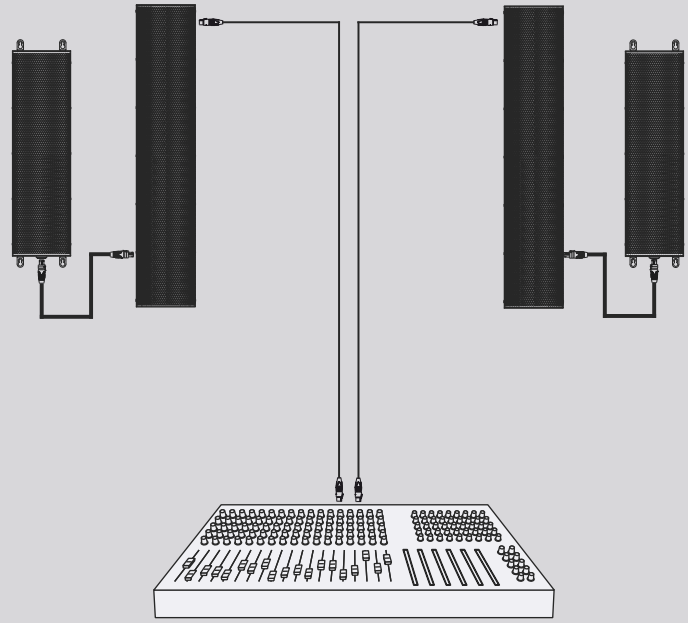
mid ranges is almost equally strong both in front of and behind the speakers. On the one hand, this dipole effect increases the risk of feedback during live performances on stage. On the other hand, the diffuse rear sound parts worsen speech intelligibility. To counteract this, the sound engineer needs to considerably equalise the feedback-prone frequencies with conventional line sources. The result is a pressure-free, thin sound. This is exactly where the VIDA C module comes into play: Using the cardioid module is the ideal solution. It counteracts the dipole effect of the line array with up to 20 dB rearward attenuation in the range of 60 Hz – 400 Hz. The VIDA C module that is mounted on the rear of the line source is supplied from the VIDA L and can be operated over the common software in cardioid or hypercardioid characteristic. If a higher level in the low-mid range is desired, VIDA C can be used as an alternative to bass support. Thus, combining VIDA L with VIDA C offers extensive flexibility.

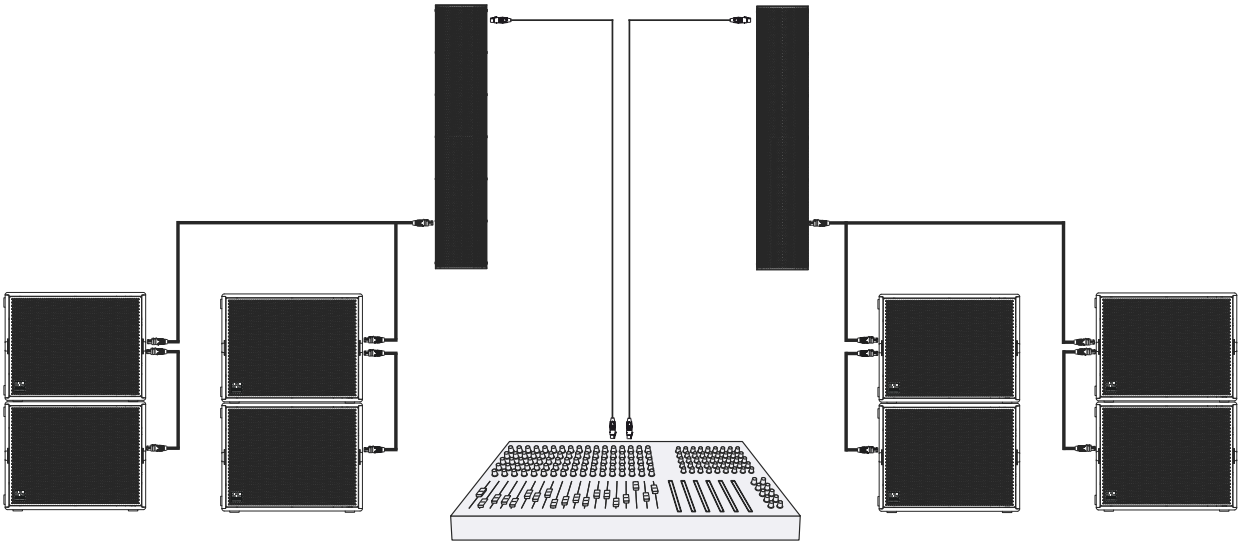
OPTIONAL SUBWOOFER EXTENSIONS

VIDA L is designed as a 3-way bass reflex system that, in full-range mode, delivers impressive dynamics and high sound pressure of up to 65 Hz.

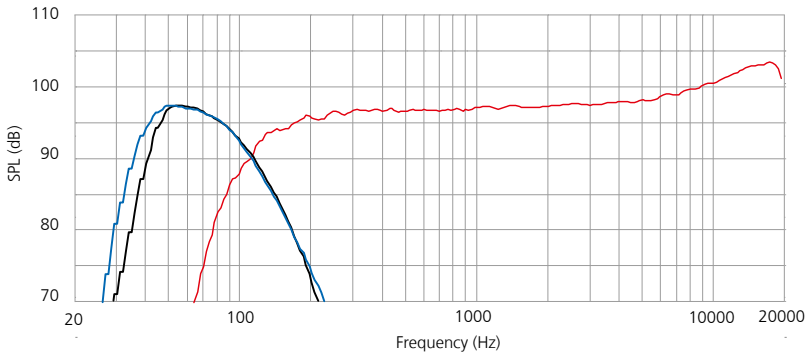
The LCut mode is recommended for maximum levels in combination with additional subwoofers. To connect an external bass extension, the 'AMP OUT' delivers an output power of up to 800 watts over a speakON jack. VIDA L offers the following options for each element:

- 1 K&F VIDA C
- 1 to 4 K&F PASSIO SUB 12
- 1 to 4 K&F PASSIO SUB 15

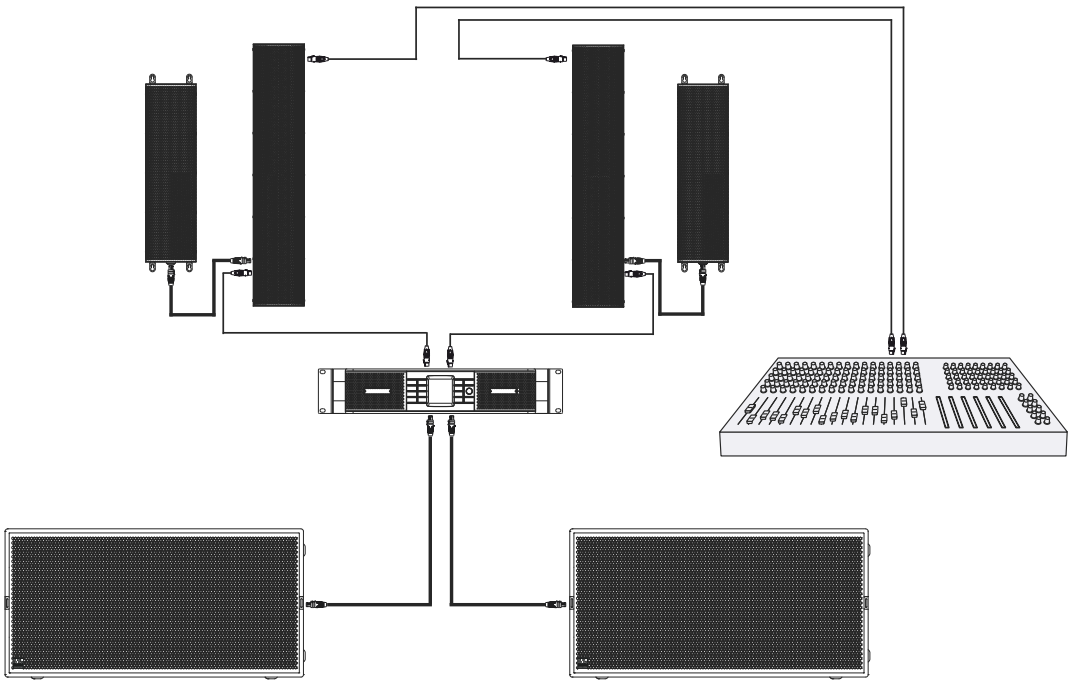




FREQUENCY RESPONSE (FAR FIELD)



In addition to the bass extension over the 'AMP OUT', there is an audio output 'AUX OUT' on the connection panel of VIDA L for operating external self-powered subwoofers or SystemAmps. The system can be optimised and set up using the VIDA App with additional delay, gain controller and crossover.



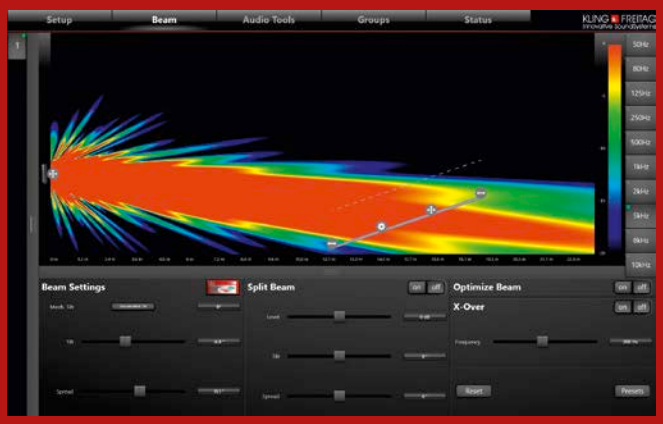
PRECI
SION.

TWEETER WITH WAVEGUIDE

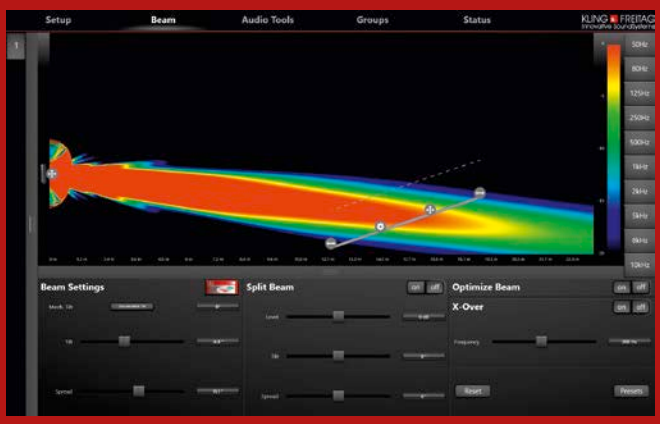
In addition to the focused verticals, it is important to achieve a constant horizontal beam characteristic. For this purpose, a 90° tweeter waveguide has been developed for VIDA and optimised in the BEM method. This increases the sound pressure and an even beam characteristic is achieved. VIDA hereby combines the best of two worlds: The beam characteristic is optimised electronically via an algorithm, as well as mechanically through use of Waveguide.

Through the large number of 1" domes that are positioned closely together, artefacts only arise above 10 kHz. Each tweeter is controlled by a separate DSP amplifier channel. In addition, physically induced side lobes of the VIDA L are suppressed by a software algorithm using the "Optimise" function. This results in a better STI values and thus leads to improved speech intelligibility in acoustically problematic surroundings.

Function Optimize 'OFF'



Function Optimize 'ON'

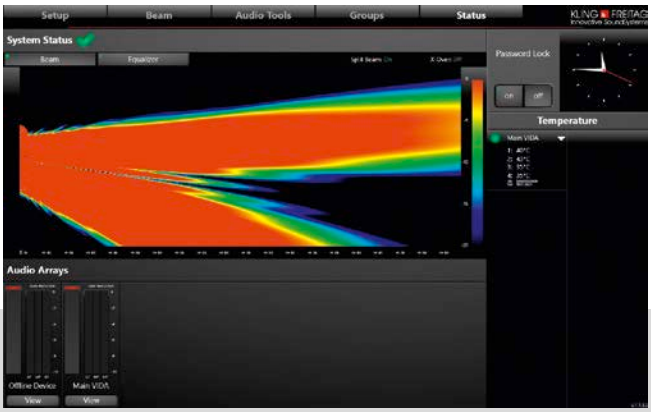


VIDA APP

The VIDA App is simple and intuitive, touch-based software that runs both on laptops, as well as tablets from Windows 8.1. Using this, the system is configured in real time, the loudspeaker beam is positioned and sound adjustments are made. The software can be password-protected to prevent third parties from configuring settings on the system, while still allowing the system to be monitored. All settings can be saved on the computer.

The VIDA App is available free-of-charge in the Windows Store.

For everyday business in rental logistics, the hardware reset with a special dongle is of particular interest. This enables the system to be reset to the delivery state without using a computer.



PUSH IT TO THE LIMIT

In the VIDA L, each chassis unit runs in its own optimal transmission range. The 6.5" long excursion chassis provides sufficient depth, the 3.5" chassis enforcement and dynamic in the medium frequency range – which is relevant for the human voice – and the 1" dome provides an even high-frequency reproduction through the coupled Waveguide. The system is arranged coaxially with three ways. The advantage is that, for the listener, the sound event comes from one source.

The VIDA L drive comprises 48 DSP and amplifier channels with over 3 kW maximum output. This total performance of the system enables outstanding results.

The heart of the VIDA L is an FPGA with enormous computing power, which allows control of the 50 loudspeaker chassis and the two outputs 'AMP OUT' and 'AUX OUT'. The beam steering can be achieved without artefacts and broadband with extremely low latency. VIDA L predestines such a short delay time especially for use in live applications.

VIDA SPEAKS DANTE

Since VIDA was also designed for live applications, Dante is the first choice as an audio network. Dante is already integrated into many mixing consoles and amplifiers, and enables fail-safe wiring. Playbacks can be made directly from the computer via the Dante virtual sound card.

SAFETY FIRST!

VIDA L provides two ways of system integration in an existing building or media controller via:

1. Ethernet

2. GPIO

The latter is especially suitable for integrating the line source into a voice alarm system. In addition to floating input and output contacts, VIDA L provides an additional 10-volt control voltage. On the input side, presets can be switched over the GPIs or mute commands, for example, can be received by a central fire alarm system. On the output side, feedback is provided on the operating status of the system. Here, errors and excess temperature, among other things, are reported to the central office.

Backup switching of the input signal is automatic.

Terminal with inputs

Terminal with outputs

ONE PLUS ONE IS THREE

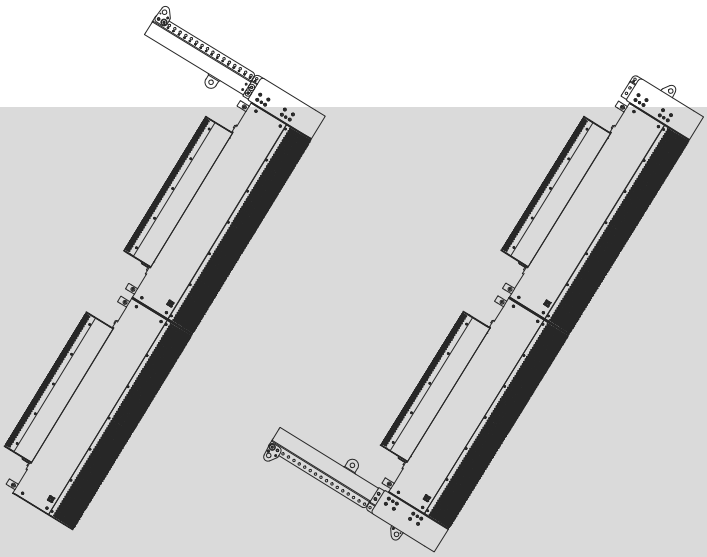
Even the beam steering has physical limitations. While the transmission from the VIDA L can be precisely controlled electronically within the range of ± 45°, extreme angulation influences the playback quality.

For the best acoustic results, the array can also be tilted with the VIDA L flyframe. An optional bracket enables extreme angles when necessary.

The tilt of the array can be read on the integrated inclinometer of the VIDA App, and is used to calculate the effective emission angle in the software.

The concealed flight mechanics of the VIDA L are designed for configurations of up to eight VIDA L and VIDA C units. A sophisticated control mechanism ensures the rapid assembly and dismantling of systems.

Direct installation of VIDA L, also in combination with VIDA C, is possible with optional accessories on a traverse. The VIDA L wall bracket is another accessory for secure wall mounting.



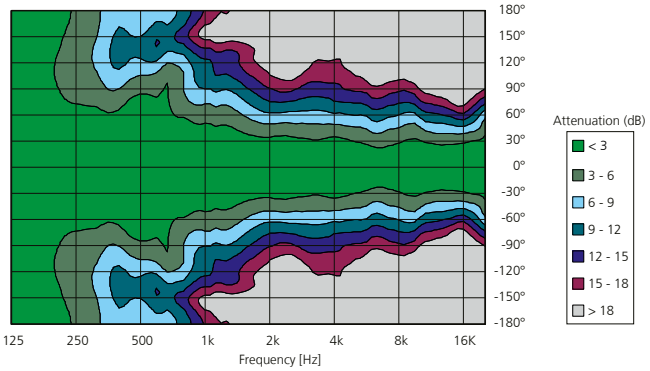
With the VIDA L Flying Frame and VIDA L Flying Frame Extension a single-stranded, as well as double-stranded suspension is possible.

At large angles, the mechanical tilt supports the acoustical quality with the flight frame.

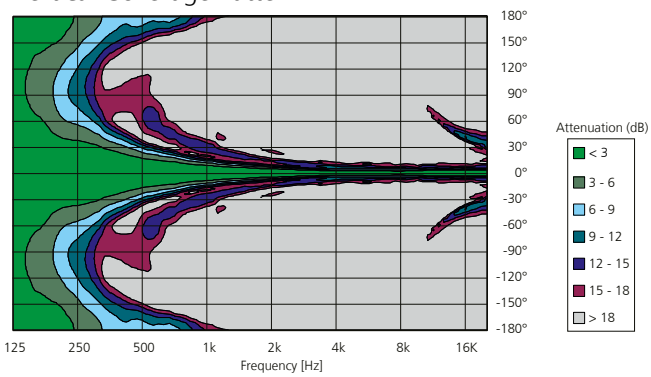
TECHNICAL DATA

Design	High-performance line array with beam steering, 3-way coaxial structure, integrated DSP and amplifier electronics
Frequency response-10 dB	65 Hz – 22 kHz 'FR mode' 80 Hz – 22 kHz 'LCut mode'
Frequency response ±3 dB	77 Hz – 21 kHz 'FR mode' 115 Hz – 21 kHz 'LCut mode'
Coverage angle horizontal	90° nominal (in vertical operation)
Coverage angle vertical	Freely adjustable up tp 90° +/- 45° steering angle
Max. SPL (1m)	135 dB
Components	32 x 1“ dome tweeters 12 x 3,5“ high mid chassis 6 x 6,5“ low mid chassis
Power AMP OUT	2 x 400 W RMS/4 Ω
Minimum Impedance AMP OUT	4 Ω/channel
AUX OUT	Nominal +6 dBu
Analog Input	Full-scale at +18 dBu
Connectors	1 Analog Input (XLR) 1 AES/EBU Input (XLR) 1 VIDA BUS Input (Ethernet) 1 PowerCon True 1 1 Analog Link (XLR) 1 AES/EBU Link (XLR) 2 Dante Remote (Primary/Secondary) 1 AUX OUT (XLR) 1 AMP OUT (speakON) 1 VIDA BUS Output (Ethernet) GPIOs (Phoenix-Connector)
Mechanical Tilt	Single and double-stranded possible, also in combination with VIDA C
Enclosure	Extruded aluminium profile with internal hidden flight mechanics, back-action rail with slot nuts for mounting brackets and VIDA C, flight mechanics are secured/released via a back-action operating lever, heavy-duty powder coating in black, connection and output terminal set obliquely downward, ball proof steel grille with black acoustic foam.
Dimensions (H x W x D)	1075 x 210 x 341 mm 1075 x 210 x 480 mm (VIDA L with VIDA C)
Weight	48,2 kg 61,8 kg (VIDA L with VIDA C)
Colour	■ RAL 9005 (black) ■ RAL Special Colour

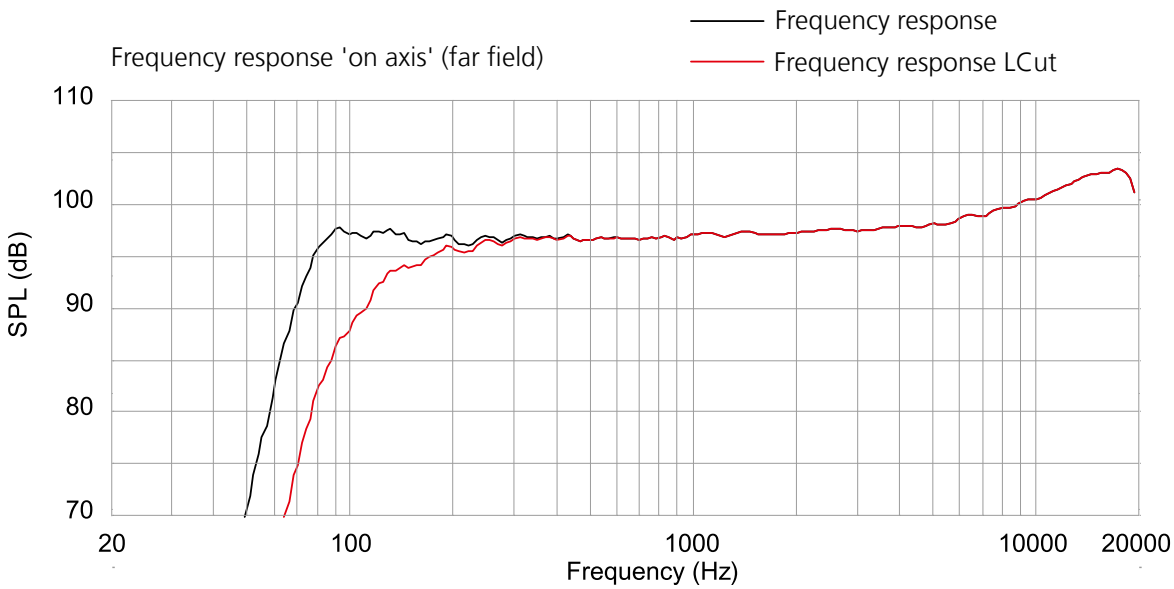
Horizontal Coverage Pattern



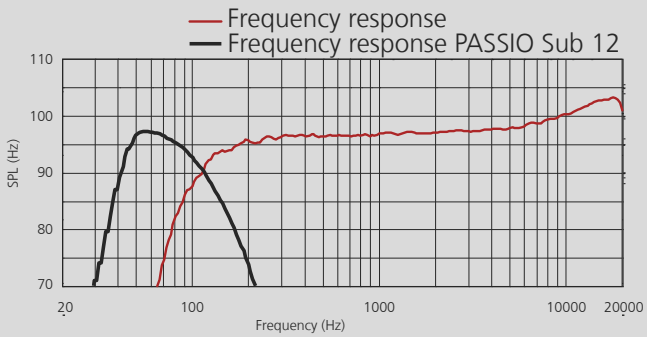
Vertical Coverage Pattern

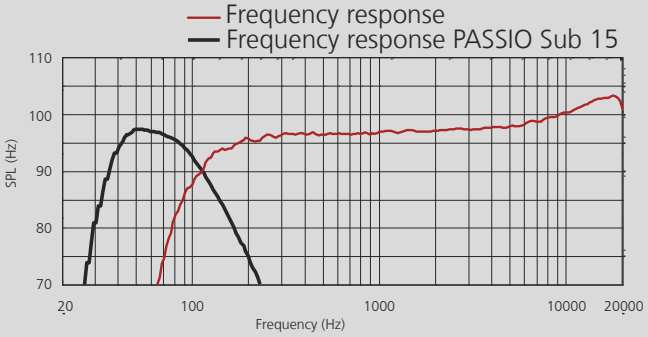


Frequency response 'on axis' (far field)



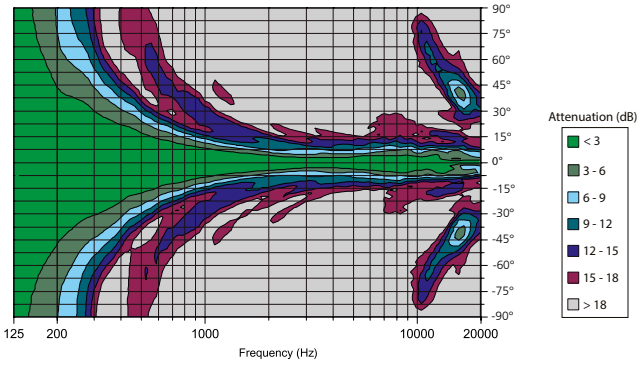
FREQUENCY RESPONSE (FAR FIELD) WITH PASSIO SUB



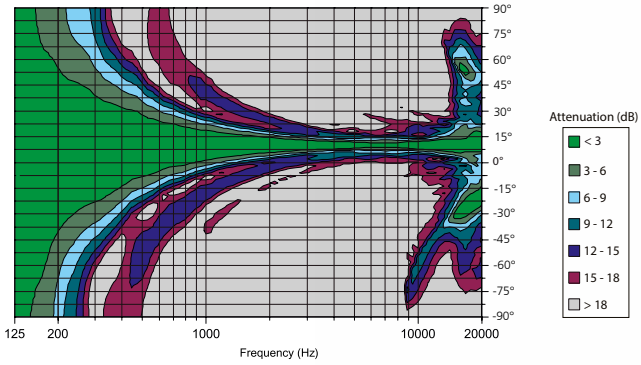


ISOBAR DIAGRAMMS

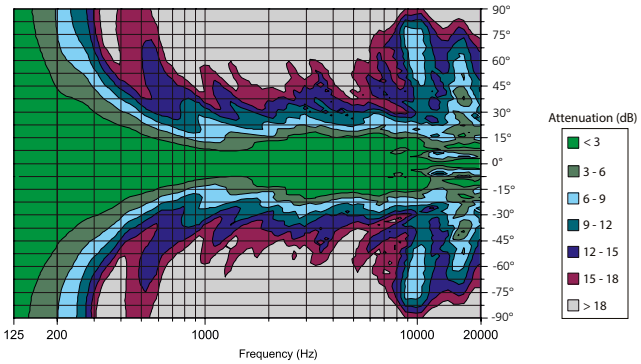
Vertical Coverage Pattern VIDA L 10° Splay Angle, 0° Tilt



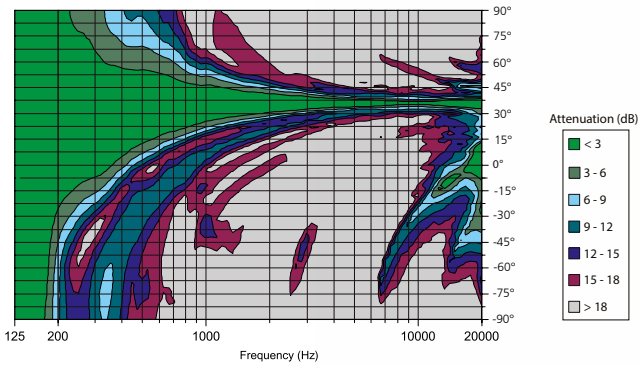
Vertical Coverage Pattern VIDA L 0° Splay Angle, 10° Tilt



Vertical Coverage Pattern VIDA L 40° Splay Angle, 0° Tilt



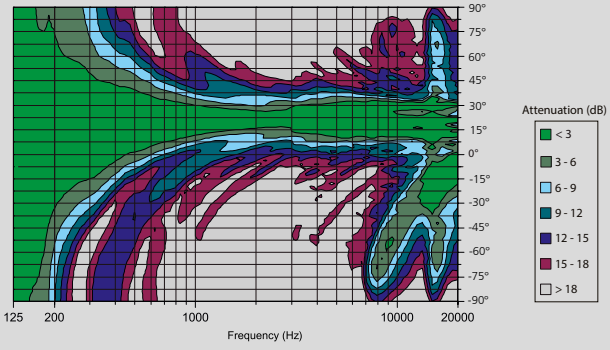
Vertical Coverage Pattern VIDA L 0° Splay Angle, 36° Tilt



'OPTIMIZED' FUNCTION

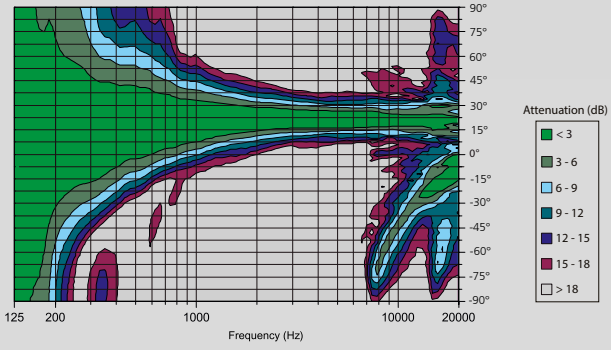
Function Optimize 'OFF'

Vertical Coverage Pattern VIDA L 20° Splay Angle, 20° Tilt, Optimized 'ON'



Function Optimize 'ON'

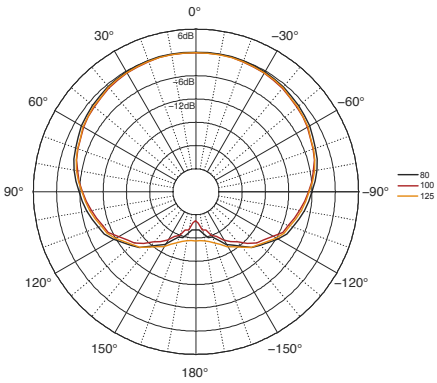
Vertical Coverage Pattern VIDA L 20° Splay Angle, 20° Tilt, Optimized 'ON'

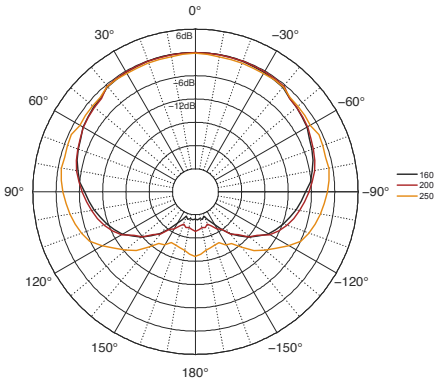


VIDA C

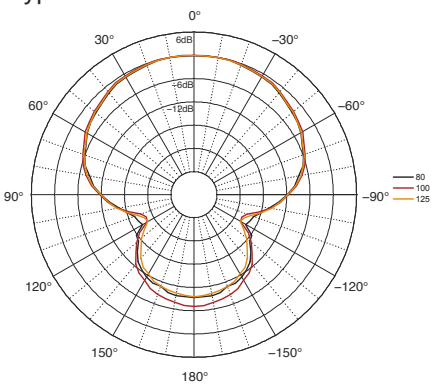
- Cardioid module
- Rearward attenuation
- Support in the low frequency possible
- usable as needed

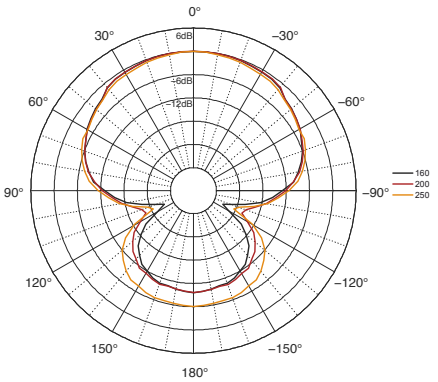
Cardioid



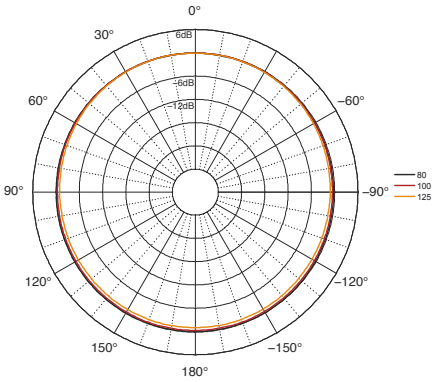


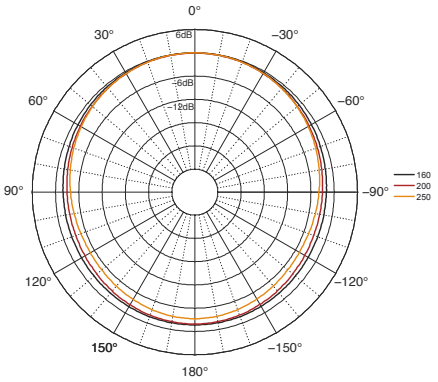
Hypercardioid





Omnidirectional

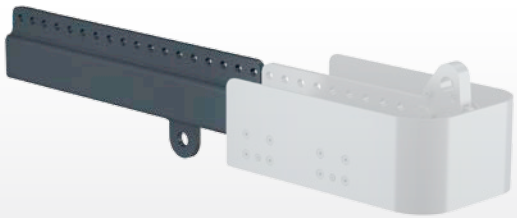




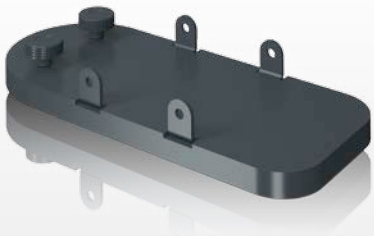
VIDA ACCESSORIES

VIDA L Mounting Bracket/Handhold

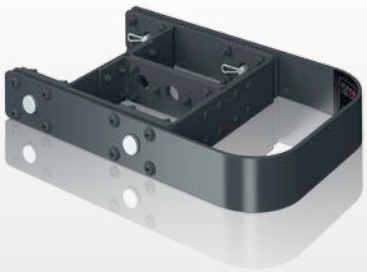
VIDA L Flying Frame



VIDA L Flying Frame Extension



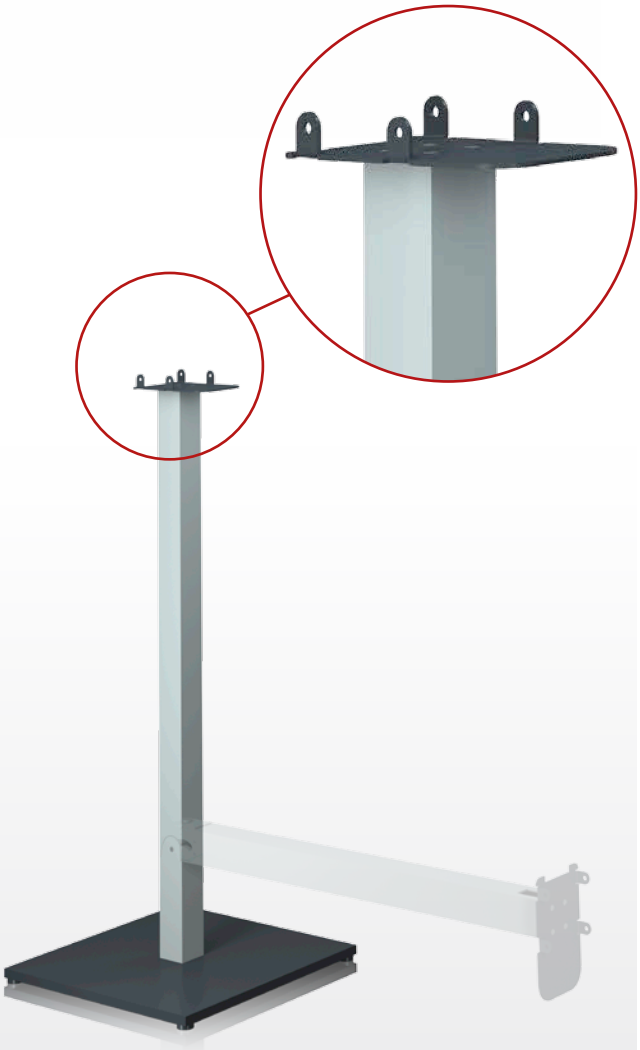
VIDA L Sub-Adapter



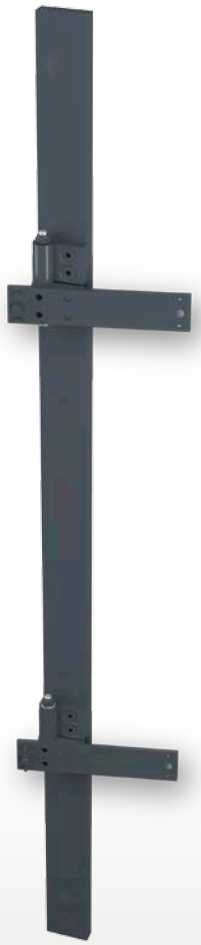
VIDA L Flying Bracket

VIDA L Flying Frame Connector Set

VIDA L Case



VIDA L Adapter Plate



VIDA L Wall Bracket (Fixed Installation)

KLING & FREITAG GmbH

Junkersstraße 14 · D - 30179 Hannover
Tel +49 (0)511 969970 · Fax +49 (0)511 673794
www.kling-freitag.de · info@kling-freitag.de

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