



YEARS ANNIVERSARY

Touring | Install | Music



PASSIONATE IN
SOUND SOLUTIONS

FINEST PRO AUDIO MANUFACTURING
MADE IN GERMANY

APRIL 2020



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K.M.E. 的公司历史



▲ 箱体外壳涂层最终组装前

Klingenthaler Musikelektronik GmbH 成立于第一次世界大战之前。

那时是制作手风琴和口琴。在 1960 年代初期，乐器的生产转向于扩声的电子产品。

私有的 F.A. Bohm 公司开发和生产放大器和扬声器于世界市场。

这段时间的知名品牌是 Weltklang, Bohm Regent 和 Bohm Electronic。

像 GRD 中的几乎所有公司一样，1972 年的博姆 (F.A. bohm) 未能摆脱国有化，并形成了国有联合企业。

从那时开始。VEB Musik electronicik

Klingenthal 生产了 Regent 品牌的电子音响系统，并以 Echolette, Falkon, Matrix 或 Sound city 等商标出口到世界各地。

1989 年德国的统一行动和货币联盟为公司提供了改变的可能性。

管理层收购后，OEM 的生产在 1992 年停止，该公司的成立始于建立自己的品牌，最初以 MEK 为名，

后来以 K.M.E. 新产品组合在德国和德语国家建立。在 1990 年代末，K.M.E. 扩展到欧洲国家希腊，意大利，爱尔兰和荷比卢三国，也销往俄罗斯和亚洲市场。

今天 K.M.E. 是国际知名品牌，代表着出色的音质，出色的做工，耐用性和价值稳定性。

从一开始就没有什么改变的是：德国制造不仅是 Klingenthal (克林根塔尔) 的商标，而且是事实！

KME 的企业理念

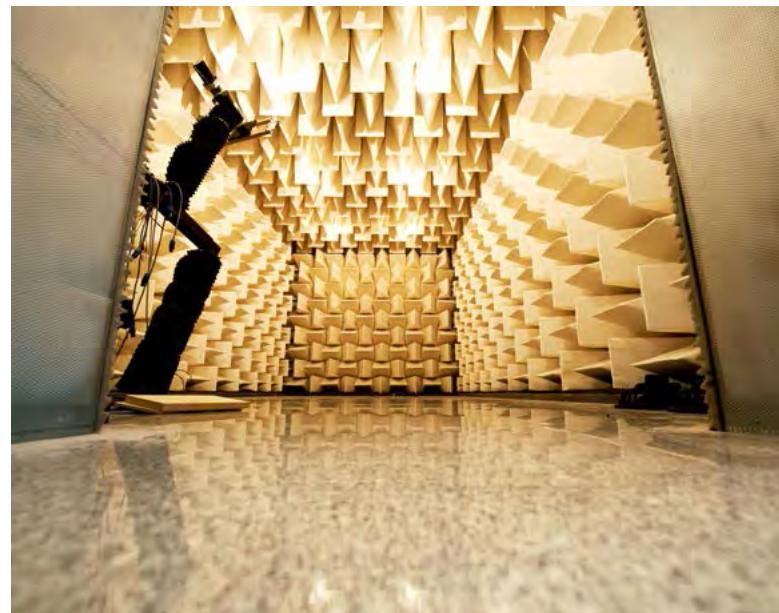


▲ 金属加工



▲ 木材加工

声学发展部消声室 ▶



设定自己的标准，做出自己的决定，而不是满足于现有和成就，这就是 K.M.E. 我们的产品反映了实现突破性质量和性能的渴望。K.M.E. 产品设计始终专注于整体 - 具有创意细节的复杂系统解决方案。直观的操作逻辑和符合人体工程学设计的产品简化处理，并扩展其应用选项和灵活性。最近的创新包括音频系统的完全数字化。这项高端技术和钕扬声器的使用确保了系统的绝对可靠性。

目前，由 30 名员工组成的开发，生产和销售团队，全力以赴努力使公司取得成功。

K.M.E. 系统在实际条件下在具有优化，生动活泼声学效果的现代音频能力中心中进行演示，在消声室内对声源进行了有关方向特性和频率 / 相位特性的广泛研究。

History of the company K.M.E.



▲ COATED ENCLOSURES PRIOR FINAL ASSEMBLY

Klingenthaler Musikelektronik GmbH was founded prior the First World War. At this time accordions and harmonicas were made. In the early 1960s, the production of musical instruments switched to electronics for sound reinforcement. The still private company F.A. Böhm developed and produced amplifiers and speakers on a world market level.

Well known brands from this time are Weltklang, Böhm Regent and Böhm Electronic. Like almost all companies in the GDR, F.A. Böhm 1972 was not spared from nationalization and was formed into a state-owned combine. From now on, VEB Musik Elektronik Klingenthal produced electronic sound systems under the Regent brand. Also under trademarks such as Echolette, Falkon, Matrix or Sound City they were exported worldwide.

The reunification of Germany in 1989 and the monetary union offered the possibility of change for the company. With a management buy-out, the production of OEM products was discontinued in 1992 with the founding of the limited company which began with the establishment of its own brand initially under the name MEK and later K.M.E. The new product portfolio was established in Germany and German-speaking countries. At the end of the 1990's, K.M.E. expanded to the European countries Greece, Italy, Ireland and Benelux, but also to Russia and the Asian market. Today K.M.E. is an internationally known brand that stands for outstanding sound, excellent workmanship, durability and value stability. One thing has not changed since the beginning: **Made in Germany is not just a label in Klingenthal but lived reality!**

The corporate philosophy of K.M.E.



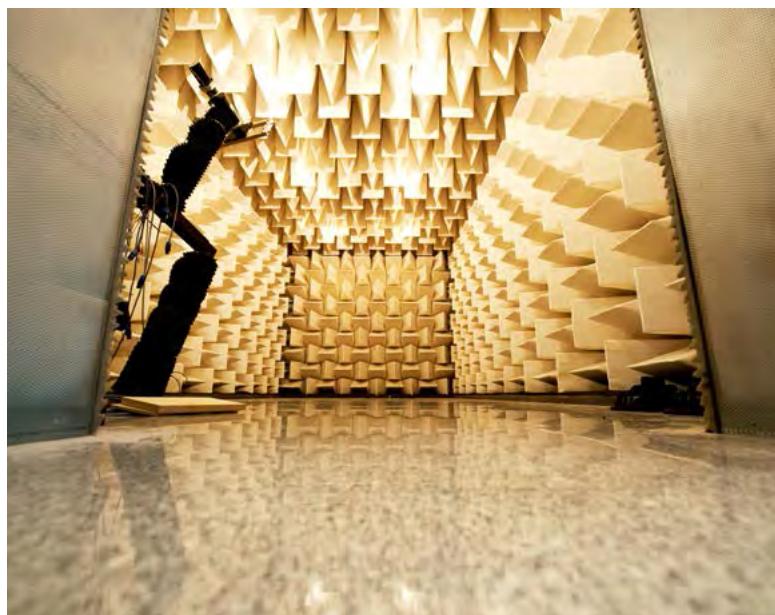
▲ METALWORKING



▲ WOOD PROCESSING

ANECHOIC CHAMBER OF THE ACOUSTIC DEVELOPMENT DEPARTEMENT ▶

Set your own standards, make your own decisions, not content with the existing and the achievements, this is K.M.E. Our products reflect the urge to implement groundbreaking quality and performance. K.M.E. product designs are always focused on the whole - sophisticated system solutions with creative details. Intuitive operating logic and ergonomically designed products simplify handling and expand their application options and flexibility. Recent innovations include the completely digital generation of audio systems. This high-end technology and the use of neodymium loudspeakers ensure absolute reliability of the systems. Currently, a team of 30 employees in development, production and sales is working on the success of the company. In a modern audio



competence center with optimized, lively acoustics, the K.M.E. systems are demonstrated under practical conditions. Extensive investigations of sound sources with regard to directional characteristics and frequency/phase characteristics are carried out in the anechoic chamber.

P O R T A B L E A U D I O
流动音响系統



Sound systems with optimized portability due to compact size, low weight and intuitive operation. Simply Plug'n'Play. You will appreciate these qualities. For passionate sound experiences with ease.

体积小巧的音响系统，您将欣赏这些品质, 具有最佳的便携性, 重量轻, 操作直观。只需即插即用, 轻松获得洋溢的声音体验。

概观

配件

VLX 4

CN VLX 4 是一款纤薄无源三分频音柱设计扬声器，适用于语音，也适用音乐重播。

EN The VLX 4 is a passive 3-way loudspeaker in slim column design which is both suitable for speech and music reproduction.

多功能

- 纤细且不显眼的箱体设计 (可用扬声器支架安装或飞行吊挂使用)
- 结构紧凑，重量适中
- 完整扬声器撑杆孔
- 飞行吊挂硬件可选

耐用和稳定

- 防风雨 PU 涂层木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

声音

- 平滑和均衡的再现高频率
- 声学低反馈特点
- 自然清晰的声音

Multifunctional

- Slim and unobtrusive enclosure design (assembly on speaker stand or flying application)
- compact dimensions and moderate weight
- integrated speaker flange
- flying ability due to optional hardware

Durable and value stable

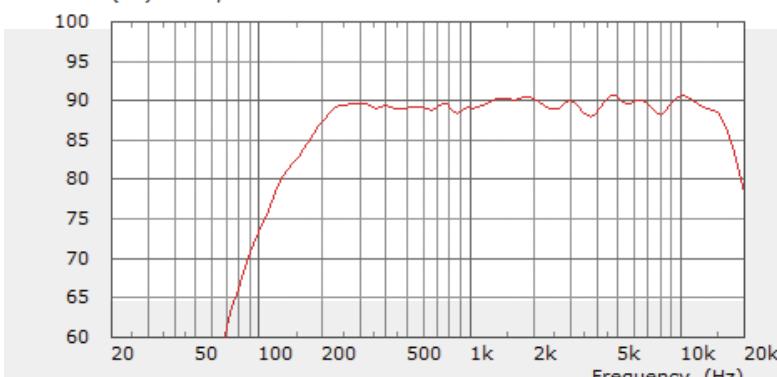
- Wooden casing with weatherproof PU coating
- High quality and high load capacity components
- Impregnated loudspeaker membrane for inside and outside applications

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behavior
- Natural and transparent sound

频率范围 / Frequency Range

(dB) Level, SPL 1W 1m VLX4



产品规格 | Specifications

单元	4x 4"+ 1x 1" 圆顶高音频头	components	4x 4" + 1x 1" dome tweeter
幅盖角度	80° x 40°	dispersion	80° x 40°
额定负载 (AES / program / peak)	200W / 400W / 800W	nominal load (AES / program / peak)	200W / 400W / 800W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	90 / 113	SPL nom./max. (dB)	90 / 113
频率范围 (-10 dB)	100 Hz - 19 kHz	frequency range (-10 dB)	100 Hz - 19 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M8 安装螺栓， 1x M8 保险点， 扬声器支架插座，1x手柄	special features	2x M8 mounting thread, 1x M8 safety thread, speaker stand receptacle, 1x handle
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
呎吋 高x宽x深(毫米)	135 x 500 x 166	dimensions (W x H x D) mm	135 x 500 x 166
重量 (公斤)	6	weight (kg)	6

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂硬件(支架)
- M8 吊环螺栓
- Protective cover
- Frame for flying applications
- M8 eyebolts



VLX4 的系统中 | VLX4 in systems

无源 | passive

无源系统放大器和出厂预设 | Passive with system amplifier and factory preset*

- 1 Standalone (Fullrange, Top, Monitor)
单独使用(全频, 顶箱, 监听返送)
- 2 S5 系统 (2x VLX4 Top + 2x VB208 Subwoofer | at DA428)



有源 | active

有源与结合系统低音炮 | Active in combination with system subwoofer

- 3 SD X 系统 (2x VLX4 tops + VSS28 system subwoofer)
| SD X (2x VLX4 tops with VSS28 system subwoofer)



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性
由于限制者和
优化的系统均衡
- DA428 可选择远程
可用TCP / IP或
DANTE远程模块通过, 平
板电脑, 智能手机或PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLX 5

CN VLX 5 是一款无源两分频扬声器，无需工具便可调整波导幅盖角度，适用于置前补充 (Front fill)，延迟或单独用。d'Appolito 设计与波导一起确保有方向性的幅盖以及抗反馈特性。

EN The VLX 5 is a passive 2-way loudspeaker with a tool-free rotatable waveguide which is suitable for front-, fill-, delay- or standalone applications. The d'Appolito design together with a waveguide ensures a directional dispersion as well as a feedback resistant behaviour.

多功能

- 免工具可旋调高频角度及卸格栅
- 由于完整的杆架和嵌入式手柄，为完美的便携性
- 水平和垂直飞行吊挂硬件 (支架) 可选

Multifunctional

- tool-free rotatable HF with removable grille
- perfect portability due to integrated pole mount and recessed handle
- horizontal and vertical flying option with optional hardware (cradle)



耐用和稳定

- 耐磨PU涂层木质箱体
- 高品质的优质组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- wooden casing with resistant PU coating
- high quality premium components
- impregnated loudspeaker membranes for inside and outside applications



声音

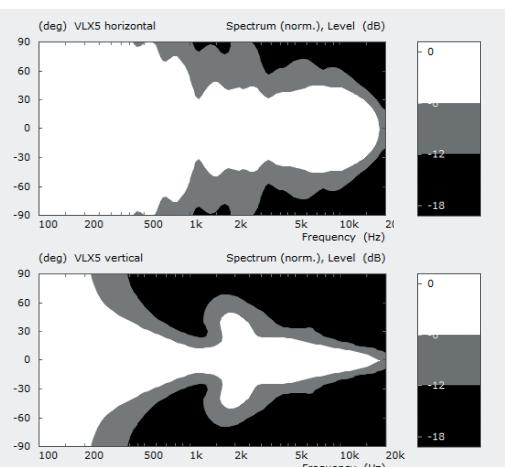
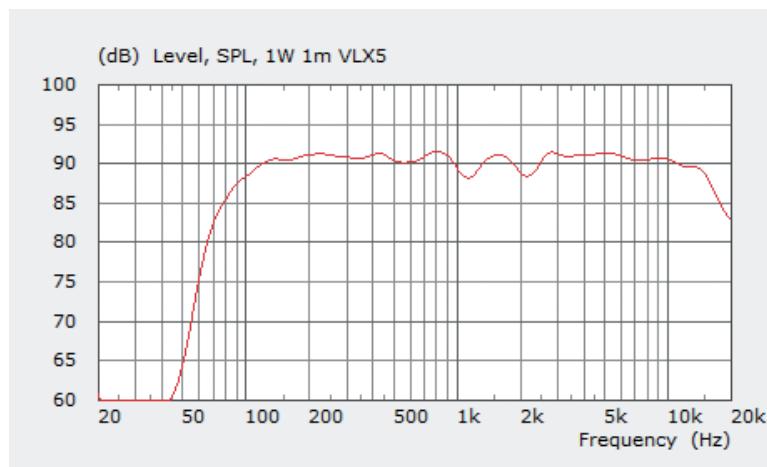
- 由于令人印象深刻操作距离和卓越的全频功能，设定了新标准
- 自然而精确的中性声音表现

Sound

- sets new standards due to impressive operating distance and exceptional full range capabilities
- neutral, natural and precise sound behavior



频率范围 / Frequency Range



产品规格 | Specifications

单元	2x 5" + 1x 1" 波导	components	2x 5" + 1x 1" waveguide
幅盖角度	90° x 30° (无需工具可旋调角度)	dispersion	90° x 30° (tool-free rotatable)
额定负载 (AES / program / peak)	250W / 500W / 1000W	nominal load (AES / program / peak)	250W / 500W / 1000W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	92 / 116 / 122	SPL nom./max./peak (*dB)	92 / 116 / 122
频率范围 (-10 dB)	70 Hz – 19 kHz	frequency range (-10 dB)	70 Hz – 19 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	4x M8 安装螺栓, (2x顶部, 2x侧), 1x M8保险点, 扬声器支架插座, 手柄	special features	4x M8 mounting thread (2x top, 2x side) 1x M8 safety thread, speaker stand receptacle, handle
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
推荐功放	DA 428 系统预设	recommended amplifier	DA 428 with system preset
宽x高x深(毫米)	185 x 548 x 252	dimensions (W x H x D) mm	185 x 548 x 252
重量 (公斤)	10	weight (kg)	10

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂硬件(支架)
- 飞行吊挂使用的框架
- M8 吊环螺栓
- protective cover
- flying hardware (cradle)
- frame for flying applications
- M8 eyebolts

VLX 5 的系统中 | VLX 5 in systems



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性由于限制者和优化的系统均衡
- DA 428 可选择远程可用TCP / IP或-DANTE远程模块通过平板电脑, 智能手机或PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA 428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLX 8

CN VLX 8 是一款无源两分频扬声器，适合语音和音乐重播，是为顶箱，全频或舞台监听扬声器。

EN The VLX 8 is a passive 2-way loudspeaker which is both suitable for speech and music reproduction as a top, fullrange speaker, or stage monitor.



多功能

- 箱体设计可实现多个设置变化（扬声器支架，反送监听，置前补充）
- 由于钕磁扬声器的重量适中，结构紧凑
- 角度可调的扬声器竖杆孔
- 飞行吊挂硬件可选

Multifunctional

- enclosure design enabling several setup variants (speaker stand, monitor, frontfill)
- compact dimensions and moderate weight due to neodymium speaker
- speaker flange with adjustable angle
- flying ability due to optional flying hardware



耐用和稳定

- 防风雨 PU涂层木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- Wooden casing with weatherproof PU coating
- High quality and high load capacity components
- Impregnated loudspeaker membrane for inside and outside applications

声音

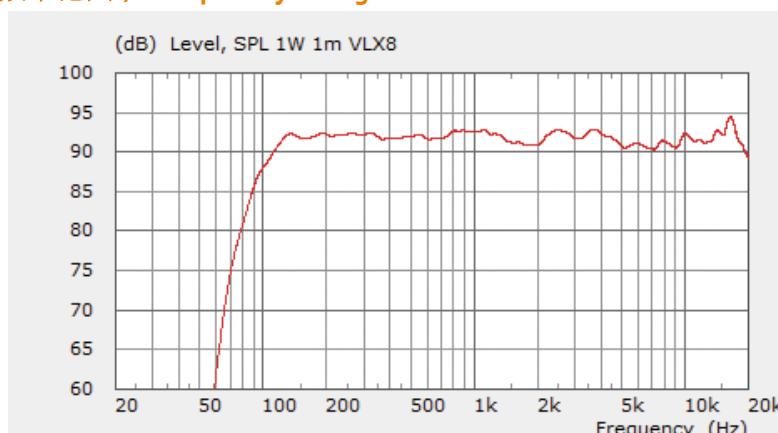
- 平滑和均衡的再现高频率
- 声学低反馈特点
- 自然清晰的声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behavior
- Natural and transparent sound



频率范围 / Frequency Range



VLX 8

产品规格 | Specifications

单元	8" + 1" (1.4" 音圈)	components	8" + 1" (1.4" voice coil)
幅盖角度	85° x 55° 椭圆	dispersion	85° x 55° elliptical
额定负载 (AES / program / peak)	250W / 500 W / 1000W	nominal load (AES / program / peak)	250W / 500 W / 1000W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	92 / 116	SPL nom./max. (*dB)	92 / 116
频率范围 (-10 dB)	80 Hz - 20 kHz	frequency range (-10 dB)	80 Hz - 20 kHz
连接器	2 x Neutrik Speakon NL4	connectors	2 x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M8 安装螺栓, 1x M8 保险点, 可调角度扬声器支架插座, 1x 手柄	special features	2x M8 mounting thread, 1x M8 safety thread, speaker stand receptacle with adjustable angle, 1x handle
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
宽×高×深(毫米)	280 x 460 x 245	dimensions (W x H x D) mm	280 x 460 x 245
重量 (公斤)	12	weight (kg)	12

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂使用的框架
- M8 吊环螺栓
- protective cover
- frame for flying applications
- M8 eyebolts



VLX8 的系统 | VLX8 in systems

无源 | passive

无源系统放大器和出厂预设* |
Passive with system amplifier and factory preset*

- 1 Standalone (Fullrange, Top, Monitor)
单独使用(全频, 主顶箱, 监听返送)
- 2x VLX8 + 2x VB208(i) | at DA428
- 2x VLX8 + 2x VB15 | at DA428



有源 | active

有源与结合系统低音炮 |
Active in combination with system subwoofer

- 4 SD3 系统
2x VLX8 tops with VSS15 system bass)
- 5 2x VLX8 tops with VSS28 system bass



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性由于限制者和优化的系统均衡
- DA428 可选择远程可用TCP / IP或-DANTE远程模块通过，平板电脑，智能手机或PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLX 10

CN VLX10 是一款无源两分频扬声器，适合语音和音乐重播，主顶箱，全频或舞台监听扬声器。

EN The VLX10 is a passive 2-way loudspeaker which is both suitable for speech and music reproduction as a top, fullrange speaker, or stage monitor.



多功能

- 音箱设计可实现多个设置变化(扬声器支架，反送监听，置前补充)
- 铭扬声器，体积小巧，重量适中
- 角度可调的扬声器竖杆孔
- 飞行吊挂硬件可选

Multifunctional

- enclosure design enabling several setup variants (speaker stand, monitor, frontfill)
- compact dimensions and moderate weight due to neodymium speaker
- speaker flange with adjustable angle
- flying ability due to optional flying hardware



耐用和稳定

- PU涂层防风雨木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- Wooden casing with weatherproof PU coating
- High quality and high load capacity components
- Impregnated loudspeaker membrane for inside and outside applications

声音

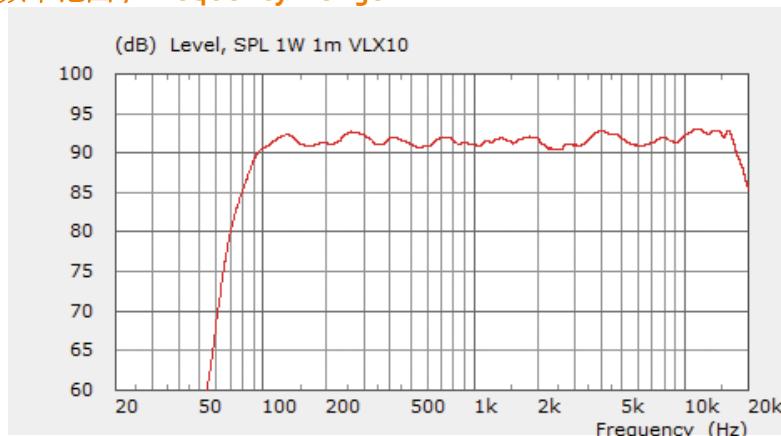
- 平滑和均衡的再现高频率
- 声学低反馈特点
- 自然清晰的声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behavior
- Natural and transparent sound



频率范围 / Frequency Range



产品规格 | Specifications

单元	10" + 1" (1.4" 音圈)	components	10" + 1" (1.4" voice coil)
幅盖角度	85° x 55° 椭圆	dispersion	85° x 55° elliptical
额定负载 (AES / program / peak)	350W / 700W /1400W	nominal load (AES / program / peak)	350W / 700W /1400W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	93 / 118	SPL nom./max. (*dB)	93 / 118
频率范围 (-10 dB)	70 Hz – 20 kHz	frequency range (-10 dB)	70 Hz – 20 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M8 安装螺栓，1x M8 保险点，可调角度扬声器支架插座，1x手柄	special features	2x M8 mounting thread, 1x M8 safety thread, speaker stand receptacle with adjustable angle, 1x handle
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
宽×高×深(毫米)	335 x 550 x 320	dimensions (W x H x D) mm	335 x 550 x 320
重量 (公斤)	15	weight (kg)	15

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂使用的框架
- M8 吊环螺栓
- protective cover
- frame for flying applications
- M8 eyebolts



VLX10 的系统 | VLX10 in systems

无源 | passive

无源系统放大器和出厂预设* | Passive with system amplifier and factory preset*

1 Standalone (Fullrange, Top, Monitor)

单独使用 (全频, 顶箱, 反送监听)

2 S3 系统 (2x VLX10 Top + 2x VB15 Subwoofer) | at DA428

3 2x VLX10 + 2x VB18 | at DA428

4 2x VLX10 + 2x VB215 | at DA428



有源 | active

有源与结合系统低音炮 | Active in combination with system subwoofer

5 2x VLX10 tops with VSS15 system bass)

6 2x VLX10 tops with VSS18 system bass)



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性
由于限制者和
优化的系统均衡
- DA428 可选择远程
可用TCP / IP或-
DANTE远程模块通过,
平板电脑, 智能手机或PC

Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLX 12

CN VLX 12 是一款无源两分频扬声器，适合语音和音乐重播，主顶箱，全频或舞台监听扬声器。

EN The VLX12 is a passive 2-way loudspeaker which is both suitable for speech and music reproduction as a top, full range speaker, or stage monitor.

多功能

- 音箱设计可实现多个设置变化。(扬声器支架，反送监听，置前补充)
- 整扬声器，体积小巧，重量适中
- 角度可调的扬声器竖杆孔
- 飞行吊挂硬件可选

耐用和稳定

- PU涂层防风雨木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

声音

- 平滑和均衡的再现高频率
- 声学低反馈特性
- 自然清晰的声音

Multifunctional

- enclosure design enabling several setup variants (speaker stand, monitor, frontfill)
- compact dimensions and moderate weight due to neodymium speaker
- speaker flange with adjustable angle
- flying ability due to optional flying hardware

Durable and value stable

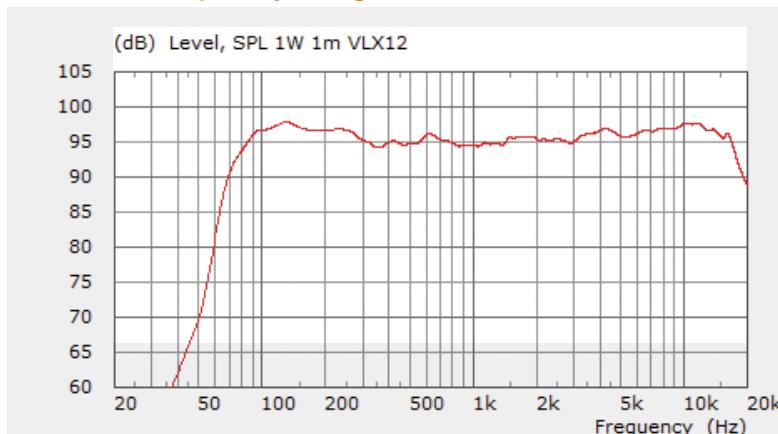
- Wooden casing with weatherproof PU coating
- High quality and high load capacity components
- Impregnated loudspeaker membrane for inside and outside applications

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behavior
- Natural and transparent sound



频率范围 / Frequency Range



产品规格 | Specifications

单元	12" + 1" (1.4" 音圈)	components	12" + 1" (1.4" voice coil)
幅盖角度	85° x 55° 椭圆	dispersion	85° x 55° elliptical
额定负载 (AES / program / peak)	350W / 700W / 1400W	nominal load (AES / program / peak)	350W / 700W / 1400W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	97 / 122	SPL nom./max. (*dB)	97 / 122
频率范围 (-10 dB)	60 Hz - 20 kHz	frequency range (-10 dB)	60 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M8 安装螺栓, 1x M8 保险点, 扬声器支架插座 支架插座, 1x 手柄	special features	2x M8 mounting thread, 1x M8 safety thread, speaker stand receptacle with adjustable angle, 1x handle
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
宽时阔x高x深(毫米)	390 x 610 x 360	dimensions (W x H x D) mm	390 x 610 x 360
重量 (公斤)	17	weight (kg)	17

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂使用的框架
- M8 吊环螺栓
- protective cover
- frame for flying applications
- M8 eyebolts



VLX12 in 的系统 | VLX12 in systems

无源 | passive

无源系统放大器和出厂预设* | Passive with system amplifier and factory preset*

- 1 Standalone (Fullrange, Top, Monitor)
单独使用 (全频, 顶箱, 反送监听)
- 2 S3 系统 (2x VLX10 Top + 2x VB15 Subwoofer) | at DA428
- 3 2x VLX10 + 2x VB18 | at DA428
- 4 2x VLX10 + 2x VB215 | at DA428



有源 | active

有源与结合系统低音炮 | Active in combination with system subwoofer

- 5 SD4 系统 (2x VLX12 tops with 2x VSS15 system bass)
- 6 SD5 系统 (2x VLX12 tops with 2x VSS15 system bass +2x VB15)



*优点

- 系统预设 (预设库免费下载)
- 操作安全性和增强性
由于限制者和
优化的系统均衡
- DA428 可选择远程
可用TCP / IP或-
DANTE远程模块通过,
平板电脑, 智能手机或PC

Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLX 15

CN VLX 15 是一款无源两分频扬声器，适合语音和音乐重播，主顶箱全频或舞台监听扬声器。

EN The VLX15 is a passive 2-way loudspeaker which is both suitable for speech and music reproduction as a top, full range speaker, or stage monitor.



多功能

- 音箱设计可实现多个设置变化 (扬声器支架, 反送监听, 置前补充)
- 由于钕磁扬声器的重量适中, 结构紧凑
- 角度可调的扬声器竖杆孔
- 飞行吊挂硬件可选

Multifunctional

- enclosure design enabling several setup variants (speaker stand, monitor, front fill)
- compact dimensions and moderate weight due to neodymium speaker
- speaker flange with adjustable angle
- flying ability due to optional flying hardware

耐用和稳定

- PU涂层防风雨木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- Wooden casing with weatherproof PU coating
- High quality and high load capacity components
- Impregnated loudspeaker membrane for inside and outside applications

声音

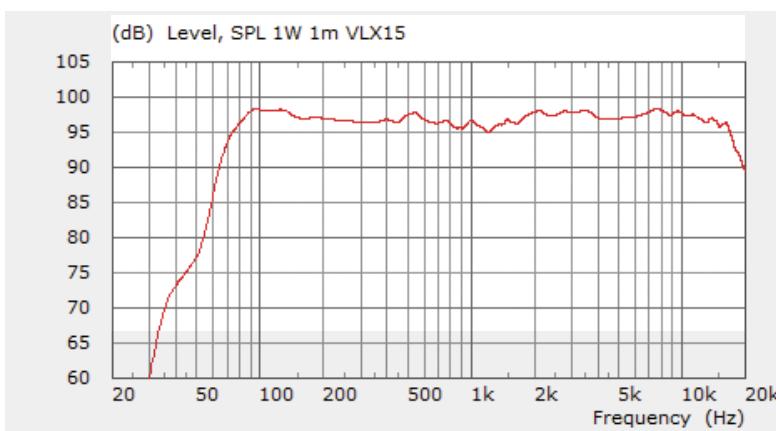
- 平滑和均衡的再现高频率
- 声学低反馈特性
- 自然清晰的声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound



频率范围 / Frequency Range



产品规格 | Specifications

单元	15" + 1" (1.4" 音圈)	components	15" + 1" (1.4" voice coil)
幅盖角度	85° x 55° 椭圆	dispersion	85° x 55° elliptical
额定负载 (AES / program / peak)	500W / 1000W / 2000W	nominal load (AES / program / peak)	500W / 1000W / 2000W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (*dB)	98 / 125	SPL nom./max. (*dB)	98 / 125
频率范围 (-10 dB)	55 Hz – 20 kHz	frequency range (-10 dB)	55 Hz – 20 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M8 安装螺栓, 1x M8 保险点, 可调角度扬声器支架插座, 2x手柄	special features	2x M8 mounting thread, 1x M8 safety thread, speaker stand receptacle with adjustable angle, 2x handles
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
呎吋阔x高x深(毫米)	445 x 700 x 425	dimensions (W x H x D) mm	445 x 700 x 425
重量 (公斤)	21	weight (kg)	21

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行吊挂使用的框架
- M8 吊环螺栓
- protective cover
- frame for flying applications
- M8 eyebolts



VLX15 in 的系统 | VLX15 in systems

无源 | passive

无源系统放大器和出厂预设* | Passive with system amplifier and factory preset*



- 1 Standalone (Full range, Top, Monitor)
单独使用(全频, 顶箱, 反送监听)
- 2 2x VLX15 + 2x VB18 an | at DA428
- 3 2x VLX15 + 2x VB215 an | at DA428



*优点

- 系统预设 (预设库免费下载)
- 操作安全性和增强性由于限制者和优化的系统均衡
- DA428 可选择远程可用TCP / IP或-DANTE远程模块通过，平板电脑，智能手机或PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VLS 64

CN VLS 64 是无源 2 分频音柱扬声器。高频的特殊弯曲阵列排列形成标称 25° ($+5^{\circ} / -20^{\circ}$)的不对称垂直声束。这种设计兼顾长冲程投射以及完美的近场覆盖。结合低频 VB 210 扩展，让VLS 64 产生精确而强大的声压。视觉上这个组合的外观极为优雅苗条。

EN The VLS 64 is a passive 2-way column speaker. The specially curved arrangement of the high frequency array results in an asymmetric vertical acoustic beam of nominal 25° ($+5^{\circ} / -20^{\circ}$). This arrangement allows for long throw distance as well as a perfect nearfield coverage. In combination with the low frequency extension VB 210 the VLS 64 generates a precise and powerful sound. The visual appearance of this combination is supremely slim and elegant.

多功能

- 可作为配套卫星音箱系统或单独使用
- 设后部运输手柄
- 完整扬声器杆孔(扬声器支架应用)
- 飞行吊挂硬件可选

耐用和稳定

- PU 涂层耐磨木质箱体
- 高品质和高负载能力组件
- 适用于户内和户外浸渍扬声器膜

声音

- 长冲程投射以及完美近场幅盖
- 高后阻尼
- 自然，清晰，强大全音

Multifunctional

- usable as sat-system or standalone
- rear transport handle
- integrated speaker flange (speaker stand application)
- flying ability due to optional hardware

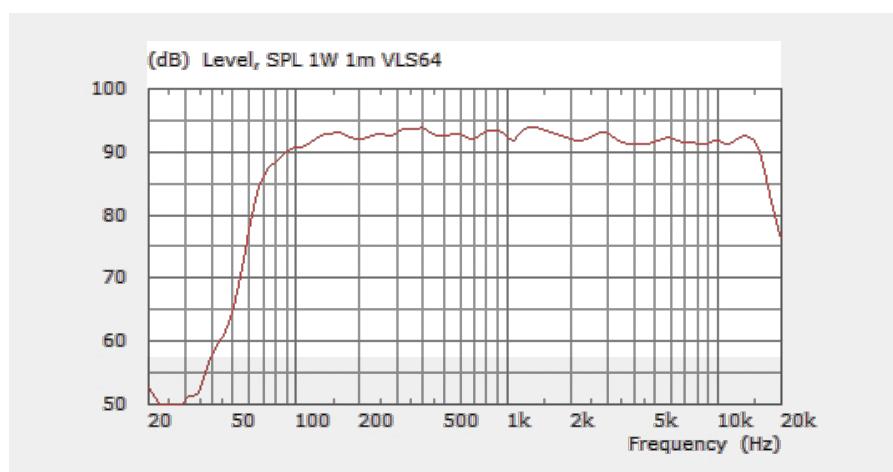
Durable and value stable

- wooden casing with resistant PU coating
- high quality and high load capacity components
- impregnated loudspeaker membranes for inside and outside applications

Sound

- long throw distance as well as perfect nearfield coverage
- high rearward damping
- natural, transparent and powerful fullrange sound

频率范围 / Frequency Range



产品规格 | Specifications

单元	6x 4" + 6x 1" 不对称弯曲高频阵列	components	6x 4" + 6x 1" asym. curved high frequency array
幅盖角度	90° x 25°(+5°/-20°)	dispersion	90° x 25°(+5°/-20°)
额定负载 (AES / program / peak)	350W / 700W / 1400W	nominal load (AES / program / peak)	350W / 700W / 1400W
阻抗 (欧姆)	6	impedance (ohms)	6
SPL 标称 / 最大值 (*dB)	92 / 118	SPL nom./max. (dB)	92 / 118
频率范围 (-10 dB)	75 Hz – 19 kHz	frequency range (-10 dB)	75 Hz – 19 kHz
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防	finishing	PU coating (black)
特殊功能	3x M8 安装螺栓， 1x M8保险点， 扬声器支架插座，提把手	special features	3x M8 mounting threads, 1x M8 safety thread, speaker flange, carrying handle
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
宽x高x深(毫米)	135 x 1045 x 177	dimensions (W x H x D) mm	135 x 1045 x 177
重量 (公斤)	13	weight (kg)	13

配件 (可选) | Accessories (optional)

- 保护罩
- 飞行硬件 (支架)
- protective cover
- flying hardware (cradle)

VLS 64 在系统中 | VLS 64 in systems



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性由于限制者和优化的系统均衡
- DA428 可选择远程可用TCP / IP或 DANTE 远程模块通过平板电脑, 智能手机或PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VB 210

DE VB 210 是无源大功率2 x 10"超低音扬声器。可与VLS64 阵列式音柱一起使用。针对VB 210 的特点,在S6 套装卫星系统配置于 VLS 64 中的使用, 水平和垂直装置, 进行时间校准的优化, 明确设计为低频扩展。它的手柄位置良好, 重量轻, 保证完美的可运输性。

EN The VB 210 is a passive high power 2x 10" subwoofer. It is explicitly designed as low frequency extension for usage with the column speaker VLS 64. The time alignment is optimized for usage with VLS 64 in the satellite system configuration S6 both in horizontally and upright position of the VB 210. Its well-placed handle and the small weight guarantee a perfect transportability.

多功能

- 优雅而灵活地适合周边位置
- 钕磁扬声器的重量适中, 结构紧凑
- 两个完整的M20安装板和把手

Multifunctional

- fits elegantly and flexible into the surrounding area position
- compact dimensions and moderate weight due to neodymium speakers
- two integrated M20 mounting plates and carrying handle

耐用和稳定

- PU 涂层耐磨木质箱体
- 高品质的优质组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- wooden casing with resistant PU coating
- high quality premium components
- impregnated loudspeaker membranes for inside and outside applications

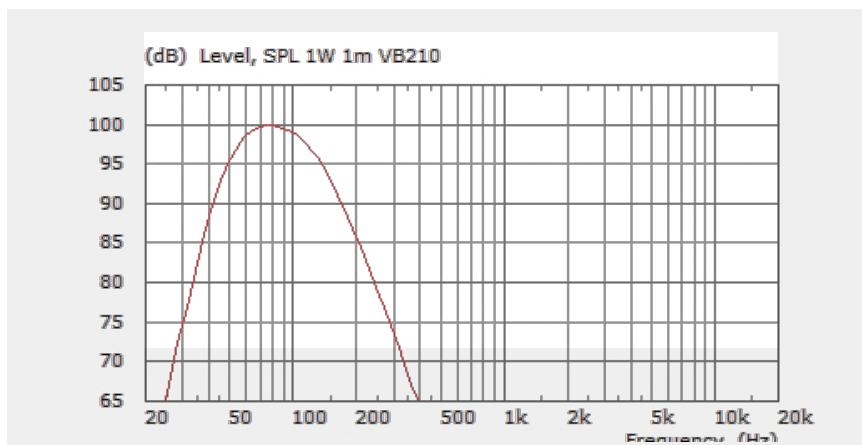
声音

- 非凡准确和直接脉冲响应
- 当高声压时 (SPL) 有所区别

Sound

- extraordinary accurate and direct impulse response
- differentiated sound at high SPL

频率范围 / Frequency Range



产品规格 | Specifications

单元	2x 10" 钕磁	components	2x 10" Neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / program / peak)	700W / 1400W / 2800W	nominal load (AES / program / peak)	700W / 1400W / 2800W
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值 (*dB)	100 / 128	SPL nom./max. (*dB)	100 / 128
频率范围 (-10 dB)	42 Hz - fx	frequency range (-10 dB)	42 Hz - fx
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	2x M20 支架安装板，提把手	special features	2x M20 mounting plates for stand, carrying handle
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
推荐功放	DA 428 系统预设	recommended amplifier	DA 428 with system preset
尺寸 宽x高x深(毫米)	660 x 310 x 420 (横)	dimensions (W x H x D) mm	660 x 310 x 420 (horizontal)
重量 (公斤)	19	weight (kg)	19

配件 (可选) | Accessories (optional)

- 保护罩
- Protective cover

VB 210 在系统中 | VB 210 in systems



- 优点:**
- 系统预设 (预设库免费下载)
 - 操作安全性和增强性由于限制者和优化的系统均衡
 - DA 428 可选择远程可用TCP / IP或-DANTE远程模块通过平板电脑, 智能手机或PC

- Benefits**
- system presets (preset library download for free)
 - operational safety and enhanced performance due to limiters and optimized system equalization
 - DA 428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VBX 12

CN VBX 12 是一款无源 12" 低音炮和真正的低音奇迹。具有强大再现的能力和令人印象深刻的低端达 38 Hz 与VLX 5 的完美补充配合，是为令人惊讶的配搭，声学性能与其尺寸大小和重量使低音炮绝对的独特。

EN The VBX 12 is a passive 12" subwoofer and a true compact bass wonder. With punchy reproduction and impressive low end down to 38 Hz it is perfect to complement the VLX 5. The astonishing relation of acoustical performance to size and weight makes the subwoofer absolute unique.

多功能

- 与 VLX 4, VLX 5 和 VLX 8 兼容
- 敦扬声器，体积小巧，重量适中
- 完整的M20安装板和把手

Multifunctional

- compatible with VLX 4, VLX 5 and VLX 8
- compact dimensions and moderate weight due to neodymium speakers
- integrated M20 mounting plate and carrying handle



耐用和稳定

- PU 涂层耐磨木质箱体
- 高品质的优质组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- wooden casing with resistant PU coating
- high quality premium components
- impregnated loudspeaker membranes for inside and outside applications



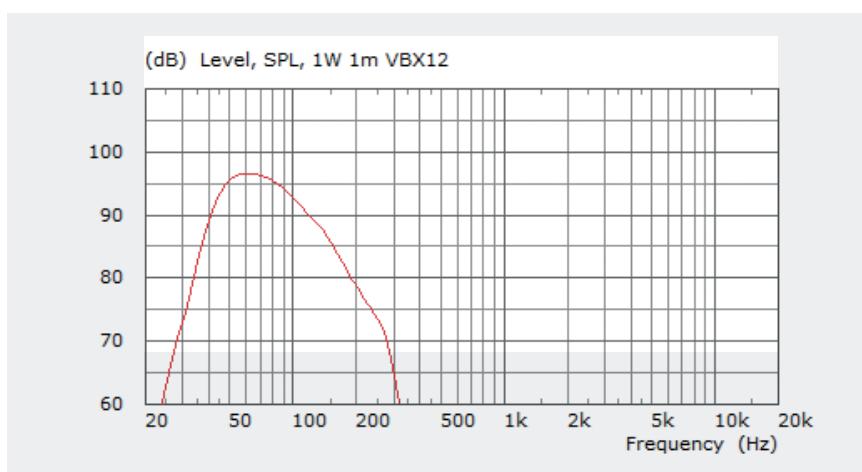
声音

- 非凡的低频和直接脉冲响应
- 在高声压 (SPL)有所区别和精确的声音

Sound

- extraordinary low and direct impulse response
- differentiated and precise sound at high SPL

频率范围 / Frequency Range



产品规格 | Specifications

单元	12" 钕磁	components	12" Neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / program / peak)	500W / 1000W / 2000W	nominal load (AES / program / peak)	500W / 1000W / 2000W
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值 (*dB)	96 / 123 / 129	SPL nom./max./peak (*dB)	96 / 123 / 129
频率范围 (-10 dB)	38 Hz - fx	frequency range (-10 dB)	38 Hz - fx
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finishing	PU coating (black)
特殊功能	M20 支架安装板，提手把，堆叠件	special features	M20 mounting plate for stand, carrying handles, stacking elements
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
推荐功放	DA 428 系统预设	recommended amplifier	DA 428 with system preset
宽×高×深(毫米)	440 x 446 x 460	dimensions (W x H x D) mm	440 x 446 x 460
重量 (公斤)	19.5	weight (kg)	19,5

配件 (可选) | Accessories (optional)

- 保护罩
- Protective cover

VB 210 在系统中 | VB 210 in systems

无源 | passive

无源系统放大器和出厂预设* | Passive with system amplifier and factory preset*

1 S2 系统 (2x VLX 5 Top + 2x VBX 12 Subwoofer an DA428 | at DA428)

2 Subwoofer array 次低频编组 (4x VBX 12 Subwoofer an DA428 | at DA428)



*优点:

- 系统预设 (预设库免费下载)
- 操作安全性和增强性由于限制者和优化的系统均衡
- DA 428 可选择远程可用 TCP / IP 或 DANTE 远程模块通过平板电脑、智能手机或 PC

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA 428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VBX 15

CN VBX 15是一款无源15"英寸超低音扬声器，具有非常强大而细致的低音再现，低至36 Hz的低频令人印象深刻。创新的低音反射几何形状即使在高声压下也能将气流噪声降至绝对最低。尺寸和重量对于15"英寸低音炮而言是独一无二的。

EN The VBX 15 is a passive 15" subwoofer with a very powerful and detailed bass reproduction with impressive lows down to 36 Hz. The innovative bass reflex geometry reduces airflow noise to an absolute minimum, even at high levels. The amazing ratio of acoustic performance to size and weight is unique for a 15" subwoofer.



多功能

- 与VLX 10, VLX 5, VLX 8, VLX 15和VLS 64兼容
- 钕磁扬声器, 重量适中,
- 结构紧凑
- 用于支架的完整M20安装板, 并设把手

Multifunctional

- compatible with VLX 8, VLX 10 and VLS 64
- compact dimensions and moderate weight due to neodymium speakers
- integrated M20 mounting plate for stand and carrying handles

耐用和稳定

- PU涂层耐磨木质箱体
- 高品质的优质组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

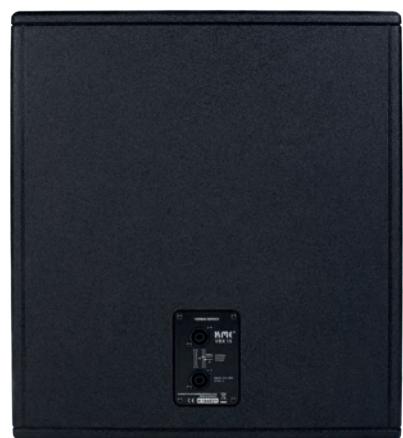
- wooden casing with resistant PU coating
- high quality premium components
- impregnated loudspeaker membranes for inside and outside applications

声音

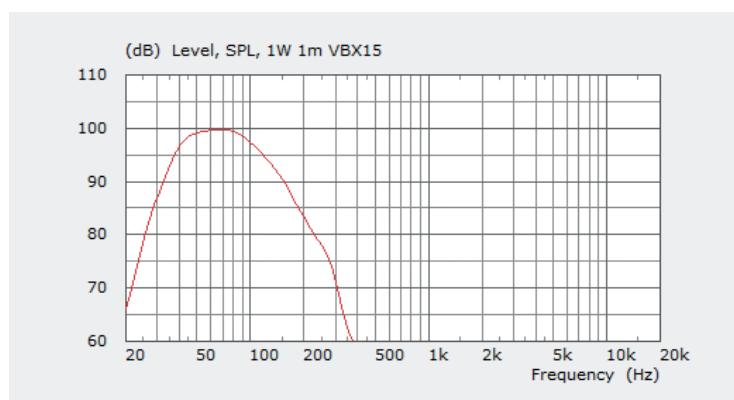
- 非凡的低频和直接脉冲响应
- 高声压级下的独特声音

Sound

- extraordinary low and direct impulse response
- differentiated sound at high SPL



Frequency Range 频率範圍



VBX 15

PORTABLE AUDIO
流动系统

产品规格 | Specification

单元	15" 钕磁	components	15" Neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 AES/Programs/Peak	600W / 1200W / 2400W	nominal load AES/program/peak (watts)	600 / 1200 / 2400
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值 / 峰值 (*dB)	100 / 128 / 134	SPL nom./max./peak (*dB)	100 / 128 / 134
频率范围 (-10 dB)	36 Hz - fx	frequency range (-10 dB)	36 Hz - fx
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层,	finishing	PU coating (black)
特殊功能	M20 支架安装板, 提手把, 堆叠件	special features	M20 mounting plate for stand, carrying handles, stacking elements
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
推荐功放	DA 428 系统预设	recommended amplifier	DA 428 with system preset
尺寸 (宽x高x深(毫米))	460 x 525 x 495	dimensions (W x H x D) mm	460 x 525 x 495
重量 (公斤)	25,4	weight (kg)	25,4

配件 (可选) | Accessories (optional)

- 保护罩
- protective cover

VBX 15 在系统中 | VBX 15 in systems



*优点:

- 系统预设 (预设库免费下载)
- 由于压控和优化的均衡系统, 操作增强和安全.
- *通过平板电脑, 智能手机或 PC,
- DA 428 可选择远程
- 可用TCP/IP-或DANTE远程模块

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA 428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VBX 18

CN VBX 18是一款无源18"英寸超低音扬声器，低至36 Hz的低频低至令人印象深刻。同时，丰富而细致的低音再现为主驱动的PA系统提供了最佳基础。创新的低音反射几何形状即使在高声压下也能将气流噪声降至绝对最低。紧凑的尺寸和人性化的功能（例如平衡的手柄）使整个画面更加完美。

EN The VBX 18 is a passive 18" subwoofer with an impressive lows down to 36 Hz. The rich and at the same time very detailed bass reproduction offers the optimal foundation for actively driven PA systems. A innovative bass reflex geometr reduces air flow noise to an imperceptible minimum even at high levels. Compact dimensions and user-friendly features such as balanced handles round off the overall picture.

多功能

- 与VLX 12, VLX 15 和VLS 64兼容
- 钕磁扬声器，重量适中，结构紧凑
- 用于支架的完整M20安装板，并设把手

Multifunctional

- compatible with VLX 12, VLX 15 and VLS 64
- compact dimensions and moderate weight due to neodymium speakers
- integrated M20 mounting plate and carrying handles

耐用和稳定

- 涂层耐磨木质箱体
- 高品质的优质组件
- 适用于户内和户外浸渍扬声器膜

Durable and value stable

- wooden casing with resistant PU coating
- high quality premium components
- impregnated loudspeaker membranes for inside and outside applications

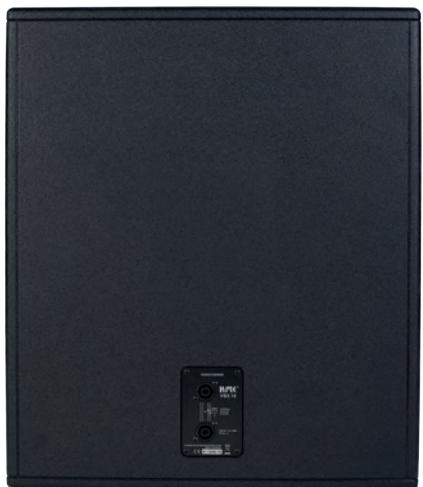
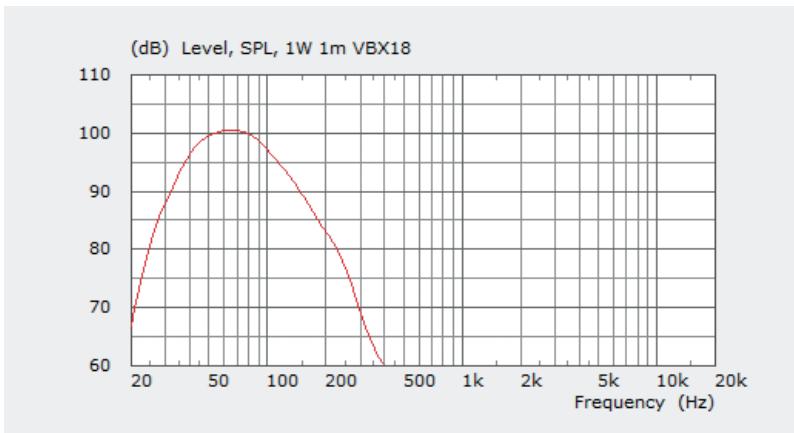
声音

- 非凡的低频和直接脉冲响应
- 高声压级下的独特声音

Sound

- extraordinary low and direct impulse response
- differentiated sound at high SPL

频率范围 / Frequency Range



产品规格 | Specification

单元	18" 钕磁	components	18" Neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 AES/Programm/Peak	700W / 1400W / 2800W	nominal load AES/program/peak (watts)	700 / 1400 / 2800
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值 / 峰值(*dB)	100 / 129 / 135	SPL nom./max./peak (*dB)	100 / 129 / 135
频率范围 (-10 dB)	36 Hz - fx	frequency range (-10 dB)	36 Hz - fx
连接器	2x Neutrik Speakon NL4	connectors	2x Neutrik Speakon NL4
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆)	finishing	PU coating (black)
特殊功能	M20 支架安装板, 提手把, 堆叠件	special features	M20 mounting plate for stand, carrying handles, stacking elements
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音	protective grille	sturdy front grille with acoustic foam
推荐功放	DA 428 系统预设	recommended amplifier	DA 428 with system preset
尺寸 (宽x高x深(毫米)	520 x 620 x 525	dimensions (W x H x D) mm	520 x 620 x 525
重量 (公斤)	31,5	weight (kg)	31,5

配件 (可选) | Accessories (optional)

- 保护罩
- protective cover

VBX 18 在系统中 | VBX 18 in systems



优点:

- 系统预设 (预设库免费下载)
- 由于压控和优化的均衡系统, 操作增强和安全.
- 通过平板电脑, 智能手机或 PC,
- DA 428 可选择远程
- 可用TCP/IP-或DANTE远程模块

*Benefits

- system presets (preset library download for free)
- operational safety and enhanced performance due to limiters and optimized system equalization
- DA 428 optionally remote-controllable with TCP/IP or DANTE remote module via tablet, smartphone or PC

VSS 28

三通道数字有源低音炮

CN VSS 28 是一个完全数字化的系统，整合了一个 $2 \times 8"$ 直接辐射低音炮。它包括数字技术放大器，采用高性能音频 DSP, PFC 开关模式电源，钕磁扬声器极轻的箱体。

EN The VSS 28 is a completely digital system unit integrating a $2 \times 8"$ direct radiating subwoofer. It includes digital amplifier technology with a high-performance audio DSP, switched mode power supply with PFC and neodymium loudspeakers in an extremely lightweight casing.

多功能

- 是为小型扩声系统的心脏和控制中心
- 低音炮系统包括 SDX
- 可与 VLX 8 组合
- 结合 DSP 可调节多个参数（例如：延迟）
- SD 卡插槽，可自由配置用户预先

Multifunctional

- heart and control center for small PA systems
- system subwoofer in the systems: SDX
- also combinable with VLX 8
- integrated DSP enables to adjust multiple parameters (e.g. delay)
- SD card slot for free configurable user presets



即插即用

- 极其完美的系统
- 平衡放置手柄
- 仅 21 公斤重量
- 适合个人载运使用
- 用户可下载工厂指南，轻松地使用导航键选择所需

Plug and Play

- extremely compact system
- balanced placement of the handles
- light weight only 21 kg
- easy usable for a single person
- easy choice and upload of factory and user presets by three buttons



声音

- 在非常低功率压缩下具有高声压级
- 45 Hz – 160 Hz 的低频扩散
- 最小的气流噪音
- 数字的信号路径效果

Sound

- high sound pressure level at really low power compression
- low frequent dispersion of 45 Hz – 160 Hz
- minimum of air flow noises
- consequent digital signal path

VSS 28 系统应用 | VSS 28 system applications

1 SDX 系统

- 1 x VSS 28
2 x VLX 4



系统可用第二个 VSS 28 + 扩展其他无源扬声器
system extendable with second VSS 28 + further passive speakers

2 VSS 28 + VLX 8

- 2 x VSS 28
2 x VLX 8

其中二通道功率放大器-供增加无源音箱
two free amp channels for further passive speakers



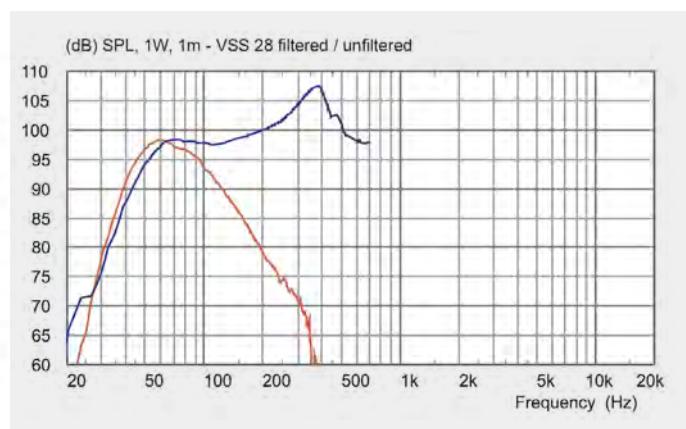
产品规格 | Specifications

单元	2 x 8" 钕磁	components	2 x 8" neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (4 欧姆)	3 通道数码功率放大器 1 x 400 (低音) 2 x 200 (中/高)	nominal load AES (Watt) (at 4 ohm)	three fully digital amplifiers 1 x 400 (bass) 2 x 200
SPL 标称 / 最大值 (*dB)	98 / 123	SPL nom./max. (*dB)	98 / 123
频率范围 (-10 dB)	45 Hz – 160 Hz (fx) 取决于预设	frequency range (-10 dB)	45 Hz – 160 Hz (fx) depending on preset
功能	取决于预设 接地自决, 可调增益, 数字分频器(80–160 Hz), 次级声波滤波器, 参数均衡器, 峰值/ RMS限制器, 延迟 (0–1000 ms)	features	ground-free, navigation pad, LCD-display, adjustable gain, digital crossovers (80–160 Hz), subsonic-filter, parametric EQs, peak/RMS-limiter, delays (0–1000 ms)
连接器	线路输入2 x XLR, 链接输出 2 x XLR AES/EBU 输入和链接输出 (XLR) 2 x Speakon NL4	connectors	line-in 2 x XLR, link-out 2 x XLR AES/EBU In & link-out (XLR) 2 x Speakon NL4
电源要求	90–250 volt / 50–60 Hz PowerCon 输入和链接	power requirements	90–250 volt / 50–60 Hz PowerCon in & link
控制面板	选择按钮, 多色 LED, 1 个电位器, SD-卡读卡器	control panel	select buttons, multicolor LED, 1 potentiometer, SD-card reader
DSP / 单位延迟	24 位 / <1,5 ms	DSP / unit delay	24 bit / <1,5 ms
数字输入和链接	具有采样率的格式 AES/EBU 及 S/PDIF / 转换器 (最大 192 kHz)	digital input & link	AES/EBU & S/PDIF with format sample rate converter (max. 192 kHz)
预设记忆	工厂预设 8, 用户预设 4	preset memory	factory presets 4, user presets 4
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	finishing	durable and impact-proof PU coating
特殊功能	2 个侧面安装手柄, M20固定板, 堆叠元素	special features	2 side-mounted handles, M20 fixing plate, stacking elements
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
尺寸 (宽x高x深(毫米))	500 x 250 x 600	dimensions (W x H x D) mm	500 x 250 x 600
重量 (公斤)	21	weight (kg)	21

配件 (可选) | Accessories (optional)

- 保护罩 • protective cover

频率范围 | frequency range



VSS 15

三通道数字有源低音炮

CN VSS 15 是一个完全数字化的系统，由一个 15" 组合直接辐射低音炮。它包括数字技术放大器，采用高性能音频 DSP, PFC 开关模式电源，钕磁扬声器极轻的箱体。

EN The VSS 15 is a completely digital system unit integrating a 15" direct radiating subwoofer. It includes digital amplifier technology with a high-performance audio DSP, switched mode power supply with PFC and neodymium loudspeaker in an extremely lightweight casing.

多功能

- 是为中型扩声系统的心脏和控制中心
- 低音炮的系统：
包括 SD3 | SD4 | SD5
- 可与 VLX 10 组合
- 与低音炮 VBX 15 配合使用，可创建强大的低音炮阵列
- 结合 DSP 可调节多个参数（例如：延迟）
- 灵活的扬声器信号路由输出

Multifunctional

- heart and control center for middle sized PA systems
- system subwoofer in the systems:
SD3 | SD4 | SD5
- also combinable with VLX 10
- creation of powerful subwoofer arrays in combination with subwoofer VB 15
- integrated DSP enables to adjust multiple parameters (e.g. delay)
- flexible signal routing of loudspeaker outputs



即插即用

- 极其完美的系统
- 平衡手柄设置
- 仅26公斤重量
- 适合个人载运使用
- 用户可下载工厂指南，
轻松地使用导航键选择所需

Plug and Play

- compact system
- balanced placement of the handles
- light weight only 26 kg
- usable for a single person
- easy choice and upload of factory and user presets by navigation pad



声音

- 在非常低的功率压缩下具有高声压级
- 45 Hz – 160 Hz 的低频扩散
- 最小的气流噪音
- 数字的信号路径效果

Sound

- high sound pressure level at really low power compression
- low frequent dispersion of 40 Hz – 160 Hz
- minimum of air flow noises
- consequent digital signal path



VSS 15 系统应用 | VSS 15 system applications

1 SD3 系统

- 1 x VSS 15
2 x VLX 8



2 SD4 系统

- 2 x VSS 15
2 x VLX 12

其中二通道功率放大器，供增加无源音箱
two free amp channels for further passive speakers



3 SD5 系统

- 2 x VSS 15
2 x VBX 15
2 x VLX 12



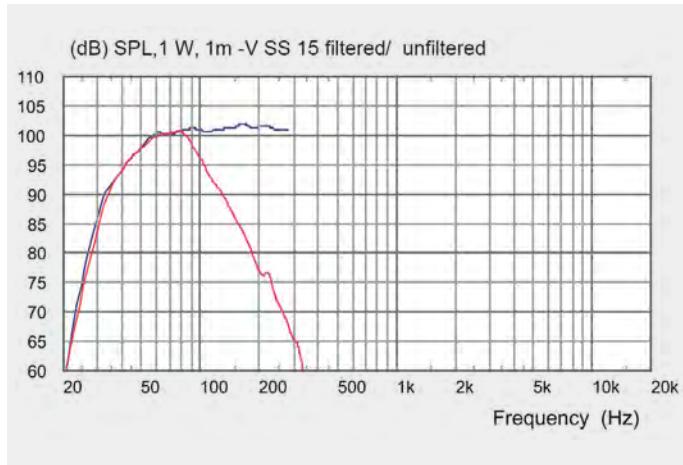
产品规格 | Specifications

单元	15" 钕磁	components	15" neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (4 欧姆)	3 通道数码功率放大器 1 x 750 (低音) 2 x 500 (中/高)	nominal load AES (Watt) (at 4 ohm)	three fully digital amplifiers 1 x 750 (bass) 2 x 500
SPL 标称 / 最大值 (*dB)	101 / 128	SPL nom./max. (*dB)	101 / 128
频率范围 (-10 dB)	40 Hz – 160 Hz (fx) 取决于预设	frequency range (-10 dB)	40 Hz – 160 Hz (fx) depending on preset
功能	无接地, 导航垫, LCD显示, 可调增益, 数字分频器 (80–160 Hz), 次级声波滤波器, 参数均衡器, 峰值/ RMS限制, 延迟 (0–1000 ms)	features	ground-free, navigation pad, LCD-display, adjustable gain, digital crossovers (80–160 Hz), subsonic-filter, parametric EQs, peak/RMS-limiter, delays (0–1000 ms)
连接器	线路输入 2 x XLR, 链接输出 2 x XLR AES/EBU 输入和链接输出 (XLR) 2 x Speakon NL4	connectors	line-in 2 x XLR, link-out 2 x XLR AES/EBU In & link-out (XLR) 2 x Speakon NL4
电源要求	90–250 volt / 50–60 Hz PowerCon 输入和链接	power requirements	90–250 volt / 50–60 Hz PowerCon in & link
控制面板	导航垫, LCD-显示屏, 多色 LED, 3 电位器	control panel	navigation pad, LCD-display, multi-color LED, 3 potentiometer
DSP / 单位延迟	24 位 / <1,5 ms	DSP / unit delay	24 bit / <1,5 ms
数字输入和链接	具有采样率的格式 AES/EBU 及 S/PDIF / 转换器 (最大 192 kHz)	digital input & link	AES/EBU & S/PDIF with format sample rate converter (max. 192 kHz)
预设记忆	工厂预设 8, 用户预设 4	preset memory	factory presets 8, user presets 4
喷漆	黑色PU涂层, 防水, 外层具 有耐撞击和户外防护漆	finishing	durable and impact-proof PU coating
特殊功能	2 个侧面安装手柄, M20固定板, 堆叠元素	special features	2 side-mounted handles, M20 fixing plate, stacking elements
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
尺寸 宽x高x深(毫米)	465 x 515 x 590	dimensions (W x H x D) mm	465 x 515 x 590
重量 (公斤)	26	weight (kg)	26

配件 (可选) | Accessories (optional)

- 保护罩
- 导航面板防护木盖
- protective cover
- protective wood cover for
navigation panel

频率范围 | frequency range



VSS 18

三通道数字有源低音炮

CN VSS 18 是一个完全数字化的系统，由一个 18" 组合直接辐射低音炮。它包括数字技术放大器，技术采用高性能音频 DSP, PFC 开关模式电源，钕磁扬声器极轻的箱体。

EN The VSS 18 is a completely digital system unit integrating a 18" direct radiating subwoofer. It includes digital amplifier technology with a high-performance audio DSP, switched mode power supply with PFC and neodymium loudspeaker in an extremely lightweight casing.

多功能

- 是为大型扩声系统的心脏和控制中心
- 可与 VLX 10 和 12 组合
- 与低音炮 VBX 18 配合使用，可创建强大的低音炮阵列（也可心形）
- 结合 DSP 可调节多个参数（例如：延迟）
- 灵活的扬声器信号路由输出

Multifunctional

- heart and control center for large PA systems
- also combinable with VLX 10 & 12
- creation of powerful subwoofer arrays (also cardioid) in combination with subwoofer VBX 18
- integrated DSP enables to adjust multiple parameters (e.g. delay)
- flexible signal routing of loudspeaker outputs



即插即用

- 极其完美的系统
- 平衡手柄设置
- 仅33公斤重量
- 适合个人载运使用
- 用户可下载工厂指南，轻松地使用导航键选择所需

Plug and Play

- compact system
- balanced placement of the handles
- light weight only 33 kg
- usable for a single person
- easy choice and upload of factory and user presets by navigation pad



声音

- 在非常低的功率压缩下具有高声压级
- 38 Hz – 160 Hz 的低频扩散
- 最小的气流噪音
- 数字的信号路径效果

Sound

- high sound pressure level at really low power compression
- low frequent dispersion of 38 Hz – 160 Hz
- minimum of air flow noises
- consequent digital signal path



VSS 18 系统应用 | VSS 18 system applications

- 1** VSS 18 + VLX 10/12
2 x VSS 18
2 x VLX 12 oder VLX 10

其中2通道功率放大器供增加无源音箱

two free amp channels for further speakers



- 2** Cardio Setup
心形设置
1 x VSS 18
2 x VBX 18



产品规格 | Specifications

单元	18" 钕磁	components	18" neodymium
幅盖角度	无方向性, 定向	dispersion	omnidirectional, directional
额定负载 (4 欧姆)	3 通道数码功率放大器 1 x 750 (低音) 2 x 500 (中/高)	nominal load AES (Watt) (at 4 ohm)	three fully digital amplifiers 1 x 750 (bass) 2 x 500
SPL 标称 / 最大值 (*dB)	102 / 129	SPL nom./max. (*dB)	102 / 129
频率范围 (-10 dB)	40 Hz – 160 Hz (fx) 取决于预设	frequency range (-10 dB)	40 Hz – 160 Hz (fx) depending on preset
功能	无接地, 导航垫, LCD显示, 可调增益, 数字分频器 (80–160 Hz), 次级声波滤波器, 参数均衡器, 峰值/ RMS限制, 延 迟(0–1000 ms)	features	ground-free, navigation pad, LCD-display, adjustable gain, digital crossovers (80–160 Hz), subsonic- filter, parametric EQs, peak/RMS- limiter, delays (0–1000 ms)
连接器	线路输入2 x XLR, 链接输出 2 x XLR AES/EBU 输入和链接输出 (XLR) 2 x Speakon NL4	connectors	line-in 2 x XLR, link-out 2 x XLR AES/ EBU In & link-out (XLR) 2 x Speakon NL4
电源要求	90–250 volt / 50–60 Hz PowerCon 输入和链接	power requirements	90–250 volt / 50–60 Hz PowerCon in & link
控制面板	导航垫, LCD~显示屏, 多色 LED, 3 电位器	control panel	navigation pad, LCD-display, multi- color LED, 3 potentiometer
DSP / 单位延迟	24 位 / <1,5 ms	DSP / unit delay	24 bit / <1,5 ms
数字输入和链接	具有采样率的格式 AES/EBU 及 S/PDIF / 转换器 (最大 192 kHz)	digital input & link	AES/EBU & S/PDIF with format sample rate converter (max. 192 kHz)
预设记忆	工厂预设 8, 用户预设 4	preset memory	factory presets 8, user presets 4
喷漆	黑色PU涂层, 防水, 外层具 有耐撞击和户外防护漆	finishing	durable and impact-proof PU coating
特殊功能	2 个侧面安装手柄, M20固定板, 堆叠元素	special features	2 side-mounted handles, M20 fixing plate, stacking elements
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
尺寸 宽x高x深(毫米)	520 x 610 x 615	dimensions (W x H x D) mm	520 x 610 x 615
重量 (公斤)	33	weight (kg)	33

配件 (可选) | Accessories (optional)

- 保护罩
- 导航面板防护木盖
- 轮板
- protective cover
- protective wood cover for
navigation panel
- wheel board

频率范围 | frequency range





PROFESSIONAL AUDIO
专业音响系統



Sound systems which were developed with care in order to convince in the hard daily touring routine. Long-lasting product designs and sophisticated functionalities let you experience the joy and satisfaction of your job at any time.
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在旅行中获得洋溢的声音体验。

概观

配件



無源同轴监听音箱 PASSIVE MONITOR

MCX 10

描述 / DESCRIPTION

MCX 10 是一款紧凑型高性能10"同轴舞台监听音箱。根据应用的不同需要，该设计提供三种设置选项：35°度用于短距离监听，55°度用于较长距离；以及90°可用于舞台边缘的前补充 (Front fill)。由于其优美的设计令MCX 10 可以和谐优雅地融入所有环境。扬声器具有70°的广泛扩散。牢靠的监听器以其精确的声音再现，而令人信服，并为午台上的音乐家，提供了一流的声音体验。手柄内的杆孔可将MCX 10支撑，用作扩声系统上。如果需要，MCX 10 可与QLB 118 X / G低音炮完美结合。监听音箱提供了三个 Neutrik NL4 扬声器连接器。其中侧面两个可设高脚架的杆孔。

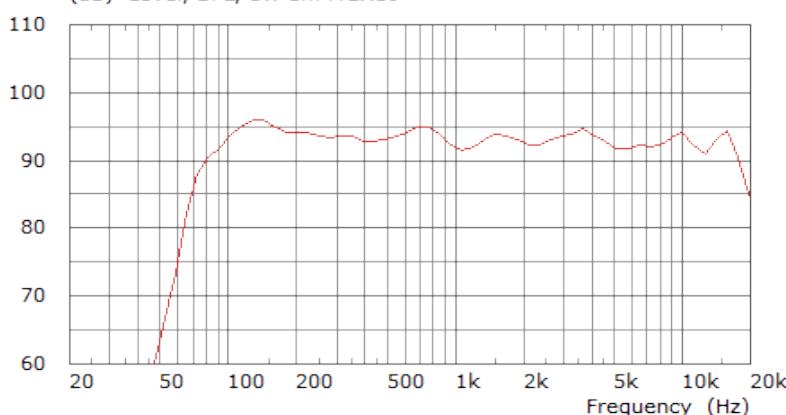
The MCX 10 is a compact high-performance coaxial stage monitor. Depending on the application, the design enables three set-up options: 35° angle for monitoring from short distances, 55° for longer distances, and 90° e.g. for front-fill applications at the stage edge. Due to its inconspicuous design, the MCX 10 fits harmoniously and elegantly into all surroundings. The speaker features a broad dispersion of 70°. The highly sturdy monitor convinces with its precise sound reproduction and gives musicians on stage a top-class sound experience. The flange inside the handle provides the possibility to use the MCX 10 as a PA system on a high stand. If required, the MCX 10 combines perfectly with the QLB 215 or QLB 118 X/G subwoofers. The monitor offers three Neutrik NL4 speakon connectors. Two of them are placed on the side of the high stand flange.



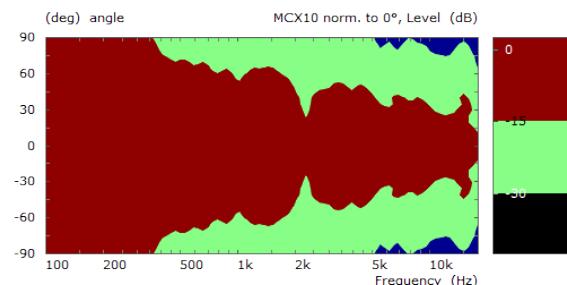
测量 / MEASUREMENTS

频率范围 / Frequency Range

(dB) Level, SPL, 1W 1m MCX10



水平 / 垂直分散
horizontal / vertical dispersion



产品规格 SPECIFICATIONS

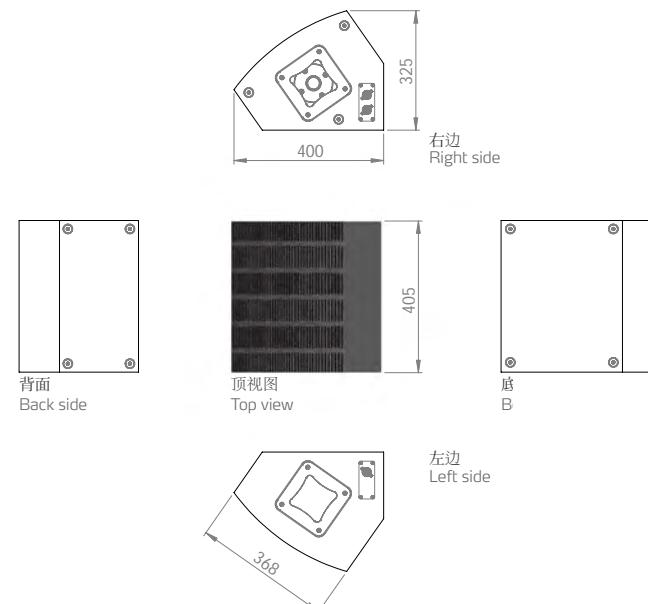


单元	Components	同轴 10"+ 1.3" (2.5" 音圈)	10" + 1.3" (2.5" voice coil), coaxial
幅盖角度 (h x v)	Dispersion (h x v)	70° 锥形	70° conical
标称负载 (AES / program / peak)	Nominal load (AES / program / peak)	300W / 600W / 1200W	300W / 600W / 1200W
阻抗 (欧姆)	Impedance (Ohm)	8	8
SPL 标称/最大值 (*dB)	SPL nom / max (*dB)	95 / 120	95 / 120
频率范围 (-6 dB)	Frequency range (-6 dB)	70 Hz - 19 kHz	70 Hz - 19 kHz
连接器	Connectors	3x Speakon NL4 (2x右, 1x左)	3x Speakon NL4 (2x right, 1x left)
特殊功能	Special features	2x 蝴蝶手柄 (四面) 2x M8 安装索点 1x M8 安全索	2x butterfly handle four sided 2x M8 mounting thread 1x M8 safety thread
喷漆	Finish	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	PU coating (black)
防护格栅	Protective grille	钢制前格栅, 带防腐蚀涂层和隔音泡绵	sturdy front grille with acoustic foam
防护等级	Protection class	IP 44	IP 44
尺寸 阔/高/深 (毫米)	Dimensions W/H/D (mm)	405 x 325 x 400	405 x 325 x 400
重量 (公斤)	Weight (kg)	15	15
应用	Application	具有3个应用角度, (35°, 55°, 90°) 舞台监听音箱 和完整的高支架 扩声系统杆孔	low profile stage monitor with 3 possible positions (35°, 55°, 90°) and integrated high stand flange
推荐系统放大器 (预设)	Recommended system amplifier (preset)	DA428 (监听音箱/顶音箱预设)	DA428 (monitor/top preset)
系统扩展 (建议)	System extension (recommendation)	超低频配套: QLB 118 X/G	Subwoofer extensions: QLB 118 X/G
配件 (另选)	Accessories (optional)	M8 吊环螺栓, 保护罩, 运输箱	M8 eyebolts, protective cover, transport case

* SPL (全空间1W / 1 m) , 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

绘图 DRAWINGS





無源同轴监听音箱 PASSIVE MONITOR

MCX 12

描述 / DESCRIPTION

MCX 12 是一款高性能的同轴舞台监听音箱，可提供各种应用。根据应用的不同，该设计可提供三种设置选项：35°度用于短距离监听； 55°角度用于较长距离；以及90°用于舞台两侧的前补充 (Front fill)。此外，通过两个不同的固定点，可以快速免工具安装，用于吊挂飞行，可变固定的 U 形支架。由于其优美的设计，令 MCX 12 可以和谐优雅地融入所有环境。扬声器具有80°的广泛扩散。牢固的箱体，以其精确的声音再现，而令人信服，并为舞台上 的音乐家，提供了一流的声音体验。手柄内的杆孔，使您可以将 MCX 12 用作高脚架上的扩声系统。如需要， MCX 12 可与QLB 118 x / g 低音炮完美结合。监听音箱提供了三个Neutrik NL4 扬声器连接器。其中侧面两个设于高脚架的杆孔。

The MCX 12 is a high-performance coaxial stage monitor offering various applications. Depending on the application, the design enables three set-up options: 35° angle for monitoring from short distances, 55° for longer distances, and 90° e.g. for front-fill applications at the stage edge. Furthermore, by the two vario fix points a quick and tool-free mounting of the vario fix U-bracket for flying applications is possible. Due to its inconspicuous design, the MCX 12 fits harmoniously and elegantly into all surroundings. The speaker features a broad dispersion of 80°. The highly sturdy monitor convinces with its precise sound reproduction and gives musicians on stage a top-class sound experience. The flange inside the handle provides to possibility to use the MCX 12 as a PA system on a high stand. If required, the MCX 12 combines perfectly with the QLB 215 or QLB 118 X/G subwoofers. The monitor offers three Neutrik NL4 speakon connectors. Two of them are placed on the side of the high stand flange.

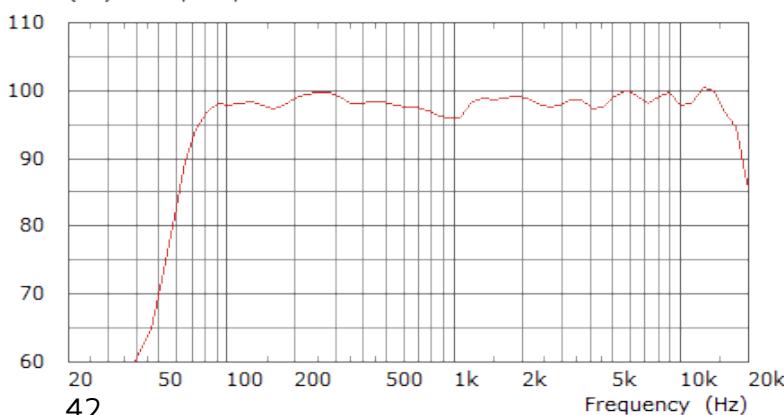


MCX 12 带 Variofix U - 形支架
MCX 12 with Variofix U - bracket

测量 / MEASUREMENTS

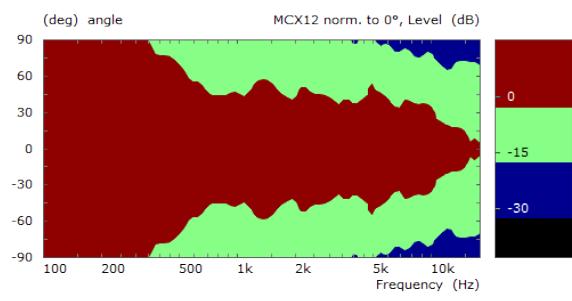
频率范围 / Frequency Range

(dB) Level, SPL, 1W 1m MCX12



水平/垂直分散

horizontal/vertical dispersion



产品规格 SPECIFICATIONS

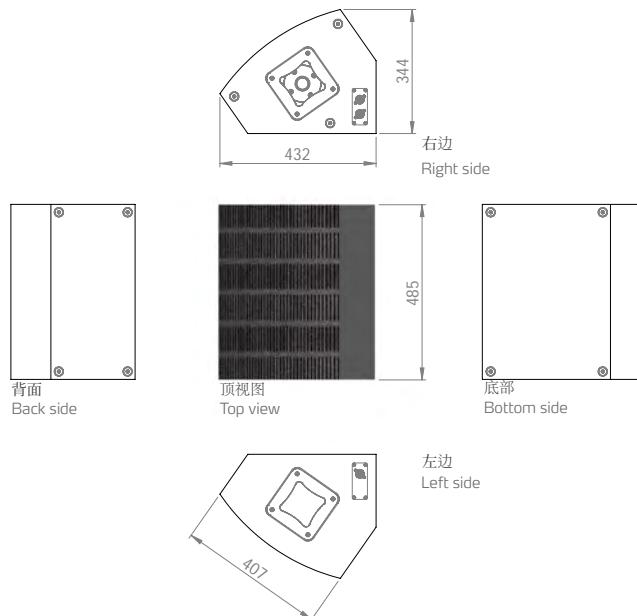


单元	Components	同轴 12"+2" (3"音圈)	12" + 2" (3" voice coil), coaxial
幅盖角度 (h x v)	Dispersion (h x v)	80° 锥	80° conical
标称负载 (AES / program/peak)	Nominal load (AES / program/peak)	400W / 800W / 1600W	400W / 800W / 1600W
阻抗 (欧姆)	Impedance (Ohm)	8	8
SPL 标称/最大值 (*dB)	SPL nom / max (*dB)	98 / 124	98 / 124
频率范围 (-6 dB)	Frequency range (-6 dB)	65 Hz - 19 kHz	65 Hz - 19 kHz
连接器	Connectors	3x Speakon NL4 (2x右, 1x左)	3x Speakon NL4 (2x right, 1x left)
特殊功能	Special features	2x 蝴蝶手柄 (四面) 2x M10 可变定位点 1x M8 安全索点	2x butterfly handle four sided 2x Variofix point M10 1x M8 safety thread
喷漆	Finish	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	PU coating (black)
防护格栅	Protective grille	钢制前格栅, 带防腐蚀涂层和隔音泡绵	sturdy front grille with acoustic foam
防护等级	Protection class	IP 44	IP 44
尺寸 宽/高/深 (毫米)	Dimensions W/H/D (mm)	485 x 345 x 430	485 x 345 x 430
重量 (公斤)	Weight (kg)	20	20
应用	Application	具有3个应用角度, (35°, 55°, 90°) 舞台监听音箱 和完整的高支架 扩声系统的杆孔	low profile stage monitor with 3 possible positions (35°, 55°, 90°) and integrated high stand flange
推荐系统放大器 (预置)	Recommended system amplifier (preset)	DA 230, DA 428 (监听音箱/顶音箱预设)	DA 230, DA 428 (monitor/top preset)
系统扩展 (建议)	System extension (recommendation)	超低频配套 QLB 118 X/G	Subwoofer extensions: QLB 118 X/G
配件 (另选)	Accessories (optional)	可变定位点U型支架 M8吊环螺栓, 保护罩, 运输箱	Variofix U-bracket, M8 eyebolts, protective cover, transport case

* SPL (全空间 1W / 1 m), 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

绘图 DRAWINGS





無源同轴监听音箱 PASSIVE MONITOR

MCX 15

描述 / DESCRIPTION

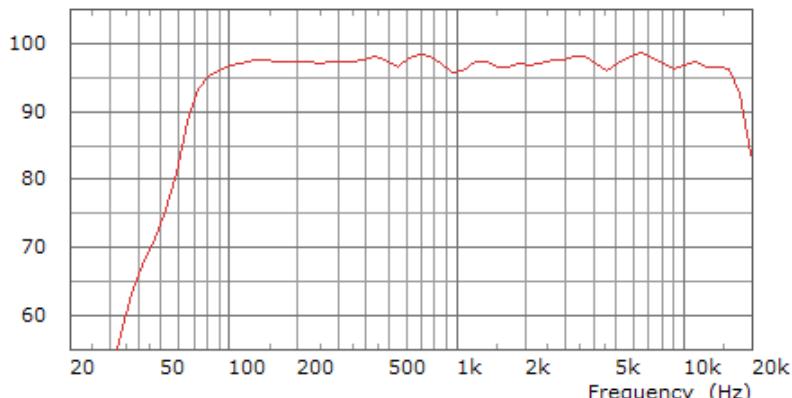
MCX 15 是一款同轴高性能监听音箱，采用纤薄型箱体设计。该设计可实现两种设置选项 - 平面角度为35°用于监听从近短距离，而55°的斜角用于较长距离的监听。90°用于舞台两侧的前补充(Front fill)。优雅的外观与所有环境和谐地融为一体。由于牢固的箱体结构和高保护性前格栅，MCX 15 可以完美配合恶劣的层次要求。垂直 60°和水平 40°的扩散，适应监听音箱角度同时可旋转90°。左右侧包括一个连接面板，每两个 Neutrik NL 4 用于高效电缆连接和连接舞台信号的插座。MCX 15 具有多功能性能，建立了新标准，手柄内的杆孔，并带有两个 KME 可变定位安装点，无需任何工具即可快速轻松地安装吊挂飞行架。MCX 15 可以与QLB 118 X / G 等低音扬声器组合使用。作为架子鼓补充(Drum fill) 或前置系统。

The MCX 15 is a coaxial high performance monitor with low profile casing design. The design enables two set up options – with a flat angle of 35° for a monitoring from near to short distances and a steep angle of 55° for longer distances. With its elegant look it harmoniously fits into all surroundings. Due to the solid construction and the high protective front grid the MCX 15 can deal perfectly with the hard stage requirements. The dispersion of 60° vertical and 40° horizontal has been adapted to the monitor angle and can be rotated by 90°. Each, left and right side includes a connection panel with each two Neutrik NL 4 Speakon sockets for an efficient cabling and linking of the stage signals. In multifunctionality the MCX 15 sets new standards with a highstand flange inside the handle and two KME Variofix mounting points where a flying frame can be installed quickly and easy without any tools. The MCX 15 can be combined with the subwoofers QLB 215 and QLB 118 X/G, e.g. as a drum fill or front system.

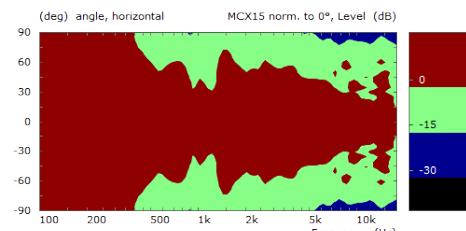
测量 / MEASUREMENTS

频率范围 / Frequency Range

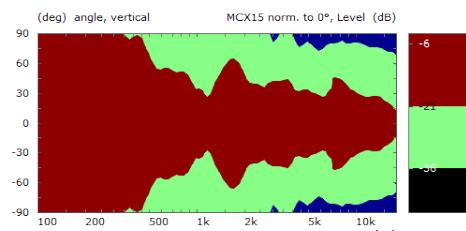
(dB) Level, SPL, 1W 1m MCX15



MCX 15 带 Variofix U - 形支架
MCX 15 with Variofix U-bracket



水平分散
horizontal dispersion



垂直分散
vertical dispersion



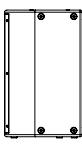
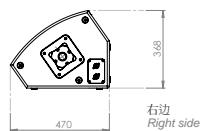
产品规格 SPECIFICATIONS

单元	Components	同轴 15"+1.4" (3" 音圈)	15" + 1,4" (3" voice coil), coaxial
幅盖角度 (h x v)	Dispersion (h x v)	60° x 40° 可调	60° x 40° rotatable
标称负载 (AES / program / peak)	Nominal load (AES / program / peak)	500W / 1000W / 2000W	500W / 1000W / 2000W
阻抗 (欧姆)	Impedance (Ohm)	8	8
SPL 标称/最大值 (*dB)	SPL nom / max (*dB)	98 / 125	98 / 125
频率范围	Frequency range	60 Hz - 19 kHz	60 Hz - 19 kHz
分频模式 (Hz)	Crossover frequency (Hz)	1300 Hz	1300 Hz
连接器	Connectors	4x Speakon NL 4 (2x右, 2x左)	4x Speakon NL 4 (2x right, 2x left)
特殊功能	Special features	2x 蝴蝶手柄 (四面) 2x 可变定位点 1x M8 安全素点	2x butterfly handles four sided 2x Variofix points 1x M8 Sicherungspunkt
喷漆	Finish	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	PU coating (black)
防护格栅	Protective grille	钢制前格栅, 带防腐涂层和隔音泡绵	sturdy protective grille grid with acoustic foam
保护等级	Protection class	IP 44	IP 44
尺寸 宽/高/深 (毫米)	Dimensions W/H/D (mm)	600 x 370 x 470	600 x 370 x 470
重量 (公斤)	Weight (kg)	26	26
应用	Application	具有3个应用角度 (35°, 55°, 90°) 舞台监听音箱和完整的高支架 扩声系统的杆孔	low profile stage monitor with 3 possible positions (35°, 55°, 90°) & integrated hight stand flange
推荐系统放大器(预置)	System amplifier (preset)	DA 230, DA 428 (监听音箱 / 顶音箱预设)	DA 230, DA 428 (monitor/top preset)
系统扩展 (建议)	System extension (recommendation)	超低频配套: QLB 118 X/G	Subwoofer extensions: QLB 118 X/G
配件 (另选)	Accessories (optional)	可变定位点U型支架, M10 吊环螺栓, 保护罩, 运输箱	Variofix U-bracket, M10 thread, protective cover, transport case

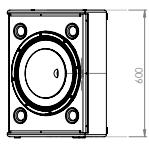
* SPL (全空间 1W / 1 m), 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

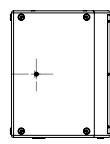
绘图 DRAWINGS



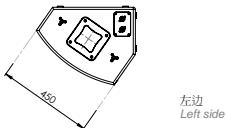
背面
Back side



正面
Front side



底部
Bottom side



左边
Left side

System Guide 系統指南

for DA 428 / DA 230 System Amplifiers

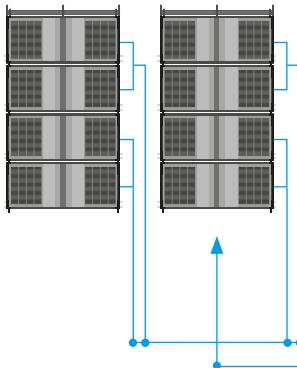
供系統功放 DA428 / DA230

PANOV

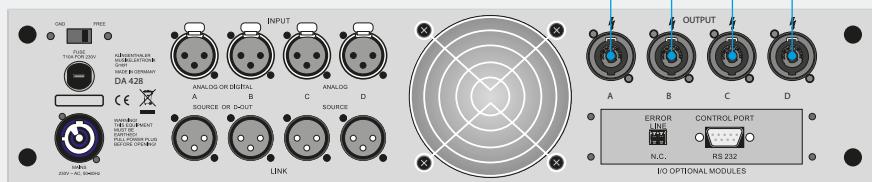
CN 最大的应用系统配置示例：
一台 DA428 和一台 DA230t

EN Application examples for the max. system configuration of one DA 428 and one DA 230:

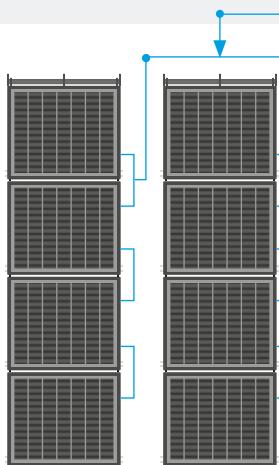
4 x QL 906 per side,
2 elements per channel,
stereo-setup
每侧 4 x QL906, 每个通道
2 组, 立体声装置



DA 428

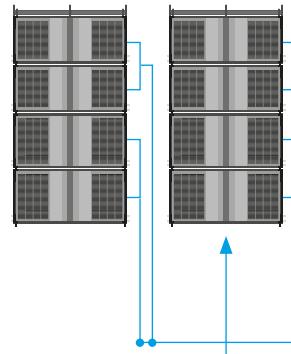


DA 230



8 x QLM 115
4 elements per channel,
stereo- or mono-setup
每个通道 4 subs 立体声或
单声道装置

2 x QL 906 + 2 x QL 1215
(Downfill) per side,
2 elements per channel,
stereo-setup
每侧 2 x QL906 + 2 x QL1215,
每个通道 2 组, 立体声装置



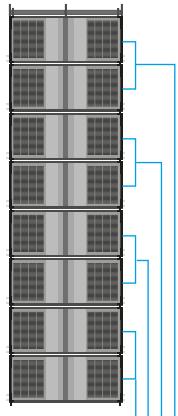
2 x QLB 118 X
1 element per channel,
stereo- or mono-setup
每个通道 1 sub 立体声或
单声道装置

组件 | Components:

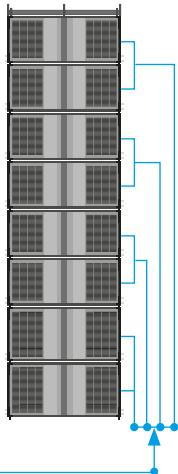
QL 906 2 x 8" + 2 x 1" | 90° x 6° Line Source Element
QL 1215 2 x 8" + 2 x 1" | 120° x 15° Line Source Element
(Downfill) max. 2 x per Array

QLM 115 1 x 15" Low-Mid Extension
QLB 118 X 1 x 18" flyable Subwoofer
GB 214 2 x 14" Subwoofer
GB 218 2 x 18" Subwoofer

8 x QL 906 per side,
2 elements per channel,
mono-setup
每侧 8 x QL906, 每个通道 2
组, 单声道装置

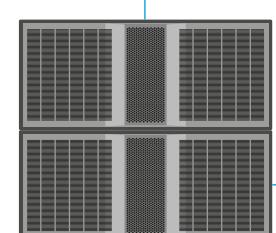


6 x QL 906 + 2 x QL 1215
(Downfill) per side,
2 elements per channel, mono-setup
每侧 6 x QL906 + 2 x QL1215,
每个通道 2 组, 单声道装置

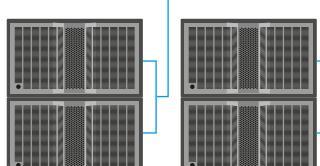


對於每個系統設置，您
必須在DA 428 / DA 230上
選擇適當的預設。

For each system- setup
you have to choose the
appropriated preset on
DA 428 /
DA 230.



2 x GB 218
omni or cardioid,
1 element per channel,
stereo- or mono-setup
无方向性或心型, 每通道
1 sub 立体声或单声道装置



4 x GB 214
2 elements per channel,
stereo- or mono-setup
每个通道 2 subs 立体声或单声
道装置

System Guide 系統指南

Configuration Examples 配置實例

CN 在此頁面上，您可以看到無源PANO線陣組件的特殊系統配置示例。這個例子系統設置可借助 PANO-Focus 仿真軟件是可變和可擴展。所有列出的系統配置，可以從 www.kme-sound.com 上獲得三維模擬。

EN On this page you see special system-configuration examples. This examples are variable and extendable. By means of the PANO-Focus simulation software, all listed system configurations are available on the internet at www.kme-sound.com as a three dimensional simulation.

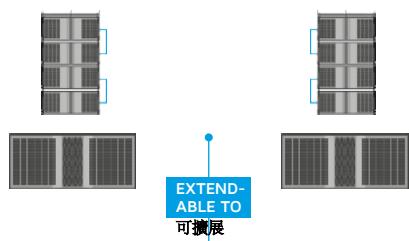
Example 1 例子1

recommended amplifier 推薦功放:

1 x DA 230 + 1 x DA 428

system components 系統組成 :

最多 max. 2 x GB 218 + 8 x QL 906



System Setup 系統設置

飛行吊掛和疊放使用

(建議最少的組合)

fl wn and stacked use
(recommended minimum configuration)

Example 2 例子2

recommended amplifier 推薦功放:

2 x DA 230 + 1 x DA 428

system components 系統組成:

最多 max. 4 x QLB 118 X + 8 x QL 906



Example 3 例子3

recommended amplifier 推薦功放 :

4 x DA 230 + 2 x DA 428

system components 系統組成:

最多 max. 4 x GB 218 + 16 x QL 906 or
12 x QL 906 + 4 x QL 1215 (Downfil I)



System Setup 系統設置

飛行吊掛和疊放使用

(每側最多 8 個頂箱)
flow and stacked use
(max. 8 x top's per side)

Example 4 例子4

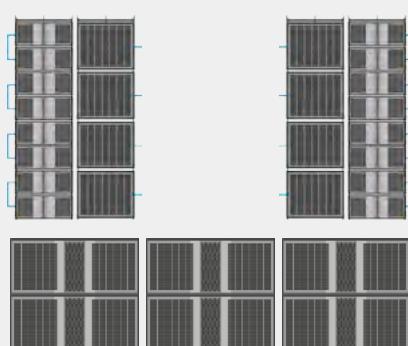
recommended amplifier 推薦功放:

7 x DA 230 + 2 x DA 428

system components 系統組成 : max. 6 x GB 218

+ 8 x QLM 115 + 16 x QL 906 or 或

12 x QL 906 + 4 x QL 1215 (Downfil I) 補聲



Example 5 例子5

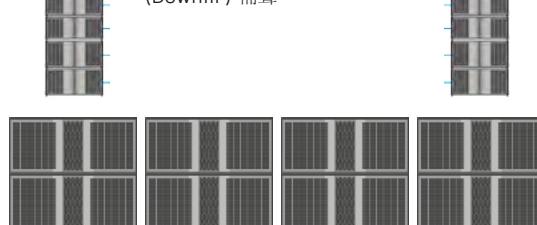
recommended amplifier

推薦功放 :

8 x DA 230 + 4 x DA 428

system components 系統組成 :

最多 max. 8 x GB 218 +
32 x QL 906 or 或
28 x QL 906 + 4 x QL 1215
(Downfil) 補聲



System Setup 系統設置

飛行使用 | flown use



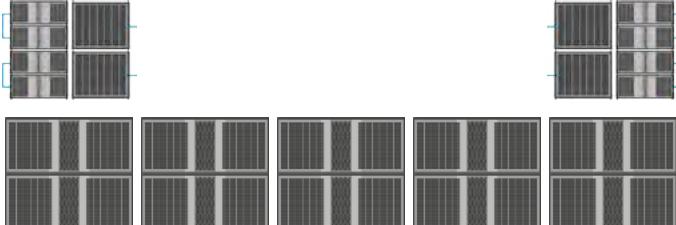
Example 6 例子6

recommended amplifier 推薦功放:

12 x DA 230 + 4 x DA 428

system components 系統組成 :

最多 max. 10 x GB 218 + 16 x QLM
115 + 32 x QL 906 or 28 x QL 906
+ 4 x QL 1215 (Downfil) 補聲



QL 906 QL 1215

CN 2分频线阵列模块QL 906和QL 1215均配备两个1“驱动器，转换到波形前/号角组合，每个驱动器带有两个8”钕磁制扬声器，并同时具有出色的AQF声学滤波器，这种过滤器，网状氨基塑料泡绵化合物，可取消工作方向内部的副翼侧翼抑制扬声器系统内部的驻波，创造一个宽阔而平滑的水平扩散和完美的垂直可扩展性。



QL 906



QL 1215
Downfni I

EN The 2-way line source units QL 906 and QL 1215 are equipped each with two 1" drivers coupled to a wave-former/horn combination and each with two 8" neodymium speakers combined with outstanding AQF acoustic filters. This filters, compounds of reticulated aminoplast foams, dampen standing waves inside the speaker system and cancel parasitical side-lobes within the working direction, creating a wide while smooth horizontal dispersion and a perfect vertical scalability.

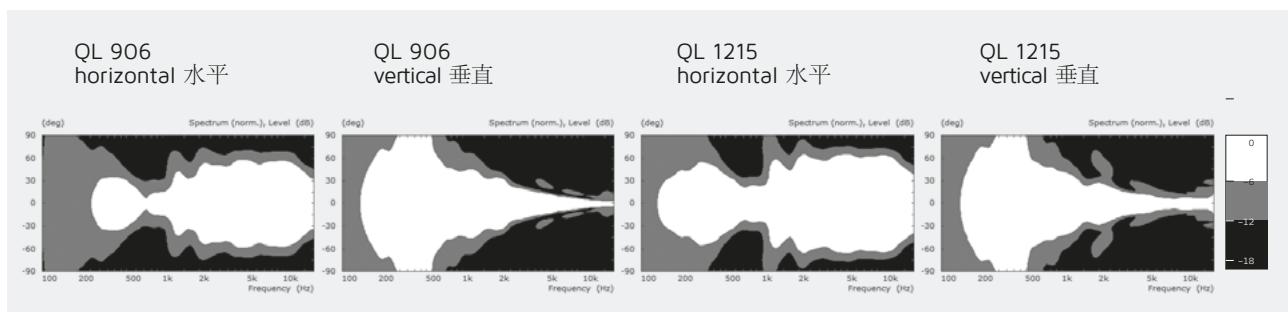
特徵

應用 - 紧凑的线阵列，可满足移动和固定安装中专业加固的最高要求。租用公司和活动服务业务提供了一致且灵活的产品，可以根据不断变化的需求进行定制。PANO可用于大型活动，例如现场音乐会和露天演出以及产品和演示.在困难的声学环境中进行精确的演示,声音的教准显著影响质量。

特點 - 防潮和防紫外線的聚氨酯塗料,适用于道路上獲得專利的AQF聲濾波器，可有效消除垂直和水平的旁瓣，K.M.E. 快速釋放的索具系統，沒有松动的零件，用於飛行和堆疊使用，最高安全性。

PANO-FOCUS 模擬軟件 - 隨附的軟件可在3D視圖中對系統性能進行聲學模擬。模擬包含用於索具的所有必要的機械參數，例如飛行框架的固定點以及所有陣列元素的張開角度。

分散 | Dispersion



产品规格 | Specifications

应用	兩分頻無源, 大功率線陣元件	Application	High power line array element, 2 way passive
单元	2 x 8 " 独立的封闭式箱体中带声学滤波器 2 x 1 ", 带波形形成器	Components	2 x 8" with acoustic filter in separated closed enclosures, 2 x 1" with wave former
幅盖角度 (h x v)	QL 906: 90° x 6° QL 1215: 120° x 15° 取决于阵列长度和配置	Dispersion (h x v)	QL 906: 90° x 6° QL 1215: 120° x 15° vertical depends on array length and configuration
额定负载 (AES/Programm/ Peak)	400W / 800W / 1600W	Nominal load (AES/Programm, Watt)	400 / 800
阻抗 (欧姆)	8	Impedance (Ohm)	8
SPL 标称 * (dB)	98	SPL nom.* (dB)	98
SPL 最大值 * (dB)	135 (3 个组件其角度为 0°)	SPL max.* (dB)	135 (3 units with an angle of 0°)
频率范围 (-6 dB)	80 Hz – 20 kHz	Frequency range (-6 dB)	80 Hz – 20 kHz
连接器	2 x Speakon NL 4	Connectors	2 x Speakon NL 4
喷漆	黑色PU涂层， 防水，外层具有耐撞击和户外防護漆	Finish	PU coating black, humidity resistant
索具系统	K.M.E. 快速松放 - 完全集成的索具和堆叠系统	Rigging system	K.M.E. Quick Release – fully integrated rigging- & stacking system
箱形	QL 906: 3° 梯形 QL 1215: 6° 梯形	Casing	QL 906: 3° trapezoid QL 1215: 6° trapezoid
特殊功能	2x侧面安装的钢制手柄	Special features	2x steel handles on the sides, infopanel
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡沫	Protective grille	Steel front grille with anti-corrosion coating and acoustic foam
防護等級別	IP 45	Protection class	IP 45
尺寸 (宽x高x深) 毫米	QL 906: 600 x 245 x 383 QL 1215: 600 x 285 x 383	Dimensions (w x h x d) mm	QL 906: 600 x 245 x 383 QL 1215: 600 x 285 x 383
重量 (公斤)	QL 906: 23, QL 1215: 24	Weight (kg)	QL 906: 23, QL 1215: 24
擴展超低頻 (推荐)	QLM 115 底中擴展, QLB 118 X 飛行低音炮 (兼容索具) QLB 118 G, GB 218, GB 214	Subwoofer extension (recommendation)	QLM 115 LoMid-Extension, QLB 118 X Flying Subwoofer (compatible rigging hardware), QLB 118 G, GB 218, GB 214
模拟软件	PANO Focus 3.0	Simulation software	PANO Focus 3.0
飞行硬件	TB 500 可承载 20 只起	Flying frame	TB 500 for up to 20 elements
另選配件	运输板车 (供8只)	Accessories (optional)	Transport dolly (for 8 elements)

供系統功放 | System amplifier

根据出廠預設應用 (2x QL 906 / 1215 每通道)

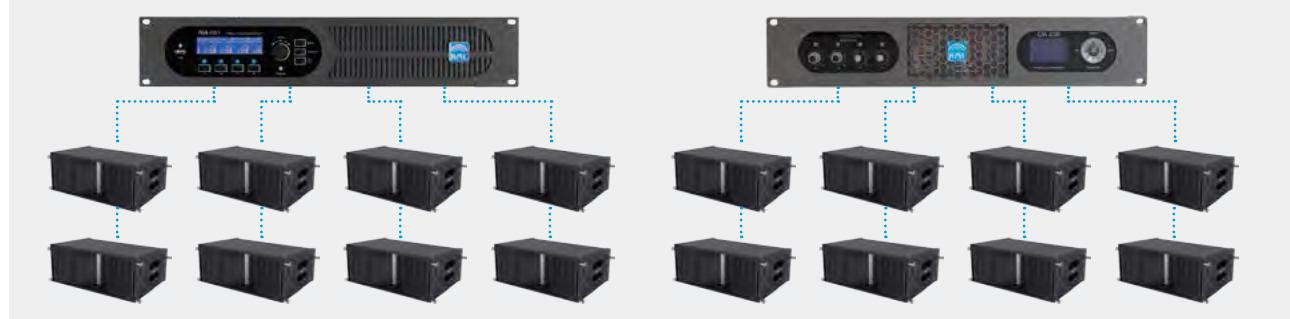
with factory presets depending on application (2x QL 906 / 1215 per channel)

NA 480 4x 2000 W

具有集成 DANTE 和群组整合控制功能的遠程可控網絡4通道放大器 | remote controllable network-capable 4-channel amplifier with integrated DANTE® and group-access-control

DA 428 4x 700 W

4通道放大器，帶有可選 DANTE 模塊，可通過平板電腦，智能手機或PC遠程控制
4-channel amplifier with optional DANTE® module remote controllable via tablet, smartphone or PC



QLM 115

CN 1 x 15" 英寸的 QLM 115 被设计为直接辐射低中扩展，用于 QL 906 线源单元的 PANO 阵列中的飞行操作。它以不受限制的全范围功能对紧凑型阵列进行了补充，并在更长的距离上扩展了低中音的再现。

EN The direct radiating QLM 115 1 x 15" is designed as a low-mid extension for use in flight operations in and next to a PANO array of QL 906 line source units. It complements the compact array with unrestricted fullrange capability and extends the low-mid reproduction over greater distances.

功能性

应用

用于 PANO 线阵的紧凑型中低扩展
扩展了全范围应用程序的可能性。借助 QLM 115，PANO 线阵列的应用可能性得以增加和升级。

活动服务供应商，可以完全适应不断变化的需求，提供一致且灵活的产品。PANO 可用于大型活动，例如现场音乐会和露天演出，以及在困难的声学环境中进行产品和贸易展览会的演示。

特点 – 适用于道路上，防潮和防紫外线的聚氨酯涂料，与所有 PANO 线阵列组件兼容，K.M.E. 快速释放索具系统，没有松动的零件，用于飞行和堆叠使用时最高的安全性



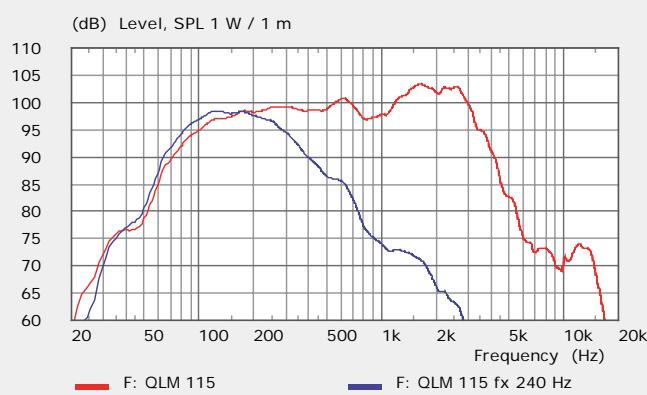
Functionalities

Application

compact low-mid extension for the PANO Line Array which extends the possibilities to fullrange applications. With the QLM 115 the application possibilities of the PANO Line Array are increased and upgraded. Event service providers are offered a coherent and flexible product that can be completely adapted to changing requirements. PANO can be used for larger events such as live concerts and open airs as well as for product and trade fair presentations in difficult acoustic environments.

Special features – road suitable, moisture and UV resistant Polyurethane coating, compatible to all PANO Line Array components, K.M.E. Quick Release rigging system for flight and stacked use highest safety, no loose parts

Frequency ranges 频率範圍



产品规格 | specifications

應用	封閉式中低頻直接輻射	application	Low-Mid extension direct-radiating, closed enclosure
单元	1 x 15“ 钕磁	components	1 x 15" Neodym
幅盖角度	頻率相關	dispersion	frequency dependant
额定负载 (AES/Programm, peak)	400W / 800W / 1600W	nominal load (AES/Program, peak)	400W / 800W / 1600W
阻抗(歐姆)	8	impedance (ohms)	8
SPL 标称 * (dB)	98 (飛行陣列)	SPL nom.* (dB)	98 (flight array)
SPL 最大值* (dB)	124	SPL max.* (dB)	124
频率范围 (-6 dB)	60 – 250 fx	frequency range (-6 dB)	60 – 250 fx
连接器	2x Speakon NL 4	connectors	2x Speakon NL 4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防護漆	finish	PU coating black, humidity resistant
特殊功能	2x 侧面安装的钢制手柄	special features	2 side mounted steel handles, info-panel
索具系统	K.M.E. 快速鬆放 - 完全集成的索具和堆疊系統	rigging system	K.M.E. Quick Release – fully integrated rigging- & stacking system
防护格栅	鋼製前格柵，帶防腐蝕塗層和隔音泡沫	protective grille	Steel front grille with anti-corrosion coating and acoustic foam
防護等級	IP 45	protection class	IP 45
尺寸 (宽x高x深) 毫米	600 x 495 x 383	dimensions (W x H x D) mm	600 x 495 x 383
重量 (公斤)	32	weight (kg)	32
系统补充	系統功放: NA 480 oder DA 230; QL 906, QL 1215, QLB 118 X, GB 218	System supplement	system amplifier: NA 480 or DA 230; QL 906, QL 1215, QLB 118 X, GB 218
模拟软件	PANO Focus 3.0	simulation software	PANO Focus 3.0
飞行硬件	TB 500 最多可吊装 16 只	Flying frame	TB 500 for up to 16 elements
配件	运输小车 (供4只)	accessories	Transport dolly (for 4 elements)

系統功放 | system amplifier

根据出厂预设应用 (4x QLM 115 每通道)

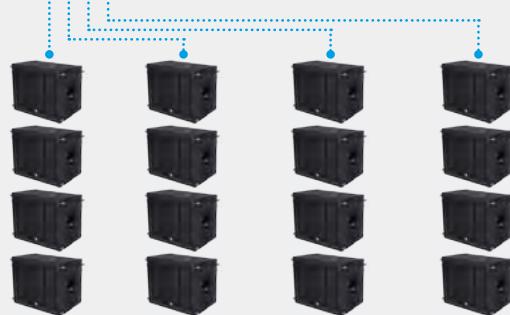
with factory presets depending on application (4x QLM 115 per channel)

NA 480 | 4x 2000 W

远程可控网络4通道放大器

带有集成 DANTE 和群组整合控制

remote controllable network-capable 4-channel amplifier with integrated DANTE® and group-access-control



DA 230 | 2x 1500 W

2通道放大器，带有可选的TCP / IP或DANTE. 模块，可通过

平板电脑，智能手机或PC进行远程控制 2-channel amplifier with optional TCP/IP or DANTE® module remote

controllable via tablet, smartphone or PC





线阵与点声源相结合 HYBRID - ARRAY UNIT

QF 5045 V2

描述 / DESCRIPTION

单一阵列拼合组成 QF 5045 V2, 其水平 50° 和垂直 45° 的扩散, 是绝对新颖的线阵列和点声源技术的结合。 QF 5045 V2 包含一只带有4x1" 高频驱动器的高频单元 (新开发的高频单元), 这些高频驱动器, 在波导上相互工作, 以确保阵列元件之间高频的精确扩散和

无缝接合。中频系统是直接辐射的12" 钕磁扬声器。在该系统中, 对紧凑的尺寸, 高声压级(SPL)和线阵列的扩散定义要求结合在一起。

调音部份, 2 路系统作为强大的扩声组合中的全音域系统或中高音系统运行。 QF 5045 V2 经过优化, 可在地面堆叠和吊挂飞行模式下最多簇群三个箱体。此外, 由于完整的杆孔, 可以在较高的支架上进行操作。

The single hybrid array element QF 5045 V2 (newly developed high frequency unit) with a dispersion of 50° horizontal and 45° vertical is an absolute novelty in the combination of line source and point source technologies.

The QF 5045 V2 contains a high frequency unit with 4 x 1" HF drivers which are coherently working on a waveguide guaranteeing a precise dispersion and seamless transition of the high frequencies between the array elements. The mid range system is a direct radiating 12" neodymium speaker. In this system the requirements for compact dimensions, high SPL and defined dispersion of a line array are combined in a symbiosis.

The tonal tuning enables the operation of the 2-way system as full-range system or as mid/high system within a powerful PA combination. The QF 5045 V2 is optimized for clustering of maximum three units both in ground stacking and flying mode. Furthermore, thanks to the integrated flange, the operation on a high stand is possible.



索具硬件 / Rigging hardware

应用 / APPLICATION

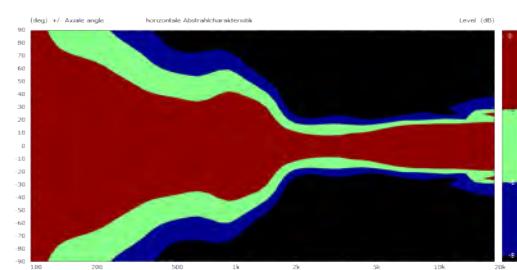
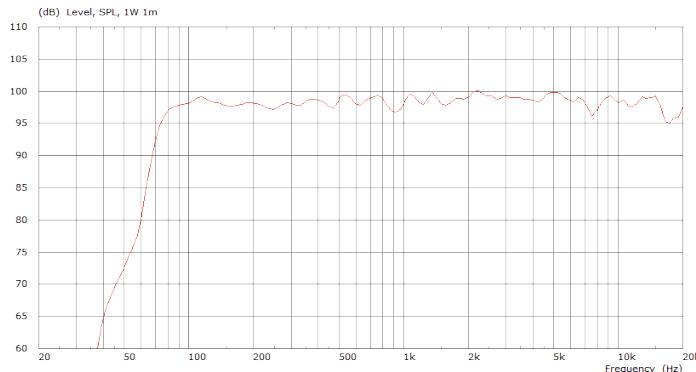
户外地方 Open Airs / 音乐厅 Concert halls

体育场馆 / Stadiums

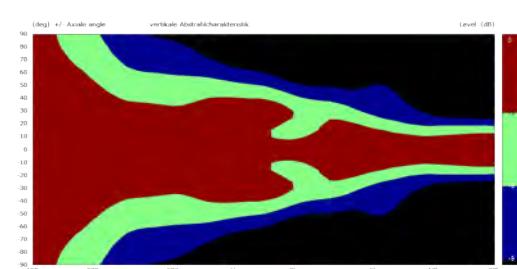
俱乐部和迪斯科舞厅 / Clubs & discotheques

测量 / MEASUREMENTS

频率范围 / Frequency Range



水平分散
horizontal dispersion



垂直分散
vertical dispersion

产品规格 SPECIFICATIONS

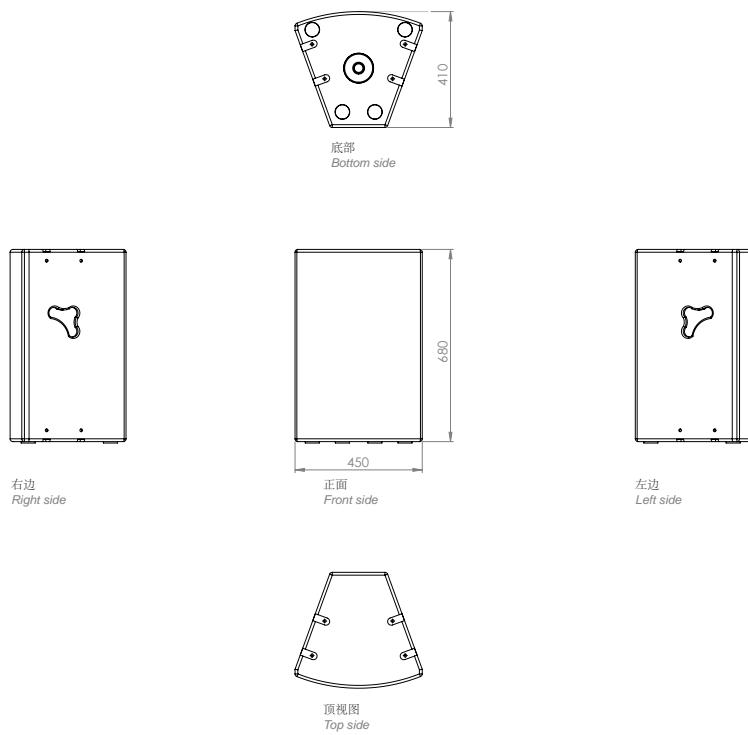


单元	Components	1 x 12" + 4 x 1" 镁磁	1 x 12" + 4 x 1" Neodymium
标称负载 (AES / program / peak)	Nominal load (AES / program / peak)	450W / 900W / 1800W	450W / 900W / 1800W
阻抗 (欧姆)	Impedance (Ohm)	8	8
SPL标称 / 最大值 (*dB)	SPL nom / max (*dB)	98 / 125	98 / 125
频率范围 (-6 dB)	Frequency range (-6 dB)	60 Hz - 20 kHz	60 Hz - 20 kHz
分频模式 (Hz)	Crossover frequency (Hz)	1800	1800
连接器	Connectors	2 x Speakon NL 4	2 x Speakon NL 4
特殊功能	Special features	2 x 蝴蝶手柄 (三面)	2 x butterfly handles three sided
喷漆	Finish	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	PU coating black
防护格栅	Protective grille	钢制前格栅，带防腐涂层和隔音泡绵	high protective comb grid with acoustic foam
防护等级	Protection class	IP 44	IP 44
尺寸 宽/高/深 (毫米)	Dimensions W/H/D (mm)	450 x 680 x 410	450 x 680 x 410
重量 (公斤)	Weight (kg)	26	26
系统扩展 (建议)	System extension (recommendation)	系统功放 : DA 230 超低频配套 : QLB 118 X/G	System amplifier: DA 230 Sub actively channeled: QLB 118 X/G
配件 (另选)	Accessories (optional)	索具硬件	Rigging hardware

* SPL (全空间 1W / 1 m) , 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

绘图 DRAWINGS





线阵与点声源相结合 HYBRID - ARRAY UNIT

QH 5045 V2

描述 / DESCRIPTION

单一阵列拼合单元 QH 5045 V2，具有水平 50° 和垂直 45° 的扩散。混合阵列是线阵和点声源技术相结合的绝对新颖之处。QH 5045 V2 包含4 x 1" 高频驱动器(新开发的高频单元)，它们在波导上相互工作，从而确保了其中的组件之间高频的精确分散和无缝结合。两只号角式的中音系统配备了2x10" 钕磁扬声器。在该系统中，对于紧凑尺寸，最高声压级(SPL) 和确定的线阵扩散的要求互动。QH 5045 V2 经过优化，可在地面层叠和飞行吊挂模式下，最多簇群三个箱体。并且，由于完整的杆孔，因此可以在较高的支架上进行操作。



The single hybrid array unit QH 5045 V2 (newly developed high frequency unit) has a dispersion of 50° horizontal and 45° vertical. The hybrid array element is an absolute novelty in the combination of line source and point source technologies. The QH 5045 V2 contains four 1" high frequency drivers which are coherently working on a waveguide guaranteeing a precise dispersion and seamless transition of the high frequencies between the array elements. The two hornloaded mid range systems are equipped with 10" neodymium speakers. In this system the requirements for compact dimensions, highest SPL and defined dispersion of a line array are combined in a symbiosis. The QH 5045 V2 is optimized for clustering of maximum three units both in groundstacking and flying mode. Furthermore, thanks to the integrated flange, the operation on a high stand is possible.



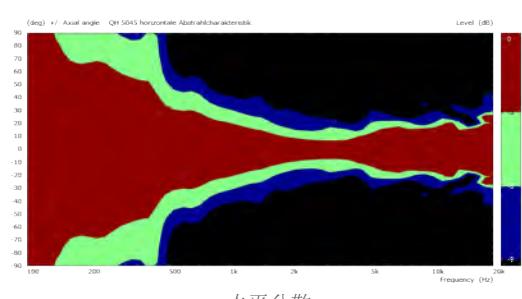
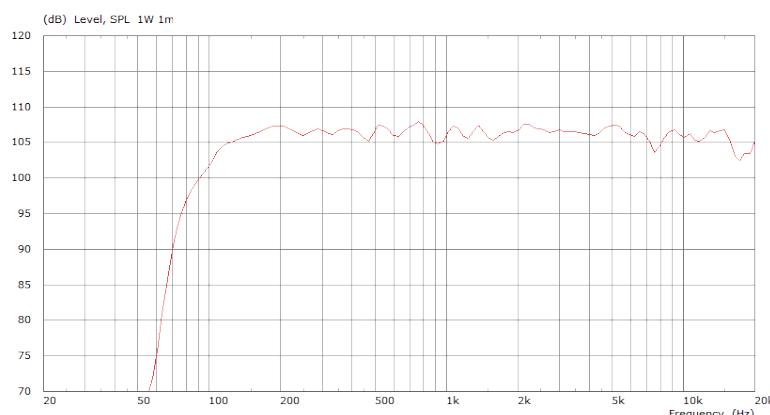
索具硬件
Rigging hardware

应用 / APPLICATION

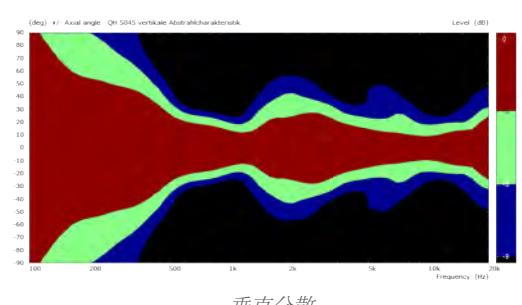
户外地方 Open Airs / 音乐厅 Concert halls
体育场馆 Stadiums
俱乐部和迪斯科舞厅 Clubs & discotheques

测量 / MEASUREMENTS

频率范围 / Frequency Range



水平分散
horizontal dispersion



垂直分散
vertical dispersion

产品规格 SPECIFICATIONS

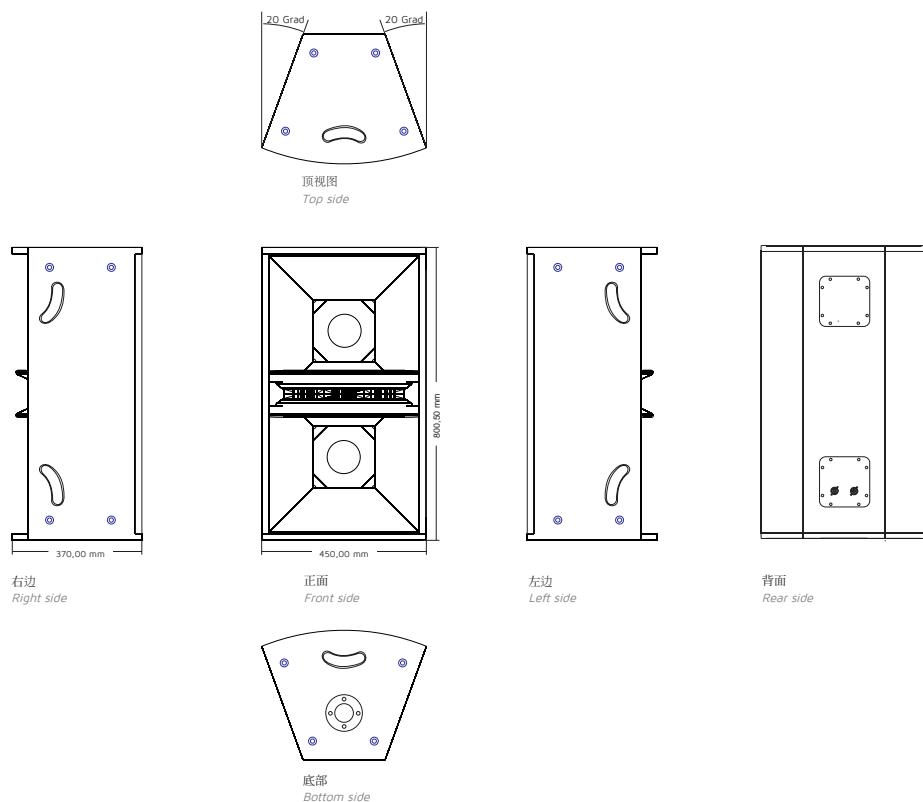


单元	Components	2 x 10"+ 4 x 1"钕磁	2 x 10" + 4 x 1" Neodymium
标称负载 (AES / program / peak)	Nominal load (AES / program / peak)	700W/1400W/2800W	700W / 1400W / 2800W
阻抗 (欧姆)	Impedance (Ohm)	8	8
SPL 标称 / 最大值 (*dB)	SPL nom / max (*dB)	107 / 137	107 / 137
频率范围 (-6 dB)	Frequency range (-6 dB)	120 Hz - 20 kHz	120 Hz - 20 kHz
分频模式 (Hz)	Crossover frequency (Hz)	1800	1800
连接器	Connectors	2 x Speakon NL 4	2 x Speakon NL 4
特殊功能	Special features	6 x 侧边把手	6 x side mounted handles
喷漆	Finish	黑色PU涂层 防水，外层具有耐撞击和户外防护漆	PU coating black
防护格栅	Protective grille	钢制前格栅，带防腐蚀涂层和隔音泡绵	high protective comb grid with acoustic foam
防护等级	Protection class	IP 44	IP 44
尺寸 宽/高/深 (毫米)	Dimensions W/H/D (mm)	450 x 800 x 370	450 x 800 x 370
重量 (公斤)	Weight (kg)	34	34
系统扩展 (建议)	System extension (recommendation)	系统功放：DA 230 超低频配套： QLB 118 X/G	System amplifier: DA 230 Sub actively channeled: QLB 118 X/G
配件 (另选)	Accessories (optional)	索具硬件	Rigging hardware

* SPL (全空间 1W / 1 m) , 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

绘图 DRAWINGS





无源超低音 PASSIVE SUB

QLB 118 X / QLB 118 G

描述 / DESCRIPTION

直接辐射高性能超低音扬声器，配备了新开发的18"单元，带有四线双音圈，低音的管道设计反射套管经过优化，最大限度地减少气流噪音。这些创新明显提高声音再生质量。因此QLB 118 X 和 QLB 118 G 声音紧凑，具有妥善的脉冲响应，而不会丢失18"低音炮的重低音再现。建议作为通用重低音扬声器，用于与线阵列组合创建强大的 PANO 系列的混合元素低音阵列。它的机械结构提供 KME 典型稳定性。功能细节设定了新标准 - 完美定位把手，QLB118G 堆叠元件和QLB 118X 结合快速松放装置硬件系统，可以实现飞行吊挂和地面堆叠与PANO线阵组件配合。

The direct-radiating high-performance subwoofer is equipped with a new developed 18" subwoofer with tetra coil & dual voice coil. The tunnel design of the bass reflex casing has been optimized to minimize air flow noise. These innovations distinctly increase the sound and reproduction quality. Hence the QLB 118 G and QLB 118 X sound tight and feature a proper impulse response without losing the deep bass reproduction of a 18" subwoofer. It is recommended as a universal subwoofer for creating powerful bass arrays in combination with the line array and hybrid elements of the PANO series. Its mechanical construction provides the KME typical stability. Functional details set new standards - perfectly placed handles, stacking elements and the QLB 118X with the integrated Quick Release Hardware system which enables flying and groundstacking in combination with the PANO line array elements.



QLB 118 X



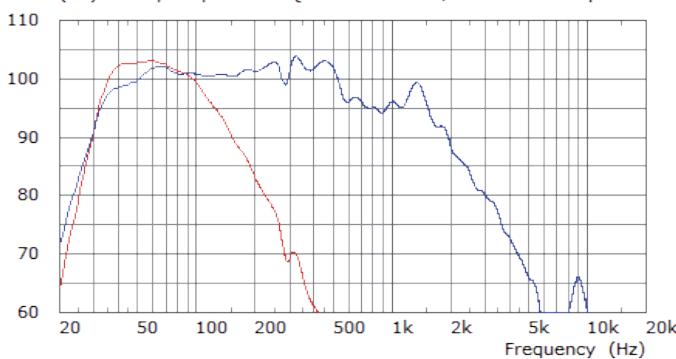
QLB 118 G

测量 / MEASUREMENTS

频率范围 / Frequency Range

QLB 118X

(dB) Level, SPL, 1W 1m. QLB 118X filtered/ unfiltered fullspace



应用 / APPLICATION

户外地方 / Open Airs

音乐会音乐厅 / Concerts

电影院 / Theatres

俱乐部和迪斯科舞厅 / Clubs & discotheques

环绕声应用

Surround sound applications

使用系统放大器DA 230设置（心形/端射）

低音阵列（系统预设）

Setup of (cardioid / End Fire) bass arrays with system amplifier DA 230 (system preset)

产品规格 SPECIFICATIONS



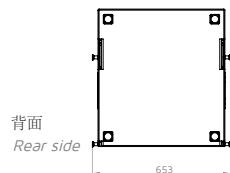
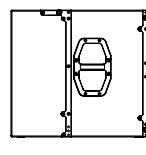
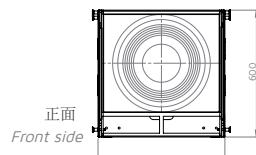
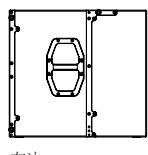
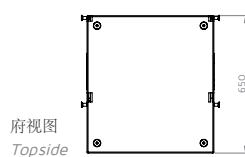
单元	Components	1 x 18" 四线双音圈	1 x 18" with Tetracoil dual voice coil
标称负载 (AES / program / peak)	Nominal load (AES / program / peak)	2000W / 4000W / 8000W	2000W / 4000W / 8000W
阻抗 (欧姆)	Impedance (Ohm)	4	4
SPL 标称 / 最大值 (*dB)	SPL nom / max (*dB)	飞行模式 96 / 129 地面堆叠 102 / 135	flying mode 96 / 129 ground stacking 102 / 135
频率范围	Frequency range	32 Hz - fx	32 Hz - fx
连接器	Connectors	后侧连接面板 2 x Speakon NL4	connection panel on the rear side 2 x Speakon NL4
特殊功能	Special features	2 个侧面安装手柄, M20 高支架竖杆, 一套 4 x 4 M8 运作运输轮, QLB 118 X : KME 快速松放集成索具 和堆叠系统	2 side mounted handles, M20 high stand flange, 4 x 4 M8 threads for set of transport wheels QLB 118 X: KME Quick Release - integrated rigging- & stacking system
喷漆	Finish	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆	PU coating black
防护格栅	Protective grille	钢制前格栅, 带防腐蚀涂层和隔音泡绵	high protective comb grid with acoustic foam
防护等级	Protection class	IP 44	IP 44
尺寸 宽/高/深 (毫米)	Dimensions W/H/D (mm)	600 x 600 x 650	600 x 600 x 650
重量 (公斤)	Weight (kg)	QLB 118 X: 52 / QLB 118 G: 42	QLB 118 X: 52 / QLB 118 G: 42
设计	Design	调教为反射直接辐射 低音	direct radiating with bass reflex tuning
系统扩展 (建议)	System extension (recommendation)	系统功放: DA 230 (带系统预设) 顶箱: QL 906, QL 1215, QH 5045 V2, QF 5045 V2, MCX15	system amplifier: DA 230 (with system preset) Top: QL 906, QL 1215, QH 5045 V2, QF 5045 V2, MCX15
配件 (另选)	Accessories (optional)	轮板 : (商品代码 1 - 915 - 001), 运输轮, 保护盖	wheel board (item code 1 - 915 - 001), set of transport wheels, protective cover

* SPL (全空间 1W / 1 m) , 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

绘图 DRAWINGS

QLB 118 X



G 10

The G10 is a passive high power line source element – acoustically optimized to reach an excellent sound quality and extraordinary performance. Particular attention was paid to the practical handling to ensure ideal transport characteristics as well as a quick and safe rigging.

Functionalities 功能

PreSelect – the innovative 3-point rigging system enables to preselect the splay angles between the array elements already in the transport dolly. When flying the array the desired splay angles are achieved automatically.

预选 - 创新的三点索具系统，可以预先选择运输小车中已有的阵列箱之间的展开角度。什么时候飞行吊挂便自动实现所需的张开角度。

Dynamic 3D Sound Image – offers an exact spatial reproduction and depth together with extraordinary sound dynamics. The 3-source waveguide guarantees a coherent wave front in the high frequency range resulting in a smooth and high-resolution sound of the complete array. The acoustically optimized low-mid sound guiding in combination with the 3-source waveguide provides a defined horizontal dispersion over a wide frequency range.

动态3D声像 - 提供精确的空间再现和深度以及非凡的声音动态。 **3**声源波导保证高频范围内的相干波阵面，从而产生完整阵列的平滑和高分辨率声音。声学上优化的低中频引导与**3**声源波导相结合，可在宽频率范围内提供明确的水平扩散。

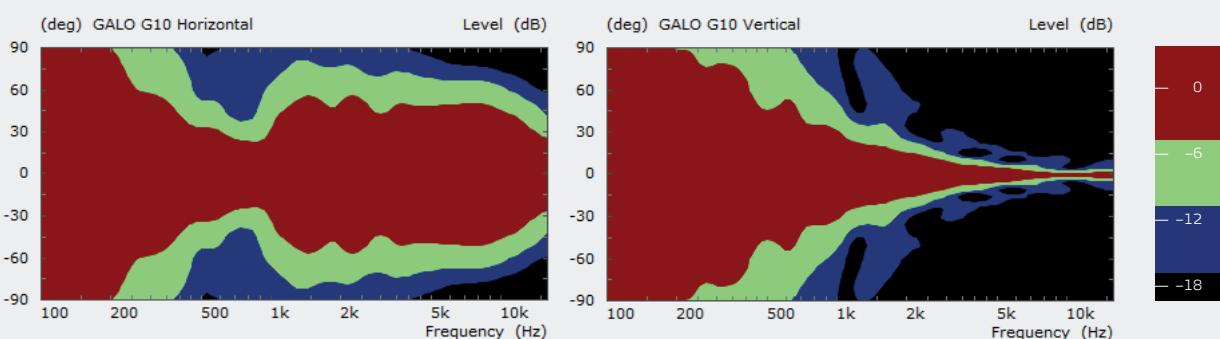
GALO-FOCUS simulation tool – the included software delivers an acoustic simulation of the systems performance in 3D view. The simulation contains all necessary mechanical parameters for the rigging, e.g. pin point of the flying frame as well as the splay angles of all array elements.

GALO-FOCUS 模拟工具 - 附带的软件可在3D视图中提供系统性能的声学模拟。模拟包含用于索具的所有必要的机械参数，例如飞行框的插销点以及所有阵列箱的展开角度。



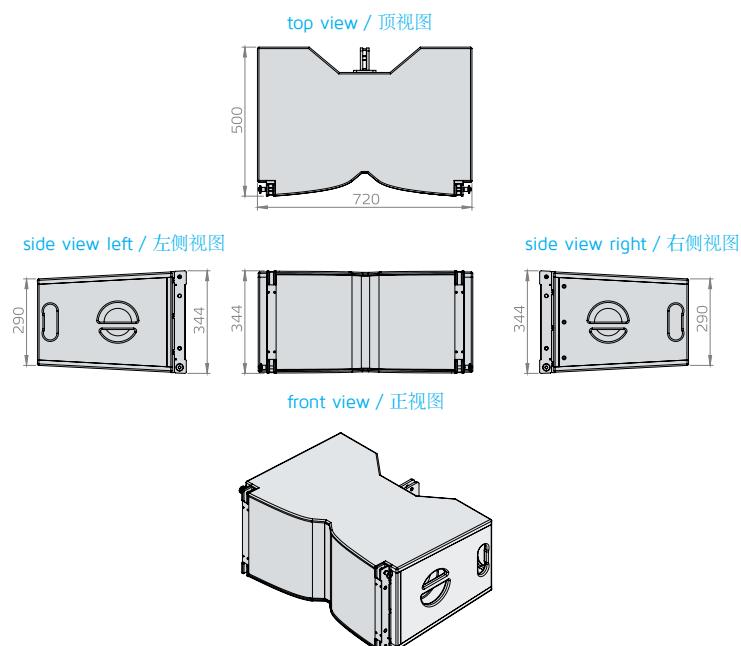
G10 是一无源大功率线阵系统 - 经过声学优化，可实现出色性能和音色。特别注重实际操作，以确保理想的运输特性及快速和安全的索具。

Dispersion 扩散



Technical specifications 产品规格

应用	2路无源，大功率线阵系统
单元	2 x 10" 钕磁扬声器（2.5" 音圈），带有声学滤波器 3 x 1" 钕压缩驱动器，带 2" 音圈和波导
幅盖角度	90° x 6°
额定负载 (AES / Program / Peak)	800W / 1600W / 3200W
阻抗 (欧姆)	8
SPL 标称 / 最大值 (dB)	141 dB
频率范围 (-10 dB)	80 Hz – 20 kHz
连接器	2 x Speakon NL4
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆
索具系统	预选-三点索具系统，可以预先选择弯曲角度(0°-6°)， 具有防腐涂层的高强度钢合金
特殊功能	2个侧面手柄，背面2个角形手柄，信息面板
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵
防护等级	IP 45
尺寸 (宽x高x深) 毫米	720 x 340 x 500
重量 (kg)	43
低音炮扩展 (推荐)	QLB 118 X/G, GALO Sub GB214, GB218
模拟软件	GALO Focus 3.0
飞行吊挂架	TB 1000 (最多8只), TB 2000 (最多20只)
配件 (可选)	运输小车 (供4只)



GB 214

GB 214 X



CN

GB 214 是一款非常紧凑的无源大功率超低音扬声器。两个创新 14" 长冲程钕磁单元，混合排置于真正产生强劲有力的低音箱体内。低频调音结合绝对精确度，确保了丰满的声音和响应性。GB 214 是专为水平或垂直装置应用。GB 214 X 推荐使用作为飞行低音炮配合 GALO G10 线阵系统。

EN

The GB 214 is a very compact, passive, high power subwoofer. The two innovative 14" long excursion neodymium speakers in a hybrid arrangement can produce a real punchy bass foundation within their low profile enclosure. The low tuning ensures a voluminous sound impression in conjunction with absolute precision and responsiveness. The version GB 214 X is the flying subwoofer dedicated to use with the GALO G10 line array system.

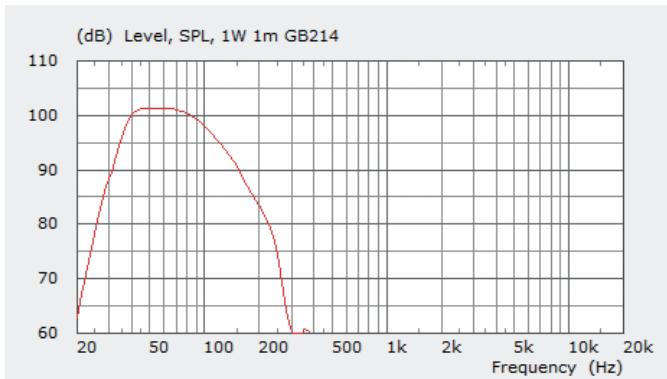
功能

应用: GB 214是推荐的超低音扬声器系统，可配合混合扬声器 PANO 系列 QF 5045 V2 和 QH 5045 V2 使用。它可以部署为单个低音炮或者在低音阵列中配置。GB 214 是专为水平或垂直装置的应用。GB 214 X推荐使用作为飞行低音炮 GALO G10 线阵系统。它可以直接使用线阵列或飞行低音炮阵列中的独立阵列组态。

特点: 稳定的前机械结构 - 典型的 K.M.E. 耐久性。最佳设置功能细节符合人体工程学设计的手柄，M20杆式安装，确保易于处理的侧边保护器和堆叠元件。GB 214 X 额外配备了4点快速松放用于飞行和堆叠应用的索具系统。

模拟软件: 包含的模拟数据EASE Focus 3软件，可以精确模拟完整的音响系统，在三个方面的表现，具有全向或复杂的低音炮阵列，用户可以模拟定向扩散。

频率响应 | Frequency Response



Functionalities

Application: The GB 214 is the recommended system subwoofer for hybrid speakers QF 5045 V2 and QH 5045 V2 of the PANO Series. It can be deployed as single subwoofer or in bass array configurations. The GB 214 is designed for applications in horizontal or upright position. The GB 214 X is recommended as flying subwoofer for the GALO G10 line array system. It can be utilised directly with the line array or standalone in a flying subwoofer array configuration.

Special features: The stable mechanical construction guarantees the typical K.M.E. durability. Functional details such as optimally placed and ergonomically shaped handles, M20 pole mount, side edge protectors and stacking elements ensure a easy handling. The GB 214 X is additional equipped with the 4-point quick release rigging system for flying and stacking applications.

Simulation software: The included simulation data for the EASE Focus 3 software allow a precise simulation of the complete sound systems' performance in 3 dimensions. Complex subwoofer arrays with omnidirectional or directional dispersion can be simulated by the user.



SUBWOOFER TECHNOLOGY

超低音扬声器技术

GB 214 | GB 214 X

产品规格 | specifications

应用	适用于大型场馆的高性能低音炮，与PANO混合动力系统相结合 GB 214 X: 作为飞行吊挂低音炮 配合 GALO G10 线阵	application	high performance subwoofer for large venues in combinations with PANO hybrid systems GB 214 X: as flying subwoofer for GALO G10 Line Array
单元	2x 14" 镧磁单元 (4" 音圈)	components	2x 14" neodymium (4" voice coil)
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / Program / Peak)	1600W / 3200W / 6400W	nominal load (AES / Program / Peak)	1600W / 3200W / 6400W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值 (dB)	飞行模式: 95 / 127 地面堆叠: 101 / 133	SPL nom./max.* (dB)	flying mode: 95 / 127 ground stacking: 101 / 133
频率范围 (-10 dB)	32 Hz - fx	frequency range (-10 dB)	32 Hz - fx
连接器	背面 3x Speakon NL4, (输入, 链接输出, X-Link输出), 正面 1x Speakon NL4 (输入)	connectors	3x Speakon NL4 rear side (Input, Link Output, X-Link Output), 1x Speakon NL4 front side (input)
喷漆	黑色PU涂层, 防水, 外层具有耐撞击 和户外防护漆	finish	PU coating black
特殊功能	4个侧手柄, 侧边保护器, 堆叠元件, M 20竖杆支架	special features	4x side handles, side edge protectors, stacking elements, M20 high stand flange
索具系统 (仅GB214X)	KME 快速松放-完全集成的四点吊装系 统, 低音炮之间的开启角度可选为 0° 或 3°	rigging system (only GB 214 X)	K.M.E. Quick Release - fully integrated 4-point rigging system with selectable opening angle of 0° or 3° between the subwoofers
防护格栅	钢制前格栅, 带防腐涂层和隔音泡绵	protective grille	steel front grille with anti-corrosion coating and acoustic foam
保护等级	IP 45	protection class	IP 45
尺寸 (宽 x 高 x 深) mm	740 x 415 x 800	dimensions (W x H x D) mm	740 x 415 x 800
重量 (kg)	GB 214: 51 / GB 214 X: 66 (初步)	weight (kg)	GB 214: 51 / GB 214 X: 66 (preliminary)
模拟软件	EASE Focus 3	simulation software	EASE Focus 3
配件 (另选)	木运输盖 (可作为小车使用) , 防护纺织品罩, GB 214 X: TB 2000 飞行架	accessories	wooden transport cover (usable as dolly), protective textile cover GB 214 X: TB 2000 flying frame

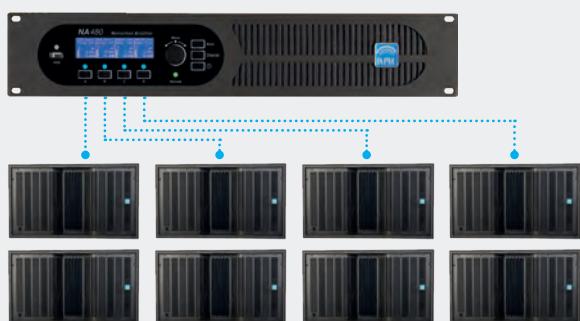
系统放大器 | system amplifier

具有出厂预设 (全向, 定向, 红外线) , 具体取决于应用 (每通道 2x GB 214)

with factory presets (omnidirectional, directional, infra-sub) depending on application (2x GB 214 per channel)

NA 480 | 4x 2000 W

具有远程控制功能的网络, 4通道放大器
完整的 DANTE™ 和组存取控制
remote controllable network-capable 4-channel amplifier
with integrated DANTE® and group-access-control



DA 230 | 2x 1500 W

2通道放大器, 带可选 TCP / IP 或 DANTE™
模块可通过平板电脑, 智能手机或 PC 远程控制
2-channel amplifier with optional TCP/IP or DANTE®
module remote controllable via tablet, smartphone or PC



GB 218



CN GB 218 是一款无源大功率超低音扬声器，配备两只新开发的18"长冲程钕磁单元。直接辐射的设计，确保在最大声压(SPL)，具有非凡强大(SPL)而精确的低频，响应频率限制低至25Hz。其低音反射设计经过优化，可最大限度地降低气流噪音。

EN The GB 218 is a passive high power subwoofer equipped with two newly 18" long excursion neodymium speakers. The direct radiating design assures a extraordinary powerful and precise bass response at highest SPL down to the frequency limit of 25 Hz. Its bassreflex design has been optimized to minimize the flow noise. Due to the very low frequency tuning, the sound impression is voluminous but precise and responsive. The GB 218 is characterized by compact enclosure dimensions.

功能

应用: 建议 GALO G-10 线阵列使用 GB 218 作为系统配置的低音阵列低音炮，它完成了精确的高分辨率声音系统特征。GB 218设计可用于水平或垂直装置。

特点: 稳定的机械结构，保证典型的 K.M.E. 耐久性。功能细节，如最佳放置和符合人体工程学的手柄，侧边保护器和堆叠组件确保轻松处理于巡回演出。

模拟软件: 包含的模拟数据 EASE Focus 3 软件，可以精确模拟完整的音响系统，在三个方面的表现，具有全向或复杂的低音炮阵列，用户可以模拟定向扩散。

Functionalities

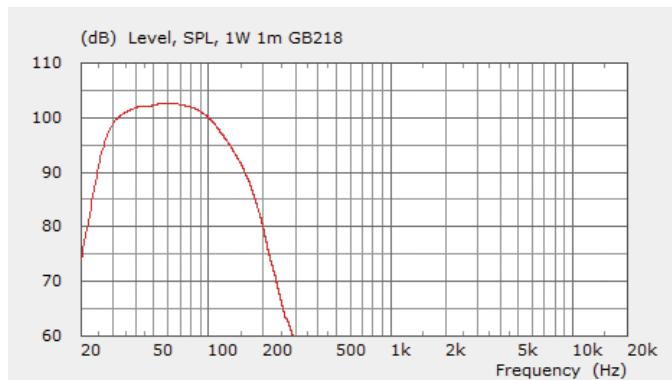
Application: The GB 218 is recommended as the system subwoofer for setting up bass arrays in combination with the GALO G 10 line array. It completes the precise and high resolution character of the sound system. The GB 218 is designed for applications in horizontal or upright position.

Special features: The stable mechanical construction guarantees the typical K.M.E. durability. Functional details such as optimally placed and ergonomically shaped handles, side edge protectors and stacking elements ensure a easy handling for touring.

Simulation software: The included simulation data for the EASE Focus 3 software allow a precise simulation of the complete sound systems' performance in 3 dimensions. Complex subwoofer arrays with omnidirectional or directional dispersion can be simulated by the user.



频率响应 / Frequency Response



产品规格 / specifications

应用	适用于大型场馆的高性能低音炮，配合 GALO 和 PANO 线阵系统	application	high performance subwoofer for large venues in combinations with GALO and PANO line array systems
单元	2x 18" 钕磁 (4" 音圈)	components	2x 18" neodymium (4" voice coil)
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / Program / Peak)	3000W / 6000W / 12000W	nominal load (AES / Program / Peak)	3000W / 6000W / 12000W
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 /最大值 (dB)	103 / 138	SPL nom./max.* (dB)	103 / 138
频率范围 (-10 dB)	25 Hz - fx	frequency range (-10 dB)	25 Hz - fx
连接器	后侧 2x Speakon NL4 (输入, X-Link 输出) 正面 1x Speakon NL4 (输入)	connectors	2x Speakon NL4 rear side (Input, X-Link Output), 1x Speakon NL4 front side (Input)
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆	finish	PU coating black, humidity resistant
特殊功能	8 x 侧手柄，侧边保护器 4x(2x带制动器)100 mm 蓝色轮包括(安装在背面或在运输面)	special features	8x side handles, side edge protectors, 4x (2x with brake) 100 mm bluewheels included (mounting either on back side or at transport cover)
防护格栅	钢制前格栅，防腐蚀涂层和声学泡绵	protective grille	steel front grille with anti-corrosion coating and acoustic foam
保护等级	IP 45	protection class	IP 45
尺寸 (宽x高x深)毫米	1340 x 585 x 700	dimensions (W x H x D) mm	1340 x 585 x 700
重量 (kg)	84 (不含配件)	weight (kg)	84 (without accessories)
模拟软件	EASE Focus 3	simulation software	EASE Focus 3
配件	木制运输盖 (可作小车使用) 防护纺织品罩	accessories	wooden transport cover (usable as dolly), protective textile cover

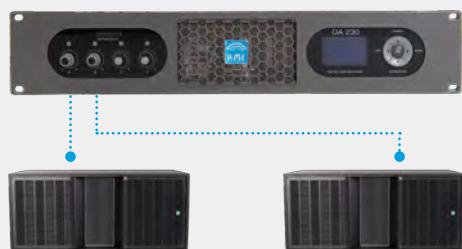
系统放大器 | System amplifier DA 230

工厂预设 (全向, 定向, 红外线)

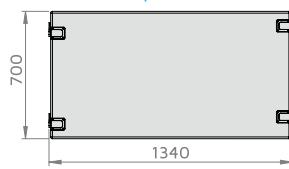
取决于应用 (每通道1x GB 218)

factory presets (omnidirectional, directional, infra-sub) depending on application (1x GB 218 per channel)

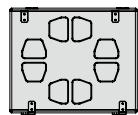
DA 230 带有可选的 TCP / IP 或 DANTE 模块
可通过平板电脑, 智能手机或 PC 远程控制
DA 230 with optional TCP/IP or DANTE module
remote controllable via tablet, smartphone or PC



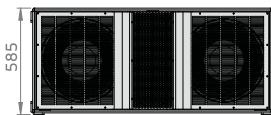
顶视图 / top view



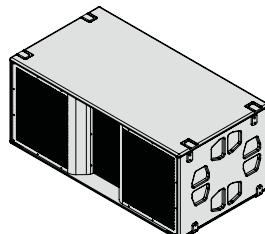
左侧视图 / side view left

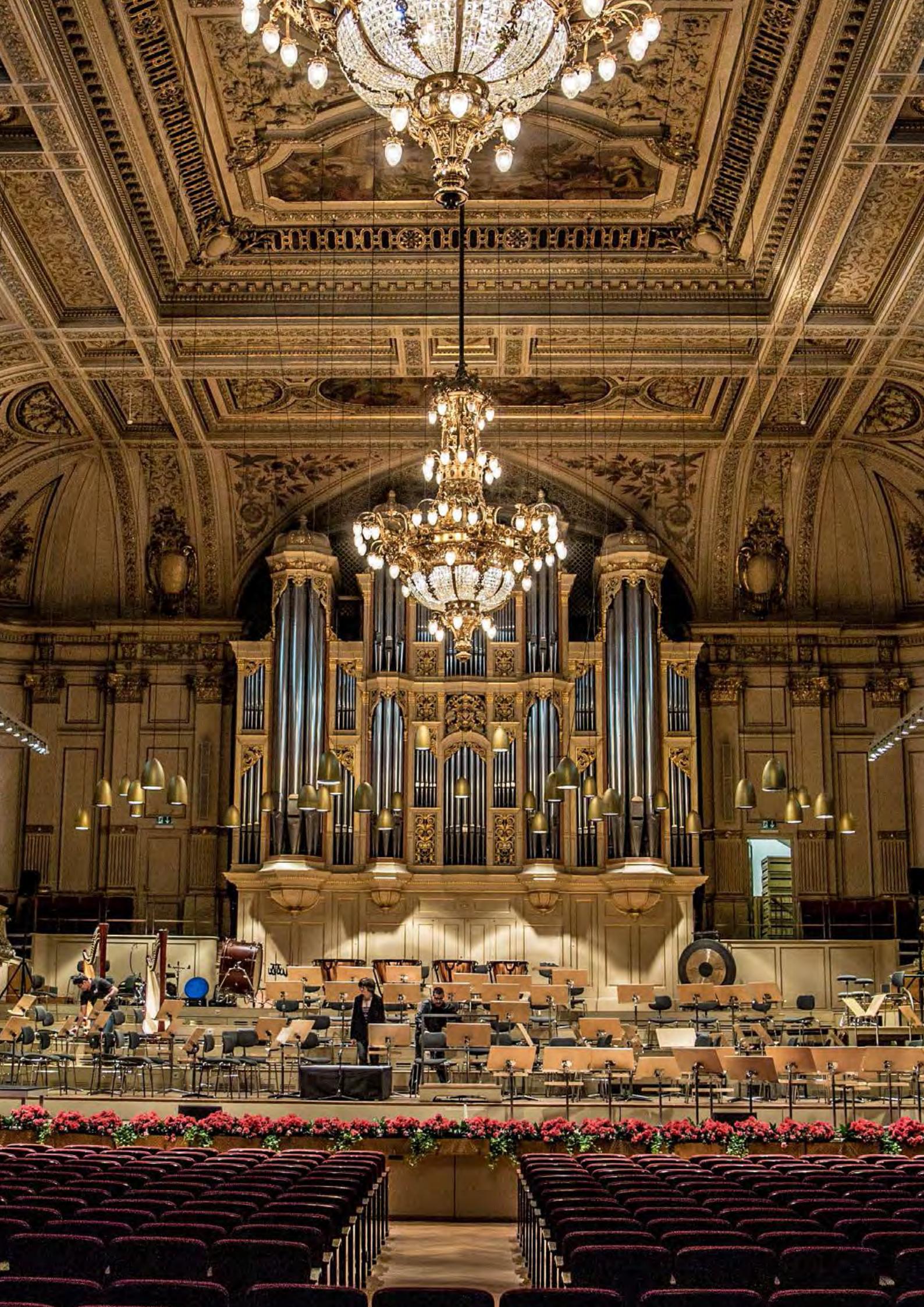


右侧视图 / side view right



前视图 / front view





INSTALLATION AUDIO

安装音响系統



Sound systems for discrete, architectural room integration – acoustically tailored to the individual needs of building integration. Hardware solutions and versatile mounting accessories ensure easy and safe installation. For passionate sound experiences in fixed installations.

分散的建筑房间,集成的音响系统 - 根据建筑集成的个性化需求量身定制。

硬件解决方案和多功能安装附件可确保轻松安全地进行安装。

在固定安装中获得洋溢的声音体验。

概观

配件

ICS 1



CN ICS 1 是一款超小紧凑型扬声器，与低音炮相配合使用，适合语音和音乐重播。

EN The ICS 1 is an ultra-compact speaker, with is both suitable for speech and music reproduction in combination with a subwoofer.



声音

- 在整个频率范围内精确均匀的扩散。
- 自然清晰的声音

Sound

- Precise and uniform dispersion over the full frequency range.
- Natural and transparent sound

应用/安装

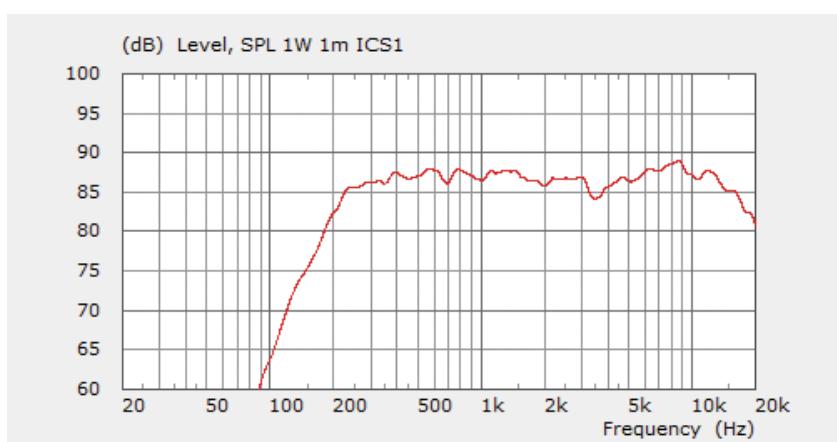
- 背景音响（美食广场，会议室，博物馆）
- 近距补声

Application/Mounting

- Background sound (gastronomy, conference rooms, museums)
- Near fills



频率范围 / Frequency Range



产品规格 | Specifications

单元	4" 双锥体单元	components	4" dual cone speaker
幅盖角度	80° 逕向	dispersion	80° radial
额定负载 (AES / program/peak)	50W / 100W / 200W	nominal load (AES / program/peak)	50W / 100W / 200W
阻抗 (欧姆)	16	impedance (ohms)	16
SPL 标称 / 最大值* (dB)	87 / 106	SPL nom./max. (dB)	87 / 106
频率范围 (-10db)	150 Hz - 17 kHz	frequency range (-10dB)	150 Hz - 17 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统, 每通道 4 x ICS 1	recommended Amplifier	DA 428 with system preset, up to 4 x ICS 1 per Channel
推荐低音炮扩展	IB 8	recommended subwoofer extension	IB 8
特点	包括用于墙壁和天花板 安装 L 型支架	feature	L-bracket for wall and ceiling mount included
宽x高x深(毫米)	125 x 125 x 145	dimensions W x H x D (mm)	125 x 125 x 145
重量 (公斤)	1,5	weight (kg)	1,5

可选功能

- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- FISCO-多用途安装硬件, 用于灵活的双轴调节 (壁挂式安装)

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- FISCO-Multimount for flexible 2-axis adjustment (wall mounting)

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

ICS 2

CN ICS 2 是一款无源两分频扬声器，采用了 d'Appolito设计，是一种谨慎的迷你尺寸格式，其线性频率响应，适用于语音或温和信号电平的音乐。

EN The ICS 2 is a passive 2-way loudspeaker with d'Appolito design in a discreet mini size format, which is equally suitable for speech or music reproduction at moderate signal levels with its linear frequency response.



声音

- 平滑和均衡的高频率再现
- 声学低反馈特性
- 自然清晰的声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound

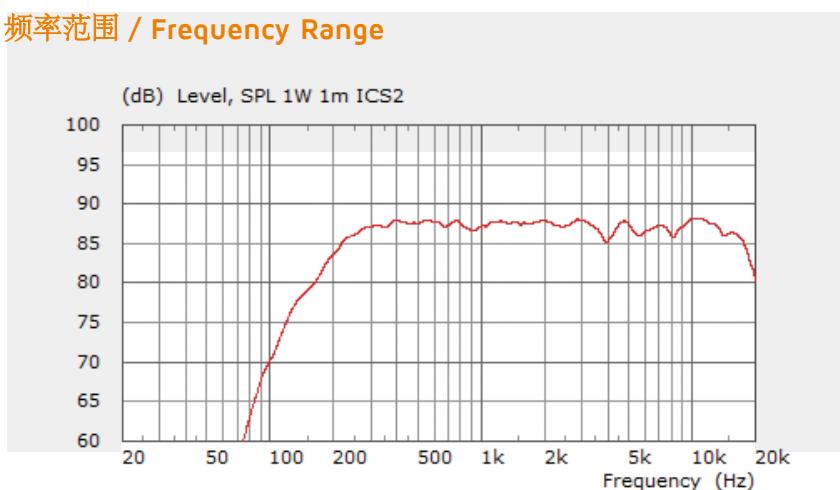
应用/安装

- 专为水平和垂直而设计的安装硬件
- 背景音响（美食广场，会议室，博物馆，剧院）
- 近距补声
- 空间性的声音

Application/Mounting

- Designed for horizontal as well as for vertical mounting
- Background sound (gastronomy, conference rooms, museums, theatres)
- Near fills
- Spatial sound

频率范围 / Frequency Range



产品规格 | Specifications

单元	2x 4" + 1x 1" 圆顶高频头	components	2x 4" + 1x 1" dome tweeter
幅盖角度	80° x 40°	dispersion	80° x 40°
额定负载 (AES / program/peak)	125W / 250W / 500W	nominal load (AES / program/peak)	125W / 250W / 500W
阻抗 (欧姆)	16	impedance (ohms)	16
SPL 标称 / 最大值* (dB)	88 / 112	SPL nom./max. (dB)	88 / 112
频率范围 (-10db)	120 Hz - 20 kHz	frequency range (-10dB)	120Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆（黑色或白色）	finishing	PU coating (black or white)
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统， 每通道 4 x ICS 2	recommended Amplifier	DA 428 with system preset, up to 4 x ICS 2 per Channel
推荐低音炮扩展	IB 8	recommended subwoofer extension	IB 8
宽x高x深(毫米)	135 x 290 x 166	dimensions W x H x D (mm)	135 x 290x 166
重量 (公斤)	3,5	weight (kg)	3,5

可选功能

- 用于 ELA 系统的100V变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- 标准U型支架（墙壁, 天花板）
- 双U型支架，用于飞行装配（桁架, 天花板）
- FISCO - 多用途安装硬件, 用于灵活的双轴调节 (壁挂式安装)

取得欧洲标准证书

- DIN EN 54-24 语音警报系统 - 扬声器

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- U-bracket standard (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)
- FISCO-Multimount for flexible 2-axis adjustment (wall mounting)

Approval in preparation

- DIN EN 54-24 for voice alarm speaker systems

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

ICS 4

CN ICS 4 是一款 2.5 分频超薄设计音柱扬声器，适合语音和音乐重播，配合使用一个低音炮更为理想。

EN The ICS 4 is a 2.5-way loudspeaker in slim column design, which is both suitable for speech and music reproduction in combination with a subwoofer.



声音

- 平滑而均衡的高频率再现
- 声学低反馈特性
- 自然清晰的声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound

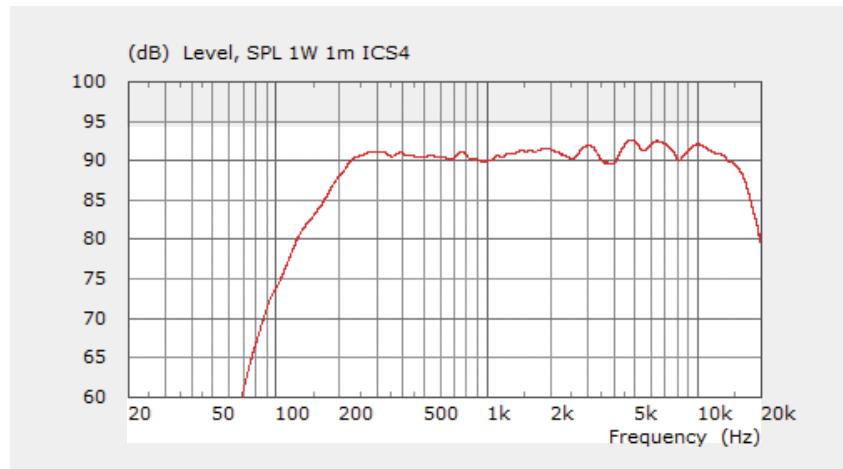
应用/安装

- 专为垂直安装而设计
- 应用于教堂，剧院，博物馆，会议房间等等

Application/Mounting

- Designed for vertical mounting
- Sound applications in churches, theatres, museums, conference rooms

频率范围 / Frequency Range



产品规格 | Specifications

单元	4x 4" + 1x 1" 圆顶高频头	components	4x 4" + 1x 1" dome tweeter
幅盖角度	80° x 40°	dispersion	80° x 40°
额定负载 (AES / program/peak)	200W / 400W / 800W	nominal load (AES / program/peak)	200W / 400W / 800W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	90 / 113	SPL nom./max. (dB)	90 / 113
频率范围 (-10db)	100 Hz - 20 kHz	frequency range (-10dB)	100 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix(进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆（黑色或白色）	finishing	PU coating (black or white)
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统， 每通道 2 x ICS 4	recommended Amplifier	DA 428 with system preset, up to 2 x ICS 4 per Channel
推荐低音炮扩展	IB 8	recommended subwoofer extension	IB 8
尺寸 高x宽x深(毫米)	135 x 500 x 166	dimensions W x H x D (mm)	135 x 500 x 166
重量 (公斤)	6	weight (kg)	6

可选功能

- 用于 ELA 系统的100V变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- 标准U型支架（墙壁，天花板）
- 双U型支架，用于飞行装配（桁架，天花板）
- FISCO - 多用途安装硬件，用于灵活的双轴调节（壁挂式安装）

取得欧洲标准证书

- DIN EN 54-24 语音警报系统 - 扬声器

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- U-bracket standard (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)
- FISCO-Multimount for flexible 2-axis adjustment (wall mounting)

Approval in preparation

- DIN EN 54-24 for voice alarm speaker systems

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

ICS 5

CN ICS 5 特点是在整个扩散角度下均具有均匀的音调播放。还使用特殊的波导来实现高频的均匀辐射。对于此类扬声器来说，纤薄的设计非常出色。尽管 ICS 5 外形小巧，但它仍可用于全频范围应用程序，以播放音乐及进行语音重现。低音炮 IB 210 和 IB 15 可用作 ICS 5 的低频扩展。

EN The ICS 5 is characterized by its uniform tonal playback through the complete dispersion angles. A special waveguide is used to achieve this homogeneous radiation for high frequencies as well. For a speaker of this class the slim design is remarkable. In spite of its small form factor the ICS 5 can be used for full range applications to play back music as well as for speech reproduction. The subwoofers IB 210 and IB 15 can be used as low extension of the ICS 5.

声音

- 平滑和均衡的高频率再现
- 声学低反馈特性
- 自然清晰的全频声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent fullrange-sound

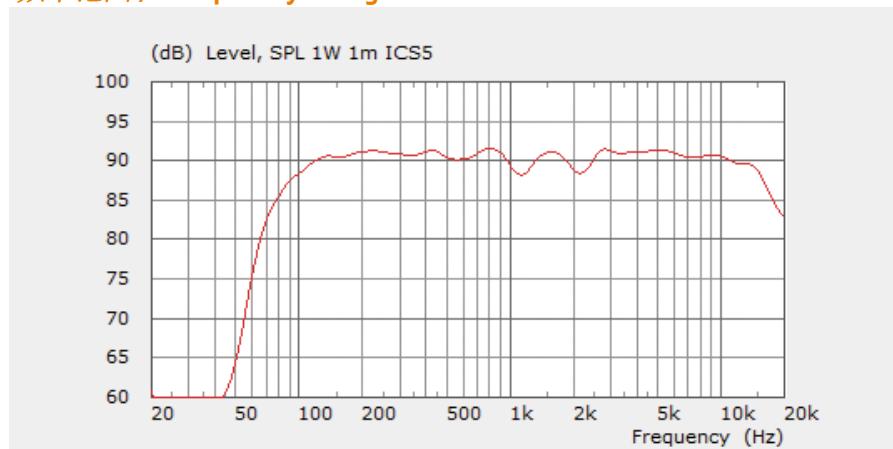
应用/安装

- 专为垂直和水平安装而设计(高频角度可调)
- 应用于教堂，剧院，博物馆，会议房间等等

Application/Mounting

- Designed for vertical and horizontal mounting (HF unit rotatable)
- Sound applications in churches, theatres, museums, conference rooms

频率范围 / Frequency Range



产品规格 | Specifications

单元	2x 5" + 1x 1" 波导	components	2x 5" + 1x 1" waveguide
幅盖角度	90° x 30° (角度可调)	dispersion	90° x 30° (rotatable)
额定负载 (AES / program/peak)	250W / 500W / 1000W	nominal load (AES / program/peak)	250W / 500W / 1000W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	92 / 116	SPL nom./max. (dB)	92 / 116
频率范围 (-10dB)	70 Hz - 20 kHz	frequency range (-10dB)	70 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统, 每通道 2 x ICS 5	recommended Amplifier	DA 428 with system preset, up to 2 x ICS 5 per Channel
推荐低音炮扩展	IB 210, IB 15	recommended subwoofer extension	IB 210, IB 15
尺寸 宽x高x深(毫米)	177 x 545 x 250	dimensions W x H x D (mm)	177 x 545 x 250
重量 (公斤)	9	weight (kg)	9

可选功能

- 用于 ELA 系统的 100V 变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

可选配件

- 标准U型支架 (墙壁, 天花)
- 双U型支架, 用于飞行装配 (桁架, 天花)

Optional accessories

- U-bracket standard (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)

取得证书

- 防球撞击安全证书

Approval

- Certificate for ball impact safety

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

ILS 64

CN 是一无源两分频阵列音柱。高频部分的特殊弯曲排列导致标称 $25^{\circ}(+5^{\circ}/-20^{\circ})$ 的不对称垂直声束，这种布局允许长冲程投射以及完美的近场范围覆盖。ILS 64 非常适合全频应用毫不妥协地播放音乐以及语音重现，超低音扬声器 IB 210 和 IB 15 可以用作 ILS 64 的低频扩展。

EN The ILS 64 is a passive 2-way column array. The specially curved arrangement of the high frequency section results in an asymmetric vertical acoustic beam of nominal 25° ($+5^{\circ}/-20^{\circ}$). This arrangement allows for long throw distance as well as a perfect nearfield coverage. The ILS 64 is perfect for fullrange applications without compromises to play back music as well as for speech reproduction. The subwoofers IB 210 and IB 15 can be used as low extension of the ILS 64.

声音

- 长冲程及完美的近场覆盖
- 全频自然，清晰，强而有劲的声压
- 向后高阻尼

Sound

- long throw distance as well as perfect nearfield coverage
- natural, transparent and powerful fullrange sound
- high rearward damping

应用/安装

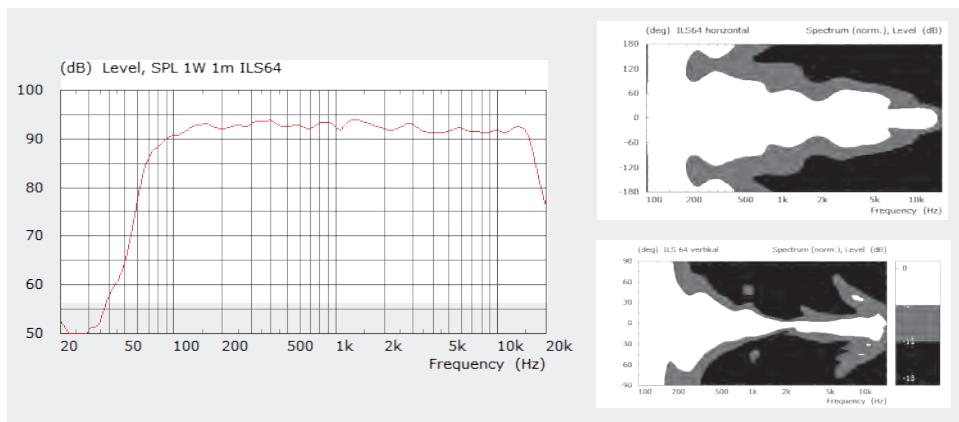
- 垂直整合安装 M8安装点位于顶部，背面和底部
- 飞行硬件可选
- 应用于教堂，剧院，博物馆，会议房间等

Application/Mounting

- vertical mounting with integrated M8 mounting points at top, back and bottom
- flight capability with optional hardware
- sound applications in churches, theatres, museums, conference rooms



频率范围 / Frequency Range



产品规格 | Specifications

单元	6x4"+ 6x1" 不对称弯曲高频阵列	components	6x 4" + 6x 1" asym. curved high frequency array
幅盖角度	90° x 25°(+5°/-20°)	dispersion	90° x 25°(+5°/-20°)
额定负载 (AES / program/peak)	350W / 700W / 1400W	nominal load (AES / program/peak)	350W / 700W / 1400W
阻抗 (欧姆)	6	impedance (ohms)	6
SPL 标称 / 最大值* (dB)	92 / 118	SPL nom./max. (dB)	92 / 118
频率范围 (-10 dB)	75 Hz - 19 kHz	frequency range (-10 dB)	75 Hz - 19 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护等级	IP44	protection class	IP44
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grille	sturdy front grille with acoustic foam
推荐放大器	DA 428 附预设系统， 每通道 2x ILS 64	recommended amplifier	DA 428 with system preset, up to 2 x ILS 64 per channel
推荐低音炮扩展	IB 210, IB 15	recommended subwoofer extension	IB 210, IB 15
尺寸 宽x高x深(毫米)	135 x 1045 x 177	dimensions (W x H x D) mm	135 x 1045 x 177
重量 (公斤)	13	weight (kg)	13

可选功能

- 用于 ELA 系统的100V变压器
- 可选 RAL 颜色
- 用于固定连接的连接器面板

Optional features

- 100 V transformer for ELA systems
- optional RAL-colour available
- connector panel for fixed connection

可选配件

- L 型支架 (墙)
- 飞行五金支架 (桁架, 天花)
- 可灵活地进行2轴调节壁挂式
安装, (壁挂式安装)

Optional accessories

- L-bracket (wall)
- flying hardware cradle (truss, ceiling)
- wall mount for flexible 2-axis adjustment
(wall mounting)

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Further information

- technical drawings (DWG, DXF, PDF)
- simulation data (EASE)
- tender texts (Word, Excel)

IPS 10

CN IPS 10 是对称集群中的无源2分频点声源扬声器设计，适合语音和音乐重播的主顶箱扬声器或全频系统。

EN The IPS 10 is a passive 2-way loudspeaker in symmetric cluster design, which is both suitable for speech and music reproduction as top speaker or full range system.



声音

- 平滑和均衡的高频再现
- 声学低反馈特性
- 自然清晰的全频声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound

应用/安装

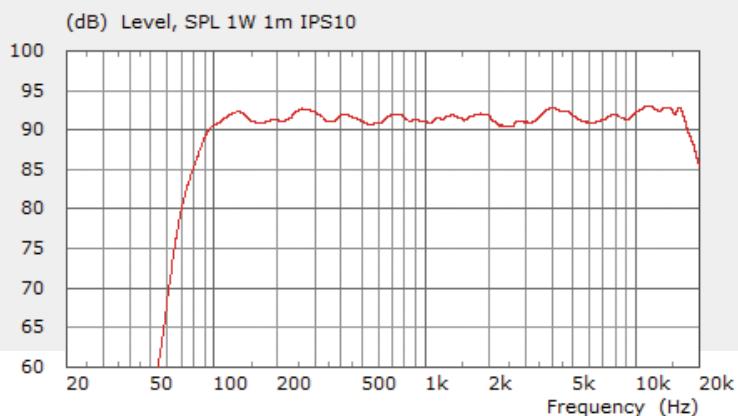
- 专为垂直和水平安装而设计
- 安装和群簇类型的各种完整硬件(水平和垂直)
- 专为具有更高水平要求的音响应用而设计 (多功能厅, 娱乐场所, 餐厅, 体育馆, 剧院等等)

Application/Mounting

- Designed for horizontal as well as for vertical mounting
- Integrated Hardware for various types of installation and clustering (horizontal and vertical)
- Designed for sound applications with higher level requirements (multipurpose hall, entertainment restaurants, smaller stadiums, theatres)



频率范围 / Frequency Range



产品规格 | Specifications

单元	10" + 1" (1.4" 音圈)	components	10" + 1" (1.4" voice coil)
幅盖角度	85° x 55° 角度 可调旋转的椭圆号角	dispersion	85° x 55° rotatable elliptical horn
额定负载 (AES / program/peak)	350W / 700W / 1400W	nominal load (AES / program/peak)	350W / 700W / 1400W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	93 / 118	SPL nom./max. (dB)	93 / 118
频率范围 (-10dB)	70 Hz - 20 kHz	frequency range (-10dB)	70 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 2x Phoenix (In/Out)
喷漆	黑色PU涂层，防水，外层具有 耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统 每通道 2 x IPS 10	recommended Amplifier	DA 428 with system preset, up to 2 x IPS 10 per Channel
推荐低音炮扩展	IB 210, IB 15	recommended subwoofer extension	IB 210, IB 15
宽x高x深(毫米)	335 x 580 x 355	dimensions W x H x D (mm)	335 x 580 x 355
重量 (公斤)	18	weight (kg)	18

可选功能

- 用于 ELA 系统的 100V 变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- 标准U型支架 (墙壁, 天花)
- 带支点的U型支架 (墙壁, 天花)
- 用于飞行装配的双U型支架 (桁架, 花)
- FISCO-多种方式安装, 可灵活地进行
2轴调节 (壁挂式安装)
- 配套簇群安装硬件

取得欧洲标准证书

- DIN EN 54-24 语音警报系统 - 扬声器
- 防球撞击安全证书

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- U-bracket standard (wall, ceiling)
- U-bracket with pivot point (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)
- FISCO-Multimount for flexible 2-axis adjustment
(wall mounting)
- cluster hardware set

Approval in preparation

- DIN EN 54-24 for voice alarm speaker systems
- Certificate for ball impact safety

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

IPS 12

CN IPS 12 是对称集群中的无源 2 分频点声源扬声器设计，适合语音和音乐重播的主顶箱扬声器或全频系统。

EN The IPS 12 is a passive 2-way loudspeaker in symmetric cluster design, which is both suitable for speech and music reproduction as top speaker or full range system.



声音

- 平滑和均衡的高频再现
- 声学低反馈特性
- 自然清晰的全频声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound

应用/安装

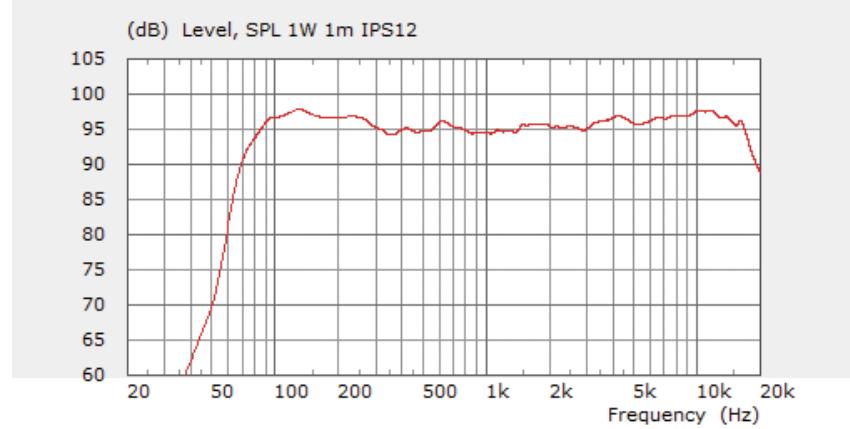
- 专为垂直和水平安装而设计
- 安装和群簇类型的各种完整硬件(水平和垂直)
- 专为具有更高水平的要求的音响应用而设计
(多功能厅，俱乐部和迪斯科舞厅，小型体育场馆，剧院等等)

Application/Mounting

- Designed for horizontal as well as for vertical mounting
- Integrated Hardware for various types of installation and clustering (horizontal and vertical)
- Designed for sound applications with higher level requirements (multipurpose hall, clubs and discos, smaller stadiums, theatres)



频率范围 / Frequency Range



产品规格 | Specifications

单元	12" + 1" (1,4"音圈)	components	12" + 1" (1,4" voice coil)
幅盖角度	85° x 55° 可旋转的椭圆号角	dispersion	85° x 55° rotatable elliptical horn
额定负载 (AES / program / peak)	350W/ 700W / 1400W	nominal load (AES / program / peak)	350W/ 700W / 1400W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	97 / 122	SPL nom./max. (dB)	97 / 122
频率范围 (-10db)	60 Hz - 20 kHz	frequency range (-10dB)	60 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层, 防水, 外层具有 耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统 每通道 2 x IPS12	recommended Amplifier	DA 428 with system preset, up to 2 x IPS 12 per Channel
推荐低音炮扩展	IB 210, IB 15	recommended subwoofer extension	IB 210, IB 15
宽x高x深(毫米)	385 x 610 x 415	dimensions W x H x D (mm)	385 x 610 x 415
重量 (公斤)	20	weight (kg)	20

可选功能

- 用于 ELA 系统的 100V 变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- 标准U型支架 (墙壁, 天花)
- 带支点的U型支架 (墙壁, 天花)
- 用于飞行装配的双U型支架 (桁架, 花)
- FISCO-多种方式安装, 可灵活地进行
2轴调节 (壁挂式安装)
- 配套簇群安装硬件

取得欧洲标准证书

- DIN EN 54-24语音警报系统 - 扬声器
- 防球撞击安全证书

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- U-bracket standard (wall, ceiling)
- U-bracket with pivot point (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)
- FISCO-Multimount for flexible 2-axis
adjustment (wall mounting)
- cluster hardware set

Approval in preparation

- DIN EN 54-24 for voice alarm speaker
systems
- Certificate for ball impact safety

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

IPS 15

CN IPS 15 是一款采用对称设计的无源两分频点声源扬声器，它适用于语音或音乐重播，作为全频系统具有强烈的低频响应。

EN The IPS 15 is a passive 2-way loudspeaker with a symmetric design, which is suitable for speech or for music reproduction as full range system with a strong bass response.



声音

- 平滑和均衡的高频再现
- 声学低反馈特性
- 自然清晰的全频声音

Sound

- Smooth and balanced reproduction of the high frequencies
- Low acoustic feedback behaviour
- Natural and transparent sound

应用/安装

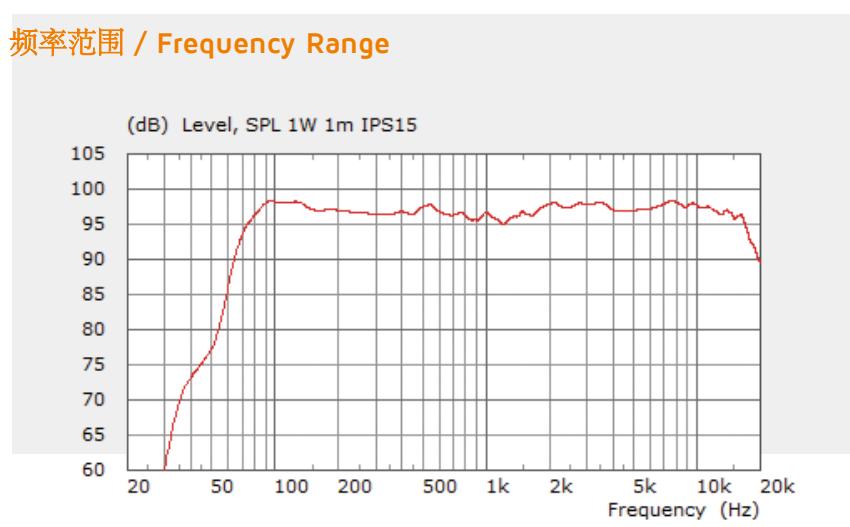
- 专为垂直和水平安装而设计
- 专为具有更高水平的要求的音响应用而设计
(多功能厅，俱乐部和迪斯科舞厅，小型的体育场馆)
- 特别适合扩展低音的音乐重播作为响应全频系统

Application/Mounting

- Designed for horizontal as well as for vertical mounting
- Designed for sound applications with higher level requirements (multipurpose hall, clubs and discos, smaller stadiums)
- Specially suited for music reproduction with extended bass response as full range system



频率范围 / Frequency Range



产品规格 | Specifications

单元	15" + 1" (1,4"音圈)	components	15" + 1" (1,4" voice coil)
幅盖角度	85° x 55° 椭圆	dispersion	85° x 55° elliptical
额定负载 (AES / program/peak)	500W / 1000W / 2000W	nominal load (AES / program/peak)	500W / 1000W / 2000W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	98 / 125	SPL nom./max. (dB)	98 / 125
频率范围 (-10dB)	55 Hz - 20 kHz	frequency range (-10dB)	55 Hz - 20 kHz
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统	recommended Amplifier	DA 428 with system preset
推荐低音炮扩展	IB 210, IB 15	recommended subwoofer extension	IB 210, IB 15
宽x高x深(毫米)	450 x 700 x 420	dimensions W x H x D (mm)	450 x 700 x 420
重量 (公斤)	24	weight (kg)	24

可选功能

- 用于 ELA 系统的 100V 变压器
- 可选 RAL 颜色
- 增加防潮性
- 用于固定连接的连接器面板

可选配件

- 标准U型支架 (墙壁, 天花)
- 带支点的U型支架 (墙壁, 天花)
- 用于飞行装配的双U型支架 (桁架, 花)
- FISCO-多种方式安装, 可灵活地进行 2轴调节 (壁挂式安装)
- 配套簇群安装硬件

取得欧洲标准证书

- DIN EN 54-24 语音警报系统 - 扬声器
- 防球撞击安全证书

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- 100V transformer for ELA systems
- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Optional accessories

- U-bracket standard (wall, ceiling)
- U-bracket with pivot point (wall, ceiling)
- Dual-U-bracket for flying assembly (truss, ceiling)
- FISCO-Multimount for flexible 2-axis adjustment (wall mounting)
- Cluster hardware set

Approval in preparation

- DIN EN 54-24 for voice alarm speaker systems
- Certificate for ball impact safety

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

IB 8

CN IB8 是无源 8" 低音反射低音炮

超紧凑的楔形设计，适用于墙壁，天花板和边缘安装，具有深沉的低音再现。



EN The IB 8 is a passive 8" bass reflex subwoofer in ultra-compact wedge design for wall, ceiling and edge mount with a deep bass reproduction.



应用/安装

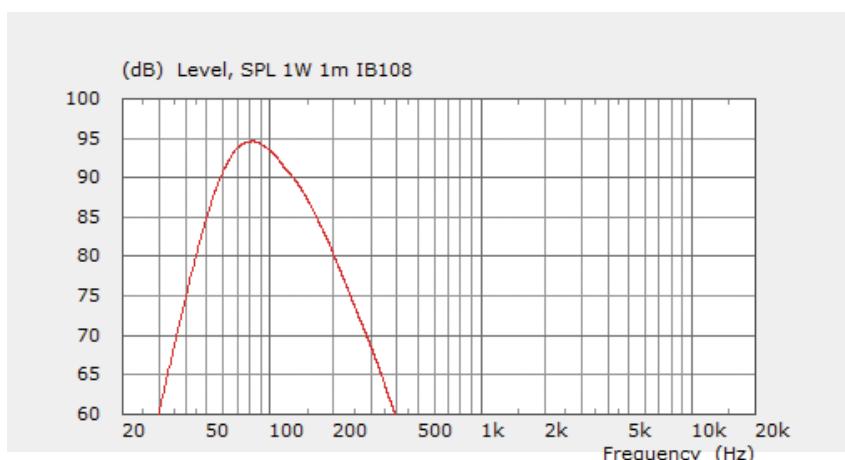
- 用于墙壁, 天花板和棱边缘安装
- 为配合 ICS 1、ICS 2 和 ICS 4 系统低音的扩展
- 背景音响 (美食广场, 会议室, 博物馆)

Application/Mounting

- For wall, ceiling and edge mount
- Bass extension of the systems ICS 1, ICS 2 and ICS 4
- Background sound (gastronomy, conference rooms, museums)



频率范围 / Frequency Range



产品规格 | Specifications

单元	8"钕磁	components	8" Neodymium
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / program/peak)	200W / 400W / 800W	nominal load (AES / program/peak)	200W / 400W / 800W
阻抗 (欧姆)	8	impedance (ohms)	8
SPL 标称 / 最大值* (dB)	95 / 121	SPL nom./max. (dB)	95 / 121
频率范围 (-10db)	48 Hz - fx	frequency range (-10dB)	48 Hz - fx
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
喷漆	黑色PU涂层, 防水, 外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅, 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统 每通道 2 x IB 8	recommended Amplifier	DA 428 with system preset, up to 2 x IB 8 per Channel
特点	包括墙壁和天花安装	feature	Wall and ceiling mount included
呎吋 高x宽x深(毫米)	400 x 340 x 340	dimensions W x H x D (mm)	400 x 340 x 340
重量 (公斤)	8	weight (kg)	8

可选功能

- 可选RAL颜色
- 增加防潮性
- 用于固定连接的连接器面板

取得证书

- 防球撞击安全证书

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Optional features

- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

Approval in preparation

- Certificate for ball impact safety

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

IB 210

CN IB 210 是无源大功率 2 x 10" 低音反射设计低音炮。直接辐射低音炮，确保非常强大和精确的低频重现，并具有大声压(SPL) 的较低频率。特点是采用平面安装设计。

EN The IB 210 is a passive high power 2x 10" subwoofer with bass reflex design. The direct radiating subwoofer ensures a very powerful and precise reproduction of the lower frequencies with high SPL. It is characterized by a flat installation design.



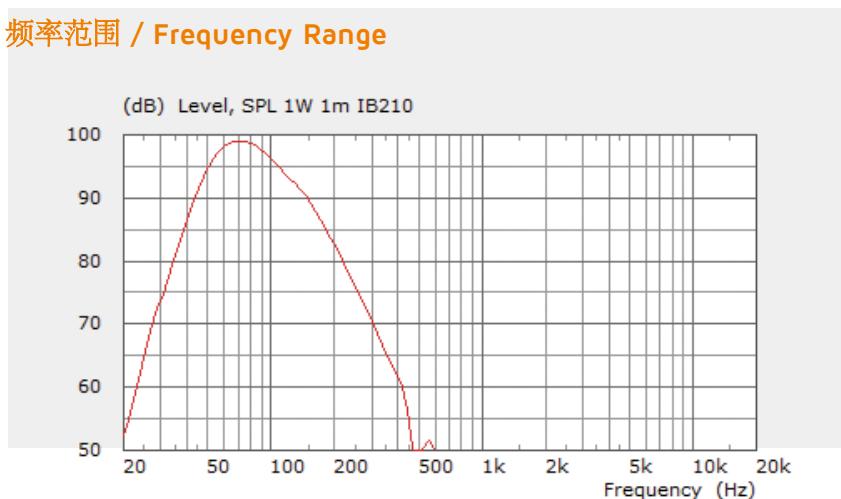
应用/安装

- 完整的安装吊挂索螺钉帽
- ICS 4, IPS 10 和 IPS 12 系统的低音扩展
- 专为声音应用而设计，具有高水平要求（运动 / 多功能厅，俱乐部，迪斯科舞厅，剧院）
- 直立或水平装置应用
- 超薄设计
- 可构成低音阵列（无方向性或定向）

Application/Mounting

- Integrated mounting threads
- Bass extension of the systems ICS 4, IPS 10 and IPS 12
- Designed for sound applications with high level requirements (sports/multipurpose halls, clubs, discos, theatres)
- Applications in upright or horizontal position
- Slim design
- Formation of bass arrays (omnidirectional or directional)

频率范围 / Frequency Range



产品规格 | Specifications

单元	2 x 10" 铁素体	components	2x 10" ferrite
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / program/peak)	700W / 1400W / 2800W	nominal load (AES / program/peak)	700W / 1400W / 2800W
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值* (dB)	99 / 127	SPL nom./max. (dB)	99 / 127
频率范围 (-10dB)	42 Hz - fx	frequency range (-10dB)	42 Hz - fx
连接器	2x Neutrik Speakon NL4 + 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
安装点	4x M8 背 4x M8 顶 2x M8 侧	mounting points	4x M8 back 4x M8 top 2x M8 side
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆 (黑色或白色)	finishing	PU coating (black or white)
防护格栅	钢制前格栅， 带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 附预设系统	recommended Amplifier	DA 428 with system preset
尺寸 宽x高x深(毫米)	650 x 305 x 415	dimensions W x H x D (mm)	650 x 305 x 415
重量 (公斤)	25,8	weight (kg)	25,8

可选功能

- 可选RAL颜色
- 增加防潮性
- 用于固定连接的连接器面板

Optional features

- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)

IB 15

CN IB 15 是无源15"带有低音反射设计的大功率低音炮。直接辐射低音炮确保非常强大和精确大声压级 (SPL) 较低频率的重再现。它的特点是安装设计非常紧凑。

EN The IB 15 is a passive 15" high power subwoofer with bass reflex design. The direct radiating subwoofer assures a very powerful and precise reproduction of the lower frequencies with high SPL. It is characterized by a very compact installation design.



应用/安装

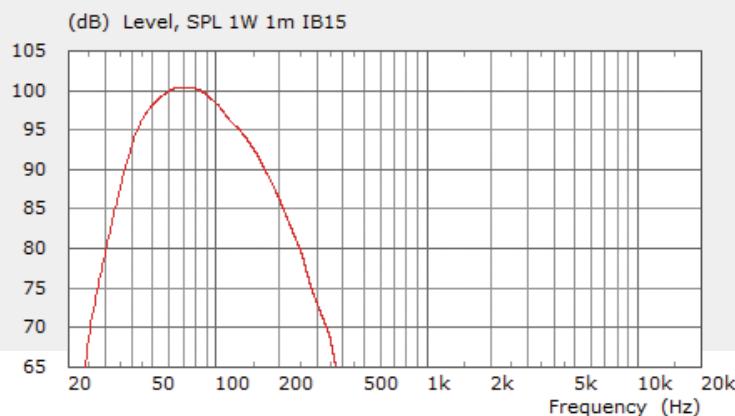
- 设计用于天花或墙壁安装和地面操作
- 系统 IPS 10, IPS 12 和 IPS 15 的低音扩展
- 专为具有大声压 (SPL) 要求的声音应用而设 (礼堂, 电影院, 迪斯科舞厅, 剧院)
- 垂直或水平装置的应用
- 非常紧凑的设计
- 低音阵列的形成 (无方向或定向)

Application/Mounting

- Designed for ceiling or wall mounting and ground operation
- Bass extension of the systems IPS 10, IPS 12 and IPS 15
- Designed for sound applications with high SPL requirements (auditoria, cinemas, discos, theatres)
- Applications in upright or horizontal position
- Very compact design
- Formation of bass arrays (omnidirectional or directional)



频率范围 / Frequency Range



产品规格 | Specifications

单元	1x 15" 铁素体	components	1x 15" ferrite
幅盖角度	无方向性	dispersion	omnidirectional
额定负载 (AES / program/peak)	800W / 1600W / 3200W	nominal load (AES / program/peak)	800W / 1600W / 3200W
阻抗 (欧姆)	4	impedance (ohms)	4
SPL 标称 / 最大值* (dB)	100 / 129	SPL nom./max. (dB)	100 / 129
频率范围 (-10dB)	36 Hz - fx	frequency range (-10dB)	36 Hz - fx
连接器	2x Neutrik Speakon NL4+ 2x Phoenix (进/出)	connectors	2x Neutrik Speakon NL4 + 2x Phoenix (In/Out)
安装点	4x M8 背 4x M8 顶 2x M8 侧	mounting points	4x M8 back 4x M8 top 2x M8 side
喷漆	黑色PU涂层，防水，外层具有耐撞击和户外防护漆（黑色或白色）	finishing	PU coating (black or white)
防护格栅	钢制前格栅，带防腐蚀涂层和隔音泡绵	protective grills	sturdy front grille with acoustic foam
防护等级	IP44	protection class	IP44
推荐放大器	DA 428 / DA 230 附预设系统	recommended Amplifier	DA 428 / DA 230 with system preset
尺寸 宽x高x深(毫米)	650 x 440 x 475	dimensions W x H x D (mm)	650 x 440 x 475
重量 (公斤)	33	weight (kg)	33

可选功能

- 可选RAL颜色
- 增加防潮性
- 用于固定连接的连接器面板

Optional features

- Optional RAL-colour available
- Increased moisture resistance
- Connector panel for fixed connection

更多信息

- 技术图纸 (DWG, DXF, PDF)
- 模拟数据 (EASE)
- 招标文本 (Word, Excel)

Further information

- Technical drawings (DWG, DXF, PDF)
- Simulation data (EASE)
- Tender texts (Word, Excel)



N A 480
NETWORKED AMPLIFIER
网络放大器

查看更多

AMPLIFICATION 放大器

In-house amplifier systems which ensure the optimum sound result with our speaker systems. Diverse DSP functionalities and intuitive operation also open the doors for driving loudspeakers beyond the K.M.E. world. For passionate sound results with enormous performance.

户内放大器系统，可确保我们的扬声器系统获得最佳声音效果。多样化的DSP功能和直观的操作也为驱动超越K.M.E世界的扬声器打开了大门。获得震撼的声音，并具有出色的性能。

概观

配件

AMPLIFICATION

放大器

NA 480

NA 480/4 x 2000瓦

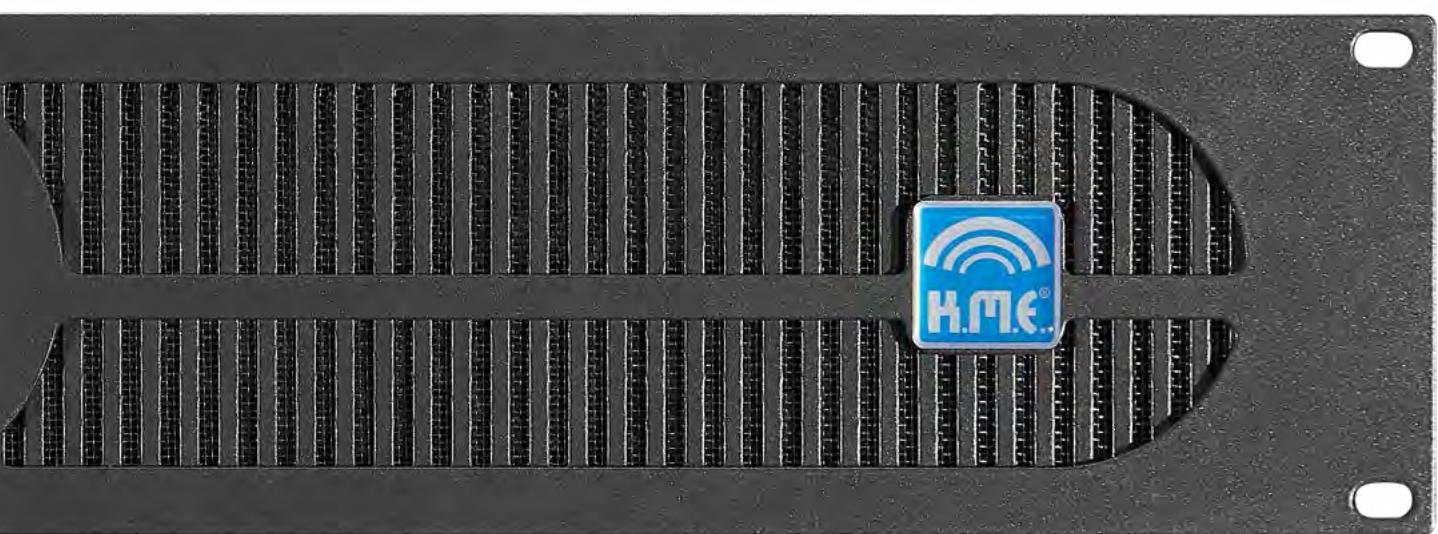
能够可控远程网络

具有集成 DANTE 集群 - 存取-
控制的4通道放大器。

NA 480 | 4x 2000 W

remote controllable network-capable
4-channel amplifier with integrated
DANTE® and group-access-control
The data sheet will be published
shortly







数字控制放大器 / Digital amplifier

Digital Amplifier
完全数字化的 4 通道 DSP 功率放大器

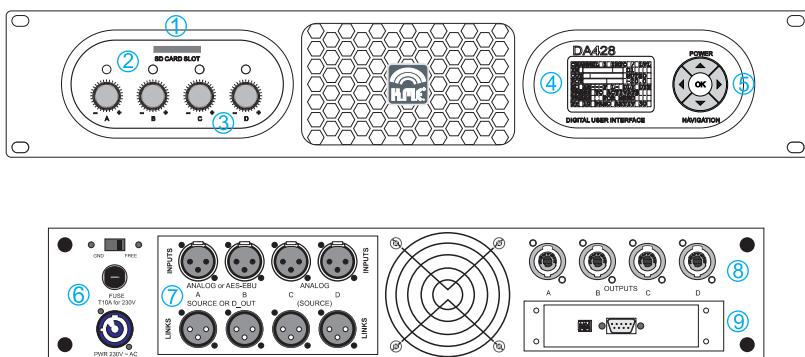
DA 428

- 4 通道数字功率放大器
- 具有大功率的数字技术放大器
高性能16核 DSP 矩阵路由器
- 音频优化的开关模式电源，
具有针对电路反饋的 PFC
- 机内电子设备倒置设计,更好维护性
- 轻巧坚固的结构

操作和控制元件 / OPERATION & CONTROL ELEMENTS



- Digital controller amplifier, 4-channel
 - Includes digital amplifier technology with a high performance 16-core-DSP with matrix router
 - Audio optimized switched mode power supply with PFC against circuit feedback
 - Upside-down design for road suitability
 - Light-weighted and robust construction
1. SD-读卡器 / SD-card reader
 2. 4个RGB LEDs / 4 RGB LEDs
 3. 4个旋转编码器 / 4 rotary encoders
 4. LCD-液晶显示器 / LCD-display
 5. 导航板 / navigation pad
 6. 电源 - 插座和保险丝, 无接地开关
mains -socket & -fuse, ground-free switch
 7. 信号输入(XLR): 4 x 线路输入, 4 x 链路输出(最多4个模拟或2个数字 + 2个模拟)
signal inputs (XLR): 4 x line-in, 4 x link-out (max 4 analogue or 2 digital + 2 analogue)
 8. 扬声器输出 4 x Speakon NL 4
speaker output 4 x Speakon NL 4
 9. 模块插槽 (RS232)
module slot (RS232)



描述 / DESCRIPTION

DA 428是全数字4通道D类放大器，输出功率为700 W @ 4 ohm。紧凑，轻巧的19"2U设备配备了全面的DSP功能，例如矩阵路由器，8个完全参数均衡器，2个分频网络，延迟和动态处理器。使用一个简单的5键导航板以及4个旋转编码器，就可以管理所有参数以及用户导航。工厂和用户预设可以存储在设备内部以及已实现的SD卡读卡器上。使用可用的软件，可以预先准备“Preset-Editor”设置，并通过SD卡进行传输。用于连接音频/控制网络的模块插槽是标准配备的RSNC模块，该模块具有RS232连接器和“常关闭”触点功能。可选提供带有远程功能的模块。在输入端有4个模拟连接以及2个数字端口，可接受16/24位和32-192 kHz采样频率的 AES / EBU 和 SPDIF格式。4个链接插座，可将承载施加到输入的信号路由到携带24位/ 48 kHz的AES / EBU。4个Neutrik Speakon插座可确保与扬声器系统的连接。输出A和B每个提供2个通道 (A / C and B / D)。另一个重要功能是PFC控制的宽范围开关模式电源。包括了广泛的保护电路和数字监控组件，以“完善”该设备的专业功能，可用于从无源扩声组件到系统操作的舞台监听操作，或在音响装置中实现专业的多通道系统。

The DA 428 is a completely digital 4-channel class D amplifier with 700 W @ 4 ohm output power. This compact, light-weight 19" 2U device is equipped with comprehensive DSP features like matrix router, 8 fully parametric equalizers, two crossover networks, delay and dynamic processor. All parameters as well as user navigation can be managed using a simple 5-key navigation pad together with 4 rotary encoders. Factory and user presets can be stored inside the unit as well as on the implemented SD-card reader. With the available software "Preset-Editor" setups can be prepared in advance and transferred via SD-card. A module slot for connections to audio / control networks is standard fitted with a RSNC module equipped with a RS232 connector and a 'normally closed' contact feature. Optionally available is a module with remote functions. On the inputs side are 4 analogue connections as well as 2 digital ports accepting AES/EBU and SPDIF formats of 16 to 24 bit and 32 to 192 kHz sampling frequency. 4 link sockets, carrying the signal applied to the inputs can be routed carrying AES/EBU of 24 bit / 48 kHz. 4 Neutrik Speakon sockets ensure the connection to the speaker systems. Output A and B provide 2 channels each (A/C and B/D). Another important feature is the PFC controlled, wide range switched mode power supply. An extensive set of protective circuits and digital monitoring components is included "rounding off" the professional features of this equipment usable for stage monitor operation to system operation of passive PA components or realization of professional multichannel systems within sound installations.

产品规格 SPECIFICATIONS



尺寸 (宽 x 高 x 深) mm	Dimensions (WxHxD) mm	483 x 88 x 375	483 x 88 x 375
重量 (公斤)	Weight (kg)	8,5	8,5
电子 / Electronic			
输出 RMS @ 4 / 8 欧姆	Output RMS @ 4 / 8 Ohm	4 x 700 W / 400 W	4 x 700 W / 400 W
放大器	Amplifier	约90%高效率的4个全数字放大器	4 fully digital amplifiers with high efficiency, about 90 %
频率范围	Frequency range	20 Hz - 20 kHz	20 Hz - 20 kHz
信噪比 (加权/未加权)	S/N ratio (A-weighted / unweighted)	100 dB / 95 dB	100 dB / 95 dB
输入灵敏度	Input sensitivity	0 dB (775 mV), 可调	0 dB (775 mV), adjustable
串音 @ 1 kHz	Crosstalk @ 1 kHz	> 90 dB	> 90 dB
阻尼系数 @ 1 kHz	Damping factor @ 1 kHz	> 500	> 500
电压增益 @ 4 / 8 欧姆	Voltage gain @ 4 / 8 Ohm	36 dB	36 dB
总谐波失真 @ 1 kHz	THD @ 1 kHz	< 0,5 %	< 0,5 %
内部摆率, V/ μs	Slew rate, V / μs internal	> 70	> 70
内部转换时间 μs / V	Slew time, μs internal / V	< 1,5	< 1,5
特征	Features	每通道: 可调增益, 数字分频, 次声波滤波器, 6个全参数均衡器, 峰值 / RMS 限制器, 压缩器, 相位(180°)延迟(0-1000ms) 静音功能, 矩阵路由器	per channel: adjustable gain, digital crossover, subsonic-filter, 8 fully parametric EQ's, peak/RMS-limiter, compressor, phase (180°), delays (0-1000 ms), mute-function, matrix router
保护电路	Protective circuits	对于单通道, 短路, 输出直流, 电阻低削, 对于设备, 欠压/高压, 温度, 过载	for single channels: short circuit, DC on output, impedance undercut for the device: under-/over voltage, temperature, overload
耗电量	Power Consumption	2500 W	2500 W
电源要求	Power Requirements	90 - 250 V / 50 - 60 Hz, PowerCon In	90 - 250 V / 50 - 60 Hz, PowerCon In
操作模式	Operation modes	立体声, 4单声道(自由路由)	stereo, mono, 4-chan. (free routable)
控制面板	Control panel	导航垫, 4个旋转编码器, 4个RGB LEDs, LCD-显示器, SD-卡读器	navigation pad, 4 rotary encoders, 4 RGB LEDs, LCD-display, SD-card reader
连接器	Connectors	4 XLR线路输入, 4 XLR线路输出, 电子平衡 (最多4模拟数, 2x数字 + 2x模拟), 扬声器输出, 4 NL4 Speakon, RSNC - 模块	line-in 4 XLR, link-out 4 XLR electronically bal. (max. 4 analogue or 2 digital + 2 analogue), speaker output 4 Speakon NL4, RSNC-Module
处理器 / Processor			
数位讯号处理器	DSP	24 bit, 48 MHz / 时计	24 bit, 48 MHz clock
单元延迟	Unit delay	< 1,5	< 1,5
采样	Sampling	24 bit	24 bit
数字输入和链接	Digital Input & Link	AES / EBU & S / PDIF 带格式/采样率转换器 (最大192 kHz)	AES / EBU & S / PDIF with format / sample rate converter (max. 192 kHz)
预设记忆	Preset memory	12个内部预设, SD卡上有更多预设	internal: 12 presets, more presets on SD card

* SPL (全空间1W / 1 m) , 额定负载下的最大SPL (AES)

* SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)



DA 230

- 2 通道数字控制放大器
- 具有大功率的数字放大器技术矩阵路由器的高性能16核 DSP
- 具有针对性电路反馈的PFC的音频优化开关模式电源
- 机内电子设备倒置设计, 维护性更强
- 轻巧坚固的结构

- Digital controller amplifier, 2-channel
- Includes digital amplifier technology with a high performance 16-core-DSP with matrix router
- Audio optimized switched mode power supply with PFC against circuit feedback
- Upside-down design for road suitability
- Light-weighted and robust construction

应用 / APPLICATION

- 音响安装的控制器功率放大器 / Controller amplifier within sound installations
- 无源扩声系统组件的操作 / system operation of passive PA components
- 舞台监听操作 / stage monitor operation

DA 230是一款全数字2通道D类放大器，每个通道的输出功率为1500 W @ 4 Ohm。紧凑，轻巧的19" -2U设备配备了全面的DSP功能，例如矩阵路由器，每个通道的6个完全参数均衡器，两个分频网络，延迟和动态处理器。使用一个简单的5键导航板以及4个旋转编码器，就可以管理所有参数以及用户导航。复杂的用户界面由图形LCD显示屏和4个RGB LED指示灯组成有关的操作参数和单个通道的状态。工厂预设和用户预设存储在设备内部，并装有SD卡读卡器，可用于将预设和系统信息轻松传输到其他设备。还计划使用预设编辑器软件和各种固件附件。在输入端有2个模拟连接以及一个数字端口，可接受16/24位和32-192 kHz采样频率的AES / EBU和SPDIF格式。2个链接插座，可将施加到输入的信号传输为带有24位/ 48 kHz AES / EBU的“已处理”数字输出。设计者还实现了一个模块插槽，用于将来的更新，即与音频/控制网络的连接，标准配备了带有RS232连接器和“常关闭”触点功能的RSNC模块。使用将来的固件升级模块可以保证全面远程控制，但是即使是标准版本也包含简单的远程功能。另一个重要功能是上一代产品的PFC控制，音频优化的宽范围开关模式电源。外部电源连接是通过自锁Neutrik PowerCon连接器，2个Neutrik Speakon插座实现的（通道A已接线“Bi-amp”）可确保与扬声器系统的连接。包括了广泛的保护电路和数字控组件，这些设备的专业功能可用于舞台监听操作到无源扩声组件系统的操作，或在音响装置中实现专业的多通道系统。

The DA 230 is a completely digital 2-channel class D amplifier with 1500 W@4 Ohm output power on each channel. This compact, light- weight 19"-2U device is equipped with comprehensive DSP features like matrix router, 6 fully parametric equalizers, two crossover networks, delay and dynamic processor per channel. All parameters as well as user navigation can be managed using a simple 5-key navigation pad together with 4 rotary encoders. The sophisticated user interface is completed by a graphic LCD display and 4 RGB LEDs informing about relevant operation parameters and state of the single channels.

Factory and user presets may of cause be stored inside the unit, an SD- card reader is implemented and can be used to easily transfer preset and system information to other units. An preset editor software and various firmware add- ons are planned as well. On the inputs side are 2 analogue connections as well as one digital port accepting AES/EBU and SPDIF formats of 16 to 24 bit and 32 to 192 kHz sampling frequency. 2 link sockets, carrying the signal applied to the inputs can be routed as “processed” digital output carrying AES/EBU of 24 bit / 48 kHz. The designers also implemented a module slot for future updates, i.e. connections to audio / control networks, standard- fitted with module RSNC equipped with a RS232 connector and a ‘normally closed’ contact feature. Global remote control is guaranteed using future firmware upgrade modules, but even the standard version contains simple remote features. Another important feature is the PFC controlled, audio-optimized wide-range switched- mode power supply of the last generation. The outside power connection was realised using a self- locking Neutrik PowerCon connector, 2 Neutrik Speakon sockets (channel A is wired ‘bi-amp’) ensure the connection to the speaker systems. An extensive set of protective circuits and digital monitoring components is included “rounding off” the professional features of this equipment usable for stage monitor operation to system operation of passive PA components or realization of professional multi- channel systems within sound installations.

产品规格 / SPECIFICATIONS

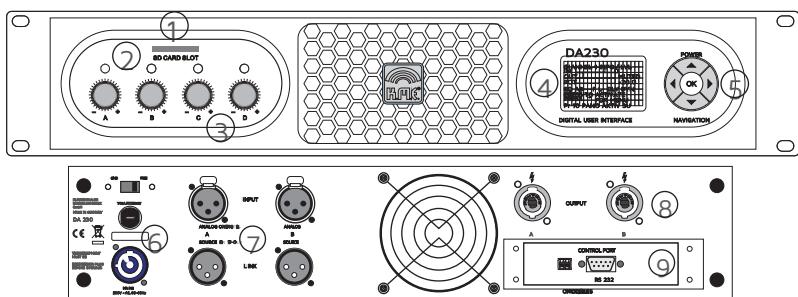
电子 / Electronic

输出 / Output RMS @ 4 / 8 欧姆 Ohm	2 x 1500 W / 750 W
放大器 / Amplifier	约90%高效率的2个全数字放大器 two fully digital amplifiers with high efficiency, about 90 %
频率范围 / Frequency range	20 Hz - 20 kHz
信噪比 (A-加权 / 未加权) S/N ratio (A-weighted / unweighted)	100 dB / 95 dB
输入灵敏度 / Input sensitivity	0 dB (775 mV), 可调 / adjustable
串音 / Crosstalk @ 1 kHz	> 90 dB
阻尼系数 / Damping factor @ 1 kHz	> 500
电压增益 / Voltage gain @ 4 / 8 Ohm	40 dB
总谐波失真 / THD @ 1 kHz	< 0.5 %
内部摆率 V / μ s intern / Slew rate, V / μ s internal	> 70
内部转换时间 μ s / V intern / Slew time, μ s / V internal	< 1.5
特征 / Features	每通道可调增益, 数字分频, 次声波滤波器, 6个全参数均衡器, 峰值 / RMS 限制器, 压缩器, 相位 (180°), 延迟 (0 - 1000 ms), 静音功能, 矩阵路由器 per channel: adjustable gain, digital crossovers, subsonic-filter, 6 fully parametric EQ's, peak/RMS-limiter, compressor, phase (180°), delays (0 - 1000 ms), mute-function, matrix router
保护电路 / Protective circuits	对于单通道, 短路, 直流输出, 设备的阻抗低削, 对于设备, 欠压/过压, 温度, 过载 for single channels: short circuit, DC on output, impedance undercut for the device: under-/ over voltage, temperature, overload
耗电量 / Power consumption	2600 W
电源要求 / Power requirements	90 - 250 Volt / 50 - 60 Hz, PowerCon In
操作模式 / Operation modes	立体声, 2单声道 (自由路由) / stereo, mono, 2-channel (free routable)
控制面板 / Control panel	导航垫, 4个旋转编码器, 4个RGB LEDs, LCD-显示器, SD-卡读器 navigation pad, 4 rotary encoders, 4 RGB LEDs, LCD- display, SD-card reader
连接器 / Connectors	2 x XLR线路输入, 2 x XLR线路输出, 电子平衡(最多 2 x 模拟数 或 1 x 数字 + 1 x 模拟); 扬声器输出, 2 x NL4 Speakon; RSNC - 模块 line-in 2 x XLR, link-out 2 x XLR electronically bal. (max. 2 x analogue or 1 x digital & 1 x analogue); speaker output 2 x Speakon NL 4; RSNC module
处理器 / Processor	
数位讯号处理器 / DSP	24 bit, 48 MHz 钟 / clock <
单元延迟 / Unit delay	1.5 ms
采样 / Sampling	24 bit
数字输入和链接 / Digital input & link	AES/EBU 带格式/采样率转器 (最大192 kHz) / AES/EBU with format /sample rate converter (max. 192kHz)
预设记忆 / Preset memory	12个内部预设, 其他预设在 SD卡上 / internal: 12 presets, additional presets on SD card
尺寸 (宽 x 高 x 深) 毫米 / Dimensions (WxHxD) mm	483 x 88 x 375
重量(公斤) / Weight (kg)	9

*SPL (全空间1W / 1 m) , 额定负载下的最大SPL (AES)

*SPL (Fullspace 1W / 1 m), maximum SPL at nominal load (AES)

操作和控制元件 / OPERATION- & CONTROL ELEMENTS



- ① SD-读卡器 / SD-card reader 4
- ② 4个RGB LEDs / 4 RGB LEDs
- ③ 4个旋转编码器 / 4 rotary encoders
- ④ LCD- 液晶显示器 / LCD- display
- ⑤ 导航板 / navigation pad
- ⑥ 电源插座和保险丝, 接地开关 / mains- socket & fuse, ground-free switch
- ⑦ 信号输入(XLR) : 2 x 线路输入, 2 x 链路输出 (最大 2 x 模拟或 1 x 数字 + 1 x 模拟) / signal inputs (XLR): 2 x line-in, 2 x link-out (max. 2 x analogue or 1 x digital & 1 x analogue)
- ⑧ 扬声器输出 2 x Speakon NL 4 / speaker output 2 x Speakon NL 4
- ⑨ 模块插槽 (RS232) module slot (RS232)



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