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KF-590&BH-590线性阵列系统描述

系统特点:KF-500&BH-500系列线阵系统是广州市展迅电声科技有限公司最经典的紧凑型新款线性阵列音箱。KF-500&BH-500系列由：KF-510、KF-520、KF-530、KF-550、KF-560、KF-590、BH-510、BH-520、BH-530、BH-550、BH-560、BH-590组成；它们具有体积小、重量轻、功率大、效率高、应用灵活的特点。其澎湃厚实有力的低频，饱满细腻通透的中高频、宽泛的音域给人以Hi-Fi的享受。KF-500&BH-500系统是近几年来NEWORLL尼沃研发团队智慧的结晶、是大胆创新的硕果、是线性阵列中的精品。KF-500&BH-500系列不仅拥有线性阵列音箱的音色、音质及所有线性阵列音箱应该具备的特点和品质；而且还具有很高的性价比，它与传统二分频全频音箱的价格相当。是中高端厅堂扩声场所、中小型流动演出扩声的首选产品。它与传统音箱相比的优势主要体现在以下几个方面：KF-500&BH-500系统搭配，比传统音箱有更强的指向性、更广的覆盖角、更宽的频响范围、更远的投射距离、更均匀的声场、更高的效率、更灵活的应用、更方便、快捷的安装方式。KF-500&BH-500系列产品是德国尼沃电声实验室结合声学原理与现场环境，有针对性设计而研制出来的高品质产品。众所周知我们现在所遇到的一些酒店大厅、大型的会议厅、报告厅等场所在进行装潢设计时更多看重外形美观、新颖、时尚及消防、安全等方面的因素比较多，而对建筑声学方面考虑不是很多，特别是有些普通的装修设计公司有很多根本就不考虑建筑声学这方面的因素，而业主本身也不懂，往往木已成舟之时已无回天之力。当然这种事情本身也没有办法避免，因为这些场所也不可能去按照标准的的剧院、剧场来设计。所以我们根据现场实际情况，从科学、客观的角度出发，对于这样不标准的建声场所采用一种精准的电声校正技术来弥补物理建声的不足，从而研制了KF-500&BH-500系列线性阵列音箱。从电声技术角度出发，采用强指向性、垂直角度连续可调，远近投射距离可调的技术来解决传统音箱不能解决的问题。为什么这样讲呢？因为传统音箱的水平覆盖角一般在120°～60°之间恒指向，垂直覆盖角度90°～30°之间恒指向。这样的水平、垂直覆盖角度过大，在建声条件不好的环境里容易造成声干涉和声反射，传统音箱布置的越多声场就越差、音色和音质也就越浑浊、现场调试的难度也就越大、所用的周边设备也就越多、所耗费的人力物力也就越多。很难达到理想的电子扩声要求。

KF-500&BH-500系列标配是内置二分频系统(也可定做成外置二分频)KF-590&BH-590除外。在相同的条件下与外置分频网络系统相比所用功放数量要少用二分之一，它最小的扩声搭配是2只KF-500全频音箱和1只BH-500次低音音箱组成，左右各一组形成立体声模式，只需3台功放。根据现场扩声需求决定是否植入处理器，如果为了声音更细腻、音色更好，可以植入一台处理器，否则可以不加处理器。面对较为大型的扩声场所时，为了更好的还原声音效果、得到更均匀的声场、更饱满的音色。音响系统调试工程师往往需要更多的处理器通道来对某只音箱进行独立调节，这个时候内置分频线性阵列音箱比外置分频的线性阵音箱就有明显的成本优势。因为内置分频线性阵列音箱所占处理器通道更少，那么处理器也用的更少，相应的功放的数量也会更少。在成本变化不大情况下，也为系统设计师提供了加入超重低音的空间，处理器相应也不会增加太多，达到控制成本的目的。在实际应用中为调音师提供了一个专业的发挥空间，同时也减少了系统出错的机率，从而使系统更加的稳定。从成本的角度而言，这是外置分频线性阵列无法比拟的。**箱体结构及用料：**

NEWORLL尼沃工程师为了研发KF-500&BH-500这个精品系列，颇费周折，费尽心思。主要体现在3个方面：1.选料精：箱体板材是选用上好的进口桦木夹板，使箱体结构更加坚固耐用，有效的减少箱体无用的共振和有害的音染。分频器电容是由世界知名的供应商提供，电阻全是无感电阻，电感骨架特殊设计定制开模而来，采用尼龙加纤的材料，骨架更加耐热而不易老化，特殊的散热孔设计，使散热更好，从而使产品更稳定可靠。箱体表面处理采用的是极为高端的国际环保(ROHS)化工材料-无毒害的水性油漆。2制作精：箱体采用数控加工中心(CNC)一气呵成，保证了产品的加工精度与一致性。3技术精：利用先进箱体(LEAP)设计软件和(LMS)音频测试系统对箱体结构和喇叭单元的电声参数都做了详细的理论测算和实际验证；配以通体珍珠白的外表使KF-500&BH-500系列显得格外的娇小玲珑、晶莹剔透，打造出了这一系列外形精美、音色甜美、音质清脆的精品。有效投射距离可达50米～120米。覆盖角度更宽广，高音号角采用水平150°覆盖，垂直角10°覆盖角。能照顾到声场要求较宽的场所。同时，音箱与音箱之间还有连续10°垂直可调的空间，能照顾到不同区域的观众。

KF-590&BH-590线阵系统配置:KF-590是KF500系列家族中一款性价比高、更具人性化的双12寸大型外置三分频线性阵列音箱。它是由3只34芯强磁高音单元,4只6.5寸50芯150磁中音单元,2只12寸75芯190磁高性能铁氧体低音单元构成。BH-590由2只15寸100芯220磁高性能铁氧体低音单元构成。BH-590是与KF-590配套使用的次低音音箱。有了BH-590与KF-590完美匹配，现场扩声的音域范围将会更加的宽广。

系统功放与负载阻抗的匹配关系：该系统的功放与音箱阻抗之间的匹配关系是这样的：1、KF-590箱内单只高音单元的阻抗为8欧姆，三只高音单元在箱体内部是串联关系，这时负载阻抗变为了24欧姆。根据设计要求一台两通道的高音功放可以驱动4只KF-590音箱的高音单元，这时功放的负载阻抗为12欧姆。2、KF-590箱体内部单只中音单元的阻抗8欧姆，在箱体内部是两两串联、再一并联的关系，这时负载阻抗为8欧姆；根据设计要求一台两通道的中音功放可以驱动4只KF-590音箱的中音单元，这时功放的负载阻抗为4欧姆。3、KF-590箱体内部单只低音单元阻抗为8欧姆，两只低音单元在箱体内部是分别独立各引正负两条线到接线背板的8芯座上，这时负载阻抗为8欧姆。根据设计要求一台两通道的低音功放可以驱动2只KF-590音箱的低音单元。这时功放的负载阻抗为4欧姆。以4只KF-590音箱为例所需功放为：1台高音功放、1台中音功放、2台低音功放共计4台功放。所以切记功放到KF-590音箱的连接线必须为独立的8芯四对线，否则将会对系统造成不可估量的损毁。4、BH-590音箱的阻抗为4欧姆，根据设计要求一台两通道的超低音功放可以驱动2只BH-590音箱，这时功放的负载阻抗为4欧姆。以此类推，在系统搭配上注意功放与音箱阻抗之间的匹配；避免系统匹配出现错误，造成系统严重损毁。

安装方式：KF-590&BH-590有二种安装方式：一种是用葫芦将KF-590&BH-590吊装在TRASS或雷亚架上；另一种是，也可以选择将超低音BH-590放在KF-590的底部，这样可以将音箱安装在舞台地面上。不锈钢插销连接，简单方便。

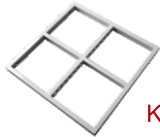
应用范围：即可用于大型的流动演出，也可用于剧院、剧场、体育场馆等场所的固定安装



KF-590



BH-590



KF-590-T



KF-590&BH-590 line array system configuration: KF-590 is cost-effective, more humane dual 12" large-sized with active control unit Bi-amp three-way loudspeaker line array in KF500 series family. It is composed of **three** HF drivers with VC Φ34mm, **four** 6.5" MF drivers with VC Φ50mm 150 magnet, **two** 12" LF units with VC Φ75mm and 190 high-performance magnet, **BH-590** is composed of **two** 15" LF units with VC Φ100mm and 220 high-performance magnet. **BH-590** under-bass is supporting the use of KF-590. **BH-590** is much perfect with **KF-590** so that the frequency response of sound reinforcement on site become much wider.

Matching relations between amplifier system and load impedance: the system matching relationship between the amplifier and speaker impedance is such that: **1. one** piece HF driver impedance is **8 ohms** inside KF-590 cabinet , **three** HF drivers is tandem relationship inside the cabinet, then load impedance into **24** ohms. According to the design requirements of one set two channel HF amplifier can power HF drivers of **four pieces** KF-590 speakers, then amplifier load impedance into **12** ohms. **2. one** piece MF driver impedance is **8 ohms** inside **KF-590** cabinet, **two** tandem relationship and one parallel relationship inside the cabinet, this time load impedance into **8 ohms**; According to the design requirements of **one** set two channel MF amplifier can power MF drivers of **four pieces** KF-590 speakers, then amplifier load impedance into **4 ohms**. **3. one** piece LF unit impedance is **8 ohms** inside **KF-590** cabinet, **two** LF units in the cabinet interior, each LF unit connect positive pole or negative pole two wires independently to the **8-core** speakon-socket of speaker wiring back panel, then the load impedance is **8 ohms**. According to the design requirements of one set two channel LF amplifier can power LF unit of two pieces **KF-590** speakers, then amplifier load impedance is **4 ohms**. For example, according to **four pieces** KF-590 speakers, total amplifier is required: **one** set HF amplifier, **one** set MF amplifier, **two** sets LF amplifier, total is four sets amplifiers. So do remember the connecting cable from amplifier to **KF-590** speaker must be independent of the **8-core** four pairs of cable, otherwise it will cause incalculable damage to the system. **4. BH-590** speakers as impedance **4 ohms** setting, according to the design requirements of one sets two channel LF amplifier can power **two pieces** BH-590 speakers, then amplifier load impedance is **4 ohms**. So pay attention to the system matching between the amplifier and speaker impedance; avoid system matching error, otherwise it will cause serious damage to the system.

Installation method: There have two installation methods for **KF-590 & BH-590**: One is to use hoist lifting the **KF-590&BH-590** in **TRASS** or layer rack; the other is you can also choose to super bass **BH-590** placed at the bottom of the **KF-590**, which can be installed on the ground of the stage. Stainless steel bolt connection, very simple and convenient.

Applications: This system is suitable for large-sized Concerts Touring, and fixed installation for Theater and Stadium etc.

TECHNICAL INFORMATION

Model
Power-Watts
Sensitivity (dB SPL 1W/1M)
Impedance(ohms)
Frequency Response
Horizontal symmetry
Loudspeaker and loading

KF-590
1950W(RMS)/4875W(PGM)
LF:100dB / MF:100dB / HF:100dB
LF:8Ω / MF: 8Ω / MF: 24Ω
LF:50Hz～500Hz / MF: 500Hz～2.5kHz / HF:2.5kHz～19kHz
150°x10°
LF:2×12"High pass vented box MF:4×6.5"
HF:3×1"Exit horn loaded

Weight (kg)
Dimensions(W×D×H)
Packing(W×D×H)

65kg
1190×580×420mm
1250×630×471mm

BH-590
1000W(RMS)/2500W (PGM)
103dB
4Ω

40Hz～150Hz
/
LF 2×15"High pass vented box
/
50kg
1190×800×420 mm
1250×850×471mm

KF SERIES 590

KF-590 & BH-590 LINE ARRAY SYSTEM DESCRIPTION:

System Features:KF-500 & BH-500 Series line array system is the most classic of the new compact line array speakers of Newshow Electroacoustic Co., Ltd. Guangzhou. KF-500&BH-500 series consists of KF-510, KF-520, KF-530, KF-550, KF-560, KF-590, BH-510, BH-520, BH-530, BH-550, BH-560, and BH- 590. This speaker features outstanding mini-sized, light weight, high power, high efficiency and flexible application. It performs much extra punchy on low frequency, full, exquisite, transparent on high frequency and wide frequency response to enjoy **Hi-Fi**. **KF-500 & BH-500** system is a crystallization of wisdom, the fruit of bold innovation, and the exquisite goods in line array by **NEWORLL** research and development team in recent years. **KF-500 & BH-500** series not only has timber of line array, characteristics and quality of all line array speakers but also has cost-effective price. It is commensurate price with the traditional two-way full-range speaker. It's the first choice for medium and high-end hall sound reinforcement place and middle and small sized concerts touring. **Compared with the traditional speakers, the main advantage in the following aspects:** KF-500 & BH-500 system matching features that with more high directionality, more wide dispersion angle, more wide frequency response range, more long throw distance, more uniform on sound field, high efficiency, more flexible application and more easy-installation. KF-500 & BH-500 series products are the German Neworll Electroacoustic laboratory combined with acoustics principle design and environmental site targeted design and developed high quality products. As we all know, we encountered some of hotel hall, large sized conference room, lecture hall and other places in the decoration design more emphasis on novel, beautiful, fashionable appearance and fire control, safety, and other factors, and we consider the architectural acoustics not a lot, especially in some common decoration design company do not consider architectural acoustics, however the owners themselves do not understand, so it is no longer to be changed when it is done. Of course, this kind of thing itself has no way to avoid, because these places it is impossible to follow the standard of theater design. So we according to the actual situation on site, from the point view of scientific and objective, for such non-standard architectural acoustics site to adopt a precise **acoustic correction technology** to compensate for the lack of **physical architectural acoustics**, thus developed **KF-500 & BH-500** series Line array loudspeakers. From the electroacoustic technology point view, adopting **high directionality, continuously adjustable vertical angle, and adjustable long and short throw distance technology** to solve the traditional speaker problem that cannot solve. Why do I say it? Because the traditional speaker horizontal dispersion angle is generally between 120°～60° to constant directionality, vertical dispersion angle between 90°～30° constant directionality. Such horizontal and vertical dispersion angle is too large, it is easily to cause acoustic interference and acoustic reflexion in bad architectural acoustics environment, **the more traditional acoustic speaker placement the worse sound field, more turbid timbre, more different debugging on site, more use of peripheral equipment, more cost of manpower and material resources**. And then it is difficult to achieve perfect electronic **sound reinforcement** requirements. **KF-500 & BH-500** series is built-in passive filter two way network system (can also be customized active control unit Bi-amp two way system) except **KF-590 & BH-590**. Compared with active control unit Bi-amp network system as the number of amplifiers used less one second under the same conditions, the minimum rental sound reinforcement match is **two pieces** KF-500 full rang speaker and **one piece** BH-500 under-Bass, the formation of stereo mode as a set of line array each site, just need **three sets** amplifiers, according to sound reinforcement requirements on site to decide whether with processor or no, if for more exquisite sound, better timbre, then we can be with one piece processor, otherwise you cannot add processor. In order to better restore sound effects, more uniform on sound field, fuller timbre when you face with large-scale sound reinforcement place. Audio system designers often need more processor channel for adjust speaker independently, there is significant cost advantage that built-in passive filter line array speakers compare with active control unit Bi-amp line array. Because of the built-in passive filter line array speakers occupies less processor channel, less processor and less amplifier quantity. In the case of litter change in cost, also provides added SUB for the system designer, processor will not increase too much correspondingly, to achieve the purpose of cost control. In practice, provides professional space for tuner, but also reduce the **chance** of system failure, thereby making the system more **stable**. From point view of cost, this is an active control unit Bi-amp line array incomparable.

Enclosure structure and materials:In order to develop **KF-500 & BH-500** exquisite series, Neworll's engineers is painstaking working, mainly in the following **three** aspects: 1, the **choice of high-grade materials:** imported good birch plywood for enclosure board to make more solid cabinet structure, effectively reducing unwanted cabinet **resonance** and **sound staining**. **Crossover** capacitance is used well-known suppliers, all **non-inductive** resistance, **special customized mold design for inductance frame, and adopt nylon fiber material, the frame is more heat resistant and difficult to aging, special cooling hole design, better heat dissipation, making the product more stable and reliable**. Using very high-end international environmentally-friendly (**ROHS**) chemical materials and non-toxic water-based paint for enclosure surface treatment. **2, precise making:** enclosure is wrapped by CNC machining centers to ensure the accuracy and consistency of product processing. **3, precise technology:** the use of advanced enclosure (**LEAP**) design software and (**LMS**) audio test system for electro-acoustic parameters of cabinet structure and speaker unit have done a detailed theoretical calculations and actual verification; **KF-500 & BH-500** is with pearl white exterior that makes very particularly petite, crystal clear, to create series of exquisite appearance, sweet timbre, crisp sound. Effective throw distance of up to **50 meters to 120 meters**, more wide dispersion angle, tweeter horn adopt horizontal 150°, vertical 10° dispersion angle. It can take care of the sites that wide sound field requirement. Meanwhile, between speakers and speakers also have 10° adjustable space continuously that can take care to audience of various area.

KF 系列专业线性阵列系统

KF-590

系统配置

扬声器系统结构:
外置4路分频系统

扬声器型号及数量：
KF-590 8只
BH-590 4只

可调角度：
KF-590与KF-590箱与箱之间
垂直可调角度: 0° 2° 4° 6°
8° 10°

功率放大器：
HF:2 X900W/8Ω 2台
MF:2 X 900W/8Ω 2台
LF:2X1200W/8Ω 2台
SUB:2X1500W/8Ω 2台

音箱处理器：
CP-4800 2台

线材：
4M²× 8芯专业音箱工程电缆线

附件：
16U功放机柜 2个
KF-590航空箱 8只
BH-590航空箱 4只

System Configuration

Loudspeaker system structure:
active control unit Bi-amp four-way system

Speaker model and quantity:
KF-590 8pcs
BH-590 4pcs

Adjustable angle:
Adjustable vertical angle between
speaker KF-590 and speaker
KF-590: 0° 2° 4° 6° 8° 10°

Power amplifier:
HF:2 X900W/8Ω 2sets
MF:2 X 900W/8Ω 2sets
LF:2X1200W/8Ω 2sets
SUB:2X1500W/8Ω 2sets

Processor:
CP-4800 2sets

Speaker cable:
4M² × 8 core professional speaker
engineering cable

Accessories:
16U amplifier rack 2pcs
KF-590 flight case 8pcs
BH-590 flight case 4pcs



技术说明：

此方案适合大型演出活动，建议使用距离为120米，使用人数约为10000~15000人。

Note:

This scheme is suitable for large-sized concerts touring, recommendations apply to 120 meters away, using about 10000~15000 audiences.