NS Series

Nightclub system
夜場系統

動感相融 夜之魅力
Moving and Charming

❋ NS系列是針對中國市場需求專門開發的産品，所有型號都是圍繞夜總會的需要來調試設定。

❋ 好唱、唱的輕鬆、聽的舒服，PA系統KTV模式化是所有夜總會投資者選擇音響系統的標準。通過獨特的技術優化分頻網絡，使得NS系列相對於其他的音箱更具有更大的動態範圍，更廣的音域，更細膩的中高頻表現力以及彈性十足的低頻。

❋ 要成爲一套出色的音響系統，必須要和其他周邊産品配套使用，NS系列將DSP音頻處理器和開關電源功放完美融合，最大程度上降低音質損耗和失真，整套系統讓使用者可以隨心所欲的盡情使用。

❋ 爲了使工程商在房間音響系統調試的效率更高，效果更好，博聲音響專門爲調試工程師開發了一套音頻測試軟件，這套軟件專門爲KTV、夜總會、酒吧等室內調音使用，利用軟件所提供的一整套完整的測量和分析手段，爲聲場設計、系統布局、信號處理提供切實可行的最佳解決方法。

❋ NS series is designed for china market specially,all the model is made for nightclub.

❋ Convenient,easy for sing,and comfortable for listen,PA system approach KTV mode is the standard of nightclub investor choosing audio system.The unique optimize crossover,make the NS series make out larger dynamic range,wider audio range,more accurate M/H F performance and flexible LF.

❋ To become a good audio system,must use with other peripheral prodcut,NS series combine the DSP audio processor with switch power amplifier perfectly,greatly reduce timbre loss and distortion,the whole system let you to use as you wanted.

❋ In order to let the investor more efficient and better to adjust the system,BOB AUDIO developped a audio software,specially use for KTV,NIGHTCLUB,BAR...indoor testing.Use the software to provide best solution of sound filed designing,system layout,signal processing.
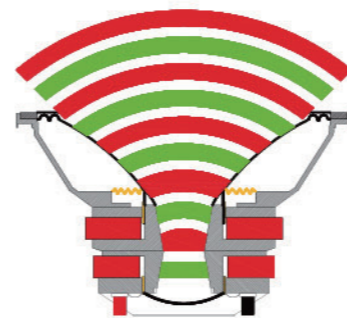
Driving Unit
驅動單元

NS系列的喇叭单元都是经过精心设计，高频压缩单元采用了1"喉口设计，钛金属的膜片加上先进的磁路设计，最终能够产生细腻和自然的高音音色。低频驱动单元的音圈采用了专门设计的扁平铜线绕制而成，可提供最高的瞬态响应，具有高效和快速而准确的瞬态响应。

NS series' loudspeaker unit is well-designed. The HF compression unit uses 1" throat design, titanium diaphragm and advanced magnetic path design results smooth and nature HF sound. The coil of LF driving unit is surrounded by designed flat cooper wire. This design can lead a bigger power processing ability; provide the highest transient response and high efficiency, speedy and accurate transient response.

Coaxial Units 同軸單元

在NS這個系列裏有三款同軸配置的全頻音箱，同軸技術的驅動單元系統比普通兩分頻音箱系統更具相當多的優勢。博聲音響的工程師把高低頻部分精巧準確地裝嵌在同一單元軸線上解決了時間及相位誤差的問題，從而改善著傳統兩分頻音箱系統的頻散混響帶來的失真效果。高低頻重疊的特性會產生完全輻射的波陣面，因此聲音覆蓋的均勻度更平均。

由於同軸的技術令到箱體的體積可以更小，軸對稱的指向性在水平和垂直相位都能產生相同的覆蓋模式，NS的同軸音箱可以靈活配置在不同環境及建聲條件較差的環境。同軸系統帶給你更出色的音質表現與聽覺享受，聲音自然、清晰。

There are 3 coaxial models in NS series,the coaxial system has more advantage than normal 2 way speaker.BOB AUDIO's engineer

put the HF/LF in the same axis to solve the time and phase error problem,so improve the distortion by confused frequency and sound.H/L frequency lap over will generate a full radiation surface,so the sound coverage is more equal.
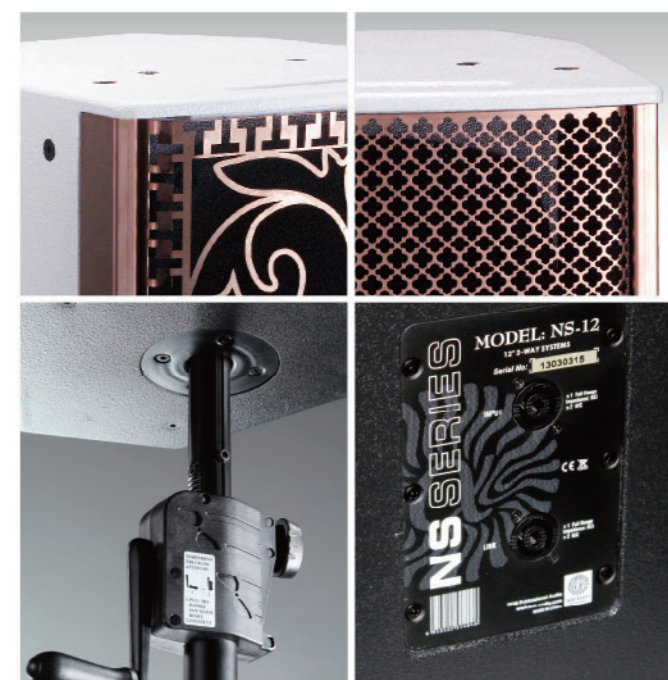
Coaxial technic let the cabinet to be smaller,axisasymmetry directing can generate same coverage mode in vertical and horizontal.NS coaxial speaker can be used in different or bad environment.The coaxial system bring you good sound performance and listening feel,sounds natural and clear.

Enclosure Design 箱體設計

NS系列音箱采用优质的全桦木多层胶合板加工而成，配合声学设计要求特别定制的板材令到NS系列音箱坚固结实的同时具有良好的声学特性。为了确保产品的一致性和不易被模仿，博声音响采用了独特的音箱组装技术，榫槽结构、冷粘接、高压定位等技术和工具令箱体粘结牢固。箱体外形采用弧度对称多边形设计，符合人体工程学设计的一体化木质把手、支撑底座、悬挂吊点集成于箱体之上。

NS series is made by good birch plywood,the acoustical customized wood board make the cabinet strong and full of acoustic feature.To make the prodcut accordance and not easy to be copied,bob audio use unique assembly technic,tenon groove,cold sticking,high pressure positioning,make the cabinet strong.Cabinet is radian asymmetry polygon,the entegrated ergonomics designed wood handle,pole mount socket,and flying points is also prepared in the cabinet.

Unapproachable
Process Detail
無可匹敵的工藝細節

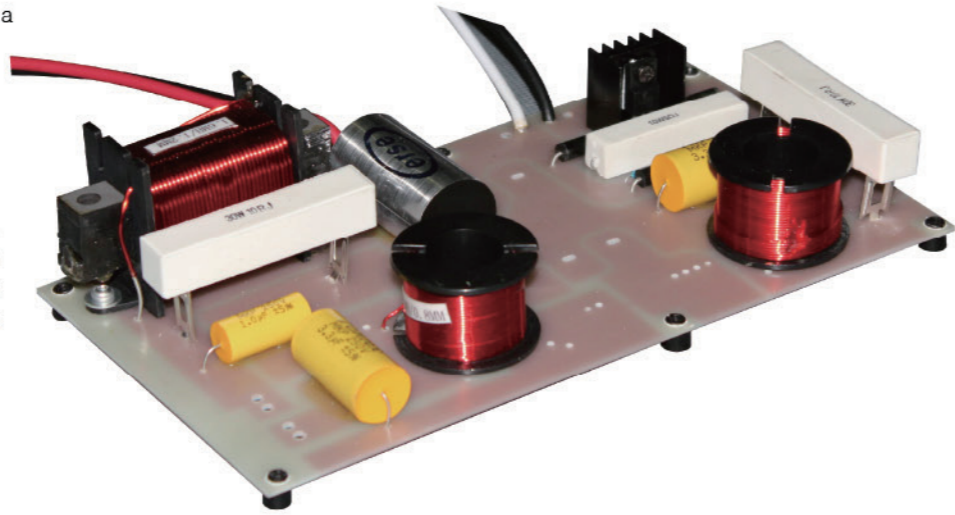音箱的頂底部設有符合人體工程學的一體化木質把手，低部裝有1個36mm的支撐底座。用于支架安裝，或與其它型號的超低頻音箱連接。頂底部和背板側面板裝有懸吊用的M8吊裝螺絲。

There are ergonomic handles on both sides of the enclosure that ease to delivery, one 36mm supporting base on top for supporting installation and connecting with other models, M8 suspension screw are installed on front side and back side.

Crossover 分频器

除了驱动单元本身，分频网络对音质的优劣有着举足轻重的影响。分频网络是由点容、电阻、电感等元器件组成，在设计上很难有革命性的突破和改良。但博声音响的工程师仍不断努力地去改良优化声音质量，无源分频器采用了相邻频段之间重叠很少的3阶（18dB/倍频程）斜率滤波器，让音频响应曲线更加平直、降低失真和相位干扰。精细调整的分频网络和音箱结合，产生杰出的音质和均匀一致的覆盖区。

Except driving unit itself, the crossover network has a significant influence on sound quality. Crossover network is composed by capacitor, resister and inductor; it is hardly to make a revolutionary change for such a design, but BOB's engineers are trying their best to optimize the sound quality. Passive crossover uses 3 level (18dB/octave) slope filter which has little overlap between two adjacent frequency segments. It results a flatter audio response curve, lower distortion and phase interference. Combining with smoothly adjusted crossover network and speaker to make fantastic sound and average covering area.

Special Broadband Constant
Directing Waveguide Horn
獨有的寬頻恒指向波導號角

聚氨酯压铸的椭圆形宽频恒指向波导号角是博声音响独有的设计。由于声波是呈球形扩散的特性，椭圆形波导号角提供了恒定的波束宽带和指向性，这种独特的波导技术消除了因为号角转角引起的高频毛刺和失真，由于没有较大的平直面，所以与传统的号角相比少了很多频带内的共鸣，避免了传统矩形号角的弊病。由于具有宽频带、低失真、和极少的声染色，椭圆形宽频恒指向波导号角这种设计更加具有良好的声学特性指标，声音远比传统的号角自然。

Polyurethane die-casted oval eternal pointing waveguide horn is BOB's own design. Due to sound-wave's spherical diffusion character, oval waveguide horn can provide constant wave beam broadband and directing, this special waveguide technology eliminate the high frequency burr and distortion which causing by horn's turn angle. Because there is no big flat plate, it has much less resonance in frequency range comparing with traditional horn that throwing out the disadvantage of traditional rectangular horn. Oval broadband constant directing horn design is wide frequency range, low distortion and little acoustic coloring, it has good acoustic characteristics of indicators, more natural sound than traditional horn.

Installation 安裝

由于所有夜总会的音箱安装数量是非常庞大的，为了使安装工程师在最短的时间里安装好所有音响系统。博声音响为NS系列所有的型号音箱都配备了各种吊装配件，安装工程师可以根据装修环境选配所需的安装吊具。

The installation works of nightclub is many,to let the installing engineer finish the work in shortest time,BOB AUDIO prepare all the necessary flying parts,they can choose the right one according to the environment.
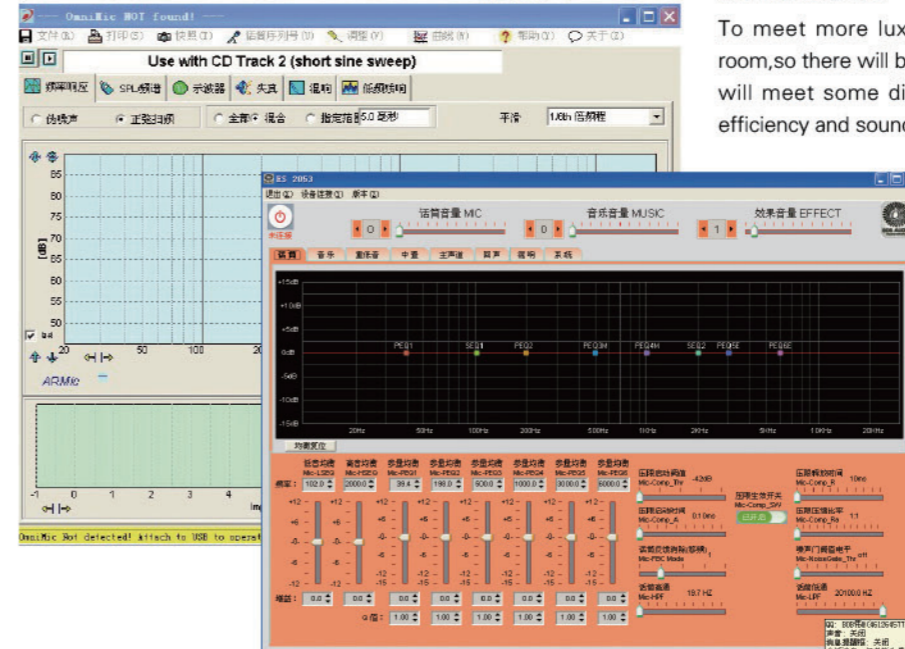
System 系統

要成爲一套出色的音響系統，必須要和其他周邊產品配套使用。博聲音響專門爲NS系列配套了DSP音頻處理器和開關電源功放，無線麥克風。全數字高速浮點DSP算法的音頻處理器採用了32位DSP及優秀的24bit/192KHz 的AD/DA，高達96KHz採樣頻率，聲音還原真實，細膩、多種參數可調，USB接口連接PC輕鬆設置系統，人性化的人機控制軟件界面，操作直觀容易。

功率強勁以及線路先進的H類開關電源功放具備了超壓、過流、短路、超溫、直流、VHF、失真壓限等完善和智能保護，防止人爲和環境因素對產品的損壞。唱歌輕鬆音質動聽的無線麥克風採用雙頻道接收電路，具有隔離諧波輻射幹擾的超強專業品質。配合音頻及射頻強度靜音控制，防止點歌機、電腦等機器輻射雜訊幹擾。接收機左右兩個通道具有獨立的100個頻道可調，切底解決串頻問題，輕鬆應付不同頻道。一鍵自動鎖頻功能，使發射器精確鎖定接收機工作頻道。

完美融合整套系統讓使用者可以隨心所欲的盡情使用。

To form a good audio system,must add other phariperal devices. BOB AUDIO prepare the DSP processor and switch power amplifier,wireless microphone.

Digital high speed floating-point DSP calculated processor adopts 32bit dsp and good 24bit/192khz AD/DA,96KHz sampling frequency,sound replaied really,exquisitely,many parameter setting for choose,USB easily connect to PC for setting,controlling surface simple and convenient.

System Setting 系統調試

爲了迎合越來越豪華的包房裝修，包房大量使用了強烈反射的鏡面裝修，所有的房間都會存在一些聲學缺陷，再有經驗的調試工程師在面對各種環境都會碰到一些經驗沒辦法解決的問題，爲了讓調試工程師的調試效率更高，效果更好，快速掌握環境聲學特性，博聲音響專門爲調試工程師開發了一套音頻測試軟件，這套軟件專門爲KTV、夜總會、酒吧等室內調音使用，利用軟件所提供的一整套完整的測量和分析手段，可爲聲場設計、系統布局、信號處理提供切實可行的解決方案。祇要一臺電腦安裝好軟件，再加上專配的測試麥克風你就可以輕鬆完成測試工作。

軟件功能：頻率響應、SPL/頻譜、示波器、失真度測試、混響衰減測試、低頻殘響測試

To meet more luxury decoration,there are many mirrors in the room,so there will be acoustic defects in it,even experienced engineer will meet some difficult. In order to increase testing engineer's efficiency and sound effects,learn the acoustic feature of the room,BOB AUDIO develop a software, specially for KTV,nightclub,bar…these indoor place.You can use the software to make sound field design,system planning,signal processing. Only install the software in PC,adding a special testing microphone,can finish the testing.

software function:frequency responce,SPL/spectrum,wave display,distortion testing,reverbration attenuation testing,LF resonance testing.