

一个人，一小时，玩转千人演出

无号角有源阵列扩声系统 Active array system without horn

M-F3A是一款小尺寸、大声压、模块化、高保真的有源阵列扩声系统，由M-F3A和M-F3A SUB组成。
M-F3A含7只1"无号角直接辐射高音和8只2.8"全频中音单元。由于众多单元排列紧密，单只音箱已经是一个线阵列，通过专门为该系统定制开发的开关电源数字功放，和精准调试的内置DSP控制，在保证该系统稳定可靠运行的同时，能输出126 dB高保真声音。M-F3A正面只有A4打印纸大小，重量为8kg。
M-F3A SUB是由2只10"低音单元组成的V型带通音箱，配套定制开发的开关电源数字功放并内置DSP，低音饱满有力，能与M-F3A平滑衔接。M-F3A系统配置了可靠且简便易用的连接和吊挂部件，可根据扩声场所大小，通过增加或减少M-F3A和M-F3A SUB的数量或改变使用方式来达到完美的扩声效果。
同时M-F3A系统由于其较小的尺寸，较轻的重量，达到了储存省地、运输省车、安装省人，易于融入使用环境等特点。

M-F3A is a compact and scaleable active array system of small size and light weight.
Each M-F3A contains 8 pieces of high-efficiency 2.8" full range speakers and 7 pieces of 1" direct radiate tweeter w/o horn, all vertically aligned to form a line array. Combining these components on the area of an A4 paper and weighing only 8 kg, each speaker box can produce an impressive 126 dB peak SPL. Built-in high class SMPS technology and two-channel class-D amplifiers, together with proprietary DSP- filtering and limiting, ensure a reliable and steady performance at all times.
The M-F3A SUB is a V-shaped double 10" bandpass subwoofer, also powered by a built-in 400 Watt class-D amplifier and equipped with switching mode power supply. Its compact and efficient design allows the subwoofer to perform greatly in all kinds of environments and its size guarantees very flexible subwoofer placement.
All products have powercon in-and outputs as well as signal in-out for convenient daisy chain wiring to allow an individual adjustment of thesystem according to the application demands. In case a unit goes into protection mode, a built-in relais assures the continuous forwarding of power and signal. Great out-of-the-box sound tuning, compact design, convenient wiring, easy scaleability and many other features of this system save a lot of space, time and money for speaker transportation and setup!



人民大会堂金色大厅国事文艺演出



人民大会堂宴会厅“一带一路”峰会



山西省第十五届运动会开幕式



中博会

1 小身材，大声压，线声源 Small size, high SPL, line source

单个M-F3A就是一个超紧凑线阵，紧凑的排列在拥有宽广水平覆盖角的同时又可以有效控制垂直方向上的声扩散，并且使得整个音箱正面只有A4打印纸大小，重量仅8 kg/只。高品质的扬声器单元和先进的散热技术使得系统能输出最大声压级126 dB。

Each unit of M-F3A is already a line array in itself with very wide horizontal and precisely controlled vertical dispersion. It has the same frontal measurements as a sheet of A4 paper and weighs only 8 kg. Advanced cooling and venting measures keep power compression at a minimum.



3 即插即用 Plug and play

M-F3A采用有源一体化设计，选用D类功放/开关电源，体积小、效率高、重量轻内置精准调试的DSP，确保系统在安全稳定的运行状态下输出完美音效，同时该功放信号转接拥有自主的“ASR”技术，确保无穷多只音箱信号无损连接传输。

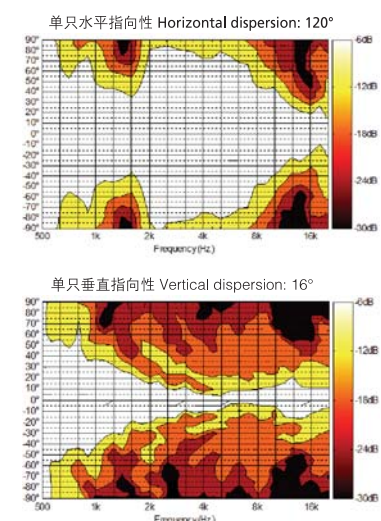
M-F3A is designed to provide perfect plug-and-play sound. Built-in high class SMPS technology and two channel class-D amplifiers, together with proprietary DSP-filtering and limiting, give the system a great out-of-the-box configuration that requires little to no further adjustment. The included ASR (Automatic Switching Router) technology ensures the forwarding of the audio signal through the whole array without any impedance attenuation. This unique feature enables the user to create endless chains of M-F3A.



2 无号角，高保真 Consistent concept

M-F3A采用HIFI级无号角设计和对称布局，使得声音在不过号角压缩自然释放的同时做到远近声场覆盖均匀，左右聆听一致，从而使得听众感受更趋完美的高保真声音。远闻声有色，近听音不噪。

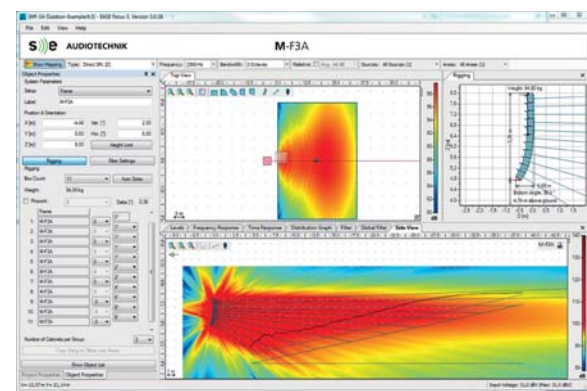
7 pieces of direct radiating tweeters are used to follow the concept of smooth, low distortion and high fidelity sound with controlled directivity. As a result you have consistent sound in near and far field.



4 模块化 Scalable

M-F3A采用模块化设计，通过配套的EASE® GLL数据，可以快速在EASE® Focus中进行模拟，并搭建出满足5000人以下各种不同扩声需求的系统。

Because of its compact array design, M-F3A can be adjusted to fit for a great variety of applications and venues. This ranges from single wall mounting up to an array of 4.8m in length that can deliver a continuous SPL of 135dB and exceptional directivity.



))) 参数规格 Specification

型号名称: M-F3A	Model: M-F3A
M-F3A 全频音箱	M-F3A
类型: 2.8" 倒相式	Type: 2.8" bassreflex
频率范围 (-6 dB): 120 Hz - 18 kHz	Frequency response (-6 dB): 120 Hz - 18 kHz
功率 (RMS): 200 W + 200 W	Power output (RMS): 200 W + 200 W
最大声压级(1m) : 126dB 峰值声压级	MAX SPL (1m) : 126 dB peak ¹
最大吊挂数量(12倍安全系数, 使用500原厂附件): 18 只	Max. Qty of rigging (12: 1 Safety Factor, using s e original accessories): 18 pcs
指向角度 (H x V): 120° x 16°	Dispersion (H x V): 120° x 16°
吊挂角度: 0°, 1°, 2°, 3°, 4°, 6°, 8°	Sply Angles: 0°, 1°, 2°, 3°, 4°, 6°, 8°
扬声器单元中音: 8 x 2.8" 钹磁中音, 带冷却模块0.75"音圈	Transducer MF: 8 x 2.8", neodymium magnet with cooling module, 0.75" voice coil
扬声器单元高音: 7 x 1" 钹磁高音, 带冷却模块1"音圈	Transducer HF: 7 x 1", neodymium magnet with cooling module, 1" voice coil
功放类型: Class D 功放, SMPS 电源	Power amplifier type: Class D amplifier, SMPS
输入灵敏度: -4 dBV	Input sensitivity: -4 dBV
信号处理: DSP, 48 kHz, 24 bits	Signal processing: DSP, 48 kHz, 24 bits
保护: 多重限幅, 短路, 热保护	Protection: Multiple limiter, short circuit, overheating
控制: On / Off 开关, 总音量, 高频提升按钮	Controls: On / Off switch, main level, high shelf knob
指示灯: 电源指示, 信号指示, 限幅指示, 保护指示	Indicators: On, signal, limit, protect
信号输入 / 输出接口: Input XLR / Router-output XLR	Line Input / Output: Input XLR / Router-output XLR
电源输入 / 输出接口: Neutrik PowerCon (Max: 15 A) 最多只能串联6只(220 V: 6 pcs)	Power Input / Output: Neutrik PowerCon (Max: 15 A) Series can be at most 6 pcs(220 V: 6 pcs)
箱体材料喷漆: 12 mm 精选多层板, 黑色聚酯漆	Cabinet / Coating: 12 mm plywood, black polyurea coating
尺寸 (W x H x D): 210 x 317 x 359 mm	Dimensions (W x H x D): 210 x 317 x 359 mm
重量: 8 kg	Weight: 8kg
^① 使用12 dB峰因子粉噪信号测试得到, 全空, 原高图中128 dB 为计算所得。	^① measured with 12 dB Crest Factor Pink Noise, whole space.

M-F3A 超低音

类型: 10" V 型带通式	Type: 10" V construction, bandpass
频率范围 (-6 dB): 46 Hz - 180 Hz	Frequency response (-6 dB): 46 Hz - 180 Hz
功率 (RMS): 400 W	Power output (RMS): 400 W
最大声压级 (1 m) :129 dB 峰值声压级	Max. SPL (1 m) :129 dB peak ¹
扬声器单元低音: 2 x 10" 铁氧体单元, 2"音圈	Transducer LF: 2 x 10", ferrite magnet, 2" voice coil
功放类型: Class D 功放, SMPS 电源	Power amplifier type: Class D amplifier, SMPS
输入灵敏度: -18 dBV	Input sensitivity: -18 dBV
信号处理: DSP, 48 kHz, 24 bits	Signal processing: DSP, 48 kHz, 24 bits
保护: 多重限幅, 短路, 热保护	Protection: Multiple limiter, short circuit, overheating
控制: On / Off 开关, 超低音音量按钮, 低通滤波按钮, 0°-180° 相位拨动开关	Controls: On / Off switch, sub level, low pass frequency knob, 0°- 180° phase switch
指示灯: 电源指示, 信号指示, 限幅指示, 保护指示	Indicators: On, signal, limit, protect
信号输入 / 输出接口: Input XLR / Router - output XLR	Line Input / Output: Input XLR / Router-output XLR
电源输入 / 输出接口: Neutrik PowerCon (Max: 15 A) 最多只能串联6只(220 V: 6 pcs)	Power Input / Output: Neutrik PowerCon (Max: 15 A) Series can be at most 6 pcs(220 V: 6 pcs)
箱体材料 / 喷漆: 15 mm 精选多层板, 黑色聚酯漆	Cabinet / Coating: 15 mm plywood, black polyurea coating
尺寸 (W x H x D): 421 x 507 x 510 mm	Dimensions (W x H x D): 421 x 507 x 510 mm
重量: 28 kg	Weight: 28 kg
^① 使用12 dB峰因子粉噪信号测试得到, 半空, 原高图中129 dB 为计算所得。	^① measured with 12 dB Crest Factor Pink Noise half space.

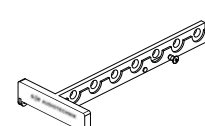
M-F3A



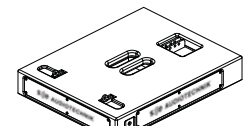
M-F3A



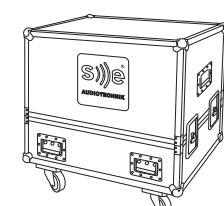
配件说明 Accessories



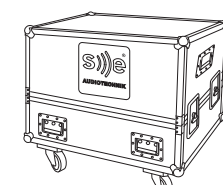
M-F3A BF
M-F3A 吊架
M-F3A Bumper frame



M-F3A SFi
M-F3A 堆叠架
M-F3A Ground stack frame



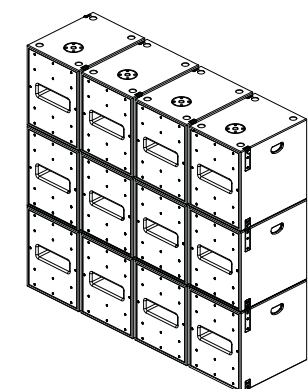
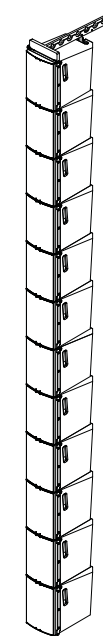
M-F3A SUB FC
M-F3A SUB 航空箱 (2只M-F3A SUB)
M-F3A SUB Flightcase (M-F3A SUB 2pcs)



M-F3A FC
M-F3A 航空箱 (4只M-F3A)
M-F3A Flightcase (M-F3A 4pcs)

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使用说明 Operation options

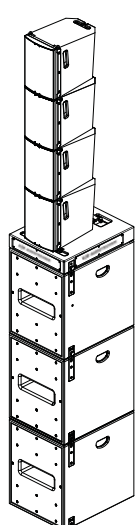


M-F3A BF 1副/PC
M-F3A 12只/PCS
M-F3A SUB 12只/PCS

带有M-F3A BF吊架的M-F3A线性阵列
M-F3A line array system with M-F3A BF



M-F3A UB
M-F3A U形支撑架
M-F3A U bracket

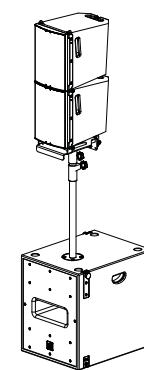


M-F3A 4只/PCS
M-F3A SUB 3只/PCS
M-F3A SFi 1副/PC

M-F3A通过M-F3A SFi堆叠安装到M-F3A SUB上面
Ground stacking of M-F3A and M-F3A SUB with M-F3A SFi

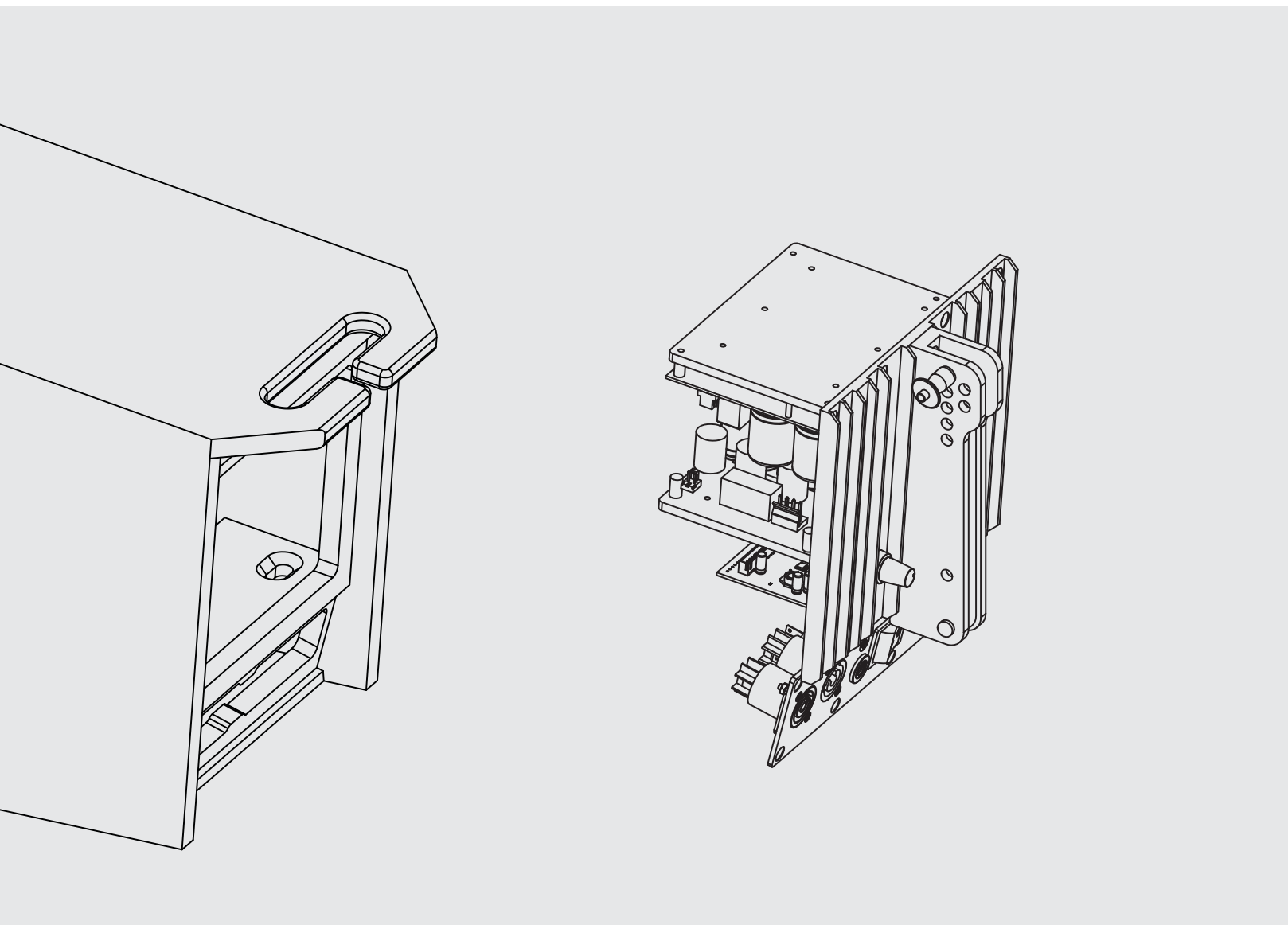


SPS 20
M20 支撑杆
M20 Pole support



M-F3A 2只/PCS
M-F3A SUB 1只/PCS
M-F3A UB 1副/PC
SPS 20 1只/PCS

M-F3A通过M-F3A UB, SPS 20堆叠安装到M-F3A SUB上面
Ground stacking of M-F3A and M-F3A SUB with M-F3A UB and SPS 20



一个人, 一小时
Simple Setup by One Person in One Hour
玩转千人演出
True Sound for 1000 People



M-F3A

