

## 一个人，一小时，玩转千人演出

### 紧凑型无号角有源阵列扩声系统

#### Compact active array system with hornless design

M-F3A是一款小尺寸、大声压、低功耗、高性价比的有源阵列扩声系统。

M-F3A含7只1"无号角辐射高音和两只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越阵列，通过专门为此系统定制开发的开关电源数字功放，和精准调制的内置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正如其M4打印版大小，重量为8kg。

全新M-F3A S12 PRO是M-F3A系列的PRO低音版，该低音版由全新设计的单12"喇叭单元和升级的800W D类功放组成。其精密的设计和紧凑的尺寸保证了它在各种环境中都可以灵活使用。尺寸和重量比M-F3A SUB减少了20%。充声压级相比于M-F3A SUB提升了3dB。同时M-F3A系统由于其较小的尺寸，较轻的重量，达到了节省场地、运输简单、安装简单、易于融入使用环境等特点。

M-F3A is a compact and scalable 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 who 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 new M-F3A S12 PRO is an upgraded subwoofer for M-Line, consisting of a single 12" driver in a bass-reflex configuration and features an updated 800 watts class-D amplifier. Its efficient design and compact size guarantee flexible placement in all kinds of environments. Its dimension and weight reduced 20%, while its SPL increased 3dB compared with the original M-F3A SUB.

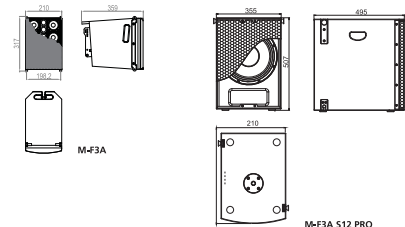
All products have powercon in-lead outputs as well as signal in-out for convenient daisy chain wiring to allow an individual adjustment of this system according to the application demands. In case a unit goes into protection mode, a built-in relay assures the continuous forwarding of power and signal.

Great out-of-the-box sound tuning, compact design, convenient wiring, easy scalability and many other features of this system save a lot of space, time and money for speaker transportation and setup!

#### 应用场合 Application

- 中小型流动演出
- 剧院
- 教堂
- 多功能厅
- Small and medium scale touring
- Theater
- Church
- Multi-media rooms

#### 结构图 Structural diagram



人民大会堂金色大厅国家文艺演出



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

#### 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、重量轻且内置精准调制的DSP。确保系统在安全稳定的运行状态下输出完美音质。同时该功放信号转换器自主的“ASR”技术，确保多声道信号音轨无缝连接传输。

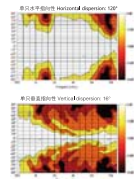
M-F3A is designed to provide perfect plug-and-play sound. Built-in high class SMPS technology and two channel class-D amplifiers, together with proprietary DSP-filtering and limiting, give the system a great out-of-the-box configuration that requires little to no further adjustment. The included ASR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



#### 无号角，高保真 Consistent concept

M-F3A采用HF级无号角设计和对称布局，使得声音在不过号角声压堆自然释放的同时接近声场均匀，左右聆听一致，从而使听众感受更趋完美的保真声音。这声声有色，近听音不噪。

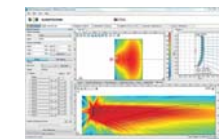
7 pieces of direct radiating tweeters are used to follow the concept of smooth, low distortion and high fidelity sound with controlled directivity. As a result you have consistent sound in near and far field.



#### 模块化 Scalable

M-F3A采用模块化设计，通过配套的AES3+ DGL数据，可以快速在AES3+ Focus中进行编程，并搭建出最多5000人以下的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.



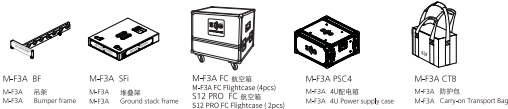
#### 参数规格 Specification

M-F3A 全频音箱	Model M-F3A
类型: 2.8" 喇叭式	M-F3A
频率范围: 6-6 dB: 120 Hz - 18 kHz	Type: 2.8" bass-reflex
功率 (RMS): 200 W + 200 W	Frequency response: <math>6\text{ dB}>: 120\text{ Hz} - 18\text{ kHz}>
最大声压级 (1 m): 126dB 峰值声压级	Power output (RMS): 200 W + 200 W
最大声压级 (12°): 126 dB peak	MAX SPL (1 m): 126 dB peak
最大声压级 (12°): 126 dB peak	Max. Qty of rigging (12°): 1 safety factor, using <math>S\> @<math>original</math> accessories: 16 pcs
指向角度 (H x V): 120° x 16°	Dispersion (H x V): 120° x 16°
吊钩角度: 0°, 1°, 2°, 3°, 4°, 6°, 8°	Splay Angles: 0°, 1°, 2°, 3°, 4°, 6°, 8°
扬声器单元中音: 8 x 2.8" 钕磁中音, 带冷却模块0.75"直径	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" 钕磁高音, 带冷却模块1"直径	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: 多路限幅, 短路, 热保护	Protection: Multiple limiter, short circuit, overheating
控制: On / Off 开关, 总音量, 高脚提升按钮	Control: On / Off switch, total level, main level, high shelf knob
指示灯: 电源指示, 信号指示, 限制指示, 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) 最多只能连接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/涂层: 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: 8 kg
1. 使用 12 dB 峰峰值数字电平信号测试得到。空室, 测距为 128 cm, 分贝计算得出。	1. measured with 12 dB Crest Factor Pink Noise, whole space.
M-F3A S12 PRO	M-F3A S12 PRO
类型: 喇叭式低音	Type: Bass-reflex
频率范围: 6-6 dB: 40 Hz - 135 Hz	Frequency response: <math>6\text{ dB}>: 40\text{ Hz} - 135\text{ Hz}>
功率 (RMS): 800 W	Power output (RMS): 800 W
最大声压级 (1 m): 132 dB 峰值声压级	Max. SPL (1 m): 132 dB peak
扬声器单元低音: 1x 12" 钕磁单元, 3"音圈	Transducer LF: 1x 12" driver with ferrite magnet and 3" voice coil
功放类型: O类, SMPS	Power amplifier type: Class O, SMPS
信号处理: 48 kHz, 24位 DSP处理器, 延迟: 1.1 ms	Signal processing: 48 kHz, 24-bit DSP processor, processing latency: 1.1 ms
扬声器预设: 延迟, EQ, HPF/LPF, 参数EQ (Q, F, 增益), RMS限制器, 峰值限制器, 极性反转, 静音, 输入增益	Speaker presets: Delay, EQ, HPF/LPF, Parametric EQ (Q, F, Gain), RMS Limiter, Peak Limiter, Phase Invert, Mute, Input Gain
保护: 短路, 热保护, 过流保护	Protection: Short circuit, overheating, overcurrent
控制: 数字编码器按钮	Control: Digital encoder with push button
指示灯: 电源指示, 信号指示, 限制指示, 保护指示	Indicators: Power on, signal in, limit, protect
信号输入/输出: XLR 3-pin female In-level input, XLR 3-pin male signal link	Line Input / Output: XLR 3-pin female In-level input, XLR 3-pin male signal link
电源输入 / 输出接口: Neutrik PowerCon (Max: 15 A)	Power connectors: Neutrik PowerCon® type A power input, type B power link (Max: 15 A, max 4 pcs, per line)
箱体材料/涂层: 15 mm 精选多层板, 黑色或白色聚酯漆	Rigging / hardware: 2x two-point SE stacking system, M20 distance pole thread, power requirements Cabinet: 100-120 VAC or 220-240 VAC 15 mm plywood, black or white polyurea coating
尺寸 (W x H x D): 355 (385 带连接杆) x 507 x 495 mm	Dimensions (W x H x D): 355 (385 with rigging) x 507 x 495 mm
重量: 23 kg	Weight: 23 kg
1. 使用 12 dB 峰峰值数字电平信号测试得到。空室。	1. measured with 12 dB Crest Factor Pink Noise, whole space.

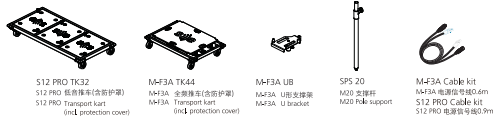
M-F3A



配件说明 Accessories

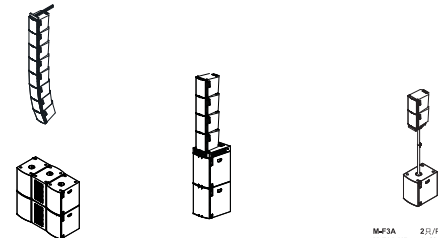


M-F3A BF M-F3A 吊架  
M-F3A Bumper frame  
M-F3A SFI M-F3A 排叠架  
M-F3A Ground stack frame  
M-F3A FC 航空箱  
M-F3A FC Flightcase (4pcs)  
S12 PRO FC 航空箱  
S12 PRO FC Flightcase (2pcs)  
M-F3A PSC4 M-F3A 4U电源箱  
M-F3A 4U Power supply case  
M-F3A CTB M-F3A 防护框  
M-F3A Carry-on Transport Bag



S12 PRO TK32 S12 PRO 话筒阵列话筒防护罩  
S12 PRO Transport kit (incl. protection cover)  
M-F3A TK44 M-F3A 话筒阵列话筒防护罩  
M-F3A Transport kit (incl. protection cover)  
M-F3A UB M-F3A U型支架架  
M-F3A U bracket  
SPS 20 M20 支撑杆  
M20 Pole support  
M-F3A Cable kit M-F3A 电源线信号线0.6m  
S12 PRO Cable kit S12 PRO 电源线信号线0.9m

使用说明 Application options



M-F3A BF 1面/PC  
M-F3A 8面/PCS  
S12 PRO 6面/PCS  
带有M-F3A BF吊架的M-F3A线性阵列  
M-F3A line array hanging system with M-F3A BF  
M-F3A 4面/PCS  
M-F3A SFI 1面/PC  
S12 PRO 2面/PCS  
M-F3A通过M-F3A SFI堆叠安装到M-F3A S12 PRO上面  
Ground stacking of M-F3A and M-F3A S12 PRO with M-F3A SFI  
M-F3A 2面/PCS  
M-F3A UB 1面/PC  
SPS 20 1面/PC  
S12 PRO 1面/PC  
M-F3A通过M-F3A UB、SPS 20堆叠安装到M-F3A S12 PRO上面  
Pole mounting of M-F3A and M-F3A S12 PRO with M-F3A UB and SPS 20

Hotline: +86 400 109 1122  
Fax: +86 573 8911 9916  
Website: www.se-audiotechnik.com

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M-F3A



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

