



emacoustics

TECHNICAL DATA SHEET

HALO-B

2-WAY MEDIUM FORMAT LINE ARRAY ELEMENT

Following on from the highly-anticipated release of the large format HALO Arena system early in 2018, EM Acoustics is proud to announce the third system in the family, HALO-B. Intended to bridge the divide in both physical size and overall system output between HALO-A and HALO-C, HALO-B follows the same design principles as HALO-A to provide consistent, predictable performance in a convenient, compact and flexible package.

FEATURES AND BENEFITS

- Signature EM Acoustics passive crossover for unprecedented frequency and phase response
- Consistent and predictable horizontal dispersion pattern
- Compact, rigid and lightweight plywood enclosure means less truck space and smaller motors
- Two high power 8" LF drivers, four 1" exit ring-diaphragm HF drivers on a plane-wave array
- Intuitive, safe rigging for flown and groundstacked systems

APPLICATIONS

- Concert tours and festivals
- Live music venues
- Houses of worship
- Conference and corporate A/V
- Themed environments
- Sports facilities
- Delays and fills with HALO-A systems
- Long throw solution with HALO-C systems



HALO-B is intended to fulfill three core tasks - be a companion system to the larger HALO-A, be a companion system to the smaller HALO-C, and be a system in its own right. The same core design principle of the maximum headroom possible means that HALO-B delivers a consistent performance across all SPL levels. HALO-B has been built to be equally comfortable in both fixed installation and mobile applications.

A single HALO-B exhibits a flat, free-field frequency response from 65Hz to 20kHz (± 3 dB) and a phase response which is ± 20 degrees between 150Hz and 18kHz. Due to the unique loading technique applied to the low frequency drivers, combined with the high frequency waveguide, the dispersion pattern control is maintained down to 350Hz.

Similar to HALO-A yet scaled down, HALO-B uses a proprietary emulation manifold, which combines the energy of four 1" (25mm) exit ring-radiator compression drivers into a plane-wave array. This assembly gives not only a very significant moving area for the high frequency section, but provides twice the headroom of other comparable systems along the same principles as HALO-A. Additionally, the use of ring-radiator compression drivers significantly reduces the 3rd harmonic distortion, result-

ing in a far smoother and more natural sonic character. Working alongside these four high frequency drivers are a pair of high power 2.5" (64mm) voice coil 8" (203mm) low frequency transducers.

These two powerful drive units, combined with optimally-tuned low turbulence porting and generous cabinet volume ensure HALO-B has a low frequency performance to match the stunning highs. Keeping HALO-B as a two-way system reduces the off-axis parallax issues to a single crossover point, and through tireless research and development this issue has been almost completely eradicated.

The HALO-B enclosure is constructed from premium 15mm and 30mm (5/8" and 1 3/16") multi-laminate Baltic birch plywood - rebated, screwed and glued together for maximum strength. Intelligent internal bracing, combined with the unique low-loss porting structure minimises panel flexure - thereby removing unwanted resonances but still keeping the overall enclosure weight low. The enclosure is finished in a polyurethane coating, which as well as being far tougher than the conventional water-based paints used on other products, offers HALO-B a significant level of weather resistance without any further treatment.

The enclosure is finished in black or white as standard, however RAL colour matching as well as enhancements to weather protection for permanent outdoor use are also available.

The flying hardware has been built with touring flexibility and reliability in mind. HALO-B uses a 3-point system, utilising quick release pins as you would expect. Array angles can be pre-set on individual elements whilst stored on their transit wheelcart. As the array is lifted the rear links move to their pre-set array angles, and a final pin fixes everything in position. Ultra-high tensile steel parts form the core of the 3-point system, which

is coated with Xylan™ - a fluoropolymer coating which contains PTFE for both lubrication and impact resistance. Arrays of up to 24 elements can be safely assembled with above-regulation safety factors.

HALO-B requires two amplifier channels and makes use of the latest in FIR DSP technology – as such it must be used with one of our Advanced System Amplifiers to function correctly. Using these amplifiers can be very efficient - up to eight HALO-B enclosures could be driven from a single DQ20.

TECHNICAL SPECIFICATIONS

ENCLOSURE TYPE:

DIMENSIONS (HxWxD)

NET/SHIPPING WEIGHT:

FREQUENCY RESPONSE¹:

SENSITIVITY²:

DISPERSION³:

DRIVE UNITS:

Two-way reflex loaded line array element

262 x 772 x 464mm (10.3" x 30.4" x 18.3")

29.5/32.5kg (65/71lbs)

65Hz - 20kHz ± 3dB

94dB

110° horizontal

LF: 2 x 2.5" (64mm) voice coil neodymium 8" (203mm) drive units

HF: 4 x 1.5" (38mm) diaphragm, 1" (25mm) exit ring-diaphragm neodymium HF drive units on bespoke plane-wave manifold

LOUDSPEAKERS PER AMPLIFIER (maximum for full loudspeaker SPL)

DQ6: 2 per amplifier, DQ10: 4 per amplifier, DQ20: 8 per amplifier

Di06: Not recommended, Di10: 4 per amplifier, Di20: 8 per amplifier

LOUDSPEAKERS PER AMPLIFIER (recommended absolute maximum)⁴

DQ6: 6 per amplifier, DQ10: 6 per amplifier, DQ20: 8 per amplifier

Di06: Not recommended, Di10: 4 per amplifier, Di20: 12 per amplifier

LF: 600W RMS, 1200W program; HF: 140W RMS, 280W program

POWER HANDLING:

135dB continuous, 141dB peak

MAXIMUM SPL⁴:

NOMINAL IMPEDANCE:

LF: 8 ohms; HF: 16 ohms

CROSSOVER:

External active, use only with EM Acoustics electronics

CONNECTORS:

2 x Neutrik® speakON™ NLT4MP

ENCLOSURE:

15 and 30mm (5/8" and 1 3/16") multi-laminate Birch plywood - rebated, screwed & glued
Finished in impact and weather resistant black or white polyurethane

RIGGING & HARDWARE:

3-point system, ultra-high tensile steel. Enclosure hardware rated to 24 elements at 10:1 safety factor

GRILLE:

Powder coated stainless steel backed with acoustically transparent fabric

OPTIONS:

Colours/Connector options for outdoor install

ACCESSORIES:

FG-HALO-B master flying grid

CG-HALO-B compact flying grid

EXT-HALO-B extension arm for CG-HALO-B

SM-HALO-B simple flying mount

GS-HALO-B ground stack plate

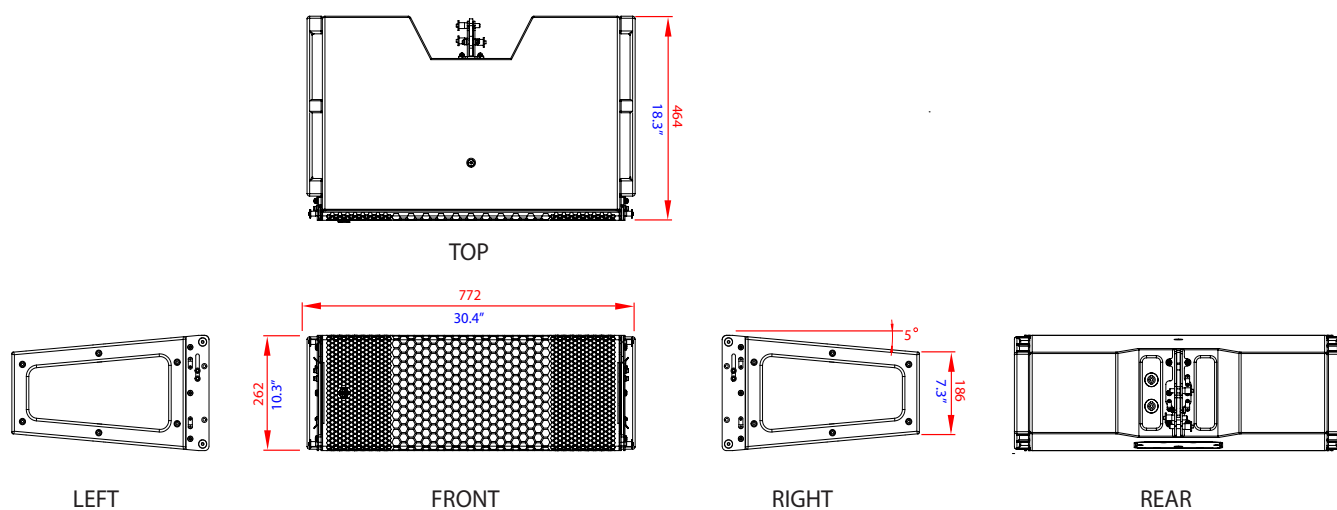
WC-HALO-B quad enclosure transit wheelcart

TC-HALO-B quad-enclosure padded touring cover

NOTES ON MEASUREMENT CONDITIONS:

¹Measured on-axis at 2m in an anechoic environment and referenced to 1m. ²Measured in half space at 2m with 4W sine wave input and referenced to 1m. ³Nominal dispersion, measured in an anechoic environment and averaged over stated bandwidth. ⁴These loudspeaker quantities are the recommended maximum, and will not drive the loudspeaker to full output. ⁵Calculated and verified by subjective listening test of familiar program material.

ENGINEERING DRAWING



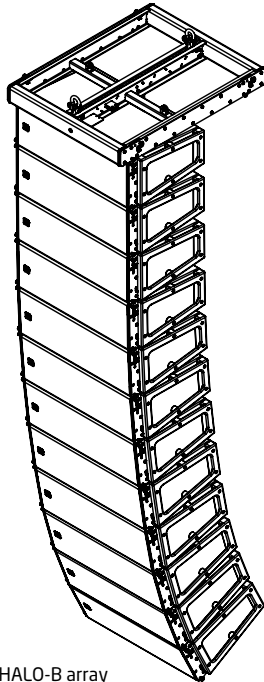
ENCLOSURE OPTIONS

HALO-B loudspeakers are available as standard in black or white impact and weather resistant polyurethane. All other colours, are treated as custom; extended lead times and set up costs apply. HALO-B is already inherently weather resistant, with a stainless steel grille and IP54 rated connectors. For permanent outdoor use, alternative connector options can be specified as well as cabinet modifications to customer requirements. Please contact your EM Acoustics representative for details.

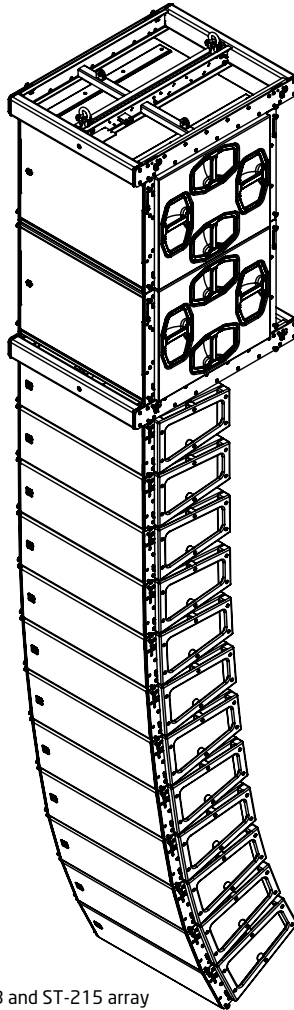


RIGGING EXAMPLES

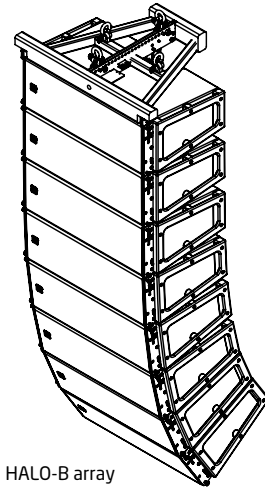
A wide variety of accessories are available for rigging HALO-B enclosures both in flown and groundstacked configurations. Please consult the separate rigging hardware datasheet for more information on these different options.



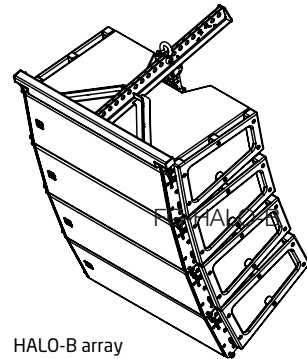
HALO-B array
with FG-HALO-B



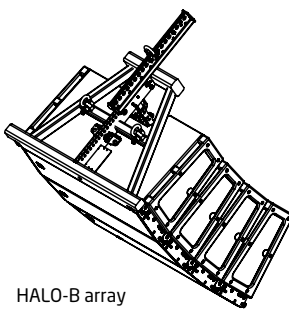
HALO-B and ST-215 array
with 2 x FG-HALO-B



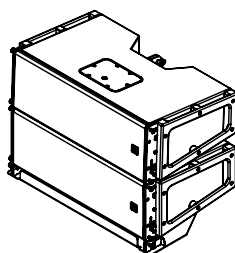
HALO-B array
with CG-HALO-B



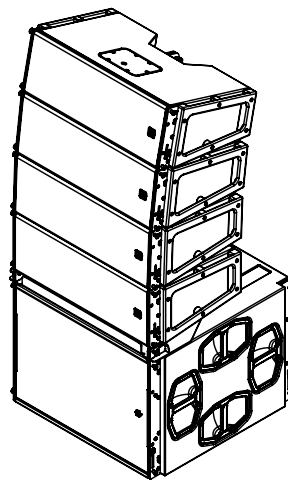
HALO-B array
with SM-HALO-B



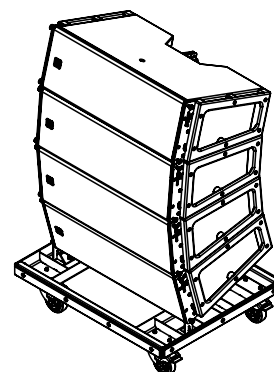
HALO-B array
with CG-HALO-B
and EXT-HALO-B



Ground stack
with GS-HALO-B



Ground stack on ST-215
with GS-HALO-B



WC-HALO-B
transit wheelcart