



emacoustics

TECHNICAL DATA SHEET

EMS-156:EMS-159

PASSIVE FULLRANGE LOUDSPEAKER

EM Acoustics set out to create the finest two-way medium format loudspeakers possible, and the results are the EMS-156 and EMS-159. The two loudspeakers are narrow and wide dispersion variants of the same product. Utilising our latest passive crossover topologies, and the utmost in drive unit technology, these loudspeakers are completely passive yet outperform many bi-amplified or processed designs. The EMS-156/159 is ideal for front-of-house duty for medium to large venues, or as a powerful fill loudspeaker for larger systems.

FEATURES AND BENEFITS

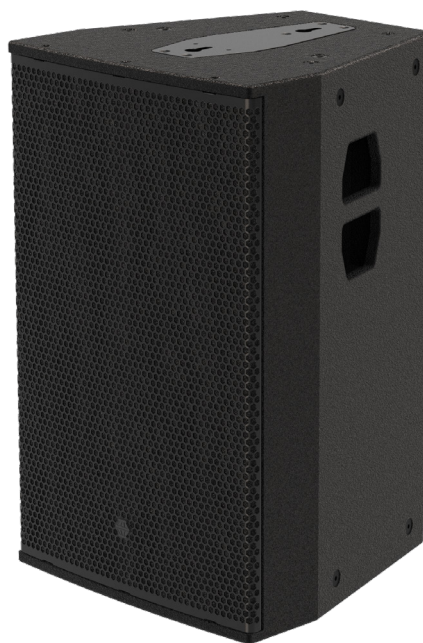
- 15" neodymium LF, 1.4" exit neodymium HF drive units
- True passive design - no corrective DSP required
- Wide and narrow dispersion variants in identical enclosure footprints
- Rotatable waveguide: 90° x 60° (EMS-159), 60° x 40° (EMS-156)
- 35mm pole mount
- Flexible rigging and mounting options
- Impact and weather resistant black or white finish as standard
- RAL colour and weather protection options

APPLICATIONS

- Theatre FOH or on-stage duty
- Live music venues
- Concert touring
- Fills for larger systems
- Houses of worship
- Conference, corporate and audio-visual
- Theme parks

The EMS-156 & EMS-159 are two-way passive loudspeakers, using a 4" voice coil 15" (381mm) neodymium low frequency transducer. This low frequency drive unit is coupled via the internal passive crossover network to a 3" (76mm) diaphragm, 1.4" (36mm) exit neodymium high frequency transducer. This drive unit loads onto a constant coverage horn, which yields not only consistent response throughout its operating band across the whole coverage pattern (60° x 40° for the EMS-156, 90° x 60° for the EMS-159, both rotatable) but also strong attenuation outside of this pattern. The result is a loudspeaker with extremely consistent and predictable coverage, as well as stunning sonic detail – and all with the ease of use that passive crossover technology brings.

The drive units are housed within a compact, vented enclosure. The robust enclosure is constructed from premium 15mm (5/8") multi-laminate Birch plywood, and is heavily braced to minimise panel reflection. Incorporated into the enclosure are multi-use rigging plates, which allow suspension of the loudspeaker swiftly and safely in a variety of ways. The primary rigging system utilises keyhole plates and quick-release pins to allow attachment or removal of hardware in seconds. Each plate (top and bottom of the enclosure) provides four exposed-thread M10 rigging points as well as the keyhole mounts, and an M8 safety/pullback point is provided on the rear. A 35mm pole mount socket is provided discretely on the underside for stand mounting.



The enclosure includes two flush bar handles, and a pair of Neutrik® speakON™ NL4 connectors for input and enclosure link. Lastly, a tough hex-punched stainless steel grille backed with acoustically transparent fabric protects the drive units from damage. The grille can be quickly removed for service purposes or to rotate the HF waveguide – the orientation of which can be determined without removing the grille. The enclosure is finished in impact and water-resistant black or white polyurethane as standard, however RAL colour matching and enhanced weather protected outdoor options are also available.

The EMS-156/EMS-159 requires a single amplifier channel, and the use of external DSP for system protection (high pass filters and limiters) is recommended - as such an efficient solution is one of EM Acoustics' range of Advanced System Amplifiers. Alternative DSP-enabled amplifiers can also be used, or conventional amplifiers with external processing - suitable DSP settings are provided on the EM Acoustics website for this purpose. The EMS-156/EMS-159 requires a single amplifier channel that is capable of delivering 1000-1500W RMS into an 8-ohm load.



TECHNICAL SPECIFICATIONS

ENCLOSURE TYPE:

DIMENSIONS (HxWxD)

NET/SHIPPING WEIGHT:

FREQUENCY RESPONSE¹:

SENSITIVITY²:

DISPERSION³:

DRIVE UNITS:

LOUDSPEAKERS PER AMPLIFIER (maximum for full loudspeaker SPL)

LOUDSPEAKERS PER AMPLIFIER (recommended absolute maximum)⁴

POWER HANDLING:

MAXIMUM SPL⁵:

NOMINAL IMPEDANCE:

CROSSOVER:

CONNECTORS:

ENCLOSURE:

RIGGING & HARDWARE:

GRILLE:

OPTIONS:

ACCESSORIES:

SPARE PARTS:

Two-way passive, reflex loaded

707 (27.8) x 440 (17.3) x 450 (17.7) mm/(ins)

43/45kg (94.6/99lbs)

65Hz – 20kHz \pm 3dB

98dB

60° x 40° (EMS-156) or 90° x 60° (EMS-159), rotatable

15" (381mm) neodymium LF cone drive unit

1.4" (36mm) exit neodymium HF compression drive unit

DQ6: 1 per channel, DQ10: 1 per channel, DQ20: 2 per channel

Di06: not recommended, Di10: not recommended, Di20: 1 per channel

DQ6: 2 per channel, DQ10: 2 per channel, DQ20: 4 per channel

Di06: 1 per channel, Di10: 1 per channel, Di20: 2 per channel

750W RMS, 1500W program

130dB continuous, 136dB peak

8 ohms

Asymmetric internal passive

2 x Neutrik® speakON™ NL4

15mm (5/8") multi-laminate Birch plywood – rebated, screwed and glued.

Finished in impact and weather resistant textured polyurethane

8 x M10 threaded mounting points, 1 x M8 safety point

2 x flush handles, 1 x 35mm pole mount socket

Hex punched stainless steel backed with acoustically transparent fabric

Custom Colour, enhanced weather protection (OD model)

FC-159v vertical flying cradle

FC-159h horizontal flying cradle

VFA-159 variable-angle single point bracket

CM-159 column mount bracket

DU-1505 15" drive unit

CDU-1404 1.4" exit HF compression drive unit

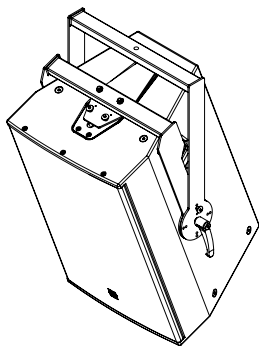
PX-156 (EMS-156) and PX-159 (EMS-159) passive crossover assemblies

RFG-159 replacement grille/fabric

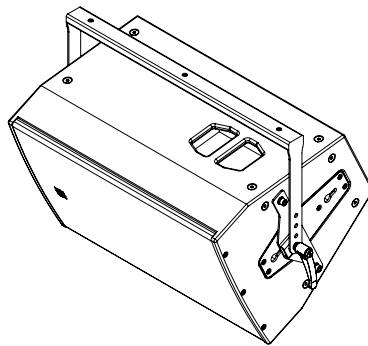
NOTES ON MEASUREMENT CONDITIONS:

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.

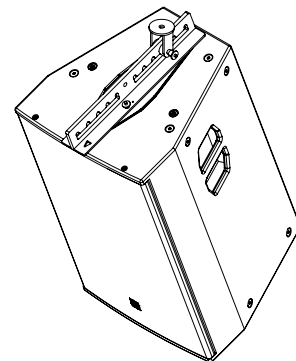
RIGGING ACCESSORIES



FC-159v



FC-159h

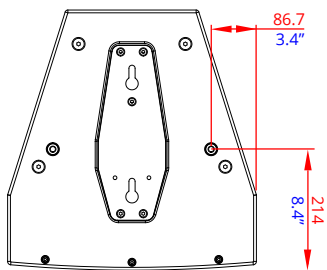


VFA-159

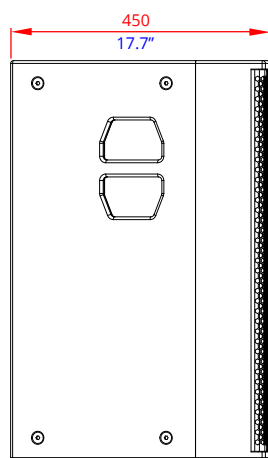
ENCLOSURE OPTIONS

EMS-156/159 enclosures are available as standard in black or white textured polyurethane finish. Custom RAL colours can be supplied on request; extended lead times and set up costs apply. EMS-156/159 enclosures can also be supplied as an outdoor version (OD), with enhanced weather protection features, many bespoke to the customer's request. Please contact your local EM Acoustics representative for details.

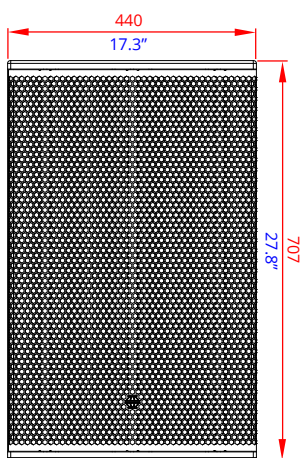
ENGINEERING DRAWING



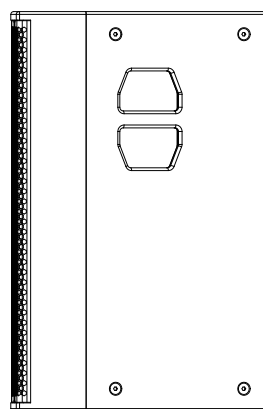
TOP



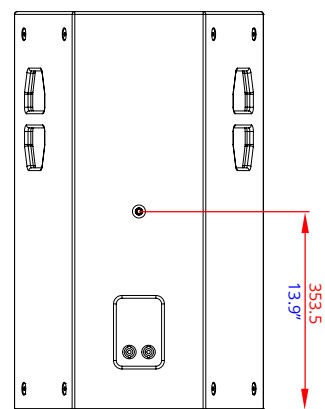
LEFT



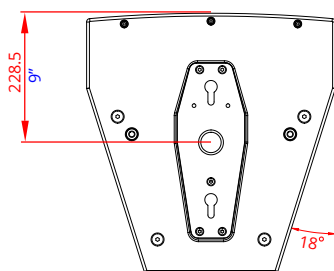
FRONT



RIGHT



REAR



BOTTOM