

EMS-81X

compact passive loudspeaker



FEATURES AND BENEFITS:

- signature EM Acoustics passive crossover for unprecedented frequency & phase response
- rotatable HF gives flexible dispersion options
- compact and lightweight enclosure
- multi-angle enclosure for stage monitor use
- multiple rigging and mounting options

The EMS-81X is a compact, powerful loudspeaker - the workhorse of the EMS Series. The EMS-81X is ideal for a wide range of applications ranging from small front-of-house duties to compact stage monitoring. Utilising our latest passive crossover topologies, and the utmost in drive unit technology, this loudspeaker is completely passive yet outperforms many bi-amplified or processed designs.

The EMS-81X is a two-way passive loudspeaker, using a 2" voice coil 8" (203mm) low frequency transducer. This low frequency drive unit is coupled via the internal passive crossover network to a 1.7" (44mm) diaphragm, 1" (25mm) exit neodymium high frequency transducer. This drive unit loads onto a rotatable 90 x 60 constant-coverage horn, which yields not only consistent response throughout its operating band across the whole coverage pattern 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. Five M8 threaded fixings are incorporated around the enclosure (2 top, 2 bottom and 1 on the rear) for attachment of optional rigging hardware and safeties. Four M6 threaded fixings on the rear of the enclosure are compatible with OmniMount™ Series 30 and Powerdrive™ Series 75 bracket products. A 35mm polemount socket is provided discretely on the underside for stand mounting. The enclosure also includes a flush handle on the rear, and a pair of Neutrik SpeakON™ NL4MP connectors for input & enclosure link. Lastly, a tough hex-punched grille backed with acoustically transparent foam protects the drive units from damage. The grille can be quickly removed for service purposes or to rotate the HF waveguide. The enclosure is finished in black or white textured paint as standard, however RAL colour matching and weather resistant options are also available.

The EMS-81X requires a single amplifier channel, and should be used with professional power amplifiers capable of delivering 400-500W RMS into an 8-ohm load. For optimal results, the EM Acoustics AQ-3 power amplifier should be used.

ENCLOSURE TYPE:	two-way passive, reflex loaded
DIMENSIONS (HxWxD):	462 (18.2) x 262 (10.3) x 261 (10.3) mm/(ins)
NET/SHIPPING WEIGHT:	13/14kg (28.6/30.8lbs)
FREQUENCY RESPONSE¹:	75Hz – 20kHz +/- 3dB
SENSITIVITY²:	95dB
DISPERSION³:	90 x 60, rotatable
DRIVE UNITS:	8" (203mm) LF cone drive unit 1" (25mm) exit neodymium HF compression drive unit
POWER HANDLING:	250W RMS, 500W program
MAXIMUM SPL⁴:	120dB continuous, 126dB peak
NOMINAL IMPEDANCE:	8 ohms
CROSSOVER:	asymmetric internal passive
CONNECTORS:	2 x Neutrik SpeakON™ NL4MP
ENCLOSURE:	15mm (5/8") multi-laminate Birch plywood – rebated, screwed & glued. Finished in impact resistant textured paint
RIGGING & HARDWARE:	5 x M8 threaded mounting points 4 x M6 threaded points for OmniMount Series 30/Powerdrive Series 75 brackets 1 x flush handle on rear 1 x 35mm polemount socket
GRILLE:	hex punched steel backed with acoustically transparent foam
OPTIONS:	Colours/Weather Protection
ACCESSORIES:	FC-81Xv vertical flying cradle FC-81Xh horizontal flying cradle DFB-81X dual enclosure flying plate set
SPARE PARTS:	DU-802 8" drive unit CDU-1001A 1" exit HF compression drive unit RK-802 recone kit PX-81X passive crossover assembly RFG-81X replacement grille/foam

Notes on measurement conditions:

¹Measured on-axis at 2m in an anechoic environment and referenced to 1m.

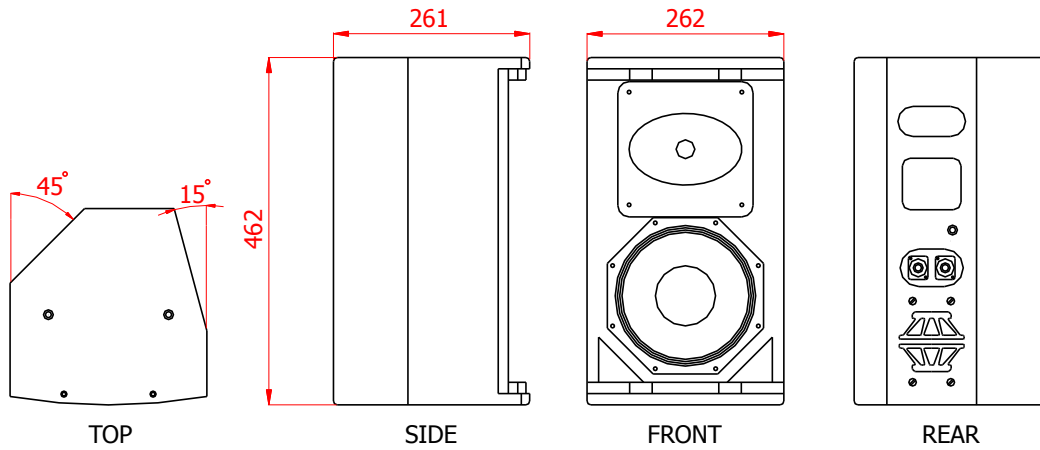
²Measured in half space at 2m with 4W sine wave input and referenced to 1m.

³Nominal dispersion, measured in an anechoic environment and averaged over stated bandwidth

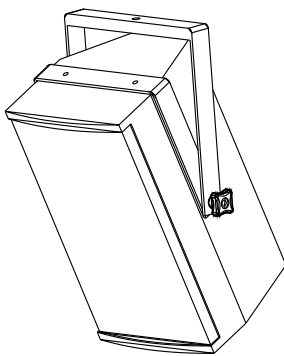
⁴Calculated and verified by subjective listening test of familiar program material.

ENGINEERING DRAWING

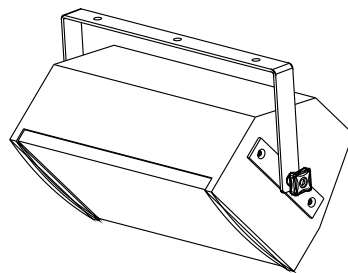
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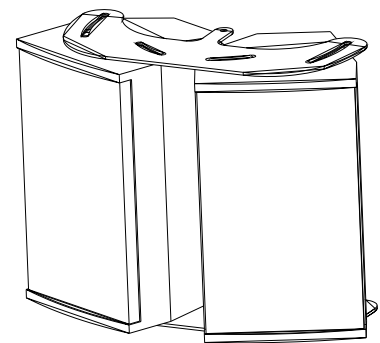
RIGGING ACCESSORIES



FC-81Xv



FC-81Xh



DFB-81X

ENCLOSURE OPTIONS

EMS-81X enclosures are supplied as standard in black or white. Any RAL colour can be supplied on request (extended lead time and setup charges apply). Weather protection options are also available to give enhanced protection to the loudspeaker when used outdoors for extended periods of time.