



emacoustics

TECHNICAL DATA SHEET

R12

LARGE FORMAT PRECISION PASSIVE POINT SOURCE

**The EM Acoustics Reference Series of loudspeakers is not simply another iteration of a familiar slim profile form-factor. Rather, the series is the physical result of our ambition to redefine what is possible from a loudspeaker of this kind. A benchmark in physical and sonic elegance, possessing exceptional headroom and stability across all demands, the Reference Series represents the ultimate no-compromise option for point source applications.**

## FEATURES AND BENEFITS

- Three-way passive design
- Unrivalled headroom
- Natural, open and elegant voicing
- Unique crossover approach combined with FIR for unrivalled impulse response
- Interchangeable wide (110 x 50) and narrow (80 x 50) rotatable waveguides
- 2 x 12" neodymium LF, coaxial 4"/2.5" MF/HF drive units
- Flexible rigging and mounting options
- Impact and weather-resistant black or white finishes as standard
- RAL colour and permanent outdoor use options

## APPLICATIONS

- Medium to large theatre and musical theatre events
- Medium to large live sound reinforcement
- Sport Stadium & Arena sound reinforcement
- Houses of Worship
- Conference, corporate and audio-visual



Following in the footsteps of the award-winning R10, the R12 extends the reach of the Reference Series to even higher power applications. Suited to any performance environment requiring ultra-high quality sound reinforcement in a versatile, low-profile package, the R12 is an extremely muscular 3-way passive system that brings the detail, accuracy and transparency of the R10 to a larger output platform.

The slim, discreet enclosure contains a pair of state-of-the-art 3.5" (88mm) voice coil 12" (305mm) neodymium LF drivers, and the same 4-inch (100mm)/2.5-inch (64mm) coaxial MF/HF compression drive unit as used in the R10 – meaning a completely consistent voicing across models in the Series. Just as with the R10, this coaxial compression drive unit feeds one of two alternate waveguides, which are direct derivations from the ground-breaking work undertaken on the R10. The result is that these waveguides possess not only an incredibly natural tonal character, but unparalleled consistency of response both on and off-axis.

Following the same example set by the R10, the R12 is supplied as standard with both waveguide options; a wide dispersion 110° x 50° for shorter throw applications and a narrower dispersion 80° x 50° option for controlled coverage over longer distances. Minutes of physical work and a simple change of preset in the amplifier and the R12 can transform from a wide dispersion to a narrow and vice versa – offering excellent flexibility for rental users and installation customers alike. Which waveguide is installed – and crucially which orientation that waveguide is in – is easily identifiable without removing the front grille.

An entirely unique approach to crossover design marries the components together. The highly advanced crossover, in conjunction with the FIR processing functions of our range of Advanced System Amplifiers, allows each drive unit to be used to the optimum extent. The combination of drive units, bespoke waveguide design and FIR processing yields flat frequency and phase responses and a consistency of sonic character across demand which is unrivalled by any loudspeaker in this class.

The elegant and compact enclosure draws its bracing technology from the HALO series, providing a tough and incredibly rigid yet lightweight package. Assembled from multi-laminate Birch plywood, the enclosure is coated with an impact and weather-resistant polyurethane finish which will enable the R12 to stand up to the most adverse conditions. This finish is available in both black and white as standard, however custom RAL colour matching options and permanent outdoor enhancements are also available.

The front grille is manufactured from stainless steel for

enhanced lifespan and this is backed by an acoustically transparent fabric to complete the discreet appearance. Intelligent handle placement combined with multiple threaded rigging points and a quick-release keyhole flying plate system ensure the R12 is easy and simple to handle and install both permanently and whilst on the road.

The architecture and construction of the R12 combined with EM Acoustics' state-of-the-art FIR processing liberates each component to achieve levels of sonic performance never yet attained by a loudspeaker of this size and form factor.

## TECHNICAL SPECIFICATIONS

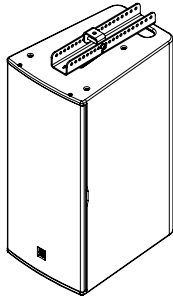
ENCLOSURE TYPE:	Three-way passive point source
DIMENSIONS (HxWxD)	(HxWxD) 820 (32.3) x 380 (15) x 530 (20.9) mm/(ins)
NET/SHIPPING WEIGHT:	42/49.9kg (92.4/109.3lbs)
FREQUENCY RESPONSE <sup>1</sup> :	50Hz – 20kHz ±3dB
SENSITIVITY <sup>2</sup> :	98dB
DISPERSION <sup>3</sup> :	Wide 110° x 50°, narrow 80° x 50°, both rotatable
DRIVE UNITS:	LF: 2 x 3.5" (88mm) voice coil, 12" (305mm) neodymium drive units MF/HF: 4" (100mm)/2.5" (64mm) neodymium coaxial compression drive unit
LOUDSPEAKERS PER AMPLIFIER (maximum for full loudspeaker SPL):	DQ6: Not recommended, DQ10: 1 per channel, DQ20: 2 per channel DI06: Not recommended, DI10: not recommended, DI20: 1 per channel
LOUDSPEAKERS PER AMPLIFIER (recommended absolute maximum) <sup>4</sup> :	DQ6: 1 per channel, DQ10: 1 per channel, DQ20: 2 per channel DI06: Not recommended, DI10: 1 per channel, DI20: 1 per channel
POWER HANDLING:	1500W RMS, 3000W program
MAXIMUM SPL <sup>5</sup> :	133dB continuous, 139dB peak
NOMINAL IMPEDANCE:	4 ohms
CROSSOVER:	Asymmetric internal passive
CONNECTORS:	2 x Neutrik® speakON™ NLT4MP
ENCLOSURE:	15mm (5/8") & 25mm (1") multi-laminate Birch plywood – rebated, screwed and glued Finished in impact and weather-resistant textured polyurethane
RIGGING & HARDWARE:	Quick-release keyhole flying system 2 x M10 threaded fittings 10 x M8 threaded fittings
GRILLE:	Hex punched stainless steel backed with acoustically transparent fabric
OPTIONS:	Colours/Weather Protection
ACCESSORIES:	FC-R12v vertical flying cradle FC-R12h horizontal flying cradle VFA-R12 variable angle flying bracket CASE-R12 single enclosure touring flightcase

### NOTES ON MEASUREMENT CONDITIONS:

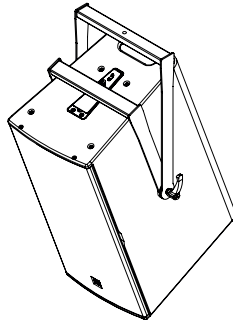
<sup>1</sup>Measured on-axis at 2m in an anechoic environment and referenced to 1m. <sup>2</sup> Measured in half space at 2m with 4W sine wave input and referenced to 1m. <sup>3</sup>Nominal dispersion, measured in an anechoic environment and averaged over stated bandwidth. <sup>4</sup>These loudspeaker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



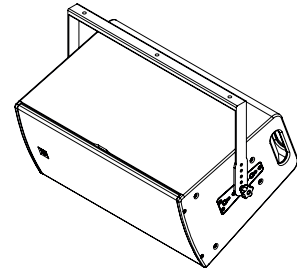
## RIGGING ACCESSORIES



VFA-R12



FC-R12v



FC-R12h

## ENCLOSURE OPTIONS

R12 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. R12 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

