



emacoustics

## TECHNICAL DATA SHEET

# R10

## 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 10" 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 outdoor use options

### APPLICATIONS

- Medium to large theatre and musical theatre events
- Small to medium live sound reinforcement
- Houses of Worship
- Conference, corporate and audio-visual

The R10 is the first - and flagship - loudspeaker in the Reference Series. Suited to any performance environment requiring ultra-high quality sound reinforcement in a versatile, low profile package, the R10 is a 3-way passive system that is as at home on a theatre proscenium as it is in a live music or corporate sound reinforcement setting.

The slim, discreet enclosure contains a pair of state-of-the-art 3" (76mm) voice coil 10" (254mm) neodymium LF drivers, and a 4-inch (100mm)/2.5-inch (64mm) coaxial MF/HF compression drive unit. This coaxial compression drive unit feeds one of two alternate waveguides, which have been the subject of the most extensive R&D project ever undertaken by EM Acoustics. The expressions of this research are two waveguides with not only an incredibly natural tonal character, but unparalleled consistency of response both on and off-axis.

The R10 is unique in that it 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 R10 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 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 R10 is easy and simple to handle and install both permanently and whilst on the road.

The architecture and construction of the R10 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.

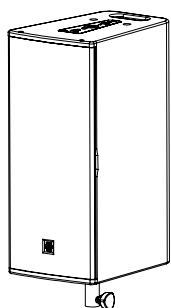
## TECHNICAL SPECIFICATIONS

ENCLOSURE TYPE:	Three-way passive point source
DIMENSIONS (HxWxD):	700 (27.6) x 306 (12) x 430 (16.9) mm/(ins)
NET/SHIPPING WEIGHT:	31/36kg (68.2/79.2lbs)
FREQUENCY RESPONSE <sup>1</sup> :	60Hz – 20kHz ±3dB
SENSITIVITY <sup>2</sup> :	96dB
DISPERSION <sup>3</sup> :	Wide 110° x 50°, narrow 80° x 50°, both rotatable
DRIVE UNITS:	LF: 2 x 3" (76mm) voice coil, 10" (254mm) neodymium drive units MF/HF: 4" (100mm)/2.5" (64mm) neodymium coaxial compression drive unit
LOUDSPEAKERS PER AMPLIFIER (maximum for full loudspeaker SPL):	DQ6 : 1 per channel, 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: 2 per channel, DQ20: 2 per channel Di06: 1 per channel, Di10: 1 per channel, Di20: 2 per channel
POWER HANDLING:	1000W RMS, 2000W program
MAXIMUM SPL <sup>5</sup> :	130dB continuous, 136dB peak
NOMINAL IMPEDANCE:	8 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 6 x M8 threaded fittings
GRILLE:	Hex punched stainless steel backed with acoustically transparent fabric
OPTIONS:	Colours/Weather Protection
ACCESSORIES:	FC-R10v vertical flying cradle FC-R10h horizontal flying cradle VFA-R10 variable angle flying bracket CASE-R10 dual enclosure touring flightcase

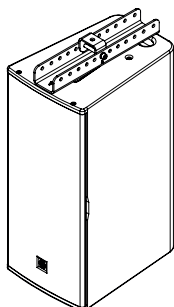
### NOTES ON MEASUREMENT CONDITIONS:

<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.

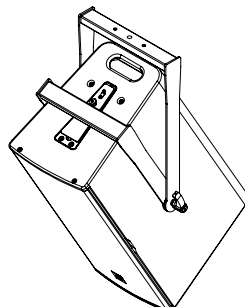
## RIGGING ACCESSORIES



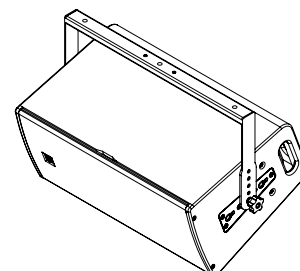
Stand adapter



VFA-R10



FC-R10v



FC-R10h

## ENCLOSURE OPTIONS

R10 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. R10 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

