

E-05 Line array Datasheet



The E-05 is a fully integrated large format 2 x 12" 4-way line array system, designed for high output, linear coverage with perfect intelligibility. The high definition, detailed and smooth linear frequency response over distance is achieved with its unique design. High dynamic bandwidth, power and headroom capabilities all make it the definitive choice for the large project reinforcement of any sound genre.

All components needed to suspend the loudspeakers within the bespoke 4 point symmetrical flying system are integrated into E-05 ensuring speedy deployment. This provides an incredibly quick and easily configurable array solution for large-scale sound reinforcement applications.

The E-05 is an active 4-way design with a nominal impedance of 8 ohms for High, Mid and the Low frequency sections. Featuring 2 x 12" Neodymium woofers in a tuned enclosure and 4 x 6.5" neodymium mid-range drivers combined with 2 x 6.5" coaxial planar wave guides. This cabinet gives a usable frequency response of 45 Hz to 21.2 kHz (-10 dB) and an SPL of 146 dB per cabinet.

An exposed phase plug design provides a smooth linear response and a lobe free coverage over the entire frequency range. The waveguide generates a symmetrical horizontal dispersion of 100° x 10° vertical.

Made of high-grade Baltic birch plywood coated in tough polyurea ensures mechanical and acoustical integrity. A fully integrated 4-point rigging system designed with various angles of up to 10° per cabinet, which ensure a perfect acoustic coupling between multiple cabinets forming an array. Used in multiples of up to 24 cabinets per hang.

The rear cast aluminium recessed backplate plate has two integrated NL-8 speakON® connectors fitted as standard, one input and one link.

Key features:

- Long throw, full range line array component
- Large format touring grade cabinet
- Tough Polyurea coating
- 146 dB SPL
- Phase-plug controlled LF driver with Integrated HF waveguide
- Advanced active dispersion gives 100° x 10° coverage
- Unique port design gives excellent dynamics
- Easy ground-stacking of up to 6 cabinets per frame on ERIS Subwoofer
- Fly up to 24 cabinets per frame
- Designed 8 Ohm impedance allows it to be powered in 3s from a 4 channel amplifier
- Pro-A-sync compatible

Technical Specifications

Design

Full Range 4 way Linearray module with phase plug controlled coupling waveguide incorporating all sources, Coaxial mid-high Planar wave sound source internally filtered

Impedance

4 x 8 Ohm, Minimum 6 ohms @ 240Hz LF1&2 / 6.4 ohms @ 670Hz LMF / 6.7 ohms @ 1.56 kHz HMF-HF

Power Handling (AES)

400 W LF-1 / 400W LF-2 / 800W LMF / 320W HMF-HF(continuous)

Max. Power Handling (AES)

800 W LF-1 / 800W LF-2 / 1600W LMF / 640W HMF-HF(program)

1600 W LF-1 / 1600W LF-2 / 3200W LMF / 2000W HMF-HF (peak 10 ms)

Sensitivity 2.83V / 1m

102 dB LF / 103 dB LMF / 115 dB HMF-HF

Max. SPL

131 dB cont. 137 dB peak LF / 132 dB cont. 138 dB peak LMF / 140 dB cont. 146 dB peak HMF-HF

Frequency Response (±3 dB)

56 Hz – 21.2 kHz

Usable Frequency Range (-10 dB)

43 Hz - 22 kHz

Dispersion

100° x 10° per cabinet, up to 100°x120° in array depending on curving

SYSTEM OPERATION

Recommended Amplification

4 x 2000 W @ 4 Ohm for 3 cabinets in parallel

System Controller

Ohm DSP Solutions

Speaker Cables

Min - 4 x 2.5 mm²

Preferred - 4 x 4 mm²

PRODUCT FEATURES

Components

2 x 12" Driver on phaseplug coupler Waveguide
4 x 6.5" Driver on phaseplug coupler Waveguide
2 x 6.5" coaxial planar wave source on phaseplug coupler Waveguide

Crossover

Passive - 6.3 kHz internal on coaxial planar wave source with dispersion control phase response

Active - * LPF : - Hz HMF / 1130 Hz LMF
 220 Hz LF
 HPF : 670 Hz HMF / 250 Hz LMF
 55 Hz LF

Connectors

2 x 8 pole speakON® connectors

Dimensions (H x W x D mm)

370 x 1156 x 500

Weight (kg)

89

Shipping Weight (kg)

93 (1 cabinet per carton)

Colour

Black

Options

Available in white or RAL colours on request

Rigging

2 x Flying Hardware sides for hanging or ground stacking

HARDWARE

Fitted as Standard

E-05 Flying Hardware

Optional

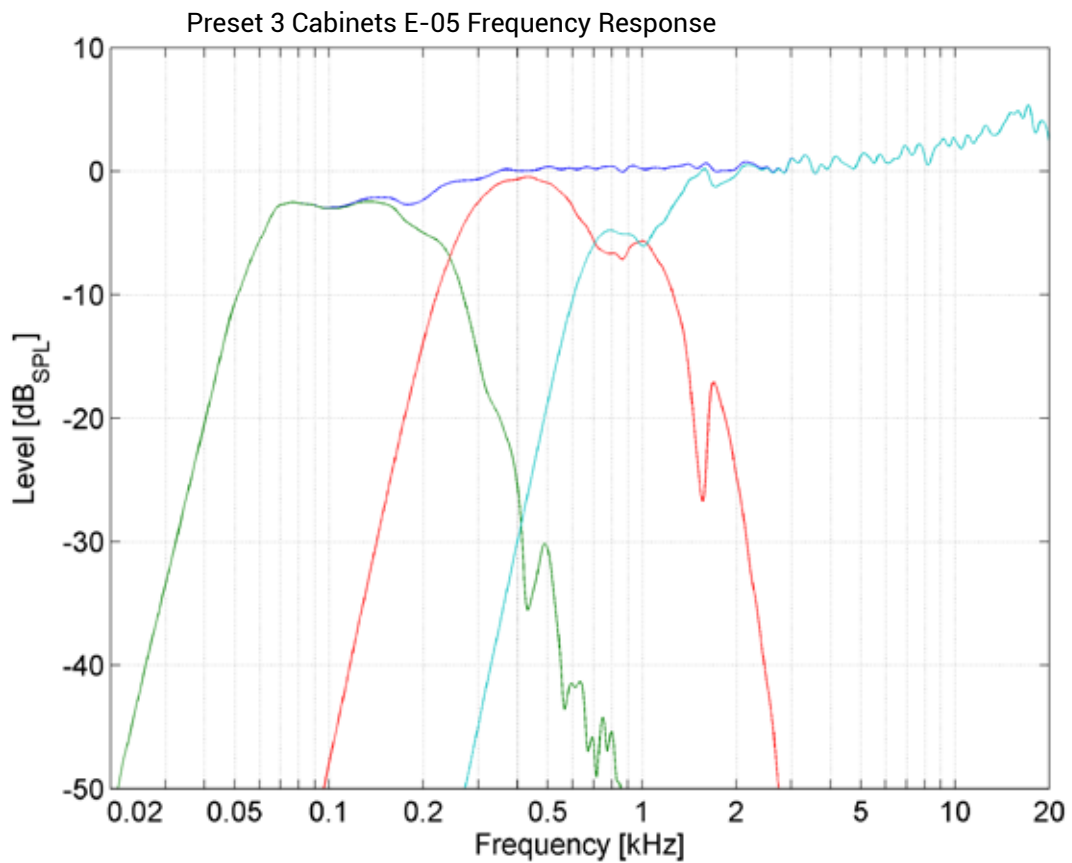
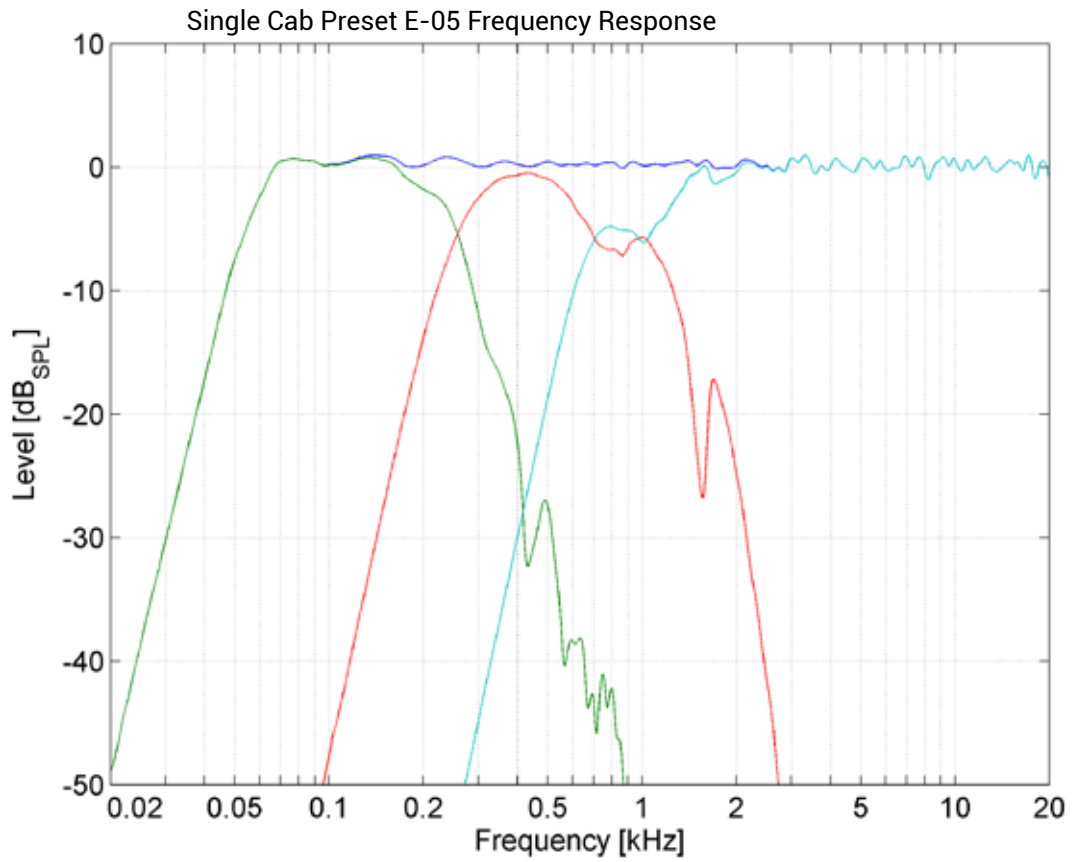
E-05 Flying / Ground stacking Array Frame

Additional Descriptive Data

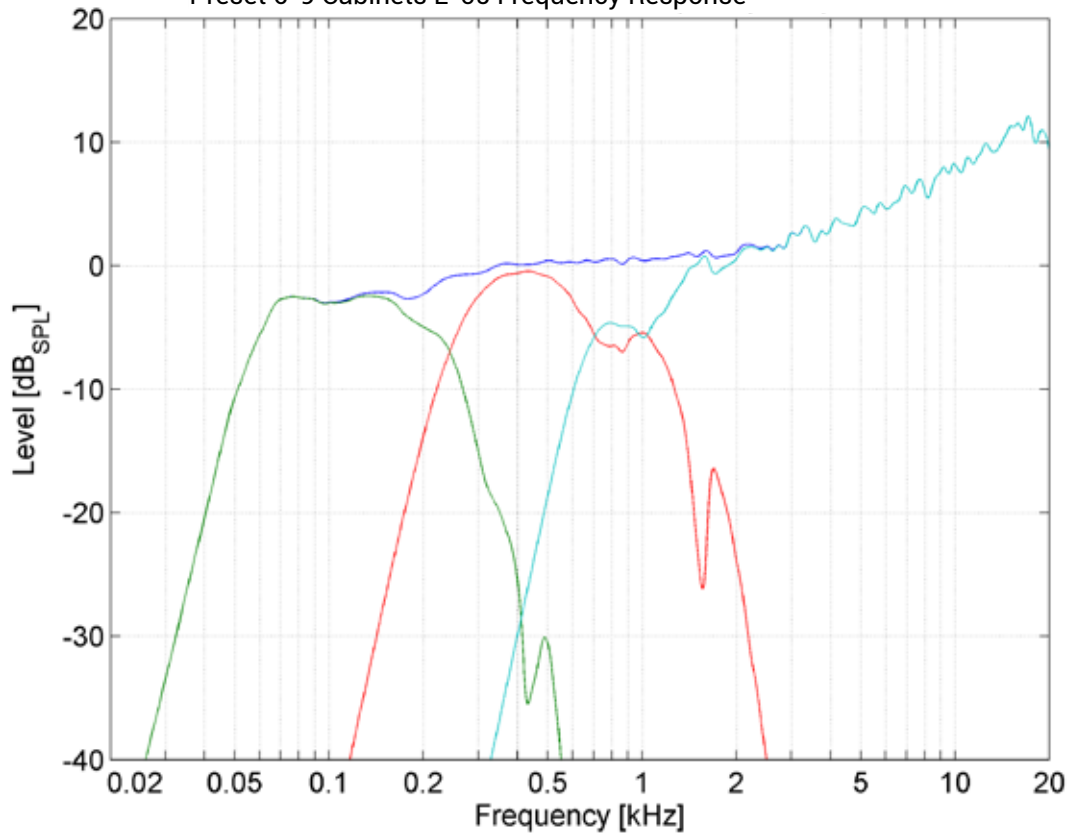
Birch plywood construction, with durable scratch resistant black polyurea paint finish with powder coated steel grill.

Recommended filter settings are available on the website omegaproaudio.co.uk/downloads
* All presets from the Omega library.

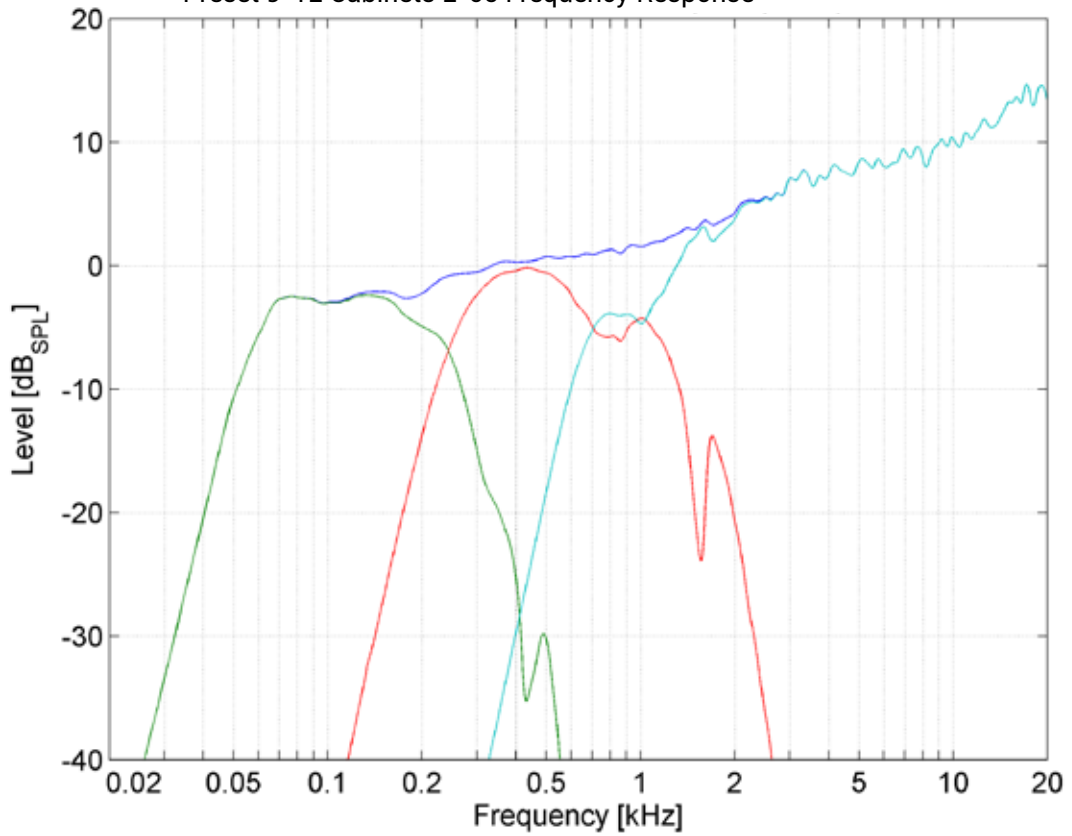
E-05 Measurements



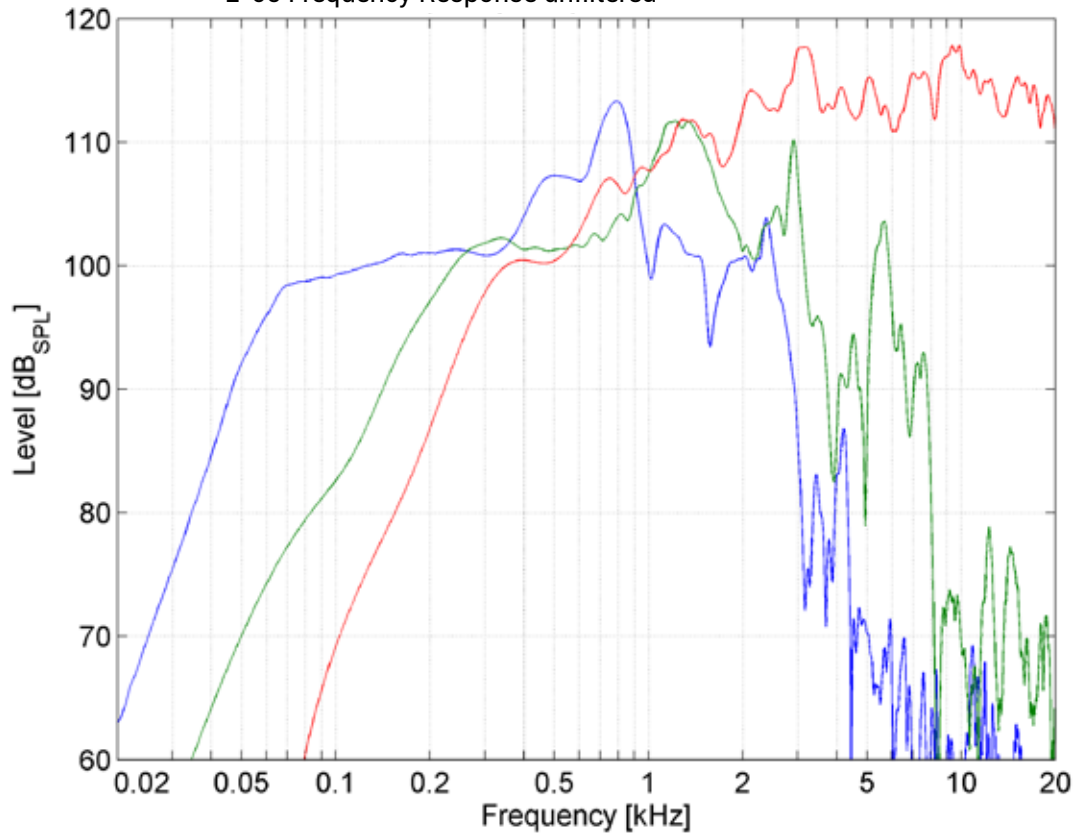
Preset 6-9 Cabinets E-05 Frequency Response



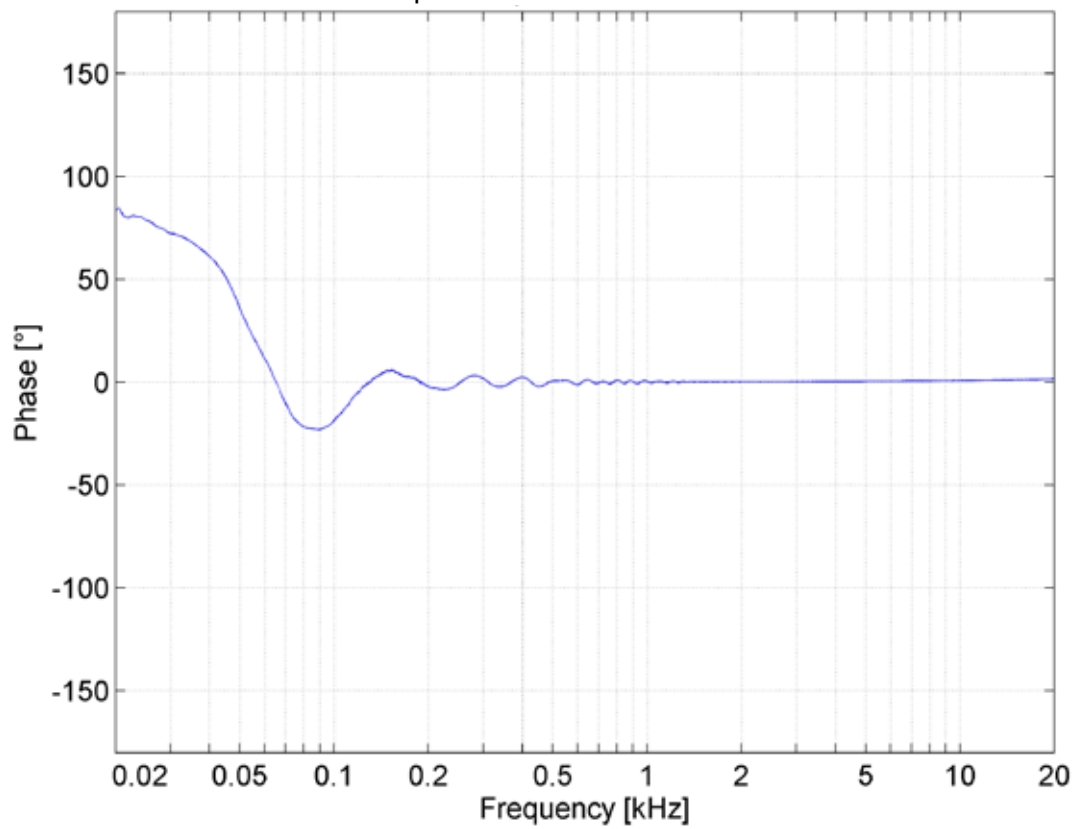
Preset 9-12 Cabinets E-05 Frequency Response

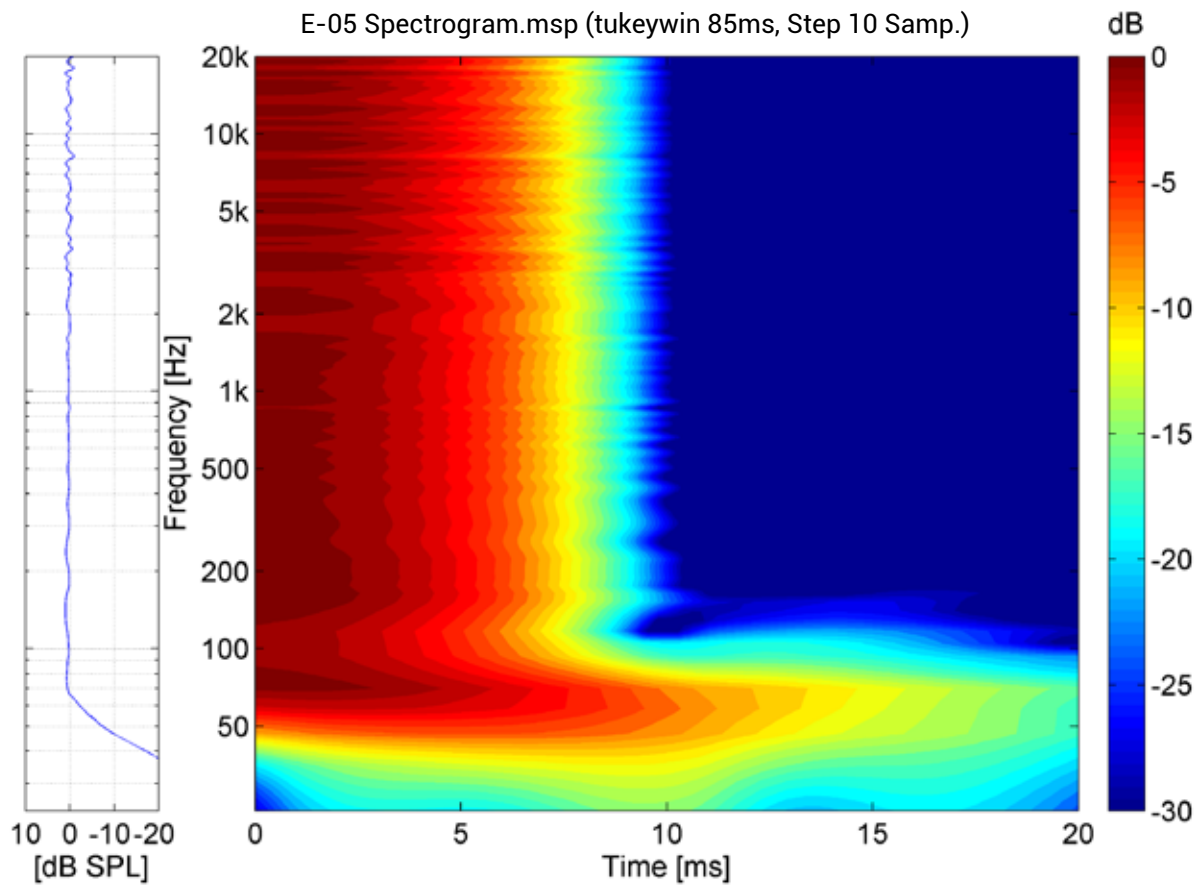
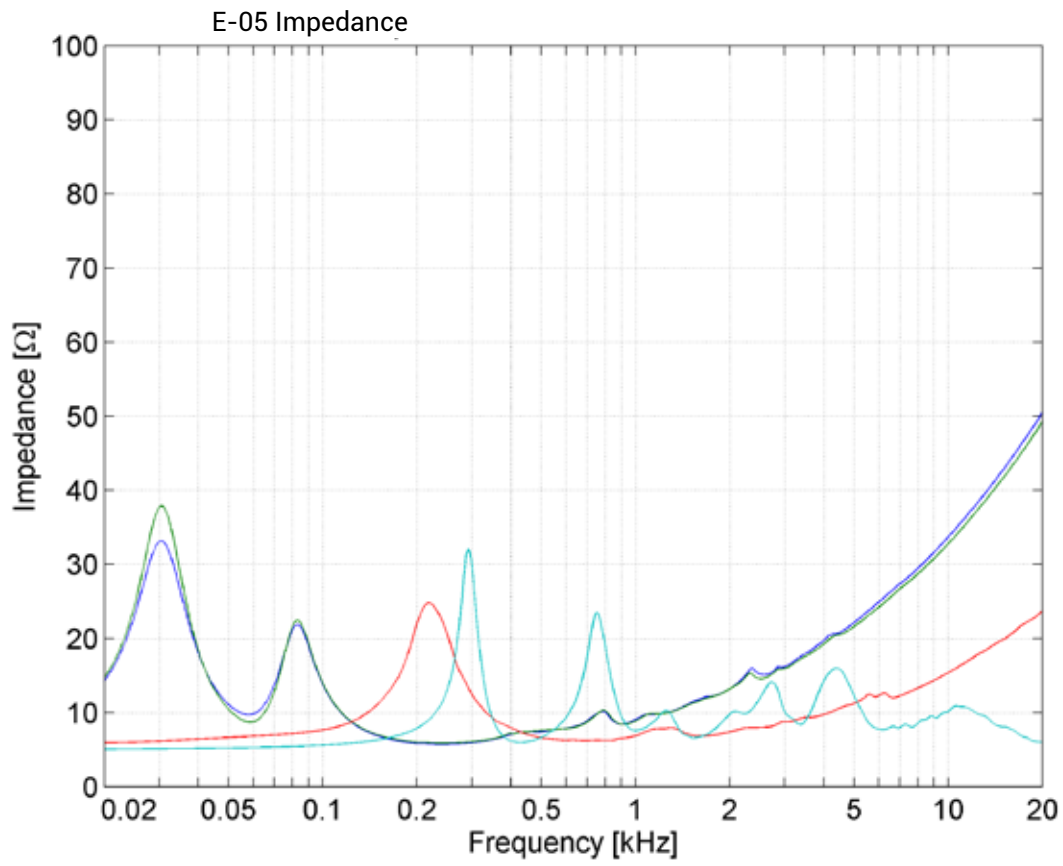


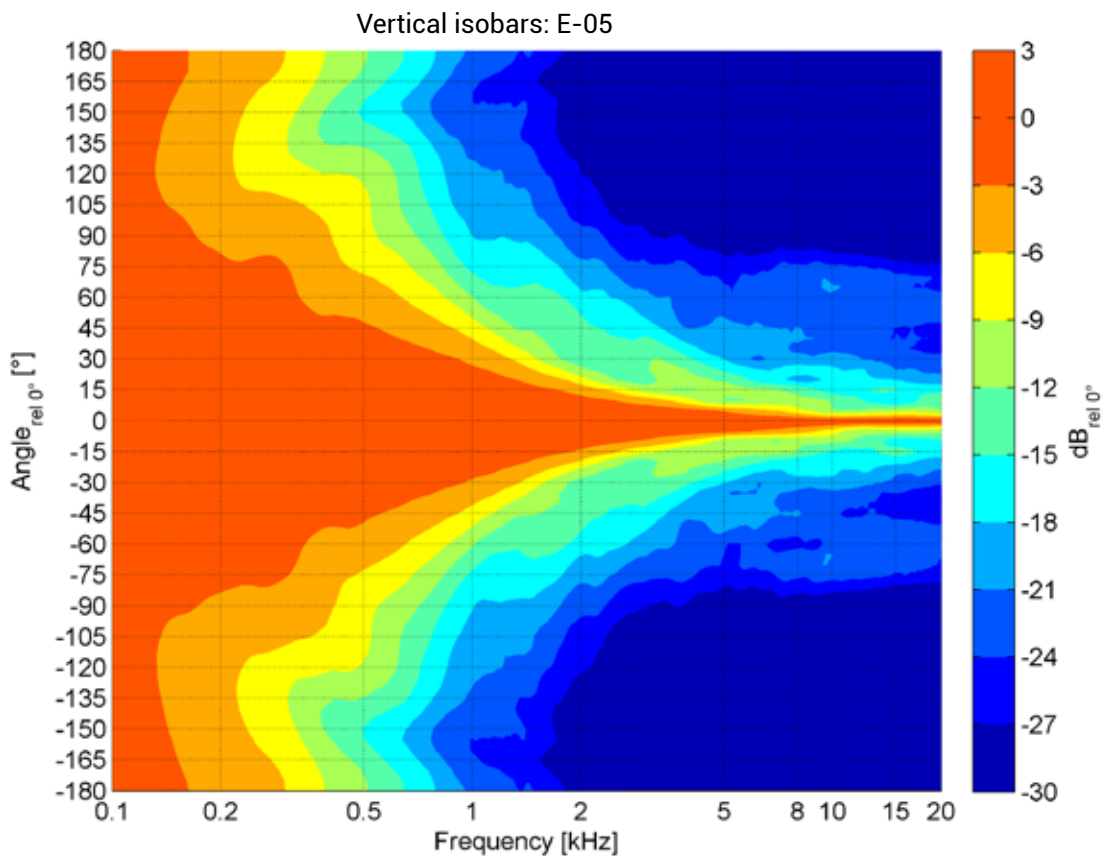
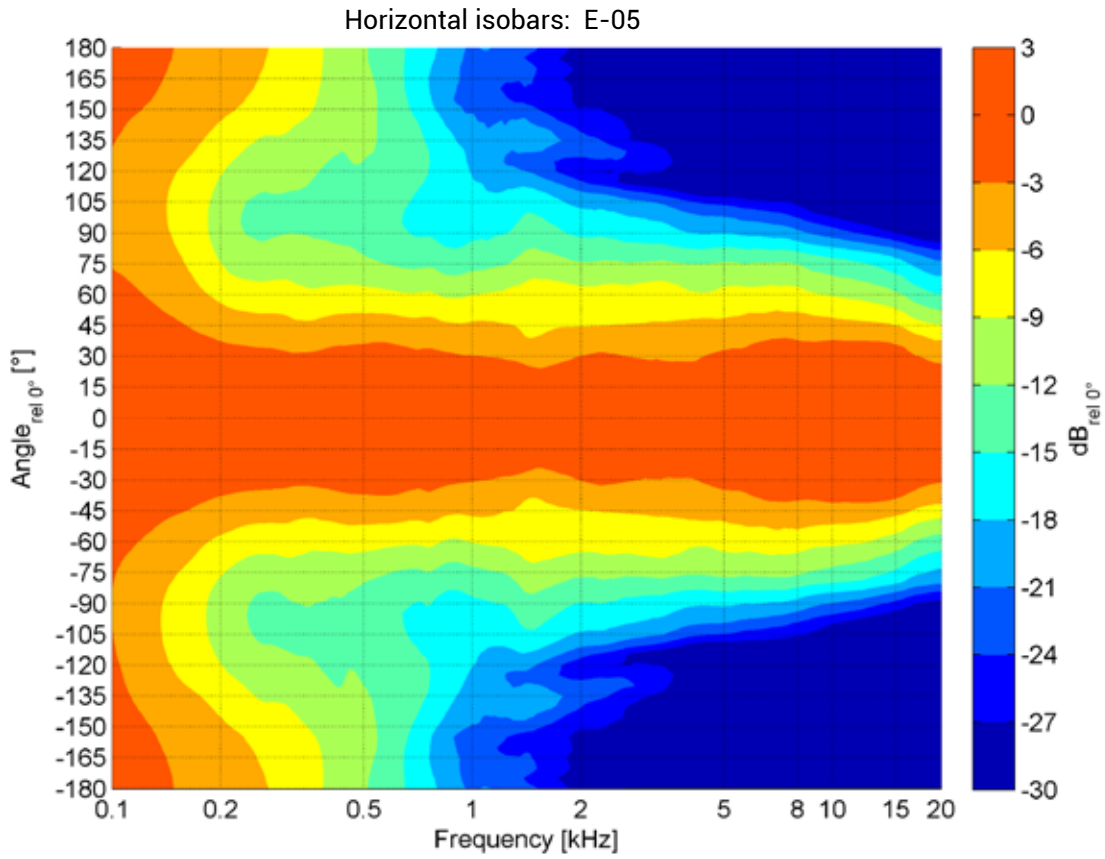
E-05 Frequency Response unfiltered



E-05 Phase Response



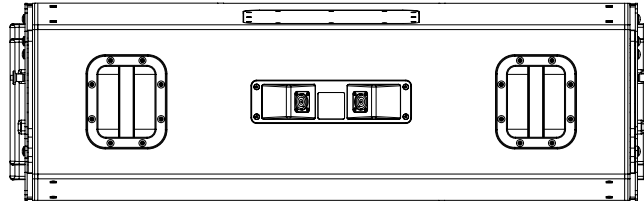




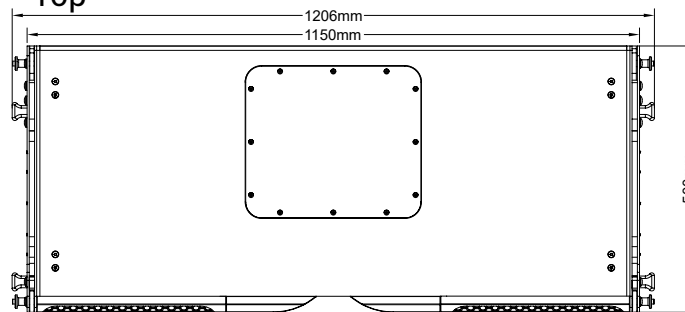
All Measurements are executed by the IFAA Institute for Acoustics in Aachen, Germany
measurement conditions 4Pi environment for full range cabinets, 2Pi environment for subwoofers.

E-05 Dimensions

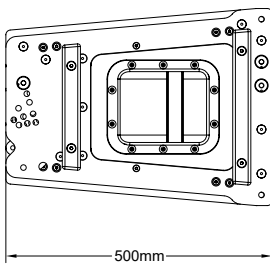
Back



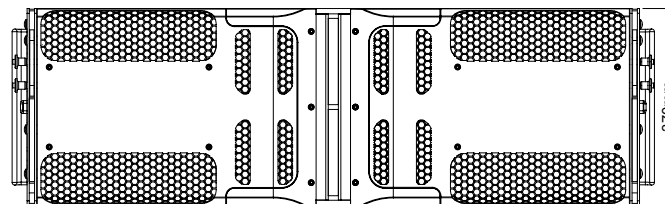
Top



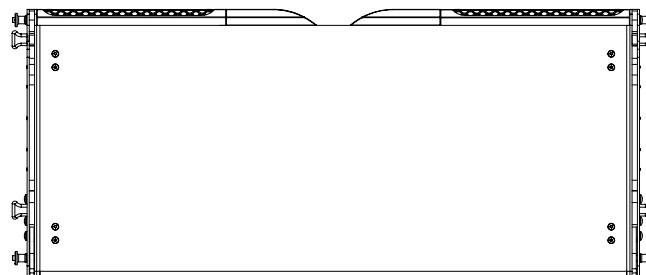
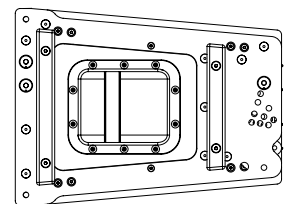
Side



Front



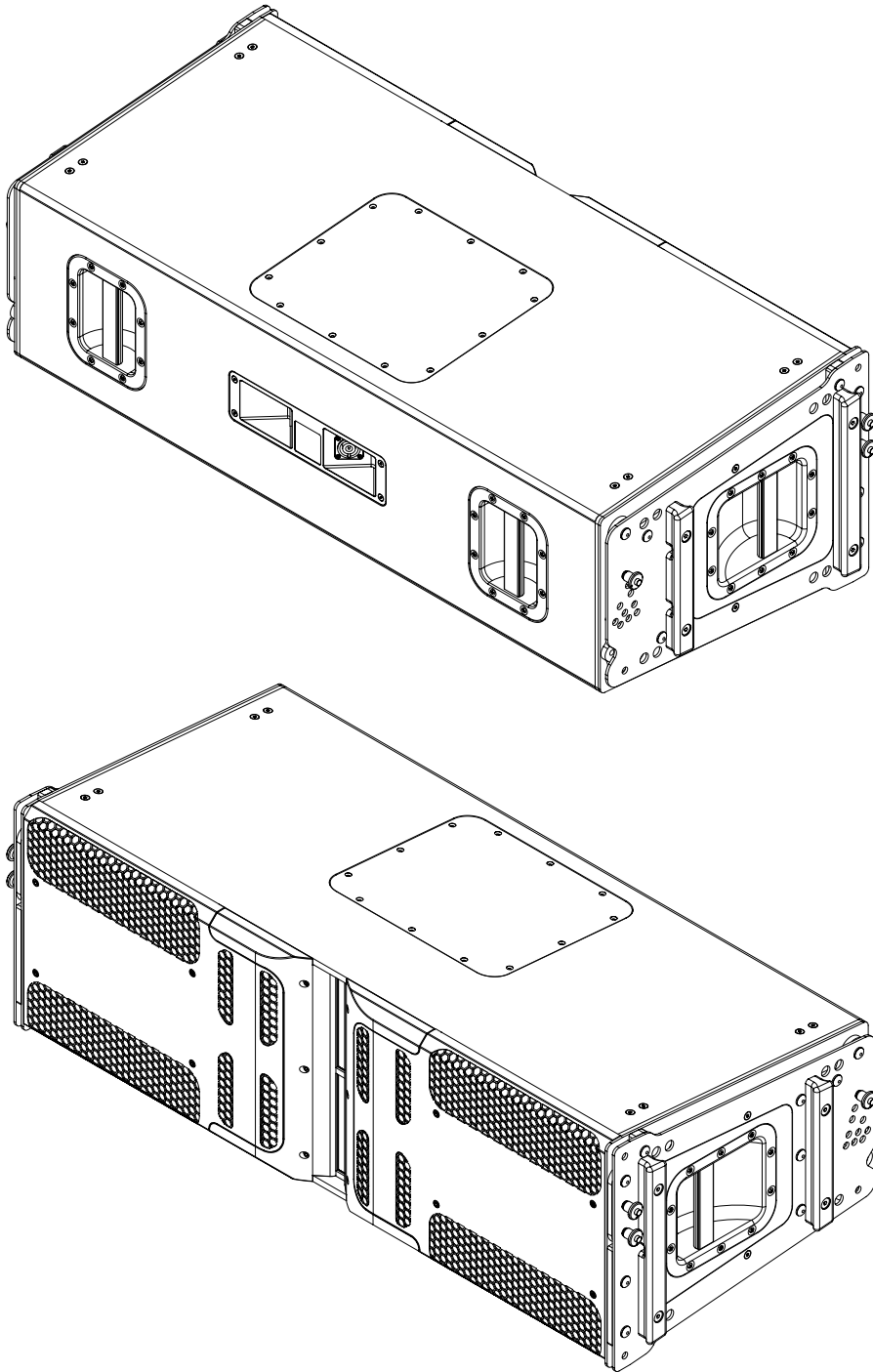
Side



Bottom

Further technical drawings for architectural requirements are available in DXF and DWG format for download on the website.

E-05 3D View



Accessories and Spare Parts

- E-05 Flying Hardware
- E-05 Flying Array Frame
- E-05 steel grill assembly
- E-05 backplate and crossover
- 2 x 12" driver on phaseplug coupler waveguide
- 4 x 6.5" driver on phaseplug coupler waveguide
- 2 x 6.5" coaxial planar wave source on phaseplug coupler waveguide
- Large bar handles

Architects' & Engineers' specifications:

The cabinet shall be a 4 way, large format, line array cabinet. Using 2 x 12" drivers will be used for LF and shall have integrated phased plugs, these drivers will share a horn aperture with all other system drivers to give maximum SPL loading across the entire cabinets bandwidth. The LF/Mid section shall use 4 x 6.5" drivers, again with integrated phase plugs. HF will be dealt with using 2 x Planar wave guides. Cabinet construction will be by way of 18 mm Baltic Birch Plywood with 32 mm Baltic Plywood for the baffles. The cabinet will be painted with Poly-Urea. Flying hardware will be integrated for hanging or ground stacking. Ergonomic carry handles will be integrated into the design on each side. A recessed Omega Logo will be laser-cut into the front grill along with the cabinet name. The front grill will be made from Zintec steel which will be powder-coated for long-term rust protection.

Technical Data:

Frequency Response: 43 Hz - 22 kHz (-10dB), 56 Hz - 21.2 kHz (± 3 dB), Continuous SPL: 131 LF / 132 LMF / 140 HMF-HF dB/1m, Program SPL 134 LF / 135 LMF / 143 HMF-HF dB/1m. Peak SPL 137 LF / 138 LMF / 146 HMF-HF dB/1m cont. IEC268 AES, Maximum Power Handling: 800 LF-1 / 800 LF-2 / 1600 LMF / 640 HMF-HF Watt prog. / 1600 LF-1 / 1600 LF-2 / 3200 LMF / 2000 HMF-HF Watt peak, Impedance Nominal: 4 x 8 Ohm, Minimum 6 ohms @ 240Hz LF1&2 / 6.4 ohms @ 670Hz LMF / 6.7 ohms @ 1.56 kHz HMF-HF, Dispersion Nominal: 100° x 10° (hor. x vert.), Connectors: 2 x speakON® connectors NL8MP (1+/1-, 2+/2- links). Dimensions (H x W x D): 370 mm x 1156 mm x 500 mm, Weight: 89 kg. Options: Durable scratch resistant black textured paint finish. RAL colours available to order.

Safety Instructions

Professional speaker systems are able to produce sound pressure levels that could harm your health.

Never stand directly in front of loudspeakers for long periods. Whilst not immediately apparent to the listener, sound pressure levels in excess of 90dB@1m can be hazardous to the hearing.

Please refer to the following advice when setting up or dismantling OMEGA speaker systems.

1. Be sure to leave adequate distance between speakers and the public. Refer to your local authority for Health and Safety guidance when using loudspeaker systems.
2. Be sure to have safe and stable ground for your speakers, particularly when using speaker stands.
3. When stacking speaker systems, ensure they are secured to prevent individual speakers from falling down or moving around.
4. Only use OMEGA mounting hardware, as this has been specified and approved by KHZ LTD, for use with OMEGA speakers.

Safety Instructions Cont.

5. When flying speakers, appropriate materials and techniques must be employed in order to safely suspend enclosures, taking care to allow for specified enclosure weight.
6. Please observe any special instructions that appear on specific loudspeaker data-sheets.
7. Check your speaker hardware and flying material regularly for any visual or mechanical failure. Replace damaged or suspect items when necessary.
8. Only use OMEGA DSP Solutions. Only technicians authorised by KHZ LTD are qualified to program digital controllers. Take note of recommended controllers as specified on the datasheets. Do not use OMEGA loudspeaker systems without the correct controller. If a system fails due to incorrect controller use, warranty is void.
9. Protect your speakers and electronics from freezing and do not expose them to humidity, water or rain without protection.

OMEGA loudspeakers and electronics are covered against defects in workmanship or materials for a period of two (2) years from original date of purchase. At the discretion of KHZ LTD, the defective item will be repaired/replaced with no charge for materials or labour. The item is to be adequately packed and dispatched, pre-paid, to an OMEGA authorised distributor/service centre. Unauthorised repair shall void the warranty. The OMEGA warranty does not cover cosmetics or finish and does not apply to any item which in OMEGA's opinion has failed due to user abuse, accident, modifications or any type of misuse.

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