



***HOPS-SERIES***

**CODA**  
CODA AUDIO





# HOPS Series - High Output Point Source Systems

**HOPS is a range of passive systems with outstanding output-to-size ratio. These versatile loudspeakers share many common features, enabling them to be integrated as standalone systems or used in conjunction with the wider portfolio of CODA products.**

The series ranges from the most recently added three-way dual 12" HOPS12i - which contains the very latest in CODA's Dynamic Air Cooling (DAC) technology, exchangeable and rotatable waveguides for adjusting directivity, and uses an adapted version of the same high performance 12" neodymium cone drivers with 4" voice coils as CODA's flagship line-array AiRAY - to the smaller two-way HOPS8 (2 x 8") and HOPS5 (2 x 5") enclosures.

HOPS12i addresses the requirements of larger spaces, whilst HOPS5 and HOPS8 provide the perfect solution for near-field applications in small to medium sized venues. All loudspeakers within the HOPS range maintain CODA's signature high fidelity sound and accurate directivity.

Whereas the HOPS12i is specifically intended for installation applications, both the HOPS8 and HOPS5 have their installation counterparts and are available as a Left or Right version with angled cabinets enabling them to be used as monitors and are also available as a T version enabling mobile applications and support.

HOPS enclosures offer a discreet aesthetic, in keeping with the requirements of corporate settings, whilst simultaneously featuring high-tech construction and finish, enabling them to withstand the rigours of any environment. Custom colours and weatherproofing options are available to further broaden the scope of application.



***HOPS12i***



***HOPS8***



***HOPS5***

# HOPS12i

The CODA Audio HOPS12i is an extremely high output three-way installation point source loudspeaker, featuring dual 12" neodymium ultra low distortion cone low-frequency drivers and a 1.4" coaxial neodymium mid/high driver in a compact enclosure.

The loudspeaker is available with different dispersions, providing variable directivity to many installation applications, for instance, dance clubs, houses of worship, sports venues, theatres and corporate events.

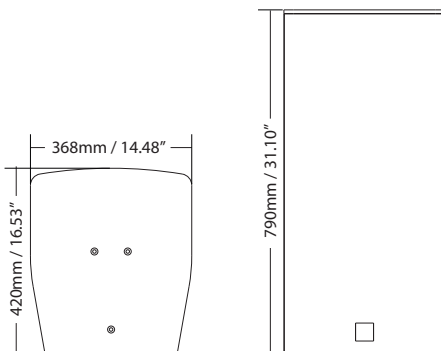
The triaxial design aligns the acoustic centres of the transducers to produce a perfectly coherent and uniform wavefront and power response, with directivity control down to 300 Hz.

HOPS12i is loaded with the best of the best in CODA Audio's advanced technologies: the unique 1.4" mid/high coaxial ring-diaphragm neodymium driver, Dynamic Airflow Cooling (DAC) and phase linearity.

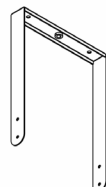
## HOPS12i Features

- ⊕ High Output 3-way full range point source for installation applications
- ⊕ Variable dispersion patterns: 90°x60° rotatable or 60°x 40° rotatable
- ⊕ Max peak SPL 144 dB
- ⊕ High power handling of 2000 W AES
- ⊕ Frequency range: 44 Hz – 22 kHz (-6 dB)
- ⊕ Unique 1.4" mid/high coaxial ring-diaphragm neodymium driver
- ⊕ Dual 12" neodymium ultra low distortion woofer
- ⊕ Dynamic Airflow Cooling (DAC) technology
- ⊕ Superior sound quality with linear phase response

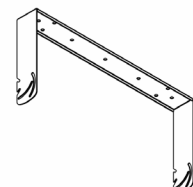
## DIMENSIONS



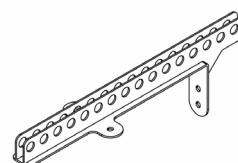
## ACCESSORIES



H12V



H12H

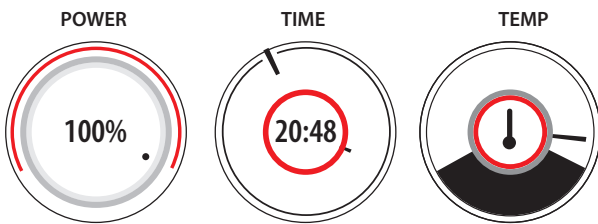
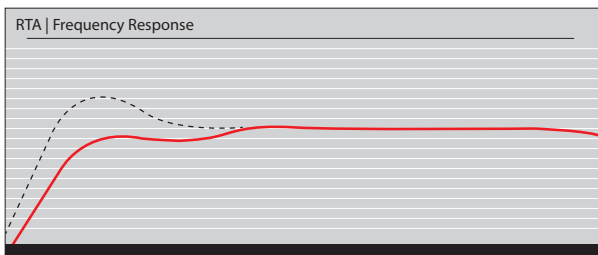


HFA12

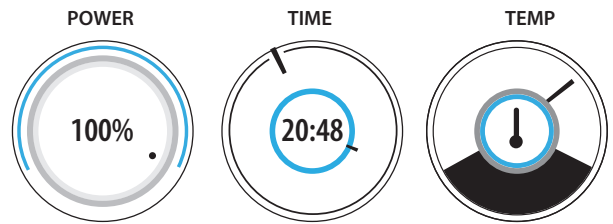
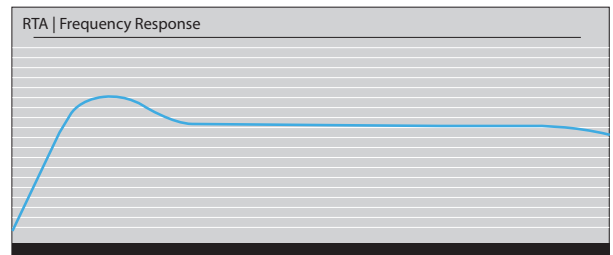
# Dynamic Airflow Cooling (DAC)

The HOPS12i features a front baffle and vents constructed from aluminium, with all drivers thermally coupled & mounted to it. The aluminium vents are optimised to maximise airflow, greatly increasing the thermal capacity of the system. Applying more power to the loudspeaker increases the airflow within the vents, in turn conducting more heat away from the drivers - distributing that heat outside the enclosure. The patented DAC technology dramatically improves heat dissipation, increasing the power handling and the long-term maximum sound pressure of the system two-fold.

## WITHOUT D.A.C.



## WITH D.A.C.



# Unique 1.4" mid/ high Coaxial Neodymium Driver

The mid/high driver assembly designed for HOPS12i comprises two ring-diaphragms mounted concentrically, engineered such that the entire radiating areas of the diaphragms are physically very close to their respective voice coils. Unlike a traditional dome compression driver, this close proximity results in a controlled 'piston-like' movement of the ring; the end result being incredibly accurate reproduction of large bandwidths, massively reducing distortion to nearly immeasurable levels – even at high pressure levels.

By paying meticulous attention to the concentric mounting of the mid and high ring diaphragms, we are able to 'physically position them in the time domain', allowing for a perfect mutual working relationship in phase. What's more, this concentric mounting allows the possibility of a common magnetic assembly shared between the two ring-diaphragms, further introducing a drastic weight saving when compared to discrete mid and high sections. In other words - this attention to detail, fundamentally instilled at the design stage, enables the purest audio possible.



# Low Frequency

**HOPS12i incorporates the extremely high performance 12" neodymium cone drivers with 4" voice coils that are found in CODA Audio's flagship line array AiRAY adapted for DAC mounting.** These drivers feature an unrivalled long excursion, and are fitted with high-flux linear motors which produce an incredibly high SPL. These high efficiency drivers also exhibit ultra-low levels of distortion, all the while minimising any influences from power compression. Their moving mass is minimised through use of carbon fibre diaphragms, which improve cone stiffness and internal damping, resulting in a high sensitivity, and pristine sonic clarity.



# Phase Linearity

**Whilst many of today's 'modern' loudspeakers feature a linear frequency response, very few also benefit from being phase-linear too, but HOPS12i is exactly that.** As a result, there is no need to apply any compromising destructive processing when combining different elements together in complex systems. This simple phase-compatibility between other CODA Audio products delivers faithful imaging, and better overall fidelity.



# Waveguides Versatility

one enclosure,  
different dispersions

HOPS12i features exchangeable waveguides providing various options for adjusting directivity, but unlike many other loudspeakers that only steer high frequency – the HOPS12i waveguides control all the way down to 300 Hz.

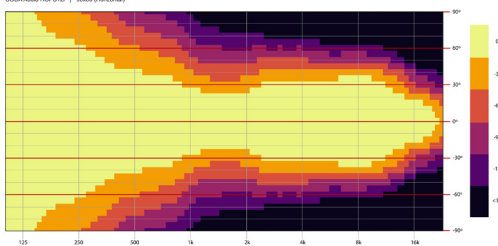
The triaxial design aligns the acoustic centers of the transducers to produce perfectly coherent and uniform wavefront, power response, and directivity control down to 300 Hz.

The coax mid-high driver is loaded to a large elliptical waveguide with supreme horizontal pattern control from 500 Hz (Mid: 500 Hz - 6.3 kHz, High: 6.3 kHz - 22 kHz).

## HOPS12i-96

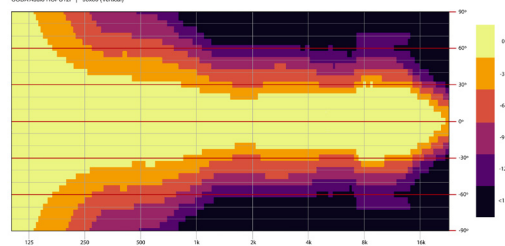
### 90x60 Horizontal

CODA Audio HOPS12i | 90x60 (Horizontal)



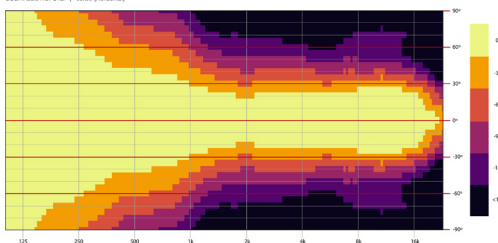
### 90x60 Vertical

CODA Audio HOPS12i | 90x60 (Vertical)



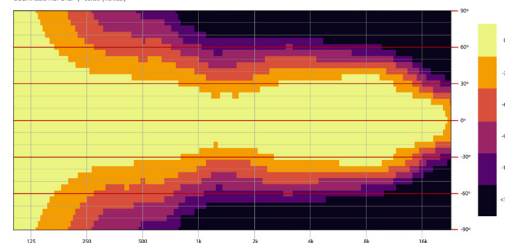
### 60x90 Horizontal

CODA Audio HOPS12i | 60x90 (Horizontal)



### 60x90 Vertical

CODA Audio HOPS12i | 60x90 (Vertical)





The two 12" cone drivers are symmetrically loaded and the vertical distance between their acoustical centers is optimized to enhance the vertical directivity of the system down to 300 Hz.

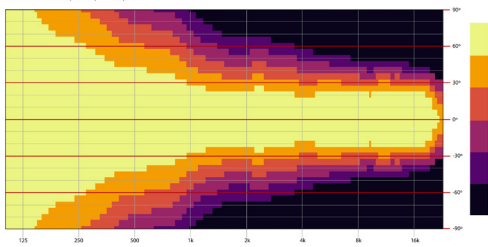
The benefits of this cannot be understated – the broadband energy is exactly focused where it's needed, whilst keeping it away from walls and other reflective surfaces.

Both 90°x60° and 60°x40° waveguides are available, and these are rotatable, giving 4x directivity options. The system can be used as a stand-alone full range system, or together with subwoofers.

## HOPS12i-64

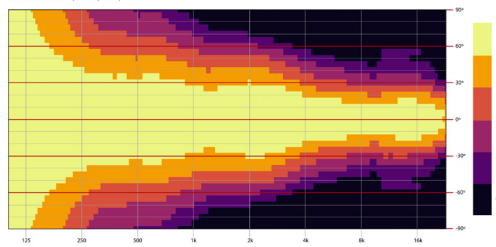
### 60x40 Horizontal

CODA Audio HOPS12i | 60x40 (Horizontal)



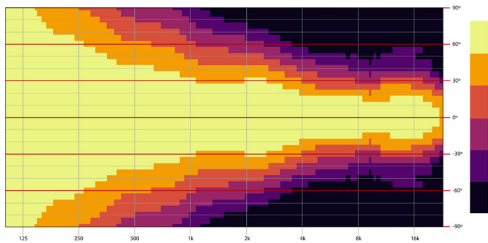
### 60x40 Vertical

CODA Audio HOPS12i | 60x40 (Vertical)



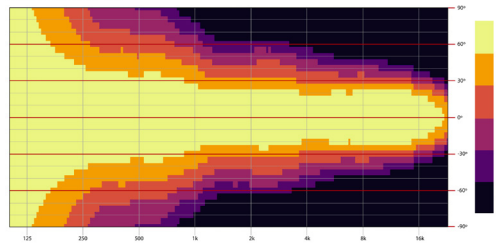
### 40x60 Horizontal

CODA Audio HOPS12i | 40x60 (Horizontal)



### 40x60 Vertical

CODA Audio HOPS12i | 40x60 (Vertical)



# HOPS8



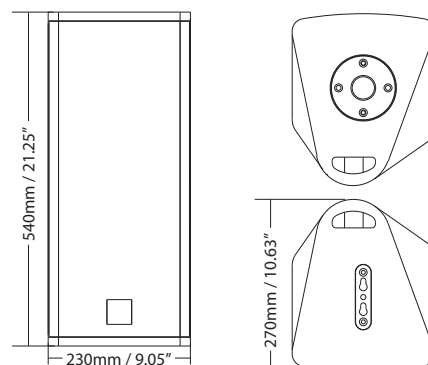
**HOPS8 has a double 8" coaxial system at its core, high power handling of 450 W, and a symmetrical coverage of 100°.** At the heart of HOPS8 are its two super-smart drivers: one 8"/1.75" coaxial, and an additional LF driver. The 8" cone covers the 60-1500 Hz frequency range with extremely high efficiency and a silky smooth linear response. What's particularly clever is the design: two aluminium shorting rings reduce inter-modulation distortion, which minimises induction variation while reducing thermal compression at the same time. In a nutshell, it reduces the distortion massively at longer excursion levels, and in doing so, improves the overall sound quality, providing deep and punchy bass.

The high frequency driver contains an ultra-light 1.75" annular diaphragm which produces an exceptional transient response with very high efficiency from 1 kHz to 20 kHz. This new transducer was engineered to radiate a single source, coherent 100° wave front for superior dispersion control and pristine and transparent high fidelity sound. Together, they guarantee uniform coverage with perfect time alignment between the components.

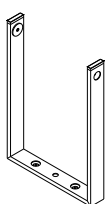
## HOPS8 Features

- ⊕ Compact 2-way coherent point source
- ⊕ Unique 8" coaxial driver
- ⊕ Symmetrical coverage of 100°
- ⊕ System integration with LINUS loudspeaker management amplifiers
- ⊕ Multiplex enclosure with polyurea coating for extreme durability and water protection
- ⊕ Versatile with multiple mounting options

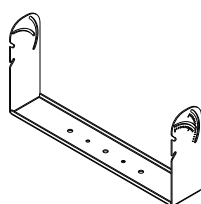
## DIMENSIONS



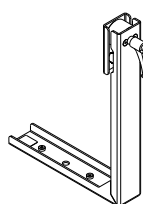
## ACCESSORIES



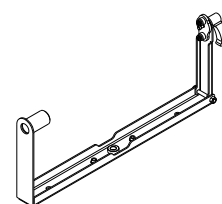
H8V



H8H



HL8



H8TH

# HOPS5



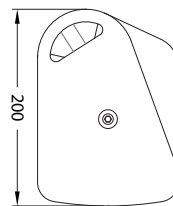
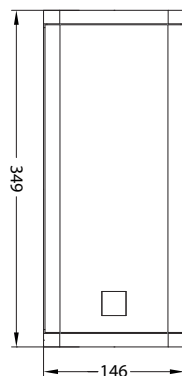
**HOPS5 has a double 5" coaxial system, high power handling of 300 W, and a symmetrical coverage of 100°.** At the heart of HOPS5 are its two super-smart drivers: one 5"/1.75" neodymium coaxial driver, and an additional 5" LF driver. The 5" cone covers the 60-1500 Hz frequency range with extremely high efficiency and a silky smooth linear response. What's particularly clever is the design: three aluminium shorting rings reduce inter-modulation distortion, which minimises induction variation while reducing thermal compression at the same time. In a nutshell, it reduces the distortion massively at longer excursion levels, and in doing so, improves the overall sound quality, providing deep and punchy bass.

The high frequency driver contains the same ultra-light 1.75" annular diaphragm as the HOPS8 which produces an exceptional transient response with very high efficiency from 1 kHz to 20 kHz. This new transducer was engineered to radiate a single source, coherent 100° wave front for superior dispersion control and pristine and transparent high-fidelity sound. Together, they guarantee uniform coverage with perfect time alignment between the components.

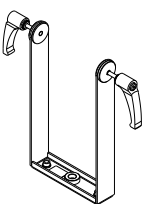
## HOPS5 Features

- ⊕ Ultra compact 2-way coherent point source
- ⊕ Unique 5" neodymium coaxial driver
- ⊕ Symmetrical coverage of 100°
- ⊕ System integration with LINUS loudspeaker management amplifiers
- ⊕ Multiplex enclosure with polyurea coating for extreme durability and water protection
- ⊕ Multiple mounting options

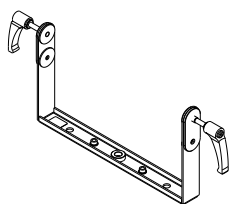
## DIMENSIONS



## ACCESSORIES



H5V



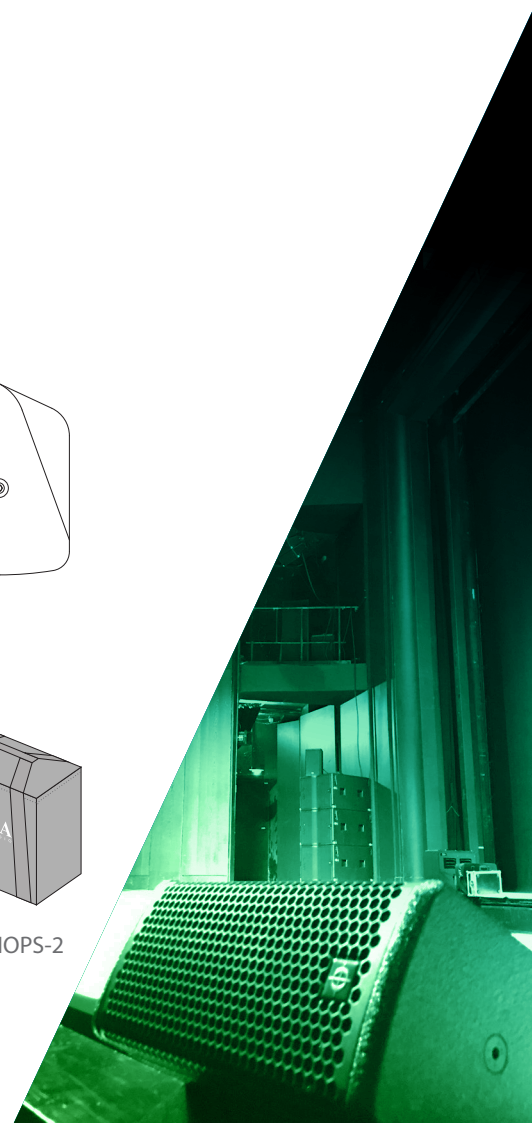
H5H



SF36



COB-HOPS-2



# Electronics

**More power, more control, more efficiency: CODA Audio's LINUS Loudspeaker Management Amplifiers are designed to control all CODA Audio loudspeakers. They are perfectly at home in any role, in both touring and installed sound applications.**

The platform provides intelligent processing, amplification and monitoring in demanding environments; from the smallest of corporate FOH applications, to the largest of stadium installations (and all those in between). Their powerful DSP includes factory presets utilising advanced proprietary DS-FIR and IIR filtering techniques, which obtain maximum performance from CODA Audio loudspeaker systems.

The digital audio distribution via LiNET transmits up to 8 digital audio signals over a shielded CAT5e cable, buffered and sent to the next unit via the LiNET link output for daisy chaining. The graphical user interface LINUS Control offers an innovative, flexible system design, tuning and monitoring.

The current portfolio consists of the LINUS5-C and LINUS10-C and LINUS14D with its comparator for use with our Sensor Controlled Subs.



LINUS5-C



LINUS10-C



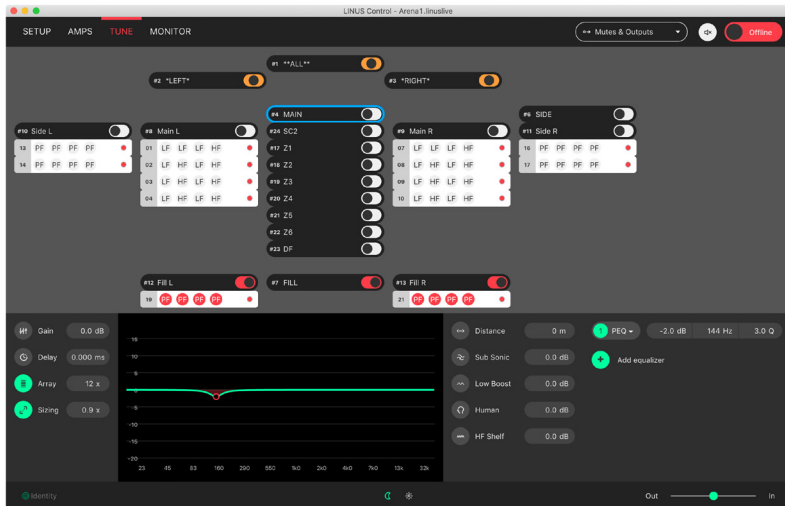
LINUS14D



# Software

## LINUS Control

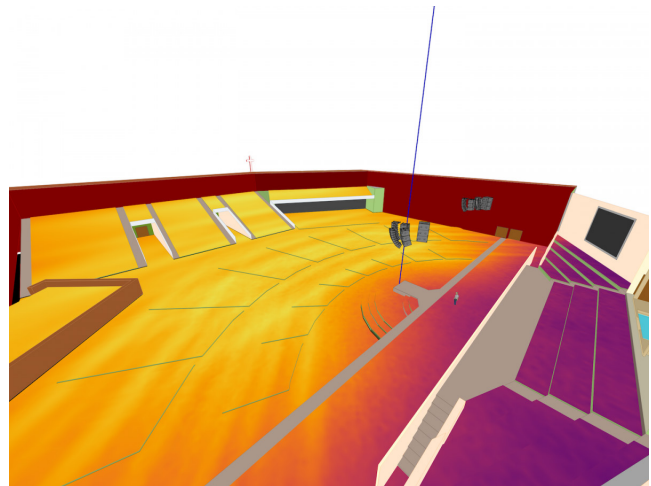
The LINUS Control application provides a reliable and ruggedized method for the control and monitoring of the CODA LINUS amplification platform. It is optimised for both Mac OSX and Windows, for both tablet and native



interfaces. Bundled in the application behind the scenes is the device Firmware, Speaker Files, Control Logic and a 3rd Party UDP Control protocol that will allow for offline remote control of LINUS amplifiers from 3rd Party Devices.

## CODA System Optimiser

Design all sizes of audio system from the smallest of gatherings right up to the largest of stadium productions with incredible ease. Creating proposals for clients. SPL Pressure mapping is presented to you in incredible detail, with a strong sense of reality. Pushed for time. Workflow is tantamount to accuracy and with this in mind, bespoke tools are provided to fully enable the system designer.



## Accuracy

Computationally intensive operations have been highly optimised to deliver results in seconds, not minutes – call it ‘mathemagic’... Predictions are wholly based on real-world electro-acoustic measurements, heavily utilising multifaceted multipole expansions. A highly complex atmospheric model is employed; taking temperature, dewpoint, humidity and altitude into account. Complex response functions are morphed using cutting edge continuous phase techniques, the end result being authentic free-field predictions indistinguishable from reality.

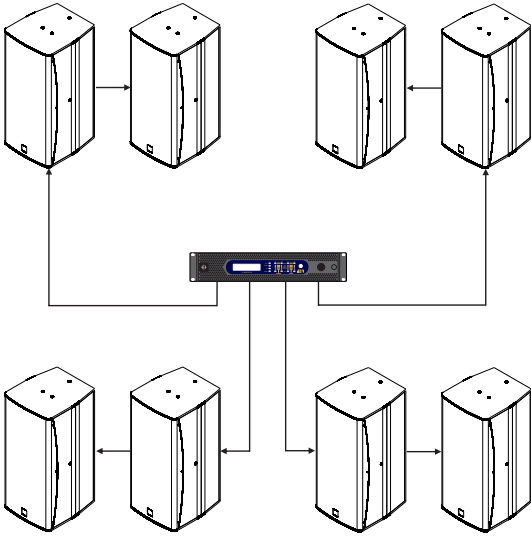
## Power

Clever tools are included to create complex designs effortlessly. Use the layout tool to place loudspeakers in a multitude of shapes and arrangements. The template engine is an incredibly powerful way of managing entities within the layout system. Measurement microphones can be placed anywhere within the 3D scene. Probes are a smart extension of the measurement microphones that make choosing line array angles stress-free. Link Groups define how line arrays are connected, and allow electronic filters to be applied to correct for distance and splay angle.



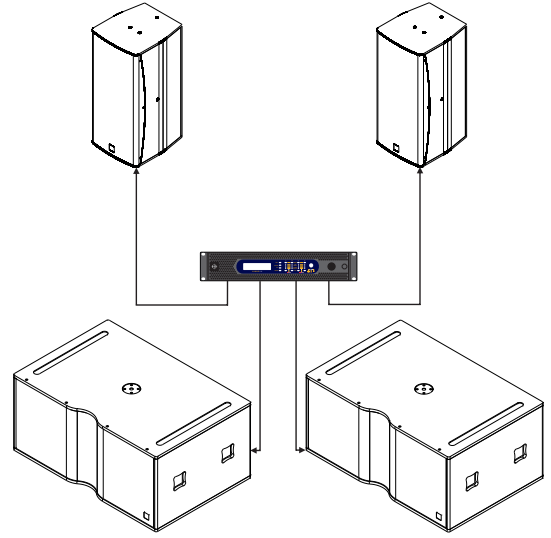
# System Configurations

## HOPS12i SET UP #1



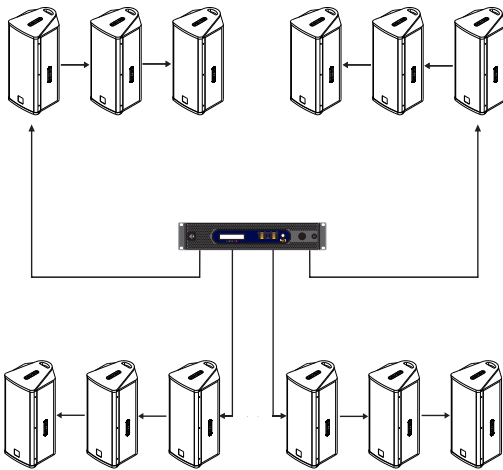
Components: 8x HOPS12i , 1 x LINUS14D

## HOPS12i SET UP #2



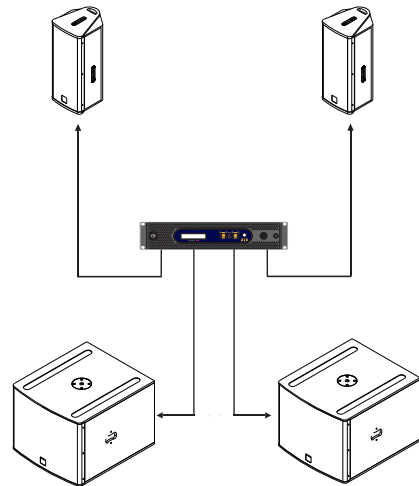
Components: 2x HOPS12i , 2x SCP, 1 x LINUS14D

## HOPS8 SET UP #1



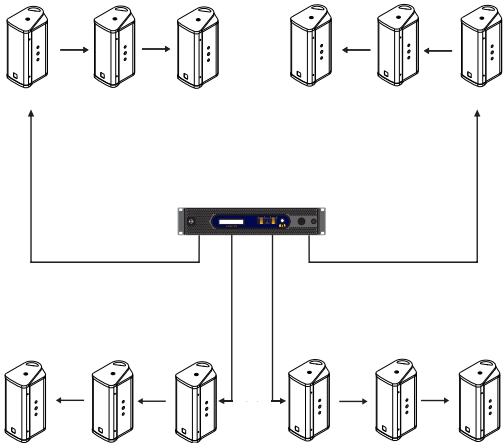
Components: 12x HOPS8 , 1 x LINUS10-C

## HOPS8 SET UP #2



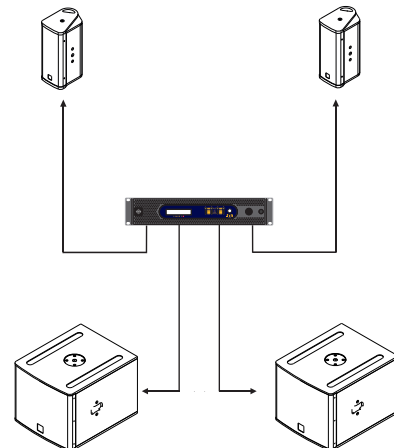
Components: 2x HOPS8 , 2x U15, 1 x LINUS10-C

## HOPS5 SET UP #1



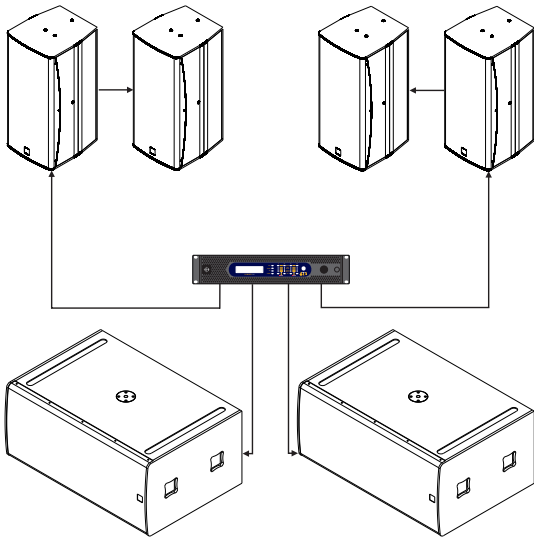
Components: 12x HOPS5 , 1 x LINUS10-C

## HOPS5 SET UP #2



Components: 2x HOPS5 , 2x U12, 1 x LINUS10-C

## HOPS12i SET UP #3



**Components:** 4x HOPS12i , 2x U4, 1 x LINUS14D

## Specifications

	<b>HOPS12i</b>	<b>HOPS8</b>	<b>HOPS5</b>
Product type:	High output 3-way full range point source for installations	Compact 2-way high output point source	Ultra compact 2-way high output point source
Dimensions (WxHxD):	368 x 790 x 420 mm / 14.5 x 31.1 x 16.5"	230 x 540 x 270 mm / 9.06 x 21.26 x 10.63 "	146 x 349 x 200 mm / 5.75 x 13.74 x 7.87 "
Net weight:	34 kg / 74.96 lbs	12 kg / 26.5 lbs	6.4 kg / 14.1 lbs
Frequency response:	44 Hz – 22 kHz (-6 dB)	60 Hz – 20 kHz (-6 dB)	80 Hz – 20 kHz (-6 dB)
Power handling AES / peak:	2000 W / 8000 W	450 W / 1800 W	300 W / 1200 W
Max. peak SPL (with LINUS14):	HOPS12i-64: 144 dB (A)* HOPS12i-96: 142 dB (A)*	131 dB**	124 dB**
<i>Amplification, Cabinets per Amplifier</i>			
LINUS5-C Optimum / Maximum	N/A	4 / 12	8 / 16
LINUS10-C Optimum / Maximum	8 / 12	8 / 16	8 / 16
LINUS14D Optimum / Maximum	8 / 12	8 / 16	8 / 16
Dispersion horizontal:	HOPS12i-64: 60° (rotatable) HOPS12i-96: 90° (rotatable)	100° conical	100° conical
Dispersion vertical:	HOPS12i-64: 40° (rotatable) HOPS12i-96: 60° (rotatable)	N/A	N/A
Components Low frequency:	2x 12" neodymium, water resistant cones 4" (101 mm) VC, 1000 W (AES) each	8" woofer, water-resistant cone driver, 2" (51 mm) VC; 225 W (AES)	5" woofer, water-resistant cone driver 1.5" (38 mm) VC; 150 W (AES)
Components Mid/High frequency:	1.4" neodymium coaxial driver, 3.5" (90 mm) + 1.75" (44.4 mm) VC, 150 W + 80 W (AES)	8" / 1.75" coaxial driver, Low: 2" (51 mm) VC; High: 1.75" (44.4 mm) voice coil, 225 W + 80 W (AES)	5" / 1.75" neodymium coaxial driver, Low: 1.5" (38 mm) VC; High: 1.75" (44.4 mm) VC, 150 W + 80 W (AES)
Crossover point:	3-way passive 440 Hz, 6300 Hz	1500 Hz passive	1500 Hz passive
Input connectors:	2x Neutrik™ NL4MP	2x Neutrik™ NLT4MP	2x Neutrik™ NLT4MP
Nominal impedance LF / MF+HF:	8 Ω (1+/1-)	8 Ω (1+/1-)	8 Ω (1+/1-)
Enclosure material:	Hybrid - Birch plywood and Aluminium	Birch plywood	Birch plywood
Suspension:	12 x M8	HOPS8T: CMS (CODA mobile suspension) + flange adapter HOPS8i: M6 threaded points	Fixing points
IP rating	Standard: IP55 (Direct Cable) Standard: IP54 (Speakon NL4MLP)	Standard: IP55 (Direct Cable) Standard: IP54 (Speakon NL4MLP)	Standard: IP55 (Direct Cable) Standard: IP54 (Speakon NL4MLP)
Weather proof options	MG1 (Marine Grade 1): IP55	MG1 (Marine Grade 1): IP55	MG1 (Marine Grade 1): IP55

\*Measured with pink noise 12 dB crest factor, ISO226-2003.

\*\*Measured with pink noise 6 dB crest factor. Half-space loading.



# CODA

C O D A   A U D I O



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