



Vortis

The new Installation Series by HK AUDIO



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Excellent speech intelligibility, precise coverage patterns, flexible mounting hardware and unobtrusive design are key quality requirements today for loudspeakers used in fixed installations. The new VORTIS Series was specifically developed to meet the needs of this market. At the heart of the VORTIS Series is a newly developed line of high-frequency horns. There are 3 different versions available:

- 60° (hor.) x 40° (vert.),
- 90° (hor.) x 55° (vert.),
- an asymmetric horn which HORIZONTALLY opens up from 60° at the top to 90° at the bottom with a constant vertical coverage of 55°.



These horns are combined with six different housings to extend the frequency range towards the low end. Since the mouth of each horn has a square shape, all horn versions can be rotated by 90° to achieve an alternate coverage pattern. This effectively creates a total of 36 alternative speaker models for sound designers and architects to choose from to fill any need.

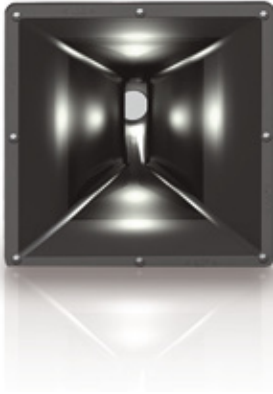
Due to the modular design of VORTIS, long delivery terms are a thing of the past. All housings are kept in the warehouse unfinished, and are fitted with the horn and painted on demand. This system makes it possible to have all speakers in

all RAL colors available within weeks. The trapezoidal housings are angled to permit clustering and offer different mounting points for both vertical and horizontal implementation. Every VORTIS cabinet is fitted with both a Speakon NL 4 connector and double terminal connectors. The design of the new VORTIS Series is elegantly conservative, rendering it ideal for integration into both modern and classical architecture. The metal grille protecting the front of the cabinet is covered with an opaque acoustic grill cloth, available, like the cabinet housings, in all RAL colors.

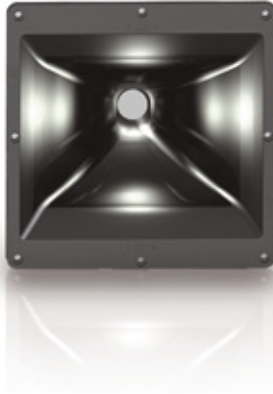


The Vortis HF horn design

60/40



90/55



asymmetrical



The development of the new VORTIS speakers began with a series of new horns. The seminal idea was that the quality of the HF horn plays a critical role in determining important response characteristics of a speaker system, such as

a precise coverage pattern, and high speech intelligibility/STI values. The finished horns are then combined with appropriate housings and LF drivers to meet the various requirements of different kinds of installation projects in terms

of frequency range and full-range capabilities. In the VORTIS range, there are three different horn geometries/radiation patterns. These three horns are available in two different sizes for 1"- and 1.4"- drivers.

Accessories

A variety of accessories are available for mounting the VORTIS speakers. From simple eyebolts, to standard U-brackets that allow you to mount speakers either horizontally or vertically, to fully adjustable brackets — you have every option available to you for aiming the VORTIS speakers directly at the area you want them to cover.



All VORTIS enclosures' bottom and top panels are reinforced. In combination with the mounting accessories, these structural reinforcements make the units easier to install and ensure their certified stability. In addition, every model is equipped with 13 M10 bushings that accept mounting hardware such as ringbolts for even more convenient installation. The installed enclosures may be inclined freely and swiveled in five-degree increments using the optionally available U-bolt and wall mount.

Moreover, the adjustable mounting bracket allows the unit to be aligned horizontally at angles ranging up to 45 degrees. Panels for creating clusters of up to three speakers are also available.

For extended low-frequency response the VORTIS speakers can be combined with subwoofers from the HK AUDIO Installation Line.



Technical Data



	VR 10810	VR 11210	VR 11510	VR 11214	VR 11514	VR 21214
Power handling capacity nominal	100 watts	350 watts	350 watts	350 watts	350 watts	700 watts
Power handling capacity programm	200 watts	700 watts	700 watts	700 watts	700 watts	1400 watts
Power handling capacity peak	400 watts	1400 watts	1400 watts	1400 watts	1400 watts	2800 watts
Frequency response -10 dB	84 Hz-20 kHz	61 Hz-20 kHz	60 Hz-20 kHz	62 Hz-20 kHz	55 Hz-20 kHz	60 Hz-20 kHz
Crossover	2 way passive	2 way passive	2 way passive	2 way passive	2 way passive	2,5 way passive
Crossover Frequency	1100 Hz, 2. order	1800 Hz, 2. order	1800 Hz, 2. order	990 Hz, 2. order	990 Hz, 2. order	800 Hz/ 1100Hz
Sensitivity 1W@1m, Fullspace, (100Hz - 20kHz) [dB SPL]	95	98	100	99	100	101
Sensitivity 1W@1m, Halfspace, (100Hz - 20kHz) [dB SPL]	101	104	106	105	106	107
Max SPL 10% THD, DIN 60268-01 Fullspace [dB SPL]	118	128	129	129	130	133
Nominal Impedance	16 ohms	8 ohms	8 ohms	8 ohms	8 ohms	4 ohms
Loudspeaker	1 x 8"	1 x 12"	1 x 15"	1 x 12"	1 x 15"	2 x 12"
High frequency driver	1 x 1"	1 x 1"	1 x 1"	1 x 1,4"	1 x 1,4"	1 x 1,4"
Horn variations: 60° x 40°, 90° x 55°, 60°- 90° x 55°	yes, rotatable	yes, rotatable	yes, rotatable	yes, rotatable	yes, rotatable	yes, rotatable
Directivity Index	Depends on horn variation					
Connections	1 x NL 4, 2 x Terminal	1 x NL 4, 2 x Terminal	1 x NL 4, 2 x Terminal	1 x NL 4, 2 x Terminal	1 x NL 4, 2 x Terminal	1 x NL 4, 2 x Terminal
Housing	MDF	MDF	MDF	MDF	MDF	MDF
Filter	Controller *	Controller *	Controller *	Controller *	Controller *	Controller *
Finish	Polyurethan lacquer, every RAL Colour					
Metal Grille with cloth	yes	yes	yes	yes	yes	yes
Rigging Points	13 x M10	13 x M10	13 x M10	13 x M10	13 x M10	13 x M10
Weight	11 kg; 24 1/4 lbs	17 kg; 37,5 lbs	22 kg; 48,5 lbs	26 kg; 57,3 lbs	30 kg; 66,1 lbs	34 kg; 75 lbs
Dimensions in cm	49 x 29 x 24	60 x 42 x 40	75 x 52 x 40	74 x 42 x 40	81 x 52 x 40	109 x 42 x 40
H (inch)	19 19/64	23 5/8	29 17/32	29 1/8	31 57/64	42 17/32
D (inch)	11 27/64	16 17/32	20 15/32	16 17/32	20 15/32	16 17/32
W (inch)	9 29/64	15 3/4	15 3/4	15 3/4	15 3/4	15 3/4
Accessories	Wall mount plate, cluster plate, ringbolts, adjustable mounting bracket, U-Bolt					

* For better equalization and overload protection we recommend operating the speakers in combination with the HK AUDIO FIRNET or HK AUDIO DSM 2060 Controller.