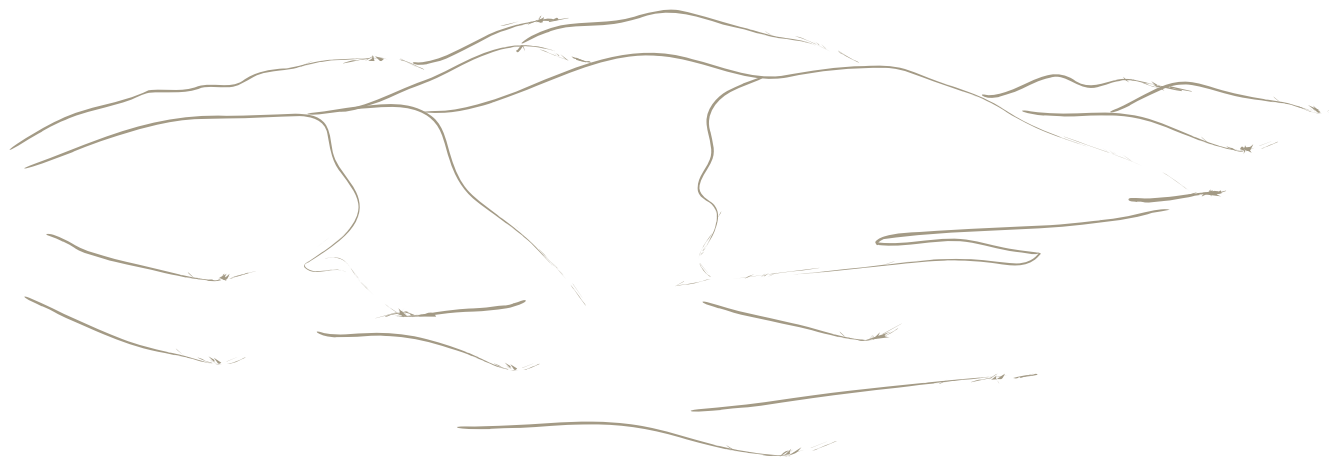
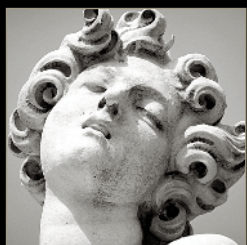


HELICON





HELICON





TRUE HIGH END

The new Helicon series from DALI presents music in a way that pays perfect tribute to our motto: "Magic Moments". This is no coincidence. Just looking at the Helicon loudspeakers, your first guess would be that you are experiencing the ultimate line from DALI, such is the style and standard of workmanship. The gently curved enclosures, so easy on the eyes, and the rich real-wood veneer, lacquered and polished to a high gloss, spell luxury.

The components and techniques utilized in the Helicon only confirm this impression. Multi-layer MDF enclosures, cast chassis drive units, the very special DALI® Tweeter Module, hand-assembled and hard-wired crossover networks in separate compartments and all the techniques and theories developed and finely tuned by DALI over the years.

Even the name Helicon was not chosen at random, but carefully selected for its close association with the art of music. Helicon is a mountain range in Greece occupying a very special place in ancient Greek mythology. According to the legends, this is where the patron goddesses for science and art, the MUSES (hence MUSic), had their home. There were nine of them, all

daughters of Zeus the god, each representing an art form or science.

The "Magic Moments" slogan goes to the core of DALI's purpose: the ultimate in music reproduction. The unique principles that DALI incorporates into each loudspeaker, serve to extract every bit of information from the source and present it at its most breathtaking. There is no purpose in revealing all information if the result is clinical or analytical. This is why we strive to preserve the beauty and integrity of the performance, rather than taking it apart and laying it bare. The difference is striking, and the combination of resolution and exhilaration is difficult to master. The magic that results is so essential to us. "Magic Moments" perfectly describes what we strive to present to you.

The techniques and design features of the Helicon range are all of the highest standard.

THE ENCLOSURES

In order to combine rigidity and effective damping of resonances in the enclosure panels, the core material is made of several layers of MDF, bonded together by adhesives under extreme pressure. This makes the already well-behaved MDF (multi density fibre) material even more inert and capa-

ble of suppressing resonance. Additionally, internal brace panels are added. The result is a virtual absence of coloration from the inert surfaces.

The exterior finish of the speakers is stunning, with polished lacquer enhancing the very elegant styling and real-wood veneers.

THE HELICON TWEETER MODULE

The DALI® ribbon and soft dome wide dispersion tweeter module is the most visually striking feature behind the grilles of the Helicon series. In order to control dispersion and optimise resolution while extending frequency beyond the limit of human hearing (necessary for new ultra-wide band-width DVD-Audio and SACD recordings), we combined a 1" dome tweeter and a super tweeter ribbon into one aluminium panel tweeter block. This assures perfect stiffness and excellent cooling, further aided by Ferro fluid in the voice coil gap of the dome tweeter. Effectively, these two units perform as one, offering body and lots of air at the same time. This module is found in all Helicon models.

THE NEW CONES

The 6.5" and 8" woofers are custom made for the Helicon series, with new wood-and-paper fibre

composite cones and dust caps as well as high-acceleration- geometry profile cone shape. DALI prefers light, stiff cone materials that react with lightning speed to the signals, but pliable enough for the inherent sound of the cone material not to shine through. To achieve this, we have chosen a new type of paper cone that contains unusually long wooden fibres in carefully measured proportion. The fibres control resonance and permit a more lightweight cone to be used.

A light coating then controls the few remaining resonances. The cone curvature is optimised to effectively transform the impulses from the voice coil into faithful movements of air.

"LOW LOSS" WOOFER AND MIDRANGE DRIVE UNITS

"Low loss" means that all parts or assemblies in the drive units that may impart damping or braking are either re-designed or done away with. This means that even the tiniest signals are effectively converted into acoustic energy instead of being lost to sluggish mechanics or resistance to motion.

AMPLIFIER-FRIENDLY

One consequence of adhering to "low-loss" principles is that the speakers do not mask bad behav-

iour from the amplifier. Many amplifiers react poorly when facing difficult speaker loads, and a Helicon speaker would show this very clearly, because it presents even these minute details so accurately. In order to avoid this problem, all Helicon speakers are designed to be benign amplifier loads. Amplification of the highest class is an advantage with the Helicons, but more modest amplifiers are also suitable.

LINEAR DIRECTIVITY

We have designed the DALI® Linear Directivity principle into Helicon. Sound dispersion is extremely even, permitting listening even at extreme off-axis positions, but also resulting in the speakers being relatively impervious to changes in room acoustics. In short, they retain their character even when moved from room to room. And the sweet-spot effect is not nearly as pronounced as commonly found, because the more distant speaker does not suddenly sound much lower or very different. This means that it is not necessary to sit exactly in the middle in order to enjoy a coherent "soundscape". Unusually, this is true even for the high treble notes, thanks to the super tweeter ribbon.



HELICON 400



The Helicon 400 combines the weight and authority of a true floor-standing loudspeaker with a svelte, elegant visual appearance. They function perfectly as either stereo speakers, or main speakers in a surround system for medium-sized rooms. The Helicon 400 features a 2 ½ way system with two 6.5" woofer/midrange drivers. One 6.5" driver handles the lowest frequencies and the other extends to the Helicon special tweeter module with its 1" soft dome and ribbon tweeter. Normally, the narrow front baffle would result in reduced levels below 500 Hz. However,

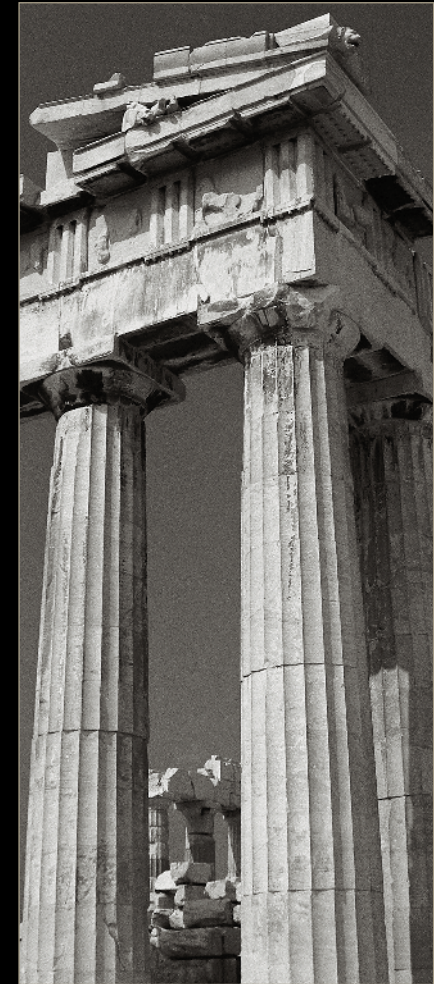
the twin woofers share the load below this frequency (in effect acting as a single 9" woofer), reducing woofer excursion by half. Above 500 Hz, the upper woofer takes over, eliminating phase problems at shorter wavelengths. Each woofer is housed in its own chamber with internal bracing and a flared air-flow reflex port. A separate third chamber is created solely for crossover network in order to protect this delicate assembly from the tremendous sound pressure levels within a loudspeaker.



HELICON 800

The Helicon 800 is an imposing, floor-standing speaker, capable of massive sound pressure levels and powerful, deep bass. The 800 features an extremely strong multi-layer enclosure, reinforced with heavy internal bracing, capable of controlling and suppressing internal resonances. Helicon 800 is eminently suited as a stereo speaker or main surround speaker, primarily for larger rooms. Essentially a three-way system, the 800 utilizes twin 8" woofers, housed in separate bass reflex chambers, one 6.5" midrange and one special-design Helicon high frequency module, consisting of a 1" soft dome tweeter and a ribbon tweeter. The reflex ports on the back are flared designs to minimize airflow noise.

The crossover network is situated in a separate, sealed chamber, protected from vibration induced by extreme pressure waves inside the enclosure. The Helicon 800 is eminently linear, with negligible coloration and capable of separating the tiniest details in the midst of tempestuous sound levels.



HELICON 300

The Helicon 300 is the bookshelf or stand-mount model of the line. It is designed to be freestanding like the larger models. All aspects of appearance and construction are identical to the 400 and 800, but modified for use in smaller rooms or where a more discreet speaker is called for. It features a 6.5" woofer/midrange unit in a reflex enclosure with the special Helicon tweeter module. The airflow flared reflex port is placed on the back. The sound is full-bodied and refined, with real bass extension to below 40 Hz. This deep bass extension renders Helicon 300 a serious speaker in its own right. The surprising weight and substance of the 300's sound, combined with the highly responsive, fast-acting low-loss drive units, result in a finely tuned, immensely detailed stereo speaker. In surround systems the 300 is perfectly suited as front speaker, and obviously matches larger Helicon models as an ideal rear speaker in extremely large surround systems.



HELICON W200

The W200 is intended as an on-wall suspended speaker, capable of the same high quality sound as the other Helicon models. It features a 6.5" woofer/midrange drive unit and a Helicon tweeter module. The appearance matches the rest of the series, with curved side panels. The front panel is angled 20°, utilizing the wall as an extension of the front panel. This design ensures that bass sounds do not disappear rearwards,

but are directed towards the listening position. The sealed enclosure helps support this purpose, resulting in a potent, big-sounding speaker, which doesn't dominate a room. The W200 is well suited as a main speaker for stereo and surround systems. However, the W200 is best utilized as a rear and side speaker in full-sized surround systems.



HELICON C200



Helicon C200 is the centre channel speaker of the series. The C200 is designed to match even the large Helicon 800, and to handle the formidable demands of modern movie soundtracks, providing abundant volume and deep bass. The C200 is a powerful centre speaker, featuring twin 6.5" woofer/midrange drivers housed in separate bass reflex chambers, and the Helicon special tweeter module. The horizontal, curved top and base panels compliment the curved side panels of the vertical Helicon models. As a special feature, the curve of the base panel fits precisely into the curved top panel of the Helicon S600

subwoofer. This design allows the C200 to utilize the S600 as a pedestal, with both horizontal and pivot adjustments, ensuring perfect alignment to the listening position.

The Helicon special tweeter module is rotated 90° to maintain its vertical orientation and ensure wide horizontal dispersion. All drive units in Helicon C200 are magnetically shielded, permitting freedom in location. If positioning the C200 on top of the S600 subwoofer is not suitable, it may be placed on a shelf above or below the video monitor.



HELICON S600

Helicon S600 is the subwoofer of the series. It is a strikingly elegant subwoofer, equally capable of serving as a surround subwoofer or to supplement a stereo system in the extreme bass. Like the other Helicon speakers, it is made from solid laminated panels, veneered and polished to present the structure and patterns of the wood exquisitely. The curved top panel is meant to act as a cradle for the C200 centre speaker, permitting the C200 to be rotated into correct listening position. If no C200 is placed there, the concave top serves to accentuate the elegance and high class of the Helicon series. Although it is compact, the S600 features twin active 12" long-throw subwoofer drive units, firing sideways and opposed.

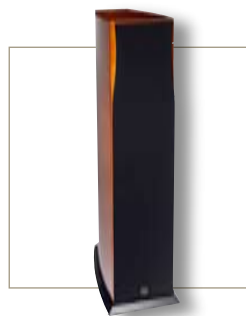
The very rigid and lightweight cone material is easily accelerated by the large double magnets. The fact that the woofers are opposite each other and moving in opposite directions means that there is no resulting force acting upon the system as a whole, rendering the bass signal more precise. This also means that a C200 centre speaker placed on top of the sub is unaffected by vibration. The enclosure is sealed, like most DALI subwoofers. This principle eliminates port chuffing noise and yields optimum pitch, definition and precision. The S600 incorporates active equalization, which means that the subwoofer can reproduce extremely low frequencies at the correct levels. In order to protect the drive units

against unwanted subsonic noise, frequencies below 20 Hz are filtered out.

The amplifier provides a formidable 300-watts of power, resulting in a maximum SPL of 117 dB at 25 Hz.



The complete Helicon series



HELICON 800



HELICON 400



HELICON 300



HELICON W200



HELICON C200



HELICON S600

The complete Helicon series is available in:

Cherry



Rosenut



Technical Specifications

	HELICON 800	HELICON 400	HELICON 300	HELICON C200	HELICON W200	HELICON S600
	Main Speaker	Main Speaker	Compact Speaker	Center Speaker	Wall Speaker	Active Subwoofer
Frequency range +/- 3 dB (Hz)	31 - 27.000	31.5 - 27.000	37 - 27.000 Hz	49 - 27.000	41 - 27.000	25 - 175
Crossover frequencies (Hz)	580 / 3.000 / 13.000	(700) / 3.000 / (13.000)	3.400 / 13.000	2.800 / 13.000	3.000 / 13.000	45 - 120
Sensitivity (2.83 V / 1m)	89.5 dB	88.0 dB	86.0 dB	90.0 dB	89.0 dB	-
Nominal impedance	4.0 Ω	4.0 Ω	4.0 Ω	4.0 Ω	4.0 Ω	20 k Ω
Minimum impedance	3.6 Ω	3.7 Ω	4.3 Ω	3.8 Ω	4.0 Ω	20 k Ω
Maximum SPL	113 dB	111 dB	108 dB	111 dB	108 dB	117 dB
Recommended amp. power	50 - 400 Watt	50 - 300 Watt	50 - 200 Watt	40 - 250 Watt	30 - 150 Watt	
Amplifier	-	-	-	-	-	300 W RMS / 600 W Peak
High frequency drivers	1 x 25 mm soft dome 1 x 10 x 55 mm ribbon	1 x 25 mm soft dome 1 x 10 x 55 mm ribbon	1 x 25 mm soft dome 1 x 10 x 55 mm ribbon	1 x 25 mm soft dome 1 x 10 x 55 mm ribbon	1 x 25 mm soft dome 1 x 10 x 55 mm ribbon	-
Midrange drivers	1 x 6½"	-	-	-	-	-
Low frequency drivers	2 x 8"	2 x 6½"	1 x 6½"	2 x 6½"	1 x 6½"	2 x 12" long throw
Bass reflex tuning frequency	28.5 Hz	32.0 Hz	34.5 Hz	36.0 Hz	-	-
Dimensions (HxWxD) (mm)	1126 x 255 x 493	1026 x 219 x 457	435 x 208 x 356	210 x 650 x 435	452 x 326 x 214	642 x 420 x 415
Dimensions (HxWxD) (inch)	44.33 x 10.04 x 19.41	40.39 x 8.62 x 17.99	17.13 x 8.19 x 14.02	8.27 x 25.59 x 17.13	17.80 x 12.83 x 8.13	25.28 x 16.54 x 16.34
Weight	40.9 kg (90.1 lb)	31.7 kg (69.7 lb)	9.8 kg (21.6 lb)	18.4 kg (40.5 lb)	9.5 kg (20.9 lb)	40.0 kg (88.1 lb)
Finish	High gloss cherry and rosenut	High gloss cherry and rosenut	High gloss cherry and rosenut	High gloss cherry and rosenut	High gloss cherry and rosenut	High gloss cherry and rosenut

Magic Moments

TRUE HIGH END

MINIMUM PHASE SHIFT

Time coherence is an aspect of the Helicon that has received meticulous attention, with particular emphasis on the crossover frequencies fraught with phase problems. Correct resolution of transients and three-dimensional imaging hinges upon proper phasing. The painstaking efforts DALI dedicated to this issue have been richly rewarded. It's almost possible to walk directly into the three-dimensional space presented by the Helicons. There is a very real, tactile sense to the music.

NO DYNAMIC DISTORTION

The drive units used in the Helicon speakers are designed for low distortion, not just when faced with constant sound, but also when handling transients. Dynamic distortion is harmful because it creates non-harmonic by-products, alien to music and therefore easy to hear. Eliminating these by-products dissolves a primary cause of listening fatigue and "artificial" sound. Another benefit of low dynamic distortion is that the Helicons don't sound loud or stressed, even at loud volumes. It's possible to listen "through" the speakers directly into the music.

EXTREMELY WIDEBAND DRIVE UNITS

In order to achieve superior performance within each drive unit's range, the driver must be able to perform well beyond this envelope. The 6.5" woofers extend from approx. 30 Hz to more than three octaves beyond the range demanded by the crossover network. The Helicon tweeter module likewise extends far lower than necessary. The result is effortless, accurate presentation.

CROSSOVER NETWORKS

The crossover network in each Helicon loudspeaker is highly advanced. Helicon crossovers embody the concept that the driver and the network are not separate entities, but an inseparable whole. The meticulous matching of network and drive units permit Helicon speakers to provide impressive three-dimensional imaging. Each DALI crossover component is selected for maximum sonic performance, reliability and durability.

All components are positioned to minimize crosstalk, even to the extent that the direction of the choke windings are considered. All components are "hard-wired", eschewing the use of circuit boards. All component wires are soldered directly

to each other, resulting in the lowest possible loss. All components are secured to the mounting plate by glue and/or screws to eliminate individual resonances. To further reduce the effects of vibration, the crossover networks of Helicon 400 and 800 are housed in a separate zero-pressure, zero-vibration crossover chamber, removed from vibrations within the speaker enclosures.

The connecting terminals are heavy-duty gold plated hardware with plastic sleeves to protect against shorting. All models are designed for bi-wiring.

BASES

The floor standing models are placed on sturdy MDF bases, fitted with threaded inserts for spikes (included). The crossover network is situated in a separate compartment, supported by the base.



Magic Moments