



Concept 500

Introducing Concept 500

Founded in 2006, Q Acoustics quickly built a reputation for designing and manufacturing class-leading loudspeakers...the stage is set for Concept 500!

Designed to appeal to discerning audiophiles, the Concept 500 achieves a perfect balance between art and science. It is a loudspeaker that is at once, stylish, contemporary, fine-sounding and astonishingly accurate. It couples low directivity with wide bandwidth, good sensitivity and sensible impedance. This makes the new Concept 500 both room-friendly and an easy load to drive allowing amplifiers to deliver their best performance.

To create a stereo soundstage which gives as good an impression of width, depth and height as that found in a live performance, requires good quality drive units, a well-designed cross-over and a properly constructed cabinet. Working in collaboration with Fink Audio-Consulting and industrial designers IDA, Q Acoustics has formed a truly talented team with many years of experience in the design, engineering and manufacture of world-beating loudspeakers. Working tirelessly, this team has designed and produced a truly state-of-the-art loudspeaker worthy of any high-end system.



Cabinet Construction

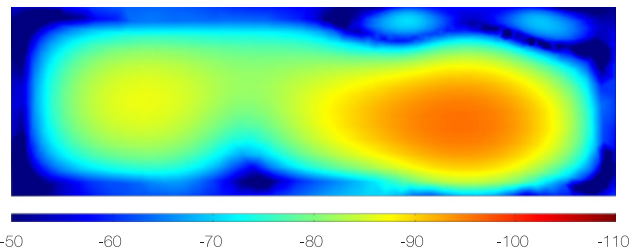
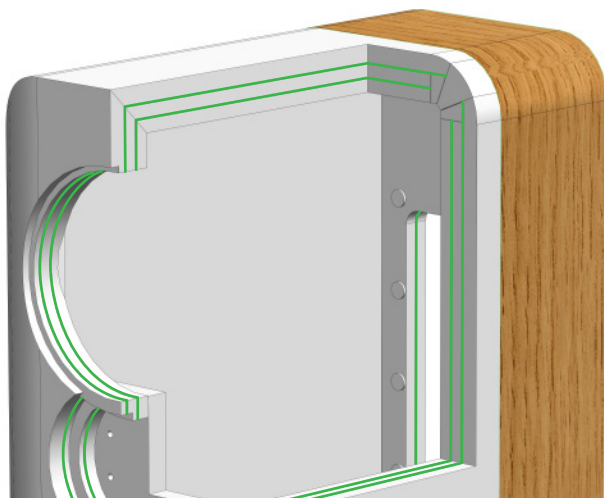
Unwanted noise created by sympathetic vibrations of the cabinet can interfere with the loudspeaker's ability to produce totally accurate imaging. Q Acoustics primary goal was to achieve the lowest possible signal to noise ratio and this required the development of proprietary technologies to keep cabinet resonances to a minimum.

Q Acoustics P2P™

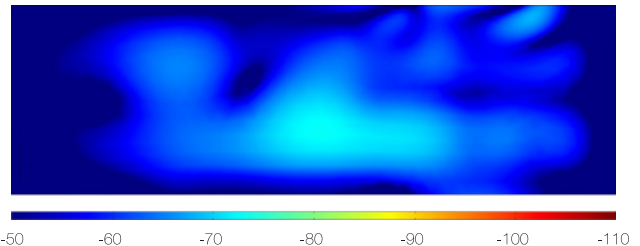
Through the use of Finite Element Analysis and Laser Interferometry the exact performance of the cabinet structure can be minutely and accurately analysed to reveal the exact positions which need support. The resulting bracing method, known as Q Acoustics P2P™ (Point to Point) bracing, only supports the parts of the cabinet that need to be stiffened and does not spread unwanted energy indiscriminately.

Dual Gelcore™

Whereas Q Acoustics P2P™ bracing deals with low frequency panel vibrations, higher frequency cabinet noise is dealt with by the use of Dual Gelcore™ which is a development of the Gelcore™ technology used to great success in our Concept 20 & 40 loudspeakers. The Concept 500 cabinet is constructed in three separate layers rather like a room, within a room and the resulting interstices are completely filled under



Above - Unbraced cabinet surface velocity indicating movement hotspots



Above - Cabinet surface velocity indicating movement hotspots using Q Acoustics P2P™ bracing. Notice the much lower velocity.

pressure with a compliant form of non-setting gel. The two constrained layers effectively damp the walls of the speaker cabinet by converting higher frequency vibrations into heat, which is then dissipated harmlessly within the damping gel.

HPE™

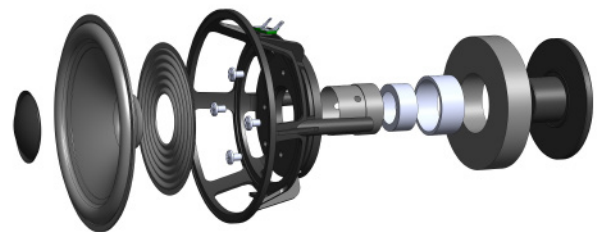
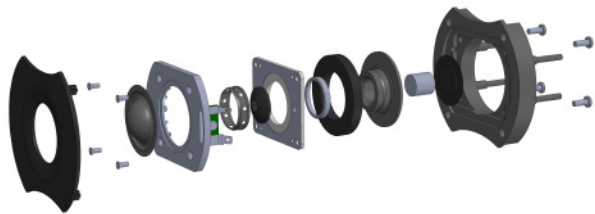
Tall loudspeakers tend to suffer from resonance caused by unwanted pressure gradients. Q Acoustics engineers have employed a specially designed Helmholtz Pressure Equaliser (HPE™) inside the cabinet to assist in balancing pressure irregularities. The HPE™ tubes convert pressure to velocity within the enclosure, which reduces the overall pressure gradient and increases low frequency linearity.

Drive Units

Q Acoustics drive units are the culmination of years of experience combined with precision modelling and measurement, confirmed of course, by critical listening.

Mid / Bass Driver

The cone is precision formed from impregnated and coated paper and is teamed with a newly developed, low-hysteresis, rubber surround which helps to reduce unwanted cone resonances. The voice coil has an uncommonly large diameter of 35mm which allows increased 'shove' and higher power handling, as well as reduced dynamic compression. Instead of Kapton or aluminium, the voice coil former is made of glass fibre which delivers the required stiffness but without the unwanted effects of eddy currents within it.



High Frequency Driver

Finite Element Analysis was used to model the acoustic performance of the soft dome and surround for optimal axial dispersion. The extra wide high frequency drive unit surround contributes to the dispersion of upper frequencies, adding extra energy off axis. The high frequency unit is mechanically decoupled and mounted in a specially designed rubber gasket which is designed to effectively isolate the driver and speaker cabinet from reciprocal vibrations that otherwise would be transmitted between them.



Crossover

Low distortion drive units and an exceptionally quiet cabinet can ruthlessly expose a poor crossover!

For this reason great care has been taken in both the design of the Concept 500 crossover and the selection of components. A massive 10 cm x 10 cm Mundorf Aircore inductor is used that introduces virtually zero noise and distortion. The inductor is paired with Mundorf Supreme and other high-grade polypropylene film capacitors. The resistors are custom-made bifilar-wound with astonishingly low inductance.

The overall topology is 4th-order Linkwitz-Riley which gives an excellent response both on and off-axis. To further strengthen the room-friendly character of the Concept 500 links are provided to adjust the high frequency by + or - 0.5dB.

The nominal impedance is a deliberately sensible 6Ω with an absolute minimum of 3.7Ω which makes the speakers relatively easy to drive.



Industrial Design

In keeping with the design DNA of Q Acoustics, the concept was pared-back to be as clean looking as possible using quality materials and effortless detailing.

Cabinet Plinth

The cast aluminium base of the Concept 500 is securely mounted to the bottom of the cabinet. It can be fitted with four sharp spikes or ball-end feet which allow excellent adjustability and complete rigidity on sloping or uneven floors. Because the plinth is designed without large flat areas or additional adornments it does not encourage unwanted acoustic reflections – the music will rock, the loudspeaker will not!



Terminals and rear access panel

The rear access panel has been constructed by sandwiching layers of MDF, steel and bitumen to maintain the integrity of the Dual Gelcore™ cabinet. The Concept 500 is equipped for bi-wiring or bi-amping with terminals which can accept bare wires, spades or 4 mm banana plugs.

Woofer mounts

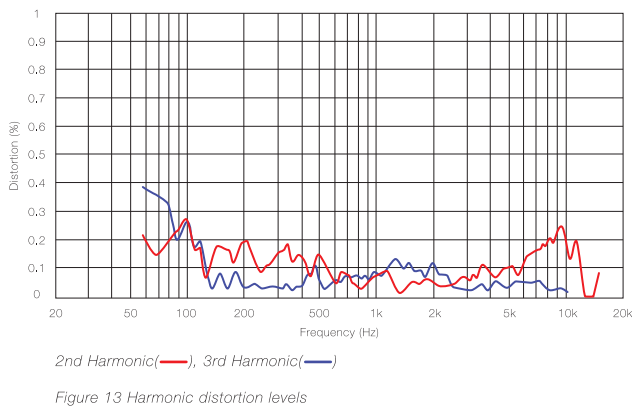
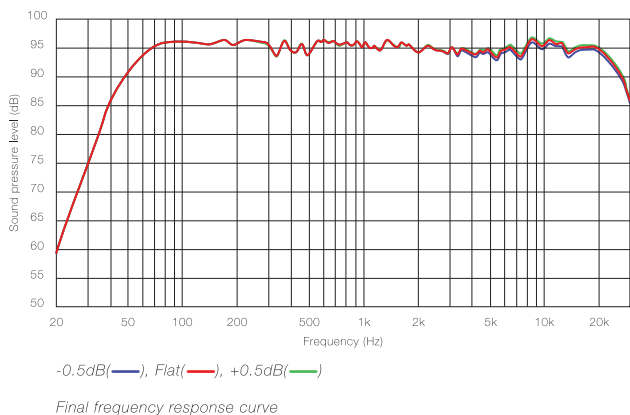
The mid / high drivers are mounted from the rear using an innovative spring tensioned bolt system. This has been designed to maintain torque and secure the drivers under permanent tension to eliminate any potential loss in performance over time. As a result the baffle is free from any unnecessary fixings or trim resulting in a clean and uncluttered look. The removable grille is magnetically attached to keep the front face of the speaker visually pure and refined.



Beautifully Engineered Sound

The Concept 500 is a fine example of the type of breakthrough that can be achieved by a partnership of like-minded designers and engineers, who are dedicated in their quest for excellence and refuse to be limited by current thinking and accepted standards.

As well as being neutral, powerful and dynamic, the super-quiet Concept 500 cabinets create a deep and focused soundstage and as can be seen below, display excellent linearity and astonishingly low 2nd and 3rd order harmonic distortion.



We recognise that the choice of loudspeaker is always a very personal one. System matching, room acoustics and individual taste will all play an important role. However, we can state with complete confidence, that the new Q Acoustics Concept 500 is easily good enough to be included at the top of anyone's audition shortlist.

Specification

Frequency Response	41Hz - 30kHz
Nominal Impedance	6 Ω
Minimum Impedance	3.7 Ω
Recommended Power	25-200 watts
Distortion (120Hz – 20kHz)	0.2%
Crossover Frequency	2.5kHz
Mid Bass / Driver	2 x 165mm
High Frequency Unit	28mm
Size (W x H x D)	400 x 1150 x 350mm
Weight	42kg



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We reserve the right to change the designs and specifications without notice.
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