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# Q Acoustics Concept 50

Inspired by the flagship Concept 500, Q Acoustics' '50 packs a host of trickledown thinking into its slender frame  
 Review: **Mark Craven** Lab: **Paul Miller**

**W**hen Q Acoustics launched its Concept loudspeaker range in 2013, it began with a sub-£500 standmount – the Concept 20 [HFN Feb '14]. While this was in keeping with the value-for-money reputation the UK brand had developed since its arrival in 2006, within a few years it was reaching higher with the (then) £3000 Concept 300 and £4200 flagship Concept 500 [HFN Jul '17].

With the new £1999 Concept 50 reviewed here, plus companion £899 Concept 30 standmount, Q Acoustics has finally filled the obvious gap in its range. Yet it's keen to point out the new models should be viewed more as trickle-downs from the Concept 300/500, and not merely an update on (or replacement for) the older Concept 20/40.

A two-way floorstander with an MTM driver configuration, the '50 is available in black, white or silver gloss finishes, minus the wood veneer details of the Concept 500. It's certainly no less visually appealing, just more modern, with curved edges to the cabinet performing the magic trick of making it appear more slender than its modest 180mm width might suggest.

## CABINET BLUEPRINT

The Concept range is all but defined by its innovative triple-layer cabinet design and the '50 is no exception, combining the Gelcore damping, FEA-modelled internal bracing and Helmholtz Pressure Equaliser (HPE) tubing seen in the '500 [see PM's boxout, p59]. Yet this is where the trickle-down technology – for the most part – ends, as the Concept 50's bass/mid and tweeter are new 'ground-up' designs, albeit utilising similar materials (coated paper for the bass/mid, fabric dome for the tweeter) as for the rest of the Concept range.

The drivers' diecast chassis are fixed to a rigid, 3mm-thick aluminium baffle, shaped to provide 'smooth, low acoustic diffraction', which then attaches to the cabinet by spring-tensioned bolts that extend through to a corresponding plate on the rear baffle. Furthermore, the dome tweeter, which sits within a shallow waveguide and features an inverted roll surround to improve its dispersion, is 'dynamically' isolated from the baffle. The 125mm bass/mid, meanwhile, features a 30.5mm voice coil, plus Nomex spider and FEA-optimised rubber surround.

## CROSSOVER OPTIMISATION

The crossover point is given as 2.1kHz, made possible, says Q Acoustics, by its tweeter's low 700Hz resonant frequency and low measured distortion above 1.5kHz. As is not uncommon these days, this network is mounted onto the Concept 50's cabinet base, ensuring the components are withdrawn as far as possible from the drivers' magnetic fields and unwanted vibration.

This base plate itself has also been designed with an eye on acoustic benefits. Formed of three layers (upper and lower aluminium, between which resides a layer of moulded 'isolation spheres'), it acts to decouple the cabinet as far as possible from the supporting surface, in my case the floor. To this you attach the Concept 50's feet, small at the front but as wide curved outriggers at the rear,

**RIGHT:** Two 125mm pulp-cone bass/mid units are combined with a 25mm soft-dome tweeter in a classic MTM array.

The drivers are mounted onto an alloy baffle and into the cabinet using spring-tensioned studs. A curved outrigger improves stability

*'It sounded rock-solid, if you'll pardon the pun'*



## RESONANCE CONTROL

Appearances are most certainly deceptive because the Concept 50's tower is not just 'another curvy cabinet'. By contrast, a significant amount of computer modelling, driven by insights from freelance designer Karl-Heinz Fink's FAC (Fink Audio Consulting), has been ploughed into developing as inert a 'launch platform' for these drivers as possible. In practice, Q Acoustics deals with the ramifications of the drivers' unwanted kinetic energy in three distinct ways.

Firstly, there's its point-to-point bracing, connecting and stiffening the sidewalls of the cabinet at critical locations without bringing additional modes into play. The walls themselves are not bluff slabs of MDF but a laminate filled with a compliant gel [the thin blue line just visible in the illustration, right] that damps out higher frequency cabinet vibrations as heat. It's not unlike a far lower mass (and far lower cost) version of the constrained layer damping employed in high-end brand Magico's alloy cabinets [HFN Sep '11]. The final resonance-controlling bullet in the Concept 50's armoury are the two Helmholtz Pressure Equalisers (HPEs). These long tubes, mounted inside the enclosure, are tuned to 'knock out' the fundamental cabinet length resonance by reducing the pressure differential between the top and bottom spaces within this 29-litre floorstander. PM



all with adjustment so you can engineer a little 'tilt' to keep you on-axis with the tweeter. Note that the base plate allows for a 'calculated degree of movement', but can be locked via Allen fixings if a third-party isolation base is to be used.

While those long feet take the assembled speaker's full width to 418mm, this isn't an awkward floorstander to install. Foam bungs are provided for its rear-facing bass port, although the minimum recommended rear wall distance is a meagre 20cm (with 50cm from side walls a suggestion). Q Acoustics rates the Concept 50 at a very generous 90.5dB sensitivity with a minimum 3.6ohm impedance, figures that are in close accord with PM's independent Lab Report [p6 1].

### CONCEPT BLASTS OFF

I won't beat around the bush: these loudspeakers are an absolute blast. Not from the perspective of absolute detail or transparency, as there's evidence of the Q Acoustics 'house sound' in the way the Concept 50 massages treble, and plumps up bass and lower mid. Yet this voicing isn't done clumsily, resulting in an engaging but not too eager-to-please overall sonic signature. There are robust lows and sweet highs, accompanied by a scale of soundstage that you might not expect from cabinets of such modest dimensions. Most importantly, listening to the Concept 50 never had me wondering about the price tag – I was too busy enjoying myself.

'Delicious Things', from Wolf Alice's *Blue Weekend* [Dirty Hit DH01061], began with a punchy drum roll but quickly grew in size as the band's operatic pop soundscape took hold. The Concept 50s made it sound large and tall, and brought enough separation to the elements of guitar, bass, drums and synths without the track losing its shimmering, homogenous feel. Yet when the first verse arrived, Ellie Roswell's vocal, seemingly recorded as close to a mic as it's possible to get, sounded dramatically focused and articulate.

With such well-recorded music these speakers are in their element, and with Emily Barker & The Red Clay Halo's country-tinged ballad 'Bright Phoebus' [*Despite The Snow*, Linn AKD 456D; 96kHz/24-bit] they showed a talent for bringing varied instrumentation to life. In this case, while accepting an absence of that light and airy quality some speakers deliver, I was impressed by the gentle bite of a bow on a violin string, followed by sustained notes with a slightly rough texture, all before the thinner prominence of Barker's harmonica.

### HOT STUFF

To the 'well-recorded' pile you can just about add Billy F Gibbons' *Hardware* album [Concord Records, 96kHz/24-bit], 37mins of Tex-Mex rock 'n' roll that tumbled from these speakers with irresistible energy. Gibbons' guitar riffs had a snarling, meaty presence, distorted but not caustic, and the rhythm section sounded ready to perform an arena gig, not simply cut some tracks in a studio in the desert. ➔



## Q ACOUSTICS CONCEPT 50

**LEFT:** Dual 4mm binding posts support bi-amping/bi-wiring via the split 2.1kHz crossover mounted into the base of the cabinet. Q Acoustics' large reflex port may be partially or wholly shorted using the supplied concentric foam bungs

power, it did at times feel like it had become too much the star of the show, notably on Don McLean's folk-rock standard *American Pie* [Capitol Records; 192kHz/24-bit]. In this instance, using the supplied foam plugs for the speaker's rear ports resulted in a better overall balance in my room, letting me focus more on the singer's sublime vocals.

### IN A SPIN

On the same album's 'Vincent', shorn of the need to batter me about the head with low-end details, the speakers put on a show of wonderful fluidity and refinement, holding McLean in a stereo image that was peppered with delicate acoustic guitar and a faint marimba.

Alongside the sense of fun that comes from the Concept 50's heft, and the listen-for-hours quality of its well-rounded treble, there's a level of detail that's still revealing of mix quality but doesn't put your lo-fi faves entirely off-limits. Even with the volume dial given a spin, Amon Amarth's 'Guardians Of Asgaard' [*Twilight Of The Thundergod*;

Metal Blade Records 3984-14693-2], with its guttural 'singing' and crunchy guitars, had me head-banging rather than headscratching. This loudspeaker has the all-round sonic appeal to match its startlingly smart looks! 📶

### HI-FI NEWS VERDICT

Add new drivers and a gorgeous refreshed aesthetic to a tried-and-trusted cabinet design – then lower the price to the £2000 sweet spot – and you get the Concept 50. This easily-driven floorstander offers a grand sense of scale and weight, plenty of bass energy, and a smooth approach to the top-end that caters to all musical flavours. The only surprise is that it's taken Q Acoustics this long to fill that gap...

Sound Quality: 86%

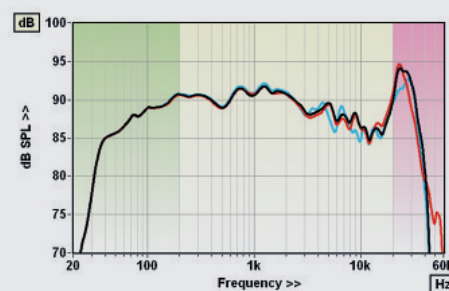


It was with this album, and the songs 'S-G-L-M-B-B-R' and 'My Lucky Card' in particular, that I appreciated how much these speakers like to dig deep. Q Acoustics' belief that its damped cabinet construction and resonance tuning brings tangible musical rewards rang true – basslines and kick drums drove these tracks forward, sounding big and forceful. It was rock-solid, if you'll pardon the pun – and digging out Chris Rea's 'Daytona' [*The Road To Hell*; WEA 2292-46285-2], a piece I've belatedly realised has an awesome bass sound, proved it wasn't a one-off. The performance here was mellifluous yet still massive.

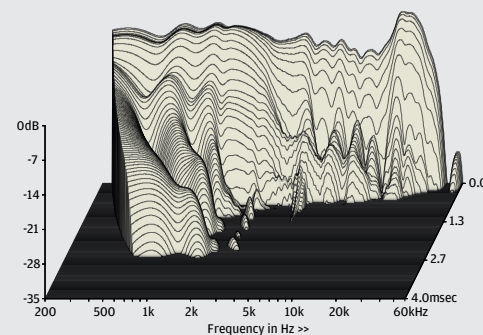
However, although thrilled by the Concept 50's ability to deliver bass and drums with weight and

The three-layer cabinet walls employed by Q Acoustics, together with its internal Helmholtz resonators [see boxout, p59], have successfully created a very inert enclosure, as evidenced by the CSD waterfall [see Graph 2] which shows its transient output falling sharply away, also largely free of any HF driver modes. The forward response, meanwhile, reveals a similar presence band depression – made more irregular with the grille in place [blue trace, Graph 1] – and emphasised midrange and extreme treble (+7.6dB/23.3kHz re. 10kHz) to that seen in the Concept 500 [*HFN* Jul '17]. While this informs the ±3.5dB and ±3.7dB response errors [see Graph 1], and influences the loudspeaker's 'mild' tonality, it also skews its sensitivity. Hence the 90.7dB/1kHz figure accords rather more closely with Q Acoustics' 90.5dB rating than the 89.8dB from 500Hz-8kHz. Either way, the pair matching of our samples proved to be an impressively tight 0.8dB up to 10kHz (1.15dB up to 20kHz) while distortion was held to a low ~0.1% (re. 90dB SPL) through the midrange.

Diffraction-corrected nearfield measurements reveal a 68Hz-875Hz/-6dB bandpass from the matched bass/midrange units augmented by the 36Hz tuning of the rear port to yield a bass extension of 40Hz (-6dB re. 200Hz). Bass output rolls away very steeply below this point [green shaded area, Graph 1]. Otherwise, this combination of high sensitivity with a modest bass output has not been won by challenging the amplifier with an especially tough load – the 3.8ohm minimum occurs at a high 4kHz while the most demanding impedance appears at 124Hz with a combination of 6.3ohm and phase angle of -41°. PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w grille, blue



ABOVE: Cabinet modes are well suppressed leaving mild resonances associated with the bass/mid drivers

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	90.7dB / 89.8dB / 87.0dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.8ohm @ 4.0kHz 34ohm @ 78Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-57° @ 93Hz +42° @ 27Hz
Pair matching/Resp. error (200Hz–20kHz)	1.1dB/ ±3.5dB/±3.7dB
LF/HF extension (-6dB ref 200Hz/10kHz)	40Hz / 40.3kHz/38.1kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.1% / 0.8%
Dimensions (HWD) / Weight (each)	1025x418x319mm / 23kg