

# Revel Concerta2 F36

Described as 'affordable high-end' does this flagship from Revel's new Concerta2 range punch above its weight?

Review: **Adam Smith** Lab: **Keith Howard**

The £2000 loudspeaker market is becoming an increasingly competitive place, and manufacturers now have to work harder than ever to ensure their products stand out from the crowd. One such is Harman International, and one of the loudspeaker brands bearing its technological know-how is Revel.

The current Revel Concerta2 range replaces the original Concerta models from 2005. These were typically well-liked designs, so revising them was not a task to be undertaken lightly. Fortunately the makeover Harman has given these newcomers has been thorough and sitting at the top of its six-model range is the £1900 Concerta2 F36 reviewed here.

The F36s are joined in the Concerta2 range by smaller F35 floorstanders and M16 standmounts, a C25 centre channel and S16 on-wall surround speakers, together with an 800W B10 active subwoofer. Thus a fully-fledged home cinema set-up is easy to assemble as necessary and since all the models are treated to the same technological advancements as the F36, they are very well matched. The product brief, says Revel, was 'to offer a distinct sonic improvement over the previous Concerta series, be visually stunning with a more modern design, and finally to maintain a popular price point'.

## A COMPLETE REDESIGN

To this end, everything about the F36 is new, starting with the cabinet. This is a pleasingly sculpted item that is shaped by cutting slots in the wood and curving it inwards, after which a layer of fibreboard is applied to the inner face to seal and brace the structure. Externally, a deep gloss finish is applied which is available in black or white. The grilles are magnetically attached and they snap on to the baffles with almost alarming vigour when offered up!

The F36's driver complement comprises four units, three of which are 6.5in mid/woofers, connected in a 2.5-way rather than standard 3-way configuration. Revel uses the additional low-end output of the topmost

bass/midrange driver to supplement the two bass drivers, increasing sensitivity without making the design unduly difficult to drive [see KH's lab report, p55]. All three drivers are based around a new cone material called 'Micro-Ceramic Composite' – a sandwich affair consisting of two layers of a ceramic material with an aluminium core. The ceramic layers are very stiff and light, but the addition of the aluminium (which is less dense) brings a degree of damping to moderate cone break-up.

In addition, the drivers' motor units employ a long pole piece that helps to extend the reach of the magnetic gap. In making this modification, Revel has adjusted the position of the coil relative to the magnet, and optimised the progressive movement of the suspension. The work was aided by use of a Klippel Analyser, ideally suited for assessing the behaviour of any drive units, and sufficient for Revel to claim a consequent improvement in driver linearity and reduced distortion.

## THE NEW TWEETER

The loudspeaker's bass output is augmented by a sizeable rear-facing port. Besides the inner and outer flare on the port tube to improve airflow and reduce noise, the F36's port is what Revel calls a 'Constant Pressure Gradient Design'. Put simply, most conventional port tubes have a constant diameter between the two flared ends but in the Concerta2s this gently curves inwards and then back outwards towards the inside. Revel claims that this – as the name suggests – keeps the air pressure within the tube constant and reduces distortion.

The F36's tweeter is also brand new. Based around a 25mm aluminium dome, the unit has a hollow cavity behind the dome that reduces its free-air resonance to a claimed 800Hz. This is low for a tweeter and extends its usable frequency range to the

**RIGHT:** The topmost 6.5in ceramic-coated alloy driver covers both mid and bass, crossing over below 600Hz to a (lower) pair of identical woofers and at 1.8kHz to Revel's 1in alloy tweeter. The curved cabinets are reinforced with fibreboard





## TESTING, TESTING...

As may be discovered, considerable research has gone into the new Revel Concerta2 range. This speaks volumes for the Harman Group's comprehensive loudspeaker test facilities in Northridge, Los Angeles. Starting with multiple anechoic chambers, the facility also boasts a number of listening rooms and home theatres that represent different domestic and studio environments. It even has dedicated headphone measurement facilities and a testing wall. One of its room configurations is duplicated in the company's other design facilities in the USA, Europe and Japan, so that listening conditions can be repeated across the globe as required. Finally, evaluation of different loudspeakers is made easy through a dedicated double-blind comparison utility. Manipulating one loudspeaker at a time, this uses a mechanical positioning device to move each candidate in turn to the very same spot behind an acoustically transparent screen.

point that the mid/treble crossover point can be set at just 1.8kHz. Furthermore, the new tweeter has a revised acoustic lens (a waveguide) that manages its directivity, its alignment with the mid/bass drivers and also improves its overall sensitivity. And because the 'lens' sits in front of the delicate alloy dome, it offers the additional bonus of deterring prying young fingers!

Finally, the F36s are not unduly heavy at 23kg, making them easy to move around for optimal positioning. The rear-firing port benefits from some clearance away from back walls, to ensure that its bass does not become too turgid, but apart from this the F36s are quite room-friendly. After some experimentation, I settled them at around two feet from the rear wall and 18in from the side walls in my listening room, where they were driven by a Naim Supernait amplifier.

### CHEST THUMPING

Set up like this, Revel's claims that the design of the Concerta2s has reduced distortion came to mind immediately, as the F36s are a very 'clean' sounding pair of loudspeakers. By this I mean that they tell you exactly what you are supposed to be hearing from a recording, with no unwanted artifice. If this implies that they sound a little safe at times, then this couldn't be further from the truth as in fact they're rather beguiling.

The F36s appeared to be an easy load to drive (as KH's lab report confirms) and I found that my amplifier's volume control was set a little lower than usual. Yet at no point did the speakers sound strained or did I feel that they were having to be

pushed hard. Indeed, the Revels proved to be effortless in their presentation, and this held true with whatever kind of music I cared to send their way.

At the low end, bass was firm, clean and rhythmical. There are one or two similarly priced designs that will dig a little deeper, but the way in which the F36s handled bass meant that they never sounded lightweight. During initial listening, I noted a very slight 'chestiness' to the upper bass which never really went away, but this actually balanced out the slight lack of ultimate 'clout' in quite a neat way. The result was that the Revels

were never overblown at the low end but were actually endowed with a pleasing bass warmth.

Thanks to this, double-basses had a delicious woody fruitiness to them and the pounding back-

beat to Underworld's 'Jumbo' from their *Beaucoup Fish* album [Junior Boy's Own JBO1005438] was a chest-thumping delight. Equally, however, the Revels pulled off the rare trick of keeping the backing synthesiser line from the intro easy to hear within the mix, even when the drum-machine and bass line kicked in.

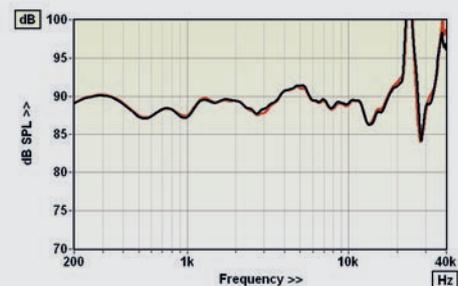
I was also most impressed by the way in which bass and midrange were seamlessly joined. This is often a strength of a good 2.5-way design, and the F36s showcased it very well. The overlap of the drivers' frequency responses adds uniformity to the low to mid region when done properly and the smooth flow up to the main vocal and instrument region showed that Revel has this sorted. At no point did I feel that I was listening to three good drive units that weren't quite working in unison, which even today can be a failing of a three-way. ↻

'The acoustic guitar was crystal clear and cymbal strikes pin-sharp'

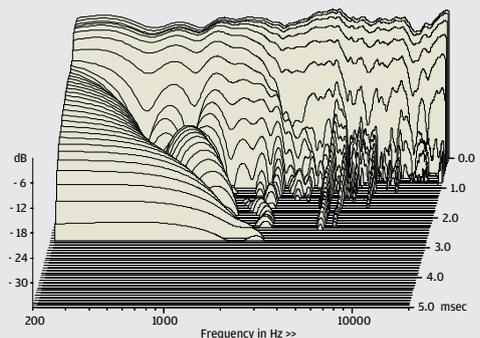
## REVEL CONCERTA2 F36

Revel claims 91dB sensitivity for the F36 but our measured pink noise and 'music' figures of 89.1dB and 89.2dB, respectively, suggest that 89dB is more realistic. The upside is that Revel has not resorted to low impedance to achieve this. Although, with a measured minimum modulus of 3.6ohm, the F36 would more realistically carry a 4ohm nominal rating than the quoted 6ohm, impedance phase angles are sufficiently well controlled that the EPDR (equivalent peak dissipation resistance) dips to a minimum of 2.0ohm at 100Hz – about 0.3ohm higher than we typically find in modern floorstanders. So Revel's F36 is easier than average to drive.

Forward frequency response [Graph 1, below], measured at 1m on the tweeter axis with grille removed, is essentially flat in trend with departures sufficiently small to restrict the response errors to  $\pm 2.6$ dB and  $\pm 2.7$ dB, respectively, for the pair – a good result for a passive speaker. Pair matching, over the same 200Hz-20kHz, is exceptionally good at  $\pm 0.5$ dB: a testament to stringent quality control at Revel's factory. It's notable, though, that the first tweeter breakup resonance is of exceptionally high Q and occurs at just 23.5kHz – about 13kHz (35%) lower than the best 25mm aluminium dome tweeters now achieve. The high Q may be deliberate to prevent the resonance having any greater influence on response accuracy below 20kHz. Diffraction-corrected near-field measurement showed the F36's bass extension to be a modest 50Hz (-6dB re. 200Hz) although the response is almost flat down to 70Hz before beginning its roll-off. The CSD waterfall [Graph 2] illustrates the speaker's fast decay except for some resonances between 5 and 10kHz. KH



ABOVE: The F36's forward response is generally flat in trend but note high-Q tweeter resonance at 24kHz



ABOVE: Cabinet resonances are well damped leaving a series of very mild driver modes between 5-10kHz

**LEFT:** All three of the 6.5in drivers are reflex-loaded via Revel's latest 'Constant Pressure Gradient' port, which is designed to minimise 'chuffing'

placing instruments and performers. Never stretching things too wide or projecting detail unrealistically, the F36s again seemed to be revealing exactly what was on the disc in the manner it was meant to be heard – neither more nor less. Intimate acoustic performances seemed to shimmer, almost spot-lit, between the pair, whereas the soundstage opened up superbly with large-scale orchestral works.

### CRISP 'N' SPRY

Even more rewarding, the treble from the new tweeters was more than a match with the high standards set lower down. The F36s' top end was, once again, clean, but detailed and spry. That said, there was an occasional hint of 'spit' at the very top but only when the Revels were pushed hard and loud with unsympathetic recorded material.

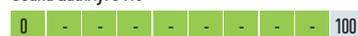
The rest of the time, the F36s were an absolute delight in terms of transparency and crispness. The acoustic guitar strings on Metallica's 'Mama Said' from their *Load* album [Blackened BLCKND011-1] were crystal clear and the cymbal strikes pin-sharp. And when the track grew in intensity, the Revels rose to the challenge with aplomb.

Ultimately, I found the F36s able to rock, croon, funk and even head-bang enthusiastically when required. If you're looking for a loudspeaker for all musical occasions, this floorstander could well be it. ⚡

### HI-FI NEWS VERDICT

The arrival of Revel's Concerta2 F36s will likely send ripples across the £2000 loudspeaker pond. Harman's acoustic design expertise shines through, as these are sophisticated and dynamic-sounding loudspeakers. Its work on reducing drive unit distortion has clearly paid dividends and the results are highly impressive. They're easy to position, easy to drive and very easy on the ear – what's not to like?

Sound Quality: 84%



### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	89.3dB/89.1dB/89.2dB
Impedance modulus min/max (20Hz–20kHz)	3.6ohm @ 164Hz 16.5ohm @ 69Hz
Impedance phase min/max (20Hz–20kHz)	-47° @ 80Hz 35° @ 58Hz
Pair matching/Response error (200Hz–20kHz)	$\pm 0.5$ dB / +2.6dB/ $\pm 2.7$ dB
LF/HF extension (-6dB ref 200Hz/10kHz)	50Hz / >40kHz/>40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.4% / 0.2% / 0.1%
Dimensions (HWD)	1120x250x310mm